**El-Zohry PasTest 2013 Questions and Answers Only**

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# Chapter 1 Gastroenterology

Q1. A 42-year-old man presents with intermittent dysphagia to solids and liquids and regurgitation of food. He has lost 4 pounds in 2 months. His physical exam is normal. A barium swallow reveals a dilated esophageal body, with the distal esophagus terminating in a narrow end. Which one of the following options is the most appropriate long-term therapy?

1- Isosorbide dinitrate

2- Metoclopramide

**3- Dilation with balloon**

4- Nifedipine

5- Dilation with rubber tube (bougie)

Q2. A 45-year-old man executive comes to your office complaining of epigastric pain for 2 months. His GP prescribed him H2 blockers 3 weeks ago, which have produced only partial relief of his symptoms. His weight is stable. His physical exam is normal. An upper gastrointestinal (GI) endoscopy reveals a 1-cm duodenal ulcer. Which of the following risk factors is not associated with the development of ulcer disease?

1- Daily use of nonsteroidal anti-inflammatory drugs (NSAIDs)

2- Gastric infection with Helicobacter pylori

**3- Emotional stress**

4- Cigarette smoking

5- Gastrin-secreting tumours

Q3. A 51-year-old woman presents with abdominal pain, weight loss, early satiety and night sweats. On physical exam she appears cachectic, multiple enlarged lymph nodes are present in her neck (supraclavicular area) and a mass is palpated in the epigastrium. Laboratory data reveal a haemoglobin of 8 g/dl and a normal white blood cell (WBC) count. Which of the following investigations is most likely to help reach a diagnosis?

1- Upper gastrointestinal (GI) X-ray series

2- Peripheral blood smear

3- Computed tomography (CT) of the abdomen

**4- Upper endoscopy with biopsy**

5- Exploratory laparotomy

Q4. A 35-year-old man was referred with sudden onset dysphagia, initially to liquids and then, 2 months later, to solids. His weight has been stable. In the last week he has woken up coughing during the night. An upper gastrointestinal endoscopy performed at the onset of his symptoms was reported as being normal. What is the most useful diagnostic test?

1- 24-hour oesophageal pH study

2- Barium follow-through

3- [13C]urea breath test

**4- Oesophageal pull-through manometry**

5- Repeat upper gastrointestinal endoscopy

Q5. Which of the following features best distinguishes Crohn's disease from ulcerative colitis?

1- Uveitis

2- Rectal bleeding

3- Fatty liver

**4- Non-caseating granulomas**

5- Crypt abscesses

Q6. A 49-year-old man presents to the emergency room because of melena of 3 days' duration. He denies abdominal pain. Vital signs reveal a resting pulse of 104 per minute and a 25- mmHg orthostatic drop in blood pressure BP. Physical findings include bilateral temporal wasting, pale conjunctivae, spider angiomas on his upper torso, muscle wasting, hepatosplenomegaly and hyperactive bowel sounds without abdominal tenderness to palpation. He is passing melaena stool. Nasogastric tube aspiration reveals coffee grounds material. Haematocrit is 31%. The appropriate next step in the management of this man's illness would be to

1- Pass a Sengstaken-Blakemore tube

2- Obtain an upper gastrointestinal (GI) barium series

3- Insert a transjugular intrahepatic portosystemic shunt (TIPS)

4- Obtain immediate visceral angiography

**5- Perform upper endoscopy**

Q7. A 40-year-old sailor presents with gum bleeding. Scurvy is diagnosed. Vitamin C is essential for which process in collagen synthesis?

**1- Hydroxylation of procollagen proline and lysine**

2- Oxidation of elastin

3- Oxidation of procollagen proline and lysine

4- Vitamin K activation

5- Factor X activation

Q8. Which organ is in direct contact with the anterior surface of the left kidney without the separation of the visceral peritoneum?

1- Duodenum

2- Jejunum

**3- Pancreas**

4- Spleen

5- Stomach

Q9. A patient with hepatic encephalopathy is given lactulose. Which of the following statements about lactulose is true?

1- It is absorbed from the gut

2- It causes hypermagnesaemia

3- It is contraindicated in diabetes

**4- It reduces proliferation of ammonia producing bacteria**

5- It reduces absorption of spironolactone

Q10. A 45-year-old man has one episode of haematemesis. Blood counts reveal haemoglobin = 11 g/l. He had taken 300 mg aspirin just prior to this and admitted to using aspirins regularly for a knee injury over the past few days. What would be the most likely cause?

1- Duodenal ulcer

**2- Gastric erosions**

3- Mallory-Weiss tear

4- Oesophageal varices

5- H. pylori gastritis

Q11. A 52-year-old man presents with an acute upper gastrointestinal (GI) haemorrhage, but has no further bleeding after the initial episode. Unfortunately upper GI endoscopy reveals a suspicious ulcer, which is biopsied. This reveals the presence of mucosa associated lymphoid tissue and Helicobacter pylori. What is the most appropriate initial treatment in this case?

1- High-dose proton-pump inhibitor therapy

**2- Heliobacter pylori eradication therapy**

3- Chemotherapy for lymphoma

4- Surveillance endoscopy in 3 months

5- Referral for surgery

Q12. Which of the following describes the primary mechanism of action of lactulose in the gastrointestinal tract?

1- Increased intestinal motility

2- Raised faecal pH

3- Similar to a bulk-forming laxative

4- Inhibition of proliferation of ammoniaproducing organisms

**5- Faecal softener**

Q13. A 56-year-old man presents with weight loss. He has been complaining of dyspepsia for a long time. Gastric biopsy shows mucosa containing lymphoma cells and there is an H. pylori infection present. What is the most appropriate therapy?

1- Oral chemotherapy

2- Intravenous chemotherapy

3- Radiotherapy

**4- H. pylori eradication**

5- Gastrectomy

Q14. A patient underwent endoscopy and a Mallory-Weiss tear has been diagnosed. What is the most likely cause?

1- Oesophageal varices

2- Barratt's oesophagus

**3- Persistent vomiting**

4- Toxic fume inhalation

5- Bacterial infection

Q15. A 48-year-old man with haemochromatosis undergoes venesection. Which of the following features would be most likely to show improvement?

1- Arthropathy

**2- Cardiomyopathy**

3- Diabetes mellitus

4- Skin pigmentation

5- Testicular atrophy

Q16. A 67-year-old man has presented to the Emergency department with epigastric and left upper quadrant pain for the third time in a year. He has suffered from diarrhoea for around 18 months in total, and claims that his weight has decreased by 12.7 kg (2 stone). The ambulance team who visited his accommodation noticed empty whisky bottles by the rubbish bin. Amylase is within the normal range. What diagnosis fits best with this clinical picture?

1- Cirrhosis

2- Acute pancreatitis

**3- Chronic pancreatitis**

4- Peptic ulcer disease

5- Coeliac disease

Q17. A 58-year-old man complains of tiredness, fever, weight loss, arthralgia, and diarrhoea. Jejunal biopsy reveals flattened mucosa that contains macrophages positive for periodic acid-Schiff (PAS). What is the most likely diagnosis?

1- Coeliac disease

2- Tuberculosis

3- Tropical sprue

4- Parasitic infection

**5- Whipple's disease**

Q18. A 28-year-old woman of African ethnic origin is referred to the gastroenterology clinic with symptoms of abdominal tenderness and bloating and intermittent diarrhoea. Physical examination and sigmoidoscopy are normal. What is the most appropriate initial management step?

1- Reassurance

2- Counselling for irritable bowel syndrome

**3- Trial of dairy-free diet**

4- Upper GI endoscopy and duodenal biopsy

5- Faecal fat collection

Q19. A 52-year-old man attends the gastroenterology clinic for review. He complains of breasts that appear to have enlarged slightly over the past few years. What is the cause of gynaecomastia in cirrhosis?

**1- Altered oestrogen metabolism**

2- Frusemide prescription

3- Excess levels of corticosteroids

4- Excess energy intake from alcohol

5- Excess levels of testosterone

Q20. A 22-year-old woman presents to the gastroenterology clinic with worsening diarrhoea. She has a long history of Crohn’s disease and had an extensive ileal resection 2 years ago. Of note is that she has presented on two previous occasions in the past 3 months with renal stones. Investigations Hb 10.5 g/dl MCV 109 fl WCC 5.4 x 109 /L PLT 295 x 109 /L ESR 12 mm/hr Na+ 141 mmol/l K+ 3.5 mmol/l Creatinine 100 μmol/l Albumin 30 g/l Which of the following is the most likely diagnosis?

1- Bacterial overgrowth

2- Worsening small bowel Crohn's disease

3- Fat malabsorption

**4- Short bowel syndrome**

5- Extension of Crohn’s to involve the colon

Q21. A 54-year-old man presents to the general practitioner with altered bowel habit. For the past few weeks he has noticed intermittent bouts of mucous, diarrhoea and occasionally this has been blood stained. Faecal occult blood testing by his GP has confirmed the presence of blood in the stool. He undergoes colonoscopy, a suspicious polyp in the descending colon is removed and this is removed and classified as a Dukes' A tumour. Which of the following best describes appropriate time intervals for follow up colonoscopy in this patient?

1- 3 monthly intervals

2- 6 monthly intervals

3- 2 yearly intervals

**4- 1 yearly intervals**

5- 3 yearly intervals

Q22. You review a 21-year-old woman who presents to her GP with abnormal liver function tests. On examination he notices that she appears to have a tremor. He arranges a screen for causes of chronic liver disease. Which of the following is suggestive of Wilson's disease?

**1- Decreased serum ceruloplasmin**

2- Increased serum copper

3- Reduced urinary copper

4- Polycythaemia

5- Reduced liver copper content

Q23. A 54-year-old man attends his general practitioner with feelings of lethargy. Routine screening reveals raised gamma-glutamyl transferase (GGT). Which of following statements concerning GGT is true?

**1- Increased GGT is found in cases of fatty liver**

2- Isolated elevation of gamma GT in a patient with prostatic carcinoma indicates the presence of hepatic metastases

3- It is a better indicator of infectious hepatitis than of cholestasis

4- It is only present in liver

5- Serum activity is typically elevated in

Q24. A 35-year-old man presents with diarrhoea for 10 days, characterized by frequent, lowvolume stools with the presence of mucus. He also complained of subjective fever and lower abdominal pain. The presence of leucocytes in stool is consistent with which organism?

1- Clostridium perfringens

2- Staphylococcus aureus

3- Giardia lamblia

4- Enterobius vermicularis

**5- Entamoeba histolytica**

Q25. A 28-year-old woman attends for review after a recent sigmoidoscopy for inflammatory bowel disease. This suggested the possibility of Crohn's disease. She is currently taking sulfasalazine and a tapering dose of oral steroids. There are, however, still some problems with residual diarrhoea. She is known to have quite severe involvement of the terminal ileum. What is the most appropriate intervention in this case?

1- Codeine phosphate

2- Loperamide

**3- Colestyramine**

4- Increased steroid therapy

5- Increased sulfasalazine

Q26. A 59-year-old otherwise fit man undergoes an annual endoscopic follow-up for Barrett's disease of the oesophagus. His latest biopsy shows poorly differentiated cells. Which of the following is the best management option?

1- Give an increased dose of a proton-pump inhibitor and continue annual surveillance

2- Refer for photodynamic therapy

3- Continue the maintenance dose of a proton-pump inhibitor and follow up every three months with four quadrant biopsies

4- Refer for oesophagectomy

**5- Repeat endoscopy and biopsies**

Q27. A 17-year-old girl attends the Emergency Department with her parents. She has had a recent row with her partner and admits to having ingested 40 500 mg paracetamol tablets around 24 hours ago. Which of the following markers is the best indicator of prognosis?

1- Activated partial thrombin time (APTT)

**2- Prothrombin time**

3- Alanine transaminase (ALT)

4- Aspartate amino transferase (AST)

5- Bilirubin

Q28. A 58-year-old publican presented with a history of haematemesis and malaena. He was transfused. Gastroscopy showed small oesophageal varices that were not bleeding as well as haemorrhagic gastropathy. What is the next appropriate management?

1- Variceal banding

2- Adrenaline injection

3- Intravenous ethanolamine

**4- Oral propranolol**

5- Intravenous octreotide

Q29. A patient has a history of worsening heartburn and nocturnal cough. Gastroscopy showed Barrett's oesophagus with mild dysplastic change. There were also dysplastic changes at the gastrocardiac junction. What the next step in management?

1- Fundoplication

2- Oesophagectomy

**3- Acid suppression and repeat gastroscopy**

4- Oesophagogastrectomy

5- Advice about physical measures such as

Q30. A 23-year-old woman experienced nausea, vomiting and abdominal cramps 4 h after eating a salad and a hamburger in a local restaurant. Watery diarrhoea began a few hours later. The most likely organism causing her disease is:

1- Vibrio vulnificus

2- Listeria monocytogenes

3- Yersinia enterocolitica

4- Clostridium welchii

**5- Staphylococcus aureus**

Q31. A 70-year-old man is admitted with pruritus, jaundice, and a 2 kg weight loss of duration two weeks. He had not drunk any alcohol for at least eight years. One month previously, he had completed a course of co-amoxiclav, which had been prescribed by his general practitioner for sinusitis, and was also taking ibuprofen for hip osteoarthritis. Investigations reveal (normal range in brackets): Albumin 38 g/l (37-49) Bilirubin 200 mmol/l (1-22) Aspartate transaminase (AST) 150 IU/l (5-35) Alkaline phosphatase 200 IU/l (50-110) Abdominal ultrasound reveals gallstones, but no biliary duct dilatation What is the most likely cause of his jaundice?

1- Co-trimoxazole

**2- Co-amoxiclav**

3- Hepatitis B infection

4- Hepatitis C infection

5- Ibuprofen

Q32. A 32-year-old man has a follow up endoscopy some 6 months after undergoing emergency surgery for a bleeding duodenal ulcer. He drinks no alcohol and is a non-smoker. The repeat endoscopy reveals a large new ulcer in the first part of the duodenum. He has been taking long term omeprazole therapy during the intervening few months. On examination he looks slim, his BMI is 21. Investigations; Hb 10.2 g/dl MCV 89 fl WCC 5.0 x 109 /L PLT 183 x 109 /L Na+ 141 mmol/l K+ 4.9 mmol/l Creatinine 110 µmol/l Which of the following is the most appropriate next step?

**1- Measure gastrin levels**

2- Start iron tablets

3- Repeat OGD in 6 months

4- Screen for H pylori

5- Arrange pH studies

Q33. A 60-year-old man comes to the clinic. He has had worsening dysphagia for the past 6 months, first for solids such as toast, but he is now having increasing difficulty even swallowing soup. He has lost approximately 6kg in weight over the past 2 months. He smokes 20 cigarettes per day, drinks 2 glasses of whisky each evening, and has been treated for a hiatus hernia with omeprazole for 6 years, but in practice has suffered indigestion for nearly 20 years. Investigations Hb 10.9 g/dl WCC 5.4 x 109 /L PLT 180 x 109 /L ESR 42 mm/hr Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 130 μmol/l CXR Fluid level behind the heart What is the most likely diagnosis?

1- Achalasia

**2- Oesophageal carcinoma**

3- Oesophageal diverticulum

4- Pharyngeal pouch

5- Rolling hiatus hernia

Q34. A 61-year-old man presents with a 1 year history of intermittent difficulty with swallowing and halitosis. Occasionally he even regurgitates undigested food. He is diabetic and is currently taking metformin. Other past history of note includes recurrent bouts of pneumonia (2 in the past 3 years), and asthma which was recently diagnosed by his GP. On examination he looks well and his BMI is 32. Investigations Hb 12.1 g/dl WCC 5.2 x 109 /L PLT 190 x 109 /L Na+ 139 mmol/l K+ 4.8 mmol/l Creatinine 135 μmol/l Oesophageal pressure studies unremarkable Which of the following is the most likely diagnosis?

**1- Pharyngeal pouch**

2- Hiatus hernia

3- Oesophageal carcinoma

4- Barrett's oesophagus

5- Oesophageal candidiasis

Q35. A 32-year-old woman was referred for endoscopy and found to have a duodenal ulcer and a positive urease test. She was given lansoprazole, amoxicillin and clarithromycin for 7 days. Which of the following is the most appropriate way of determining the successful eradication of H. pylori?

**1- [13C]urea breath test**

2- Blood serology testing

3- Endoscopy and antral histology

4- Endoscopy and CLO test

5- Faecal antigen testing

Q36. A 62-year-old man with known aortic stenosis who has a valve gradient of 40 mmHg presents to the clinic with worsening tiredness. He currently has no symptoms of heart failure or syncope but is under active follow up for his AS. He currently takes amlodipine 5mg for his associated hypertension. On examination he looks pale, his BP is 155/100 mmHg, his pulse is 80/min and he has an ejection systolic murmur. He is not in cardiac failure. Investigations; Hb 9.7 g/dl MCV 78 fl WCC 5.4 x 109 /L PLT 130 x 109 /L Na+ 141 mmol/l K+ 4.7 mmol/l Creatinine 100 μmol/l Upper GI endoscopy normal Which of the following investigations is most likely to give an accurate diagnosis?

1- Colonoscopy

2- Iron studies

**3- Mesenteric angiography**

4- Small bowel follow through

5- Serum haptoglobins

Q37. A 62-year-old man with known aortic stenosis who has a valve gradient of 40 mmHg presents to the clinic with worsening tiredness. He currently has no symptoms of heart failure or syncope but is under active follow up for his AS. He currently takes amlodipine 5mg for his associated hypertension. On examination he looks pale, his BP is 155/100 mmHg, his pulse is 80/min and he has an ejection systolic murmur. He is not in cardiac failure. Investigations; Hb 9.7 g/dl MCV 78 fl WCC 5.4 x 109 /L PLT 130 x 109 /L Na+ 141 mmol/l K+ 4.7 mmol/l Creatinine 100 μmol/l Upper GI endoscopy normal Which of the following investigations is most likely to give an accurate diagnosis?

1- Colonoscopy

2- Iron studies

**3- Mesenteric angiography**

4- Small bowel follow through

5- Serum haptoglobins

Q38. A 54-year-old woman with a history of cholelithiasis and jaundice undergoes an ERCP with attempted sphincterotomy. During the post operative period she begins to suffer from severe epigastric pain. Investigations; Hb 12.1 g/dl WCC 14.1 x 109 /L PLT 295 x 109 /L Na+ 139 mmol/l K+ 4.0 mmol/l Creatinine 175 μmol/l Amylase 985 U/l ALT 120 U/l Alk Phos 480 U/l Bilirubin 140 μmol/l Which of the following represents the most appropriate management of this patient?

1- Proceed to cholecystectomy

2- Insert a percutaneous drain

**3- IV fluids, analgesia and antibiotics**

4- CT guided pancreatic aspiration

5- Proceed to further ERCP

Q39. A 30-year-old woman who works in a pharmacy presents with chronic diarrhoea. She claims that the problem is very debilitating and preventing her from completing a normal day at work. Clinical examination reveals a BMI of 18, but it is otherwise completely normal. Investigations; Hb 13.1 g/dl WCC 5.0 x 109 /L PLT 190 x 109 /L Na+ 141 mmol/l K+ 2.5 mmol/l Creatinine 100 μmol/l CRP 8 mg/l (<10) Stool chart (inpatient fasting); Day 1320g Day 20g Day 3115g Day 4120g Colonoscopy – evidence of melanosis coli Which of the following is the most likely diagnosis?

1- Coeliac disease

2- Irritable bowel syndrome

3- Microscopic colitis

4- VIPoma

**5- Laxative abuse**

Q40. A 49-year-old patient with a history of previous surgery for a bleeding duodenal ulcer and recurrences on omeprazole therapy comes to the clinic. You review his results, including a gastrin level. Investigations Hb 11.2 g/dl WCC 5.3 x 109 /L PLT 145 x 109 /L Na+ 139 mmol/l K+ 4.8 mmol/l Creatinine 105 μmol/l ALT 54 U/l Gastrin 128 (High) Which of the following statements is true concerning gastrin?

1- It is secreted by the parietal cells in the stomach

2- It is inhibited by pancreatic bicarbonate

3- It is produced from A pancreatic A cells

4- It is produced from B pancreatic B cells

**5- Release is triggered by GI luminal peptides**

Q41. A 48-year-old man presents to the gastroenterology clinic. He has been suffering from heartburn for some time and has noticed occasional regurgitation of his morning toast. Endoscopy reveals a gastric-looking mucosa spreading up into the oesophagus, with areas of columnar metaplasia on biopsy. What diagnosis fits best with this clinical picture?

1- Gastro-oesophageal reflux disease

2- Erosive oesophagitis

3- Gastritis

4- Hiatus hernia

**5- Barrett's oesophagus**

Q42. A 62-year-old woman complains of diarrhoea, weight loss and abdominal pain with malaise and fever. She has oral ulcers, red itchy eyes and tender nodules on her shins. She has tenderness in the right iliac fossa and a vague right iliac fossa mass. What is the most likely diagnosis?

1- Ileocaecal tuberculosis

**2- Crohn's disease**

3- Appendicular abscess

4- Ovarian mass

5- Ulcerative colitis

Q43. A 24-year-old woman was referred with abdominal pain, diarrhoea and weight loss. On examination, she had a blistering rash on both elbows. Investigations showed a haemoglobin concentration of 10.3 g/dl and an MCV of 71 fl. What is the most appropriate diagnostic test?

1- Barium meal and follow-through

2- Crosbie-capsule jejunal biopsy

**3- Endoscopy and duodenal biopsy**

4- Skin biopsy of the rash

5- Ultrasound of the pancreas

Q44. A 32-year-old man presented with abdominal pain, bloating and nausea after meals. He reported he has lost 10 kg in weight over the previous three months and also had some non-blood stained diarrhoea. He smokes 30 cigarettes per day but does not drink alcohol. His plain abdominal X-ray demonstrated dilated loops of small bowel. What is the most likely diagnosis?

1- Coeliac disease

**2- Crohn's disease**

3- Giardiasis

4- Pancreatic insufficiency

5- Small-bowel adenocarcinoma

Q45. A 55-year-old man complains of a recurrent bluish-red rash on his neck, abdominal pain and watery diarrhoea. He has facial telangiectasis, mild pedal oedema, elevated JVP, a pansystolic murmur and moderate hepatomegaly. What is the most likely diagnosis?

1- Lymphoma

**2- Carcinoid syndrome**

3- Tropical sprue

4- Intestinal tuberculosis

5- Carcinoma of the pancreas with liver

Q46. A 77-year-old man presented with facial flushing, diarrhoea, weight loss and leg oedema. He reported a gradual worsening in his breathing. On examination he has a bilateral wheeze and a palpable liver. Ultrasound showed multiple lesions within the liver. What test is most likely to reveal the cause of his symptoms?

1- Colonoscopy

2- CT scan of the abdomen

3- Fasting serum gastrin

4- Urinary catecholamines

**5- Urinary 5-hydroxyindoleacetic acid**

Q47. A 28-year-old man who has a history of peri-oral/ buccal pigmentation, intermittent gastrointestinal bleeding and multiple polyposis is diagnosed with Peutz-Jegher's syndrome. He has met a partner and wants to start a family, but visits you for genetic counselling. What is the usual inheritance pattern for Peutz Jegher's syndrome?

**1- Autosomal dominant**

2- Autosomal recessive

3- X-linked recessive

4- X-linked dominant

5- Mitochondrial

Q48. A 45-year-old woman is reviewed in the gastroenterology clinic. She has a 12 year history of asthma. There is also a history of acid reflux, where she reports symptoms of waterbrash and burning in her throat nearly every night. She has suffered 3 lower respiratory tract infections in the past year despite long term continuous treatment with 40mg omeprazole. Her BMI is 28. Upper GI endoscopy shows severe oesophagitis Which of the following would be the most appropriate next treatment step?

1- Encourage her to raise the head of the bed

2- Add an anti-acid to her regime

**3- Refer her for fundoplication**

4- Increase her omeprazole to 60mg

5- Insist that she loses at least 15% of her

Q49. You review a 24-year-old woman who is noted to be markedly underweight. You suspect that she may have a protein malabsorption syndrome and contemplate trying the patient on an elemental diet. When thinking about dietary protein, which of the following best describes the site of polypeptide absorption?

1- The proximal stomach

2- The distal stomach

**3- The small intestine**

4- The ascending colon

5- The descending colon

Q50. You are asked by a local general practitioner to review a 72-year-old man who complains of lethargy and tiredness. Recent haemoglobin was low at 10.1 g/dl and he had a macrocytosis. Further investigation reveals no evidence of haematological malignancy, but screening does reveal folic acid deficiency. Which of the following foods contains the largest proportion of folic acid?

**1- 150 g of liver**

2- 1 banana

3- 1 papaya

4- 1 cup of baked beans

5- 1 cup of raw spinach

Q51. You review a 32-year-old woman who is morbidly obese. You are advising her about the calorie content of commonly used foods. Which of the following foods contains the greatest number of calories?

1- 1 scone (70 g)

2- 1 bowl of cornflakes (not including milk) (45 g)

3- 300 g of chicken korma

**4- A sausage and egg triple sandwich pack (256 g)**

5- 50 g of salted peanuts

Q52. A 56-year-old man presents to his GP complaining of lethargy. Routine blood testing reveals hypochromic microcytic anaemia with low ferritin. He has had no symptoms of indigestion or change in bowel habit and there is no medication use of note. Which of the following would be the most appropriate investigation in this patient?

1- Upper gastrointestinal (GI) endoscopy

2- Rigid sigmoidoscopy

3- Computed tomography (CT) scan abdomen

4- Barium enema

**5- Flexible colonoscopy**

Q53. A 48-year-old man undergoes flexible colonoscopy for iron deficiency anaemia. Unfortunately three dysplastic polyps are identified and removed, the sizes of which are 0.9 cm, 1.4 cm and 1.8 cm. Which of the following represents the most appropriate time period before follow-up colonoscopy?

1- 6 months

2- 1 year

**3- 3 years**

4- 4 years

5- 5 years

Q54. A 19-year-old student returned early from a cricket tour of India. He has recently played in a cricket match in Madras, but had to leave the game early due to sudden onset painless, voluminous diarrhoea. There is no associated fever but he is complaining of abdominal cramps. He was advised to get on a plane home and collapsed due to dehydration soon after leaving the plane at Heathrow. On questioning he reported opening his bowels some 30 times in 24 hours. A sample collected in your Emergency Department revealed a rice water appearance and fishy odour. Vibrio cholerae were identified in the stool sample. Which of the following is the most appropriate antibiotic in this case?

**1- Oral doxycycline**

2- IV ciprofloxacin

3- Oral amoxicillin

4- Oral metronidazole

5- IV ceftriaxone

Q55. You see a 40-year-old patient with Crohn's disease who has been suffering diarrhoea >6 times/day which is unresponsive to steroids and mesalazine (which he has been taking for 3 weeks). Investigations Hb 10.4 g/dl WCC 12.1 x 109 /L PLT 380 x 109 /L Na+ 139 mmol/l K+ 4.0 mmol/l Creatinine 150 μmol/l Albumin 30 g/l ESR 65 mm/hr What is the most appropriate next treatment?

**1- Azathioprine**

2- Infliximab

3- Methotrexate

4- Surgery

5- Cyclophosphamide

Q56. A 23-year-old woman presents with intermittent diarrhoea, abdominal pain and distension. She has also suffered increasing tiredness and lethargy for the past 6 months. You arrange some investigations: Hb 10.5 g/dl MCV 105 fl WCC 8.2 x 109 /L PLT 135 x 109 /L Na+ 140 mmol/l K+ 3.9 mmol/l Creatinine 100 μmol/l Colonoscopy with biopsies shows multiple areas of inflammation, punched out ulcers Barium follow through reveals evidence of severe small bowel inflammation Given the likely diagnosis, which of the following is the biggest risk factor associated with the development of the disease?

1- Increasing age

2- Smoking

**3- Oral contraceptive use**

4- Diet low in soluble fibre

5- Excess alcohol consumption

Q57. A 31-year-old woman who is 33 weeks pregnant with her first child comes to the casualty department complaining of a severe headache and easy bruising. On examination she has a BP of 145/89 mmHg, compared to a booking BP of 128/75 mmHg. Only medication includes some Gaviscon that she was given a few weeks ago by her GP for indigestion. Investigations Hb 10.0 g/dl WCC 8.2 x 109 /L PLT 52 x 109 /L Na+ 139 mmol/l K+ 5.6 mmol/l Creatinine 160 μmol/l Bilirubin 85 μmol/l Which of the following is the most appropriate management?

1- Plasma exchange

2- Prednisolone

3- Normal human immunoglobulin

4- IV heparin

**5- Magnesium sulphate**

Q58. A 60-year-old woman is concerned about her risk of osteoporosis and wishes to make adjustments to her diet to increase her intake of vitamin D. She is already taking calcium supplements but wanted to know which food to eat which is a good natural source for vitamin D. Which of the following foods would you advise her to eat more of?

**1- Herring**

2- Eggs

3- Green vegetables

4- Red meat

5- Eels

Q59. A 67-year-old man has been admitted with haematemesis and melaena. He is in a shocked state. On examination, he has a postural drop in blood pressure of 100/60 mmHg to 70/40 mmHg. What is the most appropriate immediate management step?

1- Blood transfusion

2- Intravenous omeprazole

3- Intravenous ranitidine

**4- Intravenous colloid**

5- Intravenous terlipressin

Q60. A 45-year-old woman presents with night sweats, right upper quadrant abdominal pain, weight loss and anorexia. A scan reveals a liver abscess consistent with bacterial infection. Past history of note includes Crohn's disease which may be a possible contributing cause. She is known to be allergic to penicillin. Which of the following antibiotic regimens would be most appropriate as an empirical regimen?

1- Clindamycin + Metronidazole

2- Clindamycin + Ciprofloxacin

3- Vancomycin + Meropenem

**4- Ceftriaxone + metronidazole**

5- Azithromycin + clindamycin

Q61. A 53-year-old woman presents with upper GI haemorrhage. She has a history of rheumatoid arthritis for which she is managed with low dose prednisolone, diclofenac and codeine phosphate. On examination in the Emergency ward her BP is 90/60 mmHg, pulse 100/min. You fluid resuscitate her and her BP improves to 115/80 mmHg, with a pulse of 80/min. Investigations; Hb 10.4 g/dl WCC 6.1 x 109 /L PLT 145 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 180 μmol/l ECG - Lateral ST depression Upper GI endoscopy reveals a large bleeding ulcer on the posterior aspect of the duodenum. It cannot be easily reached with the endoscope, and you decide to attempt embolisation. Which of the following is the artery that should be targeted?

1- Splenic artery

2- Gastroduodenal artery

3- Gastroepiploic artery

4- Anterior Superior Pancreaticoduodenal artery

**5- Posterior superior Pancreaticoduodenal**

Q62. A 34-year-old woman with a history of Type 1 diabetes presents to the clinic with increasing tiredness, mild upper abdominal discomfort and itching. The GP has arranged some investigations prior to her clinic visit. Investigations; Hb 13.1 g/dl WCC 5.0 x 109 /L PLT 235 x 109 /L Na+ 140 mmol/l K+ 4.9 mmol/l Creatinine 90 μmol/l HbA1c 8.3% Anti Smooth muscle antibody positive Immunoglobulins increased Which of the following would be the next appropriate investigation?

1- Hepatic USS

**2- Liver function testing**

3- CK

4- Short Synacthen test

5- Thyroid function testing

Q63. A 56-year-old woman had an upper gastrointestinal endoscopy for long-standing reflux symptoms. This showed the squamocolumnar junction at 32 cm, the gastro-oesophageal junction at 39 cm and the diaphragmatic hiatus at 40 cm. Biopsies from the distal oesophagus revealed a columnar mucosa with goblet cells. What is the most likely explanation for these findings?

**1- Barrett's oesophagus**

2- Oesophageal atresia

3- Rolling hiatus hernia

4- Sliding hiatus hernia

5- Gastric metaplasia

Q64. A 48-year-old man presents with symptoms of indigestion and regurgitation of food. In addition he has a painful epigastric mass on palpation of the abdomen. Upper GI endoscopy reveals a gastric mass and biopsy reveals it to be a gastrointestinal stromal tumour. You begin treatment with imatinib. Which of the following stems fits best with the mode of action on imatinib?

1- Inhibition of p53 production

2- Stimulation of p53 production

3- Inhibition of MAP kinase

**4- Inhibition of tyrosine kinase**

5- Stimulation of guanylate cyclase

Q65. A 35-year-old office worker presents with a 5- month history of right-sided abdominal pain, watery but not bloody diarrhoea and one stone weight loss. On examination she is clubbed. Abdominal and rectal examination is unhelpful. Her Hb is 11.1 g/dl, white blood cells (WBC) 9.8 x 109 /l and C-reactive protein (CRP) 15 mg/l (0-10). The most likely diagnosis is?

1- Large bowel Crohn’s disease

2- Ulcerative colitis

3- Sub-acute appendicitis

**4- Small bowel Crohn’s disease**

5- Irritable bowel syndrome

Q66. A 26-year-old homosexual male intravenous (IV) drug abuser presents with a 5-month history of lethargy. Examination is unhelpful. Liver enzymes reveal raised AST, ALT, bilirubin and high alkaline phosphatase. Hepatitis C virus is the most likely diagnosis because?

1- Young age

2- Male sex

3- Short history

4- History of sexual intercourse with male partners

**5- Likely to have shared needles**

Q67. A 22-year-old patient presents with unexplained jaundice repeatedly during episodes of starvation. What is the most likely diagnosis?

1- Haemochromatosis

2- Hepatitis B virus infection

**3- Gilbert's syndrome**

4- Wilson's disease

5- Alcohol abuse

Q68. A patient presents with acute fulminant hepatic failure. Which virus infection is most likely responsible for this?

1- Cytomegalovirus

2- Hepatitis G infection

**3- Hepatitis A infection**

4- Hepatitis C infection

5- HIV

Q69. A 23-year-old woman complains of intermittent diarrhoea containing blood and mucus, tiredness and anorexia. Cultures of stool samples are negative. Examination is unremarkable. What is the most appropriate investigation?

1- Upper GI endoscopy with jejunal biopsy

2- Barium enema

3- Hydrogen breath test

**4- Colonoscopy and biopsies**

5- Plain X-ray of the abdomen

Q70. A 29-year-old secretary is admitted to hospital with a haematemesis. She has been drinking 'several' cans of cider for more than ten years. On examination she is deeply jaundiced but alert, with stigmata of chronic liver disease. Blood pressure (BP) 95/50, pulse 130. After appropriate resuscitation, her BP is now 125/70 mmHg, pulse 90/min. She is still vomiting small amounts of fresh blood. What would be your next course of action?

1- Give IV nitrates

**2- IV glypressin**

3- IV somatostatin

4- Endoscopy and banding

5- Sengstaken/Blakemore tube

Q71. An 18-year-old media studies student is admitted to hospital at the end of the first week of his university course with severe epigastric pain. He is tender in the hypogastrium. Hb 10.7 g/dl, WBC 13 x 109 /l, platelets 451 x 109 /l, CRP 76 mg/l, amylase 1550 U/l. His prognosis depends on?

1- Pain severity

2- Opiate dependence

3- Degree of inflammation seen on CT scan

**4- CRP**

5- Previous alcohol intake

Q72. A 36-year-old nurse with a 15-year history of ulcerative colitis (UC) develops abnormal liver enzymes. ALT 154 U/l, alkaline phosphatase 354 U/l, bilirubin 12 mmol/l. An ultrasound is normal. She is antineutrophil cytoplasmic antibody (ANCA)-positive. What would you be most likely to suspect?

1- Gallstones

2- Mesalazine hepatitis

**3- Primary sclerosing cholangitis**

4- Chronic active hepatitis

5- Primary biliary cirrhosis

Q73. A patient with chronic liver disease presents with abdominal swelling. On examination he is jaundiced and has moderate ascites but does not have any peripheral oedema. What is the most appropriate step managing his ascites?

1- A low-salt diet is unnecessary if the patient is on diuretics

2- Loop diuretics are preferable to potassium sparing agents

3- Weight loss greater than 1.5 kg/d is the ideal

**4- Paracentesis is best avoided if the patient has peripheral oedema**

5- Paracentesis is contra indicated if the

Q74. After the diagnosis of small bowel Crohn's disease, a patient asks for therapy that is as effective as a course of corticosteroids, but with a better adverse event profile. What would you recommend?

1- High dose delayed release mesalazine

2- High dose balsalazide

3- Smoking cessation

**4- Defined formula diet**

5- Whole protein liquid diet

Q75. A 55-year-old mechanic presents with a 4- week history of tenesmus and rectal bleeding. His bowel habit has not significantly changed. Rectal examination reveals a granular mucosa and a sigmoidoscopy reveals touch bleeding on a background of diffuse erythema. Above 10 cm, the mucosa appears to be normal. Rectal biopsies show generalised mucosal inflammation with crypt abscesses. The most appropriate initial therapy is?

1- Oral prednisolone

2- Oral mesalazine

3- Oral sulfasalazine

4- Rectal steroids

**5- Rectal mesalazine**

Q76. A 23-year-old art student presents with a 5- week history of bloody diarrhoea, which has become more severe in the past 48 h. She feels tired and depressed. On examination she has a pulse rate of 120/min, BP 95/50 mmHg, temperature 37.8°C and is tender to palpation in the left iliac fossa. Rectal examination reveals a granular mucosa. Hb is 9.2 g/dl, WBC 11 x 109 /L, albumin 29 g/l, CRP 54 mg/l. The next management step would be?

1- Sigmoidoscopy and biopsy

**2- Plain abdominal X-ray**

3- Stool culture

4- Intravenous hydrocortisone

5- Urgent surgical review

Q77. A 49-year-old man is sent to the Accident and Emergency Department with a 6-h history of abdominal pain and vomiting. What is the first investigation to be carried out to confirm bowel obstruction?

1- Abdominal ultrasound

2- Computerised tomography (CT) abdomen

**3- Abdominal X-ray**

4- Exploratory surgery

5- C-reactive protein

Q78. In a patient with ulcerative colitis the risk of developing colonic cancer is greatest with?

1- Proctitis

2- Left-sided colitis

**3- Onset of disease in childhood**

4- Poor compliance with therapy

5- Annual relapses

Q79. A 58-year-old company director has a 6- month history of central abdominal pain accompanied by 5 kg of weight loss. On direct questioning he admitted to smoking 20 cigarettes a day for 30 years and 'social drinking'. Investigations reveal Hb 13.4 g/dl, WBC 7.8 x 109 /l, CRP 9 mg/l, amylase 78 U/l, albumin 39g/l, normal ultrasound and upper GI endoscopy. An endoscopic retrograde cholangiopancreatography (ERCP) shows calcification on the control film and irregularity of pancreatic side-branches. Helpful symptomatic benefit would be gained from?

1- Proton pump inhibitor

2- Creon

**3- Opiates**

4- Dietary supplements

5- Distal pancreatectomy

Q80. A 55-year-old geography teacher is referred for management of obesity he has a body mass index (BMI) of 36, cholesterol 7.7 mmol/l, fasting triglycerides of 2.5 mmol/l, ALT of 150 U/l. He denies alcohol excess. The significance of his raised liver enzymes is?

1- Negligible – he can be reassured

2- Likely autoimmune hepatitis

3- Low significance – should be monitored but will improve with weight reduction

**4- Probably has NASH, which can include fibrosis**

5- Highly significant – has cirrhosis

Q81. A 72-year-old patient has hepatocellular carcinoma. Of the following, which one is the most significant feature in the epidemiology of this disease?

1- It has a high incidence in the West

2- The most common aetiological factor is alcoholic cirrhosis

3- Primary biliary cirrhosis is associated with a higher incidence of hepatocellular carcinoma than haemochromatosis

4- Over 80% of tumours are surgically resectable

**5- The risk of hepatocellular carcinoma is**

Q82. A 41-year-old man presents with a 5-year history of recurrent episodes of bloody diarrhoea. Despite regular treatment with adequate doses of sulfasalazine, he has had several exacerbations of his disease and has required several weeks of steroids to control the flare-ups. What is the best next line of treatment for him?

1- Methotrexate

**2- Azathioprine**

3- Ciclosporin

4- Cyclophosphamide

5- Subtotal colectomy

Q83. A 37-year-old man presented complaining of epigastric pain that has become more or less constant and severe. A screening test for Helicobacter pylori is positive. Which of the following conditions is most likely to occur with this infection?

1- Erosive gastropathy

2- Gastric stromal tumour

**3- Gastric B-cell lymphoma**

4- Gastro-oesophageal reflux disease

5- Autoimmune gastritis

Q84. A 17-year-old Caucasian woman presents with lethargy and chronic nausea. She has been unable to complete her AS levels and her mother is worried she may be depressed. On examination, there are signs of chronic liver disease and a gold-yellow ring at the periphery of the iris in both eyes. Her serum copper level is low. What is the most likely diagnosis?

1- Haemochromatosis

**2- Wilson's disease**

3- Alcoholic cirrhosis

4- Acute autoimmune hepatitis

5- Hepatitis C

Q85. A 65-year-old man with long-standing, insulindependent diabetes mellitus was referred with nausea and recurrent vomiting. At endoscopy, a large gastric food residue was noted despite a 6-hour fast. What is the most useful diagnostic test?

1- Barium meal and follow-through

**2- Gamma scintigraphy, gastric-emptying study**

3- Lactose hydrogen breath test

4- Lying and standing blood pressure

5- Oesophageal manometry

Q86. A junior doctor from Nigeria is being investigated following a needle-stick injury while taking a blood sample from a patient infected with hepatitis B virus, his vaccination status is unknown. Which test will provide the earliest diagnosis of hepatitis B infection in this case?

1- HBeAg

2- IgM anti-HBc

3- Anti-HBeAg

**4- HBsAg**

5- IgG anti-HBc

Q87. A 3-year-old boy presents with a 2-year history of constipation and abdominal distension. A plain radiograph of the abdomen reveals faecal matter-containing distended bowel loops. A barium enema study shows a transition zone at the rectosigmoid junction with reversal of the rectosigmoid ratio. What is the most probable diagnosis?

1- Malrotation of the gut

2- Anal atresia

**3- Hirschsprung's disease**

4- Idiopathic slow transit

5- Megarectum

Q88. A 56-year-old female retired primary school teacher gives a 5-month history of pruritus and lethargy. On examination she is jaundiced and has a palpable liver and just palpable spleen. Twenty-four hours after admission she has a haematemesis and drops her haemoglobin (Hb) to 8.8 g/dl. Upper gastrointestinal (GI) endoscopy reveals oesophageal varices. The most likely diagnosis is?

1- Chronic active hepatitis

2- Haemochromatosis

3- Alcoholic cirrhosis

**4- Primary biliary cirrhosis**

5- Cryptogenic cirrhosis

Q89. A 60-year-old man presents with alternating constipation and diarrhoea, anorexia and weight loss. Colonoscopy reveals a mass in the sigmoid colon, a biopsy from which confirms colorectal cancer. Which investigative finding would most strongly indicate the likelihood of metastases being present?

1- Size of the tumour

**2- Carcinoembryonic antigen levels**

3- Depth of penetration of bowel wall

4- Proportion of bowel circumference involved

5- Location of tumour in the colon

Q90. A diagnosis of biliary stones in a 43-year-old executive with right-sided abdominal pain is supported by?

**1- A past history of a right hemicolectomy for Crohn's disease**

2- An increase in dietary cholesterol

3- Thyrotoxicosis

4- Irritable bowel syndrome

5- Raised aspartate aminotransferase (AST)

Q91. A 60-year-old woman with type-2 diabetes complains of blood-stained diarrhoea and cramping abdominal pain of several months' duration. She underwent a hysterectomy and radiotherapy eight months ago for endometrial carcinoma. What is the most likely diagnosis?

1- Pseudomembranous colitis

**2- Chronic radiation enteritis**

3- Irritable bowel syndrome

4- Lymphoma

5- Ulcerative colitis

Q92. A 50-year-old woman presents with a 1-year history of recurrent episodes of right upper abdominal pain. She has now had jaundice and fever for the past 4 days. On examination, she appears toxic. Her blood pressure is 90/60 mmHg. Abdominal ultrasonography demonstrates stones in the common bile duct. What is the best treatment option for her once stabilised?

**1- Endoscopic bile duct stone extraction**

2- Laparoscopic cholecystectomy

3- Laparotomy and stone extraction

4- Lithotripsy

5- Open cholecystectomy

Q93. A 60-year-old man with coronary artery disease was found to have gallstones on a routine abdominal ultrasonography. There was no history of biliary colic or jaundice at any time. What is the best treatment for this patient?

1- Laparoscopic cholecystectomy

2- Endoscopic removal of stones

3- Open cholecystectomy

**4- No treatment**

5- Lithotripsy

Q94. A 47-year-old publican presents with abnormal liver function tests. Which of the following would be most suggestive of a diagnosis of chronic active hepatitis?

**1- Positive smooth muscle antibodies**

2- On concurrent methyl-dopa

3- A past history of hepatitis A infection

4- Minimal alcohol ingestion

5- Pruritus

Q95. A 45-year-old man is admitted with acute upper gastrointestinal bleeding. What is the most common cause for this condition?

1- Oesophageal varices

**2- Chronic peptic ulceration**

3- NSAID therapy

4- Gastro-oesophageal reflux disease

5- Mallory-Weiss syndrome

Q96. A 42-year-old maths teacher has returned to the UK after living in Trinidad for 15 years. She has a 3-year history of intermittent diarrhoea suggestive of steatorrhoea, weight loss of 6 kg, cramps in her calves and marked lethargy. Investigations: Hb 8.7 g/dl, mean corpuscular volume (MCV) 77 fl, WBC 9.8 x 109 /L, albumin 29 g/l, corrected calcium 1.9 mmol/l. Endomysial and gliadin antibodies are negative. A jejunal biopsy shows abnormal villi with an inflammatory cell infiltrate of lymphocytes, plasma cells and eosinophils. What is the most likely diagnosis?

1- Coeliac disease

2- Crohn's disease

**3- Tropical sprue**

4- Giardia lamblia infection

5- Whipple's disease

Q97. An 18-month-old boy is suspected of having Hirschsprung's disease. Which of the following investigations would provide a definitive diagnosis?

1- Barium enema

2- Rectal manometry

3- Colonoscopy

**4- Rectal biopsy**

5- Proctoscopy

Q98. A 65-year-old publican with a history of cirrhosis is admitted in a drowsy unkempt state from home. On examination he is confused. In terms of the severity of his liver disease, which of the following additional clinical features would score three points in the Child-Pugh classification?

1- Prothrombin time 4 s above normal range

**2- Encephalopathy grade 3**

3- Albumin 29 g (37-49)

4- Mild ascites

5- Bilirubin 48 mmol/l (1-22)

Q99. A 42-year-old woman visits the inflammatory bowel disease clinic with her two sons who are four and seven years old. She was diagnosed with Crohn's disease during her early twenties. Which of the following best describes a feature of the epidemiology of Crohn's disease?

1- There is a proven link with tuberculous disease

2- The disease is slightly commoner in males

**3- Ashkenazic Jews have a higher risk than Sephardic Jews**

4- 20% of sufferers have one or more relatives with the disease

5- The coefficient of heritability of Crohn's

Q100. A 42-year-old woman is referred to the liver clinic by her GP. She has a raised ALT at 160 IU/l (5-35). Her past history of note includes obesity and gestational diabetes. One admission with cholecystitis occurred 2 years ago. What diagnosis fits best with this clinical picture?

1- Autoimmune hepatitis

2- Primary biliary cirrhosis

3- Gallstones

4- Cirrhosis

**5- Non-alcoholic steatohepatitis**

Q101. A 71-year-old is found to have a mobile, nontender mass in the right iliac fossa. His bowel habit is normal; he is apyrexial and has a haemoglobin of 14.9 g/dl with a normal white cell count. What is the most likely diagnosis?

1- Caecal volvulus

2- Villous adenoma in the caecum

**3- Actinomycosis**

4- Varicocele

5- Femoral hernia

Q102. A 54-year-old woman who suffers from systemic sclerosis is referred to the clinic with chronic diarrhoea. She has a previous history of chronic oesophageal reflux that has been managed with conservative measures such as raising the head of the bed. Based on the most likely cause of this diarrhoea, what would be the best initial treatment option?

**1- Metronidazole therapy**

2- Colestyramine therapy

3- Codeine phosphate therapy

4- Neomycin therapy

5- Imodium therapy

Q103. A 45-year-old man presents for review at the gastroenterology clinic. His past history of note includes hypertension, which is managed with amlodipine. He has mild ankle oedema and the amlodipine is thought to be the cause. Over the past few months he has suffered intermittent epigastric pain. Upper GI endoscopy reveals enlarged gastric folds in the body and fundus of his stomach. Biopsy reveals hyperplasia of the gastric pits, gland atrophy and an increase in mucosal thickness. Clo test is negative. Full blood count is normal and an autoantibody screen is negative; serum albumin is reduced at 28 g/l (37-49). What diagnosis fits best with this clinical picture?

**1- Menetrier's disease**

2- Helicobacter pylori infection

3- Autoimmune gastritis

4- Bacterial overgrowth syndrome

5- Duodenal reflux

Q104. A 23-year-old housewife develops severe watery diarrhoea 10 days after a complicated childbirth. She is unwell, temperature 38°C, pulse 105/min and very thirsty. On examination there is widespread non-specific tenderness. A plain abdominal X-ray reveals gas throughout a non-dilated left-sided colon. Proctoscopy reveals an inflamed rectum. Stool cultures and histology are awaited. She is given intravenous fluids, but is still tachycardic and unwell. What would be the next most appropriate management step?

1- Await further results

2- Start ciprofloxacin

**3- Start metronidazole**

4- Start hydrocortisone

5- Blood transfusion

Q105. A 45-year-old man with a history of alcoholic cirrhosis presents to the Emergency department with torrential upper GI haemorrhage. You suspect that he may have oesophageal varices. Which of the following fits best with the clinical features of varices?

**1- Overall mortality from bleeding varices is around 30%**

2- Emergency portocaval shunting has a mortality of around 20%

3- Oesophageal transection has an operative mortality of around 5%

4- Re-bleeds occur in around 50% of survivors postoesophageal transection within the first year

5- Injection sclerotherapy or banding is

Q106. You are carrying out a colonoscopy on a 42- year-old man with a family history of colon cancer. You find a number of polyps, which are biopsied. What features of colonic adenomas are most associated with an increased risk of malignant change?

1- Less than 1 cm in size

**2- Polyp is sessile or flat**

3- Tubular architecture

4- Single polyp only found

5- Polyp is pedunculated

Q107. A 24-year-old woman presents as an emergency to her GP with acute vomiting which began some 3-4 h after attending an afternoon meeting. Cream cakes were served during the coffee break. Which of the following organisms is the most likely cause of this acute attack of vomiting?

1- Bacillus cereus

2- Yersinia enterocolitica

3- Campylobacter sp

4- Salmonella sp

**5- Staphylococcus aureus**

Q108. A 21-year-old woman presents to the Emergency department for review, having been referred by her GP. She is opening her bowels to bloody diarrhoea some eight times per day, including at night. She has a resting heart rate of 95 bpm. Her abdomen is bloated but non-tender, albumin is 32 g/l (37-49) and her Hb is 10.4 g/dl (11.5-16.5). She also has a raised plasma viscosity. X-ray reveals that her transverse colon has a diameter of 5 cm. Stool culture has proved negative and her symptoms have now been present for a few weeks. You are considering a diagnosis of ulcerative colitis in this woman. Which of her clinical features would fit best with severe ulcerative colitis?

1- Heart rate of 95 bpm

2- Albumin of 32 g/l

3- Hb of 10.4 g/dl

4- Transverse colon diameter 5 cm

**5- Bowels open eight times/day**

Q109. You are asked to review a 61-year-old man who has been admitted on the surgical take. He presented with epigastric pain, nausea and vomiting, the pain soon spreading through to his back. It was noted on admission that he is on the waiting list for cholecystectomy. His serum amylase on admission was 1235 IU/l (25-170) and he is being managed for a diagnosis of acute pancreatitis. Which of the following additional features on blood testing would fit best with a diagnosis of severe pancreatitis?

1- Serum lactose dehydrogenase (LDH) of 400 U/l (10-250)

2- Serum albumin 33 g/l (37-49)

**3- pa(O2) of 6.5 kPa (11.3-12.6)**

4- Serum urea of 14 mmol/l (2.5-7.5)

5- White blood count (WBC) of 12 x 109

Q110. A 54-year-old man with a long history of ulcerative colitis attends the gastroenterology clinic for review. You note that his ALT is mildly elevated, but there is a much greater abnormality in alkaline phosphatase. He has suffered fluctuating jaundice and itching over the past months. You suspect that he may have primary sclerosing cholangitis (PSC). Which of the following best describes an epidemiological feature of PSC?

1- There is an association with HLA-B27

**2- Cholangiocarcinoma may occur in up to 20% of patients**

3- 70% of cases are seen in women

4- Average age of onset is 60 years

5- 25% of cases are associated with

Q111. You are reviewing a 42-year-old man who has been diagnosed with hepatitis C virus infection. Liver biopsy shows significant chronic inflammation with fibrotic change. You are considering him for interferon and ribavirin therapy, and perform a baseline full blood count. Which of the haematological side-effects of ribavirin would be most likely to occur if he were to take this treatment?

1- Microcytic anaemia

2- Thrombocythaemia

3- Neutrophilia

4- Thrombocytosis

**5- Haemolytic anaemia**

Q112. A 32-year-old woman presents with a history of 8-kg weight loss, frothy stools and general malaise. Her haemoglobin is 10.2 g/dl with an MCV of 98 fl. Which of the following best supports a diagnosis of coeliac disease?

1- Negative family history

**2- Dermatitis herpetiformis**

3- Neutrophil infiltration of a rectal mucosal biopsy

4- Remission following metronidazole therapy

5- Reduced hydrogen excretion on hydrogen

Q113. You are asked to see a 26-year-old nurse who suffered a needlestick injury some 8 months ago. She did not present immediately to occupational health, and only attended her GP when she began to feel tired and lethargic. She has a raised ALT, anti-HBs antibodies and anti-HCV antibodies. Low levels of HCV RNA are detected. Liver biopsy reveals early inflammatory change. What diagnosis fits best with this clinical picture?

1- Resolving hepatitis C infection

2- Chronic hepatitis B infection

**3- Chronic hepatitis C infection**

4- Autoimmune hepatitis

5- Functional symptoms

Q114. A 55-year-old man complains of intermittent epigastric pain, diarrhoea and steatorrhoea. He has mild iron-deficiency anaemia and raised calcium and parathormone levels. An upper GI endoscopy has shown peptic ulcers in the stomach, duodenum and the jejunum. Which of the following tests is most likely to help in diagnosis?

**1- Serum gastrin level**

2- Plain X-ray of the abdomen

3- Small-bowel follow-through

4- Stool fat content

5- Jejunal biopsy

Q115. A 29-year-old patient has been complaining of a 6-month history of intermittent diarrhoea and weight loss. What is the most appropriate first-line investigation if coeliac disease is suspected?

1- Antireticulin antibodies

2- Anti-enterocyte antibodies

3- Antigluten antibodies

**4- Anti-endomysial antibodies**

5- Small bowel biopsy

Q116. In patients suspected of HIV/AIDS infection the most likely explanation of persisting watery diarrhoea is?

1- Anal cancer

2- Cryptococcus infection

3- Cryptococcus neoformans

**4- Microsporidia**

5- Herpes enteritis

Q117. A patient presents with inflammatory bowel disease. 5-ASA would be most appropriate in treating which condition?

1- Acute therapy for ulcerative colitis

**2- Maintenance therapy for ulcerative colitis**

3- Acute therapy for Crohn's Disease

4- Maintenance therapy for Crohn's disease

5- Prevention of colon cancer

Q118. A cancer patient has been referred for a nutritional assessment. What is the most reliable measurement?

1- Body mass index

2- Body weight

**3- Clinical observation**

4- Serum albumin

5- Triceps skin fold thickness

Q119. A slim 39-year-old deputy head teacher has a 3-month history of dyspepsia particularly at night, relieved by milk. He had a trial of proton pump inhibitor 1 month ago and his symptoms have returned. He has not lost any weight. On examination there is some mild epigastric tenderness. The most useful next management step would be?

1- Heliobacter pylori antibodies and eradication therapy if positive

2- Course of H2 antagonists/proton pump inhibitors

3- Upper GI endoscopy

**4- C13 urea breath test and eradicate if positive**

5- H. pylori eradication therapy

Q120. A 79-year-old woman is admitted with a twoday history of abdominal pain, vomiting and diarrhoea. Past medical history includes myocardial infarction ten years previously. Her bowel habit was usually regular. On examination her temperature is 37.5°C, blood pressure 120/80 mmHg, pulse 120/min irregularly irregular. Abdominal examination reveals a soft abdomen but with tenderness in the left iliac fossa and suprapubic area. Bowel sounds are present and of normal pitch. Rectal examination is normal. Investigations: Hb 13.7 g/dl Na 139 mmol/l WCC 15 x 109 /L K 5.1 mmol/l Platelets 452 x 109 /L Urea 8.2 mmol/l Plain abdominal X-ray is unremarkable. What is the most likely diagnosis?

1- Inferior myocardial infarction

2- Sigmoid volvulus

3- Diverticulitis

**4- Inferior mesenteric artery occlusion**

5- Ulcerative proctitis

Q121. A 62-year-old woman is sent to the clinic for review. Her medical history of note includes ulcerative colitis and prolonged use of oral ketoconazole for recurrent nail-bed infections. On examination in the clinic she is jaundiced and has two-finger breadth hepatomegaly. Biochemistry results indicate an ALT of 410 IU/l (5-35), bilirubin of 260 mmol/l (1-22), and a non-specific increase in globulin levels. You note that her LFTs were normal 1-year earlier. Autoantibody screen reveals anti-LKM1 antibodies. What diagnosis fits best with this clinical picture?

**1- Drug-induced hepatitis**

2- Autoimmune hepatitis

3- Primary biliary cirrhosis

4- Primary sclerosing cholangitis

5- Gallstones

Q122. A 56-year-old man complains of diarrhoea, abdominal pain, weight loss and joint pains, with 2 or 3 pale, bulky stools daily. A jejunal biopsy shows stunted villi, and electron microscopy shows bacilli within the macrophages. What is the best treatment?

1- Gluten-free diet

2- Anti-TB treatment

**3- Amoxicillin**

4- Low-fat diet

5- Metronidazole

Q123. You are asked to review a 53-year-old diabetic man with diarrhoea. He is currently taking metformin at total daily dose of 2 g/day. The diarrhoea appears to worsen with increased metformin dose. What is the most likely aetiology of his diarrhoea?

1- Autonomic neuropathy related to diabetes

2- Osmotic diarrhoea related to ‘diabetic foods'

3- Secretory diarrhoea

**4- Bile acid malabsorption**

5- Steatorrhoea

Q124. A 33-year-old nursery nurse is admitted with abdominal pain, diarrhoea and severe malnutrition with a BMI of 14. Hb 10g/dl, WBC 12.5 x 109 /L, platelets 675 x 109 /L, albumin 30 g/l, calcium 1.9 mmol/l, phosphate 0.2 mmol/l, Na 130 mmol/l, K 2.9 mmol/l. As it is the weekend she given an 'off-the-shelf' standard bag of Total Parenteral Nutrition (TPN) giving her 2200 cals and 9 g of nitrogen. On Monday she develops severe congestive cardiac failure. This might have been prevented by pre-treating her before the start of TPN with:

1- IV K

2- IV Na

3- IV calcium

**4- IV phosphate**

5- IV vitamins

Q125. A patient with colon cancer presents with weight loss. What is the most likely factor responsible for this?

1- Depression

**2- Anorexia**

3- Problems with taste

4- High levels of tumour necrosis factor

5- High levels of IL-6

Q126. Enteral nutrition is preferred rather than parenteral nutrition because?

1- No disturbances in liver function

2- More likely to achieve nutritional targets

3- Patient choice

4- Reduces the risk of bacterial translocation

**5- Less invasive**

Q127. A 67-year-old man with a history of atrial fibrillation and cardiovascular disease is brought in by his relatives with acute abdominal pain and vomiting. On examination he is drowsy and looks unwell. His blood pressure is 105/60 mmHg, pulse is 110 bpm and he is in atrial fibrillation. His abdomen is generally tender. Initial blood tests reveal an amylase of 500 IU/l (25-170), neutrophilia and renal failure with a creatinine concentration of 350 mmol/l (60-110) and a urea of 12.5 mmol/l (2.5-7.5). Further questioning reveals that he has complained of intermittent abdominal pain after dinner over the past few months. What diagnosis fits best with this clinical picture?

1- Acute pancreatitis

2- Chronic pancreatitis

3- Chronic mesenteric ischaemia

**4- Acute-on-chronic mesenteric ischaemia**

5- Mesenteric vasculitis

Q128. A 48-year-old man with a two-year history of ulcerative colitis, has been receiving parenteral nutrition for 4 months. He develops a dermatitis and had noticed some loss of hair. Serum biochemistry shows a marginally raised glucose concentration and a lower alkaline phosphatase activity. Which of the following is the most likely?

1- Chromium deficiency

2- Copper deficiency

3- Magnesium deficiency

4- Selenium deficiency

**5- Zinc deficiency**

Q129. A 35-year-old patient with epilepsy who is currently managed with phenytoin therapy is referred by his GP. He has recently been taking oral flucloxacillin for a leg injury that was precipitated by a recent fit. He occasionally drinks alcohol and has been taking paracetamol for pain relief after his leg injury. Clinical examination reveals jaundice, but his abdomen is non-tender. Liver function testing reveals a markedly raised bilirubin concentration of 280 mmol/l (1-22), with an alkaline phosphatase of 440 IU/l (45-105). Gamma-GT is also raised. ALT is only just above the normal range. What is the most likely cause of his jaundice?

1- Paracetamol

2- Phenytoin

3- Ethanol

4- Gallstones

**5- Flucloxacillin**

Q130. A 56-year-old man presents with abdominal pain, diarrhoea and heartburn. He has lost about 2 kg in weight in the last 3 months. Clinical examination does not reveal anything further. On investigation: Haemoglobin 12.3 g/dl WCC 8.5 x 109 /L Platelets 198 x 109 /L MCV 102 fl Upper gastrointestinal endoscopy reveals multiple gastro-duodenal ulcers. What is the most likely diagnosis?

1- Crohn's disease

2- Chronic alcohol abuse

3- Gastric adenocarcinoma

4- Helicobacter pylori-associated peptic ulceration

**5- Zollinger-Ellison syndrome**

Q131. A 41-year-old man presents to his GP with a rather odd history of intermittent fever, cough and pleuritic chest pain. He is given a course of antibiotics and returns to his GP 3 weeks later complaining of malodorous diarrhoea 5-10 times per day, which actually pre-dated his chest pain and arthralgia. Which of the following tests is best to provide a definitive diagnosis?

1- Chest X-ray

**2- Small-bowel barium follow-through and biopsy of the small intestine**

3- Stool culture for Clostridium difficile

4- HIV testing

5- Sputum culture for tuberculosis

Q132. A 68-year-old woman returns for her third visit in 3 months to casualty, complaining of extremely bad, dull epigastric pain radiating to her back. Her haemoglobin is 10.4 g/dl and her alkaline phosphatase is elevated. Which is the most appropriate management plan?

1- Discharge home for a trial of proton-pump inhibitor therapy

**2- Arrange an abdominal ultrasound scan**

3- Arrange an upper GI endoscopy in the first instance

4- Check her serum ferritin level

5- Check her CA 19.9 level

Q133. A 65-year-old vegetarian woman who prides herself on eating a healthy diet of fruit and vegetables presents to the clinic complaining of facial flushing and diarrhoea. The flushing episodes may last from a few minutes to a few hours and the diarrhoea is often accompanied by a feeling of peristaltic rushing. Her GP is worried she may have an enlarged liver and sends off for a 24-h urinary 5-HIAA test to rule out carcinoid syndrome. The 5-HIAA result comes back above the normal range. What would you do next?

1- Proceed to a CT scan of the abdomen

2- Scan with radiolabelled octreotide

3- Arrange an echocardiogram to rule out right-sided cardiac disease

4- Try subcutaneous somatostatin for symptom relief

**5- Repeat the test after dietary restriction**

Q134. A 55-year-old Vietnamese businessman now living in the UK presents with several months of diarrhoea, anorexia and weight loss. On examination you notice he has some nonspecific abdominal tenderness and distension. He has a little increased pigmentation and you notice glossitis on examining his oropharynx. He has megaloblastic anaemia, Vitamin B12 and folate deficiency, steatorrhoea and an abnormal xylose absorption test. What is the most likely diagnosis?

**1- Tropical sprue**

2- Ulcerative colitis

3- Coeliac disease

4- Small bowel lymphoma

5- Chronic pancreatitis

Q135. A 38-year-old man presents to his GP complaining of malodorous diarrhoea 5-10 times per day. He had attended casualty some 3 weeks earlier while on holiday in southern Spain. He had pleuritic chest pain and a cough and was given antibiotics for a presumed chest infection. A small-bowel biopsy demonstrates infiltration of the lamina propria by PAS-positive macrophages. What is the diagnosis?

**1- Whipple's disease**

2- Mycobacterium avium intracellulare (MAI)

3- Coeliac disease

4- Tuberculosis with bowel involvement

5- Chronic pancreatitis

Q136. An 18-year-old Caucasian man presents with acute hepatitis, nausea, jaundice, elevated transaminases and a prolonged prothrombin time. On examination there are signs of chronic liver disease and a gold-yellow ring at the periphery of the iris in both eyes. His serum copper level is low. Of the options given below, what other laboratory findings would you expect?

1- High serum ceruloplasmin level and low urinary copper excretion

2- Low serum ceruloplasmin level and low urinary copper excretion

3- High serum uric acid and low serum ceruloplasmin levels

4- High serum uric acid level and high urinary copper excretion

**5- Low serum uric acid level and high urinary**

Q137. A 47-year-old woman presents to her GP with chronic fatigue. Liver function testing is abnormal, with raised AST and ALT levels, accompanied by smaller rises in bilirubin and alkaline phosphatase levels. Her gammaglobulin is elevated. There is a normochromic, normocytic anaemia; liver biopsy reveals chronic hepatitic change; and hepatitis B and C serology is negative. Which of these autoantibody screens is most likely to be positive?

**1- Anti-smooth muscle and anti-nuclear**

2- Anti-mitochondrial

3- Anti-gliadin and anti-endomyseal

4- Anti-LKM1

5- Rheumatoid factor

Q138. A 78-year-old woman was referred with abnormal liver biochemistry. Investigations showed: bilirubin 54 mmol/l; ALT 43 U/l; alkaline phosphatase 323 U/l; GGT 299 U/l. Which of the following is most likely to be responsible?

1- Digoxin

**2- Erythromycin**

3- Furosemide

4- Paracetamol

5- Nifedipine

Q139. A 21-year-old woman was admitted following a paracetamol overdose. Which of the following is true?

1- A normal bilirubin at 48 hours indicates successful treatment

2- Chronic alcohol use reduces the risk of hepatits

3- Glutathione conjugation is the first phase of liver metabolism

4- N-acetylcysteine is contraindicated 48 hours after the overdose

**5- The prothrombin time is a good indicator**

Q140. A 40 year-old woman with pernicious anaemia is admitted with jaundice. She drinks 10 units of alcohol per week. Examination shows bruises on her arms and legs, palmar erythema, spider naevi and hepatosplenomegaly. She also complains of joint pains and amenorrhoea of recent onset. Her bilirubin is raised at 89 mmol/l (normal: <17 m mol/l), her AST is 450 U/l (normal: 10- 40 U/l) and she has a mild normochromic, normocytic anaemia. She is on long-term nitrofurantoin for recurrent UTI. What is the most likely diagnosis?

1- Primary biliary cirrhosis

2- Alcohol liver disease

**3- Nitrofurantoin-induced chronic active hepatitis**

4- Idiopathic cirrhosis

5- Viral hepatitis

Q141. A 26-year-old man presented having recently returned from Bangladesh. He reported jaundice and itching. His viral hepatitis serology showed active hepatitis E infection. Which of the following is true of hepatitis E?

1- Chronic hepatitis may occur

2- Cholestasis is not a feature

3- Co-infection with hepatitis B is required for pathogenicity

**4- Transmission is by the faeco-oral route**

5- The risk of fulminant hepatitis in pregnancy

Q142. A 76-year-old man with a long-standing history of alcohol abuse was admitted because of his increasing confusion. Which of the following would be most suggestive of encephalopathy as the cause?

1- Bilateral 5-Hz hand tremor

2- Dysdiadocokinesia

**3- Elevated serum ammonia**

4- Normal CT brain

5- Normal EEG

Q143. A 56-year-old woman with established hepatic cirrhosis was admitted confused and drowsy. What is the most important immediate investigation?

1- Blood culture

2- CT scan brain

3- Red-cell folate

**4- Blood glucose**

5- Upper GI endoscopy

Q144. A 56-year-old man underwent an upper gastrointestinal endoscopy for iron-deficiency anaemia. Biopsies of a mass in the stomach are reported as showing a mucosa-associated lymphoid tissue (MALT) lymphoma. Which of the following is true of MALT lymphomas?

1- 40% regress with H. pylori eradication

2- Metastatic spread to the liver is common

**3- Paraproteins are a feature**

4- They are a T-lymphocyte clone

5- The stomach is the only site of origin

Q145. A 45-year-old woman was referred following an occupational health screen. Investigations showed hepatitis B serology: surface Ag-positive, surface Ab-negative; core antibody-positive; E antigen-positive, E antibody-negative. Which of the following is true of the patient's hepatitis B status?

1- Persistent carrier, low infectivity

**2- Persistent carrier, high infectivity**

3- Pre-core mutant carrier

4- Recent primary infection

5- Spontaneously cleared infection

Q146. A 33-year-old man with ulcerative pancolitis was seen. His symptoms were worsening despite intravenous hydrocortisone. Which of the following is true?

**1- Ciclosporin is indicated to induce remission**

2- Cytomegalovirus is a common cause of non-responsive colitis

3- Infliximab is indicated to induce remission

4- NSAIDs are a useful adjunct to therapy

5- Surgery is contraindicated

Q147. A 26-year-old man was referred by his GP with episodic jaundice, but was otherwise well. He had no risk factors for viral hepatitis and no family history of liver disease. He drank 5–8 units of alcohol per week. Which one of the following would favour Gilbert’s syndrome as the cause?

1- Abdominal pain

2- Clay-coloured stools

3- Concomitant diabetes mellitus

4- Resolution of symptoms on fasting

**5- Unconjugated hyperbilirubinaemia**

Q148. A 23-year-old woman was referred with abnormal liver biochemistry in the third trimester of pregnancy. Which of the following would suggest pregnancy-related cholestasis as a cause?

**1- Elevated serum bile salts**

2- Elevated urate

3- Hypoalbuminaemia

4- Macrocytosis

5- Thrombocytopenia

Q149. A 34-year-old man returns from India with abdominal pain, a fever, nausea and sweats. Examination reveals an enlarged tender liver. Several abscesses are visualised on ultrasound. Which of the following is the most likely cause?

1- Clostridium perfringens

2- Klebsiella histiolytica

3- Pseudomonas aeruginosa

**4- Staphylococcus aureus**

5- Streptococcus pneumoniae

Q150. A 36-year-old man with ulcerative colitis was admitted with abdominal pain and an amylase level of 1433 U/l. Which of the following is the likely cause?

1- Aspirin

**2- Azathioprine**

3- Budesonide

4- Sulfasalazine

5- Paracetamol

Q151. A 56-year-old man with polycythaemia vera is admitted with acute abdominal pain, nausea, vomiting and abdominal distension. He is apyrexial with tender hepatomegaly and ascites; an ascitic tap reveals a high protein content and no organisms. What is the most likely diagnosis?

1- Spontaneous bacterial peritonitis

**2- Budd-Chiari syndrome**

3- Mesenteric artery occlusion

4- Malignant liver disease

5- Haemochromatosis

Q152. A 45-year-old man presents to his GP with epigastric pain. He works as a company sales manager, drinks 35 units of alcohol per week and smokes 10 cigarettes per day. Screening for Helicobacter pylori is negative. He succeeds in giving up smoking, reduces his drinking is given a trial of lansoprazole by his doctor. Unfortunately, 3 months later he presents to A&E with a haematemesis. Endoscopy shows multiple duodenal ulcers. Which is the most appropriate management plan?

1- Discharge home and continue low-dose lansoprazole

2- Treat for Helicobacter pylori, although a repeat screen is negative

3- Measure his serum VIP (vasoactive intestinal peptide) level

**4- Measure his serum gastrin level, and consider an octreotide scan or endoscopic ultrasound then a high-dose, proton-pump inhibitor**

5- Consider screening for MEN 2

Q153. A 34-year-old man, originally from Pakistan, was admitted with ascites and weight loss. The protein level on ascitic tap was 9 g/l. Which of the following is the most likely cause of the ascites?

1- Intra-abdominal malignancy

**2- Hepatic cirrhosis**

3- Liver metastases

4- Peritoneal lymphoma

5- Tuberculous peritonitis

Q154. A 58-year-old woman with dyspepsia was referred for endoscopy. Which of the following is not a risk factor for gastric adenocarcinoma?

**1- Aspirin use**

2- Helicobacter pylori

3- Low dietary vitamin C

4- Partial gastrectomy

5- Pernicious anaemia

Q155. A 65-year-old woman was admitted with acute severe abdominal pain, vomiting and a fever. Investigations showed an amylase level of 1250 U/l and a corrected calcium concentration of 1.78 mmol/l. Which one of the following suggests a poor prognosis?

1- Amylase 1250 IU/l

2- Glucose 9.1 mmol/l

3- pa(O2) 8.7 kPa

4- pH 7.30

**5- WCC 18 x 109**

Q156. A 34-year-old man was admitted after a 34- day period of starvation. His body mass index was 17 and he estimated he had lost 18 kg. He was commenced on enteral feeding. Which of the following would indicate the onset of the refeeding syndrome?

1- Albumin 28 g/l (37-49 g/l)

2- Calcium 2.74 mmol/l (2.2-2.6 mmmol/l)

3- Magnesium 0.69 mmol/l (0.75-1.05mmol/l)

**4- Phosphate 0.49 mmol/l (0.81-1.4 mmol/l)**

5- Ferritin 434 mmol/l (15-300 mmol/l)

Q157. A woman with known abetalipoproteinaemia was reviewed in clinic. Which of the following would be in keeping with her disease?

1- Albumin 28 g/l (37-46 g/l)

2- Calcium 2.29 mmol/l (2.2-2.6 mmol/l)

3- Folate 0.8 mgram/l (2-11 mgram/l)

4- Ferritin 6 mmol/l (15-300 mmol/l)

**5- Prothrombin time 18 s (12 s)**

Q158. A 56-year-old woman with type II diabetes mellitus and hypothyroidism was referred for investigation of a megaloblastic anaemia. Which of the following is most likely to be the cause?

1- Crohn's disease

2- Metformin therapy

3- Pancreatic insufficiency

**4- Pernicious anaemia**

5- Small-bowel bacterial overgrowth

Q159. A 46-year-old woman was referred with profuse watery diarrhoea and dehydration. Investigations showed an average daily stool weight of 4,353 g/24 h and a serum VIP level of > 400 pg/ml (< 20 pg/ml). What is the most likely mechanism of her diarrhoea?

1- Infective due to small-bowel overgrowth

2- Inflammatory due to intercurrent malignancy

3- Malabsorptive due to pancreatic insufficiency

4- Osmotic secondary to high oral water intake

**5- Secretory due to enterocyte stimulation**

Q160. A 27-year-old woman who had previously undergone a terminal ileal and limited rightcolon resection for Crohn's disease was seen in clinic. She reported increased diarrhoea but was otherwise well. Investigations showed: CRP < 5 mg/dl; Hb 13.2 g/dl; WCC 8.6 x 109 /L; platelets 244 x 109 /L. Repeat colonoscopy was normal to the neoterminal ileum; a barium follow-through showed a normal mucosa; and a lactose hydrogen breath test was normal. What is the most likely cause of her diarrhoea?

**1- Bile-salt malabsorption**

2- Collagenous colitis

3- Mesalasine

4- Primary sclerosing cholangitis

5- Small-bowel bacterial overgrowth

Q161. A 35-year-old man with ulcerative colitis was found to have abnormal liver biochemistry. Which of the following is most likely to be the cause?

1- Budd-Chiari syndrome

2- Chronic autoimmune hepatitis

3- Chronic hepatitis C

4- Primary biliary cirrhosis

**5- Primary sclerosing cholangitis**

Q162. A 40-year-old man with coeliac disease complains of a recurrence of his symptoms. What is the most likely diagnosis?

**1- Intestinal lymphoma**

2- Intestinal lymphangiectasia

3- Bacterial overgrowth

4- Crohn's disease

5- Giardia infection

Q163. A 45-year-old man with a 20-year history of ulcerative colitis, who was lost to follow-up, was reviewed and found to have had a change in his bowel habit for 4 months, with increasing diarrhoea. What is the most important management step?

1- Plain abdominal X-ray

2- Oral mesalazine

3- Oral prednisolone

4- Stool microscopy and culture

**5- Urgent colonoscopy**

Q164. A 78-year-old woman was found to have a gastric ulcer at endoscopy. Which of the following has the lowest risk of causing this finding?

1- Aspirin

**2- Celecoxib**

3- Diclofenac

4- Ibuprofen

5- Piroxicam

Q165. A 44-year-old woman was referred with a change in bowel habit. Which of the following would suggest a colonic carcinoma as the cause?

1- Mucus per rectum

2- Alternating diarrhoea and constipation

3- Abdominal bloating

**4- Nocturnal diarrhoea**

5- Abdominal pain

Q166. A 27-year-old man was referred with a 10- week history of worsening diarrhoea. On review, he was opening his bowels 11 times per day and had blood mixed in with the stools. FBC shows a Hb of 10.9g/dl. Over the past few days the problem has worsened, and he is now suffering from severe abdominal pain and distension. He has had a negative stool sample sent 1 month earlier. What is the first investigation that you would request?

**1- Abdominal X-ray**

2- CT scan of the abdomen

3- Barium enema

4- Flexible sigmoidoscopy

5- Stool microscopy

Q167. A 21-year-old man with a family history of familial adenomatous polyposis was referred for postoperative follow-up. Which of the following is true of FAP?

**1- Duodenal malignancy is an important cause of death**

2- Gastric adenomas are rare

3- Rectal surveillance is not required postsurgery

4- Selective COX-2 inhibition increases the risk of malignant transformation

5- Small-bowel hamartomas may result in

Q168. A 56-year-old man referred with abnormal blood biochemistry was found to be hepatitis C antibody-positive. Which is the best marker for active infection and a better response to treatment?

1- ALT 134 U/l

2- α-Fetoprotein 120 (normal < 3)

3- Bilirubin 78 mmol/l

**4- Genotype 3a on PCR**

5- Positive HCV DNA

Q169. A 76-year-old man is admitted with jaundice and weight loss. He has no history of abdominal pain or fevers. What is the most likely diagnosis?

1- Chronic pancreatitis

2- Choledochoduodenal fistula

3- Gallstone obstruction

4- Mirizzi's syndrome

**5- Pancreatic adenocarcinoma**

Q170. A 45-year-old man has been referred. His father died at the age of 56 from a sigmoid colon adenocarcinoma, and his uncle underwent a colectomy at the age of 61 for a caecal carcinoma. What is his lifetime risk of colorectal carcinoma?

1- 1 in 2

**2- 1 in 12**

3- 1 in 25

4- 1 in 50

5- 1 in 200

Q171. A 51-year-old Caucasian man presents to his GP complaining of tiredness . He has no history of alcohol abuse and takes no medication. There has been a history of intermittent bloody diarrhoea over the past few years. His GP notices that his alkaline phosphatase level is raised, and he is ANCA positive. He is then referred for a gastroenterological opinion. What is the most likely diagnosis?

1- Alcoholic cirrhosis

**2- Primary sclerosing cholangitis**

3- Primary biliary cirrhosis (PBC)

4- Haemochromatosis

5- Familial hypercholesterolaemia

Q172. A 17-year-old young man presents with poor growth, weight loss and diarrhoea. His duodenal biopsy confirmed subtotal villous atropy. Coeliac disease is associated with which of the following?

1- Pyoderma gangrenosum

2- Molluscum contagiosum

3- Perianal fistulas

**4- Recurrent mouth ulcers**

5- Erythema marginatum

Q173. A 47-year-old diabetic man is referred from the infertility clinic. He has occasional palpitations and takes diuretics for dyspnoea. He is tanned, has hepatomegaly and a normal full blood count and liver biochemistry. What is the most appropriate investigation?

1- MRI of the liver

2- Serum alpha-fetoprotein level

3- Liver biopsy

4- Cardiac echocardiography

**5- Serum iron studies**

Q174. A 76-year-old man presents with progressive dysphagia and weight loss. Endoscopy shows a lower third oesophageal malignancy. Which of the following has a recognised association with oesophageal adenocarcinoma?

1- Crohn's disease

2- Partial gastrectomy

**3- Barrett's oesophagus**

4- Duodenal ulceration

5- Ulcerative colitis

Q175. A 43-year-old man presented with bloody diarrhoea and weight loss. Which one of the following would favour the diagnosis of Crohn's disease on rectal biopsy?

1- Crypt abscesses

2- Crypt distortion

3- Inflammatory infiltrates

**4- Patchy inflammation**

5- Superficial ulceration

Q176. A 32-year-old man was referred with gastrooesophageal reflux disease and commenced on a proton-pump inhibitor. Which of the following is true of the gastric K+/H+-ATPase proton pump?

1- It is made up of alpha-, beta- and gammasubunits

2- It is an acute antigen in pernicious anaemia

**3- Omeprazole binds irreversibly**

4- Is situated in chief cells

5- It also occurs in other tissues

Q177. A 56-year-old woman was referred with right upper quadrant pain and nausea. On ultrasound she had multiple gallstones. Which of the following increases the risk of gallstones?

1- Coeliac disease

**2- Crohn's disease**

3- Diverticulosis

4- Hypertriglyceridaemia

5- Ulcerative colitis

Q178. A 52-year-old Caucasian woman presents to her GP complaining of tiredness and itching. She has no history of alcohol abuse and takes no medication. She has xanthelasma. Her GP notices that her alkaline phosphatase level is raised, and refers her for a gastroenterological opinion. What would be the best investigation to confirm a diagnosis of primary biliary cirrhosis?

1- Hepatic ultrasound scan

2- Bone scan

3- Alkaline phosphatase origin estimation (bone or liver)

**4- Anti-mitochondrial antibodies**

5- GGT (gamma glutamyl transferase) testing

Q179. A 65-year-old woman was referred with dysphagia. Which of the following would be most useful in making a diagnosis?

1- Iron deficiency anaemia

2- Left hemiparesis

3- Cogwheel tremor

**4- Raynaud's phenomenon**

5- Cerebellar ataxia

Q180. A 44-year-old man who runs a bar in Alicante, returns to the UK to visit relatives. Over the past few months he has been troubled by itching and has noticed his fluid intake has increased markedly. On presentation to the GP he is extremely tanned, has loss of body hair and evidence of gynaecomastia. He has elevated ALT, AST and alkaline phosphatase levels on liver function testing. What is the most likely diagnosis?

1- Alcoholic cirrhosis

**2- Haemochromatosis**

3- Primary biliary cirrhosis

4- Pancreatic carcinoma

5- Type-1 diabetes mellitus

Q181. A 24-year-old female farm worker presents to her GP with abdominal swelling. She remembers an episode of abdominal pain a few months earlier, but nothing else of note. Medication includes the oral contraceptive pill. She is single and drinks no alcohol. Liver function testing reveals elevated ALT and bilirubin. Examination of the abdomen reveals mild ascites and splenomegaly. What is the most likely diagnosis?

1- Alcoholic cirrhosis

2- Hydatid disease

3- Viral hepatitis

4- Organophosphate toxicity

**5- Budd-Chiari syndrome**

Q182. A 21-year-old student who has recently returned from summer travels in the Far East presents with acute-onset bloody diarrhoea, fever and abdominal pain. She has a raised red rash on her shins. Apparently she has suffered two previous attacks of acute bloody diarrhoea in the past two years which resolved over a period of a few weeks. Which of the following options should her treatment plan include?

1- Plain abdominal film, stool culture and iv antibiotics

**2- Plain abdominal film, stool culture, sigmoidoscopy and biopsy, iv steroid therapy**

3- Oral antibiotics and stool culture

4- Oral antibiotics

5- Plain abdominal film, stool culture,

Q183. A 52-year-old man, with a long history of inflammatory bowel disease presents to his GP with abnormal liver function tests. He has a raised alkaline phosphatase level but no symptoms of liver disease. Which of the following options is the best set of investigations to confirm the diagnosis?

1- Ultrasound scan and anti-mitochondrial antibodies

2- Ultrasound scan and liver biopsy

3- Liver biopsy and anti-mitochondrial antibodies

**4- MRCP and liver biopsy**

5- CT abdomen

Q184. A 56-year-old man with severe exertional dyspnoea is admitted with jaundice and ascites. His father died of respiratory illness at 54 years of age. Bilirubin, AST and alkaline phosphatase are elevated and liver biopsy reveals the presence of PAS-positive, diastase-resistant globules in periportal hepatocytes. What is the most likely diagnosis?

1- Alcoholic liver disease

**2- Alphα1-antitrypsin deficiency**

3- Cor pulmonale

4- Budd-Chiari syndrome

5- Haemochromatosis

Q185. A 44-year-old man, with a long history of alcohol abuse, was admitted with abdominal pain, weight loss of 10 kg in the previous six months and diarrhoea. Investigations showed a speckled pancreatic calcification on plain abdominal X-ray and an albumin level of 23 g/l. What is the most useful diagnostic test?

1- CT scan of the pancreas

**2- Faecal elastase**

3- Lactulose hydrogen breath test

4- Oral glucose tolerance test

5- Serum folate

Q186. A 76-year-old man was found to have an elevated urinary 5-hydroxyindoleacetic acid and liver ultrasound revealed the presence of multiple lesions. Which of the following is true of carcinoid tumours?

1- They most commonly involve the colon

2- Presentation only occurs after metastasis

**3- Fibrosis of the heart valves is recognised**

4- 50% of patients die within 2 months of diagnosis

5- Cyproheptadine is not useful to control the

Q187. A 43-year-old man was referred after he was found to have abnormal liver biochemistry. Investigations showed he had an ALT of 98 U/l and was Hep B surface antigen-positive. Which of the following is true of chronic active hepatitis due to the hepatitis B virus?

1- It is commoner in women than in men

**2- It carries an increased risk of subsequent hepatocellular carcinoma**

3- It causes marked elevation of serum transaminase

4- It is associated with positive hepatitis D serology

5- It responds well to corticosteroids

Q188. A 36-year-old man with diabetes is referred with abnormal liver biochemistry. Which of the following is in keeping with a diagnosis of haemochromatosis?

1- Alkaline phosphatase 178 IU/l

2- Ferritin 324 mgram/l

3- Serum iron 25 mmol/l

**4- Transferrin saturation 78%**

5- Total iron-binding capacity 43 mmol/l

Q189. A 43-year-old man was admitted after arrival in the United Kingdom. He had recently sought asylum from Somalia. His body mass index was 15. Which of the following is recognised in protein-energy malnutrition?

1- An increased concentration of reversed T3

2- An elevated serum globulin

3- An exaggerated response to intradermal tuberculin

**4- Steatohepatitis**

5- An elevated serum IgE concentration

Q190. A 65-year-old woman with scleroderma and Reynaud's phenomenon complains of weight loss and has been referred for an opinion. Gastrointestinal associations of progressive systemic sclerosis include which of the following?

**1- Oesophageal stricture**

2- Primary sclerosing cholangitis

3- Abnormal exocrine pancreatic function

4- Diverticula of the large bowel

5- Small-bowel lymphoma

Q191. A 34-year-old man with profuse watery diarrhoea was referred for assessment of a possible neuroendocrine tumour of the gastrointestinal tract. Which of the following statements regarding gastrointestinal hormones is correct?

**1- Gastrin increases gastric motor activity**

2- Somatostatin increases gastrin secretion

3- Pancreatic polypeptide stimulates pancreatic bicarbonate secretion

4- Enteroglucagon increases the small-bowel transit rate

5- Secretin maintains mucosal growth

Q192. A 62-year-old man was admitted following an episode of haematemesis. Which of the following options applies to patients with acute upper gastrointestinal haemorrhage?

1- Intravenous ranitidine reduces the risk of rebleeding

2- Oral omeprazole reduces the risk of rebleeding

3- Oral tranexamic acid reduces the risk of rebleeding

**4- Intravenous somatostatin analogues reduce the risk of rebleeding**

5- Intravenous nitrates reduce the risk of

Q193. A 61-year-old woman was referred for further investigation of malabsorption and villous atrophy on duodenal biopsy. Her coeliac serology was negative and her symptoms failed to improve on a gluten-free diet. Which of the following is true of Whipple's disease?

1- The causative organism is a Gram-negative coccus

2- It typically affects middle-aged women

**3- PAS-staining granules are seen in the macrophages**

4- Cerebral involvement responds to antibiotic treatment

5- Recurrence after treatment is rare

Q194. A 25-year-old woman presented with weight loss, abdominal pain and diarrhoea. Her antiendomysial antibody was positive and a duodenal biopsy confirmed subtotal villous atropy. Which of the following is a feature of coeliac disease?

1- Erythema nodosum

**2- Splenic atrophy**

3- Colonic ulceration

4- Constipation

5- Hypersplenism

Q195. A 45-year-old woman with ulcerative colitis is admitted with a history of jaundice, pruritus and intermittent abdominal pain. Examination shows hepatosplenomegaly and mild ascites. Blood tests confirm an obstructive jaundice, and mitochondrial antibodies are not detected. What is the most likely diagnosis?

1- Liver cirrhosis

2- Chronic active hepatitis

**3- Sclerosing cholangitis**

4- Metastatic carcinoma

5- Pancreatic carcinoma

Q196. A 76-year-old man with primary biliary cirrhosis was reviewed in the clinic. Which of the following is a common feature of primary biliary cirrhosis?

**1- Back pain**

2- Increased level of serum IgA

3- Pyoderma gangrenosum

4- Psoriatic arthritis

5- Mesangiocapilliary glomerulonephritis

Q197. A 32-year-old man is admitted with cerebellar ataxia and abnormal liver biochemistry. Which of the following options is common in patients with Wilson's disease?

1- A raised serum copper level

**2- Onset of symptoms is usually between 10 and 25 years**

3- A parkinsonian tremor

4- The absence of a Kayser-Fleischer ring

5- A poor prognosis with treatment

Q198. A 54-year-old man was seen in the gastroenterology clinic with longstanding ulcerative colitis. His GP noticed abnormal LFTs and he has been sufferering recently from weight loss. Ulcerative colitis in this man may be associated with which of the following?

1- Small-bowel lymphoma

**2- Biliary tract carcinoma**

3- Seropositive arthritis

4- Primary biliary cirrhosis

5- Non-specific urethritis

Q199. A 23-year-old man was referred with a bilirubin concentration of 55 mmol/l. The rest of his liver biochemistry was normal. He has been diagnosed as having Gilbert's syndrome. This syndrome is associated with which of the following?

1- Kernicterus

2- Conjugated hyperbilirubinaemia

3- Abnormal liver histology

4- Decreased bilirubin on fasting

**5- Gamma-glutamyltransferase in the normal**

Q200. A 54-year-old man presented with dysphagia and a normal upper gastrointestinal endoscopy. A barium swallow demonstrated achalasia. Which of the following is associated with achalasia?

**1- Failure of relaxation of lower oesophageal sphincter**

2- Difficulty in swallowing liquids but not solids

3- Increased incidence of coeliac disease

4- Decreased risk of oesophageal adenocarcinoma

5- Small-bowel dysmotility

Q201. Which of the following is not associated with acute painful scrotal swelling?

1- Torsion of appendix of testis

2- Strangulated hernia

3- Fournier's gangrene

4- Leukaemia

**5- Idiopathic scrotal oedema**

Q202. A 28-year-old woman presents to the gastroenterology clinic with weight loss, intermittent oily diarrhoea and malaise. Blood testing reveals folate and iron deficiency. There is also mild hypocalcaemia on biochemistry screening. She has type-1 diabetes of 10 years' duration and is stable on a basal bolus insulin regime, otherwise her past medical history is unremarkable. Which of these antibody tests is most specific for making a diagnosis?

1- Anti-gliadin IgA and IgG antibodies

2- Anti-smooth muscle antibodies

3- Anti-thyroid antibodies

**4- Anti-endomyseal IgA antibodies**

5- Anti-nuclear antibodies

Q203. A 45-year-old woman was referred with itching and abnormal liver biochemistry. Which of the following is a feature of primary biliary cirrhosis?

**1- Anti-mitochondrial antibodies**

2- Increased serum IgA

3- Middle-aged male patients

4- Increased serum copper level

5- Histological piecemeal necrosis

Q204. A 47-year-old patient with maturity-onset diabetes is being advised regarding his diet. Which of the following foods should he be most careful to avoid as far as possible?

1- Banana

2- Peanuts

3- Carrots

**4- Cornflakes**

5- Yoghurt

Q205. A 65-year-old woman has recent-onset diarrhoea, a temperature of 37.6 degrees Celsius and intermittent abdominal cramps. She had a chest infection 3 weeks ago and was prescribed antibiotics. What is the most likely cause of her diarrhoea?

1- Enterotoxigenic Escherichia coli infection

2- Salmonella infection

**3- Clostridium difficile infection**

4- Viral infection

5- Staphylococcus aureus infection

Q206. Which one of the following disorders is MOST likely to be associated with H. pylori infection?

1- Non ulcer dyspepsia

2- Reflux oesophagitis

3- Coeliac disease

**4- Gastric lymphoma**

5- Achalasia of the cardia

Q207. Which one of the following is accurate with regard to alcoholic liver disease?

1- Men are more susceptible than women

**2- In alcoholic hepatitis the aspartate aminotransferase to alanine aminotransferase (AST/ALT) ratio is 2:1**

3- Hepatic iron overload is indicative of concomitant heterozygote haemochromatosis

4- Alcoholic fatty infiltration is irreversible once established

5- Unlike other causes of liver cirrhosis

Q208. In a patient with liver cirrhosis which one of the listed features is characteristic of portal hypertension?

1- Jaundice

2- Gynaecomastia

3- Spider telangiectases

4- Hepatomegaly

**5- Oesophageal varices**

Q209. Which one of the following clinical findings is MOST characteristic of pseudomembranous colitis?

1- Bloody diarrhoea, abdominal pain and tenderness

2- The detection of Clostridium difficile bacilli in the stools is diagnostic

3- The severe form of the disease is often associated with gentamycin therapy

**4- Nosocomial outbreaks**

5- Intravenous vancomycin for two weeks is

Q210. A 34-year-old publican is admitted from A&E. His wife says he has been suffering from confusion for around 24-48 h. On examination there were obvious signs of chronic liver disease as well as nystagmus and cerebellar ataxia. He appeared very confused. Blood testing on examination revealed an abnormal ALT, mildly raised bilirubin levels and an alkaline phosphatase level just above the upper limit of normal. His full blood count and glucose are normal. Which diagnosis fits best with this clinical picture?

**1- Wernicke's encephalopathy**

2- Acute alcohol poisoning

3- Drug abuse

4- Urinary sepsis

5- Subdural haematoma

Q211. Which one of the following conditions is expected to be associated with normal urinary D-xylose test findings?

1- Coeliac disease

**2- Chronic pancreatitis**

3- Blind loop syndrome

4- Chronic renal failure

5- Liver cirrhosis with ascites

Q212. A 24-year-old man presents to his GP with a nodular rash over his shins, which was dusky blue in appearance at first but has now faded to a bruise-like appearance. His past history of note includes intermittent diarrhoea, occasionally with blood. There is no other past history of note. On examination there is minor tenderness on the left side of his abdomen and proctoscopy reveals moderate inflammation of the rectum. Blood testing reveals a raised CRP and a normochromic normocytic anaemia. Which diagnosis fits best with this clinical picture?

1- Tuberculosis

2- Mycoplasma infection

**3- Ulcerative colitis**

4- Crohn’s disease

5- Sarcoidosis

Q213. A 54-year-old woman is brought to the emergency department by her relatives. The family had returned from a holiday in Morocco some 2 weeks earlier. She is intermittently confused, but a history taken from her relatives confirms that she has suffered a prolonged fever, myalgia, headaches and cough for some days. Apparently, just after returning to the UK there was a history of diarrhoea. On examination you notice some faint rose spots, which blanch, on her chest. Blood testing reveals neutropenia. You send blood, stool and urine samples for culture. Which diagnosis fits best with this clinical picture?

1- Malaria

2- Tuberculosis

3- Brucellosis

4- Amoebic liver abscess

**5- Typhoid fever**

Q214. You are asked to review a nursing-home resident who has generalised inflammation of his oropharynx, and is finding it difficult to eat. His past history of note includes the use of a steroid inhaler for COPD. On examination there are areas of erythema and a number of white plaques accompanied by some white curd-like material. Which diagnosis fits best with this clinical picture?

**1- Oropharyngeal candidiasis**

2- HIV infection

3- Hairy leucoplakia

4- Darier's disease

5- Leucoedema

Q215. A 26-year-old woman is referred by her GP. She has recently returned from her honeymoon in Africa. While there she ate food bought from a number of roadside stalls. There was a history of abdominal cramps, bloating and diarrhoea. Examination of three stool specimens revealed cysts in two out of the three specimens. The condition responded to a course of metronidazole. What is the most likely clinical diagnosis in this case?

1- Salmonella infection

2- Typhoid fever

**3- Giardiasis**

4- Cryptosporidium

5- Tapeworm infection

Q216. A 55-year-old man complains of dysphagia for both solids and liquids. What is the most likely diagnosis?

**1- Achalasia**

2- Barrett's oesophagus

3- Carcinoma of the oesophagus

4- Schatzki's rings

5- Benign oesophageal stricture

Q217. A 21-year-old student visits his GP complaining of a flu-like illness. He has not been eating for around 48 h. There is mild jaundice on examination but no other physical findings of note. Serum bilirubin is raised at 60 mmol/l, but the other liver function tests are normal. Full blood count and U&E are normal, and haptoglobins are normal. Which diagnosis fits best with this clinical picture?

1- Haemolytic anaemia

**2- Gilbert's disease**

3- Hepatitis A

4- Hepatitis B

5- Cholecystitis

Q218. You are asked by a GP to review a 16-year-old girl who appears tremulous with some evidence of ataxia. She also has dysarthria, which has developed over time. Otherwise she appears relatively well. You carry out some screening tests: ALT is elevated, serum ceruloplasmin is low and there is increased urinary copper excretion. Which diagnosis fits best with this clinical picture?

1- Abuse of alcohol

**2- Wilson's disease**

3- Menke's disease

4- Drug abuse

5- Haemochromatosis

Q219. A 22-year-old woman presents to her GP after a Mediterranean holiday. Her family often ate out during their holiday, particularly enjoying shellfish. She presents with malaise, lack of appetite, jaundice and dark urine. She had a fever initially, but this subsided once the jaundice appeared. On examination she has hepatomegaly and is tender in the right upper quadrant. Her ALT and AST are 10 times the upper limit of the normal range, bilirubin is 6 times the upper limit of normal, alkaline phosphatase is only mildly elevated. What is the most likely diagnosis?

1- Salmonella

2- Hepatitis B

**3- Hepatitis A**

4- Gallstones

5- Pancreatic carcinoma

Q220. A 54-year-old obese woman presents to casualty. She has rigors and reports a fever. On examination there is jaundice and tenderness over the right upper quadrant of her abdomen. She has an elevated white blood cell count and a markedly raised alkaline phosphatase level; transaminases and bilirubin are also abnormal. Which of these diagnoses best fits the clinical picture?

1- Peptic ulcer disease

2- Acute hepatitis

3- Pancreatitis

**4- Ascending cholangitis**

5- Right kidney stone

Q221. A 75-year-old nun presents to her GP with gradual-onset abdominal swelling over some months and generalised abdominal tenderness, perhaps worse in her right flank. On examination the GP notices some inguinal lymphadenopathy. She has a normochromic, normocytic anaemia, decreased serum albumin level and an elevated creatinine of 180 mmol/l. Her CA-125 level is raised. What is the most likely diagnosis?

1- Cirrhosis of the liver

**2- Ovarian carcinoma**

3- Cervical carcinoma

4- Wilson's disease

5- Haemochromatosis

Q222. A 21-year-old student is admitted off a flight from India the Heathrow Medical Centre with severe diarrhoea. He spent most of the flight in the aircraft toilet before collapsing just before the plane landed. He admits to eating shellfish from roadside stalls a few days before travelling home. He experienced some vomiting 2 days ago, but this has now settled and he has no abdominal pain. Examination reveals a hypovolaemic individual; he soils the bed during the examination with watery diarrhoea (no blood). His blood tests are abnormal, with a haemoglobin at the upper end of the normal range, a raised haematocrit and markedly elevated urea, with a smaller rise in creatinine. He has borderline hypoglycaemia with a random blood glucose level of 3.4 mmol/l. What is the most likely diagnosis?

1- Ulcerative colitis

2- Crohn's disease

**3- Cholera**

4- Salmonella

5- Typhoid fever

Q223. A 45-year-old, HIV-positive, former heroin addict presents with diarrhoea. He has lost 12 kg in weight during the past 2 months and is clearly unwell. He is passing voluminous diarrhoea between 6 and 10 times per day and during the night, but there is no abdominal pain and no fever. He is known to be intermittently compliant with antiretroviral therapy. His CD4 count on admission was 80. What is the most likely causative organism?

1- Cytomegalovirus

**2- A cryptosporidium**

3- A microsporidium

4- Mycobacterium avium

5- Isospora belli

Q224. A 31-year-old man presents with microcytic anaemia. He admits to a change in bowel habit some months earlier. His past history of note includes hyperpigmented retinal pigment epithelium, noted when he attended the optician. His father died at the age of 41 years from colonic carcinoma. The patient also had some teeth removed for overcrowding during his teenage years and has suffered from a number of troublesome lipomas. Colonoscopy reveals a number of dysplastic polyps and a right-sided colonic carcinoma. What is the most likely diagnosis?

1- Juvenile polyposis

**2- Gardner's syndrome**

3- Sporadic colon cancer

4- Peutz-Jeghers' syndrome

5- Neurofibromatosis

Q225. Which one of the following clinical findings is MOST suggestive of a pyogenic liver abscess rather than an amoebic liver abscess?

1- Patient usually more than 60 years old

**2- Recent bowel surgery**

3- Raised white cell count

4- History of recent biliary colic and fever

5- Solitary abscess in the right lobe of the

Q226. A 66-year-old man presents with worsening jaundice, intermittent abdominal pain and weight loss. He is jaundiced, cachectic and has a non-tender mass in the right upper quadrant. Which of the following investigations is most likely to establish the diagnosis?

**1- CT scan of the abdomen**

2- Liver biopsy

3- Sweat test

4- Alpha-fetoprotein level

5- Serum gastrin level

Q227. A 72-year-old man is referred with tiredness. His GP notices that he is jaundiced and suspects liver disease. He also appears to have angular stomatitis. There is a history of steroid inhaler use for asthma, but nothing else of note. A blood film reveals features of a megaloblastic anaemia, his serum bilirubin is raised but other biochemistry is unremarkable. There are no GI symptoms. Which diagnosis fits best with this clinical picture?

**1- Pernicious anaemia**

2- Chronic myeloid leukaemia

3- Iron deficiency anaemia

4- Crohn's disease

5- Autoimmune hepatitis

Q228. A 26-year-old woman presents to her GP complaining of intermittent abdominal distension and bloating, which changes with her menstrual cycle, and interspersed with bouts of loose motions. She works as a trader in a busy office and finds work stressful: she has previously taken a course of Prozac for depression/anxiety. Examination, bloods and sigmoidoscopy were all normal. What is the best-fit diagnosis?

1- Chronic pancreatitis

2- Ulcerative colitis

3- Peptic ulcer disease

4- Diverticulitis

**5- Irritable bowel syndrome**

Q229. A 48-year-old publican presents with acuteonset confusion and a mild fever. On examination he has signs of chronic liver disease and ascites and is generally tender over his abdomen. Blood tests reveal mildly raised AST and ALT levels and a bilirubin of 186 μmol/l. He has an INR of 2, a mixed picture anaemia with a haemoglobin of 9.8 g/dl, low platelets and an elevated neutrophil count. His creatinine is 145 μmol/l. An ascitic tap reveals fluid with a polymorphonuclear cell count of > 250/mm3 . What is the most likely diagnosis?

**1- Spontaneous bacterial peritonitis**

2- Perforated duodenal ulcer

3- Cholangitis

4- Cholecystitis

5- Acute pancreatitis

Q230. An 82-year-old woman is admitted from a nursing home with profuse diarrhoea. She was discharged 2 weeks earlier from the orthopaedic ward where she was treated for a fractured hip. Unfortunately at the time there was some evidence of osteomyelitis and she had been treated with clindamycin and sent home with tablets. On examination she is drowsy and dehydrated with lower abdominal tenderness. She soils the bed with watery diarrhoea during the examination. Blood tests confirm pre-renal failure. What is the most likely diagnosis?

1- Salmonellosis

2- Ulcerative colitis

3- Enteric parasitic infection

**4- Pseudomembranous colitis**

5- Colonic malignancy

Q231. Which one of the following statements BEST describes a feature of irritable bowel syndrome (IBS)?

1- Characterised by nocturnal diarrhoea

2- If there is nausea and vomiting the diagnosis should be reconsidered

3- Weight loss becomes more evident as the disease runs a chronic course

4- Sigmoidoscopy findings are often diagnostic

**5- A diet high in soluble fibre is often**

Q232. Which one of the following pathological changes favours ulcerative colitis over Crohn's disease?

1- Ileal involvement

**2- Crypt abscesses**

3- Transmural involvement

4- Granulomas

5- Skip lesions

Q233. Which one of the following conditions is MOST likely to be associated with gastric acid hypersecretion?

1- Pernicious anaemia

2- Large bowel resection

3- Vasoactive intestinal polypeptide (VIP)- secreting tumour

**4- Systemic mastocytosis**

5- Cushing's syndrome

Q234. A 24-year-old student presents to his GP feeling non-specifically unwell after a flu-like illness. His GP notices he has jaundiced sclerae and arranges some liver function tests. His bilirubin is 65 mmol/l; all other liver function tests - including alkaline phosphatase, albumin, transaminases and clotting - are normal. Full blood count and haptoglobins are normal. What is the most likely diagnosis?

1- Haemolytic anaemia

2- Pancreatic carcinoma

3- Acute viral hepatitis

4- Cirrhosis

**5- Gilbert's disease**

Q235. A 25-year-old cook applies for a job at a cafeteria. He gives a history of having had enteric fever 2 years ago. Which of the following investigations is most likely to indicate a chronic carrier status?

1- Vi agglutination test

2- Widal antigen test

3- Blood culture

4- Full blood count

**5- Culture of intestinal secretions**

Q236. A patient with Crohn's disease attends for his annual review. He has heard about infliximab and wonders if it might be suitable for him? Which of the following statements best describes infliximab?

1- It is a new selective corticosteroid

2- It is an oral anti-TNF-a monoclonal antibody

**3- It is an injectable anti-TNF-a monoclonal antibody**

4- It is an oral 2b,3a inhibitor

5- It can be given safely to the patient at

Q237. A 55-year-old man is admitted with acute epigastric pain, nausea and vomiting. He has a history of hypertension and takes 2.5 mg bendroflumethiazide daily. He has tenderness, guarding and rigidity of the abdomen. Which one of the following investigations is least likely to help in making a diagnosis?

1- Serum amylase

2- Contrast-enhanced CT scan of the abdomen

3- Ultrasound of the abdomen

**4- Barium swallow**

5- Plain abdominal X-ray

Q238. A 40-year-old woman was diagnosed with Crohn's disease 3 months ago. At the time of diagnosis she was initiated on sulfasalazine. Her bowel symptoms have now much improved, but she has attended the emergency department because of easy bruising. On examination she has a number of bruises. Blood testing reveals a pancytopenia. Which is the most likely cause of her pancytopenia?

1- Acute leukaemia

2- Worsening of her Crohn's disease

**3- Sulfasalazine therapy**

4- Viral infection

5- Idiopathic thrombocytopenic purpura

Q239. A 72-year-old man presents with left-sided lower abdominal pain. He is obese and admits to a dislike of high-fibre foods. The pain has been grumbling for the past couple of weeks and is partially relieved by defecation. He has suffered intermittent diarrhoea. Blood testing reveals a neutrophilia, and there is also a microcytic anaemia. Barium enema shows multiple diverticulae, more marked on the left-hand side of the colon. Which diagnosis fits best with this clinical picture?

1- Irritable bowel syndrome

2- Ulcerative colitis

3- Ischaemic colitis

4- Lactose intolerance

**5- Diverticular disease**

Q240. A 75-year-old man with a history of atrial fibrillation and peripheral vascular disease presents to the emergency department. His abdomen is distended and tender. A plain abdominal film shows thumb-printing at the site of the splenic flexure. Blood testing reveals evidence of mild dehydration, and a full blood count shows a mildly raised neutrophil count. Which diagnosis fits best with this clinical picture?

**1- Ischaemic colitis**

2- Diverticulitis

3- Colonic carcinoma

4- Ulcerative colitis

5- Diverticular abscess

Q241. A 54-year-old man presents to his GP with symptoms of burning retrosternal pain. He reports occasional sticking of food. There is a past history of asthma, but nothing else of note. He smokes 20 cigarettes per day. Examination reveals some epigastric tenderness but only to deep palpation. Which of the following represents the best clinical management?

1- Lifestyle advice

2- Lifestyle advice with a proton-pump inhibitor

3- Lifestyle advice with antacids

**4- Upper gastrointestinal endoscopy**

5- Lifestyle advice with an H2-antagonist

Q242. A 55-year-old alcoholic is admitted with portal hypertension. The wedged hepatic venous pressure is recorded. This pressure reflects that in which part of the hepatic vascular system?

1- Portal vein

2- Hepatic artery

3- Hepatic vein

4- Central vein radicles

**5- Sinusoids**

Q243. A 22-year-old woman is sent to the clinic for review. She has a confirmed pregnancy and is in the third month of gestation but has been having trouble with excessive morning sickness. Her GP has checked some routine bloods and has found an ALT of 64 U/l and a bilirubin of 55 mmol/l, he is now concerned about liver disease of pregnancy. Which diagnosis fits best with this clinical picture?

1- Intrahepatic cholestasis of pregnancy

2- Acute fatty liver of pregnancy

**3- Hyperemesis gravidarum**

4- Pre-eclampsia

5- Biliary tract disease

Q244. A 24-year-old man presents with malaise, mild fever, loss of weight and anorexia. On examination, his scleras appear yellow. Serum bilirubin is elevated at 85 mmol/l (normal 1-22 mmol/l). ELISA for IgG anti-HEV is positive and HEV RNA is detectable in serum by PCR. What would be the characteristic finding on liver biopsy in this case?

1- Ground-glass hepatocytes

**2- Marked cholestasis**

3- Lymphoid aggregates

4- Microvesicular steatosis

5- Marked increase in the activation of

Q245. A 35-year-old man presents with a history of jaundice. The underlying cause is suspected to be acute hepatitis B infection. Which of the following immunological test results would best confirm this diagnosis?

1- HBsAg

2- HBeAg

3- HBV DNA

**4- IgM anti-HBc**

5- Anti-HBeAg

Q246. A 22-year-old schoolteacher was diagnosed as having hepatitis B infection 2 years ago. She is now worried whether the infection is still active. Which of the following test results is most sensitive in confirming continued viral replication?

**1- HBV DNA**

2- IgM anti-HBc

3- Anti-HBeAg

4- HBeAg

5- Anti-HBs

Q247. A resident doctor who was infected with hepatitis B a year ago now presents with jaundice, weight loss and malaise. His IgM anti-HBc titre is not elevated but his serum IgM anti-delta is raised along with IgG antiHBc. What is the most likely diagnosis?

1- Hepatitis B

2- Hepatitis C

**3- Hepatitis D**

4- Hepatitis A

5- Hepatitis E

Q248. A 62-year-old woman complains of abdominal pain, nausea, anorexia and weight loss of four months' duration. The pain is dull, boring and radiates through to her back. Examination shows mild epigastric tenderness but there are no palpable masses. What is the most likely diagnosis?

1- Zollinger-Ellison syndrome

2- Gastric carcinoma

**3- Carcinoma of the pancreas**

4- Peptic ulcer disease

5- Cholangiocarcinoma

Q249. A social worker has been diagnosed with hepatitis C infection. Which test will conclusively establish the presence of this infection?

1- Anti-HCV

2- ELISA-3

3- HBV DNA

**4- HCV RNA**

5- IgM anti-HAV

Q250. A 30-year-old business executive presents complaining of heartburn for the past 6 months. You suspect that he may be suffering from gastro-oesophageal reflux disease. What is the most important physiological mechanism that prevents reflux?

1- Valve-like mechanism of the short portion of the oesophagus

2- Diaphragmatic muscle surrounding the oesophagus

**3- Parasympathetic stimulation of the lower, circular, smooth muscle fibres of the oesophagus**

4- Increased intrathoracic compared to intraabdominal pressure

5- Formation of an anatomical sphincter by

Q251. A 57-year-old man who has undergone previous treatment for alcohol addiction is brought to casualty by his wife, who reports him to be increasingly drowsy and difficult to rouse. There is no history of head injury. He has had recent problems sleeping and been given zopiclone (Zimovane) by his GP. His pills have been counted and there is no overdose. On examination he clearly has ascites and is generally tender. Blood tests reveal an iron deficiency picture, elevated transaminases and a bilirubin of 145 m mol/l, a random blood glucose concentration is 6.7 mmol/l. He has a mildly elevated white blood cell count. Which of the following is the most likely cause of his decreased conscious level?

1- Zimovane overdose

2- Subdural haematoma

**3- Hepatic encephalopathy**

4- Hypoglycaemia

5- Metastatic carcinoma

Q252. A 57-year-old man presents with a persistent history of heartburn. He keeps on returning to his GP and eventually she refers him to you. A trial of low-dose PPI and lifestyle measures has failed to alleviate his symptoms. Screening bloods are unremarkable. What is the most appropriate management?

1- Ask the GP to discontinue PPI and advise lifestyle measures

2- Continue low-dose PPI, long-term

3- Give intermittent high-dose PPI for symptom relief

4- Offer counselling for the non-sinister nature of his symptoms

**5- Do an upper GI endoscopy**

Q253. A 62-year-old man with inflammatory bowel disease was diagnosed with primary sclerosing cholangitis 5 years ago. He now presents with weight loss and a more rapid deterioration of his liver function. On examination he is cachectic, LFTs reveal a profoundly obstructive picture with raised bilirubin, GGT and alkaline phosphatase levels, accompanied by a lesser increase in ALT. There is nothing to suggest an acute infective process. Which diagnosis fits best with this clinical picture?

1- Hepatocellular carcinoma

2- Primary carcinoma of the gallbladder

**3- Cholangiocarcinoma**

4- Ascending cholangitis

5- Primary biliary cirrhosis

Q254. A 57-year-old publican is referred by his GP with chronic left-sided/central upper abdominal pain. He admits to enjoying three or four pints of beer during an evening in the pub. Over the past 18 months he has lost about 12.5 kg (2 stone) in weight, and his wife says he prefers alcohol to food. He has intermittent diarrhoea, which he reports as being oily and difficult to flush away on occasions. Examination reveals a slim man with some tenderness to deep palpation in the epigastrium. Blood testing reveals a mild normochromic normocytic anaemia and a raised ALT level to twice the upper limit of normal. Amylase and antigliadin antibodies are normal. Upper abdominal ultrasound is performed and there is diffuse pancreatic calcification but nothing else of note. Which diagnosis fits best with this clinical picture?

1- Acute pancreatitis

**2- Chronic pancreatitis**

3- Coeliac disease

4- Pancreatic carcinoma

5- Recurrent cholecystitis

Q255. A 79-year-old woman has been seen twice by her GP during the past 8 months complaining of dull abdominal pain radiating through to her back. The GP diagnosed 'wear and tear' on the spine and prescribed analgesics. The pain is partially relieved by sitting forward. Her daughter, who says she has 'not been eating for weeks', has brought her to casualty. Examination reveals a cachectic woman, she has a normochromic normocytic anaemia and liver function tests reveal mildly elevated transaminases and a grossly elevated bilirubin and alkaline phosphatase. Ultrasound scan reveals bile duct obstruction with suspicion of a mass in the epigastrum. Which diagnosis fits best with this clinical picture?

**1- Pancreatic carcinoma**

2- Hepatocellular carcinoma

3- Cholecystitis

4- GI lymphoma with bile duct obstruction

5- Gastric carcinoma with local spread

Q256. A 52-year-old woman presents for review. She has been complaining of tiredness and lethargy for some months, but her GP initially put it down to the menopause. There is a past history of pernicious anaemia, which has been adequately treated. She is of normal weight. The GP has now found that she has elevated transaminases, with alkaline phosphatase and bilirubin levels just outside the upper limit of normal. An autoimmune profile shows raised antinuclear and antismooth muscle antibodies. Which diagnosis fits best with this clinical picture?

1- Type-II autoimmune hepatitis

**2- Type-I autoimmune hepatitis**

3- Hepatitis A infection

4- Hepatitis B infection

5- Non-alcoholic steatohepatitis (NASH)

Q257. An obese 36-year-old woman has been referred by her GP. Her past history of note includes gestational diabetes during her last pregnancy 2 years ago. She also has a strong family history of type-2 diabetes. Her GP checked her liver function tests as part of a routine health screen and found a raised ALT level. An infective hepatitis screen and autoimmune profile were normal. There is no history of excess alcohol consumption. Abdominal ultrasound reveals evidence of fatty infiltration of the liver. Biopsy reveals fat infiltration with some evidence of fibrosis. Which diagnosis fits best with this clinical picture?

**1- Non-alcoholic steatohepatitis (NASH)**

2- Autoimmune hepatitis

3- Alcoholic cirrhosis

4- Cholecystitis

5- Hepatocellular carcinoma

Q258. A 23-year-old woman is in her 29th week of pregnancy. She has suffered from itching for 3 weeks and is concerned. She now has mild jaundice. Her bilirubin is raised at around 80 m mol/l and her ALT is raised at 82 U/l, alkaline phosphatase is markedly raised. Which diagnosis fits best with this clinical picture?

1- Cholecystitis

2- Acute fatty liver of pregnancy

3- Hyperemesis gravidorum

**4- Intrahepatic cholestasis of pregnancy**

5- HELLP syndrome

Q259. A 67-year-old woman is admitted with irondeficiency anaemia. She has an ejection systolic murmur radiating to both carotids. An upper GI endoscopy and colonoscopy is normal. Which of the following is the most appropriate next investigation?

1- Repeat upper GI endoscopy

2- Bone marrow examination

3- Repeat colonoscopy

**4- Angiography**

5- Barium enema

Q260. A 34-year-old man presents with symptoms of reflux oesophagitis. You elect to start lansoprazole as he has already made changes to his lifestyle without complete resolution of the reflux symptoms. Which of the following statements best describes the mode of action of lansoprazole?

1- It binds to the histamine H1 receptor

2- It binds to the histamine H2 receptor

3- It inhibits the hydrogen-sodium-ATP ‘proton pump'

**4- It inhibits the hydrogen-potassium-ATP ‘proton pump'**

5- It inhibits the hydrogen-calcium-ATP

Q261. You are asked to review an 18-year-old student who has just returned from a gapyear trip to India. He reports profound tiredness and a lack of appetite for the last week of his travels, and noticed he had jaundice just before he was due to return home. He is neither an iv drug abuser nor a homosexual, and hadn't received a blood transfusion or tattoos during his trip. He reports a fever, but this appeared to subside once his jaundice appeared. Liver function tests reveal an ALT of 950 U/l, bilirubin of 240 m mol/l and an elevated alkaline phosphatase that is just outside the upper limit of normal. White blood cell count, albumin level and prothrombin times are all normal. Which of the following is the most likely diagnosis given this clinical picture?

1- Hepatitis B

2- Hepatitis C

3- Cytomegalovirus

4- Leptospirosis

**5- Hepatitis A**

Q262. A 61-year-old man with known cirrhosis secondary to hepatitis C infection attends for review. There is a past histpry of iv heroin abuse and alcoholism. He has been feeling progressively more unwell during the past 6 months, with weight loss and worsening ascites. He is on long-term sick leave and has been closely monitored by his live-in partner, who maintains there has been no further drug abuse or consumption of alcohol. Which of the following is the most likely diagnosis given this clinical picture?

1- Superimposed hepatitis B infection

2- Alcoholism

3- Chronic active hepatitis

4- Spontaneous bacterial peritonitis

**5- Hepatocellular carcinoma**

Q263. A 24-year-old student presents with bloody diarrhoea, she says she has been passing up to 12 motions per day for the past 2-3 weeks. She now presents to the casualty department complaining of abdominal pain and distension. On examination she is dehydrated with a clearly distended tender abdomen. There is anaemia with raised plasma viscosity, potassium is mildly decreased at 3.2 mmol/l and, urea is raised in keeping with the dehydration. Liver function testing reveals a decreased albumin level. Autoantibody screen is positive for pANCA. Sigmoidoscopy shows a friable mucosa with a uniform pattern of inflammation and loss of normal mucosa. Stool culture is negative. Which diagnosis fits best with this clinical picture?

1- Crohn's disease

2- Coeliac disease

3- Ischaemic colitis

**4- Ulcerative colitis**

5- Diverticulitis

Q264. A 64-year-old woman presents with increasing epigastric pain and waterbrash of some months' duration. She has been taking alendronic acid tablets for osteoporosis. There is no history of food sticking or weight loss, and her general examination is unremarkable. Full blood count, urea and electrolytes and liver function tests are all normal. Which diagnosis fits best with this clinical picture?

1- Gastric carcinoma

2- Peptic ulcer disease

3- Pancreatic carcinoma

**4- Oesophagitis**

5- Oesophageal carcinoma

Q265. A 27-year-old woman attends for review. She has a past history of perianal abscess but nothing else of note. During the past few months she has twice presented to A&E complaining of grumbling abdominal pain. In addition, she has suffered intermittent episodes of bloody diarrhoea. Microcytic anaemia is found on blood testing and she has mild hypokalaemia. Albumin is reduced but other liver function tests are unremarkable. Barium imaging reveals a small bowel stricture with evidence of mucosal ulceration extending into the colon, interspersed with normal looking mucosa 'skipping'. Given this clinical picture, which is the most likely diagnosis?

1- Ulcerative colitis

2- Small bowel lymphoma

3- Coeliac disease

4- Tropical sprue

**5- Crohn's disease**

Q266. You are asked to review a 75-year-old woman. She has been referred by her GP because of increasing weight loss, but early satiety and increasing anorexia. She admits to 2 or 3 episodes of vomiting blood. He feels there is an epigastric mass. There is both a microcytic anaemia and abnormal liver enzymes. Her past history, which may be of importance, includes excess consumption of sherry and spirits, and a 30 pack-year smoking history. Which diagnosis fits best with this clinical picture?

1- Pancreatic carcinoma

2- Gastric lymphoma

3- Benign gastric ulcers

4- Helicobacter gastritis

**5- Gastric carcinoma**

Q267. A 45-year-old bar owner from Tenerife presents for review. Although he has been in the UK for 3 months during the winter season, he still looks deeply tanned. He is tired and feels 'washed out', attending with his girlfriend who is concerned he is impotent and has lost interest in sex. He has a past history of joint pains and mild arthritis, particularly affecting his knees. There is a family history of autoimmune disease, with type-1 diabetes in one first-degree relative, and hypothyroidism in another. On examination he is deeply pigmented, there is loss of body hair and testicular atrophy. His fasting blood glucose concentration is 8.4 mmol/l, and alkaline phosphatase and transaminases levels are raised. Which diagnosis fits best with this clinical picture?

1- Alcoholic cirrhosis

2- Diabetes mellitus

3- Primary adrenal failure

**4- Haemochromatosis**

5- Wilson's disease

Q268. A 17-year-old girl is admitted drunk. Her parents had been to a party and found her lying on the sofa when they returned home. They mentioned that she had a row with her boyfriend the previous evening. Her screening bloods on admission to casualty reveal a paracetamol level of 70 mg/kg and an INR of 2.1. What is the appropriate management in this case?

1- Continue observation as her paracetamol level is below the treatment line

**2- Begin immediate N-acetylcysteine and arrange for her to be closely monitored on the medical ward**

3- Give her oral methionine when she is awake enough to take it

4- Give her vitamin K and continue observation

5- Refer her immediately to a liver unit

Q269. A 43-year-old man has been referred to the gastroenterology clinic by his GP. There is a long history of arthralgia and more recently this man has begun to complain of diarrhoea with up to eight semi-formed oily stools per day. He also complains of excessive abdominal cramps and bloating, and a general loss of appetite. Examination reveals signs of weight loss and anaemia, there is mild oedema and evidence of ascites as well as a pericardial rub on auscultation. A 72-h faecal fat collection reveals 10 g fat/24 h. There is a mixed-picture anaemia, hypocalcaemia, hypokalaemia and decreased serum albumin. Antigliadin and antiendomyseal antibodies are negative. A small-bowel, follow-through study reveals evidence of mucosal oedema. Which diagnosis fits best with this clinical picture?

1- Coeliac disease

**2- Whipple's disease**

3- Ulcerative colitis

4- Laxative abuse

5- Giardiasis

Q270. A 10-year-old Egyptian boy who has recently immigrated to the UK is found to have hepatitis C infection. He is unsure as to how he could have acquired this disease. His mother died of jaundice 10 years ago. He was treated in Egypt 3 years ago for a bladder infection and the passage of blood in his urine. What is the most likely method of transmission in this case?

1- Contact with the local population

**2- Vertical transmission**

3- Sexual transmission

4- Contaminated drinking water

5- Intramuscular injections

Q271. A 26-year-old woman complains of an itchy rash, tiredness, abdominal pain and intermittent diarrhoea with a 10-kg weight loss over six months. She is pale and has a rash on her elbows and knees. She has a microcytic, hypochromic anaemia and low ferritin and folate levels, a low serum albumin and normal Free T4, but a slightly raised TSH level. Which of the following investigations is most appropriate?

1- Colonoscopy

2- Bone marrow examination

**3- Jejunal biopsy**

4- Small-bowel follow-through

5- Schilling test

Q272. A 19-year-old man is referred with tremors, difficulty in speaking and forgetfulness. He is pale, mildly jaundiced, and has palmar erythema and telangiectasias on his anterior chest wall with a postural tremor and dysarthria. What is the most appropriate investigation?

1- CT scan of the brain

2- Serum alpha-fetoprotein assay

3- MRI of the posterior cranial fossa

**4- Urinary copper level**

5- Serum iron studies

Q273. A 32-year-old woman with known protein-C deficiency presents to casualty with a history of diarrhoea, steatorrhoea and weight loss. She suffered a Colles' fracture some years ago. On examination you notice an old, healed, midline abdominal scar. She has a mixedpicture anaemia and her serum calcium level is just below the lower limit of normal. What is the most likely diagnosis?

1- Crohn's disease

2- Ulcerative colitis

**3- Short-bowel syndrome**

4- Chronic pancreatitis

5- Coeliac disease

Q274. A 57-year-old man presents with a persistent history of heartburn. He keeps on returning to his GP and eventually she refers him to you. A trial of low-dose PPI and lifestyle measures has failed to alleviate his symptoms. Screening bloods are unremarkable. You arrange an upper GI endoscopy; this reveals an abnormally high junction between the columnar epithelium of the stomach and the oesophageal squamous epithelium, with fronds of columnar epithelium extending up into the oesophagus. You suspect Barrett's oesophagus, which of the following statements is true?

1- He has a 30-50 times increased risk of squamous-cell carcinoma of the oesophagus compared to a non-Barrett's population

**2- He has a 30-50 times increased risk of adenocarcinoma of the oesophagus compared to a non-Barrett's population**

3- He has no increased risk of carcinoma

4- Continuous low-dose PPI therapy is appropriate in this case

5- He has a 30-50 times increased risk of

# Chapter 2 Dermatology

Q275. Which one of the following disorders is MOST commonly commonly associated with Stevens-Johnson syndrome?

**1- Herpes simplex infection**

2- Sarcoidosis

3- Systemic lupus erythematosus

4- Herpes zoster infection

5- Coeliac disease

Q276. A 75-year-old ex-soldier presents to his GP complaining of a dome-shaped lesion on his nose. There are prominent telangiectatic vessels on the surface of the lesion. The border of the lesion is translucent, looks pearly-white and is slightly raised. What diagnosis fits best with this clinical picture?

1- Superficial basal-cell carcinoma

**2- Nodular basal-cell carcinoma**

3- Sebaceous hyperplasia

4- Keratoacanthoma

5- Melanoma

Q277. A 24-year-old theatre nurse presents for review. She has red scaling plaques that are worse on her hands but are also present on the flexor surfaces of her arms and legs. Her past history of note includes coeliac disease. There is a mildly raised blood eosinophil count. What diagnosis fits best with this clinical picture?

1- Psoriasis

**2- Atopic eczema**

3- Photosensitivity

4- Dermatitis herpetiformis

5- Histiocytosis-X

Q278. A 78-year-old man presents with a very welldemarcated area of reddening on his left shin. There is induration and a raised border. Duplex scanning reveals no evidence of DVT. What organism is most likely to be responsible for this clinical picture?

**1- Group-A beta-haemolytic streptococcus**

2- Group-B haemolytic streptococcus

3- Group-G haemolytic streptococcus

4- Staphylococcus aureus

5- Group-C haemolytic streptococcus

Q279. A 25-year-old woman had been gardening on a warm spring day. In the evening she noticed erythema and blistering over the dorsum of her hands, face and neck. Which of the following statements is LEAST likely?

1- This may be a severe sunburn reaction

2- Photosensitivity may occur in patients with systemic lupus erythematosus, and a serum ANA level would be an appropriate test

3- She was taking tetracycline for acne which may have photosensitised her skin

**4- Iron deficiency may have led to the development of pellagra which is associated with photosensitivity**

5- Checking her plasma and urinary porphyrin

Q280. A 34-year-old man presents to his GP with a rash on his shins. On examination there are a number of purple-looking tender nodules. He has no significant past medical history but lives in rented accommodation and currently has no regular source of income. What diagnosis fits best with this clinical picture?

1- Insect bites

2- Erysipelas

3- Post-traumatic ecchymoses

**4- Erythema nodosum**

5- Unexplained vasculitis

Q281. The GP was called to the nursing home to see a 75-year-old man with dementia and severe pruritus. On examination, he had excoriations over his trunk and limbs. There was some scaling over his palms, most prominently in the web spaces. Which is the most likely diagnosis?

1- Iron deficiency anaemia

2- Chronic renal failure

3- Diabetes

**4- Scabies infestation**

5- Atopic eczema

Q282. A 54-year-old Jewish woman consults her GP because of recurrent oral ulceration and the appearance of blisters on her trunk. Skin biopsy reveals a superficial intraepidermal split just above the basal layer, with evidence of acantholysis. What diagnosis fits best with this clinical picture?

1- Bullous pemphigoid

**2- Pemphigus vulgaris**

3- Dermatitis herpetiformis

4- Epidermolysis bullosa

5- Linear IgA disease

Q283. A 24-year-old woman with type-1 diabetes presents for review. She presents with small, intensely itchy blisters on her skin. These are particularly present on her elbows, extensor forearms, scalp and buttocks. Some of the blisters have been de-roofed and present as erosions. She has been treated in the past for chronic diarrhoea, presumed to be due to diabetic neuropathy. What diagnosis fits best with this clinical picture?

1- Folliculitis related to diabetes

2- Eczema

**3- Dermatitis herpetiformis**

4- Linear IgA disease

5- Epidermolysis bullosa

Q284. A 52-year-old obese man presents to the GP with a rash on his inner upper thigh. It consists of an erythematous plaque with a scaling border. The central part of the plaque appears to be healing. What diagnosis fits best with this clinical picture?

1- Intertrigo

2- Psoriasis

3- Seborrhoeic dermatitis

4- Candidiasis

**5- Tinea cruris**

Q285. A 55-year-old man has non-infective, necrotising ulcers on his lower limbs. A diagnosis of pyoderma gangrenosum is made. Which of the following underlying conditions is he most likely to have?

**1- Multiple myeloma**

2- Haemochromatosis

3- Gout

4- Non-Hodgkin's lymphoma

5- Autoimmune thrombocytopenia

Q286. A 17-year-old youth presents with a purpuric rash on his buttocks and legs. There is joint pain and one vomit containing coffee grounds. Blood testing reveals mild eosinophilia and a small rise in IgA levels. Urine testing reveals microscopic haematuria. What diagnosis fits best with this clinical picture?

1- Traumatic injury

2- Thrombotic thrombocytopenic purpura

3- Idiopathic thrombocytopenic purpura

4- Polyarteritis nodosa

**5- Henoch-Schönlein purpura**

Q287. A 25-year-old man gives a 2-week history of painful joints affecting his lower limbs. He returned from a holiday in SE Asia 3 weeks ago. During this holiday he had developed loose bowel motions followed by eye irritation, for which he had consulted a local doctor. He has a psoriasiform rash on his lower limbs and soles. What is the most likely diagnosis?

1- Lichen planus

2- Guttate psoriasis

**3- Reiter's disease**

4- Mastocytosis

5- Porphyria

Q288. A 54-year-old woman visits her GP with a skin rash that has appeared a few days after commencing drug therapy for depression. She has also recently returned from a farm holiday with her family. A number of red circular lesions are present, varying in size from 1 to 3 cm, predominantly on her hands and feet and extensor surfaces. The lesions appear to have a slightly purpuric centre. What diagnosis fits best with this clinical picture?

1- Erythema nodosum

2- Weber-Christian disease

**3- Erythema multiforme**

4- Pityriasis rosea

5- Granuloma annulare

Q289. A 46-year-old man complains of heightened facial colouring. He has acne pustules on his face, which haven't troubled him since his mid-teens. Papules, pustules and telangiectasia are evident in a perinasal distribution. What is the most likely diagnosis?

1- SLE

2- Acne vulgaris

**3- Rosacea**

4- Seborrhoeic eczema

5- Porphyria cutanea tarda

Q290. A 25-year-old pregnant woman complains she has had painful nodules on her shins for over 2 weeks. She suffers from asthma, which is well controlled and is 32 weeks' pregnant. Examination shows painful nodules over her shins. What is the most likely diagnosis?

1- Erythema multiforme

**2- Erythema nodosum**

3- Cellulitis

4- Granuloma annulare

5- Drug eruption

Q291. A 25-year-old man presents with a welldefined patch of hair loss on his scalp surrounded by 'exclamation mark' broken hairs. There is nail pitting, hypopigmented skin but no scarring. What is the most likely diagnosis?

**1- Alopecia areata**

2- Discoid lupus

3- Telogen effluvium

4- Trichotillomania

5- Tinea capitis

Q292. A 31-year-old woman presents with a painful rash on her shins and arms, which developed over a period of 2 weeks. She also gives a history of malaise, fever and joint pains affecting her lower limbs. Examination shows that she has a nodular tender rash on both shins and arms. There is no pruritus but the rash is tender. Which of the following investigations is the most appropriate initial step towards reaching a diagnosis?

**1- Chest X-ray**

2- Bronchoscopy and lavage

3- Skin biopsy

4- Autoimmune screen

5- Pulmonary function tests

Q293. A 2-year-old boy, who has recently been circumcised, presents with purple papules on the scar and on his fingers, with evidence of excoriation. A white, lacy, reticulate appearance overlying lesions in the buccal mucosa is evident on oral examination. What is the most likely diagnosis?

1- Nodular prurigo

2- Psoriasis

3- Discoid eczema

4- Pyogenic granuloma

**5- Lichen planus**

Q294. A six-month-old baby appears to have experienced a fit. The parents noticed jerking of one arm followed by generalised shaking. A flat erythematous lesion under the right lower eyelid, which has not changed in size or appearance, has been present since birth. What is the most likely diagnosis?

**1- Sturge-Weber syndrome**

2- Tuberose sclerosis

3- Strawberry naevus

4- Pyogenic granuloma

5- Type 1 neurofibromatosis

Q295. A 35-year-old woman presents with yellowish mottling and overlying 'goose bumps' over the skin on her neck. The skin appears puckered. She is known to have mitral valve prolapse. What is the most likely diagnosis?

1- Eruptive tendon xanthoma

**2- Pseudoxanthoma elasticum**

3- Impetigo

4- Necrobiosis lipoidica

5- Ehlers-Danlos syndrome

Q296. A 32-year-old Turkish man presents with painful mouth sores, a painful red eye and polyarthralgia. Ulcers on a yellow base with erythematous edges are seen in the buccal mucosa. He gives a history of painful genital ulcers in the past few months which have now healed. What is the most likely diagnosis?

1- Crohn's disease

**2- Behçet's syndrome**

3- Syphilis

4- Reiter's syndrome

5- Erythema multiforme

Q297. Which is not a poor prognostic factor for outcome in patients with malignant melanoma?

1- Breslow thickness > 3 mm

2- Clarke's level IV

**3- Diameter of melanoma > 6 mm**

4- Microsatellite metastasis

5- Surface ulceration

Q298. A 30-year-old female on returning form Brazil developed a non-healing ulcer on her left ankle. She had spent 2 weeks camping in the jungle where she remembers being bitten by flies. Which of the following statements is the most likely?

1- Old-World cutaneous leishmaniasis is a likely cause of the ulcer

2- Leishmaniasis is transmitted by the bot fly

**3- Using insect repellents and avoiding skin exposure at dawn and dusk is important in protecting against insect bites and the prevention of infection from leishmaniasis**

4- Cutaneous leishmaniasis frequently precedes kala azar

5- Cutaneous leishmaniasis is easily treated

Q299. A 55-year-old woman known to suffer from primary biliary cirrhosis complains of a rash over her wrists and ankles. She also mentions that purplish lesions develop wherever she scratches herself. She has recently seen her gastroenterologist who has told her to continue taking colestyramine. Examination shows purplish, polygonal, flat-topped papules on her wrists and ankles. She also has fine, white lacy papules in her mouth. What is the diagnosis?

1- Pityriasis rosea

2- Scabies

**3- Lichen planus**

4- Drug reaction

5- Candidiasis

Q300. A 50-year-man presents with onycholysis. He is already being followed up for another chronic problem. Which is the most likely underlying cause for his current presentation?

1- Alopecia areata

2- Lichen planus

3- Systemic lupus erythematosus

4- Hypoproteinaemia

**5- Thyrotoxicosis**

Q301. A 25-year-old man has returned from a 2- week holiday in India. He gives a history of painful penile ulcers and swelling in the right inguinal area. While on holiday, he had unprotected sex with a local girl. Examination shows multiple ulcers on the prepuce and frenulum. He also has suppurating lymphadenopathy in the right groin. Which of the following is the most likely diagnosis?

1- Granuloma inguinale

**2- Chancroid**

3- Genital herpes

4- Syphilis

5- Lymphogranuloma venereum

Q302. Which of the following is not a cause of onycholysis?

1- Trauma

2- Psoriasis

3- Porphyria

4- Thyrotoxicosis

**5- Mycoplasma pneumonia**

Q303. A 45-year-old woman is seen at the dermatology clinic with an acute episode of erythroderma. She has a history of chronic skin problems for which she has required ongoing treatment. What is the most likely underlying cause of her current presentation?

1- Psoriasis

**2- Eczema**

3- Drug eruptions

4- Mycosis fungoides

5- Pityriasis rubra pilaris

Q304. An elderly woman is referred with mildly itchy vulval skin. Examination shows an atrophic white plaque affecting the vulva. There is a similar plaque on her abdomen. Which of the following is the most likely diagnosis?

1- Lichen planus

**2- Lichen sclerosus**

3- Lichen simplex

4- Morphea

5- Vitiligo

Q305. A six-month-old baby is referred with a recurrent itchy eruption affecting his trunk and soles. Examination shows a diffuse eczema on the trunk and pink-red papules on both soles. Which of the following is the most likely diagnosis?

1- Atopic dermatitis

2- Pustular psoriasis

**3- Scabies**

4- Tinea pedis

5- Viral warts

Q306. A 20-year-old woman known to suffer from acne vulgaris has been started on isotretinoin. Which of the following statements best applies to treatment with isotretinoin?

1- It is contraindicated in patients with renal artery stenosis

2- It can cause hirsutism

3- It can cause hyperkalaemia and hence electrolytes should be checked every month

**4- Pregnancy should be avoided during and 1 month after treatment**

5- It may cause haemoptysis

Q307. A 22-year-old primigravida in the third trimester develops pruritus. On examination, she has a few blisters on her abdomen, including around her umbilicus and upper thighs. Which of the following is the most likely diagnosis?

**1- Herpes gestationis**

2- Polymorphic eruption of pregnancy

3- Pregnancy prurigo

4- Pruritus of pregnancy

5- Scabies

Q308. A 67-year-old man has been diagnosed with Kaposi's sarcoma of the legs and feet. Which of the following best describes the typical clinical picture of this tumour?

**1- Kaposi's sarcoma can affect elderly nonimmunosupressed men**

2- It does not spread to the lymph glands

3- It can be contained by surgical excision

4- Patients usually complain of severe nocturnal itching

5- It does not affect survival

Q309. A 66-year-old woman presents with a skin disorder that is suspected to be paraneoplastic in origin. She also has weight loss and a persistent cough, for which she is being investigated at the respiratory clinic. Which dermatology presentation is she likely to have?

1- Necrolytic migratory erythema

2- Sweet's disease (acute neutrophilic dermatosis)

**3- Dermatomyositis**

4- Tylosis

5- Ichthyosis

Q310. A 55-year-old woman has developed slightly tender plum-coloured plaques on the backs of her hands. She is feverish, unwell and known to have myelodysplastic syndrome. Her full blood count reveals neutrophilia. Which of the following is the most likely diagnosis?

1- Erythema elevatum diutinum

2- Erythema nodosum

3- Nodular vasculitis

4- Pyoderma gangrenosum

**5- Sweet's syndrome**

Q311. A middle-aged man presents with hyperpigmentation of his forehead, excessive hair growth and a blistering scarring eruption on the dorsal aspect of both hands. This is worse in the summer. He is not on any medication but he drinks alcohol excessively. Which of the following is the most useful test in the clinic to make a diagnosis?

1- Check faecal porphyrins

2- Check serum ferritin

3- Check serum porphyrins

4- Check urine porphyrins

**5- Check urine with an ultraviolet light**

Q312. A middle-aged man is referred with itchy papules on his back and chest, along with nail dystrophy. His father had a similar eruption. Which is the most likely diagnosis?

**1- Darier's disease**

2- Lichen planus

3- Pemphigus foliaceus

4- Psoriasis

5- Seborrhoeic dermatitis

Q313. A 40-year-old man is referred with violaceous rash in his flexural creases on his arms and legs, and in his mouth. He has noticed a similar rash in a recent scar. Examination shows red scaly thickened plaques affecting the palms and soles. Which of the following is the most likely diagnosis?

**1- Lichen planus**

2- Pompholyx

3- Pustular psoriasis

4- Scabies

5- Tinea infection

Q314. A 55-year-old man complains of muscle weakness and finds it difficult to get up from a chair. His wife mentions that over the last few months he has developed dyspnoea on exertion. He has lost some weight over the previous 3 months and also complains of a scaling rash over his elbows and a purplish rash of the eyelids. He is an ex-smoker and used to work as a car salesman. He drinks 20 units of alcohol a week. What is the most likely diagnosis?

1- Motor neurone disease

**2- Dermatomyositis**

3- Bronchogenic carcinoma

4- Cushing's syndrome

5- Alcohol-induced myopathy

Q315. A 35-year-old man has developed an itchy rash on his back and buttocks over the last 4 weeks. Examination shows erythematous plaques with crusts and marks of excoriation over his elbows, buttocks and back. Apart from well-controlled asthma, this patient has no other medical history. Which of the following investigations, if performed, would be most likely to be diagnostic?

1- Autoimmune screen

2- Trial of steroids

**3- Small-bowel biopsy**

4- A detailed drug history

5- Skin scrapings

Q316. A 45-year-old man is admitted to the hospital with a diagnosis of mycoplasma pneumonia. Which of the following rashes is most likely to occur with this type of pneumonia?

**1- Erythema multiforme**

2- Erythema nodosum

3- Epidermolysis bullosa

4- Pityriasis rosea

5- Urticaria

Q317. A 35-year-old Mediterranean woman complains of a facial rash that has been present for the last 6 months. She has been living in the UK for 8 months. Examination shows numerous macular, erythematous lesions and pale-pink nodules on her face. What is the most likely diagnosis?

1- Systemic lupus erythematosus

2- Lupus vulgaris

3- Rosacea

**4- Cutaneous leishmaniasis**

5- Leprosy

Q318. A 12-year-old girl is admitted to the hospital with a history of an epileptic fit. The admitting doctor has documented hypopigmented macules on her abdomen and acne-like eruption on her face. Examination of her fingers shows small periungal fibrous papules. She is also known to have learning disabilities. What is the most likely diagnosis?

**1- Tuberous sclerosis (Bourneville's disease)**

2- Neurofibromatosis

3- Refsum's disease

4- Osler's disease

5- Bloom's syndrome

Q319. A 55-year-old man known to suffer from alcohol-induced liver disease gives a history of a blistering rash on his hands after a holiday in Greece. Examination shows established blisters as well as scar marks. He says he developed a similar rash last year following a holiday in Majorca, which healed with the formation of scars. He also has patches of scarring alopecia. Which of the following investigations might best establish the diagnosis?

1- Liver biopsy

**2- Plasma and urinary uroporphyrins**

3- CT scan of the liver

4- Liver function tests

5- Skin biopsy

Q320. A 35-year-old man is admitted to hospital with mycoplasma pneumonia. While an inpatient he developed a symmetrically distributed erythematous rash with concentric rings of varying colours on the back of his hands, palms and forearms. He has also developed lesions in his mouth. What is the most likely diagnosis?

1- Lichen planus

2- Erythema nodosum

3- Guttate psoriasis

**4- Erythema multiforme**

5- Erythrasma

Q321. A 25-year-old man, known to have suffered from type-1 diabetes mellitus for over 10 years, presents with a rash on his shins. The endocrinologist makes a diagnosis of necrobiosis lipoidica. Which of the following best describes necrobiosis lipoidica?

1- It is commonly seen in males

2- It most commonly occurs on the knuckles

3- It is treated with oral steroids

4- It is secondary to a fungal infection

**5- Low-dose aspirin helps healing**

Q322. A 55-year-old woman known to suffer from rheumatoid arthritis has developed necrotic ulcers on her legs. According to her description, these started as papules. She has multiple ulcers on her legs with a sloughy base and raised purplish prominent rim. Which of the following treatments is recommended in such cases?

**1- Prednisolone**

2- Bleomycin

3- Intravenous gammaglobulins

4- Local application of silver nitrate

5- Long-term intravenous metronidazole

Q323. A 55-year-old man complains of muscle weakness and finds it difficult to get up from a chair. His wife mentions that over the last few months he has developed dyspnoea on exertion. He has lost some weight over the previous 3 months and also complains of a scaling rash over his elbows and a purplish rash of the eyelids. He is an ex-smoker and used to work as a car salesman. He drinks 20 units of alcohol a week. What is the most likely diagnosis?

1- Motor neurone disease

**2- Dermatomyositis**

3- Bronchogenic carcinoma

4- Cushing's syndrome

5- Alcohol-induced myopathy

Q324. A 44-year-old man presents complaining of vague joint pains for over 2 months. He also has annular, erythematous plaques on his lower limbs. According to his partner he has suffered two episodes of unresponsiveness within the last 3 weeks, from which he recovered spontaneously. He is a salesman in a sports shop and had been to the USA 12 months ago with friends on a 3-month long camping holiday. He is a non-smoker and does not drink alcohol. Which of the following tests is most likely to establish the diagnosis?

1- Cardiac enzymes

2- Autoimmune screen

**3- Serology**

4- Holter ECG

5- Skin biopsy

Q325. A 22-year-old man presents to the hospital with a pale-pink, papular, non-itching symmetrical rash on his trunk, limbs and palms and soles. He also has white erosions in his mouth. Examination shows generalised lymphadenopathy and his main symptoms are lassitude, headache, muscle and joint pains. He is a plumber's apprentice and, apart from a 2-week holiday to the Far East 4 months ago, he has never been abroad. What is the most likely diagnosis?

1- Infectious mononucleosis

2- Pityriasis rosea

3- Drug eruption

**4- Secondary syphilis**

5- Psoriasis

Q326. A 55-year-old man has a squamous-cell carcinoma of his lower lip. Which of the following is most likely to be a feature of this type of carcinoma?

1- It commonly spreads to distant sites by venous channels

2- Prognosis is good

3- It is unrelated to sun exposure

4- It is commonly seen in patients under 45 years of age

**5- It is capable of metastasising via the**

Q327. A 62-year-old woman has recently been diagnosed as suffering from lentigo maligna on her face. Which factor is most important in determining her prognosis?

1- Other comorbidities

**2- Thickness of the lesion**

3- Initial size of the lesion

4- Colour of the lesion

5- Patient's age

Q328. A 21-year-old woman is admitted to the hospital with a 1-hour history of sudden onset breathlessness. This was accompanied by abdominal pain. She also has an erythematous rash, which developed 24 hours earlier. In the casualty department she is mildly distressed and has an audible wheeze. There is no past medical history of significance. Her family history is unavailable as she was adopted when she was 2 years old. As she has deteriorated, the intensivists decide to intubate and ventilate her. Which of the following investigations is most likely to help reach a diagnosis?

1- CT thorax

2- Cold agglutinins

3- Arterial blood gases

4- Mycoplasma serology

**5- C1 esterase inhibitor level**

Q329. A 30-year-old man gives a history of recurrent bullous eruption on his hands, forearms and trunk whenever he is on holiday, and mentions that these lesions develop whenever he visits sunny places. He has numerous scars on his hands, forearms and chest wall. He is a fit man and works as an interior decorator. He drinks alcohol in moderation. He is single and usually holidays with his friends. What is the diagnosis?

1- Sunburn

**2- Porphyria cutanea tarda**

3- Pemphigous

4- Pemphigoid

5- Polymorphic light eruption

Q330. A 23-year-old homosexual man visits a local GP while on holiday in the UK from Australia. He has noted a lesion on his penis that was initially nodular and painless, but has progressed over a time to form a heaped-up ulcer. Sampling from the lesion reveals large infected mononuclear cells containing many Donovan bodies. What diagnosis fits best with this clinical picture?

1- Penile carcinoma

2- Lymphogranuloma venereum

3- Chancroid

4- Genital herpes

**5- Granuloma inguinale**

Q331. A 33-year-old woman has a melanocytic naevi on her left shin. Which of the following features will not suggest malignant change?

1- Itch

2- Irregularity of surface

3- Increase in pigmentation

**4- Decrease in size**

5- Bleeding

Q332. A 14-year-old girl presents with moderate acne and pustules affecting the face, back and chest. What is the most appropriate treatment?

1- Topical tretinoin

**2- Oral tetracycline for three months**

3- Erythromycin

4- Oral isotretinoin

5- UVB phototherapy

Q333. A 24-year-old woman is referred by her GP with a number of large boil-like lesions that have appeared on her back over the course of a few days. She is awaiting investigations by a gastroenterologist for diarrhoea and has been found to be anaemic. On examination in the dermatology clinic, three out of the four lesions have broken down, leaving large ulcerated painful areas. What diagnosis fits best with this clinical picture?

1- Erythema induratum

**2- Pyoderma gangrenosum**

3- Necrobiosis lipoidica

4- Erythema nodosum

5- Erythema multiforme

Q334. A 22-year-old Caucasian woman with a history of type-1 diabetes presents for review. She has just returned from a summer holiday in Spain and has noticed some patches on her body that do not appear to have tanned. What diagnosis fits best with this clinical picture?

1- Pityriasis versicolor

2- Morphoea

3- Chloasma

**4- Vitiligo**

5- Leprosy

Q335. A 23-year-old man with type-1 diabetes has noticed an unusual lesion on the dorsum of his left hand. On examination he has an erythematous circular lesion that has a raised border. What diagnosis fits best with this clinical picture?

1- Necrobiosis lipoidica

2- Pyoderma gangrenosum

3- Scabies infection

4- Psoriasis

**5- Granuloma annulare**

Q336. A 44-year-old woman has been admitted to hospital with atypical pneumonia. She has now developed a rash with a purpuric centre. There is no mucosal involvement. What is the diagnosis?

1- Erythema nodosum

**2- Erythema multiforme**

3- Hereditary pemphigus

4- Fixed drug eruption

5- Toxic epidermal necrolysis

Q337. A patient presents with hyperkeratotic plaques on the skin, especially at the scalp margin. Mycology of hair pullings - no growth. What is the likely diagnosis?

**1- Psoriasis**

2- Seborrhoeic dermatitis

3- Tinea capitis

4- Lichen simplex

5- Discoid eczema

Q338. Which of the following is true regarding psoriasis?

**1- The main abnormality is increased epidermal proliferation due to excessive division of cells in the basal layers and a shorter cell-cycle time.**

2- It suggests underlying abdominal malignancy

3- It may commonly be the presenting feature of Hodgkin's lymphoma

4- It affects 15-20% of the population

5- Psoriatic arthropathy occurs in over 70% of

Q339. An elderly man presented with a lump on his temple that is shiny and is gradually increasing in size. What is the most likely diagnosis?

**1- Basal cell carcinoma**

2- Squamous cell carcinoma

3- Seborrhoeic wart

4- Lentigo maligna

5- Amelanotic melanoma

Q340. A 71-year-old obese woman presents for review. Her past history has been unremarkable apart from a deep venous thrombosis suffered some years ago. On examination there is an ulcer over the left medial malleolus with fibrosis and purpura of the surrounding skin. What is the diagnosis that fits best with this particular clinical picture?

1- An arterial ulcer

**2- A venous ulcer**

3- Trauma to the medial malleolus

4- A neuropathic ulcer

5- A vasculitic ulcer

Q341. A homeless male presents with multiple lustreless nails. There is no other skin lesion. What is the most appropriate investigation?

**1- Wood light examination**

2- Nail clippings for mycology

3- C-reactive protein

4- Blood cultures

5- Erythrocyte sedimentation rate

Q342. What is the cause for tinea incognito?

1- Bacterial superinfection

2- Fungal superinfection

**3- Inappropriate treatment with steroid cream**

4- Inappropriate treatment with antifungal cream

5- Food poisoning

Q343. A 25-year-old woman presents with an intensely painful rapidly spreading facial rash. She describes flu like symptoms with a fever and chills, which began a couple of days before the rash appeared. On examination she is pyrexial at 37.8°C and claims that the rash has worsened even in the past few hours. She has a severe superficial skin infection over the left hand side of the face with induration, erythraemia and a sharply demarcated border. Which one of the following organisms is the most likely cause?

**1- Group A Streptococcus**

2- Staphylococcus aureus

3- Staphylococcus epidermidis

4- Herpes zoster infection

5- Group G Streptococcus

Q344. A 26-year-old man returns from a holiday in Spain. He is concerned that he has two patches of depigmentation on his upper chest where he has failed to gain an adequate suntan. On examination these patches consist of well-demarcated scaly white skin, with a marked absence of pigmentation compared to the tanned areas. Which of the following is the most appropriate treatment in this case?

1- Fusidic acid ointment

**2- Clotrimazole ointment**

3- 1% hydrocortisone cream

4- Fluconazole tablets

5- Ketoconazole tablets

Q345. A 27-year-old woman attends the clinic for review. She is pale skinned and lived in Australia prior to moving to the UK. She is extremely concerned about a mole on her back. Which of the following features would make you most concerned about a possible melanoma?

**1- Diameter 7mm**

2- Regular border

3- Uniform pigmentation

4- Smoothly raised lesion

5- Blue-black in colour

Q346. A 19-year-old woman presented in autumn with erythematous plaques on the chest and forearm. Which of the following would help with a diagnosis?

1- Antinuclear antibody

2- Porphyria screen

3- Anti-smooth-muscle antibodies

4- Anti-phospholipid antibodies

**5- None of the above**

Q347. A 22-year-old woman presents with unsightly skin over her chest and scapular area. She noticed it while recently sunbathing on holiday in Spain. On examination she has a number of greasy brown papules on her chest and scapular area. What diagnosis fits best with this clinical picture?

**1- Darier's disease**

2- Pityriasis rosea

3- Pityriasis rubra pilaris

4- Lichen planus

5- Lichen aureus

Q348. A 67-year-old heavy smoker presents to his GP for review. He has developed a blue-violet rash on his face, particularly around the eyes. Past history of note includes hypertension, hypothyroidism, for which he is taking thyroxine, and hypercholesterolaemia, for which he takes simvastatin. There is also erythema on the back of his hands and feet, and nailfold haemorrhages are present. On examination there is mild proximal muscle weakness. What diagnosis fits best with this clinical picture?

1- Hypothyroid proximal myopathy

**2- Dermatomyositis**

3- Statin-related rhabdomyolysis

4- Cushing's disease

5- Discoid lupus

Q349. A 28-year-old French woman presents complaining of increasingly dark areas of pigmentation on her face which have appeared over the past few weeks. She has noticed weight increase over the past few months and has not had a period for 5 months. What is the diagnosis that fits best with this clinical picture?

1- Eczema

2- Lupus

**3- Chloasma**

4- Vitiligo

5- Prolactinoma

Q350. A 28-year-old woman presents to the dermatology clinic with two well-demarcated bald areas on her scalp. She has a past history of autoimmune hypothyroidism, but a recent TSH measurement was within the normal range on thyroxine therapy. In addition, she has type-1 diabetes. On examination the affected areas of scalp look normal, and there are no signs of inflammation or scarring. Hairs removed from the margin of the bald area look like 'club hairs'. What diagnosis fits best with this clinical picture?

1- Trichotillomania

**2- Alopecia areata**

3- Fungal scalp infection

4- Drug-induced alopecia

5- Telogen effluvium

Q351. A 54-year-old man presents to his GP with a scaling rash on his scalp and the extensor aspect of his knees and elbows. Psoriasis is diagnosed. Which HLA subtype is most closely associated with psoriasis?

**1- HLA-CW6**

2- HLA-DR4

3- HLA-DR3

4- HLA-B27

5- HLA-DR2

Q352. A 72-year-old Caucasian man consults for review. He is concerned about a raised molelike lesion on the sole of his foot. It is over 1 cm across with an irregular edge and is surrounded by a ring of paler, but still pigmented, skin. What diagnosis fits best with this clinical picture?

**1- Acral lentiginous melanoma**

2- Periungual melanoma

3- Lentigo maligna melanoma

4- Nodular melanoma

5- Superficial spreading melanoma

Q353. A 28-year-old woman attends the dermatology clinic for review after wide surgical excision for a malignant melanoma. The pathology report details a Breslow thickness of 4.0 mm. How would her 5-year survival rate be best described?

1- 90%

2- 80%

**3- 40%**

4- 70%

5- 75%

Q354. A 52-year-old woman, referred by her general practitioner, presents for advice. On a couple of occasions during the past few years she has presented to her GP with multiple crops of pruritic excoriated papules on her trunk and limbs. These have occasionally been accompanied by purpuric lesions. There is no systemic upset and spontaneous remission usually occurs after a few months, but this latest episode has taken longer than usual to resolve. Biopsy of the lesions reveals a lymphocytic vasculitis. What diagnosis fits best with this clinical picture?

1- Insect bites

2- Dermatitis herpetiformis

3- Secondary syphilis

**4- Pityriasis lichenoides acuta**

5- Erythema nodosum

Q355. A 49-year-old man with multiple psoriatic type plaques presents for review. He has a history of hypertension (for which he takes atenolol), atrial fibrillation (for which he takes warfarin) and epilepsy (for which he takes phenytoin). He has had a recent chest infection and is currently taking a combination of clarithromycin and amoxicillin. Which of these drugs is most likely to be the cause of his skin problem?

1- Warfarin

2- Phenytoin

3- Clarithromycin

4- Amoxicillin

**5- Atenolol**

Q356. A 62-year-old heavy smoker with a long history of self-neglect presents to his GP with severe leg pain. On examination there are multiple, small punched-out ulcers situated on the lower third of both legs. Both dorsalis paedis and posterior tibial pulses appear absent. What diagnosis fits best with this clinical picture?

1- Flea infestation

2- Multiple venous ulcers

3- Vasculitis

**4- Multiple arterial ulcers**

5- Traumatic skin damage

Q357. A 55-year-old man complains of nausea, loss of appetite and dyspepsia after meals for the last 2 weeks. He is a smoker and has a past history of pernicious anaemia. He is pale, cachexic and tender at the epigastrium. His skin is velvety and hyperpigmented at the neck and axillary folds. What is the diagnosis?

1- Tylosis

2- Pyoderma gangrenosum

**3- Acanthosis nigricans**

4- Chloasma

5- Lentigines

Q358. A 19-year-old student presents for review. He has just returned to university for the start of the Spring term. He gives a history of a red patch of skin on his chest, surrounded by an area of skin scaling, which was followed about 3 days later by the development of oval macules over the rest of his trunk, arms and thighs. He is otherwise well. What diagnosis fits best with this clinical picture?

1- Pityriasis rubra pilaris

2- Pityriasis versicolor

**3- Pityriasis rosea**

4- Darier's disease

5- Likely drug reaction

Q359. A 34-year-old man who works as a dog breeder presents with a bald patch on his scalp. He has noticed it increasing in size over the past couple of weeks and the area is beginning to itch. On examination there is inflammatory change and some skin scaling. Examination under Wood's light reveals bright green immunofluorescence. What diagnosis fits best with this clinical picture?

**1- Microsporum canis infection**

2- Tinea rubrum infection

3- Alopecia areata

4- Tinea cruris

5- Psoriasis

Q360. A 32-year-old army captain has returned to the UK after a tour of duty with his men. He complains of intense itching affecting his finger-webs, and the flexoral aspect of his wrists. There was some itching around the groin, but this settled after repeated bathing. On examination there appears to be excoriation in the finger-webs. What diagnosis fits best with this clinical picture?

1- Contact dermatitis

**2- Sarcoptes scabiei infection**

3- Psoriasis

4- Dermatitis herpetiformis

5- Pemphigoid

Q361. An 18-year-old girl presents complaining of an odd patch of skin that she noticed on her left thigh and which has developed over the past couple of weeks. On examination there is a very firm and slightly indurated pale area of skin on her upper thigh, which is a few centimetres across, and the lesion has an erythematous border. The pale area of skin appears to have a rather atrophic, glazed appearance. What diagnosis fits best with this clinical picture?

1- Lichen sclerosus et atrophicus

2- Pityriasis vesicular

3- Dermatomyositis

**4- Morphoea**

5- Pityriasis rosea

Q362. You are asked to review a 24-year-old woman who has a history of excessive sunbathing and is worried about her risk of skin cancer. She has been reading about melanin production on the Internet and wants to know about where melanocytes are positioned in the anatomy of the skin. Which of the following best describes the position of melanocytes

**1- Melanocytes are positioned in the basal layer of the epidermis**

2- Melanocytes are positioned in the outer layer of the epidermis

3- Melanocytes are positioned in the dermis

4- Melanocytes are positioned in the midlayers of the epidermis

5- Melanocytes are positioned in the

Q363. A 31-year-old man presents with a number of small epidermal blisters, predominantly affecting his scalp, scapular area and buttocks. The blisters are intensely itchy. Skin biopsy is positive to IgA immunofluorescence. What diagnosis fits best with this clinical picture?

1- Pemphigus

2- Pemphigoid

3- Porphyria cutanea tarda

**4- Dermatitis herpetiformis**

5- Erythema multiforme

Q364. A 60-year-old lady presents with a 4-week history of generalised rash. She complains of areas of erythema and blistering although only excoriations are visible today. On further questioning she also admits to difficulty swallowing and pain on passing urine. Her past medical history includes angina, and coeliac disease. Her medication includes aspirin, atenolol and hydralazine. She is subsequently reviewed by the dermatologists who perform a skin biopsy. The immunofluorescence results show immunoglobulin G (IgG) staining in the intercellular substance. What is the most likely diagnosis?

1- Epidermolysis bullosa

2- Pemphigoid

**3- Pemphigus**

4- Dermatitis herpetiformis

5- Allergic reaction

Q365. A 66-year-old woman presents with a lesion on her face. She is red-haired and has grown up during the early part of her life in Australia. Over the past few months she has noticed intense itching and burning affecting an area of brownish discoloration on her cheek that has been present for 4 years or more. Examination reveals a flat brownish discoloration affecting a 7mm area of the cheek. Investigations; Hb 13.2 g/dl WCC 6.1 x 109 /L PLT 240 x 109 /L Na+ 139 mmol/l K+ 4.6 mmol/l Creatinine 110 μmol/l Skin biopsyTis melanoma in situ Which of the following is the most appropriate treatment?

1- Cryotherapy

2- Radiation therapy

3- Imiquimod cream

**4- Surgical excision**

5- Surgical excision and systemic

Q366. A 32-year-old man presents to the clinic with a burning stinging rash which affects the back of his neck and shoulders, elbows, knees and his buttocks. Examination reveals an erythematous rash characterised by a number of small papules and vesicles in a herpetiform pattern. There are periods when the rash improves, but it symptoms can be severe and debilitating for periods of a few weeks. Past medical history of note includes Hashimoto’s thyroiditis which is managed with thyroid hormone replacement. Investigations; Hb 11.9 g/dl WCC 6.1 x 109 /L PLT 235 x 109 /L Na+ 140 mmol/l K+ 4.9 mmol/l Creatinine 105 μmol/l Skin biopsy – Neutrophil infiltration of dermal papillae, fibrin deposition, neutrophil fragments and oedema. Evidence of papillary microabscesses is seen. Which of the following represent the most appropriate first line treatment for this man?

1- Colchicine

2- Prednisolone

**3- Gluten free diet**

4- Dapsone

5- Atkins diet

Q367. A 28-year-old nurse from a nursing home presents to the clinic with a severe rash affecting her hands. There is a severely pruritic rash with multiple papules and vesicles against a background of erythema. There are a number of areas where she has scratched her hands to the point of bleeding. Investigations; Hb 13.1 g/dl WCC 5.6 x 109 /L PLT 300 x 109 /L Na+ 141 mmol/l K+ 4.8 mmol/l Creatinine 100 μmol/l Fungal culturesnegative Patch testingpositive for house dust, cats, latex, nickel Which of the following would be the most appropriate treatment in this case?

1- Topical corticosteroid cream

2- Topical anti-histamine cream

3- Oral corticosteroids

4- Topical tacrolimus

**5- Switch to nitrile gloves**

Q368. A 42-year-old man with a history of ulcerative colitis attends the gastroenterology clinic for review. He has noticed a deep ulcerating lesion on his leg and is concerned as to what it may be. On examination he has a deep ulcer on the left lower leg which has a violet border. Investigations; Hb 12.0 g/dl WCC 5.1 x 109 /L PLT 234 x 109 /L Na+ 141 mmol/l K+ 4.3 mmol/l Creatinine 105 μmol/l ESR 15 mm/hr Which of the following would be the most appropriate investigation to confirm the diagnosis?

1- Autoimmune profile

**2- Biopsy and culture from the ulcerated tissue**

3- Angiography and venous Doppler studies

4- Fasting plasma glucose

5- Chest x-ray

Q369. A 23-year-old woman who is 5 months pregnant presents to the GP with concerns about changes in her skin appearance. She reports that she has always had some light brown discolorations on her skin, a lot of freckling and lumps on her skin, but that these have worsened during the pregnancy. On examination she has multiple light brown pigmented areas on her skin, a number of friable cutaneous skin lesions and axillary freckling. Which of the following is the most likely diagnosis?

1- MEN-1

2- MEN-2

**3- Neurofibromatosis Type 1**

4- Neurofibromatosis Type 2

5- Acanthosis nigricans

Q370. A 19-year-old lady who has a history of paracetamol overdose on three occasions presents with a rash on her arm that developed overnight. On examination the rash is linear and erythematous. Investigations Hb 12.1 g/dl WCC 5.0 x 109 /L PLT 200 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 100 μmol/l ESR 10 mm/hr What is most likely diagnosis?

**1- Dermatitis artefacta**

2- Impetigo

3- Pityriasis versicolor

4- Contact dermatitis

5- Psoriasis

Q371. A 25-year-old man presents with bilateral ankle pain and swelling. He has red raised lesions on both his shins. He is usually fit and well, and works as a lawyer. The only history of note is a pharyngitis which preceded the symptoms. Investigations Hb 11.5 g/dl WCC 6.4 x 109 /L PLT 176 x 109 /L ESR48 mm/hr Na+ 139 mmol/l K+ 4.2 mmol/l Creatinine 110 μmol/l Which of the following is the most likely clinical outcome?

**1- Spontaneous resolution**

2- He is likely to develop bilateral sacroiliitis

3- He is likely to develop Inflammatory bowel disease

4- He is likely to develop enteropathy

5- He is likely to develop signs of tuberculosis

Q372. A 54-year-old woman who works outdoors as a building surveyor has noticed an increasingly troublesome, red scaly rash affecting her face, scalp, neck and hands. It presents as a series of red scaly areas. She is concerned that the areas affecting her scalp are causing bald patches in her hair. Antinuclear antibodies are negative. Some earlier lesions are now scarring, and showing change in pigmentation. What is the diagnosis that fits best with this clinical picture?

**1- Chronic discoid lupus erythematosus (CDLE)**

2- Systemic lupus erythematosus

3- Psoriasis

4- Ringworm

5- Eczema

# Chapter 3 Endocrinology

Q373. A 42-year-old woman is referred to the clinic with very difficult to manage hypertension. She is currently taking indapamide, ramipril, amlodipine and doxasosin, yet her blood pressure is still 155/95 mmHg. On examination she has a BMI of 25. Ophthalmoscopy reveals evidence of chronic changes consistent with hypertension. Bloods reveal; Hb 14.0g/dl WCC 5.8 x 109 /L PLT 190 x 109 /L Na+ 139mmol/l K+ 3.3mmol/l Creatinine 100 μmol/l You suspect Conn’s syndrome. Which of the following is the investigation of choice to confirm the diagnosis?

1- CT Abdomen

2- Iodine (I131) iodocholesterol scanning

**3- Aldosterone:renin ratio**

4- MRI abdomen

5- Morning cortisol

Q374. A 34-year-old man presents to the diabetes clinic with a history of thirst, polyuria and a recent 3.2 kg (7 lb) weight loss. His urine contains a small amount of ketones. Which of the following would suggest he is most likely to have type-2 rather than type-1 diabetes?

1- A BMI of 23

**2- High circulating insulin level**

3- HLA type DR-3

4- Positive islet-cell antibodies

5- Plasma bicarbonate level of 8 mmol/l

Q375. A 30-year-old woman presented with an 18- month history of polyuria and polydipsia. Her only other history of note was increasing joint pains, and one visit to the GP with depression some 6-months ago. Examination was unremarkable Bloods: Glucose 4.1 mmol/l Urea 7.2 mmol/l Creatinine 80 micromol/l Corrected serum calcium 3.1 mmol/l Serum Phosphate 0.7 mmol/l Parathyroid hormone 6.2 pmol/l (0.9-5.4) Which of the following is the most likely cause of this clinical picture?

1- Raised levels of calcitonin

2- Hypervitaminosis D

**3- Primary Hyperparathryoidism**

4- Secondary Hyperparathryoidism

5- Medullary thyroid carcinoma

Q376. A 32-year-old lawyer presents with nonspecific symptoms of tiredness. She is dissatisfied with her GP and arranges a private MRI scan of her pituitary. Blood testing by her private physician reveals normal thyroid function, cortisol, growth hormone and gonadotrophins. Her pituitary scan reveals a 0.8cm microadenoma. Which of the following represents the most appropriate course of action?

1- Treatment with dopamine agonist therapy

2- Somatostatin therapy

3- Bilateral sterotactic pituitary irradiation

**4- Observation and reassurance**

5- Trans-sphenoidal resection of pituitary

Q377. A 54-year-old man who has received previous surgery for acromegaly is receiving lanreotide medical therapy as his growth hormone is persistently elevated. What is the mode of action of lanreotide?

1- Inhibition of the somatostatin receptor

2- Inhibition of the growth hormone receptor

**3- Stimulation of the somatostatin receptor**

4- Stimulation of the dopamine D2 receptor

5- Inhibition of the dopamine D2 receptor

Q378. A 32-year-old man presents with unilateral gynaecomastia. He had breast reduction surgery on the other side 10 yrs ago. On examination he has, sparse body hair in the axilla and pubic regions. Two testicles are identified, both of small volume. On further questioning you elucidate that he has a normal sense of smell. His blood tests reveal: Testoterone 4nmol/l (9-35) LH + FSH normal Prolactin 400mU/l (<360) Which of the following is the most likely diagnosis?

**1- Klinefelter’s syndrome**

2- Kallman’s syndrome

3- Androgen insensitivity

4- Testicular feminisation

5- 17-beta hydroxylase deficiency

Q379. A 28-year-old woman attends the diabetes clinic with her two children. This is her third pregnancy and although not normally diabetic she was diagnosed with gestational diabetes mellitus. Recent fasting plasma glucose levels have been in the range of 5-6 mmol/l and she is taking bd mixed insulins. Later that evening she collapses while shopping and is brought to the Emergency Department with blood glucose of 2.4 mmol/l. Which of the following represents the most appropriate management in this patient?

1- Reduce her dose of bd mixed insulin by 50%

2- Reduce her dose of bd mixed insulin by 20%

3- Check a random cortisol to rule out Addison's disease

**4- Change her to a basal bolus regime**

5- Advise her to increase the size and

Q380. A 27-year-old woman with type-1 diabetes mellitus attends for her routine review and says she is keen on becoming pregnant. Which of the following is the factor most likely to make you ask her to defer pregnancy at this stage?

1- Minor background retinopathy

**2- Hb A1C 9.4%**

3- She hasn't been taking folic acid

4- Microalbumin level of 6-mg excretion in 24 hours

5- Sensory neuropathy

Q381. A 42-year-old woman presents to the Emergency Clinic with palpitations and shortness of breath. Recent thyroid function tests on the hospital computer reveal thyroidstimulating hormone (TSH) of <0.05 mU/l and a markedly elevated T4. You arrange blood gas testing. Which of the following findings would be most consistent with Grave's disease?

1- Respiratory acidosis

2- Decreased pa(O2)

3- Increased pa(CO2)

**4- Decreased pa(CO2)**

5- Decreased pH

Q382. A 38-year-old woman presents to her GP complaining of palpitations, sweating and weight loss of around 4kg over the past 6 months. She has a history of thyroid disease in the family. On examination she has a blood pressure of 145/85 mmHg and a pulse of 92/minute. Bloods; TSH <0.05 mU/l Hb 13.4 g/dl WCC 5.6 x 109 /L PLT 223 x 109 /L Na+ 140 mmol/l K+ 4.0 mmol/l Creatinine 100 μmol/l You suspect that she has thyrotoxicosis. Which of the following fits best with the action/effects of excess thyroxine?

**1- Improved insulin sensitivity**

2- Decreases myocardial oxygen demand

3- Increased tissue elasticity

4- Increases prolactin release

5- Leads to increased bone mass

Q383. A 21-year-old Medical Student presents with recurrent collapses. These have occurred on a number of occasions in association with stressful periods on the wards. Most recently she has been attached to the Emergency department and has suffered two collapses during cardiac arrests of patients on the unit. Her father has a history of Type 1 diabetes. You are on call with her overnight and she collapses again, you collect a blood sample. Bloods; Glucose 1.6 mmol/l Insulin 1261 pmol/l C-Peptide 20 pmol/l (<400) Which of the following is the most likely diagnosis?

1- Insulinoma

2- Glucagonoma

3- Phaeochromocytoma

4- Illicit use of sulphonylureas

**5- Illicit use of insulin**

Q384. A 45-year-old man presents to the clinic complaining of a lump in the neck which becomes particularly more prominent when she swallows. On examination there is a thyroid nodule at the base of the neck. Leukocyte screening of two other family members who suffered thyroid carcinoma has revealed the ret proto-oncogene. Which type of thyroid carcinoma is linked to the ret-proto-oncogene?

1- Papillary thyroid carcinoma

2- Anaplastic thyroid carcinoma

3- Follicular thyroid carcinoma

**4- Medullary thyroid carcinoma**

5- Thyroid lymphoma

Q385. A 62-year-old man is brought to the Emergency department with a grand-mal seizure. You are aware from his notes that he has undergone chemotherapy for small cell carcinoma of the bronchus a few months earlier. His wife tells you that he was drowsy and not himself for a day or two before the seizure. On examination he is very drowsy but you can wake him up with stimulation. He is very thin with evidence of muscle and fat loss consistent with his carcinoma. Neurological examination reveals no focal signs. Bloods on admission; Na+ 123 mmol/l K+ 4.0 mmol/l Creatinine 100 μmol/l Urea 3.5 mmol/l Hb 11.1 g/dl WCC 4.5 x 109 /L PLT 230 x 109 /L You suspect SIADH and fluid restrict him. Despite no evidence of him having taken in more fluids than documented his sodium deteriorates to 119 mmol/l the following day. His drowsiness has increased. Which of the following represents the most appropriate management for him?

1- Continue fluid restriction

2- Start dexamethasone

3- Give normal saline 0.9%

4- Give normal saline 1.8%

**5- Start demeclocycline**

Q386. A 45-year-old builder is admitted to the Emergency room after falling of his ladder. Past history of note includes hypertension which is managed with ramipril 10mg daily. The Emergency scan reveals a 4cm right sided adrenal mass. His blood pressure in the Emergency room is 145/90 mmHg. Blood results; Hb 12.1 g/dl WCC 6.2 x 109 /L PLT 232 x 109 /L Na+ 138 mmol/l K+ 3.6 mmol/l Creatinine 100 μmol/l Which of the following would be most likely to reveal the underlying diagnosis?

1- 24hr Urinary catecholamines

**2- Plasma renin/aldosterone**

3- MIBG scan

4- MRI adrenals

5- Urinary sodium

Q387. A 19-year-old woman is admitted to the Emergency room after a collapse. She is found to be hypoglycaemic. You understand from colleagues who accompanied her in the ambulance that she collapsed at work, and this has happened at least 3 times in the past 2 months. There is no past medical history of note apart from the fact that her father is obese and was diagnosed with Type 2 diabetes some 7 years ago. Bloods; Hb 13.9 g/dl WCC 5.6 x 109 /L PLT 231 x 109 /L Na+ 139 mmol/l K+ 3.9 mmol/l Creatinine 80 μmol/l Glucose 2.4 mmol/l Insulin 350 IU/l C-Peptide 0.1 U/l Which of the following is the most likely diagnosis?

1- Sulphonylurea abuse

2- Metformin abuse

3- Retroperitoneal tumour

4- Insulinoma

**5- Insulin abuse**

Q388. A 30-year-old woman is evaluated in the endocrinology clinic for increased urine output. She weighs 60 kg and has a 24-hour urine output of 3500 ml. Her basal urine osmolality is 210 mOsm/kg. She undergoes a fluid deprivation test and her urine osmolality after fluid deprivation (loss of weight 3 kg) is 350 mOsm/kg. A subsequent injection of subcutaneous DDAVP (desmopressin acetate) did not result in a further significant rise of urine osmolality after 2 hours (355 mOsm/kg). Which of the following is the likely diagnosis?

1- Normal

**2- Primary polydipsia**

3- Osmotic diuresis

4- Pituitary diabetes insipidus

5- Nephrogenic diabetes insipidus

Q389. A diabetic heavy goods vehicle (HGV) driver has been changed from oral medication to insulin. What is the consequence for his driving licence?

1- Keep the licence

2- Suspension for 3 months

3- Suspension for 6 month

4- Suspension for 1 year

**5- Loss of licence**

Q390. A 78-year-old man is admitted to hospital with a left hemiparesis and altered consciousness. He is on aspirin 75 mg, bendrofluazide 2.5 mg, atorvastatin 10 mg and glibenclamide 15 mg daily. His wife says he has been unwell for a couple of days and has been off his food. She has still been giving him all his medication. Which of the following tests is going to be most helpful in finding an immediately reversible cause for his symptoms?

**1- Blood glucose level**

2- CT brain scan

3- ECG

4- Serum creatinine level

5- Troponin level

Q391. A 35-year-old woman comes to see you for a complete physical exam. She has experienced cold intolerance, weakness and constipation for 3 months. Her menses are regular but scanty. Her history is significant for hypertension and peptic ulcer disease and her family history includes hypertension and diabetes. The patient is married but has never been pregnant and takes cimetidine 400 mg at bedtime, sustained-release nifedipine 60 mg daily and docusate sodium 100 mg three times a day. Her pulse is 58 beats/minute with a blood pressure of 135/90 mm Hg. Her skin is dry and scaly and she has hung-up reflexes. The rest of her exam is normal and the following labs are obtained serum chemistries are normal except for a creatine kinase of 300 U/l (normal range, 26-140 U/l); CBC is normal, free thyroxine (T4) is 6.4 pmol/l (normal range, 10-22 pmol/l) and thyroid stimulating hormone (TSH) is 1.5 mIU (normal range, 0.3- 5.0 mIU). Which of the following is most likely to confirm the underlying cause?

1- Free tri-iodothyronine (T3)

2- Thyroid ultrasound scan

3- Thyroid uptake scan

**4- Pituitary magnetic resonance imaging (MRI)**

5- Antithyroid antibodies

Q392. A 38-year-old woman comes to you for renewal of her medications. She has had hypertension since her last pregnancy at age 30 and has been maintained on clonidine 0.2 mg twice a day. She gets headaches, dyspnea on exertion; swelling of her feet and orthopnea but denies chest pain. Her father is also being treated for hypertension. She is married and does not smoke. She is five feet seven inches tall and weighs 15 stones. Her blood pressure is 180/110 mm Hg; pulse is 92 beats/minute. The rest of her exam is remarkable for hypertensive retinopathy, bibasilar rales and 1+ pitting edema bilaterally. Initial labs were normal except for serum potassium of 3.0 mEq/l (normal range, 3.5-5.0 mEq/l) and serum bicarbonate of 33 mEq/l (normal range, 22-28 mEq/l). You correct hypokalemia and obtain a random serum aldosterone level of 25 ng/dl (normal range, 5-30 ng/dl) with a plasma renin activity of 0.5 ng/ml/h (normal range, 1.6-7.4 ng/ml/h) while the patient is on a normal diet. What additional tests might be appropriate?

1- Adrenal computed tomography (CT) scan

2- Adrenal vein sampling

3- 18-Hydroxycorticosterone

4- Saline loading test

**5- Adrenal CT, adrenal vein sampling and 18-**

Q393. A 27-year-old woman was admitted 2 days ago through the emergency room for seizures. She has a history of moderate alcohol use. Two weeks ago she received benzathine penicillin for secondary syphilis. She is complaining of muscle cramps, weakness and headache. She received 1 g of phenytoin on the day of admission and is now taking 100 mg three times a day. She is also taking paracetamol, multi-vitamins and tapering doses of chlordiazepoxide. There is a history of seizures in her family. She is 152 cm tall and weighs 55kg. Her blood pressure is 130/80 mm Hg; pulse is 90 beats/minute. The rest of the physical exam is normal except for a round face, a short neck, short fourth and fifth metacarpals and bilateral cataracts. Abnormal labs include calcium of 1.5 mmol/l (normal range, 2.2-2.6 mmol/l), phosphorus of 1.7 mmol/l (normal range, 0.8-1.4 mmol/l) and an intact parathyroid hormone (PTH) of 200 pg/ml (normal range, 15-65). Which of the following is most likely?

1- Hypothyroidism

**2- Pseudohypoparathyroidism**

3- Hypoparathyroidism

4- Pseudo-pseudohypoparathyroidism

5- Hyperparathyroidism

Q394. You review a 52-year-old woman in the thyroid clinic. She has a thyroid mass. Unfortunately this turns out to be a thyroid lymphoma. Which of the following is the best choice therapy in this case?

1- Suppressive treatment with thyroid hormone

2- Radioiodine treatment

3- Chemotherapy

**4- External beam radiotherapy**

5- Palliative measures

Q395. A 76-year-old woman with thyroid cancer comes to see you. Which of the following has the worst prognosis in thyroid cancer?

1- Papillary carcinoma with lymph node metastases

2- Follicular carcinoma with bone metastases

**3- Anaplastic carcinoma with long-standing goitre**

4- Thyroid lymphoma

5- Medullary carcinoma as part of MEN

Q396. A 40-year-old female complains of feeling tired all the time. The following laboratory results have been obtained: Cholesterol 6.8 mmol/l High-density lipoprotein (HDL) 0.9 mmol/l Thyroglobulin (TG) 2.2 mmol/l Free thyroxine (T4) 10 pmol/l Thyroid-stimulating hormone (TSH) 22.5 mu/l What is the most appropriate treatment?

1- Atorvastatin

2- Ezetimibe

3- Gemfibrozil

4- Omega 3 fish oil

**5- Thyroid hormone replacement**

Q397. A 20-year-old student presents to the diabetes clinic for review. She is a keen rower who suffers from Type 1 diabetes and has suffered two severe hypoglycaemic attacks after rowing training. Her current insulin regime is BD 30/70 mixed insulin. Investigations; Hb 13.1 g/dl WCC 4.3 x 109 /L PLT 295 x 109 /L Na+ 140 mmol/l K+ 4.4 mmol/l Creatinine 100 μmol/l HbA1c 9.1% You plan to make a change to a basal bolus insulin regime Which of the following would be the most appropriate short acting insulin for her?

1- Insulin glargine

**2- Insulin lispro**

3- Insulin detemir

4- Insulotard

5- Novomix 50/50

Q398. A 56-year-old diabetic male had an anterior myocardial infarction 5 years ago. He is receiving aspirin 150 mg once daily and twice daily insulin. Baseline screen revealed a body mass index (BMI) of 34, blood pressure 150/90 mmHg , haemoglobin A1c (HbA1c) 6.9 %, serum cholesterol 3.6 mmol/l (normal < 5.1 mmol/l). Which of the following measures would delay deterioration in renal function?

1- Orlistat

2- Increase to 4—أ daily insulin

**3- Ramipril**

4- Simvastatin

5- Increase aspirin from 150 mg to 300 mg

Q399. A patient who has had a subtotal thyroidectomy for hyperthyroidism is on thyroxine replacement. She has a normal thyroid-stimulating hormone (TSH), normal tri-iodothyronine (T3) and low free thyroxine (T4) levels. What is the most likely reason for those results?

1- Hypothalamic pituitary causes

2- Poor compliance with thyroxine supplements

**3- The patient's results are as expected - no change in treatment is required**

4- She has sick euthyroid syndrome

5- Malabsorption

Q400. A 67-year-old man is referred to the hospital diabetes clinic with a new diagnosis of type-2 diabetes mellitus. He has a BMI of 29. Creatinine level is 150 nmol/l and he has 1+ protein on urinalysis. He has a past history of heart failure. Which of the following drugs are you most likely to prescribe?

1- Chlorpropamide

**2- Gliclazide**

3- Pioglitazone

4- Rosiglitazone

5- Metformin

Q401. A patient with Addison's disease presents with an acute onset of diarrhoea and vomiting. He currently takes fludrocortisone and hydrocortisone. What is the most appropriate management?

1- Intravenous (iv) cyclizine

2- iv Ondansetron

**3- iv Fluids and iv hydrocortisone**

4- Increase fludrocortisone

5- iv Antibiotics

Q402. A 65-year-old lady with type 2 diabetes mellitus has had two episodes of dizziness associated with driving a car. She currently administers insulin, her glucose was 2.1 mmol/l, which improved after intravenous (iv) glucose. Her insulin dose was reduced. What is the next important step?

1- Magnetic resonance imaging (MRI) of the brain

2- 72-h observation in hospital

**3- Advise not to drive**

4- Psychiatric referral

5- Better diabetes education

Q403. A 24-year-old woman is referred by her GP. She is 10 weeks' pregnant and complaining of anxiety and an inability to sleep total thyroxine (T4) is noted to be 160 nmol/l (normal 70-140) Free T4 is noted to be 27 pmol/l (normal 9-25) thyroid-stimulating hormone (TSH) 0.4 mU/l. Which of the following is the management of choice in this patient?

1- Commence low-dose carbimazole therapy

2- Commence propylthiouracil therapy

**3- Observe and repeat thyroid function tests in 1 month**

4- Start high dose carbimazole and thyroxine concomitantly

5- Measure antithyroid antibody levels

Q404. You review a 54-year-old patient with hyperparathyroidism. Which of the following statements is true regarding parathyroid hormone (PTH)?

1- Secretion is inhibited by hypocalcemia

2- Secretion is stimulated by hypercalcemia

3- The effect of magnesium on secretion is the same as that of calcium

**4- Secretion is stimulated by low 1,25- hydroxyvitamin D and inhibited by high levels of 1,25-hydroxyvitamin D**

5- Hyperparathyroidism invariably causes

Q405. A 28-year-old man presents to casualty with a sudden loss of vision in his right eye. His only past history of note is a previous cerebellar haemorrhage. On examination he has evidence of bilateral retinal angiomas, and a partial retinal detachment in his right eye. What is the most likely diagnosis?

1- Simple traumatic retinal detachment

2- Clotting disorder

3- Bleeding due to hypertension

**4- von Hippel-Lindau disease**

5- McCune-Albright syndrome

Q406. A 45-year-old man presents to the clinic after being referred by his GP. He complains of recurrent episodes of sweating and light headedness which are relieved by eating snacks. Tiredness and poor concentration have affected his ability to work and he has gained 12kg in weight over the past 3 months. On examination he has a BMI of 31, his BP is 145/89 mmHg, pulse 75/min regular. He is obese but there are no other clinical findings of note. Investigations; Hb 13.9 g/dl WCC 5.8 x 109 /L PLT 204 x 109 /L Na+ 141 mmol/l K+ 4.9 mmol/l Creatinine 102 μmol/l Fasting glucose 4.1 mmol/l Which of the following is the most appropriate next investigation?

1- TSH

2- Barium swallow

3- In-patient 72hr fast

**4- 3x 15hr fasts with outpatient glucose estimation**

5- Food diary

Q407. A 27-year-old pharmacist is admitted to the Emergency room with a panic attack. On further questioning it transpires that she has been suffering from palpitations and has lost weight over the past 6 months. Her periods stopped 3 months ago. On examination her BP is 145/90 mmHg, pulse is 92/min at rest. Her BMI is 20; the remainder of her clinical examination is unremarkable. Investigations; Hb 13.1 g/dl WCC 4.9 x 109 /L PLT 145 x 109 /L TSH <0.05 U/l Free T4 32 pmol/l Thyroglobulin low Decreased thyroid uptake on scintography scan Which of the following is the most likely diagnosis?

1- Hashimoto’s thyroiditis

2- Graves'disease

3- Toxic multinodular goitre

**4- Thyrotoxicosis factitia**

5- Struma ovarii

Q408. A 43-year-old woman presents with weight loss, palpitations, diarrhoea and a cessation of periods. She has been treated by her GP for anxiety. Examination reveals a single nodule on the left of her thyroid, about 1.5 cm in diameter. Thyroid scanning with technetium shows increased uptake within the nodule with reduced activity throughout the rest of the gland. Thyroid function tests showed a free thyroxine of 30 pmol/l (9-25 pmol/l), TSH < 0.05 mU/l (0.5-5). Based upon these findings, what would be the definitive treatment?

**1- Radioactive iodine therapy**

2- Carbimazole

3- Surgical excision

4- Propanolol therapy

5- High-dose carbimazole therapy with

Q409. You review a 59-year-old man with Type 2 diabetes. He is managed with metformin 1g BD and also has a history of hypertension for which he is treated with ramipril 10mg. Investigations; Hb 13.0 g/dl WCC 5.1 x 109 /L PLT 205 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 120 μmol/l Glucose 8.1 mmol/l HbA1c 8.4% You elect to start a peroxisome proliferatoractivated receptor (PPAR) gamma agonist. What is a main function of peroxisomes?

1- DNA transcription

**2- Fatty acid metabolism**

3- Protein catabolism

4- Peptide manufacture

5- DNA replication

Q410. A 24-year-old adopted man presents with transient left-sided weakness of his arm, which resolves after a few hours. His only other history of note is a reduced libido and inability to maintain erections. On examination he appears to have a spotty skin pigmentation. You notice a heart murmur, and there is suggestion of a left atrial mass on echo. His prolactin is elevated at 2000 mmol/l. What is the most likely diagnosis?

1- Left atrial myxoma

**2- Carney complex**

3- Prolactinoma

4- Protein C deficiency

5- Somatisation disorder

Q411. A 61-year-old man with Type 2 diabetes comes to the clinic with a foot ulcer on the plantar surface of his left foot. He has had Type 2 diabetes for the past 8 years and is currently managed with metformin and sulphonylurea. On examination his BP is 160/92 mmHg, his pulse 75/min and regular. He is obese with a BMI of 32. He has loss of vibration sense on his big toes and insensitivity to the 10g monofilament on the soles of both feet. He has loss of the arches on both sides. Investigations; Hb 12.5 g/dl WCC 4.9 x 109 /L PLT 180 x 109 /L Na+ 141 mmol/l K+ 4.9 mmol/l Creatinine 110 μmol/l HbA1c 7.8% Which of the following is the best predictor for his future risk of ulceration?

1- Loss of vibration sense

2- Loss of 10g monofilament sensation

**3- Previous / present ulcer**

4- Foot deformity

5- His increased BMI

Q412. A 32-year-old woman presents with collapse. She works in an office environment and it has been a particularly hot day. On examination in casualty she looks a little dehydrated. BP is 110/70 mmHg. The following serum electrolyte results are obtained; Na+ 134mmol/l K+ 2.9mmol/l Mg++ 0.57 mmol/l (0.75-1.05) HCO3- 34mmol/l What is the most likely diagnosis?

1- Bartter's syndrome

**2- Gitelman's syndrome**

3- Gordon's syndrome

4- Conn's syndrome

5- Liddle's syndrome

Q413. A 45-year-old woman who works in a pharmacy presents with episodes of tiredness and lethargy. Her blood pressure is 115/75 mmHg. Her bloods reveal hypokalaemia and a raised serum bicarbonate level. Urine collection reveals hypercalciuria. Otherwise the findings are unremarkable. What is the likely diagnosis?

1- Bartter's syndrome

2- Gitelman's syndrome

**3- Frusemide abuse**

4- Conn's syndrome

5- Liddle's syndrome

Q414. Which of the following is a feature of MEN-1?

1- Marfanoid features

2- Phaeochromocytoma

3- Medullary carcinoma of the thyroid

**4- Parathyroid hyperplasia**

5- Mucosal neuromas

Q415. A 42-year-old man is referred to the hypertension clinic for advice. He is currently taking atenolol, bendrofluazide and ramipril and his blood pressure is currently 165/105 mmHg. His potassium is 3.0 mmol/l, with a serum bicarbonate concentration of 28 mmol/l. What is the best next management step?

1- Measure the aldosterone:renin ratio

**2- Wash out as many of his antihypertensive agents as is possible for a period of 2 weeks, then review**

3- Measure his 24-h blood pressure

4- Arrange 24-h urinary free-cortisol collection

5- Add in a further agent and review in 12

Q416. A 42-year-old man is referred to the hypertension clinic for advice. He is currently taking atenolol 100 mg, bendrofluazide 2.5 mg and ramipril 10 mg, and his blood pressure is currently 165/105 mmHg. Examination is otherwise unremarkable. His potassium is 3.0 mmol/l, with a serum bicarbonate concentration of 28 mmol/l, creatinine 85 m mol /l, glucose tolerance is normal. What is the most likely underlying diagnosis?

1- Cushing's disease

**2- Primary hyperaldosteronism**

3- Essential hypertension

4- Renal artery stenosis

5- Phaeochromocytoma

Q417. A 24-year-old student has been recovering at home after a period of intensive care and general medical admission for meningococcal septicaemia. 4 days after discharge from hospital she visits her GP complaining of dizziness on standing and profound tiredness. On examination she looks tired and 'washed out' and does indeed have postural hypotension. Blood testing reveals a sodium concentration of 121 mmol/l, potassium of 6.7 mmol/l and urea of 15.0 mmol/l. She has mild normochromic, normocytic anaemia. What is the most likely underlying diagnosis?

1- Secondary adrenal insufficiency

**2- Waterhouse-Friderichsen syndrome**

3- ME

4- Syndrome of inappropriate ADH

5- Hypothyroidism

Q418. A 37-year-old woman presents to A&E after chasing thieves who were stealing her car. Her blood pressure is noted to be 185/110 mmHg on admission. She admits to episodic headaches and feeling stressed and anxious. She is of normal appearance, her serum calcium on admission is noted to be 2.95 mmol/l with normal renal function, abdominal ultrasound reveals a possible adrenal mass. What is the most likely diagnosis?

1- Phaeochromocytoma

2- Carcinoid syndrome

3- MEN-1

**4- MEN-2a**

5- MEN-2b

Q419. A 19-year-old female gymnast presents with complaints of headache and fatigue. She has had no significant previous medical history, but has been amenorrhoeic for the past 4 months. On examination her BP is 110/70 mmHg and pulse is 55/min. Her BMI is 16. Investigations Hb 11.5 g/dl WCC 5.2 x 109 /L PLT 156 x 109 /L Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 72 μmol/l The GP requests you to assess her hormone levels. Which of the following hormone panel do you expect to be most elevated?

**1- Cortisol**

2- GH

3- LH

4- Prolactin

5- Thyroid

Q420. A 60-year-old white man comes to see you for chronic back pain, which worsened 1 week ago. He has been wheelchair bound for 6 months because of severe osteoporosis with multiple lumbosacral spine fractures. He has severe asthma, which has required large doses of glucocorticoids for many years. The patient reports progressive loss of height and kyphosis over the past year. Other medications include salbutamol and ipratropium inhalers and long-acting theophylline 300 mg twice a day. Significant physical findings include bilateral cataracts, multiple ecchymoses and a prolonged expiratory phase with bilateral wheezes. Which of the following treatments is first choice in this patient?

1- Testosterone replacement

2- Vitamin D supplementation

3- Calcium supplementation

**4- Bisphosphonate therapy**

5- Calcitonin therapy

Q421. A 17-year-old young woman with poorly controlled diabetes mellitus presents with a temperature, dehydration and altered consciousness. Her initial biochemistry shows sodium 130 mmol/l, potassium 4.5 mmol/l, bicarbonate 6 mmol/l, urea 11.2 mmol/l, creatinine 135 nmol/l and hydrogen ion 80. What is the most important immediate treatment?

1- Intravenous antibiotics

2- Intravenous bicarbonate

**3- Intravenous fluids**

4- Intravenous insulin

5- Intravenous potassium

Q422. A 39-year-old woman with Hashimoto’s thyroiditis presents to the clinic for review. Her Hashimoto’s is managed with thyroxine 125?g/day replacement. She presents to the clinic complaining of bilateral loin pain. Investigations; Hb 12.1 g/dl WCC 5.4 x 109 /L PLT 294 x 109 /L Na+ 139 mmol/l K+ 3.5 mmol/l Creatinine 140 μmol/l HCO3- 15 mmol/l KUB Evidence of nephrocalcinosis Which of the following is the most likely diagnosis?

1- Renal tubular acidosis Type 4

2- Medullary sponge kidney

3- Renal tubular acidosis Type 2

**4- Renal tubular acidosis Type 1**

5- Chronic interstitial nephritis

Q423. A 42-year-old woman presents with a mass in her neck and symptoms of choking/ shortness of breath when she lies down. Past history of note includes a family history of goitre, for which her mother and grandmother both endured partial thyroid resection. You examine her and suspect that she has a multinodular goitre. Investigations; Hb 14.1 g/dl WCC 5.4 x 109 /L PLT 235 x 109 /L Na+ 140 mmol/l K+ 4.5 mmol/l Creatinine 100 μmol/l TSH 0.9 U/l You suspect that she may have retrosternal thyroid extension Which of the following would be the investigation of choice for this patient to determine the degree of retrosternal involvement?

1- CXR

2- Thyroid ultrasound

3- X-ray of thoracic inlet

**4- CT Chest**

5- Radioisotope

Q424. A 54-year-old man presents with a new diagnosis of Type 2 diabetes. He is also concerned that his fingers seem a little swollen and he is unable to wear his wedding ring anymore. He attends with some pictures from his youth, which appear to show that his jaw has acquired increasing prominence over the past few years. On examination his BP is 152/90 mmHg. Investigations; Hb 14.0 g/dl WCC 5.1 x 109 /L PLT 302 x 109 /L Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 110 μmol/l Glucose 9.0 mmol/l Which of the following would be the most appropriate initial screening test for the likely underlying condition?

1- GNRH concentration

2- Oral glucose tolerance test with growth hormone measurement

**3- IGF-1 measurement**

4- IGFBP-3 measurement

5- Random growth hormone measurement

Q425. A 38-year-old psychiatric nurse with Type 2 diabetes presents to the clinic for review. He was diagnosed with Type 2 diabetes following a myocardial infarction 3 years ago. Current medication includes metformin 1g bd, ramipril 10mg, simvastatin 40mg and aspirin 75mg. On examination his BMI is 33 and he has gained 7kg since his last appointment 6 months earlier. His BP is 135/80 mmHg. Investigations; Hb 12.9 g/dl WCC 4.9 x 109 /L PLT 300 x 10 9 /L Na+ 140 mmol/l K+ 5.4 mmol/l Creatinine 120 μmol/l HBA1c 8.5% C-peptide elevated Which of the following represents the most appropriate additional medication for him?

1- Rosiglitazone

2- Gliclazide

3- Bedtime insulin glargine

4- BD mixed insulin

**5- Sitagliptin**

Q426. You are drawing up guidelines for the management of oral blood glucose lowering agents in patients post myocardial infarction. Looking at a synthesis of the available evidence, which of the following pieces of advice would you give?

1- Pioglitazone should be started in patients post myocardial infarction

2- Metformin should be stopped in all patients post myocardial infarction

3- All patients should be transitioned to permanent insulin therapy

**4- Metformin should be stopped in patients in those patients who have an unstable circulation post infarct**

5- Insulin should be given IV for the first 48hrs

Q427. You see a poorly controlled 58-year-old type 2 diabetes patient who is fasting for Ramadan. He has background diabetic retinopathy, and currently takes metformin 500mg TDS as well as ramipril 10mg and aspirin 75mg. Investigations Hb 12.1 g/dl WCC 5.0 x 109 /L PLT 212 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 120 μmol/l HbA1c 7.8% What advice would you give him regarding his medication while fasting?

1- Stop metformin

2- Give short acting insulin for the evening meal

3- Switch to glicazide BD

**4- Give metformin 500mg in morning, 1000mg in evening**

5- Do not fast for health reasons

Q428. A 42-year-old man who works as a security guard and suffers from morbid obesity (BMI 34) attends the clinic because his GP has documented fasting blood glucose of 8.2 mmol/l, and he has symptoms of frequent nocturia and lethargy. He has a history of hypertension which is managed with ramipril 10mg daily but is currently taking no other medication. Investigations; Hb 12.1 g/dl WCC 6.9 x 109 /L PLT 309 x 109 /L Na+ 139 mmol/l K+ 4.4 mmol/l Creatinine 110 μmol/l Which of the following would be the most appropriate initial medication for him?

1- Pioglitazone

2- Rosiglitazone

3- Gliclazide

4- Basal bolus insulin

**5- Metformin**

Q429. A lady presents with amenorrhoea and galactorrhoea. She has normal visual fields. You are concerned that she may have a prolactinoma. Investigations Hb 12.5 g/dl WCC 4.9 x 109 /L PLT 199 x 109 /L Na+ 140 mmol/l K+ 4.9 mmol/l Creatinine 90 μmol/l Prolactin 1150 mU/l MRI 7mm pituitary microadenoma Which of the following hormones would you expect to be low?

1- ADH

2- Cortisol

3- GH

4- Thyroxine

**5- LH**

Q430. A poorly controlled patient with Type 2 diabetes comes to the clinic for review. He has a history of hypertension for which he takes ramipril 10mg daily, and amlodipine 10mg. Current diabetes medication is metformin 1g BD and gliclazide 160mg BD. On examination his BP is 145/85 mmHg. His vision is 6/6 bilaterally on clinical examination. Investigations Hb 12.0 g/dl WCC 5.0 x 109 /L PLT 231 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 156 μmol/l HbA1c 7.8% Fundoscopy – neovascularisation close to the optic disc. Which of the following is the most important step in clinical management?

1- Add pioglitazone 30mg to treatment

2- Transition to insulin therapy

**3- Referral for laser photocoagulation**

4- Add indapamide to his regime

5- Add doxazosin to his regime

Q431. A 60-year-old man with a history of Type 2 diabetes and left ventricular hypertrophy presents to the clinic. He is currently taking metformin and pioglitazone for his glucose control. He is hypertensive with a BP of 160/95 mmHg, but his GP reports he has suffered various side effects of antihypertensives including cough, swollen ankles, gum hypertrophy, lethargy and urinary frequency. Investigations; Hb 12.9 g/dl WCC 5.4 x 109 /L PLT 199 x 109 /L Na+ 141 mmol/l K+ 5.0 mmol/l Creatinine 132 μmol/l HbA1c 8.2% Which of the following would be the most appropriate therapy choice for him?

1- Indapamide

2- Atenolol

3- Amlodipine

**4- Irbesartan**

5- Losartan

Q432. A 54-year-old man, newly diagnosed with type-2 diabetes mellitus, presents to the clinic for his first assessment. He is found to have changes in his eyes on fundoscopy. Which of the following is most likely to need immediate referral to the ophthalmologist?

1- A few dot and blot haemorrhages

2- Some hard exudates > 1 disc diameter from the fovea

3- Cataract

**4- New vessels on the disc**

5- Two soft exudates in the temporal field

Q433. A 56-year-old man with a history of Type 2 diabetes comes to the clinic complaining of increased shortness of breath and bilateral ankle swelling. An echocardiogram arranged by the GP reveals that he has an ejection fraction of 35%. His diabetes is relatively well controlled, with a recent HbA1c measured at 7.2%. He takes ramipril and furosemide currently for control of his hypertension and heart failure. Investigations; Hb 12.3 g/dl WCC 5.0 x 109 /L PLT 190 x 109 /L Na+ 141 mmol/l K+ 4.9 mmol/l Creatinine 110 μmol/l HbA1c 7.2% CXR LVH, increased basal shadowing consistent with mild LVF Which of the following glucose control strategies would be most suitable in this patient with respect to avoiding fluid overload?

1- Pioglitazone

2- Basal insulin

**3- Gliclazide**

4- Chlorpropamide

5- Rosiglitazone

Q434. You review a 16-year-old girl with Type 1 diabetes. She is currently managed with 18U of 30/70 mixed insulin BD. Her parents tell you that she does not eat properly, and they occasionally hear her dreaming in the night and go in to find her suffering a hypoglycaemic attack. Investigations; Hb 13.9 g/dl WCC 5.4 x 109 /L PLT 234 x 109 /L Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 105 μmol/l HbA1c 9.4% You decide to make a change to an insulin glargine/ novorapid basal bolus regime. Which of the following best represents the main advantage of insulin glargine?

1- Reduced post-prandial hypoglycaemia

2- Ability to miss a meal

**3- Reduced nocturnal hypoglycaemia**

4- Increased ability to undertake exercise more easily

5- Ability to vary dosage on a day to day basis

Q435. A 19-year-old man presents to his GP complaining of tiredness, polyuria, thirst and recurrent thrush infections. He has a history of Type 2 diabetes in the family. On examination he looks slim, with a BMI of 22. Investigations; Hb 12.9 g/dl WCC 5.4 x 109 /L PLT 301 x 109 /L Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 120 μmol/l Fasting glucose 8.5 mmol/l Islet cell, GAD, insulin antibody negative HDL 1.8 mmol/l (>1.5) Which of the following is the most likely diagnosis?

1- Type 1 diabetes

2- Type 2 diabetes

**3- MODY 3**

4- MODY 5

5- LADA

Q436. A 27-year-old man is found to have oligospermia. Blood tests: testosterone 30 nmol/l (9-35), LH 10 IU/l (1-10) and FSH 0.5 IU/l (1-7). Which of the following is most likely to be the cause for oligospermia?

1- Increased inhibin

**2- Decreased androgen-binding proteins**

3- Decreased dihydrotestosterone

4- Deficiency of androgen receptors

5- Hypothalamic disorder

Q437. A 60-year-old white man comes to see you for chronic back pain, which worsened 1 week ago. He has been wheelchair bound for 6 months because of severe osteoporosis with multiple lumbosacral spine fractures. He has severe asthma, which has required large doses of glucocorticoids for many years. The patient reports progressive loss of height and kyphosis over the past year. Other medications include salbutamol and ipratropium inhalers and long-acting theophylline 300 mg twice a day. Significant physical findings include bilateral cataracts, multiple ecchymoses and a prolonged expiratory phase with bilateral wheezes. Which of the following mechanisms underlies his osteoporosis?

1- Decreased bone formation

2- Increased bone loss

3- Decreased calcium absorption from the gastrointestinal (GI) tract

4- Increased calcium loss in urine

**5- All of the above**

Q438. A 50-year-old diabetic man presents with malaise and loss of libido. On examination there is evidence of hepatomegaly. Blood tests show Hb 14.1 g/dl (13-18), fasting glucose 8 mmol/l (3-6), serum iron 45 mmol/l (14-29) and serum ferritin 250,000 mmol/l (15-200). What would be the most appropriate treatment for his symptoms?

**1- Testosterone replacement**

2- Desferrioxamine

3- Venesection

4- Insulin therapy

5- Liver transplant

Q439. A 13-year-old boy is brought to your clinic with a complaint of delayed pubertal changes. While examining the patient which of the following features is most likely to indicate that pubertal change may have commenced?

**1- Increase in testicular volume**

2- Growth of external genitalia

3- Growth of pubic hair

4- Change in voice

5- Appearance of axillary hair

Q440. A 49-year-old overweight police constable presents with amenorrhoea of 6 months' duration. There is no family history of osteoporosis or fracture. She does not smoke and is a teetotaler. Blood tests: FSH 35 IU/l (postmenopausal level > 30), LH 57 IU/l (postmenopausal level > 30). Bone density measurements with a DXA scan are within normal limits. What is the chief reason that this woman has not developed osteoporosis?

1- Continued physical activity

2- Absence of positive family history

3- Non-smoker

**4- Overweight condition**

5- Non-consumption of alcohol

Q441. A 52-year-old woman sees her GP complaining of a 4-kg weight gain, dry hair and skin, she feels slow and always has the heating up high. She has a small diffuse goitre. Her TSH level is 20 mU/l and free thyroxine 5 mg/dl. Thyroid peroxidase antibody is positive at high titres. She has two sisters who have had thyroid disease. What is the most likely diagnosis?

1- DeQuervain’s thyroiditis

2- Follicular carcinoma

**3- Hashimoto’s thyroiditis**

4- Graves’ disease

5- Nodular goitre

Q442. A 45-year-old woman presents with heavy periods. Which of the following hormones is most commonly associated with shedding of the endometrium during menstruation?

1- Luteinising hormone

2- Follicle-stimulating hormone

3- Gonadotrophin-releasing hormone

**4- Progesterone**

5- Estrone

Q443. A 15-year-old boy who is 155 cm tall is worried that he may have stopped growing. Which hormone is chiefly responsible for epiphyseal fusion and cessation of growth?

1- Growth hormone

2- Testosterone

3- Somatostatin

**4- Oestrogen**

5- Thyroxine

Q444. A 15-year-old girl presents with primary amenorrhoea. She represents her school in athletics and is now training for the national championships. Which of the following would be the most appropriate treatment for her?

1- Oestrogen

2- Gonadotrophin-releasing hormone

3- Gonadotrophins

**4- Adequate diet and observation**

5- Oestrogen and progesterone

Q445. A 16-year-old girl presents with primary amenorrhoea. General physical examination reveals no abnormality. Secondary sex characteristics appear well developed. On karyotyping, she is found to have XY genotype. What is the most probable cause for her condition?

1- Lack of testosterone formation

2- Decreased 5a-reductase

3- Increased aromatase synthesis

**4- Lack of dihydrotestosterone receptors**

5- Total absence of testes

Q446. A 25-year-old woman presents with recurrent episodes of headaches and sweating. Her mother had renal calculi and died of a tumour in her neck. On examination a nodule is felt in the patient's neck in the region of the thyroid gland. A surgeon advises complete thyroidectomy. What is the most important investigation the surgeon must undertake prior to surgery?

1- Serum thyroxine

2- Serum calcium

3- 24-h urine test for 5-hydroxyindoleacetic acid

**4- 24-hour urinary catecholamines**

5- Serum calcitonin

Q447. A 33-year-old woman presents with polydipsia and polyuria. Her symptoms started soon after a road traffic accident 6 months ago. Her blood pressure is 120/80 mmHg. The daily urinary output is 6-8 litres. Blood tests: sodium 130 mmol/l (137-144), potassium 3.5 mmol/l (3.5-4.9), urea 6 mmol/l (2.5-7.5) and glucose 4 mmol/l (3-6). Plasma osmolality is 268 mOsmol/l (278-305) and urine osmolality is 45 mOsmol/l (350-1000). What is the most likely diagnosis?

1- Cranial diabetes insipidus

2- Diuretic phase of acute renal failure

3- Nephrogenic diabetes insipidus

**4- Psychogenic polydipsia**

5- Syndrome of inappropriate antidiuretic

Q448. A 22-year-old man presents with tremor, sweating, flushing and weight loss. On examination his pulse is 135 bpm and his blood pressure is 160/110 mmHg. He has a large port-wine naevus on one side of his face. What is the most probable diagnosis?

1- von Recklinghausen's disease

2- von Hippel-Lindau syndrome

**3- Sturge-Weber syndrome**

4- Ataxia telangiectasia

5- Hereditary haemorrhagic telangiectasia

Q449. A 40-year-old woman who has been prescribed metoclopramide complains of galactorrhoea and amenorrhoea. What is the main mechanism of action of metoclopramide in this case?

1- Stimulates dopamine release by the hypothalamus

2- Direct stimulatory effect on pituitary lactotrophs

**3- Binds to D2-receptors on pituitary lactotrophs**

4- Promotes pituitary adenoma growth

5- Inhibits luteinising hormone secretion by

Q450. A 35-year-old man presents with weight loss, irritability, tremor, palpitations and heat intolerance. On examination his pulse is 110 bpm, BP 150/100 mmHg. Lid lag is noticeable and a diffuse swelling can be felt in his neck. Which of the following blood tests is most sensitive in establishing whether there is excess thyroid activity?

1- Free T4 levels

**2- T3 level**

3- TSH-receptor antibodies

4- TPO (thyroid peroxidase) antibodies

5- TSH level

Q451. A 40-year-old man presents with headaches, excessive sweating, galactorrhoea, polyuria and polydipsia. Visual field examination reveals bitemporal hemianopia. His blood pressure is 160/110 mmHg. Blood tests: fasting glucose 9 mmol/l (3-6), prolactin 1200 mU/l (<360). What is the most probable diagnosis?

1- Prolactinoma

2- Diabetes mellitus

**3- Acromegaly**

4- Cushing’s disease

5- Craniopharyngioma

Q452. A 35-year-old woman has been prescribed a sulphonylurea for type-2 maturity-onset diabetes mellitus. She complains of severe facial flushing and sweating when she drinks alcohol. Which of the following is most probably responsible for this reaction?

1- Tolbutamide

2- Gliclazide

**3- Chlorpropamide**

4- Glipizide

5- Glibenclamide

Q453. An infant with hypoglycaemia is administered glucagon. Which of the following actions of glucagon would be most likely to be effective in treating this condition?

1- Increases glycogenolysis in muscle

2- Induces the synthesis of phosphofructokinase

3- Stimulates acetyl-CoA carboxylase

4- Promotes the formation of cyclic AMP from ATP

**5- Activates adenylate cyclase**

Q454. A 47-year-old woman is undergoing investigations for secondary amenorrhoea and joint pains. Blood tests show her folliclestimulating hormone level to be 40 IU/l (> 30 in postmenopausal women). What would be the best method for diagnosing osteoporosis in this patient?

**1- Dual-energy X-ray absorptiometry**

2- X-ray of long bones

3- Bone scintigraphy

4- Quantitative computed tomography

5- Ultrasonography

Q455. A 70-year-old man is admitted to hospital in a comatose condition. His wife gives a history of past episodes of sweating and palpitations, confusion, fits and occasional abnormal behaviour. On examination his pulse is 92 bpm and his blood pressure is 140/90 mmHg. His plasma catecholamine level is normal and blood glucose is 2.5 mmol/l (3.0-6.0). What is the most probable diagnosis?

1- Multiple endocrine neoplasia (MEN)-type II syndrome

2- Phaeochromocytoma

**3- Insulinoma**

4- Pseudodementia

5- Epilepsy

Q456. A 40-year-old man is receiving lithium for a bipolar disorder. He now complains of increased urinary frequency and nocturia. What is the most likely cause for his symptoms?

1- Deficiency of vasopressin

2- Reduced creatinine clearance

3- Onset of glomerulonephritis

**4- Development of resistance to vasopressin**

5- Excessive water intake

Q457. Exposure to darkness is found to increase melatonin secretion. What is the most common mechanism by which this is achieved?

1- Decreased activity of suprachiasmatic nuclei

**2- Increased serotonin N-acetyltransferase**

3- Decreased hydroxyindole-omethyltransferase activity

4- Blockade of noradrenaline release from sympathetic nerve terminals

5- Increased intracellular cAMP in the

Q458. A 30-year-old man presents complaining of headaches and visual field defects. On examination he has clinical features of hypopituitarism, eg malaise, cold intolerance, mild hypotension and hyponatraemia. Blood tests reveal a testosterone level of 8 nmol/l (9-35). An MRI scan shows a 12-mm pituitary tumour. What is the most probable diagnosis?

1- Somatotroph adenoma

**2- Prolactinoma**

3- Basophil adenoma

4- Non-functioning pituitary tumour

5- Craniopharyngioma

Q459. A 45-year-old diabetic man on oral hypoglycaemic drugs is found to have hyponatraemia. Which of the following drugs is most likely to cause this complication?

**1- Chlorpropamide**

2- Tolbutamide

3- Glibenclamide

4- Gliclazide

5- Glimepiride

Q460. A 50-year-old man presents with a history of panic attacks, palpitations, sweating, headache and flushing. On examination his pulse rate is 120 bpm, BP 190/110 mmHg. A blood test shows high levels of noradrenaline. Which of the following tests would be most useful in establishing the diagnosis?

1- Ultrasound scan

2- CT scan

3- MRI scan

4- Renal arteriography

**5- [**

Q461. A 29-year-old woman with thyrotoxicosis presents with a 6-week history of amenorrhoea. Laboratory investigations confirm an early pregnancy. Which of the following drugs would be most appropriate in this condition?

1- Carbimazole

2- Radioactive iodine

3- Propranolol

**4- Propylthiouracil**

5- Methimazole

Q462. An 81-year-old woman is referred to the thyroid clinic with increasing size of a preexisting goitre. She has had long-standing hypothyroidism and has been on a dose of thyroxine of 100 mg daily for many years. Which of the following primary thyroid cancers is she most likely to have?

1- Anaplastic thyroid cancer

2- Follicular thyroid cancer

3- Medullary thyroid cancer

4- Papillary thyroid cancer

**5- Thyroid lymphoma**

Q463. A 40-year-old man is suffering from type-2 diabetes mellitus and hypertension. Which of the following antihypertensive drugs is most likely to cause hyperglycaemia if prescribed for this patient?

1- Losartan

2- Lisinopril

**3- Hydrochlorothiazide**

4- Propranolol

5- Atenolol

Q464. A 39-year-old man with Grave's disease is being considered for subtotal thyroidectomy. What is the most common postoperative complication following this operation?

1- Laryngeal nerve palsy

2- Hypoparathyroidism

3- Recurrent hyperthyroidism

4- Tracheal compression

**5- Hypothyroidism**

Q465. A 14-year-old boy presents with poor development of secondary sex characteristics, colour blindness and a decreased sense of smell. On examination, his testes are located in the scrotum and are small and soft. What is the most probable diagnosis?

1- Klinefelter's syndrome

**2- Kallmann's syndrome**

3- Mumps orchitis

4- Hyperprolactinaemia

5- Cryptorchidism

Q466. A 12-year-old girl presents with short stature, webbed neck and primary amenorrhoea. Given the likely clinical diagnosis, which hormone would be most appropriate to treat this condition?

1- Growth hormone

2- Progesterone

**3- Oestrogen**

4- Pulsatile GnRH

5- Luteinising hormone

Q467. A 27-year-old woman presenting with polyuria is found to have diabetes insipidus. Which part of the nephron is most affected in this condition?

1- Proximal tubule

**2- Cortical and medullary collecting tubules**

3- Distal convoluted tubule

4- Thin ascending limb of Henle

5- Glomerular efferent arterioles

Q468. A 32-year-old patient is being investigated for polydipsia. There was no recent loss of weight. Investigation: Na, K, Ca, glucose, urea, Cr normal; serum osmolality 290 (normal), urine osmolality 200 (normal). What is the most likely diagnosis?

1- Nephrogenic diabetes insipidus

**2- Psychogenic polydipsia**

3- Syndrome of inappropriate antidiuretic hormone secretion (SIADH)

4- Cranial diabetes insipidus

5- Water intoxication

Q469. A 40-year-old woman who has been prescribed thyroid replacement therapy has routine thyroid function tests (TFTs). On examination she appeared clinically euthyroid with no abnormal findings. Her TFTs revealed: Thyroid-stimulating hormone (TSH) 3.2 mU/l (0. 35-5.0) Total tetra-iodothyronine (T4) 20 nmol/l (55- 144) Free T4 2.6 pmol/l (9-24) Total tri-iodothyronine (T3) 2.5 nmol/l (0. 9-2). Which one of the following statements is correct?

**1- Her thyroid hormone replacement is adequate**

2- Investigation of pituitary function is required

3- She has tertiary hypothyroidism

4- She has a thyroiditis

5- She has sick euthyroid syndrome

Q470. A diagnosis of diabetes mellitus was being considered in 32-year-old woman who was 16 weeks pregnant. Her body mass index (BMI) was 22 kg/m2 (18-25). A 75 g oral glucose tolerance test (OGTT) was reported as in the table: Time Plasma glucose concentration (fasting) (mmol/l) Patient 0 h 6.0 (Normal range 0h < 6.0) Patient 2 h 12.5 (Normal 2 h < 11.1) Which of following appropriate next step in management of this patient?

1- Glipizide therapy

**2- Soluble insulin**

3- Low calorie diet

4- Metformin therapy

5- Repeat OGTT in four weeks

Q471. A woman with history of bipolar affective disorder on lithium presented with infertility. BMI= 35. Investigation: TSH 13, Free T4 8, prolactin 800, US pelvis - polycystic ovaries. What is the best management?

1- Dopamine agonist

2- Thyroxine

**3- Stop lithium after consultation with psychiatrist**

4- Metformin

5- Thyroxine and dopamine agonist

Q472. An elderly woman came with weight loss of 6 kg over 6 months. Investigation showed low Free T3, low Free T4 and low TSH. What is the diagnosis?

1- Hypothyroidism

2- Hypothalamic hypothyroidism

**3- Anterior hypopituitarism**

4- Primary hypothyroidism

5- Secondary hypothyroidism

Q473. A 28-year-old woman who is 3 months' postpartum comes to the surgery complaining of tiredness, she has had no periods since the baby was born and she has been unable to breast-feed because of a lack of milk production. You notice in her case sheet that she required a blood transfusion after delivery for postpartum haemorrhage. What is the most likely diagnosis?

1- Empty sella syndrome

2- Nelson’s syndrome

3- Prolactinoma

**4- Sheehan’s syndrome**

5- Sipple’s syndrome

Q474. A 25-year-old man is admitted to the A&E having consumed 20 tablets of propranolol. An infusion of glucagon is prescribed. What is the main mechanism of action of glucagon in this case?

**1- Promotes the formation of cyclic AMP**

2- Stimulates lipolysis

3- Increases glycogenolysis

4- Promotes gluconeogenesis

5- Alters protein kinase A activity

Q475. An obese lady has come for poor diabetic control, despite being on gliclazide 160 mg bd. Biochemistry: mildly raised urea, Cr 160, ALT, GGT normal. HbA1c 9.4. Which of the following would you start next?

1- Acarbose

2- Guar gum

3- Repaglinide

4- Metformin

**5- Rosiglitazone**

Q476. What is the optimum time for the administration of hydrocortisone to a patient undergoing bilateral adrenalectomy for Cushing's disease?

1- At the start of laparotomy

2- At the time of ligation of the left adrenal vein

3- Following removal of one adrenal gland

**4- Following excision of both adrenal glands**

5- One week after surgery

Q477. You review a 28-year-old girl who has been referred with amenorrhoea. She is noted on routine screening to have a raised prolactin level. She has read about her condition on the Internet and has some questions about prolactin physiology. Thinking of hormones in general, which of the following hormones is under continuous inhibition?

**1- Prolactin**

2- Growth hormone

3- Adrenocorticotrophic hormone

4- Thyroid-releasing hormone

5- Testosterone

Q478. An obese patient presented with increased abdominal striae, and 12-midnight cortisol was elevated. He has hypertension with a BP of 155/82 mmHg, type 2 diabetes and has recently suffered a left Colle's fracture. Which of the following would best confirm the diagnosis of Cushing's disease?

1- Low-dose dexamethasone suppression test

2- Synacthen test

3- 24-hour urinary cortisol collection

**4- High-dose dexamethasone suppression test**

5- Basal adrenocorticotropic hormone (ACTH)

Q479. A 42-year-old woman is diagnosed with phaeochromocytoma. Screening with pentagastrin testing suggests that she has medullary thyroid carcinoma, and you plan a thyroidectomy. What anti-hypertensive medication should be started before surgery for a patient with phaeochromocytoma?

**1- Phenoxybenzamine**

2- Atenolol

3- Labetolol

4- Ramipril

5- Doxazosin

Q480. A 51-year-old white man was recently diagnosed with a solitary 2.7- cm papillary cancer of the thyroid with no invasion of the capsule, no lymphadenopathy and no distant metastases. He denies a history of head and neck irradiation, hoarseness, pain, dysphagia or haemoptysis. His physical exam is otherwise normal, with no lab abnormailities. Which of the following measures is most appropriate for his management?

1- Partial thyroidectomy followed by radioactive iodine (RAI) treatment

2- Near-total thyroidectomy followed by RAI treatment

3- Thyroid hormone treatment

4- Partial thyroidectomy, RAI treatment and thyroid hormone treatment

**5- Near-total thyroidectomy, RAI treatment**

Q481. You saw a 71-year-old white woman, a nursing home resident who was brought in by her daughter for a complete physical examination. Her complaints include a poor appetite, weight loss, cramps and weakness. She was diagnosed with Crohn's disease 10 years ago but is not taking any medications. Five months ago she had a mammogram and flexible sigmoidoscopy, both of which were normal. Because her exam was normal, she was given a 1-month return appointment and sent for blood work. At the end of the day, your lab calls to report a panic value of calcium of 1.4 mmol/l (normal range, 2.2-2.6 mmol/l) with an inorganic phosphate of 0.58 mmol/l (normal range, 0.8-1.5 mmol/l). She has a creatinine of 80 mmol/l (normal range, 60-110 mmol/l), albumin is 35 g/l (normal range, 37- 49 g/l) and alkaline phosphatase is 250 U/l (normal range, 42-98 U/l). Which of the following diagnoses is most compatible with these lab data?

1- Hypoparathyroidism

2- Hypomagnesemia

**3- Vitamin D deficiency**

4- Renal failure

5- Dietary calcium deficiency

Q482. A 38-year-old black woman draws your attention to a swelling in her neck, which she noticed 2 days ago. She denies palpitations, diaphoresis and weight loss. There is no pain, hoarseness or dysphagia. Her medical history is notable only for hypertension. Medications include only atenolol 50 mg once daily. On exam, blood pressure is 150/80 mm Hg; pulse is 70. There is a 2 x 1-cm non-tender nodule on the right lobe of the thyroid. No lymphadenopathy is detected. The remainder of the exam is unremarkable. Electrolytes, blood urea nitrogen (BUN), creatinine, liver function tests, calcium, phosphorus and CBC are normal. What would you do next?

1- Arrange a thyroid ultrasound scan

2- Elicit a family history of thyroid cancer

3- Obtain thyroid function tests

4- Perform fine-needle aspiration

**5- All of the above**

Q483. A 23-year-old woman presented with painful oral ulcers. Her mother had history of thyroidectomy. Which of the following would suggest polyglandular syndrome type 1?

1- Celiac disease

2- Type 2 diabetes mellitus

**3- Hypocalcaemia**

4- Hypercalcaemia

5- Diabetes insipidus

Q484. A 14-year-old girl is seen at the endocrine clinic because her mother is concerned that her daughter's periods have not yet started. In reviewing her history, which of the following would be most typical of the first sign of onset of puberty?

1- Pubic hair growth

2- Height spurt

**3- Breast-bud development**

4- Axillary hair growth

5- Menarche

Q485. A 62-year-old man presents with bony pain that has been present for some months, particularly affecting his left femur, pelvis and lower back. Blood testing reveals a normal serum calcium level, but a raised alkaline phosphatase. X-rays of the femur and pelvis reveal mixed lytic and sclerotic change, with accentuated trabecular markings. Chest X-ray is normal. What is the likely diagnosis?

1- Secondary carcinoma

2- Multiple myeloma

3- Hyperparathyroidism

4- Hypoparathyroidism

**5- Paget's disease**

Q486. A 20-year-old woman with a history of migraine is prescribed a progestin-only pill. What is the main contraceptive mechanism of action of this drug?

1- Decreases tubal motility

2- Inhibits ovulation

3- Creates an unfavourable endometrium for implantation

**4- Thickens cervical mucus**

5- Reduces LH secretion

Q487. An 11-month old boy weighing 7 kg has polyuria, polydipsia and delayed motor milestones. Blood tests: creatinine 80 mmol/l (60-110), urea 6.0 mmol/l (2.5-7.5), potassium 5.0 mmol/l (3.5-4.9), sodium 150 mmol/l (137- 144), chloride 100 mmol/l (95-107) and bicarbonate 27 mmol/l (20-28). What is the most likely diagnosis?

1- Renal tubular acidosis (type 4)

2- Gordon's syndrome

**3- Diabetes insipidus**

4- Pseudohypoaldosteronism

5- Renal failure

Q488. A 15-year-old boy is being treated with ADH for diabetes insipidus. His plasma glucose level (fasting) is 6 mmol/l (3-6), sodium 139 mmol/l (137-144), potassium 4.5 mmol/l (3.5-4.9) and calcium 2.9 mmol/l (2.2-2.6). He still has complaints of polyuria, polydipsia and nocturia. What could be the most probable cause?

1- Diabetes mellitus

**2- Nephrogenic diabetes insipidus**

3- Primary polydipsia

4- SIADH

5- Hypercalcaemia

Q489. A 70-year-old diabetic man being treated with amiloride for congestive heart failure is admitted in a comatose state. Blood tests: sodium 152 mmol/l (137-144), potassium 5.0 mmol/l (3.5-4.9), chloride 115 mmol/l (95- 107), bicarbonate 30 mmol/l (20-28), glucose 50 mmol/l (3-6) and pH 7.35 (7.36-7.44). Creatinine is raised at 190 micromol/l. He is taking metformin for his diabetes. What is the most probable diagnosis?

1- Diabetic ketoacidosis

2- Ventricular arrhythmia

**3- Non-ketotic hyperosmolar coma**

4- Diabetic nephropathy

5- Hyperkalaemia due to amiloride

Q490. An obese, 45-year-old woman is brought to A&E in a semi-comatose condition. Blood tests: potassium 5.0 mmol/l (3.5-4.9), sodium 140 mmol/l (137-144), bicarbonate 7 mmol/l (20-28) and pH 7.1 (7.36-7.44). Which of the following blood sugar levels is most likely to be found in this case?

1- 11 mmol/l

2- 2.5 mmol/l

3- 20 mmol/l

**4- > 30 mmol/l**

5- 5.5 mmol/l

Q491. A 16-year-old woman with Addison's disease is intolerant of her hydrocortisone treatment, which she takes at a dose of 20 mg in the morning and 5 mg in the evening. Which of the following doses of prednisolone would provide an equivalent daily dose to her hydrocortisone?

1- 1 mg

**2- 7.5 mg**

3- 10 mg

4- 12.5 mg

5- 15 mg

Q492. Which of the following investigations is most likely to indicate that ovulation is imminent?

1- Follicle size of 20 mm on ultrasound scan

2- Increase in basal body temperature

3- Positive Spinnbarkeit test

4- Secretory changes on endometrial biopsy

**5- Raised LH level**

Q493. A previously fit 30-year-old man presents with a two month history of weight loss, tiredness, and nausea. Investigations show (normal range in brackets): Haemoglobin 10.5 g/dl (13.0-18.0) Mean cell volume (MCV) 88 fL (80-96) White cell count 6.0 x 109 /l (4-11) Platelet count 450 x 109 /l (150-400) Serum sodium 130 mmol/l (137-144) Serum potassium 5.7 mmol/l (3.5-4.9) Serum urea 3.0 mmol/l (2.5-7.5) Serum creatinine 78 mmol/l (60-110) Serum total tetra-iodothyronine (T4) 55 nmol/l (50-150) Serum thyroid-stimulating hormone (TSH) 8 mU/l (0.2-5.5) Which of the following is the most useful diagnostic investigation?

1- Antithyroid peroxidase antibody titre

2- Insulin tolerance test

3- Free thyroxine concentration

**4- Short synacthen test**

5- Thyroid-releasing hormone (TRH) test

Q494. A 39-year-old woman presents to her GP with a vaginal discharge. She has been taking the combined oral contraceptive pill (OCP). What is the most common infection associated with the use of the OCP?

1- Bacterial vaginosis

**2- Chlamydial endocervicitis**

3- Vaginal warts

4- Genital herpes

5- Gonococcal urethritis

Q495. You are called to see a 36-year-old woman on the surgical ward who is 2 days' postthyroidectomy. She is complaining of tingling around her mouth and in her hands and has developed spasm of her hands. What immediate treatment can you give that is most likely to resolve her symptoms?

1- Ask her to breathe into a paper bag

**2- Intravenous calcium**

3- Intravenous diazepam

4- Intravenous glucose

5- Intravenous potassium

Q496. A 55-year-old chronic smoker presents with polyuria, polydipsia and altered sensorium for the past 2 days. He is known to be suffering from squamous-cell carcinoma of the lung. On examination he is lethargic and confused. ECG shows a narrowed QT interval. What is the most probable metabolic abnormality?

1- Hypernatraemia

**2- Hypercalcaemia**

3- Hypokalaemia

4- Hyponatraemia

5- Hyperkalaemia

Q497. An 8-day-old baby presents with vomiting, poor feeding and loose stools. On examination, his heart rate is 190 bpm, BP 50/30 mmHg and respiratory rate 72 breaths/min. Blood tests: Hb 15 g/dl (13-18), sodium 120 mmol/l (137-144), potassium 6.0 mmol/l (3.5-4.9), chloride 80 mmol/l (95-107), bicarbonate 15 mmol/l (21-28), urea 7.0 mmol/l (2.5-7.5) and creatinine 80 m mol/l (60-110). What is the most likely diagnosis?

**1- Congenital adrenal hyperplasia**

2- Acute tubular necrosis

3- Congenital hypertrophic pyloric stenosis

4- Galactosaemia

5- Lactose intolerance

Q498. A 10-month-old boy weighing 5 kg has polyuria, polydipsia and delayed motor milestones. Blood tests: creatinine 75 mmol/l (60-110), urea 6.5 mmol/l (2.5-7.5), potassium 3.0 mmol/l (3.5-4.9), sodium 125 mmol/l (137- 144), chloride 88 mmol/l (95-107), bicarbonate 26 mmol/l (20-28), calcium 2.3 mmol/l (2.2-2.6) and pH 7.46 (7.36-7.44). What is the most likely diagnosis?

1- Renal tubular acidosis

2- Cranial diabetes insipidus

**3- Bartter's syndrome**

4- Pseudohypoaldosteronism

5- Liddle's syndrome

Q499. A 45-year-old man presents to his GP with headaches. His BP is 166/94 mmHg. Routine investigations reveal sodium 142 mmol/l, potassium 2.6 mmol/l, chloride 101 mmol/l and normal urea and creatinine levels. Plasma renin is undetectable and aldosterone levels are raised. What is the most likely cause for his hypertension?

1- Cushing's syndrome

**2- Primary hyperaldosteronism**

3- Phaeochromocytoma

4- Renal artery stenosis

5- Acromegaly

Q500. A 25-year-old woman is being investigated for suspected MEN-2b syndrome. She is also noted to have marfanoid features. What will be the most characteristic finding in a blood test in this patient?

1- Elevated serum calcium

**2- Elevated metanephrines**

3- Elevated thyroxine

4- Decreased parathyroid hormone

5- Elevated glucagon

Q501. A 38-year-old psychiatric patient who is being treated for depression is admitted with increased confusion. His sodium is 122 mmol/l, with a plasma osmolality of 235 mOsmol/kg. Urine osmolality is 300mOsm/kg. There is no evidence on examination of cardiac, renal or hepatic failure. Random plasma cortisol and thyroid function are normal. Given the most likely diagnosis, which of the following statements best fits this condition?

1- Reduced renal sodium excretion is likely

2- Treatment with IV saline is likely to be necessary

**3- Renal sodium excretion is likely to be normal**

4- Psychiatric drugs are very unlikely to be related to the underlying condition

5- Hypothyroidism is a possible contributor

Q502. A 54-year-old woman presents to the diabetes clinic for review. She has suffered from diabetes mellitus for many years and has now progressed from sulphonylurea treatment to insulin therapy. A past history of gallstones is noted and she failed to tolerate metformin due to chronic diarrhoea. She has been slowly losing weight over the past few months and has mild anaemia. Ultrasound scan of her liver reveals a suggestion of a number of small metastases within the liver. When considering that this woman has a primary pancreatic tumour, which of the following statements best fits the condition?

**1- Somatostatin, ACTH and calcitonin may all be raised**

2- Contrast spiral-CT scanning is effective in demonstrating the primary tumour in 90% of cases

3- Curative surgery is possible in the majority of cases

4- There is almost always an association with MEN-1

5- Most tumours are detected because of the

Q503. A 36-year-old woman who is 28 weeks pregnant attends the midwife clinic for a pregnancy check. She is noted to have glycosuria and has a BMI of 30 You understand her mother has Type-2 diabetes. What is her correct management plan?

1- Observe and follow up in 4 weeks time with repeat urine glucose testing

2- Carry out a fasting blood glucose; if it is less than 7.0 mmol/l then repeat the sample in 4 weeks’ time

**3- Carry out a fasting blood glucose; if it is over 5.5 mmol/l then proceed to administer a 75-g oral glucose tolerance test**

4- Carry out a fasting blood glucose; it is over 7.0 mmol/l then proceed to administer a 75-g oral glucose tolerance test

5- Proceed directly to administer an oral

Q504. A 28-year-old mature student nurse is admitted from the emergency department, where she is on placement, having suffered a collapse. Her blood sugar was noted to be 1.5 mmol/l and she responded to 50 ml of 50% iv dextrose. After a second collapse, her insulin level was raised without a similar rise in cpeptide, her glucose level was 1.9 mmol/l. What is the most appropriate next investigation?

1- A 3-day fast in an attempt to precipitate a further attack

**2- Audit of insulin stocks that she has had access to**

3- Alcohol history

4- Chest X-ray to exclude malignancy

5- Discharge the patient

Q505. A 68-year-old man attends his GP on the insistence of his wife because his left forefoot has become increasingly unstable and abnormally shaped with bony swelling. He has a long history of diabetes mellitus and his control has been erratic, with Hb A1c in the range of 9-10%. Which of the following pieces of information best fits the pathology or management of Charcot's foot?

1- Tight glucose control is unlikely to be of benefit in this condition

2- Reduction of oedema is unimportant with respect to preventing deterioration

3- Orthotic shoes are unnecessary in the management of this condition

4- Plain radiography is always abnormal, even early in this condition

**5- The pathology of this condition is thought**

Q506. A 56-year-old patient on gliclazide for his type2 diabetes presents with an acute, central, crushing chest pain. He is diagnosed with myocardial infarction. Which of the following best fits the outcome or management of myocardial infarction associated with type-2 diabetes?

1- The mortality rate from myocardial infarction in patients with type-2 diabetes is the same as that for non-diabetics

2- Intravenous insulin followed by sc insulin after MI reduces mortality by 11% at 3.5 years compared to controls

3- Use of ACE inhibition after MI improves the

6-week mortality rate by 50%

**4- Statins should always be started unless they are contra-indicated**

5- Blood pressure target should be 150/80

Q507. A 51-year-old patient on metformin and gliclazide for his type-2 diabetes presents for review. He has a BMI of 31 and his blood pressure is 158/92 mmHg. When considering hypertension in type-2 diabetes, which of the following statements best fits the condition?

1- Development of hypertension is strongly linked to a genetically inherited variant of red cell sodium-lithium counter-transport activity

2- Good hypertensive control has a weaker effect on macrovascular outcomes than good tight glucose control

**3- Hypertension in type-2 diabetes is primarily associated with hyperinsulinaemia and insulin resistance**

4- Hypertension affects up to 20% of patients with type-2 diabetes

5- Thiazide diuretics are the treatment of

Q508. You review a 67-year-old man in the lipid clinic. He is taking pravastatin 40 mg/day. Which of the following drugs should be used with caution?

1- Warfarin

**2- Erythromycin**

3- Digoxin

4- Antacids

5- Antifungals

Q509. A 63-year-old man presents to the diabetes clinic for review. He attends with his wife who has accused him of a lack of interest in her as he is no longer able to sustain an erection. Which of the following statements is most strongly associated with impotence in type-2 diabetes?

1- Libido is often also affected in addition to physical pathology

2- Estimates say that 20% of men with diabetes mellitus of more than 6 years' duration are affected

3- Other autonomic neuropathy is unlikely to be present

4- Penile pain is a common association

**5- β-blockers and thiazide diuretics may**

Q510. A 56-year-old, highly insulin resistant, type-2 diabetes sufferer has been taking 200 units total daily dose of sc insulin per day. His weight is increasing and his control worsening, with an Hb A1C of 9.1%. You add in pioglitazone 30 mg to his insulin. Some 4 weeks later he presents to the emergency department in heart failure. Which of the following statements best describes glitazone therapy?

1- Glitazones cause heart failure by exerting a directly toxic effect on the myocardium

2- Glitazones have no more peripheral insulinsensitising effects than metformin

3- There is evidence that all three agents in the glitazone class (troglitazone, pioglitazone and rosiglitazone) have similar profiles of hepatotoxicity

**4- Heart failure may be precipitated in some patients taking glitazones due to fluid retention**

5- Glitazones act at the site of the PPAR-a

Q511. A 52-year-old woman, diagnosed with type-2 diabetes mellitus and losing weight, is referred for an opinion; her GP is thinking about insulin therapy. A normochromic, normocytic anaemia is noted. On examination she has angular stomatitis and a welldemarcated erythematous rash in her groin, which extends to her lower limbs, buttocks and perineum. What is the next step in her management?

1- Refer to nursing colleagues for conversion to insulin

2- Try high-dose sulphonylurea therapy

3- Observe and see again in 6 months

**4- Measure plasma glucagon levels**

5- Measure plasma somatostatin levels

Q512. A 52-year-old woman is referred for opinion, she has been diagnosed with type-2 diabetes mellitus and is losing weight, her GP is thinking about insulin therapy. A normochromic, normocytic anaemia is noted. On examination she has angular stomatitis and a well-demarcated erythematous rash in her groin, extending to her lower limbs, buttocks and perineum. What is the underlying diagnosis?

1- Poorly controlled type-2 diabetes

2- Latent type-1 diabetes

3- Somatostatinoma

4- Cushing's disease

**5- Glucagonoma**

Q513. A 62-year-old woman presents to her GP complaining of thirst and polyuria. Her fasting glucose level is 9 mmol/l and 8.2 mmol/l on two separate occasions, confirming she has diabetes mellitus. Which of the following additional findings would be least likely to be associated with a diagnosis of secondary diabetes mellitus?

1- A bitemporal visual field defect

2- A large goitre

3- Hypertension

4- Multiple striae and bruises

**5- Maculopathy**

Q514. A 36-year-old man is referred after his first myocardial infarction for your opinion. He has a total cholesterol level of 9.5 mmol/l, with normal triglycerides. You note the presence of corneal arcus and tendon xanthomas. Which of the following genetic factors is not likely to be a cause of the hypercholesterolaemia?

**1- An excess of LDL receptors**

2- Not producing any LDL receptors

3- Failure of the LDL receptors to move to the cell surface

4- Abnormal receptor-binding to LDL

5- Inability to internalise LDL for metabolism

Q515. A 31-year-old man presents with acute pancreatitis. This is the third occasion he has presented in the last 5 years. You follow him up in clinic, and find he has a markedly elevated triglyceride fraction and hypercholesterolaemia, but with HDL and LDL cholesterol within the normal range. Which of the following statements best fits his abnormal lipid picture?

1- Usually improved by thiazide diuretics

2- Usually improved by glucocorticoids

3- Usually improved by alcohol

4- Has an autosomal-recessive mode of inheritance

**5- Affects up to 1 in 300 people**

Q516. A 52-year-old man is sent by his GP for an urgent review. He has been maintained on metformin and gliclazide for his type-2 diabetes. For the past week or so he has had feelings of severe aching pain and paraesthesias in his upper legs. He has felt 'off his food' during the past week and has begun losing weight. There is also proximal muscle weakness. Which of the following best fits diabetic amyotrophy?

1- 75% of patients recover fully from this condition

**2- Transference to insulin therapy is the mainstay of treatment**

3- Recovery from this condition usually takes over 1 year

4- The condition is much more common in type-1 diabetes

5- Weight loss is unlikely to be related to the

Q517. A 44-year-old woman has attended A&E on a number of occasions this year because of renal tract stones. She has also suffered depression during the past year or two. She is found to have a serum calcium of 3.10 mmol/l (2.4-2.6), creatinine of 138 mmol/l and albumin of 40 g/l. What is her most likely underlying diagnosis?

**1- Hyperparathyroidism**

2- Familial hypercalcaemic hypocalciuria

3- Multiple endocrine neoplasia

4- Hypoparathyroidism

5- Pseudohypoparathyroidism

Q518. A 32-year-old woman presents with amenorrhoea for 6 months. A pregnancy test is negative. Over the past few months she has occasionally been leaking milk, and presents now as this has occurred more and more during stimulation and intercourse and she is becoming distressed by it. Thyroid function testing is normal. She is on no medication. Her serum prolactin level is 2400 mU/l and a CT scan of the pituitary is unremarkable. Which of the following best fits her condition?

1- She is likely to have a macroprolactinoma

2- She should be observed for 12 months

**3- Cabergoline is effective therapy**

4- Surgery is the best option here

5- A visual field defect is likely

Q519. A 55-year-old woman presents with her husband to the endocrine clinic. She has distressing symptoms of sweating, and her husband noticed increased prominence of her jaw when he was archiving photos from recent years. Last year she was diagnosed with type-2 diabetes. Other past history of note is that she has recently been operated on for carpal tunnel syndrome. Which of the following most likely to fit with her condition?

1- Random growth-hormone level is likely to be < 1 mU/l

2- IGF-1 levels are likely to be normal

**3- Growth-hormone levels are likely to remain above 20 mU/l after a 75-g glucose load**

4- 1-25-OH vitamin D level is invariably normal

5- Hypertension coexists in 20% of patients

Q520. A 32-year-old woman presents with extreme lethargy a couple of weeks after the birth of her third child by emergency caesarean section. She complained to the health visitor of increasing problems some 7 days earlier, but was told that this was to be expected after the birth of her child. On admission via casualty she was noted to have a sodium concentration of 127 mmol/l, a potassium concentration of 6.8 mmol/l and a urea of 12 mmol/l. What is the likely diagnosis?

**1- Sheehan's syndrome**

2- Hypothyroidism

3- Primary adrenal failure

4- Postnatal depression

5- Dehydration

Q521. A 25-year-old overweight woman presents with hirsutism and oligomenorrhoea. She has been unable to conceive for 18 months. The adrenals appear normal on ultrasound scanning, but an ovarian ultrasound scan reveals numerous small cysts in both ovaries. Which of the following is likely to fit best with her diagnosis?

1- The LH/FSH ratio is likely to be normal

**2- Sex hormone-binding globulin is low in 50% of sufferers with this condition**

3- Testosterone levels are usually normal

4- Fertility is usually unaffected by this condition

5- DHEAS is usually normal or low

Q522. A 35-year-old HIV-positive man, evaluated for weight loss and weakness has been found to have disseminated tuberculosis. On examination, he is hypotensive and has hyperpigmentation of the mucosa, elbows and skin creases. Further investigations confirm a diagnosis of Addison's disease. Which of the following is likely in this condition?

1- Increased serum Na

2- Increased serum Cl

3- Increased serum HCO3

**4- Increased serum K**

5- Decreased serum Ca

Q523. A 60-year-old man is referred to the endocrine clinic with a complaint that his shoe size has gone up from size 9 to size 11 and his wedding ring no longer fits him. He is sweating a lot and his wife complains he is snoring more at night. Which of the tests below is most useful for confirming a diagnosis of acromegaly?

**1- OGTT with GH measurements**

2- Serum IGF-1 level

3- Skull X-ray

4- Random GH level

5- MRI of the pituitary fossa

Q524. A 24-year-old woman presents with 13 months of amenorrhoea. For the past few months she has been experiencing hot flushes, night sweats, mood changes and pain on intercourse. FSH has been > 40 mIU/l on two separate occasions, and her serum estradiol level is low. TSH is normal. Fasting blood glucose is normal. Pregnancy test is negative. What is the most likely diagnosis?

**1- Premature ovarian failure**

2- Polycystic ovarian syndrome (PCOS)

3- Androgen-secreting adrenal tumour

4- Pituitary failure

5- Thyrotoxicosis

Q525. A 17-year-old young woman presents to the emergency department with a blood glucose of 29 mmol/l. She is known to have type-1 diabetes. Her pH is 7.12 with a serum bicarbonate of 11 mmol/l. There is ketonuria. Which of the following statements best fits the predisposing factors involved in DKA?

1- Myocardial infarction may be the precipitating factor in up to 5% of cases of DKA

2- Infection may be the precipitating cause in 60% of cases of DKA

3- The patient is not previously known to have diabetes in 30% of DKA cases

**4- Non-compliance with treatment is the cause in 25% of DKA cases**

5- Inappropriate alterations to insulin are the

Q526. A 40-year-old man presents with a serum calcium concentration of 3.05 mmol/l, and urinary calcium excretion of 12 mg/24 h. There is no history of renal stones, pancreatitis, depression or any prior illness. He was referred by a particularly zealous GP and underwent parathyroidectomy. Which of the following is true of the disease which underlies this man's case history?

1- He has hyperparathyroidism that is likely to have been cured by the surgery

2- Urinary calcium excretion is increased

**3- Inheritance is autosomal dominant**

4- Acute pancreatitis is commonly associated with the condition

5- The body has an increased ability to sense

Q527. A 51-year-old woman presents to her GP with polyuria, tiredness and a random plasma glucose level of 13.0 mmol/l. According to the ADA criteria what should happen next?

1- She should be reassured that the result is normal

**2- She may have diabetes mellitus and requires a fasting blood test the following day to confirm the diagnosis**

3- She probably has impaired glucose tolerance and should undergo a 2-h glucose tolerance test

4- A 2-h glucose tolerance test plasma glucose level of 10.5 mmol/l would confirm diabetes mellitus

5- A fasting plasma glucose of 7.2 mmol/l the

Q528. A 26-year-old woman has been recently diagnosed with type-1 diabetes. She has read a great deal about the prognosis of renal disease in type-1 diabetes and has a number of questions to ask. Which of the following statements best describes the renal disease in patients with type-1 diabetes?

1- Microalbuminuria usually occurs within 2 years of the diagnosis of type-1 diabetes

**2- Peak incidence of frank albuminuria is 17 years after the diagnosis of type-1 diabetes**

3- After the serum creatinine level reaches 200 mmol/l, a fall in GFR of 0.5 ml/min per month might be expected

4- End-stage renal failure usually occurs within 5 years of the onset of albuminuria

5- Nephropaths have a 10 times higher

Q529. A 70-year-old man is brought unconscious to the emergency department, his blood sugar level is 70 mmol/l. There is no evidence of ketoacidosis. His chest X-ray reveals evidence of left-sided consolidation. What is the most likely diagnosis?

1- Simple pneumonia

2- A complication of type-1 diabetes

**3- A complication of type-2 diabetes**

4- Stroke

5- Glucagonoma

Q530. A 65-year-old obese woman who has had type-2 diabetes for 4 years presents to the clinic for her annual review. Her current medication is metformin 2 g/day. You decide to add in gliclazide 80 mg po bd because of poor control as her Hb A1c is 8.5%. Which of the following best describes sulphonylureas?

1- In the UKPDS study they demonstrated no effects on microvascular outcome

**2- In the UKPDS study they demonstrated no effect on macrovascular outcome**

3- In the UKPDS study they demonstrated positive effects on macrovascular outcome

4- Mild hypoglycaemia in response to sulphonylurea therapy is rare

5- Gliclazide has positive effects on insulin

Q531. The presence of galactorrhoea is MOST suggestive of which one of the following conditions?

1- Turner’s syndrome

2- Polycystic ovary disease

**3- Hypothyroidism**

4- Sheehan’s syndrome

5- Bromocriptine therapy

Q532. A 38-year-old woman presents to the clinic with difficult to treat hypertension. She is on two agents and currently has a BP of 155/95 mmHg. She has noted that her face has become more rounded over the years and she is having increasing trouble with both acne and hirsutism. Fasting blood glucose testing has revealed impaired glucose tolerance. There has also been increasing trouble with abdominal obesity and she has noticed some purple stretchmarks appearing around her abdomen. What is the most likely diagnosis?

1- Phaeochromocytoma

2- Multiple endocrine neoplasia

3- Essential hypertension

4- Simple obesity

**5- Cushing's syndrome**

Q533. A 32-year-old merchant banker presents for endocrine review. Apart from a past history of reflux symptoms, her previous medical history is unremarkable. She gives a history of increasing fatigue, being sometimes unable to leave her bedroom; she says that she is only able to walk a few steps without feeling exhausted. She has lost a little weight and gone on long-term sick leave from her job. She feels unable to concentrate, has headaches, intermittent sore throats and feels that when she is able to sleep, she awakes unrefreshed. Full blood count, viscosity, urea and electrolytes, liver function testing, thyroid function testing and a Synacthen test arranged by her GP have all been normal. On examination in the clinic there are no abnormal physical findings in this normal weight, normal height young woman. What diagnosis fits best with this clinical picture?

1- Addison's disease

2- Hypothyroidism

**3- Chronic fatigue syndrome**

4- Myasthenia gravis

5- Occult malignant disease

Q534. A 27-year-old man presents via his GP for review. He wants to start a relationship but is concerned about his small phallus. He also has difficulty becoming aroused. On examination he is slim and there is gynaecomastia. There is a general paucity of body hair, his penis is small and he has small testes. Which diagnosis fits best with this history and examination?

1- Testicular feminisation

**2- Klinefelter's syndrome**

3- Congenital adrenal hyperplasia

4- True hermaphroditism

5- 5a -reductase deficiency

Q535. A 54-year-old man presents to the diabetes clinic for review. He has had type-1 diabetes for 30 years. Recently he has suffered a number of falls, which he describes as attacks where he feels 'faint' and loses his footing. He has suffered from impotence for a number of years and takes antireflux medication. On examination he has a postural drop of 35 mmHg in his blood pressure. Which diagnosis fits best with this history and examination?

**1- Diabetic autonomic neuropathy**

2- Transient ischaemic attacks

3- Arrhythmia

4- Simple fainting

5- Somatisation disorder

Q536. A 42-year-old woman presents with difficultto-treat hypertension. She is taking ramipril, atenolol and bendrofluazide yet her blood pressure as measured in the clinic is still 150/100 mmHg. Her serum potassium concentration as measured in clinic was 2.9 mmol/l. She has been weaned off her antihypertensives for a period of 4-6 weeks; at this time her renin level was noted to be suppressed and her aldosterone level was above normal. Which of the following diagnoses is most likely to fit with this clinical picture?

1- Idiopathic hyperaldosteronism

**2- Conn’s adenoma**

3- Glucocorticoid suppressible hyperaldosteronism

4- Aldosterone-producing carcinoma

5- Carcinoid syndrome

Q537. An 18-year-old girl presents via her GP who is concerned that she may have an underlying endocrine problem. She is a good student and has just won a place at university. She weighs only 38 kg (6 stone) and is 1.78 m (5ft 10 inches) tall. She is emaciated, her skin is dry and she has excessive growth of lanugo hair. She has been amenorrhoeic for 9 months. Her cortisol level is elevated, her Free T4 is normal. She has an anaemia and associated reduced white cell and platelet count. Which of the following diagnoses is most likely to fit with this clinical picture?

1- Addison's disease

2- HIV

3- Occult carcinoma

4- Hypothyroidism

**5- Anorexia nervosa**

Q538. A 60-year-old woman is sent by A&E for endocrine review. During the past 18 months she has suffered two Colle's fractures and a fractured neck of her left femur. Results of thyroid function testing, serum protein electrophoresis and serum parathyroid hormone estimation are all normal. Bone densitometry of the lumbar spine and femoral neck on the non-replaced side reveal a bone density within the osteoporotic range. Which of the following interventions would be most appropriate for her?

1- Observe and repeat the densitometry in 12 months

**2- Initiate bisphosphonate therapy**

3- Initiate calcium and vitamin D therapy

4- Initiate HRT

5- Initiate calcium supplementation

Q539. A 61-year-old, non-smoking woman with no previous cardiac history presents from her GP at the cardiac risk-factor clinic. Her total cholesterol is 9.0 mmol/l. She is overweight and has sleep apnoea. On examination you notice her skin is particularly dry and there appears to be some evidence of hair loss. What is the next step in her management?

1- Screening of family members for hypercholesterolaemia

2- Lifestyle advice and reassurance

3- Start high-dose statin therapy

**4- Check her TSH**

5- Check her fasting blood glucose

Q540. A 61-year-old farmer who has long-standing type-1 diabetes is brought to the clinic by his wife. He has been limping for a while and his wife noticed that his ankle was rather abnormally shaped after he stepped out of the shower. Examination of his right ankle reveals a painless joint that is warm and swollen. There is crepitus and what appears to be palpable bone debris. X-ray reveals gross joint destruction and apparent dislocation. His CRP and white count are normal, the joint aspiration fluid shows no microbes and historical review of HBA1c reveals that it has rarely been below 9%. What is the most likely diagnosis in this case?

**1- Charcot's ankle**

2- Osteomyelitis

3- Old healed fracture

4- Rheumatoid arthritis

5- Osteoarthritis

Q541. You are asked to review a 54-year-old psychiatric patient by his GP. This patient has been diagnosed with impaired glucose tolerance. He also has a history of hypertension, for which he takes ramipril. Which of the following drug classes is most well known as a cause of impaired glucose tolerance?

1- Thiazolidinediones

2- ACE inhibitors

**3- Atypical antipsychotics**

4- Biguanides

5- Sulphonylureas

Q542. A 62-year-old man presents with evidence of gynaecomastia. He has been taking long-term digitalis and warfarin therapy for persistent atrial fibrillation. In addition, he takes another tablet for heartburn. Results of tests for androgens, HCG, liver function and thyroid function are all normal. What is the most likely cause of his gynaecomastia?

1- Warfarin therapy

**2- Digoxin therapy**

3- Furosemide

4- Ranitidine

5- Sodium bicarbonate

Q543. A 21-year-old university student presents for review. She is distressed by the fact that she is overweight and is having to shave or pluck excessive facial hair. She also notices that she appears to have more generalised body hair than other women. On further questioning you elicit a history that she can sometimes miss a couple of menses, but pregnancy testing is consistently negative. Her mother apparently had similar problems in her youth, took a while to conceive and now has type-2 diabetes. Testosterone is just outside the upper limit of normal range, her LH:FSH ratio is increased and prolactin is normal. Which diagnosis fits best with this woman's clinical picture?

**1- Polycystic ovarian syndrome (PCOS)**

2- Hyperprolactinaemia

3- Androgen-secreting tumour

4- Cushing's disease

5- Type-2 diabetes

Q544. A 44-year-old patient with hypomania is referred for opinion. She is noted to have a sodium concentration of 142 mmol/l, with a urea of 12 mmol/l and a creatinine of 140 m mol/l. Urine osmolality is 250 mOsmol/l. Fasting plasma glucose is normal. The nurses have monitored her urine output and found it to be 4.4 litres in 24 h. Which of the following statements best fits with her condition?

1- Psychiatric drugs are unlikely to have played a part in her condition

**2- Urine osmolality rising to > 305 mOsmol/l 4 h after desmopressin in the water deprivation test is a positive result for cranial diabetes insipidus, it is unlikely to rise in this case**

3- Nephrogenic diabetes insipidus has a dominant pattern of inheritance

4- Desmopressin in addition to her usual drugs is likely to be effective

5- Indometacin is of no value

Q545. A 58-year-old woman is taking alendronate for osteoporosis. She visits the clinic and is keen to discuss the mechanism of action of this class of drugs as she has been studying them on the Internet. Which of the following options best describes the mode of action of the bisphosphonate class of agents?

1- Inhibits osteoblast activity

2- Stimulates osteoblast activity

3- Stimulates osteoclast activity

**4- Inhibits osteoclast activity**

5- Increases the bioavailability of vitamin D

Q546. A 56-year-old man with type-2 diabetes presents with background diabetic retinopathy. His HB A1c has been consistently above 9% for the past 5 years. Which of the following factors may impact most negatively on the prognosis for his retinopathy?

**1- Rapid improvement in blood glucose levels**

2- Total cholesterol 5.2 mmol/l

3- Long-term improvements in blood glucose control

4- Triglyceride levels of 2.1 mmol/l

5- Stopping smoking

Q547. Which one of the following proteins is most likely to be associated with very high levels of plasma chylomicrons?

1- Apoprotein E

**2- Apoprotein CII**

3- Apoprotein AII

4- Lipoprotein B

5- LDL receptor

Q548. A 65-year-old woman known to have chronic low back pain notices severe sharp pain in the left groin after a minor fall and is unable to walk. Left neck of femur fracture is identified on radiological examination. Routine laboratory evaluation discloses a serum calcium concentration of 1.9 mmol/l, a serum phosphorus concentration of 0.68 mmol/l and increased serum alkaline phosphatase activity. The serum parathyroid hormone level was subsequently found to be elevated. The most likely diagnosis is?

1- Primary hyperparathyroidism

2- Hypervitaminosis D

3- Paget's disease of bone

4- Osteoporosis

**5- Vitamin D deficiency**

Q549. In glucagonoma the MOST likely associated skin lesion is?

1- Erythema chronicum migrans

2- Acanthosis nigricans

3- Panniculitis

4- Ichthyosis

**5- Necrolytic migratory erythema**

Q550. A 23-year-old woman presents to her GP after the birth of her second child. She complains of extreme tiredness and a persistent hoarse voice that she is having problems shaking off. Despite breast-feeding her child she is failing to lose her pregnancy weight. Thyroid autoantibodies are negative. Her TSH is 12 mU/l, with a Free T4 of 5 pmol/l. There is no thyroid tenderness on examination. Her GP notes that her pulse is only 52 beats per minute. What diagnosis fits best with this clinical picture?

1- Hashimoto's thyroiditis

**2- Postpartum thyroiditis**

3- Atrophic hypothyroidism

4- Iodine deficiency

5- Hyperthyroidism

Q551. A 57-year-old woman presents with a feeling of shortness of breath and choking on lying down. Some 4 months earlier she had been diagnosed with atrial fibrillation and was started on aspirin and digoxin by her GP. On examination her GP could feel a goitre. Plain radiography confirmed retrosternal extension, which was presumed to be contributing to her shortness of breath. Her TSH level was less than 0.05 mU/l. Thyroid autoantibodies were negative. What diagnosis best fits with this clinical picture?

1- Hashimoto's thyroiditis

**2- Large, toxic, multinodular goitre**

3- Thyroglossal cyst

4- Thyroid carcinoma

5- Grave's disease

Q552. A 26-year-old woman attends her GP complaining of feeling tired all the time for the last few months. She has had no period for 6 months and has been feeling dizzy first thing in the morning. Which of the following clinical signs would the GP be most likely to find if the diagnosis was thought to be Addison's disease?

**1- Buccal pigmentation**

2- Diminished body hair

3- Pallor

4- Postural hypotension

5- Optic atrophy

Q553. A 30-year-old woman presents to her GP with a history of amenorrhoea and galactorrhoea. She is keen to become pregnant and has been trying for 9 months to conceive without success. She is of normal weight and has no other constitutional symptoms. Which of the following is most likely to be the reason for her symptoms?

1- Drug treatment she is on for asthma

2- Hypothyroidism

3- Hyperthyroidism

4- Previously undiagnosed hepatic impairment

**5- Pituitary microadenoma**

Q554. A 57-year-old man, with a BMI of 30 and a history of hypertension, dyslipidaemia and type-2 diabetes presents for review. He has tolerated 2 g/day of metformin well, but 2 years after the initial diagnosis of diabetes his blood sugars are still too high in the morning on occasions, and a recent HB A1c was 7.5%. His job entails occasional shift work, during which he is unable to eat for long periods. Which would be the most appropriate add-in therapy to his metformin treatment?

1- Acarbose

2- Glargine

**3- Rosiglitazone**

4- Chlorpropamide

5- Glibenclamide

Q555. You are asked by a GP to review a 16-year-old girl who presents with primary amenorrhoea. She appears on examination to have minimal body hair but normal breast development. Examination also reveals a blind-ended vagina. Biochemistry reveals increased LH, normal FSH, raised estradiol and raised testosterone levels. Which diagnosis fits best with this history and examination?

1- Polycystic ovarian syndrome

2- Turner's syndrome

3- Asherman's syndrome

**4- Testicular feminisation**

5- Pregnancy

Q556. A 45-year-old man is to undergo transsphenoidal surgery for resection of a growth hormone-secreting pituitary adenoma. He asks about the prospect of a cure and you explain that he will require biochemical monitoring over the next few months and years to assess this. Which of the following biochemical tests is the best way to monitor for recurrence?

1- Blood glucose

2- Serum cortisol

**3- IGF-1 or growth hormone level**

4- Prolactin

5- Thyroid function testing

Q557. A 42-year-old man presents to his GP complaining of decreased libido. He has also noticed having to shave less frequently. On the few occasions he has tried to have sex he has failed to maintain his erection to penetration. His visual field testing is normal and he has no medication history. Serum prolactin levels are 890 mg/l, growh hormone and thyroid function levels are normal. What diagnosis fits best with this clinical picture?

**1- Microprolactinoma**

2- Macroprolactinoma

3- Psychogenic impotence

4- Hypothyroidism

5- Acromegaly

Q558. A 19-year-old student is brought to A&E by his flatmates. He had been playing squash that afternoon, and while resting (after having had a pasta meal), complained of generalised weakness. He was unable to stand and had to be carried in by his friends. His potassium level was noted to be 2.6 mmol/l. Urine screen for diabetic and laxative abuse was normal. Apparently, he has had similar attacks since his early teenage years. Symptoms were aborted by potassium chloride. What type of mutation best fits the underlying pathology of this autosomal-dominant condition involving intermittent paralysis?

1- Mutation of a muscle voltage-gated sodium channel

2- Mutation in a muscle voltage-gated potassium channel

3- Mutation in a renal potassium channel

4- Mutation in a renal sodium channel

**5- Mutation in a muscle voltage-gated calcium**

Q559. A 23-year-old woman with type-1 diabetes presents with an unusual lesion on her shin. It began as a patch of spreading erythema, but now looks yellow and has begun to ulcerate. What diagnosis best fits this lesion?

1- Acanthosis nigricans

2- Dermatitis herpetiformis

3- Granuloma annulare

**4- Necrobiosis lipoidica**

5- Xanthoma

Q560. A 71-year-old man with established sarcoidosis presents for review. He suffers from a degree of pulmonary fibrosis due to previous pulmonary infiltration and has been taking corticosteroids intermittently. You are asked for a consultation as his serum calcium concentration is 3.1 mmol/l. His renal function is normal and parathyroid hormone is just below the lower end of the normal range. What is the most likely cause of his hypercalcaemia?

1- Hyperparathyroidism

2- Hypoparathyroidism

**3- Increased hydroxylation of Vitamin D**

4- Chronic renal failure

5- Milk-alkali syndrome

Q561. A 62-year-old man presents for review some 3 months after first being diagnosed with type-2 diabetes. His BMI is 30. Despite having lost about 7 kg in weight, his morning blood sugars are still around 9 mmol/l; an Hb A1C check was 8.9%. He is hypertensive and taking ramipril, his triglycerides are raised and his HDL cholesterol is low. Which therapy for his diabetes would be the best initial choice for his hyperglycaemia?

1- Glibenclamide

2- Gliclazide

3- Rosiglitazone

**4- Metformin**

5- Acarbose

Q562. A 35-year-old man comes to the clinic complaining of tiredness, lethargy and an increasingly hoarse voice. He also tells you that he has been losing his hair over the past few months and has noticed fullness in his neck; he has gained 7kg in the past 3 months. On examination he has a puffy face and periorbital oedema and there is a firm, rubbery goitre. His pulse is 48/min and regular, his BP 142/73 mmHg. Investigations; Hb 11.4 g/dl WCC 5.4 x 109 /L PLT 183 x 109 /L Na+ 141 mmol/l K+ 4.7 mmol/l Creatinine 120 mmol/l TSH 10.1 U/l Total cholesterol 8.2 mmol/l Triglycerides 3.2 mmol/l LDL 3.9 mmol/l FNA thyroid Diffuse lymphocytic and plasma cell infiltration Which of the following is the most likely diagnosis?

1- De Quervain’s thyroiditis

2- Atrophic hypothyroidism

**3- Hashimoto’s thyroiditis**

4- Grave’s disease

5- Thyroid lymphoma

Q563. A 30-year-old schoolteacher is on an oral contraceptive pill containing 20 mg of ethinylestradiol. She asks about its possible side-effects. Which of the following side-effects is most likely to occur with this dose of oestrogen?

1- Deep vein thrombosis

2- Nausea and vomiting

3- Increased pregnancy rate

**4- Breakthrough bleeding**

5- Migraine

Q564. A 75-year-old woman who has had type-2 diabetes mellitus for the last 15 years is admitted for cataract surgery. She is taking metformin 500 mg bid, plain insulin 10 U at night, ramipril 2.5 mg od and bendroflumethiazide (bendrofluazide) 2.5 mg od. She drinks a glass of whisky to help her sleep at night. Investigations showed: BM 3.0 mmol/l; urea 10 mmol/l; creatinine 140 mmol/l; Na 130 mmol/l; K 3.7 mmol/l. Liver function tests (LFTs) were normal and arterial blood gas measurements showed a pH 7.3, p(CO2) 5.1 kPa and HCO3 17 mmol/l. Which one of the following is the most detrimental in these circumstances and should be stopped?

1- Ramipril

**2- Metformin**

3- Insulin

4- Alcohol

5- Bendroflumethiazide (bendrofluazide)

Q565. An 18-year-old young man presents to his GP with thirst and polyuria. Some 6 months previously he had a significant head injury as the result of a road traffic accident. He is referred to the local endocrine clinic. Which of the following results would be the most useful in confirming a diagnosis of diabetes insipidus after a water deprivation test?

1- Plasma sodium of 126 mmol/l

2- Plasma sodium of 150 mmol/l

3- Plasma osmolality of 335 mOsm/kg and urine osmolality of 700 mOsm/kg

4- Plasma osmolality of 280 mOsm/kg and urine osmolality of 700 mOsm/kg

**5- Plasma osmolality of 335 mOsm/kg and**

Q566. A 21-year-old woman presents for review. She is concerned on this occasion because she has not had a period for 5 months. She is 1.76 m in height and weighs only 43.7 kg (7 stone). A pregnancy test is negative and thyroid function testing is normal. Which diagnosis fits best with this woman's clinical picture?

1- Gonadotrophin deficiency

**2- Weight-related amenorrhoea**

3- Hyperprolactinaemia

4- Primary ovarian failure

5- Polycystic ovarian syndrome

Q567. You review a 32-year-old woman with relapsed Grave’s disease. TSH is less than 0.05 mU/l, with a Free T4 of 32.5 pmol/l. She has severe bilateral thyroid eye disease with marked orbital oedema and proptosis. You are considering radiotherapy as she has failed drug treatment. Which of the following statements best fits the management of her thyroid eye disease?

1- Systemic steroids are of no value in managing the eye disease

2- Orbital irradiation is commonly used to treat thyroid eye disease

3- Corrective eye muscle surgery should now be considered

4- She should not be given methylcellulose drops as these may worsen oedema

**5- Her thyroid eye disease may be worsened**

Q568. A 30-year-old man presents with a 3-month history of deteriorating physical performance at work, associated with dysarthria and clumsiness. On examination he looks anaemic, has hepatomegaly and Kayser-Fleischer rings in the cornea. What would be the most important investigation to support the suspected clinical diagnosis?

1- CT scan of the brain

2- MRI scan of the brain

3- Liver biopsy

**4- Serum ceruloplasmin level**

5- CRP level

Q569. A 75-year-old woman is admitted in an unconscious state. Her daughter found her on the floor. On examination in casualty she is found to have a core temperature of 33°C and also to be in left ventricular failure. Her blood glucose level is 5.7 mmol/l, random cortisol is elevated. By chance you also catch the twice weekly run of thyroid function testing and her Free T4 is 4.4 pmol/l. A CT scan of her brain reveals no focal lesion and a cursory assessment reveals no gross focal neurology. Which diagnosis fits best with this woman's clinical picture?

1- Hypoglycaemia

2- Addison’s disease

**3- Profound hypothyroidism**

4- Massive stroke

5- Alcohol excess

Q570. A 35-year-old woman had a febrile infection associated with a painful swelling in her neck a week ago. Her thyroid function tests show evidence of thyrotoxicosis and her ESR is raised. What is the most likely diagnosis?

1- Sporadic goitre

2- Hashimoto thyroiditis

3- Fibromatosis

**4- De Quervain's thyroiditis**

5- Follicular thyroid carcinoma

Q571. A 29-year-old woman presents to her GP with a history of weight loss, heat intolerance, poor concentration and palpitations. Which of the following is most likely to be associated with a diagnosis of thyroiditis associated with viral infection?

1- Bilateral exophthalmos

2- Diffuse, smooth goitre

**3- Reduced uptake on thyroid isotope scan**

4- Negative thyroid peroxidase antibodies

5- Pretibial myxoedema

Q572. A 17-year-old young woman has been referred by her gynaecologist. She has been complaining of amenorrhoea for 5 months, although no gynaecological abnormality has been found. She feels well and is very active but her weight has decreased from 61 kg to 43 kg in the last 6 months. Her height is 168 cm. On examination her BP is 90/60 mmHg, heart rate 64 bpm. What is the most likely diagnosis?

1- Conn's syndrome

2- Crohn's disease

**3- Anorexia nervosa**

4- Hyperthyroidism

5- Diabetes mellitus

Q573. A patient has been referred by her GP because she has been complaining of frequent episodes of sweating and palpitations associated with a low blood glucose level. The family history reveals a brother with type-1 diabetes. A blood test shows the following results: glucose 1.1 mmol/l, insulin > 500 pmol/l (reference 15-100 pmol/l) and Cpeptide of < 0.2 nmol/l (reference 0.2-1.4 nmol/l). What is the most likely diagnosis?

1- Type-1 diabetes mellitus

2- Insulinoma

3- Pancreatic carcinoma

**4- Factitious insulin-induced hypoglycaemia**

5- Maturity-onset diabetes of the young

Q574. A 52-year-old woman with primary hypothyroidism is being treated with thyroxine replacement, the dose of which is being titrated against the results of biochemical thyroid function tests. Two weeks after the last increase in dose, the results of thyroid function tests are: free thyroxine 28 pmol/l (normal 9-26); TSH 14 mU/l (normal 0.2-5.0). Which (if any) would be the most appropriate next step in the management of this patient?

1- A decrease in the dose of thyroxine

2- A further increase in the dose of thyroxine

**3- No change in dose at this time**

4- Question patient's compliance with medication

5- Replace thyroxine with triiodothyronine

Q575. 50-year-old woman has been diagnosed with a pericardial effusion. Which endocrine disease is most likely to be associated with this finding?

1- Hyperthyroidism

**2- Hypothyroidism**

3- Phaeochromocytoma

4- Chronic renal insufficiency

5- Hypogonadism

Q576. A 60-year-old woman presented complaining of a 6.3 kg (1 stone) weight loss, polyuria and depressive mood for 8 weeks. The following laboratory results are obtained: calcium 3.4 mmol/l, phosphate 1.1 mmol/l, parathyroid hormone 5 ng/l (reference < 60 ng/l). What is the most likely cause for her complaints?

1- Primary hyperparathyroidism

2- Secondary hyperparathyroidism

**3- Hypercalcaemia due to cancer**

4- Vitamin D deficiency

5- Hyperthyroidism

Q577. What is the most reliable investigation for determining the volume of the thyroid gland?

1- Thyroid isotope uptake technetium-99m

**2- Ultrasound**

3- X-ray of the neck

4- Thyroid isotope uptake iodine-125

5- PET scan

Q578. A 30-year-old man presents with a 3-month history of deteriorating physical performance at work, associated with dysarthria and clumsiness. On examination he looks anaemic, has hepatomegaly and Kayser-Fleischer rings in the cornea. What is the most likely diagnosis?

1- Hepatitis C infection

**2- Wilson's disease**

3- Alcohol abuse

4- Motor neurone disease

5- Subacute sclerosing panencephalitis

Q579. A 30-year-old man presents with a 3-month history of deteriorating physical performance at work, associated with dysarthria and clumsiness. On examination he looks anaemic, has hepatomegaly and Kayser-Fleischer rings in the cornea. Given the likely diagnosis, what would be the most important treatment option?

1- Blood transfusion

**2- d-Penicillamine**

3- Ciclosporin

4- Azathioprine

5- Interferon-alpha

Q580. A patient was referred by his GP because of a borderline fasting glucose. You arrange for a glucose tolerance test to clarify the diagnosis. For this test how much glucose is dissolved in 250 ml of water?

1- 10 g

2- 50 g

**3- 75 g**

4- 100 g

5- 150 g

Q581. A patient with longstanding type-2 diabetes was found to have a urinary albumin excretion rate of 400 mg/l. His diabetes is well controlled and he is normotensive. What additional drug should he be prescribed?

1- Aspirin

2- Atenolol

**3- Lisinopril**

4- Clopidogrel

5- Pioglitazone

Q582. A 34-year-old woman is referred to the endocrine clinic with a history of thyrotoxicosis. At her first appointment she is found to have a smooth goitre, lid lag and bilateral exophthalmos with puffy eyelids and conjunctival injection. She wants to discuss treatment of her thyroid problem as she is keen to become pregnant. What is the most likely treatment you would advise?

1- 12-18 months of carbimazole alone

**2- 12-18 months of propylthiouracil alone**

3- A combination of antithyroid drugs and thyroxine

4- Radioactive iodine (iodine-131)

5- Thyroidectomy

Q583. A 55-year-old obese patient with hypercholesterolaemia (LDL 5.2 mmol/l, HDL 1 mmol/l), well-controlled type-2 diabetes and hypertension has been on a low cholesterol diet for the last 6 months. His latest LDL level is 4.8 mmol/l, and triglycerides are within the normal range. In terms of primary prevention, what is the next therapeutic step in his management?

1- Add pioglitazone

2- Add gemfibrozil

3- Add clopidogrel

**4- Add statins**

5- Add ezetimibe

Q584. A 37-year-old woman presents to the endocrine clinic with a history of hirsutism, acne and oligomenorrhoea. She is having difficulty losing weight and has searched the Internet and thinks she may have polycystic ovarian syndrome. She wants to discuss the implications of this. Which of the following is the most important issue to discuss with her at this stage of her life?

1- Exercise regimens

**2- Does she want to have children**

3- Her blood glucose level

4- Treatment for her hirsutism

5- Weight-reduction diets

Q585. A 55-year-old man is found incidentally to have hypercalcaemia during a routine health screen. Which one of the following biochemical findings would be most suggestive of this being caused by primary hyperparathyroidism rather than any other cause of hypercalcaemia?

1- Elevated 24-h urinary calcium excretion

2- Elevated serum alkaline phosphatase activity

3- Low serum concentration of calcitriol (1,25- dihydroxycholecalciferol)

4- Normal serum phosphate concentration

**5- Serum PTH concentration within the normal**

Q586. A 73-year-old woman presents with weight loss and is found to have a serum calcium concentration of 3.22 mmol/l. A skeletal survey is normal. Non-metastatic hypercalcaemia is suspected. Secretion of which of the following substances by the tumour is most likely to be responsible?

1- Calcitonin

2- Calcitriol (1,25-dihydroxycholecalciferol)

3- Osteoclast-activating cytokines

4- Parathyroid hormone

**5- Parathyroid hormone-related peptide**

Q587. A 42-year-old patient complains of severe fatigue following surgery for a pituitary tumour and is put on growth hormone replacement. Which of the following is a well-recognised effect of this treatment?

1- Decrease in serum lipoprotein(a) concentration

2- Increase in fasting serum triglyceride concentration

3- Increase in fat mass

**4- Increase in lean body mass**

5- Increase in serum total cholesterol

Q588. A 37-year-old man with a diagnosis of hypogonadotrophic hypogonadism is being followed in the endocrine clinic. He does not desire fertility at present. Which would be the most appropriate treatment at this stage?

1- Oral testosterone replacement

2- Pulsatile subcutaneous administration of gonadotrophin-releasing hormone (GnRH)

3- Regular injections of human chorionic gonadotrophin

4- Regular injections of human menopausal gonadotrophin (HMG)

**5- Regular testosterone injections**

Q589. A 44-year-old man is surprised to find that he cannot easily get his feet into a pair of shoes that he last wore 5 years ago. He goes to buy a new pair and is told that his size has increased. He trawls the Internet for an explanation and, deciding that he may have acromegaly, consults his GP. The GP has not seen him for several years and thinks his appearance has changed, so refers him to the endocrine clinic. Which of the following would be the most useful first-line test for investigating him?

1- Glucose tolerance test with measurement of growth hormone

2- Insulin hypoglycaemia test (insulin tolerance test, insulin stress test)

3- Measurement of serum growth hormone during sleep

4- Measurement of serum growth hormone following exercise

**5- Measurement of serum insulin-like growth**

Q590. A 20-year-old woman presents with anxiety and weight loss with increased appetite. Thyrotoxicosis is suspected and various investigations are performed. Which of the following findings would most suggest that she has Graves' disease?

1- High ESR

2- High serum triiodothyronine (T3) concentration but normal thyroxine (T4) concentration

**3- High titre of thyroid peroxidase autoantibodies**

4- Low thyroid uptake of technecium-99m

5- Normal serum TSH concentration

Q591. A 23-year-old woman presents with galactorrhoea. Which of the following would most suggest that this is due to the secretion of prolactin by a pituitary tumour?

1- Headache

2- Hypertension

3- Hirsutism

4- Infertility

**5- Menstrual disturbance**

Q592. A 55-year-old woman has been complaining of a 6-month history of weight gain. She is otherwise well and takes no medication. On examination her BMI is 28, BP 170/100 mmHg, she has a round red face and a slight atrophy of her arm muscles. Renal function test and urinalysis are normal. What is the next step in obtaining the diagnosis?

**1- Dexamethasone suppression test**

2- Urinary catecholamine collection

3- Urinary 5-hydroxyindoleacetic acid collection

4- Abdominal ultrasound

5- CT scan abdomen

Q593. A 49-year-old woman is investigated to determine the cause of Cushing's syndrome following the demonstration of hypercortisolaemia by a high 24-hour urinary cortisol excretion. Her midnight plasma cortisol concentration is elevated. Her 0900-h plasma cortisol concentration falls by 60% following a high-dose dexamethasone suppression test; plasma cortisol concentration increases by 25% following intravenous corticotrophin-releasing hormone (CRH). Which is the most likely diagnosis?

1- Adrenal adenoma

2- Adrenal carcinoma

3- Bilateral adrenal hyperplasia

**4- Cushing's disease (pituitary-dependent Cushing's syndrome)**

5- Ectopic secretion of ACTH

Q594. A 50-year-old woman with hypertension that has been difficult to control with drugs is found to have hypercortisolaemia. Which one of the following clinical findings would most suggest that ectopic secretion of ACTH is the cause of the condition?

1- Glycosuria

2- Worsening hypertension

3- Hypokalaemia

4- Muscle wasting

**5- Weight loss**

Q595. An 18-year-old woman complains of a 2- month history of vague ill health and nausea. She has had several episodes of dizziness and is found to have postural hypotension. Which of the following investigations is required to best demonstrate that these features are the result of adrenal failure?

1- Measurement of early morning and midnight plasma cortisol concentrations

2- Measurement of early morning plasma ACTH (corticotrophin) concentration

3- Measurement of 24-h urinary cortisol excretion

4- Overnight dexamethasone suppression test

**5- Short ACTH (Synacthen) stimulation test**

Q596. A 17-year-old young woman is admitted to A&E having collapsed at a rave. She is in a shocked state and unable to give a coherent history, but is found to have a card in her purse that indicates that she is on steroids for adrenal failure. A clinical diagnosis of an addisonian crisis is made and a blood sample is taken for cortisol measurement. Finger prick glucose testing reveals a BM of 3.4 mmol/l. Which of the following should be given the most priority in her management?

1- Intravenous glucose infusion

2- Parenteral administration of hydrocortisone

3- Replacement of mineralocorticoid

**4- Resuscitation with intravenous physiological saline and hydrocortisone**

5- Treatment of any precipitating factor

Q597. A 24-year-old man is found to have hypertension during an examination for life assurance purposes. Over the next few months, this is demonstrated to fluctuate considerably in severity and proves difficult to control. Which of the following additional features would most suggest that a phaeochromocytoma is causing his hypertension?

1- Diarrhoea

2- Flushing

**3- Headache**

4- Muscle weakness

5- Tremor

Q598. A 39-year-old man with untreated hypertension has a plasma potassium concentration of 2.8 mmol/l. When measured at 0900 h with the patient supine, his plasma aldosterone concentration is elevated and renin activity is low. When measured at 1200 h with the patient upright, the plasma aldosterone concentration increases by 20%. Plasma cortisol concentration was also measured at both times and found to be decreased by 50%. What is the most likely diagnosis?

1- Adrenal adenoma secreting aldosterone

**2- Bilateral adrenal hyperplasia**

3- Liddle's syndrome

4- Secondary aldosteronism

5- Steroid 11b-hydroxylase deficiency

Q599. MR imaging indicates a microadenoma in a 36-year-old man presenting with features of acromegaly and proven to have excessive growth hormone secretion. Which of the following would usually be the treatment of choice?

1- Medical treatment with a growth hormonereceptor antagonist

2- Medical treatment with a somatostatin analogue

3- Radiotherapy

4- Transfrontal surgery

**5- Trans-sphenoidal surgery**

Q600. You are working in a city with a hard-pressed ophthalmology service. You perform an annual review of a patient with longstanding diabetes mellitus. Her visual acuity is 6/9 in both eyes. Which of the following fundoscopic findings would be likely to warrant you making an urgent referral to an ophthalmologist?

1- Hard exudates five disk widths medial to the optic disk

2- More than five blot haemorrhages anywhere in the retina

3- More than five microaneurysms in the macular area

**4- Neovascularisation near the optic disk**

5- Scattered cotton wool spots

Q601. A 52 year old business man undergoes a routine medical examination as part of his company's health programme. His blood tests, performed on a fasting venous sample, show amongst other results a serum glucose concentration of 7.1 mmol/l. This is repeated by his GP two days later and again is 7.1 mmol/l. How would you interpret this result?

1- Normal results

2- Impaired glucose tolerance

**3- Diabetes mellitus**

4- Syndrome X

5- Insulin resistance

Q602. You undertake a 12-month attachment to the renal unit of a large district general hospital, and have a weekly clinic session in their diabetic nephropathy clinic. Which is the most appropriate oral hypoglycaemic drug in patients with impaired renal function?

1- Chlorpropamide

2- Glibenclamide

3- Glimepiride

4- Metformin

**5- Tolbutamide**

Q603. An obese patient with type-2 diabetes mellitus that is not controlled by appropriate diet needs hypoglycaemic medication. Which would be the most appropriate drug?

1- Sulphonylureas

**2- Metformin**

3- Rosiglitazone

4- Insulin

5- Pioglitazone

Q604. A 26-year-old man is referred for gastroscopy because of several months of dyspepsia. He has routine bloods checked and is found to have a serum calcium level of 3.2 mmol/l with a venous bicarbonate level of 33 mmol/l. Renal and liver function are both normal. Chest X-ray is normal. What is the most likely cause of his hypercalcaemia?

1- Myeloma

2- Metastatic malignancy

**3- Milk-alkali syndrome**

4- Primary hyperparathyroidism

5- Sarcoidosis

Q605. A patient with longstanding type-2 diabetes is found to have a urinary albumin excretion rate of 300mg/l. His diabetes is well controlled on metformin and he is normotensive. What is the most appropriate additional medication from which he will benefit?

1- Sulfonylureas

2- Insulin

**3- Lisinopril**

4- Furosemide

5- Pioglitazone

Q606. A patient presents with truncal obesity, insulin resistance and dyslipidaemia. What additional clinical feature might you expect to be present?

1- Asthma

2- Renal failure

**3- Hypertension**

4- Cancer

5- Ophthalmoplegia

Q607. A patient presents with diabetic ketoacidosis. They have a GCS of 12 and their airway is not compromised but have a respiratory rate of 32, you commence oxygen therapy. What is the most important next step?

1- Subcutaneous insulin

**2- Fluid and electrolytes**

3- Intravenous insulin

4- Intubation

5- Oxygen

Q608. A 45-year-old man presents with episodes of tremor, sweating and inco-ordination particularly when he first wakes in the morning. What would be the most useful investigation(s) to establish a diagnosis of an insulinoma?

1- An insulin hypoglycaemia test (insulin stress test)

2- An oral glucose tolerance test

3- Measurement of glycated haemoglobin (HbA1c)

4- Measurement of serum 3-hydroxybutyrate

**5- Simultaneous measurement of fasting**

Q609. A 29-year-old man is brought to Accident and Emergency. He has been found unconscious by the ambulance service, having collapsed at a darts match. The family history reveals a brother with type-1 diabetes. A blood test shows the following results: Glucose 1.1 mmol/l, Insulin > 500 pmol/l (reference 15- 100pmol/l) and C peptide of <0.2pmol/l (reference 0.2-1.4pmol/l). What is the most likely diagnosis?

1- Insulinoma

2- Type 1 diabetes mellitus

3- Type 2 diabetes mellitus

4- Insulin resistance

**5- Factitious hypoglycaemia**

Q610. A 29-year-old woman is undergoing investigations for subfertility. You wish to determine whether or not she is ovulating normally. Which of the following hormone levels would be most likely to indicate the occurrence of ovulation?

1- Estradiol

2- Testosterone

3- Follicle-stimulating hormone

**4- Luteinising hormone**

5- Prolactin

Q611. A 25-year-old insulin-dependent diabetic man is on long-acting insulin preparations. Which of the following enzymes is most likely to be inhibited by insulin?

**1- Pyruvate carboxylase**

2- Pyruvate kinase

3- Glycogen synthetase

4- Glucose-6-phosphate dehydrogenase

5- Pyruvate dehydrogenase

Q612. A 32-year-old woman undergoing infertility treatment is found to have proliferative endometrium on routine endometrial sampling. What is the most probable diagnosis in this case?

1- Pregnancy

**2- Anovulation**

3- Ovulation

4- Neoplasia

5- Luteal-phase defect

Q613. A 16-year-old youth is seen in the clinic because of poor development of secondary sex characteristics. On examination pubic hair growth is minimal. Facial hair growth is absent. The external genitalia are small. Both testes are normal in size and located in the scrotum. Which of the following hormones is most likely to be malfunctional in this case?

1- Testosterone

2- Androstenedione

**3- Dihydrotestosterone**

4- Dehydroepiandrosterone

5- Androsterone

Q614. A 25-year-old woman has been prescribed emergency contraception (levonorgestrel 1.5 mg) following unprotected sexual intercourse. Her periods have been regular to date, and her last period was 2 weeks ago. What is the most probable mechanism of action of emergency contraception in preventing conception in this case?

1- Thickening the cervical mucus

**2- Decreasing tubal motility and ciliary activity**

3- Inhibiting ovulation

4- Rendering the endometrium unfavourable for implantation

5- Blocking the secretion of progesterone by

Q615. A 34-year-old accountant is referred to you with a history of diabetes mellitus since the age of nine years. He is a methodical man and appears always to have striven to maintain reasonable metabolic control of his condition, while managing a normal lifestyle. What is the most likely finding on examination and routine testing?

1- A raised albumin to creatinine ratio in the urine (microalbuminuria)

2- Absent ankle jerks

3- Anti-thyroid antibodies

**4- Background retinopathy**

5- Macroproteinuria dipstick urine testing

Q616. A 35-year-old man with type-1 diabetes mellitus on insulin presents in the A&E with fever, cough, vomiting and abdominal pain. Examination reveals a dry mucosa, decreased skin turgor and a temperature of 37.8°C. Chest examination reveals bronchial breathing in the right lower lobe, and a chest X-ray shows it to be due to a right lower zone consolidation. Other investigations show a blood glucose concentration of 30 mmol/l, Na 130 mmol/l, K 5.7 mmol/l, urea 8.0 mmol/l, creatinine 120mmol/l, pH 7.15, HCO3 12 mmol/l, p(CO2) 4.6 kPa and chloride 106 mmol/l. Urinary ketones are positive (+++). The patient is admitted to the hospital and treated. Which of the following should not be used while treating him?

1- Fluids, iv

2- Insulin

3- Potassium

**4- Bicarbonate**

5- Antibiotics

Q617. Following a head injury, a 24-year-old patient develops polyuria and polydipsia and is suspected of having cranial diabetes insipidus. He undergoes a water deprivation test. Which one of the following responses would most indicate a positive (abnormal) result?

1- A rise in plasma osmolality to 302 mmol/kg during water deprivation

**2- Failure to concentrate the urine during water deprivation, but achievement of urine osmolality of 720 mmol/kg following the administration of desmopressin**

3- Failure to concentrate the urine either with water deprivation or following the administration of desmopressin

4- Failure to concentrate the urine with a plasma osmolality of 280 mmol/kg at the end of the period of water deprivation

5- Weight loss of 5% during the investigation

Q618. A patient with poorly diet-controlled type-2 diabetes mellitus needs to be started on medication. Which concomitant condition would be a contraindication for starting metformin?

1- Hypertension

**2- Respiratory insufficiency**

3- Hyperlipidaemia

4- Hyperthyroidism

5- Adipositas

Q619. A patient with small-cell carcinoma of the lung has been complaining of weakness in his leg muscles, weight gain and darkening of his skin. What is the most likely diagnosis?

1- Adrenocortical tumour

2- Radiation side-effects

**3- Ectopic ACTH secretion**

4- Diabetes mellitus

5- Side-effects from steroids

Q620. An overweight patient with type-2 dietcontrolled diabetes is seen in the outpatient clinic. Despite referral and appropriate diet and increased exercise his blood glucose is not well controlled. What would be the first-line treatment?

1- Pioglitazone

2- Short-acting insulin

3- Long-acting insulin

**4- Metformin**

5- Sulphonylurea

Q621. A 20-year-old patient presents with largevolume watery diarrhoea which has gradually increased over the last 2 weeks. He has no other complaints and there has been no recent travel abroad. On examination he looks dehydrated. His blood results show a hypokalaemic acidosis. Which of the following is the most likely cause for his symptoms?

1- AIDS

**2- VIPoma**

3- Diabetes mellitus

4- Phaeochromocytoma

5- Giardia lamblia infection

Q622. A patient has been diagnosed with hyperparathyroidism. Her raised prolactin levels were also recently diagnosed as being due to a prolactinoma. Endocrine tumours in which organ would you additionally expect?

1- Lungs

2- Muscle

3- Spinal cord

**4- Pancreas**

5- Liver

Q623. A patient with impaired glucose tolerance has an increased risk of developing frank diabetes. What is the five-year progression risk?

1- 1-2%

2- 5-10%

3- 10-20%

**4- 20-30%**

5- 100%

Q624. A 28-year-old single machinist, who describes herself as always being anxious, presents concerned about weight loss (59 to 50 kg), tiredness and amenorrhoea over the past year. Examination reveals: pallor, pulse 96/min regular lying, blood pressure 110/78 mmHg lying and 92/66mmHg standing, tendon reflexes slightly slow relaxing. There is a normochromic, normocytic anaemia (haemoglobin (Hb) 9.9 g/dl). Urea and electrolytes, liver function tests, plasma glucose and serum calcium are normal. Which of the following is the most likely diagnosis?

1- Microprolactinoma

2- Hypothyroidism

3- Anorexia nervosa

**4- Hypopituitarism**

5- Thyrotoxicosis

Q625. A patient with type-1 diabetes mellitus has a deficiency of insulin. Which cells secrete insulin?

1- A cells of the islets of Langerhans

**2- B cells of the pancreatic islets**

3- Hepatocytes

4- Fat cells

5- Melanocytes

Q626. A 30-year-old man and his wife present to a reproductive endocrinology clinic because of infertility. The man is tall with bilateral gynaecomastia. Examination of the testes reveals bilateral, small, firm testes. Which of the following investigations is most likely to be abnormal in someone with Klinefelter's syndrome?

1- CT scan of the pituitary gland

**2- Chromosomal analysis**

3- Measurement of serum gonadotrophins

4- Measurement of serum testosterone

5- Semen analysis

Q627. A 28-year-old machinist presents to her general practitioner (GP) with weight loss despite a good appetite, palpitations and excess sweating. The GP suspects thyrotoxicosis and confirms this by finding a free tetra-iodothyronine (T4) of 58 pmol/l (10- 22) with an undetectable thyroid-stimulating hormone (TSH). On examination she has a normal sized thyroid gland with a suggestion of bulkiness on the right hand side. A technetium uptake scan reveals a single 'hot' nodule in the right lobe of the thyroid with suppression of activity elsewhere. Which of the following clinical features would she be most likely to have?

1- Diplopia

**2- Lid retraction and lid lag**

3- Periorbital oedema

4- Presence of thyroid-stimulating immunoglobulins (TSI)

5- Unilateral exophthalmos

Q628. An apparently healthy, 20-year-old man has blood taken for lipid analysis in connection with an application for life insurance. His body mass index (BMI) is 22 kg/m2 . The fasting triglyceride concentration is 4.0 mmol/l. Which of the following is the most likely cause of the hypertriglyceridaemia?

1- Undiagnosed diabetes mellitus

2- World Health Organization (WHO) type 1 hyperlipidaemia (chylomicronaemia syndrome)

**3- A high alcohol intake**

4- A high saturated fat intake

5- Non-alcoholic steatohepatitis (NASH)

Q629. An 82-year-old Caucasian woman has short history of bone pain. Serum biochemistry reveals plasma calcium concentration 2.14 mmol/l, phosphate 0.70 mmol/l, alkaline phosphatase activity twice upper limit of normal. The concentration of parathyroid hormone is elevated. The most likely diagnosis is?

**1- Osteomalacia**

2- Osteolytic metastasis

3- Osteoporosis

4- Renal osteodystrophy

5- Primary hyperparathyroidism

Q630. Which ONE of the following findings in an elderly man with pain in the back and known prostatic carcinoma suggests a diagnosis of Paget's disease rather than metastatic disease?

1- Mixed sclerotic and lytic lesions on X-ray

**2- Serum alkaline phosphatase activity five times the upper limit of normal**

3- Hypercalcaemia

4- Serum prostate-specific antigen (PSA) 8 ng/l

5- Increased serum concentration of

Q631. A patient has been complaining of a 2-month history of intermittent flush associated with tachycardia and wheezing. There have also been episodes of profuse watery diarrhoea. Given the suspected diagnosis, what would be the most appropriate investigation?

1- Dexamethasone suppression test

2- Urinary catecholamine collection

**3- Urinary 5-hydroxyindoleacetic acid collection**

4- Abdominal ultrasound

5- 24-hour ambulatory blood pressure

Q632. A 46-year-old magazine columnist is referred by her general practitioner (GP) complaining of tiredness and lethargy. There has been no weight loss. The GP found her serum sodium to be 128 mmol/l (137-144) and 130 mmol/l on two occasions (with a normal creatinine and normal glucose concentrations), and ordered a chest X-ray. This was reported as showing a small area of increased radiodensity in the right lung apex. Paired plasma and urine osmolalities are 255 mosmol/kg (285-295) and 148 mosmol/kg (50-1200) respectively. Which is the most likely diagnosis?

1- A tumour of the posterior pituitary

2- Diabetes insipidus

3- Ectopic antidiuretic hormone (ADH) hypersecretion

**4- Hysterical polydipsia**

5- Pseudohyponatraemia

Q633. A 72-year-old woman recently diagnosed as having hyperparathyroidism has a serum calcium concentration of 3.2 mmol/l. What is the most appropriate treatment?

**1- Surgery**

2- Long-term observation with regular blood tests

3- Long-term bisphosphonates

4- Hormone replacement therapy

5- Do further tests to see if there is end-organ

Q634. A 61-year-old patient with a history of recent thyrotoxicosis underwent major surgery a week ago. He now presents with altered mental status, tachycardia, high-grade fever, vomiting and cardiac failure. A diagnosis of thyroid storm (crisis) is made. What is the most important next step in management?

**1- Transfer the patient to ITU**

2- Avoid chlorpromazine in the treatment of agitation

3- Avoid carbimazole treatment

4- Potassium iodide should be given immediately before propylthiouracil

5- Peritoneal dialysis should be started

Q635. A 54-year old woman is seen for the first time in the diabetes clinic. She is obese, plethoric and has marked bruising on her limbs and fresh striae over her abdomen. She has a dorsal kyphosis following a vertebral collapse earlier in the year. Which of the following results will help to pinpoint the diagnosis if you suspect Cushing's syndrome secondary to adrenal adenoma?

1- Normal 0900-h serum cortisol level

2- Serum potassium of 2.2 mmol/l

3- 0900-h serum cortisol of 200 nmol/l after overnight dexamethasone test

4- Raised urine cortisol/creatine ratio

**5- Undetectable serum ACTH level**

Q636. A 25-year-old woman develops thyroid dysfunction within 4 weeks after delivery. What would make a diagnosis of postpartum thyroiditis most likely?

**1- It is more likely if thyroid peroxidase (TPO) antibodies are positive**

2- When followed up, most patients have lifelong hypothyroidism

3- If there is no association with type-1 diabetes mellitus

4- The known prevalence of this condition suggests a high likelihood

5- If it is associated with intense fibrosis of the

Q637. A 45-year-old man taking amiodarone for chronic AF develops thyrotoxicosis. What is the best first-line management for this patient?

1- Radioiodine

2- Lugol's iodine

**3- Antithyroid drugs**

4- Surgery

5- Corticosteroids

Q638. A 27-year-old woman on bromocriptine for microprolactinoma becomes pregnant. What is the most appropriate management advice?

1- Continue bromocriptine at the same dose

2- Visual field testing to be done every fortnight

3- Continuing bromocriptine would significantly increase congenital abnormalities

**4- Stop bromocriptine as soon as pregnancy is confirmed**

5- Needs cerebral magnetic resonance

Q639. Which of the following in a 64-year-old man with diabetes mellitus warrants urgent ophthalmology referral?

1- Background diabetic retinopathy

**2- Vitreous haemorrhage**

3- Cataracts

4- Drusen

5- Non-proliferative changes in the periphery

Q640. You are called to the psychiatric unit to see an 18-year-old woman with anorexia nervosa. What would you expect to see in the results of her biochemical investigations?

1- Raised LH, FSH

**2- Elevated circulating cortisol**

3- Low resting growth hormone levels

4- Increased GnRH

5- Normal oestrogen levels

Q641. A 25-year-old woman presents with a lump on the left-hand side of her neck in the thyroid region. Thyroid function is normal, and uptake scanning reveals it to be a cold nodule. Fineneedle aspiration biopsy reveals architecture suspicious of follicular carcinoma of the thyroid. Which of the following is the most appropriate management plan?

1- Resection of the thyroid nodule

2- Sub-total thyroidectomy

3- Total thyroidectomy

**4- Total thyroidectomy with oral thyroxine therapy**

5- Radioiodine therapy

Q642. What is the best time to initiate HRT in a postmenopausal women to prevent osteoporosis?a

1- 75 years and above

2- When she develops a fracture

**3- Soon after the menopause**

4- In a woman with previous fractures

5- No specific time

Q643. What is the commonest cause of death in patients with von Hippel-Lindau disease?

1- Cerebellar haemangioblastoma

**2- Renal carcinoma**

3- Retinal tumours

4- Myocardial infarction

5- Phaeochromocytoma

Q644. A 30-year-old man arrives in A&E in an unconscious state. His initial blood glucose reading by monitor is 2.1 mmol/l. What is the most important immediate management of this patient?

1- Oral glucose

2- Mannitol

**3- 50% glucose into a large vein after first taking a blood sample**

4- 10 mg glucagon im

5- Check his serum ethanol concentration

Q645. A 28-year-old man presents with erectile dysfunction. What is the commonest cause in this age group?

1- Alcohol

2- β-blockers

3- Diabetes mellitus

**4- Psychological factors**

5- Testicular tumour

Q646. A 67-year-old man is admitted with a 6-week history of proximal muscle weakness. He has been having difficulty climbing stairs and getting up from a sitting position in a chair. He is a lifelong smoker and alcohol intake is 30 units per week. Which of the following results is most likely to point to a diagnosis?

**1- Abnormal liver function tests and macrocytosis**

2- A suppressed 0900-h serum cortisol level after an overnight dexamethasone suppression test

3- Hypercalcaemia

4- Low serum Vitamin B12 level

5- Elevated TSH and normal free-thyroxine

Q647. A 51-year-old man presents with weight loss and is found on examination to have hepatomegaly. He has facial telangiectasia. Urinary 5-HIAA levels are found to be elevated. Given the diagnosis of carcinoid syndrome, which additional clinical feature is the most likely to be present?

1- Abdominal pain

**2- Diarrhoea**

3- Hypertension

4- Skin rash

5- Wheezing

Q648. A 41-year-old heavy smoker presents with a serum sodium level of 112 mmol/l. A diagnosis of SIADH is confirmed. What is the most appropriate initial management of his fluid balance?

1- Immediate normal saline infusion

**2- Fluid restriction**

3- Desmopressin

4- Glucocorticoids

5- Perform fluid deprivation test

Q649. A 54-year-old man with long-standing type-2 diabetes presents for review. He has a history of hypertension, a 20 cigarettes per day smoking habit; recent Hb A1c results have averaged 8.9%. He wore deck shoes without socks on a recent holiday in Spain, and his wife noticed a large ulcer over the big toe on his left foot. On examination there is obvious loss of sensation, probing of the depth of the ulcer elicits no pain. His foot appears warm with a bounding dorsalis pedis pulse, and there is some toe clawing. What is the likely cause of his ulcer?

1- Simple trauma with no underlying pathology

2- Peripheral vascular disease

**3- Local trauma combined with diabetic neuropathy**

4- Vasculitis

5- Self-neglect

Q650. A 34-year-old woman with a long history of type-1 diabetes, microalbuminuria and diabetic eye disease presents for review. She has been amenorrhoeic for 12 months and recent pregnancy tests have been negative. She has a healthy 1-year-old child but suffered a postpartum haemorrhage just after his birth. Over the past few months she has also been increasingly tired and has noticed thinning of her pubic and axillary hair. On examination she is slim and pale, with small breasts and thin or largely absent pubic and axillary hair. ACTH, FSH, LH are all low, with TSH just below the normal range. MRI of the pituitary gland reveals an empty sella. What diagnosis fits best with this clinical picture?

1- Prolactinoma

2- Weight-related pituitary failure

3- Polyglandular syndrome

**4- Sheehan’s syndrome**

5- Metastatic carcinoma

Q651. A 23-year-old woman is admitted to the Casualty department from her office, for the third time in the space of 2 months, after having suffered a syncopal attack. On questioning she admits to feeling very tired over the past few months and being dizzy on a number of occasions. On examination she looked slim and tanned, her blood pressure was 110/70 mmHg lying, but dropped to 85/65 mmHg on standing. ACTH is markedly raised, free thyroxine is below the lower limit of normal and cortisol is low. Which diagnosis fits best with the clinical picture?

1- Hypothyroidism

**2- Primary hypoadrenalism**

3- Psychiatric symptoms

4- Hypovolaemia

5- HIV

Q652. A 54-year-old publican is referred by his GP for endocrine assessment. He is obese with a BMI of 32 and has hypertension, which is poorly controlled on atenolol, ramipril and bendrofluazide. A recent fasting blood glucose test has revealed type-2 diabetes. On examination he looks cushingoid and is obese with a blood pressure of 150/95 mmHg. You order a 24-h urinary free cortisol estimation, which turns out to be just above the normal range. An overnight dexamethasone suppression test is also unremarkable. Which diagnosis fits best with this clinical picture?

1- Cushing’s disease

**2- Pseudo-Cushing’s**

3- Simple obesity

4- Essential hypertension

5- Primary aldosteronism

Q653. You are asked to review a 36-year-old man who has suffered a myocardial infarction. He is a non-smoker with no past history of note and is not diabetic. On admission his total cholesterol was 10.2 mmol/l, with triglycerides just above the normal range, normal HDL and markedly raised LDL cholesterol. His father died of a myocardial infarction at the age of 43. What is the most likely cause of his raised cholesterol?

**1- Heterozygous familial hypercholesterolaemia**

2- Familial combined hyperlipidaemia

3- Familial hypertriglyceridaemia

4- Secondary hyperlipidaemia

5- Remnant hyperlipidaemia

Q654. A 28-year-old man presents with acute pancreatitis. He admits to occasionally drinking wine, but not to excess, and there have been no symptoms to suggest gallbladder disease. He suffered a left retinal vein thrombosis 2 years ago. Triglyceride concentration was estimated at 10 mmol/l, with normal HDL and LDL levels. What is the most likely cause of his clinical presentation?

1- Secondary hyperlipidaemia

2- Familial hypercholesterolaemia

**3- Familial hypertriglyceridaemia**

4- Hypolipidaemia

5- Abetalipoproteinaemia

Q655. A 54-year-old thyrotoxic man has been treated with radioiodine. What is the best advice for the patient during the post-radioiodine period?

1- Antithyroid drugs should never be taken after radioiodine treatment

**2- He should not have close contact with children under the age of 11 years for about 2 weeks after treatment**

3- There is no need to monitor his TSH level

4- He will never need further doses of radioiodine

5- He may have close contact with children

Q656. A 56-year-old lifelong smoker presents to his GP with a history of cough, breathlessness and weight loss. A chest X-ray is abnormal with a mass at the right hilum. Which of the following results is most likely to suggest the tumour is a small-cell lung tumour?

1- Serum calcium of 3.3 mmol/l

**2- Serum sodium of 123 mmol/l**

3- Serum potassium of 5.5 mmol/l

4- Plasma osmolality of 335 mOsm/kg

5- Urine osmolality of 145 mOsm/kg

Q657. A 58-year-old woman presents with fever, marked anxiety and agitation, palpitations, marked muscle weakness and diarrhoea. On examination she has a goitre, and is in fast atrial fibrillation with a ventricular rate of 135 beats per minute. Urine testing reveals evidence of protein, white cells and red blood cells. Thyroid function testing reveals a TSH of < 0.05 mU/l. Which of the following diagnoses best fits this clinical picture?

1- Urinary tract infection

2- Paroxysmal atrial fibrillation

3- Hypothyroidism

4- Phaeochromocytoma

**5- Thyroid storm**

Q658. A 69-year-old woman presented via her GP with episodes of facial flushing and diarrhoea. An ultrasound scan revealed multiple hepatic lesions, and a 24-h urine collection revealed an elevated 5-HIAA. Unfortunately she did not consent to follow-up and next presented 2 years later. Her son noticed a gradual deterioration in her condition so that she appeared unable to cope at home. There was apathy, depression and the onset of mild confusion. The diarrhoea is still present at review, and now she appears to have photosensitive dermatitis, glossitis and angular stomatitis. What diagnosis fits best with her clinical picture?

**1- Pellagra**

2- Alzheimer's disease

3- Coeliac disease

4- Riboflavin deficiency

5- Thiamine deficiency

Q659. A 45-year-old woman is referred to the endocrine clinic by her GP for review. She has a body mass index of 35, hypertension and impaired glucose tolerance. By the time she visits you in clinic she has succeeded in losing 3 kg in weight. You decide to give her a trial of orlistat and behavioural therapy. Which of the following best describes the mode of action of orlistat?

1- Orlistat is a centrally acting appetite suppressant

**2- Orlistat is a pancreatic and gastric lipase inhibitor**

3- Orlistat reduces hepatic glucose production

4- Orlistat reduces insulin resistance

5- Orlistat is a b3-agonist

Q660. A 42-year-old man with long-standing HIV infection presents for review. He has been taking antiretroviral therapy for 5 years and has been relatively free of associated disease. You notice on examination that he appears to have lost subcutaneous fat on his arms, legs and face, and has increased deposition of fat around his abdomen. His lipids are also abnormal, with a raised triglyceride level and low HDL cholesterol. What is the most likely cause of this clinical picture?

**1- Antiretroviral-related lipodystrophy**

2- HIV wasting

3- HIV-associated malignancy

4- Likely gastrointestinal pathology

5- An inherited insulin-resistance syndrome

Q661. You are asked by the psychiatrists to review a 42-year-old woman who has long-standing bipolar disorder for which she takes lithium. During a recent inpatient stay she appeared to be drinking vast amounts of water and getting up many times in the night to urinate. Urea and electrolyte testing reveals elevated sodium and urea concentrations, suggesting possible mild dehydration. Water deprivation testing reveals a progressively rising serum osmolality to above 300 mOsm/kg, without increased urine osmolality. Blood glucose is normal. What is the most likely cause of this clinical picture?

1- Cranial diabetes insipidus

**2- Nephrogenic diabetes insipidus**

3- Psychogenic polydipsia

4- Diabetes mellitus

5- Syndrome of inappropriate ADH secretion

Q662. A 35-year-old woman is referred by her GP because of recurrent headaches. These tend to come on at times of stress or exercise and appear almost 'in a flash'. She also complains of intermittent palpitations and problems with sweating. He has tried her on a course of antidepressants, which only seemed to make her symptoms worse. Her 24-h urinary catecholamines are markedly raised. An MRI scan reveals a mass in the right adrenal medulla. Her blood pressure in clinic is 145/95 mmHg. What is the best management plan?

1- Urgent B-blockade

2- Urgent surgery

**3- Urgent a-blockade, then B-blockade if required, and surgery**

4- Observation

5- B-Blockade followed by urgent surgery

Q663. In which of the following coexisting medical conditions would prescription of the oral contraceptive pill (OCP) be acceptable?

1- Severe migraine

2- History of venous thrombosis

3- Liver disease

4- Pulmonary hypertension

**5- Hypothyroidism**

Q664. A 24-year-old man with learning difficulties presents for review. He complains of a sudden deterioration of vision in his left eye. His past history of note includes a deep vein thrombosis. On examination he appears tall and slim and almost marfanoid in appearance. He has a markedly elevated urinary homocysteine. Which enzyme defect is most likely to be responsible for this clinical picture?

1- Methylene tetrahydrofolate reductase

2- Histidase

3- Homogentisic acid oxidase

4- Branch-chain ketoacid dehydrogenase

**5- Cystathionine synthetase**

Q665. A 57-year-old woman is brought to A&E after sustaining a head injury. A skull X-ray shows there is no fracture, but that there is erosion of the anterior clinoid processes of the pituitary fossa, suggesting a pituitary tumour. Which of the following hormones is most likely to be being secreted in excess?

1- Adrenocorticotrophin (ACTH)

2- Follicle-stimulating hormone (FSH)

3- Growth hormone

**4- Prolactin**

5- Thyroid-stimulating hormone (TSH)

Q666. A 74-year-old man who is maintained on metformin for type-2 diabetes presents to the emergency department acutely unwell. He is in a shocked state, drowsy and confused. Blood testing reveals a metabolic acidosis with an anion gap of 24 mmol/l. Ketones are not significantly elevated and random blood glucose was 8.7 mmol/l. What is the mainstay of treatment for this condition?

1- Intravenous insulin therapy

2- 8.2% sodium bicarbonate

3- 1.26% sodium bicarbonate iv

4- 4.1% sodium bicarbonate iv and rehydration

**5- Rehydration**

Q667. A 31-year-old man is referred to the local hypertension clinic because of recently discovered hypertension that is labile and difficult to control. Which of the following features is most likely to suggest a genetic/familial syndrome is the cause for his hypertension?

1- Serum potassium level of 3.9 mmol/l

2- Random blood glucose level of 9 mmol/l

3- A serum calcium level of 1.5 mmol/l

**4- A family history of unexplained death in childbirth**

5- A family history of papillary thyroid

Q668. A 54-year-old type-2 diabetic man presents for review. Which of the following laboratory test results would be most significantly associated with an increased incidence of cardiovascular disease in his case?

**1- Raised proinsulin levels**

2- Decreased proinsulin levels

3- Normal or decreased LDL cholesterol

4- Increased HDL cholesterol levels

5- Increased triglyceride level to 10% above

Q669. You are reviewing a 52-year-old woman who has a history of type-1 diabetes, autoimmune thyroid disease and coeliac disease. Her daughter has been researching autoimmune disease on the Internet and has been learning about the association between certain HLA types and disease. Which of the following HLA subtypes is most strongly associated with autoimmune thyroid disease or type-1 diabetes?

1- HLA-B47

2- HLA-B27

**3- HLA-DR3**

4- HLA-A28

5- HLA-DR7

Q670. An obese 48-year-old woman visits the endocrine clinic. Screening for endocrine disease, including diabetes mellitus, hypothyroidism and Cushing's disease, is negative. She asks for dietary advice, particularly about her fat intake. Which of the following is the best advice to give her concerning her fat intake?

1- Total fat intake should be restricted to less than 40% of total dietary energy

2- Saturated fats should provide no more than 5% of dietary energy

3- Monounsaturated fats should provide around 6% of dietary energy

4- Polyunsaturated fats should provide around 3% of dietary energy

**5- Total fat intake should be restricted to less**

Q671. Which of the following is the most likely longterm consequence of the menopause?

1- Decreased thrombotic tendency

2- Less likelihood of developing ischaemic heart disease (IHD)

**3- Increased possibility of developing Alzheimer's dementia**

4- Increased bone mineral density (BMD)

5- Increased insulin sensitivity

Q672. You are asked by the respiratory physicians to see a 74-year-old man who has been admitted from A&E with an abnormal chest X-ray. There is a history of 40 years of cigarette smoking. He is noted to have a markedly raised corrected calcium level of 3.25 mmol/l. Apart from a mildly raised urea level due to dehydration, his other renal function testing is normal. He also has a normochromic normocytic anaemia with a haemoglobin of 10.0 mg/dl. What is likely to be the underlying cause of his hypercalcaemia?

1- Primary hyperparathyroidism

2- Secondary hyperparathyroidism

3- Tertiary hyperparathyroidism

4- Pseudo-hyperparathyroidism

**5- Raised parathyroid hormone-related**

Q673. A 35-year-old woman, with a strong family history of breast cancer, visits you because she is keen to start on tamoxifen for breast cancer prophylaxis. Which of the following statements best describes the mode of action of tamoxifen?

1- It is a progesterone-receptor agonist

2- It is a progesterone-receptor antagonist

3- It is an oestrogen-receptor agonist

4- It is an oestrogen-receptor antagonist

**5- It is a mixed oestrogen-receptor antagonist**

Q674. A 19-year-old student nurse was admitted after her third collapse in recent months. She was noted to have a blood sugar of 0.9 mmol/l on finger -prick testing and responded well to intravenous glucose therapy. Venous blood taken at the same time as obtaining venous access showed a markedly raised insulin level, but her C-peptide levels were normal. What diagnosis fits best with this clinical picture?

1- Insulinoma

2- Glucagonoma

3- Occult administration of sulphonylureas

**4- Self-administration of a short-acting insulin**

5- Type-1 diabetes

Q675. A 35-year-old woman visits you in the paediatric diabetes clinic with her 2-year-old son who has recently developed type-1 diabetes. He has an identical twin brother and she is concerned about his risk of developing diabetes. What advice would you give regarding his future risk?

1- He has a 100% future risk of developing type-1 diabetes

2- A trial of low-dose insulin in the unaffected child will reduce his future risk of diabetes

3- GAD antibodies in the unaffected child are not predictive of the risk of diabetes

**4- He has a 30-50% future risk of developing type-1 diabetes**

5- IA-2 antibodies in the unaffected child are

Q676. You are reviewing a 45-year-old man who has type-2 diabetes. He works a varying shift pattern as a taxi driver and has not tolerated metformin therapy due to gastrointestinal side-effects. You decide that the postprandial glucose regulator nateglinide is the most appropriate therapy choice. Which of the following best describes the mode of action of nateglinide?

1- It acts by reducing hepatic glucose output

2- It acts by reducing peripheral insulin resistance

3- It acts by closure of b -cell calcium channels

**4- It acts by closure of the b-cell K-ATP channel**

5- It prevents the gastrointestinal absorption

Q677. A 74-year-old man is admitted to A&E in an acute confusional state. His serum sodium concentration is 105 mmol/l and because he has heavily nicotine-stained fingers, SIAD is suspected. Which of the following biochemical findings best supports this diagnosis?

1- Random plasma cortisol concentration of 548 nmol/l

**2- Random urine osmolality of 380 mmol/kg**

3- Random urine sodium concentration of 72 mmol/l

4- Serum osmolality of 230 mmol/kg

5- Serum urea concentration of 2.1 mmol/l

Q678. A 25-year-old woman presents to a reproductive endocrinology clinic with a history of being unable to conceive after 2 years of using no contraception. It is thought she may have polycystic ovarian syndrome. Which of the following is most likely to be associated with this condition?

1- A 28 day menstrual cycle

**2- Elevated LH/FSH ratio**

3- Normal free-androgen index

4- Low levels of circulating insulin

5- Normal BMI (body mass index)

Q679. A 62-year-old woman undergoes subtotal thyroidectomy for goitre. Some 12-h postsurgery she calls the duty doctor and is found to be suffering from pins and needles in her hands and carpopedal spasm. An urgent corrected calcium level is found to be 2.1 mmol/l. What is the most likely cause of her hypocalcaemia and what is the long-term prognosis?

1- She is likely to have permanent hypoparathyroidism due to surgery

**2- Her hypocalcaemia is likely to be transient due to local trauma at the time of surgery**

3- Her hypocalcaemia is likely to be related to an acute fall in thyroid hormone concentration after thyroid gland removal and she will recover

4- Her hypocalcaemia is probably due to a fall in calcitonin after thyroidectomy

5- Her hypocalcaemia is probably due to

Q680. You are reviewing a 43-year-old woman who weighs 100 kg and has associated hypertension. She asks how much benefit she might derive from a weight loss of 10 kg. Which of the following pieces of advice is most accurate with regard to average risk reduction with this degree of weight loss?

1- Weight loss of 10 kg results in a 50% reduction in mortality

2- Weight loss of 10 kg results in a 5-mmHg fall in blood pressure

3- Weight loss of 10 kg results in a 20-mmHg fall in blood pressure

**4- Weight loss of 10 kg results in a 20-25% fall in total mortality**

5- Weight loss of 10 kg results in a 16%

Q681. A marfanoid-looking, 21-year-old man is referred by his GP for review. He has been suffering from acute headaches and panic attacks and is unable to continue his course work at university. On examination his blood pressure is 148/98 mmHg and you notice a number of neuromas around his lips. His 24-h urinary catecholamine levels are raised. What diagnosis fits best with this clinical picture?

1- Multiple endocrine neoplasia (MEN)-1

2- Multiple endocrine neoplasia (MEN)-2a

3- Neurofibromatosis

**4- Multiple endocrine neoplasia (MEN)-2b**

5- Carcinoid syndrome

Q682. A 28-year-old pregnant woman is detected to have positive thyroid antibodies and is euthyroid. Which of the following potential consequences should the obstetrician warn of during early pregnancy?

**1- Higher risk of spontaneous abortions**

2- Increased risk of neonatal hypothyroidism

3- Increased risk of pregnancy-induced hypertension (PIH)

4- Increased fetal size

5- Increased risk of thyroid cancer in the

Q683. A 26-year-old woman presents with symptoms of flushing, diarrhoea and wheezing. After examination a clinical diagnosis of carcinoid syndrome is suspected. Which of the following tests would be the most sensitive marker for carcinoid syndrome?

1- Urinary 5-HIAA

2- Alkaline phosphatase

3- Echocardiography

**4- Plasma chromogranin A**

5- Plasma gut-hormone profile

Q684. What is the most appropriate investigation to confirm a diagnosis of acromegaly biochemically after initial screening?

1- Increased IGF-1

2- Random growth hormone (GH) assay

3- Insulin tolerance test

4- Thyroid function test

**5- Oral glucose tolerance test (OGGT) with**

Q685. An 18-week pregnant woman presents to hospital with failure to gain weight, hyperemesis and persistent tachycardia. She is found to be thyrotoxic. Which of the following is the best management step?

1- Radioiodine

2- Immediate surgical referral

3- Block-and-replace regime

**4- Propylthiouracil**

5- Observe and wait for normalisation

Q686. A 34-year-old woman presents with 4-month history of anorexia and weight loss, excess pigmentation and dizziness on standing. Initial investigations reveal hyponatraemia and hyperkalaemia. Which of the following tests will be most useful to confirm the diagnosis?

1- ESR

2- Thyroid function tests

3- Serum urea

**4- Short Synacthen test**

5- Serum calcium

Q687. A 72-year-old man with a long history of COPD was admitted with pneumonia. Prior to admission he had become increasingly confused. On examination he was drowsy, had a BP of 142/75 mmHg and was clinically euvolaemic. Chest auscultation was consistent with pneumonia. Blood biochemistry investigations revealed Na 121 mmol/l, K 3.9 mmol/l, urea 2.4 mmol/l, creatinine 64 m mol/l and glucose 4.2 mmol/l. Plasma osmolarity was 261 mOsmol/kg, and thyroid function testing was normal. Urine testing revealed an osmolality of 560 mOsmol/kg and a sodium concentration of 55 mmol/l. What was the most likely cause of his hyponatraemia?

1- Addison's disease

2- Renal failure

3- Cardiac failure

4- Cirrhosis

**5- Syndrome of inappropriate ADH secretion**

Q688. You are referred a 15-year-old girl from a family of travellers who has never previously attended medical care. Her mother is concerned that she has short stature and is still to commence her periods. On examination she is clearly below the 50th centile for height. She appears to have excess skin around her neck, and has poor development of secondary sexual characteristics. There is a murmur suggestive of aortic stenosis. Chromosome analysis reveals a 45 X:0 picture. What diagnosis fits best with this clinical picture?

1- Noonan's syndrome

**2- Turner's syndrome**

3- Testicular feminisation

4- Congenital adrenal hyperplasia

5- Congenital lymphoedema

Q689. A 51-year-old man presents to A&E with altered consciousness, his blood pressure is 80/50 mmHg, his skin is pigmented and he has a past history of Hashimoto's thyroiditis. His family say he has been tired for several months and has been losing weight and complaining of abdominal pain. Which of the following results is most likely to be found on investigation?

1- Laboratory glucose level of 12.3 mmol/l

**2- Serum sodium level of 116 mmol/l**

3- Peaked T-waves on ECG

4- Serum potassium level of 2.4 mmol/l

5- Serum urea level of 3.2 mmol/l

Q690. You are asked to urgently review a 58-year-old woman who presents with a slowly enlarging hard mass in the anterior neck. Thyroid ultrasound reveals infiltration, and biopsy does reveal dense infiltration of the gland. Free T4 is low and her TSH is markedly raised, consistent with hypothyroidism. Thyroid autoantibodies are negative. Which of the following is the most likely diagnosis given this clinical picture?

**1- Riedel's thyroiditis**

2- Thyroid carcinoma

3- Hashimoto's thyroiditis

4- Grave's disease

5- Toxic multinodular goitre

Q691. A 45-year-old man presents for review at the type-2 diabetes clinic. He is on maximal metformin and his Hb A1c is still 7.8%. You elect to add in a peroxisome proliferatoractivated receptor (PPAR)-gamma agonist, pioglitazone. Which of the following best describes the mode of action of PPAR-g agonists?

**1- They act at the PPAR-g receptor site, promoting binding as a heterodimer with the retinoid X-receptor to DNA**

2- They bind to a promoter region of DNA as a heterodimer with the retinoid A-receptor

3- They act by reducing peripheral insulin sensitivity

4- They act by stimulating insulin output

5- They act via receptors at the cell surface

Q692. A 52-year-old woman is referred by the A&E department after attending with a Colles' fracture, the second in the last 3 years. She underwent a total hysterectomy at the age of 38 for carcinoma. Bone densitometry confirms osteoporosis. The calcium and parathyroid hormone assays are normal. Which of the following is the most likely concerning her underlying pathophysiology?

1- She has suffered predominantly cortical bone loss

2- She has probably suffered an equal mix of cortical and trabecular bone loss

**3- She has probably suffered predominantly trabecular bone loss**

4- Underlying hyperparathyroidism will have contributed

5- Underlying hypoparathyroidism will have

Q693. A 32-year-old aromatherapist is referred to the endocrine clinic for review. She has been suffering intermittent tachycardias and panic attacks. There is no significant past medical history. She takes a number of vitamin and mineral supplements, including kelp. On examination there are no eye signs and no goitre. TSH is < 0.05 mU/l and thyroid antibodies are negative. What is the most likely cause of her thyrotoxicosis?

1- Grave's disease

2- Toxic multinodular goitre

3- Solitary toxic nodule

**4- Excess iodine ingestion**

5- Excess TSH secretion

Q694. A 17-year-old student presents with intermittent weakness and feelings of tiredness. Her GP requested some blood tests and found her to have a potassium level of 2.8 mmol/l and a bicarbonate of 32 mmol/l. She is normotensive. You arrange a renin and aldosterone level, and both are elevated. Urinary calcium excretion is elevated. Urinary diuretic screen is negative. Which diagnosis fits best with this clinical picture?

1- Diuretic abuse

2- Gitelman's syndrome

3- Liddle's syndrome

**4- Bartter's syndrome**

5- Conn's syndrome

Q695. A 28-year-old man presents with hypertension that his GP is finding difficult to manage. There are a number of metabolic abnormalities and he is concerned about the possibility of Conn's syndrome. The blood picture is one of metabolic acidosis, hyperkalaemia and low renin and aldosterone levels. What diagnosis fits with this clinical picture?

**1- Gordon's syndrome**

2- Bartter's syndrome

3- Addison's disease

4- Conn's syndrome

5- Gitelman's syndrome

Q696. A 49-year-old woman presents complaining of fatigue and weight loss. She was successfully treated medically for a prolactinoma 3 years ago, and it is suspected that she might now have MEN-1. Which of the following underlying conditions is she most likely to have?

1- Medullar carcinoma of thyroid

**2- Parathyroid hyperplasia**

3- Pancreatic islet-cell tumour

4- Pituitary adenoma

5- Phaeochromocytoma

Q697. A 45-year-old woman is due to undergo a hysterectomy. She has a previous history of hypertension, headaches and panic attacks over the past few years. She currently takes ramipril for her blood pressure. The preoperative examination revealed a blood pressure of 150/85 mmHg, normal renal function and calcium concentration, an ECG showed mild LVH. Unfortunately during the operation, as the surgeon attempts to mobilise her uterus, her blood pressure rises to 210/110 mmHg, her pulse to 130 bpm and she suffers an acute myocardial infarction. What is the most likely cause of her intraoperative hypertension and myocardial infarction?

1- Essential hypertension

2- Occult coronary artery disease

**3- Undiagnosed phaeochromocytoma**

4- MEN-1

5- Renal artery stenosis

Q698. A 17-year-old young woman is referred to the endocrine clinic with primary amenorrhoea. She is of normal height and weight. She has moderate hirsutism. A male cousin was seen in the clinic at the age of 8 years with precocious puberty. What is the most likely cause for her primary amenorrhoea?

**1- Congenital adrenal hyperplasia**

2- Hyperprolactinaemia

3- Polycystic ovarian syndrome

4- Turner’s syndrome

5- Testicular feminisation syndrome

# Chapter 4 Infectious disease

Q699. A 49-year-old woman is referred to you by her GP for suspected chronic fatigue syndrome. Which one of the following features would suggest that this was an incorrect diagnosis?

**1- Dysphagia**

2- Frequent headaches

3- Memory impairment

4- Recurrent sore throats

5- Severe myalgia

Q700. A patient presents with hydrophobia, increased salivation, generalised spasms and increasing respiratory muscle paralysis. What is the most likely cause?

1- Tetanus

**2- Rabies**

3- Listeriosis

4- Actinomycosis

5- Herpes encephalitis

Q701. An HIV-positive patient recently returned from the tropics presents with severe diarrhoea (up to 30 times per day). What is the most likely cause?

1- Escherichia coli

2- Staphylococcus aureus

**3- Cryptosporidium**

4- Entamoeba histolytica

5- Salmonella

Q702. A 34-year-old coronary care nurse accidentally stabs himself with a used needle from a patient infected with the hepatitis C virus. He attends the occupational health department and asks for advice. Which would be the most appropriate next step suggested by the occupational health doctor?

1- Monthly hepatitis C antibody testing

**2- Monthly hepatitis C PCR testing**

3- 6 months' ribavirin therapy

4- 6 months' lamivudine therapy

5- 6 months of weekly interferon therapy

Q703. A 25-year-old man presents with 4 days of fever, retro-orbital pain and severe myalgia following travel to the Indian subcontinent. He has red eyes and a faint, blanching, maculopapular rash. A peripheral smear for malarial parasites is negative and his white cell count and chest X-ray are normal. What is the most likely diagnosis?

1- Malaria

2- Typhoid fever

3- Bubonic plague

**4- Dengue fever**

5- Tuberculosis

Q704. A 19-year-old female university student presents with fever and headache. On examination she is conscious but has neck stiffness. The cerebrospinal fluid Gram stain shows intracellular Gram-negative diplococci. The most probable diagnosis is?

**1- Meningococcal meningitis**

2- Haemophilus influenzae meningitis

3- Streptococcus pneumonia meningitis

4- Listeria monocytogenes

5- coli meningitis

Q705. A 22-year-old farm worker is admitted to hospital with a 2-day history of headache, fever, severe myalgia and a petechial rash. He is known to suffer from mild asthma, which is well controlled by inhaled steroids. He is jaundiced, has a tachycardia and has not passed urine for over 14 hours. His urea level is raised and liver function tests indicate hepatocellular damage. What is the most likely diagnosis?

1- Brucellosis

**2- Weil's disease**

3- Lyme disease

4- Rat-bite fever

5- Septicaemic shock

Q706. A 31-year-old man has just returned from a holiday to recuperate after the death of his partner. He has been suffering night sweats, a chronic cough and shortness of breath on exercise. Over the past 6 months he has lost a few kilograms in weight and suffered from intermittent diarrhoea. On auscultation the lung fields appear relatively clear. Laboratory testing reveals a relative lymphopenia, with the CD4 lymphocyte subfraction reduced at only 85/ mm3 (normal 200-800). There is desaturation on blood gas monitoring associated with exercise. Other blood tests reveal a raised lactate dehydrogenase level. Chest X-ray reveals diffuse pulmonary infiltrates. What diagnosis fits best with this clinical picture?

1- Tuberculosis

**2- Pneumocystis jiroveci pneumonia**

3- Histoplasmosis

4- Cryptococcosis

5- Mycoplasma pneumonia

Q707. A 45-year-old man of Sudanese origin is admitted with a history of low-grade fever for over 7 days. He migrated to the UK 1 year ago and has a past history of well-controlled asthma. His temperature chart shows that on some days there is a doubled rise in his temperature during 24 hours. Examination shows a massively enlarged spleen and mild hepatomegaly. His full blood count shows a mild microcytic and hypochromic anaemia along with granulocytopenia and thrombocytopenia. Which one of the following investigations will establish a diagnosis?

**1- Bone marrow aspirate**

2- Widal test

3- Xenodiagnosis

4- Examination of a wet blood film taken at night

5- Blood culture

Q708. A 10-year-old boy is complaining of pain in his right leg. He is pyrexial and a diagnosis of osteomyelitis has been made. Which of the following is the most likely pathogen?

1- Streptococcus viridans

**2- Staphylococcus aureus**

3- Cornybacterium diphtheriae

4- Neisseria meningitides

5- Brucellosis

Q709. A 33-year-old man has recently returned from a holiday in Pakistan. He is complaining of episodes of abdominal spasms followed by loose stools containing blood and mucus. Which one of the following pathogens is not likely to be causative of his disorder?

1- Entaemoeba histolytica

2- Shigella dysenteriae

3- Salmonella typhi

4- Campylobacter jejuni

**5- Schistosoma mansoni**

Q710. A 55-year-old man of no fixed address is admitted to the hospital because of selfneglect. A chest X-ray has shown bilateral apical cavitation and hyperinflated lung fields consistent with COPD. Sputum cultures have grown Mycobacterium avium complex (MAC). Which one of the following statements is correct?

1- Patient should be treated with a standard 6 months of anti-tuberculosis drugs

2- Patient should be notified within 1 week of diagnosis

3- Patient should be barrier nursed for 2 weeks

**4- This organism is most likely to affect patients with pre-existing lung disease**

5- Surgery has no role in management

Q711. A 19-year-old athlete was admitted to hospital after having been found wandering around in a confused state. His girlfriend is concerned that his behaviour has been very odd during the day. No illicit drugs are found on him. Clinically, he is disoriented and vague about his history but does admit to headaches. His temperature is high at 38.3°C. On review by the medical team, his level of consciousness deteriorated, his Glasgow Coma Score (GCS) being 11 out of 15. A CT scan of his head was normal. His CSF was clear, but the opening pressure was raised at 23 cmH2O. His CSF protein concentration was 0.9 g/l and the glucose level was normal. The CSF showed 300 white cells, mainly lymphocytes. No organisms were seen on Gram stain. The results of CSF PCR is awaited. Which one of the following treatments would you start immediately?

1- Intravenous benzylpenicillin

2- Anti-tuberculous therapy

3- Intravenous anti-fungal therapy

4- Intravenous steroid therapy

**5- Intravenous aciclovir**

Q712. A 60-year-old woman is convalescing in hospital following total right knee replacement surgery undertaken three weeks ago. She develops headache, chills and a fever of 39.2°C. On examination the right knee is red, hot and very tender. Synovial fluid aspirate reports the growth of Gram-positive cocci. Which one of the following is the MOST likely organism?

**1- Staphylococcus epidermidis**

2- Pseudomona aeruginosa

3- Streptococcus pneumoniae

4- Staphylococcus aureus

5- Haemophilus influenzae

Q713. A 33-year-old woman has returned from a holiday in Africa. She has been diagnosed as suffering from malaria due to Plasmodium falciparum. Which one of the following statements is FALSE?

**1- Following successful treatment, fever recurs due to persistence of the parasite in the liver**

2- Cough and mild diarrhoea are a common presentation

3- Splenectomy increases the risk of infection

4- Jaundice is usually due to haemolysis and hepatitis

5- The fever has no particular pattern

Q714. A 30-year-old man presents with an acute onset of pain and blurred vision of his right eye. On examination there is conjunctival injection and dendritic ulceration is seen on his cornea. What is the diagnosis?

**1- Herpes simplex virus keratitis**

2- Foreign body

3- Candida keratitis

4- Trachoma

5- Glaucoma

Q715. A 36-year-old woman presents complaining of a yellowish-green vaginal discharge that started 1 week ago. On examination her vagina is swollen and erythematous. What is the most sensitive diagnostic test?

1- Colposcopy

2- Blood cultures

3- Serology

**4- Vaginal fluid microspcopy and culture**

5- Vaginal pH test

Q716. A 36-year-old woman presents complaining of a yellowish-green vaginal discharge that started 1 week ago. On examination her vagina is swollen and erythematous. Given the likely diagnosis, what is the most appropriate treatment?

1- Ampicillin

2- Nystatin

**3- Metronidazole**

4- Fluconazole

5- Erythromycin

Q717. A 25-year-old homosexual man complains of a 9-day history of mucopurulent anal discharge, anal bleeding and pain while opening his bowels. What is the next step in the diagnosis?

1- Colonoscopy

2- Erythrocyte sedimentation rate

**3- Stained specimen microscopy**

4- Specimen culture

5- C-reactive protein

Q718. A 25-year-old homosexual man complains of a 9-day history of mucopurulent anal discharge, anal bleeding and pain while opening his bowels. What is the most likely diagnosis?

1- Candidiasis

**2- Gonorrhoea**

3- Crohn's disease

4- Salmonella infection

5- Chancroid

Q719. A 29-year-old homosexual man has been complaining of anal warts for the last 6 months. They have gradually increased in size and he has also noticed some fresh blood when opening his bowels. On examination there are grey lesions, approximately 5 mm in size, around his anus. What is the most likely cause for these lesions?

**1- Human papillomavirus**

2- Neisseria gonorrhoea

3- Candida albicans

4- Human immunodeficiency virus

5- Chlamydia trachomatis

Q720. You are asked to review a 54-year-old asylum seeker from Eastern Europe. He has suffered a cough and weight loss of some 14 kg over the past few months. He admits to occasional night sweats. He is a heavy smoker of some 40 cigarettes per day. Blood testing reveals that he is HIV-positive. Chest X-ray reveals multiple calcified lymph nodes, fibrosis and hilar retraction. Initial sputum culture is unremarkable. What is the most likely diagnosis in this case?

1- Bronchial carcinoma

2- Sarcoidosis

3- Silicosis

**4- Pulmonary tuberculosis**

5- Histoplasmosis

Q721. A 45-year-old business traveller noticed some moderate diarrhoea 3 days after he arrived in Korea. The diarrhoea lasted for 4 days. What is the most likely cause for his diarrhoea?

1- Legionella

2- Staphylococcus

**3- Enterotoxic Escherichia coli**

4- Giardia lamblia

5- Entamoeba histolytica

Q722. A 32-year-old man from Uganda is referred to hospital with a high eosinophil count by his GP following routine blood tests. He is entirely asymptomatic and has no past medical history of note. Which of the following organisms is LEAST likely to be responsible?

1- Strongyloides stercoralis

2- Wuchereria bancrofti

3- Schistosoma mansoni

4- Schistosoma haematobium

**5- Entamoeba histolytica**

Q723. A 29-year-old Catholic priest returns from a trip to Brazil with fevers and deranged LFTs. He has an ALT of 2500 U/l and bilirubin of 75 mmol/l. He attended a travel clinic and was vaccinated prior to travel. He also took mefloquine malaria prophylaxis. What is the most likely diagnosis?

1- Malaria

2- Hepatitis A

3- Hepatitis B

**4- Hepatitis E**

5- Dengue fever

Q724. A 30-year-old man presents with an acute onset of pain and blurred vision of his right eye. On examination there is conjunctival injection and dendritic ulceration is seen on his cornea. Given the likely diagnosis, what is the most important treatment?

1- Topical steroids

**2- Topical aciclovir**

3- Ampicillin ointment

4- Topical nystatin

5- Oral fluconazole

Q725. A young homosexual man contacts his GP complaining of a short episode of lethargy, fever and swollen neck glands. HIV infection is diagnosed. Which is the most likely cell receptor through which the virus infects the body?

1- CD13

**2- CD4**

3- CD8

4- CD2

5- CD28

Q726. A 49-year-old man presents with an episode of acute self-limiting hepatitis. Hepatitis A is diagnosed. What is the most likely mode of transmission?

1- Sexually

2- Blood transfusion

3- Needle-stick injury

**4- Contaminated food**

5- Mosquitoes

Q727. A 46-year-old patient has been chronically infected with the hepatitis B virus for the last 8 years. He has an increased risk of developing which disease?

1- Coronary artery disease

2- COPD

3- Pancreatic cancer

**4- Hepatocellular cancer**

5- Malignant melanoma

Q728. A 33-year-old homosexual patient who is HIV positive but in the stable phase of the disease is best monitored with which biomarker?

1- C-reactive protein

**2- CD4 lymphocyte count**

3- Erythrocyte sedimentation rate

4- Polymerase chain reaction

5- Blood cultures

Q729. An 18-year-old woman has been diagnosed with human papillomavirus infection. What is the most significant long-term risk following this infection?

1- Coronary artery disease

2- Endometriosis

3- Infertility

**4- Cervical cancer**

5- Carcinoma of the endometrium

Q730. A 23-year-old man presents to his GP complaining of fevers, headache, malaise and muscle pain. Shortly after his return to the UK last week from a walking trip in the United States, he says he used a cigarette to burn off a tick on his leg. On examination he has a rash on the palms and soles of his feet. What diagnosis fits best with this clinical picture?

1- Infectious mononucleosis

**2- Rocky Mountain spotted fever**

3- Reiter's syndrome

4- Influenza

5- Typhoid fever

Q731. What is the cause of myocarditis caused by diphtheria?

1- Hypoxia

2- Superinfection with streptococci

**3- Toxins**

4- Massive bacteraemia

5- A virus

Q732. A 23-year-old woman presents to the Sexual Health Clinic. She had unprotected sex after an office party 4 days ago. She is currently taking antibiotics for a respiratory tract infection. There is intense difficulty passing urine, accompanied by burning, itching and pain over her labia. On examination there is a crop of vesicles with ulceration. What diagnosis fits best with this clinical picture?

1- Syphilis

2- Herpes zoster infection

3- Herpes simplex infection (HSV-1)

**4- Herpes simplex infection (HSV-2)**

5- Stevens-Johnson syndrome

Q733. A 38-year-old man presents some 3 weeks after a stag party weekend in Prague. He has developed a painless ulcer on his penis. You suspect that he may have syphilis. Which of the following percentages is the best estimate of how many untreated syphilis patients go on to develop late-stage CNS or cardiovascular complications?

1- 80%

2- 90%

3- 10%

**4- 30%**

5- 0%

Q734. An HIV-positive patient attends clinic. He is on his first antiretroviral regimen, which includes stavudine, DDI and nevirapine. He is well but complains of wasting of his temporal areas and arms with an increase in the size of his abdomen. You do some screening tests, the results of which are shown below: U&E normal; LFT normal; glucose 7.9 mmol/l; amylase 80 U/l; cholesterol 8.8 mmol/l; TGs 12.7 g/l; FBC normal; CD4 count 870 cells/mm3 ; HIV viral load < 50 copies/ml. Which advice is the most appropriate?

1- Stop the antiretroviral therapy and start atorvastatin 40 mg

2- Arrange a glucose tolerance test and start atorvastatin 40 mg

3- Switch the stavudine to abacavir and start atorvastatin 40 mg

4- Switch the nevirapine to nelfinavir and start pravastatin 10 mg

**5- Switch the stavudine to abacavir and start**

Q735. A 45-year-old Christian missionary returned from a tropical assignment in Central America 10 months ago. Since then he has undertaken no foreign travel. He presents with fever, malaise and rigors. On examination he has mild jaundice, liver tenderness and a palpable spleen. Blood testing reveals that he is anaemic. What infective agent fits best with this clinical picture?

1- Plasmodium falciparum

2- Plasmodium malariae

3- Tropical sprue

**4- Plasmodium vivax**

5- Plasmodium ovale

Q736. A 23-year-old man who lives with his male partner consults you for an opinion. He has suffered anal discharge and pruritis for the past 3 days. There are also some symptoms of dysuria. A urethral smear reveals intracellular diplococci. What is the most likely infective agent to fit with this clinical picture?

**1- Neisseria gonorrhoeae**

2- Chlamydia trachomatis

3- Treponema pallidum

4- Herpes simplex-type 1

5- Herpes simplex-type 2

Q737. A 36-year-old woman presents complaining of a yellowish-green vaginal discharge that started 1 week ago. On examination her vagina is swollen and erythematous. What is the most likely diagnosis?

1- Candidiasis

**2- Trichomoniasis**

3- AIDS

4- Papillomavirus infection

5- Lactobacilli infection

Q738. A 19-year-old student presented to his university GP complaining of a severe sore throat, headache and malaise. On examination there was a severe exudative pharyngitis with grossly enlarged inflamed tonsils. There was some evidence of cervical lymphadenopathy. He was diagnosed with a streptococcal infection and received a course of ampicillin. Unfortunately he re-presents to the GP with a maculopapular rash, still feeling unwell. Blood testing reveals a relative lymphocytosis with atypical lymphocytes. What is the most likely cause of this clinical picture?

1- Stevens-Johnson syndrome

**2- Epstein-Barr virus (EBV)**

3- Toxoplasmosis

4- Cytomegalovirus

5- Streptococcal pharyngitis

Q739. A 22-year-old man has returned from a period travelling, during which he visited central/subSaharan Africa. He presents to the GP complaining of urinary frequency, perineal itching and inflammation and also of painless haematuria. What diagnosis fits best with this clinical picture?

1- Infection with Schistosoma mansoni

2- Infection with Schistosoma japonicum

**3- Infection with Schistosoma haematobium**

4- Syphilis

5- Gonorrhoea

Q740. A 32-year-old woman has just returned from a holiday in the Middle-East. She had to spend much of the flight in the toilet and has been brought by ambulance from the airport. On admission she is severely dehydrated and gives a history of passing voluminous watery stools that look like rice water, mixed with mucus and blood. Blood testing reveals a raised haemoglobin, markedly raised urea and raised creatinine. Blood glucose is measured at only 3.1 mmol/l (normal 3.0-6.0). What diagnosis fits best with this clinic picture?

**1- Cholera**

2- Typhoid fever

3- Shigella

4- Salmonella

5- Amoebic dysentery

Q741. A 19-year-old student visits you complaining of fevers and headaches over the past week or two. She has just started university after a world tour during her gap-year. There is also complaint of muscle ache, a sore throat, general malaise and of a general lack of appetite and vague abdominal pain. She remembers a short period of diarrhoea a couple of weeks ago. On examination there are a few faint maculopapular blanching lesions on the chest. What diagnosis fits best with this clinical picture?

1- Malaria

2- Tuberculosis

3- Brucellosis

4- Amoebic liver abscess

**5- Typhoid fever**

Q742. A 32-year-old farmer's wife presents with fever and malaise, feeling generally 'washedout' and off her food. She has recently been helping out with lambing on the farm. On examination there is generalised lymph node swelling and a palpable liver edge. Her white blood cell count is just below the normal range. What diagnosis fits best with this clinical picture?

1- Tuberculosis

2- Subacute bacterial endocarditis

**3- Brucellosis**

4- Amoebic liver abscess

5- Mixed connective tissue disease

Q743. An epidemic of diarrhoea and vomiting has broken out on the elderly care wards. Your catering suppliers assure you that their food is unlikely to be responsible as they follow the strictest hygiene procedures. A total of 15 patients on the ward have become unwell with a sudden onset of diarrhoea and vomiting. Patients infected earlier have recovered with rehydration therapy after about 48 h. Examination of faeces by electron microscopy has revealed circular virus particles with radiating spokes. Which virus is most likely to be responsible for this outbreak?

1- Enteric adenovirus

2- Small, round-structured virus

3- Norwalk virus

4- Astrovirus

**5- Rotavirus**

Q744. A 19-year-old student is admitted directly to emergency after being taken ill on a return flight from Central America. It is understood that he was on the last leg of a round-theworld ticket. His vaccination history is unavailable. He had suffered a flu-like illness around 10 days ago, from which he had recovered. On examination in emergency he is pyrexial at 39.0°C, has extensive bruising, with bleeding around the gum line, and deep jaundice. What diagnosis fits best with this clinical picture?

1- Malaria

2- Influenza

3- Weil's disease

**4- Yellow fever**

5- Dengue fever

Q745. An 18-year-old student presents to his GP with a 1-day history of rash, which has followed a 3-day history of cold-like symptoms and conjunctivitis. The rash began as a maculopapular eruption in the postauricular region, but has rapidly spread to his face and upper body. On examination white papules are visible inside his mouth. What diagnosis fits best with this clinical picture?

1- Scarlet fever

2- German measles

**3- Measles**

4- Enterovirus infection

5- Adenovirus infection

Q746. A 17-year-old young woman is undertaking a summer placement at a nursery school before applying to study medicine. She has received a full programme of childhood vaccinations. Her main complaints are difficulty swallowing, sore throat, malaise and fever. On examination she has 5-10 grey ulcers on her buccal mucosa. There is also a vesicular rash affecting her hands and feet. What is the most likely cause of this clinical picture?

1- Erythema multiforme

2- Herpes simplex infection

3- Gonorrhoea

4- Pemphigus

**5- Coxsackievirus infection**

Q747. An 18-year-old woman complains of malaise, tiredness, headache and abdominal discomfort for the last 3-4 days. She was started on ampicillin 2 days ago and has developed a rash. She has lymphadenopathy and exudative tonsillitis. Her white cell count shows abnormal lymphocytosis. What is the most likely diagnosis?

1- German measles

2- Chickenpox

**3- Infectious mononucleosis**

4- Herpes simplex infection

5- Cytomegalovirus infection

Q748. Infection with which virus is the most frequent cause of blindness in patients with AIDS?

1- Herpes simplex virus

2- Varicella zoster virus

3- Epstein-Barr virus

**4- Cytomegalovirus**

5- Papillomavirus

Q749. A 70-year-old man known to have NIDDM was admitted with pain and swelling in the left ear and face. On examination the external ear is red, tender and swollen. There is a small amount of purulent discharge from the external auditory canal with crust covering the skin. The left side of the face is swollen, with tenderness over the left temporal bone. The primary microorganism most probably responsible for this infection is?

**1- Pseudomonas aeruginosa**

2- Staphylococcus aureus

3- Streptococcus pneumoniae

4- Listeria monocytogenes

5- Haemophilus influenzae

Q750. Which one of the following statements is true with regard to Legionnaires' disease?

1- Legionella pneumophila is a Gram-positive rod

2- The urinary antigen test for Legionella species has low sensitivity and is not particularly specific

3- The infection is generally confined to immunocompromised patients

4- The beta-lactam group of drugs are now regarded as the drug of choice against Legionella species

**5- Hyponatraemia occurs significantly more**

Q751. There are some important differences between the life-cycles of Plasmodium vivax and that of Plasmodium falciparum. From the list below, which one life-cycle stage occurs with P. vivax but not with P. falciparum infection?

1- Gametocytes

**2- Hypnozoites**

3- Schizonts

4- Sporozoites

5- Trophozoites

Q752. An 5-year-old boy is admitted with a temperature of 39.6°C and a rash consisting of numerous dusky pink macules and papules. He became unwell 6 days ago, when his mother noticed that he had a dry cough, red eyes and a temperature. The rash started 2 days prior to admission, appearing on his face initially, but then spreading to the trunk and limbs. He was in contact with a boy with a similar rash 10 days ago. There is no significant past medical history. He had not received all his childhood immunisations due to parental concerns regarding vaccine safety. Which one of the following is the likely cause of his rash?

1- Central retinal vein occlusion

**2- Measles virus**

3- Parvovirus B19

4- Rubella virus

5- Mumps virus

Q753. A 21-year-old student taking the oral contraceptive pill develops pain and soreness around the genitals. She has just completed an elective year in the USA. On examination there are multiple, shallow and tender ulcers at the skin and mucous membrane of the vagina. The most probable diagnosis is?

**1- Genital herpes**

2- Chancroid

3- Granuloma inguinale

4- Primary syphilis

5- Lymphogranuloma venereum

Q754. A 44-year-old woman who is taking oral prednisolone for a flare-up of her rheumatoid arthritis is planning a 6-week holiday to a remote jungle region of Latin America. She has completed her childhood vaccination programme, and received a polio booster 8 years ago. However, she has heard that she requires further travel vaccinations. Her travel agent has suggested the items below, but she is a bit concerned about the safety of these given her medical history. Which one of the following vaccines do you feel poses the greatest difficulty?

1- Polio

2- Hepatitis A

3- Tetanus

4- Typhoid Vi

**5- Yellow fever**

Q755. While inserting a central line, a medical SHO injures herself with a suture needle that had been used to stitch a patient with HIV infection. The injury is sufficient to draw blood. The patient is 45 years old and has been infected with HIV for 11 years. He has been compliant with therapy for several years and has recently changed his tablets because of alterations in his appearance. His last CD4 count was 350 cells/mm3 . The SHO is offered postexposure prophylaxis. Which regimen should she take?

1- AZT and lamivudine

**2- AZT, lamivudine, nelfinavir**

3- AZT, lamivudine, abacavir

4- AZT, lamivudine, DDI

5- AZT, lamivudine, stavudine

Q756. A 41-year-old bird-watcher goes on a beach holiday in The Gambia. She takes no malaria prophylaxis. On return to the UK she develops high fevers and self-medicates at home with LemsipآR. On presentation to hospital, she had a fever of 40°C and looked markedly unwell, with a pulse of 130 bpm and BP 90/50 mmHg. She was commenced on iv ceftriaxone and quinine in casualty. Despite this, she deteriorated rapidly, and after 2 hours is found to have a GCS of 3. Her blood film is reported as showing trophozoites and schizonts of Plasmodium falciparum with a parasitaemia of 20%. Which of the following is most important as the next step in the management of this patient, once her airway, breathing and circulation have been stabilised?

1- Urgent CT brain scan

**2- Blood glucose testing**

3- U&E laboratory testing

4- Commence a phenytoin infusion

5- Start chloroquine

Q757. A 52-year-old man wishes to commence therapy for chronic hepatitis C virus (HCV) infection. He wishes to take a regime which has the best chance of conferring sustained virological success. Which one of the following treatment options would you recommend?

1- interferon alone

**2- interferon with ribavirin**

3- Ribavirin alone

4- Ribavirin with lamivudine

5- Lamivudine alone

Q758. A 24-year-old man has just returned to the UK from backpacking in the Far-East. He feels tired and listless and has been suffering from diarrhoea during his last 2 weeks of travelling. He is pyrexial at 37.8°C and on examination there is abdominal tenderness, more marked in the right upper quadrant. Examination of the distal bowel reveals evidence of colitis. What diagnosis fits best with this clinical picture?

1- Ulcerative colitis

**2- Amoebiasis**

3- Shigella infection

4- Campylobacter infection

5- Tropical sprue

Q759. A 22-year-old cocktail waitress presents for review. She complains of excess vaginal discharge, which stains greeny-yellow on a pad, and pelvic pain on sexual intercourse. She currently has no regular partner. There is occasional bleeding after sexual intercourse. On examination the cervix is tender on bimanual palpation. What diagnosis fits best with this clinical picture?

**1- Cervicitis**

2- Cervical erosion

3- Cervical carcinoma

4- Cervical dysplasia

5- Uterine carcinoma

Q760. A 48-year-old oil executive has returned from a spell working out in the Middle East. He was keen to try out the local food and suffered some infections during his stay. He complains of abdominal bloating and diffuse vague tenderness and of diarrhoea, which is hard to flush away. He has had episodes of night sweats during a couple of nights in the past few weeks. On examination he looks tanned, and appears to have glossitis. Blood testing reveals megaloblastic anaemia. He is weighed and has lost 7 kg over the past 3 months. What diagnosis fits best with this clinical picture?

1- Coeliac disease

2- Amoebiasis

**3- Tropical sprue**

4- Crohn's disease

5- Whipple's disease

Q761. A 19-year-old student presents to his GP. For the past few days he has suffered from a lowgrade fever, sore throat, malaise and headache. Over the past 24-36 h he has experienced pain and swelling over his left parotid. He presents today as the right parotid has now become tender. He is having difficulty opening his jaw, and speaking in particular. What is the most likely diagnosis in this case?

**1- Paramyxovirus infection**

2- Bilateral parotid salivary stone formation

3- Cytomegalovirus infection

4- Influenza A

5- Sjögren's syndrome

Q762. You have been informed that an organism is growing in both the aerobic and the anaerobic blood-culture bottles that you obtained from a patient yesterday. A Gram-positive coccus has been isolated, which is growing in small clusters. On further laboratory testing, it is shown to cause the coagulation of fibrinogen to a fibrin clot when added to diluted plasma in a test-tube. What is the most likely organism?

1- Enterobacter cloacae

**2- Staphylococcus aureus**

3- Staphylococcus epidermidis

4- Streptococcus pneumoniae

5- Streptococcus pyogenes

Q763. A 44-year-old woman returned from India 4 days ago, and has been complaining of fever since her return. She also has generalised body aches and diarrhoea. Examination shows that, despite a temperature of 40°C, she has a bradycardia of 60 bpm. She also has a nonitching rash, which blanches on pressure on her upper abdomen. The spleen is palpable and is not tender. A full blood count shows a leucopenia. What is the most likely diagnosis?

1- Staphylococcal poisoning

2- Amoebiasis

**3- Typhoid fever**

4- Viral fever

5- Clostridium difficile infection

Q764. A 17-year-old, non-pregnant, asymptomatic woman with no past medical history is found to have 106 colony-forming units of Escherichia coli/ml urine on a routine healthcheck. What is the most appropriate management?

1- Treat with oral co-trimoxazole for 10 days

2- Treat with a single dose of oral trimethroprim

3- Investigate her renal tract

4- Treat with an intravenous antibiotic

**5- No antibiotics are indicated**

Q765. A 23-year-old ex-intravenous drug user is seen in the medical outpatients' clinic following a deep venous thrombosis 2 months ago for which he is on warfarin therapy. He has the following blood results: U&E, normal; Albumin, 39 g/l; ALT, 170 U/l; GGT, 20 U/l; LDH, 500 U/l; Bilirubin, 23 mmol/l; INR, 2.5; Hb, 13.3 g/dl; WCC, 4.2 x 109 /L; Platelets, 300 x 106 /l. You suggest that he should be screened for hepatitis B and C and HIV. The results subsequently come back as follows: HIV-1 and -2 antibody tests, negative; Hepatitis B core IgG, positive; Hepatitis B surface antigen, positive; Hepatitis B e antigen, negative; Hepatitis C IgG and PCR, negative. Which test is most likely to lead to the correct diagnosis?

**1- Hepatitis B DNA**

2- Hepatitis D test

3- VDRL

4- AFP

5- Abdominal ultrasound

Q766. Pyrazinamide is used as part of the combination therapy for tuberculosis. What is the most common side-effect of pyrazinamide?

**1- Hepatitic dysfunction**

2- Hyperuricaemia

3- Colour vision changes

4- Dizziness

5- Neurotoxicity

Q767. A patient is hospitalised with cavitary pulmonary tuberculosis. Combination chemotherapy is started and he is placed in isolation. Which of the following offers the best description of when isolation can be discontinued?

1- 2 weeks after onset of treatment

2- For the duration of treatment

**3- Until the patient shows clinical improvement and has three negative sputum samples**

4- If there is improvement on the chest X-ray

5- 3 months after onset of treatment

Q768. A young man presents with a round, slowly enlarging erythema on his thigh. He also complains of joint discomfort and fatigue. Lyme disease is suspected. What is the most appropriate laboratory test to confirm this diagnosis?

1- Erythrocyte sedimentation rate

**2- Anti Borrelia burgdorferi titre**

3- Antinuclear antibodies

4- Culture of joint fluids

5- Blood cultures

Q769. A 30-year-old man presents with fever, malaise, fatigue and sore throat. On examination there is pharyngitis, cervical adenopathy, hepatomegaly and a rash. AST and ALT are raised to twice the upper limit of normal. On direct questioning he admits having unprotected receptive anal intercourse with a new male sex partner 8 weeks ago. What is the most appropriate test to confirm your suspicion?

1- Dark-field examination

**2- ELISA and Western blot**

3- Fluorescent antibody

4- Complement fixation

5- CD4+ count

Q770. A 25-year-old female refugee has been complaining of a 6-week history of lymph node swelling on her neck. Serology for cytomegalovirus, toxoplasmosis and infectious mononucleosis are negative. A lymph node excision shows non-caseating granulomas, PCR is positive for Mycobacterium tuberculosis. After 4 weeks the lymph node culture is positive for Mycobacterium tuberculosis. What is the most appropriate therapy?

1- Await spontaneous recovery

2- Therapy depends on the tuberculin test

3- Isoniazid therapy for 6 months

**4- Isoniazid, rifampicin, pyrazinamide and ethambutol for 2 months followed by isoniazid and rifampicin for 4 months**

5- Isoniazid, rifampicin, pyrazinamide and

Q771. A 29-year-old patient with progressive HIV infection complains of a 5-day history of feeling unwell associated with diarrhoea, abdominal pain and vomiting. On examination he looks anaemic. He has elevated liver function tests and his CD4 lymphocyte count is 30/mm3 . What is the most important investigation to confirm the likely clinical diagnosis?

1- Liver ultrasound

2- CD4/CD8 lymphocyte ratio

**3- Blood cultures**

4- C-reactive protein

5- Polymerase chain reaction

Q772. A 52 year-old man has asked the practice nurse about the applicability of vaccines prior to taking a holiday abroad. He has a history of asthma and has required 20 mg of prednisolone therapy per day for the previous two months, which was recently increased to 40 mg during an exacerbation. Which one of following vaccinations would be contraindicated in this man?

**1- Yellow fever**

2- Diphtheria toxoid

3- Hepatitis B

4- Meningococcus

5- Tetanus toxoid

Q773. A middle-aged, highly motivated lawyer with active HIV infection is started on a combination regimen of antiviral drugs. If treatment failure occurs then what is the most likely cause?

1- Non-compliance

2- Drug toxicity

**3- Viral resistance**

4- Antibody formation

5- Infections

Q774. There is an outbreak of diarrhoea and vomiting on an acute surgical ward, initially affecting patients, but then rapidly also staff. What is the most likely agent?

1- Salmonella enteritidis

2- Clostridium difficile

**3- Norovirus**

4- Enterovirus

5- coli 0157:H7

Q775. A HIV-positive patient presents with watery diarrhoea, nausea, vomiting and fever. On examination he looks dehydrated. What is the most likely diagnosis?

1- Toxoplasmosis

**2- Cryptosporidiosis**

3- Salmonellosis

4- Pneumocystis infection

5- Ulcerative colitis

Q776. A sexually active 19-year-old Nigerian man presents with a 2-day history of small, painful ulcers on the glans penis and tender inguinal lymphadenopathy. What is the most likely diagnosis?

**1- Herpes simplex virus**

2- Lymphogranuloma venereum

3- Syphilis

4- Chancroid

5- Granuloma inguinale

Q777. A 55-year-old woman, born in Jamaica, has a fit and is found to have a positive Treponema pallidum haemagglutination assay (TPHA) and a negative venereal disease research laboratory (VDRL) test. She has never been treated for syphilis in the past. What is the best initial approach to management?

1- Look for scars of yaws and if present take no further action

2- Test husband

3- Treat with amoxicillin

**4- Perform lumbar puncture and test CSF**

5- Ask laboratory to run specific Treponema

Q778. A 19-year-old man, born and brought up in Nepal and now studying accountancy, attended the outpatients' clinic with a swelling in his neck. He has a history of fevers, night sweats and weight loss. An AFB stain from a fine-needle aspiration proved positive and he was commenced on quadruple antituberculous therapy. Now, 2 weeks later, his LFTs have become deranged with an ALT of 400 U/l and bilirubin of 50 mmol/l. What is the most important management step?

1- Liver ultrasound

2- Blood cultures

**3- Stop the TB medication**

4- HIV test

5- Give prednisolone

Q779. You review a 48-year-old man who presents with a bacterial infection. Which of following micro-organisms is generally sensitive to penicillin?

1- Bordetella pertussis

2- Cryptococcus neoformans

3- Mycoplasma pneumoniae

4- Legionella pneumophila

**5- Streptococcus pneumoniae**

Q780. A patient presents with an episode of diarrhoea followed by jaundice. What is the most likely pathogen?

**1- Hepatitis A virus**

2- E. coli

3- Salmonella

4- Mycobacterium tuberculosis

5- Staphylococcus

Q781. A 29-year-old woman returns from a trip to the jungles of northern Thailand with bodyache, severe myalgia and a rash which began on her limbs and has now spread to involve the trunk. She has fevers and night sweats which appear to return every 2 days. Malaria films are negative. What diagnosis fits best with this clinical picture?

**1- Dengue fever**

2- Malaria

3- Hepatitis A

4- Influenza

5- Yellow fever

Q782. A 45-year-old lady returns from South Africa with confusion and headache, but with no neck stiffness . She has a purpuric rash. Malaria prophylaxis using mefloquine was used. Which investigation is most important in this case?

1- Lumbar puncture

2- Computerised tomography (CT) scan

3- Multiple blood cultures

**4- Malaria films**

5- Blood glucose levels

Q783. A 20-year-old backpacker from Australia returns from a 3-month journey to Guatemala. She was fully vaccinated prior to travel and took malaria prophylaxis. She is vegetarian and ate mainly salads and fruit while on holiday. On her return, she has severe diarrhoea that has not responded to a course of ciprofloxacin and metronidazole. On examination she is dehydrated but relatively well and apyrexial. Which treatment is most likely to be effective?

1- Repeat ciprofloxacin and metronidazole

**2- Co-trimoxazole**

3- Paromomycin

4- Amoxicillin

5- Mebendazole

Q784. A 27-year-old heroin addict presents for review. He has lost weight over the past few months and complains of severe lethargy. Sputum is sent for review. Which of the following organisms in sputum may be associated with HIV infection?

**1- Cryptococcus**

2- Toxoplasma

3- Cryptosporidium

4- Microsporidium

5- Isospora

Q785. A 57-year-old lady who presented with gastrointestinal haemorrhage was transfused with 3 units of blood. A few weeks later she presents with jaundice and symptoms of hepatitis. You suspect an infectious agent; which of the following agents is most likely to be responsible?

1- Hepatitis B

2- Hepatitis E

3- Hepatitis C

4- Parvovirus

**5- Cytomegalovirus (CMV)**

Q786. A 32-year-old lady who admits to intermittent drug use in the past 4 months presents to her general practitioner (GP) with jaundice. Screening bloods reveal a hepatocellular type picture with a predominant rise in transaminases. Her antibody results are shown below: HBsAg + HBeAg - Anti-HBcAb + Anti-HBeAb + HCV RNA + Which of the following is the most likely cause of her jaundice?

1- Chronic hepatitis B infection

2- Acute hepatitis C infection

3- Chronic hepatitis C infection

4- Autoimmune hepatitis

**5- Acute hepatitis B infection**

Q787. A 38-year-old woman is referred to casualty with bilateral weakness in her legs. She also complains of general malaise. Three weeks previously she had returned from a four-week tour of Eastern Europe. On examination she appeared unwell and was pyrexial (38.9°C). She has large palpable cervical lymph nodes bilaterally. Her pharynx was inflamed with areas of exudate on the pharyngeal wall giving the appearance of a membrane. Neurological examination revealed global weakness of both legs and absent reflexes, as well as mild bilateral facial weakness. She also seems to have some palatal weakness although examination is difficult due to her neck swelling and pain. What diagnosis should be suspected?

1- Cytomegalovirus infection

**2- Diphtheria**

3- Epstein-Barr virus infection

4- Hodgkin's disease

5- Streptococcal tonsillitis

Q788. A 26-year-old traveller just returned from South America. He noticed several erythematous nodules all over his body. Some have a golden crust. What is the most likely diagnosis?

**1- Leishmaniasis**

2- Tuberculosis

3- Malaria

4- Loiasis

5- Infectious mononucleosis

Q789. A 17-year-old girl who started medical school 2 weeks ago presents with fever, confusion, hypotension (75/50) and a rapidly spreading purpuric rash over her whole body. What is the most appropriate investigation?

1- CT scan

2- Lumbar puncture

3- EEG

4- CRP

**5- Take an EDTA blood sample for PCR**

Q790. A 45-year-old man presents with fever and meningism. CSF shows an opening pressure of 28 cm, protein 0.8 g/l, glucose 4.5 mmol/l (blood glucose 6.2 mmol/l), 560 lymphocytes/mm3 . Which is the most likely organism?

**1- Herpes simplex type 2**

2- HIV

3- Listeria monocytogenes

4- Tuberculosis

5- Streptococcus pneumoniae

Q791. A 29-year-old HIV-positive Brazilian waiter presents with a 4-day history of increasing confusion, night sweats and falling to the right. A CT scan of the brain shows two 3-cm ring-enhancing lesions in the left cerebral hemisphere with surrounding oedema and midline shift. No other history is available as he is too confused. His neurological status is deteriorating steadily. Which is the most likely cause?

**1- Toxoplasmosis**

2- Tuberculosis

3- Herpes simplex virus infection

4- Brain metastasis

5- Brain tumour

Q792. An Australian backpacker returned to the UK 2 months ago following an extended trip to east and southern Africa. He now presents with fever, giant urticaria, a headache and bloody diarrhoea. Blood tests show an eosinophil count of 7 x 109 /L. What is the most likely infectious agent causing his illness?

1- Ascaris lumbricoides

2- Strongyloides stercoralis

3- Entamoeba histolytica

4- Giardia lamblia

**5- Schistosoma mansoni**

Q793. A 59-year-old concert violinist is admitted to hospital with a 4-day history of confusion, severe headache and high fevers. He has not travelled abroad recently other than to visit France where he bought red wine and Brie cheese to take home. He is otherwise fit and well and is married with three children. On admission, his temperature is 39°C and he is confused with an MMT of 6/10. There is neck stiffness and meningism. A CT brain is normal and a lumbar puncture reveals 400 white cells (mainly neutrophils). Blood cultures are reported as showing 'diphtheroids, likely contaminant'. What is the most appropriate antibiotic regimen?

**1- Aciclovir, ceftriaxone, ampicillin**

2- Aciclovir, ceftriaxone, doxycycline

3- Ceftriaxone, ampicillin, doxycycline

4- Aciclovir, pleconaril, ceftriaxone

5- Aciclovir, co-trimoxazole, ceftriaxone

Q794. A 38-year-old patient complains of fever, neck swelling, sore throat and mouth ulcers. His brother who lives with him has similar symptoms but refuses to come into hospital. On questioning he admits eating raw meat once a week. What is the most likely diagnosis?

**1- Anthrax**

2- Infectious mononucleosis

3- Candidiasis

4- Helicobacter pylori infection

5- Legionellosis

Q795. A 35-year-old woman returns from a 2-year work placement in West Africa. She has had numerous insect bites. She has oedematous, red, itchy lesions on her forearms. What is the most appropriate investigation?

**1- Blood film**

2- Ultrasound

3- Muscle biopsy

4- Blood cultures

5- CRP

Q796. At what CD4 count should anti-retroviral treatment commence in asymptomatic HIV patients?

1- Below 600/mm3

2- Below 400/mm3

**3- Below 250/mm3**

4- Below 100/mm3

5- Below 50/mm3

Q797. A 78-year-old alcoholic man presents with a 2- month history of cough with occasional haemoptysis, fever, night sweats and weight loss. Chest X-ray (CXR) shows extensive bilateral apical cavitation. What is the most likely diagnosis?

1- Lung cancer

2- Chronic pulmonary disease (COPD)

3- Asthma

**4- Tuberculosis**

5- Pneumonia

Q798. A 27-year-old Russian man is found to be sputum strongly smear positive for acidalcohol fast bacilli (AAFB). He has recently been released from a 5-year prison sentence in Russia where his tuberculosis (TB) was first diagnosed 2 years ago. Since diagnosis he has had a variety of short courses of treatment for TB, none successful. What is the most appropriate step?

1- Start ethambutol and streptomycin

2- Start immediate treatment with standard quadruple TB Rx

**3- Refer to expert microbiologist**

4- Start prednisolone

5- Arrange urgent out-patient appointment

Q799. A 26-year-old traveller just returned from South America. He noticed several erythematous nodules all over his body. Some have a golden crust. What is the mode of transmission?

1- Mosquitoes

**2- Sandfly**

3- Food

4- Sexually

5- Dogs

Q800. A patient presents with sudden onset of nausea and vomiting associated with watery diarrhoea. The diarrhoea intensified and now has rice watery character. What is the most likely diagnosis?

1- Diphtheria

**2- Cholera**

3- Tetanus

4- Ulcerative colitis

5- Salmonellosis

Q801. A 28-year-old farm labourer presents with an aching, stiff lower back and an inability to open his mouth fully. He subsequently suffers what is described as a generalised rigid spasm by the Accident and Emergency (A&E) staff. This was not associated with loss of consciousness, confusion or fever. He was treated with intravenous diazepam. You are unable to find anything additional on examination. What is the next most important step?

1- Broad-spectrum antibiotic treatment

**2- Immunoglobulin treatment**

3- Lumbar puncture

4- Brain CT scan

5- Call the police

Q802. A 23-year-old woman presents with fever, diarrhoea and myalgia. She currently has her menstruation. On examination her temperature is 40° C, blood pressure 90/50, pulse 140/min. What is the most likely organism responsible for the toxins?

**1- Staphylococci**

2- Streptococci

3- E. coli

4- Herpes simplex virus

5- HIV

Q803. A 35-year-old woman returns from a 2-year work placement in West Africa. She has had numerous insect bites. She has oedematous, red, itchy lesions on her forearms and complains of fever. Microfilariae of loa loa are found in the blood film. What is the most appropriate treatment?

1- Penicillin

2- Erythromycin

**3- Diethylcarbamazine**

4- Prednisolone

5- Quinidine

Q804. You are asked to examine some records from a number of elderly patients admitted on the medical take in the past 3 days. They have attended a convention for retired soldiers in a mountainous region of Spain. During the week they spent some time walking in the countryside. All the patients had symptoms of cough, shortness of breath, chills and diarrhoea. 4 of the patients appeared mildly confused on admission. The 6 patients had stayed at neighbouring hotels. Blood testing revealed mild hyponatraemia and elevated creatinine; in additon, microcopic haematuria was seen in 5 of the 6 patients. Which of the following infective organisms fits best with this clinical picture?

1- Mycoplasma pneumoniae

**2- Legionella pneumophilia**

3- Streptococcus pneumonia

4- Borrelia Burgdorferi

5- Chlamydia pneumoniae

Q805. Which is the best way to reduce methicillinresistant Staphylococcus aureus (MRSA) transmission?

**1- Hand washing**

2- Corticosteroids

3- Prophylactic antibiotics

4- Control of water temperature

5- Water disinfection

Q806. What is the best marker to monitor treatment response after subacute bacterial endocarditis treatment?

1- Blood cultures

2- White cell count

3- Echocardiography

4- Erythrocyte sedimentation rate

**5- C-reactive protein**

Q807. A 76-year-old lady is found to have gonorrhoea. She lives in a residential home and has profound dementia. What is the most appropriate action after treating her?

1- Send an official report to the residential home

**2- Discuss with your senior doctor**

3- Do nothing

4- Inform her partner

5- Call the police

Q808. A 19-year-old man visits his GP with a severe rash, which is identified as chickenpox. He wishes to fly to the United States on a skiing holiday and wants to know when he will be safe to fly. Which represents the best advice?

1- He is no longer infective 3 days after the first spot has appeared

2- He is no longer infective 1 week after the first spot has appeared

3- He is no longer infective 2 days after the last spot has appeared

4- He is no longer infective after 1 week

**5- He is no longer infective when all lesions**

Q809. A 26-year-old man is admitted to the Casualty Department from the airport, having just returned on a flight from Bangladesh. Around 1 hour before landing he collapsed after severe vomiting and diarrhoea on the plane. His travelling partner reports that he became ill 1 day before leaving Bangladesh with high volume, painless watery diarrhoea. Blood pressure is 95/60 mmHg and his pulse is 100/min and regular. Dark-field microscopy of a fresh stool specimen reveals Gram-negative bacilli. Given the likeliest diagnosis, which one of the following antibiotic choices would be most appropriate in the treatment of this patient?

**1- Ciprofloxacin**

2- Metronidazole

3- Amoxicillin

4- Co-trimoxazole

5- Co-amoxiclav

Q810. A 27-year-old man with a history of intravenous drug use was found to have abnormal liver function tests. Further work-up including serological tests for viral hepatitis show hepatitis B surface antibody (HBsAb) negative hepatitis B surface antigen (HBsAg) positive hepatitis B core antibody (HBcAb) positive hepatitis B e antibody (HBeAb) positive hepatitis B e antigen (HBeAg) negative hepatitis B DNA is negative Which of the following statements is true regarding this patient?

1- He is a chronic hepatitis B virus (HBV) carrier with high infectivity

2- He is in the incubation period of HBV

**3- He is a chronic HBV carrier with low infectivity**

4- He has recovered from HBV infection and is immune to HBV

5- He has chronic active hepatitis

Q811. A 29-year-old missionary is admitted to the Emergency Department suffering from a rash and fever with associated diarrhoea. She has been working in Bangladesh and has returned to the UK to visit relatives with her 8 week old baby. You make a diagnosis of Typhoid fever and wish to commence antibiotic therapy. Which of the following antibiotics is the best choice, bearing in mind that she wishes to continue breast feeding?

1- Olfloxacin

2- Co-trimoxazole

**3- Ceftriaxone**

4- Ciprofloxacin

5- Chloramphenicol

Q812. A child has been scratched by a cat and develops axillary lymphadenopathy. He has no fever. Which organism is most likely responsible for this?

**1- Bartonella henselae**

2- Staphylococcus aureus

3- Streptococcus pyogenes

4- Toxoplasma gondii

5- Pasteurella multicida

Q813. A 21-year-old student vet presents to the Emergency Department for review. She was forced to return early from an attachment on a farm. She has been feeling increasingly unwell, with a 10 day history malaise and bloody diarrhoea. Now she has noticed swelling of her legs, and petechial haemorrhages. On examination she was very pale with peripheral oedema and puffiness around her face. There was pulmonary oedema, tachycardia and elevated blood pressure at 165/95 mmHg. Investigations; Hb 8.2 g/dl White cell count 12.9 x 109 /L Neutrophils 7.9 x 109 /L Platelets 32 x 109 /L PT 11 sec APTT 34 sec Fibrinogen 4g/dl Sodium 140 mmol/l Potassium 6.0 mmol/l Urea 35 mmol/l Creatinine 420 µmol/l Albumin 25g/l Urine dipstick shows blood and protein Which of the following investigations is most likely to provide the diagnosis in this case?

1- Trans-oesophageal echocardiogram

**2- Stool culture**

3- Urine cytology

4- Renal tract ultrasound scan

5- Urine microscopy

Q814. A 25-year-old man presents to the GP with a history of severe diarrhoea which contained occasional flecks of blood. This was accompanied by unpleasant gripping abdominal pain. It came on some 6-7hrs after eating a rice based dish. He had eaten the food from a local Chinese takeaway. His flatmate had suffered similar symptoms after visiting the same takeaway a few days earlier and these resolved within a day. Which of the following is the most likely causative organism?

1- Salmonella

2- Shigella

3- Staphylococcus aureus

**4- Bacillus cereus**

5- Campylobacter

Q815. A 23-year-old from the Gambia presents with a 4-day history of fevers, headache and loose stools. He has not noticed any blood in his stools. His temperature is 38.5°C, there are no signs of meningism and his abdomen is diffusely tender. Blood tests reveal leucocytosis and thrombocytopenia with a CRP of 85 mg/l. What is the most important investigation to perform at this stage?

1- Blood cultures

2- Chest X-ray

3- Lumbar puncture

4- Stool microscopy for ova, cysts and parasites

**5- Thick blood film**

Q816. A 32-year-old man returns from a cruise on the river Nile in Egypt. During the trip he made a point of trying some local food from the various stops along the river. For a few days before coming home, and since his return he has suffered from diarrhoea which floats on the surface of the toilet bowl and is hard to flush away. He has also noticed that his abdomen feels very bloated, and the diarrhoea occasionally contains blood. His partner complains that he has increased flatulence that smells disgusting. A fresh stool sample is obtained which appears to contain some cysts. Which of the following represent the most likely infective cause?

**1- Giardia**

2- Salmonella

3- Shigella

4- Campylobacter

5- Staphylococcus aureus

Q817. A 44-year-old African woman presents to the clinic. She is known to be HIV positive, and has been visiting her son who is a student in the UK. He has attended the clinic with her as she has become increasingly tired, drowsy and intermittently confused over the past few weeks. Ophthalmoscopy reveals evidence of choroidoretinitis. Her CD4 count is noted to be 10/ mm3 (normal >500) Contrast CT Brain reveals ring enhancing lesions CSF reveals mononuclear pleocytosis and elevated protein Which of the following is the most likely diagnosis?

1- Tuberculous meningitis

2- CMV encephalitis

3- Pneumocystis jiroveci

4- Cryptococcal infection

**5- Toxoplasmosis**

Q818. A 29-year-old man is brought to the clinic by his girlfriend. He is a long term user of intravenous heroin. Over the past few days he has become confused and aggressive and has suffered a fit. Investigations reveal ring lesions on contrast CT scan, his CD4 count is 45/ mm3 (normal >500) and an HIV test is positive. You suspect he has toxoplasmosis. Which of the following is the most appropriate therapy for him?

1- Fansidar

**2- Sulphadiazine and pyrimethamine**

3- Clindamycin

4- Atovaquone

5- Azithromycin

Q819. An 18-year-old man presents to the Emergency Department with a history of painful urethral discharge and dysuria. It transpires he had sexual intercourse with a prostitute during a trip to Eastern Europe with friends. Gram staining of the discharge reveals gram-negative diplococci. Which of the following would be the most appropriate therapy in this case?

1- Oral oxytetracycline

2- Oral amoxicillin

3- Cefixime IM

4- Oral ciprofloxacin

**5- IM ceftriaxone**

Q820. A 20-year-old female patient who uses tampons has been diagnosed with toxic shock syndrome. Swabs from the cervical region have shown gram positive cocci. Blood culture results are awaited. There is no improvement after 24 h of intravenous treatment with flucloxacillin and benzylpenicillin. Which antibiotic should be given next?

1- Ciprofloxacin

**2- Clindamycin**

3- Gentamicin

4- Rifampicin

5- Vancomycin

Q821. A 30-year-old immigrant from India complains of fever, night sweats and backache. He also coughed up blood. What is the most likely diagnosis?

1- HIV

2- Infectious mononucleosis

**3- Tuberculosis**

4- Malaria

5- Pulmonary embolism

Q822. A 79-year-old lady in the respiratory unit presents with profuse, watery, greenish diarrhoea. A diagnosis of pseudomembranous colitis, related to her antimicrobial therapy is suspected. Which antibiotic is most likely to have caused this?

**1- Cefuroxime**

2- Doxycycline

3- Co-trimoxazole

4- Erythromycin

5- Flucloxacillin

Q823. A HIV-positive patient was admitted after having had a tonic-clonic seizure. Which finding favours infection with Toxoplasma sp. over Cryptococcus sp.?

**1- Mass on brain computerised tomography scan**

2- Cotton-wool spots

3- Serum Toxoplasma antibodies

4- CD4 count <80/mm3

5- Raised C-reactive protein

Q824. For how long after a splenectomy is a patient at increased risk of pneumococcal infection?

1- 6 months

2- 1 year

3- 5 years

4- 5-10 years

**5- >10 years**

Q825. A patient with acute myeloblastic leukaemia received 3 weeks of chemotherapy. He develops pyrexia and jaundice. Blood cultures are taken and intravenous antibiotics are started; however, he does not respond to therapy. What is the most likely diagnosis?

1- Fungal infection

**2- Cytomegalovirus infection**

3- Hepatic leukaemic deposits

4- Miliary tuberculosis

5- Toxoplasmosis

Q826. A 25-year-old soldier presents to A&E with a high fever, diarrhoea and vomiting. He returned from his recent posting to rural Sierra Leone 10 days ago and has become unwell over the last 24 hours. On admission he looks unwell and has a temperature of 39°C. He has a pulse rate of 110 bpm. Examination is otherwise unremarkable. What is the most appropriate next step?

1- Send samples for FBC, clotting, U&Es, LFTs and a malaria film to the lab

**2- Send samples for a malaria film to the lab**

3- Send the patient direct to Newcastle or the Royal Free hospital, London

4- Send samples for FBC, clotting, U&Es, LFTs, a malaria film and blood cultures to the lab

5- Send the patient home

Q827. A 40-year-old man who is normally entirely fit and well attends A&E with a sudden history of severe pain in his right thigh. His only medication is ibuprofen, which he has been taking after 'overdoing it in the gym'. His right lower limb is exquisitely tender and his thigh is slightly swollen. His temperature is 39°C and his blood tests reveal a white cell count of 25 x 109 /L, with a neutrophilia, and a CRP of 350 mg/l. His urea and creatinine are mildly elevated. What is the most appropriate management plan?

1- Doppler ultrasound of his right lower limb

2- MRI of his right lower limb

3- Blood cultures, start iv co-amoxiclav and admit to the ward for observation

**4- Phone the plastic surgeons**

5- CT chest, abdomen and pelvis

Q828. Which antigen is involved in the entry of Plasmodium vivax into red cells?

1- Anti-D

2- Anti-S

**3- Duffy**

4- Kell

5- Kidd

Q829. Which infection is now classified as an AIDSdefining illness in patients with HIV?

1- Aspergillus

2- Pseudomonas aeruginosa

3- Staphylococcus aureus

**4- Mycobacterium tuberculosis**

5- Burkholderia cepacia

Q830. A 15-year-old girl complains of a sore throat. A throat swab reveals diphtheria. What is the most appropriate action?

1- Examine the cerebrospinal fluid (CSF)

2- Blood cultures

3- Ceftriaxone

**4- Antitoxin**

5- Hydrocortisone

Q831. A nurse has a needlestick injury after taking blood from a patient known to be HIV positive. What is the most appropriate immediate management after hand washing for 10 minutes?

1- Continue hand washing for a further 20 minutes

**2- Antiretroviral therapy**

3- Test for hepatitis B and C

4- Blood cultures

5- Broad spectrum antibiotics

Q832. A patient is scheduled for an elective splenectomy. At least how long before the operation should pneumovax be given?

1- 1 day

2- 1 week

**3- 2 weeks**

4- 2 months

5- 3 months

Q833. Which organism produces the toxin that leads to impetigo?

1- Legionella

2- Herpes virus

3- Cytomegalovirus

**4- Staphylococcus aureus**

5- coli

Q834. A patient with HIV complains of visual impairment. On examination he has visual field defects. What is the most likely diagnosis?

**1- Cytomegalovirus retinitis**

2- Toxoplasmosis

3- Aspergillosis

4- Tuberculosis

5- Herpes keratitis

Q835. A 20-year-old white woman presents with jaundice and malaise of 2 weeks' duration. Her boyfriend had some form of hepatitis several months before. Initial laboratory studies reveal alanine transaminase (ALT) of 211 U/l, aspartate transaminase (AST) of 194 U/l and bilirubin of 5.4 mg/dl. HBsAg and antiHBc IgM are positive. Which of the following statements regarding acute hepatitis B is false?

1- About 90% of patients with acute hepatitis B will recover completely

2- About 1% of patients with acute hepatitis B can experience fulminant hepatic failure

3- Chronic hepatitis B carrier state will develop in 10% of patients

**4- Interferon administration in the acute phase of infection prevents the development of the chronic hepatitis B carrier state**

5- Around 5-10% of patients may develop

Q836. A HIV-positive man presents with a 2-week history of lethargy, confusion and personality change. A computerised tomography (CT) scan shows multiple ring-enhancing lesions in both hemispheres. What is the most appropriate treatment?

1- Ketoconazole

2- Cefuroxime and gentamicin

3- Rifampicin

4- Corticosteroids

**5- Pyrimethamine and sulfadiazine**

Q837. A native of Ghana has been diagnosed as having epidemic typhus. By which vector is he most likely to have become infected?

1- Hard tick

**2- Human body louse**

3- Trombiculid mite

4- Aedes aegypti mosquito

5- Rat flea

Q838. A 19-year-old college student presents with violent vomiting, abdominal cramps and watery diarrhoea within 4 hours of having drunk a glass of warm milk in his hall of residence's canteen. Given the likely bacterial infection, which of the following microbiological mechanisms is most likely to be responsible for his symptoms?

1- Toxins formed in the intestine

2- Rapid multiplication of organisms in the gut

**3- Preformed toxins in the milk**

4- Action of toxins directly on the emetic centre

5- Growth of organisms in the milk

Q839. An Asian man has intermittent diarrhoea, abdominal bloating and discomfort and complains of the passage of bulky, malodorous stools that are difficult to flush away. In his case, which infection is most likely?

**1- Giardiasis**

2- Amoebiasis

3- Cryptosporidiosis

4- Balantidiasis

5- Blastocystis hominis infection

Q840. A 23-year-old man had unprotected sexual intercourse with a commercial sex worker. Some 2 weeks later, he developed a painless indurated ulcer on the glans that exuded clear serum on pressure. Inguinal lymph nodes in both groins were enlarged and non-tender. Given the suspected diagnosis, what is the most appropriate diagnostic test in this case?

1- Gram stain of discharge from the ulcer

**2- Dark-field microscopy of the discharge**

3- Tissue culture

4- Enzyme immunoassay for Chlamydia trachomatis LGV 1, 2 and 3

5- Polymerase chain reaction technique

Q841. A 35-year-old sailor presents with a painless swelling on the sole of his foot that has progressively increased in size. There is an area of ulceration with yellowish-white grains on the surface. Gram staining of a smear from the ulcer shows Gram-positive branching organisms. What is the most probable causative agent?

1- Madurella mycetomi

2- Cladosporium spp

**3- Nocardia asteroides**

4- Sporothrix schenckii

5- Blastomyces dermatitidis

Q842. A backpacker recently returned from Indonesia is diagnosed as having as a nocardia infection. What would be the best technique to use for isolating and culturing the organism?

**1- Paraffin bait**

2- Cell culture

3- Anaerobic culture

4- Blood culture

5- Footpads of mice

Q843. A 28-year-old commercial sex worker is diagnosed as being HIV-positive. Her CD4 count is above 200 and she presented with salmonella gastroenteritis. In addition to highly active antiretroviral therapy (HAART), against which of the following organisms would prophylaxis be most useful?

1- Toxoplasma gondii

2- Cytomegalovirus

3- Pneumocystis jiroveci

**4- Salmonellae**

5- Cryptococci

Q844. A young man, just back from a trip to South America, presents with fever, productive cough, headache, conjunctivitis, orbital pain, purpura and generalised myalgia. On examination, there is splenomegaly and crepitations in the bases of both lungs. What is the most likely diagnosis?

1- Cerebral malaria

2- Q fever

3- Trypanosomiasis

**4- Epidemic typhus**

5- Scrub typhus

Q845. A 35-year-old man attends A&E complaining of haemoptysis. He gives a history of HIV infection treated in another hospital and multiple recent problems including cerebral toxoplasmosis, CMV retinitis, cryptosporidium-related diarrhoea, oesophageal candidiasis, Kaposi's sarcoma and pulmonary tuberculosis. He provides a list of his current medication, which includes AZT, stavudine, saquinavir, nelfinavir and ritonavir (atazanavir), isoniazid, rifampicin, pyrazinamide, ethambutol, ganciclovir, sulfadiazine, fluconazole and co-trimoxazole. On examination, he appears well. His pulse is 70 bpm, BP 120/80 mmHg. The abdomen is soft and non-tender. Respiratory, cardiovascular and neurological examinations, including ophthalmoscopy, are unremarkable. There is no lymphadenopathy. Mouth and skin examination is normal. Chest X-ray is normal. Hb 13.5 g/dl, WCC 7.9 x 109 /L (lymphocytes 2.4 x 109 /L), platelets 420 x 106 /l. A recent MRI brain is unremarkable. What is the most appropriate next step?

1- Arrange a CT chest and bronchoscopy

2- Arrange a CT pulmonary angiogram

3- Arrange for three repeat sputum samples for AFB staining

4- Place him in isolation and observe overnight

**5- Other**

Q846. An HIV-positive patient attends A&E with severe right-sided loin pain. An IVU reveals a calculus obstructing the right ureter. Which of his medications is likely to have contributed to this?

1- AZT

**2- Indinavir**

3- Co-trimoxazole

4- Lamivudine

5- Abacavir

Q847. An elderly diabetic man has left-sided orbital cellulitis. A CT scan of the paranasal sinuses shows evidence of left maxillary sinusitis. A Gram-stained smear of the orbital exudates shows irregularly branching septate hyphae. What is the most likely aetiological agent?

**1- Aspergillus**

2- Rhizopus

3- Mucor

4- Candida

5- Actinomyces

Q848. A patient presents with a row of ulcers on his right leg. A biopsy from the affected area is cultured on Sabouraud's dextrose agar. What is the most likely organism that may be responsible for these features?

**1- Sporothrix schenckii**

2- Cladosporium spp

3- Nocardia brasiliensis

4- Blastomyces dermatitidis

5- Madurella mycetomi

Q849. An immigrant from The Philippines presents with high-grade fever of 1-week duration with spells of chills and rigor. Auscultation of his chest reveals bilateral crepitations with scattered rhonchi. Multiple subcutaneous nodules are found on the extensor surface of his left forearm and left leg. Gram-staining of a smear of the pus aspirated from a nodule shows plenty of Gram-negative bacilli. On blood culture, distinct, rough corrugated, grey-white colonies are seen. The organisms are motile and oxidase-positive. What is the most likely diagnosis?

1- Plague

**2- Melioidosis**

3- Trench fever

4- Actinomycosis

5- Tuberculosis

Q850. An elderly patient, who has an indwelling urinary catheter, presented complaining of severe suprapubic pain. Urinalysis showed numerous pus cells and the presence of Staphylococcus epidermidis. He was given empirical treatment with amoxicillin, which has failed to clear the infection. On removal of the catheter, it is noticed that a slimy substance is present along its length. What phenomenon is most likely to be responsible for antibiotic resistance in bacteria due to slime production?

1- Co-aggregation

**2- Biofilm formation**

3- Mutation involving an altered target site for antibiotics

4- Mutation involving a target bypass mechanism

5- Mutation leading to enzyme inactivation

Q851. A 40-year-old patient presents with a sudden collapse. By the time you see her in Accident and Emergency she feels as if she is back to normal. She recalls having had a tick bite about 3 months previously when in Thetford Forest in Norfolk. The bite was followed by a prolonged local rash. What is the likely cause of the collapse?

1- Meningoencephalitis

2- Acute Bell's palsy

**3- Artrioventricular (AV) heart block**

4- Bannwarth's syndrome

5- Acute large joint arthritis

Q852. A young farmer presents with a 10-day history of blurred vision in his left eye. He says that 2 weeks ago his left eye was damaged by vegetation. On examination there is an ulcerative lesion in the cornea, the base of which has a raised creamy infiltrate. The slough of the ulcer appears dry, with a feathery border surrounded by a yellow line of demarcation. There are a few satellite lesions as well. What is the most likely cause for his condition?

1- Staphylococcus aureus

2- Herpes simplex virus

3- Chlamydia trachomatis

4- Moraxella sp

**5- Aspergillus sp**

Q853. Elderly patients (age 65 or above) are more vulnerable to community acquired infections. Against which pathogen is immunisation most likely to be given on a yearly basis?

1- Legionella

2- Campylobacter

**3- Influenza virus**

4- Pneumococcus

5- Measles

Q854. A 34-year-old with AIDS on a combination antiretroviral therapy was brought into casualty because he had a fit lasting approximately 15 minutes at home. The day before he had complained of headaches and fever. On examination he is confused but has no localising neurological signs. A CT scan of his brain shows ring-enhancing masses with surrounding oedema. What is the most likely diagnosis?

1- Tuberculosis

**2- Toxoplasma gondii cysts**

3- Cerebrovascular accident

4- Pneumocystis jiroveci infection

5- Cryptococcus infection

Q855. A 34-year-old homosexual with AIDS on a combination antiretroviral therapy was brought into casualty because he had a fit lasting approximately 15 minutes at home. The day before he complained of headaches and fever. On examination he is confused but has no neurological symptoms. A CT scan of his brain shows ring-enhancing masses with surrounding oedema. Given the likely diagnosis, what is the most appropriate treatment?

1- Erythromycin

2- Ampicillin

3- Aspirin and clopidogrel

**4- Sulfadiazine and pyrimethamine**

5- Fluconazole

Q856. A 32-year-old Thai woman attends A&E with a rash. Although she does not speak good English, she says she has had the rash for 2 months and that she has been taking the medication prescribed in Thailand for the last 4 weeks but has now run out of tablets. She says she has had several investigations including a skin biopsy and 'needle tests' on her ears and elbows, which she says were 'positive'. On examination she has several erythematous, raised, plaque-like lesions on her arms and legs around 1 cm in diameter. They have not changed in appearance recently. She is apyrexial. Routine blood tests are normal. What treatment is most likely to be appropriate?

1- Intravenous benzylpenicillin and flucloxacillin

2- Isoniazid, rifampicin, pyrazinamide and ethambutol

3- Prednisolone

4- Clindamycin and ciprofloxacin

**5- Dapsone, clofazimine and rifampicin**

Q857. A patient with AIDS has been complaining of a 2-month history of increasingly sized, purplish, nodular skin lesions. They started as small, pink macules and some have ulcerated. What is the most likely diagnosis?

1- Malignant melanoma

2- Tuberculosis

3- Papillomavirus infection

4- Keratosis

**5- Kaposi's sarcoma**

Q858. What is the most appropriate prophylaxis against Pneumocystis jiroveci infection in patients with a CD4 count below 200/mm3 ?

1- Ampicillin

2- Erythromycin

3- Immunoglobulins

**4- Co-trimoxazole**

5- Interferon-alpha

Q859. A 40-year-old farmer presents complaining of having had a flu-like illness for the past 2 weeks. Blood culture results are negative. Complement fixation tests reveal Coxiella burnetii infection. By which route is he most likely to have become infected?

1- Pasteurised milk

**2- Aerosols**

3- Bite of infected ticks

4- Infected mites

5- Direct entry via skin abrasions

Q860. You get a phone call from a GP. He wants to refer a 44-year-old patient because of a 3-day history of general malaise associated with nausea, diarrhoea and headache. On examination the patient looks well but red/bluish petechiae can be seen on the extensor surfaces of both legs. Given the likely clinical diagnosis, what is the most important prehospital treatment?

1- Cefuroxime

2- Erythromycin

3- Ampicillin

4- Gentamicin

**5- Benzylpenicillin**

Q861. Trachoma is a chronic keratoconjunctivitis that affects more than 500 million people world-wide, mainly in the developing countries. Some 7 million people are blind as a result of it. Which organism is most likely to be responsible for this infection?

1- Herpes simplex virus

**2- Chlamydia**

3- Human immunodeficiency virus

4- Leprosy

5- Tuberculosis

Q862. A 40-year-old patient noticed an abscess on the floor of his mouth 6 month ago, which gradually developed into cellulitis with a hard, painless swelling. The abscess was drained and sulphur granules were found microscopically. What is the most likely diagnosis?

1- Leprosy

2- Tuberculosis

3- AIDS

4- Syphilis

**5- Actinomycosis**

Q863. A 25-year-old man noticed a small painless papule of the glans of his penis that ulcerated a few days ago. On examination there is a solitary, round, indurated ulcer. What is the most likely diagnosis?

1- Gonorrhoea

**2- Syphilis**

3- AIDS

4- Tuberculosis

5- Papillomavirus infection

Q864. A 29-year-old farmer noticed several 2-3-cm long whitish proglottids in his faeces. On closer examination they were motile, elongating and contracting. Given the likely clinical diagnosis, what is the most appropriate therapy?

1- Co-trimoxazole

2- Fluconazole

**3- Niclosamide**

4- Methotrexate

5- Thalidomide

Q865. A patient with stable sickle-cell anaemia presents with an erythematous rash all over her body, which is associated with painful swollen joints. On examination she has clinical signs of anaemia. The full blood count shows absent reticulocytes in the peripheral blood. Infection with which pathogen is most likely to have caused her symptoms?

1- Hepatitis C virus

2- Hepatitis B virus

3- Human immunodeficiency virus

4- Rubella virus

**5- Parvovirus B19**

Q866. A 28-year-old traveller returned from the tropics 5 days ago. He felt unwell on the plane, complaining of headache, loss of appetite and sweats. Her temperature was 39.5°C 2 days ago; however it is now normal. What is the most important investigation to conduct?

**1- Repeated thick and thin blood smears**

2- Blood cultures

3- Lumbar puncture

4- Coombs' test

5- Erythrocyte sedimentation rate

Q867. A 30-year-old man has a painless, large, spreading and exuberant ulcer with bright-red granulation tissue over his glans penis. There is no lymphadenopathy. What is the most likely causative organism?

1- Treponema pallidum

2- Chlamydia trachomatis

3- Neisseria gonorrhoeae

4- Haemophilus ducreyi

**5- Klebsiella granulomatis**

Q868. A 44-year-old patient was referred to the hospital because of a 3-day history of general malaise associated with nausea, diarrhoea and headache. On examination the patient looks well but red/bluish petechiae can be seen on the extensor surfaces of both legs. What is the most likely diagnosis?

1- Hepatitis C infection

2- Legionella infection

**3- Neisseria meningitidis infection**

4- Pneumocystis jiroveci infection

5- Active tuberculosis

Q869. A 56-year-old man is diagnosed with viridanstype streptococcal endocarditis. His electrocardiogram (ECG) shows an increasing PR interval. What is the most appropriate management?

**1- Urgent surgical referral**

2- Angiography

3- Central line

4- Blood transfusion

5- Intravenous fluids

Q870. A 30-year-old man has been unwell for the last 3 weeks and now developed a rash. Chickenpox is diagnosed. What is the appropriate treatment?

**1- Aciclovir**

2- Erythromycin

3- Doxycycline

4- Ampicillin

5- No medication

Q871. The 3-year-old child of 12-week pregnant 25- year-old woman develops a typical chickenpox illness. The mother does not recall having had chicken pox herself. What do you advise the mother to do?

1- Avoid further contact with the child

**2- Test the mother for varicella-zoster IgG**

3- Take aciclovir as prophylaxis

4- Receive varicella-zoster immune globulin (VZIG) urgently

5- Consider termination of pregnancy

Q872. A 16-year-old boy develops a severe tonsillitis that prevents him swallowing even his own saliva. On examination he has symmetrically enlarged, inflamed, mildly exudative tonsils that are almost meeting in the midline. His white blood cell (WBC) is 12 x 109 /l with 60% lymphocytes. You are concerned that his airway may become compromised if his tonsils enlarge further. What is the initial management of choice?

1- Amoxicillin and metronidazole

2- Helium-oxygen mixture

3- Elective tracheostomy

**4- Intravenous hydrocortisone**

5- Immediate respiratory isolation

Q873. A 35-year-old homosexual man presents with a 3-week history of fever and malaise. On examination he has generalised lymphadenopathy and splenomegaly. He has had unprotected sexual intercourse with number of sexual partners in the past few weeks. He has not noticed any rash or mucosal ulceration. An HIV antibody test is negative. A Paul-Bunnell test is very weakly positive. The liver function tests (LFTs) are mildly deranged, p-24 is normal. What is the most likely diagnosis?

1- Primary HIV infection

2- Secondary syphilis

3- Acute hepatitis A

4- Acute EBV

**5- Acute CMV**

Q874. A 30-year-old homosexual man has been diagnosed with anal carcinoma. Which pathogen is responsible for this?

1- Human herpesvirus 8 (HHV8)

2- Human T-cell lymphotrophic virus type I (HTLV-I)

3- HCV

4- CMV

**5- Human papillomavirus (HPV)**

Q875. A 60-year-old Thai immigrant to the UK presents with a 5-day history of fever, malaise, headache and vomiting. On examination, he has splenomegaly and there is tenderness in the right hypochondrium. A blood test shows normocytic normochromic anaemia and the presence of schizonts in erythrocytes suggestive of Plasmodium vivax infection. What is the initial drug of choice for treating this infection?

1- Quinine

2- Fansidar (pyrimethamine/sulfadoxine)

**3- Chloroquine**

4- Mefloquine

5- Malarone (atovaquone/proguanil)

Q876. A blood culture bottle from a patient with endocarditis, so far of unknown agent, becomes positive after 2 weeks culture. The organism is a Gram-negative rod on microscopy. Which of the following is the likeliest organism?

1- Streptococcus bovis

2- Pseudomonas aeruginosa

3- Treponema pallidum

4- Acinetobacter spp.

**5- Eikenella corrodens**

Q877. An 18-year-old man who has not received measles, mumps and rubella (MMR) vaccine presents with meningism, orchitis and unilateral parotitis. What is the most likely diagnosis?

1- Epstein-Barr virus infection

2- HIV

3- Measles

4- Rubella

**5- Mumps**

Q878. A 35-year-old man who had a splenectomy 7 years earlier for idiopathic thrombocytopenia (ITP) presents with sudden onset high fever and severe hypotension. What is the most likely organism to be causing this?

1- Staphylococcus aureus

**2- Streptococcus pneumoniae**

3- Plasmodium falciparum

4- Herpes simplex virus

5- Epstein-Barr virus

Q879. A 45-year-old man is referred to hospital having returned from a 3-month business trip to Thailand. He went on an elephant safari just before returning to the UK. He is married and denies other sexual contacts. He complains of a generalised itch, dry cough and diarrhoea. Blood results are normal, other than a peripheral blood eosinophilia of 1.6 x 109 /L. Chest X-ray reveals bilateral small areas of opacification. What treatment is most likely to be effective?

1- Ciprofloxacin

2- Metronidazole

**3- Ivermectin**

4- Diethylcarbamazine

5- Prednisolone

Q880. A previously well 35-year-old man presents in the summer months with a community acquired pneumonia and mild, watery diarrhoea. He has failed to improve after 3 days of amoxicillin given by his GP. The temperature is 40°C; the patient is complaining of a headache and seems slightly confused and disorientated but has no clinical evidence of meningitis. The peripheral white cell count is on the upper limit of normal and Na+ is 125 mmol/l. Two other members of his office are also ill with a similar illness. What is the most likely causative organism?

1- Mycoplasma pneumoniae

**2- Legionella pneumophila**

3- Influenza A virus

4- Chlamydia pneumoniae

5- Penicillin-resistant Streptococcus

Q881. A man recently returned from India, presents with a 10-day history of a fever, cough, constipation and headache. His blood culture grows a Gram-negative rod. What is the most likely diagnosis?

**1- Typhoid**

2- Malaria

3- Infectious mononucleosis

4- Streptococcus pneumoniae infection

5- Mumps

Q882. A 30-year-old Indian woman presents with a widespread nodular rash, loss of eyebrows and burns on her hands. Her ulnar nerves are thickened and exquisitely tender. Skin biopsy shows the presence of numerous acid-fast bacilli (AFBs). What is the most likely diagnosis?

1- Tuberculosis

**2- Leprosy**

3- Scleroderma

4- Motor neurone disease

5- HIV

Q883. A 29-year-old patient with progressive HIV infection complains of a 5-day history of feeling unwell associated with diarrhoea, abdominal pain and vomiting. On examination he looks anaemic. He has elevated liver function tests and his CD4 lymphocyte count is 30/mm3 . What pathogen is the most likely cause of his infection?

1- Pneumocystis jiroveci

**2- Mycobacterium avium complex**

3- Campylobacter

4- Helicobacter

5- Lactobacillus

Q884. A 65-year-old diabetic man who is taking a non-steroidal anti-inflammatory drug presents with fever, hypotension and a swollen, exquisitely tender thigh with subcutaneous crepitus. There is no history of trauma or injection into the leg. What is the management plan of choice after broad-spectrum antibiotics have been initiated?

**1- Referral for urgent surgical exploration**

2- Ultrasound scan

3- Magnetic resonance imaging (MRI) scan

4- Observe closely over the next 24 hours

5- Gallium scan

Q885. What is the most appropriate test in patients with hepatitis C virus infection to determine the need for treatment?

1- Alanineaminotransferase (ALT)

**2- Liver biopsy**

3- Abdominal ultrasound

4- CRP

5- Serum HCV IgG level

Q886. A 22-year-old man presents complaining of severe itching and white scaly lesions in his groin for the past month. The lesions have well-defined margins and raised borders with a clear centre. Which of the following is most likely to be the causative agent?

**1- Trichophyton rubrum**

2- Candida albicans

3- Candida glabrata

4- Malassezia furfur

5- Phthiriasis pubis

Q887. A 12-year-old boy has had a gradually progressive plaque on his buttock for the past 3 years. The plaque is 15 cm in diameter, annular in shape with crusting and induration at the periphery and scarring at the centre. What is the most likely diagnosis?

1- Tinea corporis

2- Granuloma annulare

**3- Lupus vulgaris**

4- Borderline leprosy

5- Cutaneous leishmaniasis

Q888. A 50-year-old Ghanaian man visits Ghana for a funeral having been continuously resident in the UK for 15 years. A week after his return to the UK he develops fevers and a blood test confirms the presence of malaria. The laboratory technician is happy that she can see all stages of the parasite and not just trophozoites and gametocytes. Less than 1% of erythrocytes are parasitised. What is the most appropriate treatment?

1- Erythromycin

2- Quinidine

**3- Chloroquine**

4- Blood transfusion

5- Praziquantel

Q889. A 19-year-old woman presents with fever, rash and cough, and is pyrexial, tachycardic and tachypnoeic. She has a florid erythematous rash on her face, trunk and arms, with scattered whitish papular lesions on the buccal mucosa. What is the most likely diagnosis?

1- Meningococcaemia

2- Rubella

3- Parvovirus B19

4- Secondary syphilis

**5- Measles**

Q890. A 55-year-old man goes to the Kruger National Park in South Africa on a 3-week safari. He was fully vaccinated before his trip and took regular mefloquine malaria prophylaxis. He drank bottled water and ate only cooked food. He reported having seen lions and gazelles and being bitten by mosquitoes and tsetse flies. Two days following his return to the UK he has developed a fever and notices a black spot on his thigh. He has a faint macular rash. On arrival to hospital he has a fever of 37.7°C. What is the most likely diagnosis?

1- Malaria

2- African trypanosomiasis

**3- African tick typhus**

4- Leptospirosis

5- Anthrax

Q891. A 22-year-old woman returns from a holiday on the Kenyan coast. She develops a fever, deteriorates over the next 48 hours and becomes unconscious and unrousable. She has acute renal failure. What is the most appropriate investigation?

1- Computerised tomography (CT) scan, head

2- Electroencephalograph (EEG)

3- Erythrocyte sedimentation rate (ESR)

**4- Repeated thick and thin blood smear**

5- C-reactive protein (CRP)

Q892. A 25-year-old well woman gives birth at full term to an otherwise well baby with unilateral microphthalmia. She recalls a rash during the first trimester of her pregnancy, but cannot remember any other details of the rash. What is the most likely causative agent?

1- Syphilis

**2- Varicella-zoster virus (VZV)**

3- Rubella

4- Cytomegalovirus (CMV)

5- Parvovirus B19

Q893. An injecting drug user presents with jaundice and a hepatocellular blood picture. Which test when done in isolation would confirm a cause of active hepatitis?

1- Hepatitis A total antibody

2- Hepatitis B surface antigen

**3- Hepatitis B anticore IgM**

4- Hepatitis C IgG

5- Hepatitis C RNA detection

Q894. During the World Cup, a 27-year-old Brazilian football player collapsed on the field. He is brought to A&E where he is found to have evidence of cardiac failure with cardiomegaly and bibasal shadowing on chest X-ray. What infection is most likely to be responsible?

**1- Trypanosoma cruzi**

2- Trypanosoma brucei

3- Influenza

4- Mycoplasma pneumoniae

5- Haemophilus aphrophilus

Q895. A 25-year-old woman is found to be HBsAg positive, HBeAg negative, HBeAb positive, HB core total antibody positive, HB core IgM antibody negative. Her ALT is persistently elevated at 3-4آ ́normal. Her husband developed acute hepatitis B 2 weeks ago. What is the next most important investigation for the woman?

1- Hepatitis D (delta) testing

**2- Hepatitis B DNA quantitation**

3- Hepatitis C testing

4- Liver ultrasound

5- α-fetoprotein

Q896. An AIDS patient on treatment develops severe hypertriglyceridaemia. Which drug is likely to be responsible for this?

1- Zidovudine

2- Co-trimoxazole

**3- Ritonavir**

4- Lamivudine

5- Azithromycin

Q897. A newly diagnosed human immunodeficiency virus (HIV) patient is generally unwell with fever and malaise, and has a CD4 count of 100/mm3 . In addition to antiviral therapy he should receive prophylaxis against which pathogen?

1- Tuberculosis

2- Hepatitis B

**3- Pneumocystis jiroveci**

4- Epstein-Barr virus

5- Herpes simplex virus

Q898. A HIV-positive patient whose CD4 count is heading down towards 250/ mm3 is being started on zidovudine. What is the most severe side-effect to watch out for?

**1- Lactic acidosis**

2- Renal colic

3- Nightmares

4- Hyperlipidaemia

5- Peripheral neuropathy

Q899. A 20-year-old teacher presents with a 4-day history of general malaise, conjunctivitis and a cough. He is starting to develop a maculopapular rash on his face and upper trunk. What is the most likely diagnosis?

1- Parvovirus B19

**2- Measles**

3- Rubella

4- EBV

5- Primary HIV

Q900. A 25-year-old woman is admitted to hospital having become acutely unwell with malaise, fever, profuse vomiting and mild diarrhoea over a 36-hour period. There is no history of foreign travel and her food history is unremarkable. On admission her pulse is 126/min, blood pressure 84/62 and temperature 38.9°C. She is confused, but has no focal neurology. She has a faint, erythematous rash, particularly noticeable on her extremities. Her tongue and buccal mucosa are noted to be somewhat red and hyperaemic. What is the most likely diagnosis?

1- E. coli 0157 infection

2- Meningococcal septicaemia

3- Salmonella gastroenteritis

**4- Toxic shock syndrome**

5- Typhoid fever

Q901. A patient presents with diarrhoea and vomiting. He is jaundiced. Hepatitis A is diagnosed. What is the mode of transmission?

1- Blood transfusion

**2- Contaminated food**

3- Ticks

4- Sexually

5- Mosquitoes

Q902. A 26-year-old man presents to the sexually transmitted diseases clinic. He has returned from a trip away in Eastern Europe and he admits to an episode of unprotected sex with a woman he met in a bar some 2 weeks earlier. He complains of pain on passing urine, arthritic type pain affecting predominantly his knees, wrists, ankles and the small joints of his hands. There is associated conjunctivitis and a psoriatic type rash on his palms and the soles of his feet. Bloods; Hb 13.1 g/dl WCC 6.1 x 109 /L PLT 301 x 109 /L Na+ 140 mmol/l K+ 4.9 mmol/l Creatinine 100 mmol/l ESR 52 mm/hr Which of the following is the HLA-subtype most commonly associated with this condition?

1- HLA-DR2

2- HLA-DR3

3- HLA-DR4

4- HLA-B26

**5- HLA-B27**

Q903. A young man with epilepsy presents to A&E with a 3-day history of cough and increasing shortness of breath. He has foul-smelling sputum. He had a generalised tonic-clonic seizure 1 week ago. On examination his temperature is 40°C, he has right-sided crepitations and his chest X-ray shows a right upper lobe infiltration. What is the most likely cause?

1- Mycoplasma pneumonia

2- Chemical pneumonitis

3- Pneumonia due to Gram-negative aerobes

4- Pneumonia due to Gram-positive aerobes

**5- Pneumonia due to anaerobes**

Q904. A 50-year-old homeless alcoholic presents with fever, rash and progressive swelling of the right side of his face which began with an itchy scab on his right cheek 24 hours ago. His temperature is 39°C, and he is unable to open his right eye because of the swelling. Which is the most likely causal organism?

1- Streptococcus pneumoniae

2- Haemophilus influenzae

3- Herpes simplex virus

4- Neisseria meningitidis

**5- Group A streptococcus**

Q905. A 20-year-old woman presents to casualty with fever, diarrhoea, myalgia and a diffuse rash that started 6 hours ago. She recovered from a similar episode 6 months ago. She is currently menstruating and is using tampons. On examination her temperature is 40.1°C, blood pressure 80/50 mmHg, pulse 140/min. What is the most likely diagnosis?

1- Infectious mononucleosis

2- Aspirin overdose

**3- Toxic shock syndrome**

4- Salmonella infection

5- HIV infection

Q906. How is tuberculosis most commonly spread?

1- Ingestion of contaminated milk

2- Contamination of skin abrasions in healthcare workers

**3- Inhalation of droplet nuclei**

4- Sexual contact

5- Blood transfusion

Q907. A 65-year-old patient with COPD who continues to smoke is housebound due to his disability. Which of the following vaccinations should he receive on a yearly basis?

1- Clostridium tetani

2- Haemophilus influenzae type b

3- Hepatitis B virus

**4- Influenza A virus**

5- Streptococcus pneumoniae

Q908. A 20-year-old student presents to A&E with fever and difficulty swallowing. On examination she has enlarged tonsils, palpable submandibular lymph nodes and hepatosplenomegaly. Laboratory examination reveals a threefold upper limit elevation of the transaminases and lymphocytosis with atypical monocytes. What is the most appropriate next step in reaching a diagnosis?

1- Antistreptolysin-O titre

2- Bone marrow examination

3- Abdominal ultrasound

4- Screening for hepatitis

**5- Serologic test for Epstein-Barr virus**

Q909. Infection with Campylobacter spp usually spreads by which of the following?

**1- Contaminated food**

2- Contaminated needles

3- Droplet transmission

4- Direct contact with the patient

5- Vectors (ticks)

Q910. Which serological marker shows vaccination success after hepatitis B immunisation?

1- Hbs antigen

**2- Anti-Hbs antibodies**

3- Anti-Hbe antibodies

4- Anti-Hbc antibodies

5- Hbe antigen

Q911. A 28-year-old sewage worker presents with a high temperature and myalgia, especially in his legs. After a short improvement, he develops jaundice 6 days later. On examination his temperature is 39°C, he is jaundiced and has hepatosplenomegaly. Leucocytes 17 x 109 /L, bilirubin 325 mmol/l, AST 70 U/l, ALT 45 U/l, creatinine 248 mmol/l, HbsAg-negative. What is the most likely diagnosis?

1- Hepatitis A

2- Infectious mononucleosis

3- Cytomegalovirus infection

**4- Leptospirosis**

5- Budd-Chiari syndome

Q912. The start of symptomatic food poisoning is the fastest after ingestion of which pathogen?

1- Salmonella enteritis

**2- Staphylococcus aureus**

3- Clostridium botulinum

4- Vibrio cholerae

5- Shigella sonnei

Q913. A man presents with a high fever that started 2 days after his return from the tropics. He has reduced consciousness and suffers from constipation. His heart rate is 72 bpm, temperature 40°C. He also has a generalised rash. The haematology laboratory report is normal except for thrombocytopenia. His chest X-ray is normal. What is the most likely diagnosis?

**1- Typhoid**

2- Acute tuberculosis

3- Acute HIV infection

4- Infectious mononucleosis

5- Giardia lamblia infection

Q914. A 20-year-old student presents with a 5-day history of fever and sore throat. His GP started him on penicillin, but there was no improvement. On examination his temperature is 38.8°C, he has grey plaques on his tonsils, cervical lymphadenopathy and splenomegaly. What is the most likely diagnosis?

1- Streptococcus infection

2- Borrellia vincenti infection

3- Diphtheria

**4- Infectious mononucleosis**

5- Toxoplasmosis

Q915. A 30-year-old man who is HIV-positive presents with a 2-week history of epigastric pain, dysphagia and occasional vomiting. His GP prescribed H2-antagonists, however there was no relief. He currently takes zidovudine. His CD4+ lymphocyte count is 220/mm3 . What is the next most appropriate step in his management?

1- Oesophageal manometry

2- Abdominal ultrasound

3- Chest X-ray

4- Therapeutic trial of aciclovir

**5- Oesophagogastroduodenoscopy**

Q916. Which pathogen can grow in contaminated food if stored at a fridge temperature of 4°C?

**1- Listeria monocytogenes**

2- Escherichia coli

3- Bacillus cereus

4- Clostridium botulinum type A

5- Staphylococcus aureus

Q917. Which of the following organisms is the most frequent cause of hospital-acquired infections and is also developing increasing resistance to antimicrobial agents?

**1- Staphylococcus aureus**

2- Streptococcus pneumoniae

3- Toxoplasma gondii

4- Pneumocystis jiroveci (formerly called Pneumocystis carinii)

5- Listeria monocytogenes

Q918. A patient presents with high fever, neck stiffness and a rash on both legs. A lumbar puncture reveals Gram-positive bacteria. What is the most likely pathogen?

1- Neisseria meningitidis

2- Haemophilus influenzae

**3- Streptococcus pneumoniae**

4- Pseudomonas aeruginosa

5- Escherichia coli

Q919. A 29-year-old Sri Lankan man is admitted to hospital with a rash and high fevers. He gives a long history of pains in his hands and feet. On examination, he has an erythematous rash over his nose and cheeks. ANA testing and dsDNA are strongly positive. As part of his screening for PUO, an HIV antibody test is carried out, which proves positive. His blood results are as follows: Na, 136 mmol/l; K, 3.7 mmol/l; Urea, 3.5 mmol/l; Creatine, 67 U/l; LFTs, normal; Hb, 12.9 g/dl; WCC, 2.4 x 109 /L (lymphocytes 0.8 x 109 /L); Platelets, 200 x 106 /l; ANA, positive; dsDNA, positive; CD4, 80 cells/mm3 ; HIV antibody, positive; Blood cultures, negative; Syphilis serology, negative. What is the most appropriate treatment?

1- Combivir, efavirenz, co-trimoxazole

2- Prednisolone

3- Combivir, efavirenz, co-trimoxazole, prednisolone

**4- Prednisolone, co-trimoxazole**

5- Combivir, efavirenz

Q920. Which of the following is a major side-effect of interferon and ribavirin therapy for the treatment of chronic hepatitis C?

1- Raised serum amylase level

2- Raised serum creatinine level

3- Raised WCC

**4- Decreased haemoglobin level**

5- Decreased serum calcium level

Q921. The larvae of what kind of helminth species undertakes a symptomatic travel through the lung before the adult worms reside in the bowel?

1- Enterobius vermicularis

2- Trichinella spiralis

**3- Ascaris lumbricoides**

4- Trichuris trichuria

5- Taenia saginata

Q922. Bacterial endocarditis is treated with penicillin. What additional step is undertaken to prevent penicillin resistance?

1- Double the penicillin dose

2- Give a suitable β-lactam combination

3- Add macrolides

**4- Add aminoglycosides**

5- Interrupt penicillin treatment

Q923. What is the most frequent cause of a nosocomial wound infection?

**1- Insufficient hand disinfection**

2- Insufficient room disinfection

3- Insufficient instrument disinfection

4- Usage of wrong disinfectants during skin disinfection

5- Too frequent skin disinfection and

Q924. A 62-year-old diabetic patient with peripheral arterial disease underwent a left foot amputation. She developed a foot infection with osteomyelitis, which has been treated with several different antibiotics for the last 3 weeks. Suddenly she developed watery diarrhoea and stomach cramps, now, 2 days later, she has fever associated with diarrhoea (frequency 20 times per day). What is the most likely diagnosis?

1- Salmonella gastroenteritis

**2- Clostridium difficile enterocolitis**

3- Enteritis due to enterohaemorrhagic Escherichia coli (EHEC)

4- Shigella infection

5- Acute mesenterial ischaemia

Q925. An elderly woman is admitted with pneumonia and commenced on intravenous antibiotics. After making a good initial response to treatment she becomes febrile again and has become dehydrated. She has raised inflammatory markers with a neutrophilia. A repeat chest X-ray is not significantly changed from admission with patchy consolidation in the left lower lobe. Urine microscopy shows 5-20 white blood cells/ml but cultures are negative. From the various likely scenarios, what is most likely to have happened to explain her deterioration?

**1- Clostridium difficile diarrhoea**

2- Drug reaction

3- Empyema

4- MRSA colonisation

5- UTI

Q926. An elderly woman is admitted with a 4-week history of fevers. She feels generally unwell, tired and prone to headaches. On examination she has a pansystolic murmur of mitral regurgitation but no signs of cardiac failure or peripheral stigmata of endocarditis. She has raised inflammatory markers with a white cell count of 15 × 109 /ml (neutrophilia), a CRP of 80 mg/l and an ESR of 110 mm/h; three sets of blood cultures are negative and a transthoracic echocardiogram shows moderate mitral regurgitation, but no vegetations are seen. Given the likeliest differential diagnosis, which of the following tests is most important?

1- An indium-labelled white cell scan

2- Bone scintigram

3- Isolator blood cultures

**4- Temporal artery biopsy**

5- Transoesophageal echocardiogram

Q927. A 65-year-old man develops fevers and lower lumbar back pain. An MRI scan shows destruction of the L4 vertebra with a small paraspinal collection. CT-guided aspiration of this region does not show any organisms on Gram stain and cultures are negative. What is the most appropriate empirical antibiotic treatment?

1- Amoxicillin

2- Cefotaxime and metronidazole

**3- Flucloxacillin**

4- Meropenem

5- Vancomycin and ciprofloxacin

Q928. A patient with recurrent venous thromboembolic disease is on long-term warfarin. He is admitted with an infectious disease and commenced on antibiotics. Subsequently his INR comes down to 1.4 despite remaining on his usual dose of warfarin. Which antibiotic is most likely to be responsible?

1- Aztreonam

2- Ciprofloxacin

3- Erythromycin

4- Metronidazole

**5- Rifampicin**

Q929. A 30-year-old man is admitted with a 1-week history of fevers and breathlessness. He is an intravenous drug user. On examination he is hypotensive, his JVP is raised with giant cv waves and there is a pansystolic murmur. He had received 2 days of oral amoxicillin for a chest infection prior to admission. Blood cultures are taken and empirical antibiotics started. What is the most likely organism?

1- Candida spp

2- Enterococcus spp

3- HACEK group

**4- Staphylococcus aureus**

5- Viridans group streptococci

Q930. A 19-year-old woman presents with a severe sore throat, fever and malaise. She has marked cervical lymphadenopathy, gross splenomegaly and scattered petechiae on the soft palate, with enlarged tonsils covered by a confluent white exudate. Her white cell count is mildly elevated, her serum ALT and AST concentrations are twice normal and her alkaline phosphatase concentration is slightly elevated. Which one of the following investigations is most likely to help guide your management?

1- Fine-needle aspiration of a lymph node

2- Hepatitis-B surface antigen

3- Cytomegalovirus IgM

**4- Heterophilic antibodies**

5- HIV test

Q931. A 50-year-old man is admitted following a 1- week history of myalgia, rash, headache and conjunctivitis. He feels increasingly unwell with neck stiffness. On examination Kernig's sign is positive and hepatosplenomegaly is noted. He has a creatinine concentration of 180 mmol/l, ALT 250 IU/l, bilirubin 90 mmol/l and raised inflammatory markers with a neutrophilia. A lumbar puncture confirms meningitis with a CSF lymphocytosis. What is the most likely causative agent?

1- Borrelia burgdorferi

**2- Leptospira ictohaemorrhagica**

3- Mycoplasma spp

4- Treponema pallidum

5- Typhus

Q932. A 40-year-old Indian man is visiting the UK and 1 month later develops abdominal pain and fevers. He gives a history of intermittent bouts of diarrhoea, the last occurring 6 weeks ago. On examination his temperature is 39.5°C and he has right-sided abdominal tenderness. His white cell count in blood is 24 x 109 /l. Blood films for malaria are negative. Stool and blood cultures are negative. What is the next most appropriate investigation?

1- Bone marrow aspirate for culture

2- Electron microscopy on the stool specimen

3- Urine culture

**4- US scan abdomen**

5- Widal test

Q933. An intravenous drug user was diagnosed with HIV and commenced on antiretroviral therapy 1 year ago. Initial follow-up blood tests at 3 and 6 months demonstrated an undetectable viral load, however the latest results show a viral load of 2000 copies/ml. What is the most likely cause for the virological failure?

1- Co-morbidity

2- Drug interaction

**3- Poor compliance**

4- Re-infection with a new strain of virus

5- Viral resistance

Q934. A 55-year-old of Pakistani origin presents with a cough, weight loss and worsening lymphadenopathy. History of note is that he commenced anti HIV treatment some 12 weeks earlier while visiting relatives in Pakistan. He is diagnosed on this occasion with disseminated tuberculosis. Sputum and lymph node cultures confirm fully sensitive Mycobacterium tuberculosis. He is commenced on quadruple antituberculous therapy. However, 1 month later he complains of enlarging lymph nodes. What is the most likely explanation of the lymph node enlargement?

**1- Immune reconstitution disease**

2- Lymphoma

3- Multidrug-resistant mycobacteria

4- Non-compliance

5- Staphylococcal infection

Q935. A patient with acute lymphoblastic leukaemia is admitted to the haematology ward with breathlessness and a cough. A bronchoscopy and bronchoalveolar lavage is performed. Which of the following isolates is it safe to leave in the current environment?

1- Aspergillus flavus

**2- Cytomegalovirus**

3- Rifampicin-sensitive Mycobacterium tuberculosis

4- Mycobacterium tuberculosis

5- Parainfluenza

Q936. A patient wishes to travel by plane having commenced on quadruple antituberculous therapy 1 week ago for smear-positive pulmonary tuberculosis. The infection was acquired in the UK. The patient is HIV antibody-negative and has never received treatment for tuberculosis previously. Which of the following statements accords with British Thoracic Society guidelines?

1- Await 2 weeks' therapy and a negative sputum culture

**2- Await 2 weeks' therapy and a negative sputum smear**

3- Normal chest X-ray prior to travel

4- Wait until symptoms have resolved

5- Wait until therapy is completed

Q937. A gardener is admitted with difficulty moving his jaw after receiving a hand wound 1 week earlier. He starts to develop respiratory failure and is admitted to ITU. Which of the following treatments should be avoided?

**1- Early physiotherapy**

2- Early ventilation and sedation

3- Penicillin

4- Tetanus toxoid

5- Wound debridement

Q938. A 54-year-old man being treated in the Infectious Diseases unit becomes acutely unwell. A diagnosis of the Jarisch-Herxheimer reaction is made. What underlying infection is most likely to be the cause?

1- Brucellosis

2- Dengue fever

3- Leishmaniasis

**4- Relapsing fever**

5- Typhoid

Q939. A 34-year-old walker returns from a journey to the USA with fevers and a rash affecting his hands and feet. He says he was admitted to hospital and has a medical note from the hospital informing you that he was admitted for several days with high fevers and a tachycardia of 105 bpm but that his blood pressure did not drop at any time. After several days of illness, he developed desquamation of his hands and feet. He received some treatment in the USA and is now better. His GP sent some tests that revealed a normal FBC and U&Es. Syphilis serology is negative. What treatment did he receive?

1- Intravenous cefuroxime

2- Intravenous benzylpenicillin

**3- Oral doxycycline**

4- Oral erythromycin

5- None

Q940. A student returns from a backpacking holiday in South America having developed abdominal pain, diarrhoea and fevers 1 week prior to his return. On examination he has a fever of 38.5°C and diffuse abdominal pain. Stool microscopy shows pus cells and red blood cells, culture is awaited. What is the most likely organism?

1- Plasmodium falciparum

2- Norwalk virus

3- Rotavirus

**4- Salmonella spp**

5- Vibrio cholerae

Q941. A 24-year-old woman came to the GU clinic complaining of urethral discharge. She admitted to three episodes of unprotected sex with different male partners over the past 3 months. Investigations; Microbiology samples - Gram negative diplococci visualised She was treated with cephalosporin but no resolution of symptoms was apparent. With which of the following is there likely to be co-infection?

1- Candida spp

**2- Chlamydia trachomatis**

3- HSV

4- Syphilis

5- Trichomonas vaginalis

Q942. A 19-year-old student returns from a field trip abroad complaining of fever, malaise and worsening cough. He also has a headache and sore throat. On examination there is a mild pharyngitis and wheeze on auscultation of the chest. He is pyrexial 38oC, and his blood pressure is 110/70 mmHg, with a pulse of 105/min. Investigations; Hb 13.7 g/dl WCC 8.9 x 109 /L PLT 202 x 109 /L Na+ 134 mmol/l K+ 4.8 mmol/l Creatinine 100 μmol/l CXR – Extensive bilateral consolidation PCR – Positive for mycoplasma You elect to begin treatment with oral erythromycin, but he returns 2 days later complaining of severe diarrhoea. Which of the following would be the most appropriate alternative antibiotic?

1- Penicillin V

2- Ciprofloxacin

3- Clarithromycin

**4- Doxycycline**

5- Co-amoxyclav

Q943. A 17-year-old woman presents with drowsiness, headache and neck stiffness. She has also suffered bilateral painful parotid swelling over the past few days. On examination she is pyrexial 38.2oC, with signs of mild meningism. There is bilateral parotid swelling. Investigations; Hb 13.1 g/dl WCC 8.2 x 109 /L, slight lymphocytosis PLT 230 x 109 /L Amylase 340 U/l Na+ 141 mmol/l K+ 4.8 mmol/l Creatinine 110 μmol/l CSF – Lymphocytic pleocytosis, decreased CSF glucose Which of the following represents the most appropriate medication for this patient?

1- Cefotaxime IV

2- Acyclovir IV

3- Benzylpenicillin IV

**4- Paracetamol and codeine**

5- Ciprofloxacin IV

Q944. You are consulted on a 32-year-old obese patient with cellulitis who is not responding to treatment with flucloxacillin and benzylpenicillin in combination used over the past 3 days. She has a past history of varicose veins, but nil else of note. Investigations Hb 12.1 g/dl WCC 13.4 x 109 /L PLT 201 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 130 μmol/l What is the most appropriate next treatment step?

1- Oral co-trimoxazole

2- IV metronidazole

3- IV gentamicin

**4- Oral clindamycin**

5- Oral vancomycin

Q945. A man visits the travel clinic prior to an overseas trip. After giving his medical history, including two previous episodes of severe viral meningitis, he is told that he should not receive a live attenuated vaccine as it would not be suitable. Which of the following is a live, attenuated vaccine?

1- Influenza

**2- Yellow fever**

3- Diphtheria

4- Tetanus

5- Hepatitis B

Q946. A patient with hereditary elliptocytosis will be undergoing an elective splenectomy. He has enlarged tender spleen on abdominal examination. When should this patient receive conjugate pneumococcal vaccination?

1- 1 week before operation

2- 1 month before operation

**3- 2 weeks before operation**

4- 1 month after operation

5- Postoperatively

Q947. A 28-year-old teacher presents with headache, photophobia and neck stiffness following a flu-like illness. Following a dose of intramuscular penicillin, a lumbar puncture is performed. The CSF is clear, with 60 white blood cells/ml (50% lymphocytes), protein 0.8 g/l, glucose 3.5 mmol/l (serum glucose 5.0 mmol/l) and no organisms on the Gram stain. What is the most likely causative organism?

**1- Enterovirus spp**

2- Listeria monocytogenes

3- Mycobacterium tuberculosis

4- Neisseria meningitidis

5- Streptococcus pneumoniae

Q948. An HIV-positive woman on antiretrovirals with an undetectable viral load becomes pregnant. Which of the following courses of action is recommended to reduce the risk of vertical transmission?

1- Admit to hospital for close monitoring

**2- Avoid foetal blood sampling**

3- Change the antiretroviral regimen to zidovudine, lamivudine and efavirenz

4- Stop antiretroviral therapy immediately and recommence at the time of birth

5- Take vitamin supplements

Q949. A 42-year-old gay man comes to the clinic with a skin rash. He has multiple pink/red maculo-papular lesions on his skin, they range in size from a few mm across to 2-3 cm, and involve the oral mucosa as well. You suspect that it may be Kaposi's sarcoma Kaposi's sarcoma is associated with which virus?

**1- Human Herpes Virus 8 (HHV8)**

2- Epstein Barr virus (EBV)

3- Human Herpes Virus 6 (HHV6)

4- Human T-lymphotropic virus (HTLV)

5- Human papillomavirus (HPV)

Q950. A healthcare worker receives a needlestick injury from a patient who is not known to be a carrier of blood-borne viral infections. Which of the following courses of action is essential?

1- Commence prophylactic antiretroviral therapy

**2- Check immune status to hepatitis B and give hepatitis B vaccine booster if required**

3- Give hepatitis B immune globulin

4- Take serum from the donor for HIV, hepatitis B and hepatitis C antibody testing

5- Take serum from the recipient for HIV,

Q951. A 41-year-old man with a history of HIV presents to the Emergency room with a seizure. He attends with his partner who tells the staff that his boyfriend has been unwell with a diarrhoeal illness for the past 3 days after returning from a gastronomic weekend in France. On examination he is pyrexial 38.2oC and is drowsy. He has signs of meningism and appears to be neglecting his left side. Investigations; Hb 11.4 g/dl WCC 9.1 x 109 /L PLT 181 x 109 /L Na+ 140 mmol/l K+ 4.8 mmol/l Creatinine 125 μmol/l CSF pleocytosis, protein moderately elevated, glucose low Which of the following is the most likely diagnosis?

1- Viral meningitis

2- Meningococcal meningitis

3- Salmonella meningitis

**4- Listeria meningitis**

5- Herpes encephalitis

Q952. A 40-year-old woman presents with progressive confusion and mild neck stiffness. A CT scan showed basal meningeal enhancement. A lumbar puncture showed an opening pressure of 200 mmH2O, a turbid CSF with 500 leucocytes/ml (90% lymphocytes), a glucose concentration of 1 mmol/l and negative results with Gram, Indian ink and Ziehl-Neelsen stains. What is the best treatment?

**1- Rifampicin + INAH + pyrazinamide + ethambutol**

2- Ceftriaxone

3- Aciclovir

4- Corticosteroids

5- Liposomal amphotericin B

Q953. A 35-year-old homosexual, known to be HIVseropositive, presents with right-sided weakness and a 2-week history of difficulty with his speech. The CD4 T-lymphocyte count is 50 cells/ml. An MRI scan of the brain demonstrates a large ring-enhancing lesion in the parietofrontal region of the left hemisphere and several small lesions in the right hemisphere. What is the most likely diagnosis?

1- HIV encephalopathy

2- Lymphoma

3- Progressive multifocal leucoencephalopathy (PML)

**4- Toxoplasmosis**

5- Tuberculosis

Q954. A 24-year-old asylum seeker from Zimbabwe is currently on antituberculous therapy with rifampicin and isoniazid for pulmonary tuberculosis. He is HIV-seropositive with a CD4 count of 300 cells/ml and 2 weeks ago he was commenced on high active antiretroviral therapy with zidovudine, lamivudine and nevirapine. He presents with a widespread maculopapular rash. What is the most likely cause of the rash?

1- Rifampicin

2- Immune reconstitution disease

3- Kaposi's sarcoma

**4- Non-nucleoside reverse-transcriptase inhibitors**

5- Nucleoside reverse-transcriptase inhibitors

Q955. A 45-year-old man presents with a 1-week history of progressive breathlessness. He gives a history of past intravenous drug use and is hepatitis C antibody-positive. He desaturates with minimal exertion with an oxygen saturation of 75% on air. He is lymphopenic and a chest X-ray demonstrates subtle bilateral interstitial shadowing. What is the most likely cause of his breathlessness?

1- Congestive cardiac failure

2- Cytomegalovirus pneumonia

**3- Pneumocystis jiroveci pneumonia**

4- Pulmonary aspergillosis

5- Streptococcus pneumoniae pneumonia

Q956. A 40-year-old man presents with a swollen erythematous finger and right axillary tenderness, 24 hours after being bitten by his pet dog. What is the best treatment?

1- Metronidazole

2- Aciclovir

3- Fluconazole

4- Flucloxacillin

**5- Amoxiclavulanate**

Q957. A 19-year-old student comes to see the GP after developing some chicken pox spots. He has not been exposed as a child and has recently been taking prednisolone for an exacerbation of asthma. The steroids are stopped and he is discharged home, told to rest and take paracetamol. 2 days later he returns. He is pyrexial 38.2oC, and is markedly short of breath with a cough. Auscultation of the chest reveals bronchial breathing. Investigations Hb 12.4 g/dl WCC 11.2 x 109 /L PLT 240 x 10 9 /L Na+ 139 mmol/l K+ 5.0 mmol/l Creatinine 120 μmol/l pO2 7.6 kPa pCO2 3.2 kPa Which of the following is the most appropriate therapy for his infection?

1- Oral flucloxacillin

**2- IV aciclovir**

3- PO aciclovir

4- PO steroids

5- Co-amoxiclav

Q958. HIV patients with a CD4 count below 200/ mm3 should receive appropriate prophylaxis against Pneumocystis jiroveci (formerly called Pneumocystis carinii) pneumonia. What is the most appropriate medication?

1- Ampicillin

2- Erythromycin

**3- Co-trimoxazole**

4- Corticosteriods

5- Cefaclor

Q959. A 17-year-old young woman, who is sexually active, attends A&E with a history of dysuria and abdominal pain. A pregnancy test is negative and a urine dipstick test is positive for leucocytes. A course of trimethoprim is commenced. One week later she returns to A&E with persistent symptoms. Vaginal swabs and urine culture taken on the first visit are negative. What is the most likely aetiological agent?

**1- Chlamydia trachomatis**

2- Escherichia coli

3- Haemophilus ducreyi

4- Neisseria gonorrhoea

5- Trichomonas vaginalis

Q960. An intravenous drug user sees his doctor with a history of lethargy. LFTs demonstrate an ALT of 80 IU/l and a bilirubin of 18 mmol/l. Serological tests for hepatitis viruses show HepB surface Ag-positive and anti-HepB core IgG Ab-positive. What do the serological studies indicate?

1- Acute hepatitis B

**2- Carrier of hepatitis B**

3- Recovery from past hepatitis B infection

4- Requires hepatitis B vaccine

5- Vaccinated from hepatitis B

Q961. After initial infection with HIV what is the median time for untreated patients to develop clinical disease?

1- 6 months

2- 1 year

3- 5 years

**4- 10 years**

5- 15 years

Q962. A 47-year-old lady undergoing chemotherapy for breast cancer has a neutrophil count of 0.2 x 109 /L. She presents with an acute deterioration in conscious level associated with headache, photophobia and neck stiffness. Following CT and CSF examination, a diagnosis of likely bacterial meningitis is made. Which of the following organisms is most likely to be responsible in her case?

1- Pseudomonas aeruginosa

2- Staphylococcus aureus

3- Haemophilus influenzae

**4- Listeria monocytogenes**

5- Group B streptococcus

Q963. A 35-year-old woman returns from a journey to The Gambia with fevers of 39°C, rigors, vomiting and diarrhoea. She took chloroquine and proguanil prophylaxis. Her oxygen saturations are 90% on air, pulse 120 bpm, blood pressure 80/60 mmHg. What is the most likely diagnosis?

**1- Malaria**

2- Typhoid

3- Gastroenteritis

4- Atypical pneumonia

5- Pneumococcal pneumonia

Q964. A 30-year-old from the New Forest, southern England, develops a febrile illness and 1 month later Lyme serology, in keeping with a recent infection, is positive . Which of the following is a rare finding for this infection?

1- Arthritis

**2- Carditis**

3- Erythema chronicum migrans

4- Radiculoneuritis

5- Transmission by the Ixodes tick

Q965. What is the most appropriate prophylaxis against bacterial endocarditis in patients with prosthetic heart valves undergoing dental procedures?

1- Amoxycillin

2- Cefaclor

3- Gentamicin

**4- Nothing**

5- Cefuroxime

Q966. A 40-year-old man is admitted with a cerebral abscess. After completing a course of intravenous antibiotics he is converted to oral antibiotics prior to discharge. Which antibiotic provides the best and broadest cover for anaerobic organisms that may be responsible for this presentation?

1- Amoxicillin

2- Ciprofloxacin

**3- Co-amoxiclav**

4- Flucloxacillin

5- Trimethoprim

Q967. Which malignancy has been associated with Epstein-Barr virus infection?

1- Cervical cancer

2- Colon cancer

**3- Nasopharyngeal carcinoma**

4- Glioma

5- Carcinoma of the liver

Q968. A patient has been diagnosed with chlamydia pneumonia. What is the most appropriate antibiotic therapy?

1- Ampicillin

**2- Erythromycin**

3- Imipenem

4- Cefuroxime

5- Amikacin

Q969. A 55-year-old man complains of lethargy, fever, dry cough, headache, chest pain and increasing shortness of breath. His occupational history reveals that he installs and repairs air-conditioning systems. Which organism is most likely to have caused this infection?

1- Staphylococcus aureus

**2- Legionella spp**

3- Chlamydia psittaci

4- Mycoplasma spp

5- Streptococcus spp

Q970. A 40-year-old patient presents with a slowly enlarging round erythema on her thigh. A few weeks later she develops a lymphocytic meningitis and polyneuritis. What is the most likely diagnosis?

1- Coxsackievirus infection

**2- Lyme disease**

3- Herpes simplex virus infection

4- Generalised candida infection

5- Relapse of a varicella zoster infection

Q971. What combination therapy is the most appropriate for the treatment of chronic hepatitis C infection?

1- Amoxicillin and clavulanic acid

2- Piperacillin and tazobactam

3- Isoniazid and pyridoxine

**4- Interferon-a (IFN-a) and ribavirin**

5- Interferon-g (IFN-g) and lamivudine

Q972. Which degenerative disease of the central nervous system is caused by an infectious protein called a prion?

1- Alzheimer's disease

2- Parkinson's disease

**3- Creutzfeldt-Jakob disease**

4- Guillain-Barrè syndrome

5- Amyotrophic lateral sclerosis

Q973. A 22-year-old student develops a sore throat, fever and myalgia. He is admitted with increasing abdominal pain and jaundice. On examination he is pyrexial at 39.5°C and jaundiced with tender hepatosplenomegaly. He has a normocytic anaemia (Hb 9.5 g/dl) and raised white cell count (lymphocytosis 8.0 x 109 /l). The ALT is 250 IU/l, the bilirubin is 60 mmol/l and the amylase is normal. Serology to EBV is negative for IgG. What is the most likely diagnosis?

1- CMV

**2- EBV**

3- Hepatitis A

4- HIV-seroconversion illness

5- Streptococcal infection

Q974. A 40-year-old man is admitted with a 5-day history of fevers, abdominal pain and diarrhoea 1 week after returning from a business trip to Rome. He is noted to have a dry cough and a temperature of 40°C. Blood tests show a normal total white cell count with a lymphopenia and his serum Na concentration is 125 mmol/l. A chest X-ray shows some consolidation in the right lower lobe. A presumptive diagnosis is made and the patient started on antibiotics. Which of the following tests would most rapidly confirm the diagnosis?

1- Blood cultures

2- Gram stain on bronchoalveolar lavage

3- Serology

**4- Urinary antigen test**

5- Urine MCS

Q975. A 21-year-old man presents with fever, headache, myalgia and increasing breathlessness. A chest X-ray shows bilateral alveolar shadowing and he is commenced on a broad-spectrum antibiotic, cefotaxime. He remains pyrexial and develops a rash with erythematous papules and central pallor. He becomes anaemic and thrombocytopenic but his white cell count is normal. Cold agglutinins are present. What is the most likely causative agent?

1- Borrelia burgdorferi

2- Legionella pneumophila

**3- Mycoplasma**

4- Q fever

5- Viral meningitis

Q976. A young man presents with an ulcer over his forehead 3 months after returning from a holiday in Israel. On examination there is a single ulcerating lesion 2 cm in diameter over his forehead. Which infectious aetiology is most likely?

1- HSV

2- Leishmania donovani

**3- Leishmania tropica**

4- Molluscum contagiosum

5- Mycobacterium chelonae

Q977. A man attends clinic with an itchy rash over his foot. He has recently returned from a beach holiday in Jamaica. On examination there is a serpiginous tract at the site of the rash. He has an eosinophilia. What is the most likely aetiological agent?

1- Ascaris lumbricoides

2- Enterobius vermicularis

**3- Ancylostoma braziliense**

4- Trichinella spiralis

5- Trichuris trichiura

Q978. An aid worker in West Africa for the past 5 years sees his local doctor with a fever. Blood films for malaria parasites are negative but an eosinophilia is noted. Blood films at night demonstrate microfilariae. What is the likely aetiological agent?

1- Brugia malaya

2- Loa loa

3- Onchocerca volvulus

4- Schistosoma haematobium

**5- Wuchereria bancrofti**

Q979. A 24-year-old woman is admitted with difficulty in breathing and unable to give a history. There is evidence of intravenous drug use with needle marks over the cutaneous fossas but no evidence of localised skin infection. The patient is apyrexial. Sensation is intact. She is admitted to ITU for ventilation. What is the most likely diagnosis?

1- Anthrax

**2- Botulism**

3- Guillain-Barrè syndrome

4- Rabies

5- Tetanus

Q980. A woman attends clinic after passing a 'worm' in her stool. After examination of the stool a diagnosis of Taenia saginata infection is made. Which of the following is likely?

1- Humans are a dead-end host

2- Neurocysticercosis is a complication

**3- Proglottids are helpful diagnostically**

4- Resistance to niclosamide

5- The source of the infection was infected

Q981. A woman recently diagnosed with acute myeloid leukaemia presents with a rash 3 weeks after completing a first course of chemotherapy. She is febrile and leucopenic. A maculopapular rash is noted over much of her trunk, several vesicles are noted. Previous serology to VZV is positive for IgG. What is the most likely diagnosis?

1- Chickenpox

2- HSV infection

**3- Multi-dermatomal shingles**

4- Orf

5- Parvovirus infection

Q982. A Nigerian studying in the UK presents with haemoptysis. He otherwise feels well. A chest X-ray demonstrates two cavitating lesions in the right lower lobe. A bronchoscopy is performed for transbronchial biopsies and a bronchoalveolar lavage (BAL). A Ziehl-Neelson stain on the BAL is negative and also culture for acid-fast bacilli is negative. However, granulomas are noted on the transbronchial biopsy. An eosinophilia is noted. What is the most likely unifying diagnosis?

1- Hydatid disease

2- Lymphoma

**3- Paragonimiasis**

4- Sarcoidosis

5- Tuberculosis

Q983. An HIV-positive patient with a CD4 count of 550 cells/ml attends clinic to seek advice on vaccinations prior to travel to sub-Saharan Africa. Which fo the following vaccines should be avoided?

**1- BCG**

2- Hepatitis A

3- Polio (Salk)

4- Meningococcal

5- Tetanus

Q984. A 25-year-old lawyer from Edinburgh was brought into hospital with a 3-day history of increasing shortness of breath and fevers. She recently received a diagnosis of Cushing's disease and is awaiting treatment. Initial examination revealed a respiratory rate of 20 breaths per minute and bilateral sparse crackles, with a characteristic buffalo hump and centripetal obesity. Chest X-ray revealed sparse perihilar shadowing only. She has been on the admission's ward for 2 days and is being treated with intravenous cefotaxime and oral clarithromycin. Overnight, she has deteriorated and arterial blood gases reveal a p(O2) of 6.5 on 24% oxygen. What management is most appropriate?

1- Increase the oxygen to 100% and arrange admission to medical HDU for closer monitoring, and change the antibiotics to iv Tazocin

**2- Increase the oxygen to 100% and arrange admission to medical HDU, with the addition of iv co-trimoxazole**

3- Increase the oxygen to 100% and arrange admission to medical HDU, with the addition of AmBisome iv

4- Increase the oxygen to 100% and arrange admission to medical HDU, with no change in therapy

5- Increase the oxygen to 100% and arrange

Q985. An Indian man is referred with peripheral oedema of the arms and recurrent rhinitis. On examination there is deformity of the nose with collapse of the nasal bridge and multiple skin plaques. A skin biopsy reveals multiple acid-alcohol-fast bacilli. What is the most likely diagnosis?

**1- Lepromatous leprosy**

2- ‘Atypical' mycobacteria infection

3- Tertiary syphilis

4- Tuberculoid leprosy

5- Yaws

Q986. A 23-year-old homosexual develops painless lymphadenopathy after a trip to Thailand. He presents, 1 month after returning to the UK, with a generalised skin rash and orogenital ulceration. Serological tests are performed which show HIV Ab-positive, VDRL-positive, TPA-positive and anti-HCV Ab-positive. What does the serology indicate?

**1- Active syphilis**

2- False-positive serology

3- HIV-seroconversion syndrome

4- Previous exposure to syphilis

5- Yaws

Q987. A 60-year-old man attends A&E 3 weeks after returning from a holiday in India. Over the past 2 weeks he has suffered from fevers, sweats and weight loss. A chest X-ray is normal. He has raised inflammatory makers with a neutrophilia of 9.5 x 109 /L and deranged LFTs with an ALT 120 IU/l and bilirubin 39 mmol/l. A liver biopsy shows small, non-caseating granulomas. An organism is detected in blood cultures at day 5 after admission. What is the most likely finding on the stain?

1- Acid-alcohol-fast bacilli on Ziehl-Neelsen stain

**2- Gram-negative bacillus**

3- Gram-negative coccus

4- Gram-positive bacillus

5- Indian ink stain-positive

Q988. A keratitis with dendritic ulceration of the cornea is diagnosed in a 32-year-old patient. What is the most likely cause?

1- Adenovirus

2- Chlamydia

3- Gram-positive bacteria

**4- Herpes simplex virus**

5- Reduced tear formation

Q989. A patient is admitted for urgent assessment on the infectious diseases ward. The nurses suggest that you should inform the consultant in communicable disease control (CCDC). Which of the following is best recognised as a notifiable disease?

1- HIV

**2- Malaria**

3- Mycloplasma pneumonia

4- Necrotising fasciitis

5- Rheumatic fever

Q990. A 28-year-old man presents to the GP with paroxysms of fever, sweating and rigors some 5 months after returning from a holiday in tropical India. He tells you that he was ill with fevers while in India but recovered and he put this down to an episode of flu. On further questioning he admits that his compliance with anti-malarials was patchy. On examination he looks unwell with pyrexia of 38.8oC. Investigations; Hb 10.9 g/dl WCC 13.1 x 109 /L PLT 105 x 109 /L Na+ 136 mmol/l K+ 4.9 mmol/l Creatinine 140 mmol/l ALT 110U/l Thick and thin film Plasmodium vivax identified Which of the following would be the most effective agent in combination to prevent relapse from his malaria?

1- Chloroquine

2- Quinine

3- Mefloquine

**4- Primaquine**

5- Proguanil

# Chapter 5 Haematology

Q991. Which one of the following statements BEST describes haemophilia A?

1- Petechiae are more common than soft tissue bleeding

2- Bleeding time is prolonged

**3- Factor 8 inhibitors occur in 10% of patients receiving multiple factor 8 transfusion**

4- Iron deficiency anaemia is a frequent and persistent problem

5- Joint deformity is rare despite the fact that

Q992. Which one of the following is the MOST common cause of aplastic crisis in a patient with sickle cell disease?

1- Dehydration

2- Respiratory syncytial virus infection

**3- Human parvovirus B19 infection**

4- Repeated blood transfusion

5- Haemophilus influenzae septicaemia

Q993. Which one of the following bone sites is the MOST common site involved in bone metastases from carcinomata?

1- Ribs

2- Pelvis

**3- Spine**

4- Skull

5- Long bones

Q994. Which one of the following statements is true about folic acid deficiency?

1- Because of the high folate body stores, it will take more than two years for megaloblastic anaemia to develop after complete cessation of folic acid intake

2- Methotrexate induced folic acid deficiency is corrected by concomitant folic acid therapy

3- Intestinal bacterial overgrowth is regarded as one of the common causes

4- Causes abnormal neurological findings indistinguishable from that associated with B12 deficiency

**5- Responsible for neural tube defect in the**

Q995. Which one of the following features is characteristic of immune thrombocytopenic purpura (ITP)?

1- Infants born to a woman with ITP often presents with bleeding diathesis in the first 48 hours

2- Pancytopenia is a recognised complication

3- Leukaemic transformation occurs late in the disease

4- Splenomegaly is found in 50% of cases

**5- Autoimmune haemolytic anaemia is a**

Q996. A 73-year-old man with chronic lymphocytic leukaemia (CLL) is followed up in clinic. He has become increasingly breathless over the last three months but has no other symptoms and is on no medication. On examination, he is pale and has bilateral cervical and inguinal lymphadenopathy and a firm 5-cm splenomegaly. FBC shows: Hb 7.4 g/dl; WCC 25 x 103 /mm3 ; platelets 117 x 103 /mm3 ; urea 15 mmol/l; creatinine 203 mmol/l; bilirubin 49 mmol/l. Which investigation is most appropriate to demonstrate the likely cause of anaemia?

1- Bone marrow aspirate

2- Autoantibody profile

3- Erythropoietin level

**4- Antiglobulin test**

5- Urinary haemosiderin

Q997. Therapeutic plasmapheresis is considered MOST effective in which one of the following types of haemolytic anaemia?

**1- Haemolytic anaemia associated with Mycoplasma pneumoniae**

2- Thalassaemia major

3- Systemic lupus erythematosus (SLE) associated haemolytic anaemia

4- Paroxysmal nocturnal haemoglobinuria (PNH)

5- Aplastic anaemia

Q998. A 35-year-old man of Northern European origin underwent a routine medical examination and was found to have a 10-cm splenomegaly. He works as an administrator and has never travelled outside Europe. He is otherwise well and has no other physical findings. A blood test shows: Hb is 12.3 g/dl; WCC 62 × 109 /l; platelets 542 × 109 /l. What is the most likely cause of his splenomegaly?

1- β-Thalassaemia intermedia

2- Malaria

3- Cirrhosis

4- Systemic lupus erythematosus

**5- Chronic myeloid leukaemia**

Q999. A 10-year-old boy is referred for investigation of anaemia. He is generally well but is small for his age. He is progressing well for his age group at school. A male first cousin died of leukaemia. On examination the child is pale and has a few bruises. He is noted to have markedly thickened nails and is below the third centile in height. A blood count shows: Hb is 7.2 g/dl; WCC 1.2 x 109 /L; platelets 20 x 109 /L. What is the most likely explanation for his anaemia?

1- Diamond-Blackfan syndrome

2- Aplastic anaemia

**3- Dyskeratosis congenita**

4- Acute lymphoblastic leukaemia

5- Fanconi's anaemia

Q1000. A 74-year-old woman presented with a 2-day history of extensive bruising. She had a history of ischaemic heart disease and was a heavy smoker. Her regular medication was amlodipine and aspirin. She had recently started quinine sulphate for night cramps. Her Hb is 11.4 g/dl, MCV 87 fl, MCH 30 pg, MCHC 31 g/dl, WCC 7.2 x 109 /L with a normal differential and platelets 11 x 109 /L. Urea and electrolytes are normal. What is the most likely cause of her thrombocytopenia?

**1- Drug-dependent immune thrombocytopenia**

2- Acute myeloid leukaemia

3- Immune thrombocytopenic purpura

4- Disseminated carcinoma

5- Myelodysplastic syndrome

Q1001. The haematology registrar is contacted urgently about a woman who has attended an antenatal clinic that morning. She is 32 weeks' pregnant and has a blood pressure of 140/90 mmHg and mild proteinuria. Her pregnancy has been complicated by hyperemesis. At booking at 16 weeks' gestation: Her Hb was 11.2 g/dl, MCV 105 fl, MCH 30 pg, MCHC 32 g/dl, WCC 11.3 x 109 /L and platelets 237 x 109 /L. Now at 32 weeks' gestation her Hb is 5.9 g/dl, MCV 118 fl, MCH 32 pg, MCHC 32 g/dl, WCC 6.4 x 109 /L and platelets 154 x 109 /L. What is the most likely cause of her anaemia?

1- β-Thalassaemia trait

2- Retroplacental haemorrhage

3- Vitamin B12 deficiency

**4- Folic acid deficiency**

5- Aplastic anaemia

Q1002. A 26-year-old teacher presents to A&E with a rash on her lower legs and a blood blister on her tongue. Her last menses, 2 weeks ago, was heavier than usual. Otherwise she is very well and has no past medical history of note. On examination, there are several small blood blisters on her tongue and a fine petechial rash on her lower legs. There are no other abnormal clinical findings. Her Hb is 12.8 g/dl, with normal indices, WCC 8.6 x 109 /L, with a normal differential, and platelets 12 x 109 /L. What would the best immediate management of this patient include?

1- Intravenous immunoglobulin

**2- Oral prednisolone: 1-2 mg/kg (50-100mg daily dose)**

3- Immediate platelet transfusion

4- Transfusion of fresh-frozen plasma

5- All of the above

Q1003. An 80-year-old women regularly attends the haematology out-patients for her chronic lymphocytic leukaemia. She has been followed up for 5 years, her condition has remained stable and she has required no treatment. At this clinic attendance, she reports that she has been feeling extremely tired for the last 2 weeks. On examination she is clinically anaemic and mildly jaundiced. She has a 2-cm splenomegaly. There are no other abnormal physical findings. Her Hb is 6.3 g/dl, MCV 103 fl, MCH 29 pg, MCHC 32 g/dl, reticulocytes 205 x 109 /L (normal range 50-100), WCC 85 x 109 /L, with lymphocytes of 65.5 x 109 /L and platelets 110 x 109 /L. What is the main cause of her anaemia?

**1- Autoimmune haemolytic anaemia**

2- Progression of chronic lymphocytic leukaemia

3- Iron deficiency due to blood loss

4- Richter's transformation of chronic lymphocytic leukaemia

5- Acute folic acid deficiency

Q1004. Which one of the following malignant tumours has the highest predilection for dissemination to bone?

1- Breast

**2- Prostate**

3- Kidney

4- Lung

5- Thyroid

Q1005. A patient who takes warfarin for atrial fibrillation presents with single episode of melaena. The INR is measured at 7.9. His Hb is noted to be 9.3g /dl. The patient is otherwise well and haemodynamically stable. In addition to omitting warfarin, what is the most important therapeutic intervention?

1- Platelet infusion

2- Vitamin B12 injection

**3- Vitamin K infusion**

4- Antithrombin III

5- Fibrinogen substitution

Q1006. A 23-year-old woman presents to A&E with oral bleeding. She has noticed it more frequently over the past two weeks and has become breathless when walking up stairs. She has a history of epilepsy and takes phenytoin and a combined oral contraceptive pill. On examination, she is afebrile with swollen gums and has conjunctival pallor. There is no palpable lymphadenopathy and no abdominal organomegaly. Blood tests show: Hb 6.4 g/dl; MCV 82 fl; red cell distribution width (RDW) 28%; platelets 19 x 103 /mm3 ; WCC 11 x 103 /mm3 ; prothrombin time (PT) 39 s; activated partial thromboplastin time (APTT) 98 s; low fibrinogen; increasing fibrindegradation products (FDPs); albumin 34 g/dl. What is the unifying diagnosis?

1- Phenytoin toxicity

2- Acute lymphocytic leukaemia

3- Disseminated intravascular coagulation

**4- Acute promyelocytic leukaemia**

5- Acute myelomonocytic leukaemia

Q1007. A 24-year-old man has been diagnosed with Hodgkin's lymphoma stage IA. Which therapy is indicated?

1- Radiotherapy alone

**2- Combination chemotherapy followed by radiotherapy**

3- High-dose chemotherapy with concurrent radiotherapy

4- High-dose chemotherapy with bone marrow transplantation

5- Lymphadenectomy and chemotherapy

Q1008. What is the most frequent complication causing death in patients with chronic lymphocytic leukaemia?

1- Transformation into highly malignant lymphoma

2- Acute myeloblastic leukaemia due to secondary neoplasia

3- Acute haemorrhage

**4- Infections**

5- Iron overload due to frequent transfusions

Q1009. A patient presents with pancytopenia (anaemia, leucopenia, thrombocytopenia). No material could be obtained from a bone marrow aspiration. Which is the next investigation employed to obtain a diagnosis?

1- Level of LDH in serum

2- Chromosome analysis

**3- Bone marrow biopsy and histological examination**

4- Level of alkaline phosphatase in serum

5- Level of Vitamin B12 in serum

Q1010. What are the tumour cells called that are found in patients with Hodgkin's disease?

1- Philadelphia cells

2- Cytotoxic lymphocytes

**3- Reed-Sternberg cells**

4- Activated lymphocytes

5- Langerhans' cells

Q1011. Hyposplenism is seen least often in which one of the following conditions?

1- Sickle cell disease

2- Coeliac disease

3- Systemic lupus erythematosus

**4- Thalassaemia major**

5- Dermatitis herpetiformis

Q1012. A patient underwent an 80-cm ileum resection for Crohn's disease 4 years ago, he now presents with anaemia. His haemoglobin is 68 g/l and MCH 38 pg. What is the most likely cause?

**1- Impaired Vitamin B12 absorption**

2- Impaired iron absorption

3- Chronic bleeding after surgery

4- Haemolysis

5- Bacterial infection

Q1013. A 29-year-old Caucasian male with AML is in remission following a course of combination chemotherapy. He has some high-risk features and the decision is made that an allogeneic bone marrow transplant should be carried out. His serology is negative for cytomegalovirus (CMV). His tissue type is A1, A24, B8, B18. Which of the following relatives, all of whom are fit and healthy, would be the best donor?

1- His sister, A1, A24, B8, B18, CMV-positive

2- His brother A1, A24, B8, B18, CMV-positive

3- His sister, A1, A28, B8, B14 CMV-positive

**4- His brother, A1, A24, B8, B18, CMVnegative**

5- His sister A1, A24, B8, B18, CMV-negative

Q1014. Which one of the following findings is individually MOST accurate in differentiating chronic myeloid leukaemia (CML) from a leukaemoid reaction?

**1- Philadelphia chromosome**

2- Splenic enlargement

3- Low leucocyte alkaline phosphatase score

4- Hypercellular bone marrow

5- Elevated platelet count

Q1015. Which one of the following features is MOST suggestive of megaloblastic anaemia?

**1- Hypersegmented neutrophil in peripheral blood film**

2- Atrophic gastritis

3- Pancytopenia

4- Low reticulocyte count

5- Raised LDH

Q1016. Which one of the following statements regarding iron deficiency anaemia is MOST accurate?

1- It is commonly caused by dietary deficiency

2- Pins and needles in the hands and feet may indicate early peripheral neuropathy

3- Splenomegaly occurs in up to 50% of cases

**4- Koilonychia is characteristic and rarely seen in other forms of anaemia**

5- Reticulocyte count is often elevated

Q1017. A 35-year-old man attends the haematology clinic having found a lump in his neck. He feels generally unwell but has no past history. There is axillary lymphadenopathy and splenomegaly. FBC shows: WCC 16 x 103 /mm3 ; Hb 8.3 g/dl; platelets 106 x 103 / mm3 and the blood film and bone marrow aspirate show lymphoblasts. What is the most useful test to make a definitive diagnosis?

1- Cytogenetic analysis

2- Lymph node biopsy

3- Total-body computed tomography (CT) scan

4- Total-body positron-emission tomography (PET) scan

**5- Immunophenotyping**

Q1018. Which one of the following features is MOST characteristic of Waldenstrom's macroglobulinaemia?

1- Bone pain

**2- Monoclonal IgM peak**

3- Renal impairment

4- Multiple osteolytic lesions

5- Absence of immune paresis

Q1019. Which one of the following features is MOST helpful in distinguishing b thalassaemia trait from iron deficiency anaemia (IDA)?

1- Microcytosis

**2- Haemoglobin A2 levels**

3- Reduced haematocrit

4- Splenomegaly

5- Target cells on peripheral blood film

Q1020. A patient presents with jaundice and a painless enlargement of the gallbladder (Courvoisier's law). What is the most likely diagnosis?

1- Liver cirrhosis

**2- Carcinoma of the ampulla of Vater**

3- Carcinoma of the gallbladder

4- Gallstones in the cystic duct

5- Progressive hepatitis B

Q1021. A 66-year-old woman with a history of ischaemic heart disease presents with an acute onset of breathlessness and chest pain. Earlier that day she had commenced adjuvant chemotherapy (5-fluorouracil and folinic acid) for a completely resected caecal carcinoma. What is the most likely precipitating factor?

1- Rib metastasis

2- Side-effect of folinic acid

3- Pericardial effusion due to metastases

**4- Side-effect of 5-Fluorouracil**

5- Stress related

Q1022. A 55-year-old solicitor with known stomach cancer is admitted with intractable nausea and vomiting. He tells you he is participating in a phase-II trial for a new chemotherapeutic agent. What is the purpose of such a trial?

1- To compare a new drug with the best conventional therapy

2- To determine the long-term toxicity of a drug

**3- To establish the antitumour activity of a drug**

4- To establish the human toxicity of a drug

5- To study the pharmacokinetics of a drug

Q1023. In cancer therapy, what is the rationale behind using combinations of chemotherapeutic agents rather than single agents?

1- Fewer side-effects occur in combination therapy

2- Combination therapy can be given over a shorter period of time

**3- Combination therapy decreases the chances of drug resistance developing**

4- Metastases are less common in combination therapy

5- Combination therapy is less likely to result

Q1024. A 72-year-old heavy smoker presents with shortness of breath and haemoptysis. On examination you notice some facial swelling. You suspect a bronchial neoplasm. What other clinical sign would it be particularly important to look for if you were suspecting SVC obstruction?

**1- Venous dilatation over the anterior chest wall**

2- Supraclavicular or cervical lymphadenopathy

3- Finger clubbing

4- Cranial nerve palsy

5- Central cyanosis

Q1025. A 57-year-old woman is referred to you as an emergency with severe nose bleeds and skin petechiae. You suspect she has thrombocytopenia. She is currently receiving second-line carboplatin-based chemotherapy for a relapsed ovarian carcinoma. There is no organomegaly. What is the most likely cause of the thrombocytopenia?

**1- Myelosuppression**

2- Carcinomatosis

3- Disseminated intravascular coagulation

4- Secondary leukaemia

5- Myelofibrosis

Q1026. A 20-year-old woman presented to the antenatal clinic for her booking visit. She speaks very little English and is 20 weeks' pregnant into her first pregnancy. No medical history of note can be obtained. Her Hb is 10.1 g/dl, Hct 0.38, RBC 5.24 x 1012/l, MCV 63 fl, MCH 20 pg, MCHC 32 g/dl, WCC 6.9 x 109 /L and platelets 241 x 109 /L. Further testing reveals an Hb F of 0.6% (normal range < 1%) and Hb A2 of 4.5% (normal range 1.5- 3.5%). What is the most likely cause of her anaemia?

1- Acute folic acid deficiency

**2- β-Thalassaemia trait**

3- Sickle-cell anaemia

4- α-Thalassaemia trait

5- Iron deficiency

Q1027. A 75-year-old man presents with fatigue and weight loss. He has also been noted to be increasingly vague. On examination he is clinically anaemic and his Mini-Mental score is 5/10. He has 2 cm of splenomegaly and 2 cm of hepatomegaly. There are no other positive findings. Investigation shows the following: Hb is 8.3 g/dl (13-18), MCV 102 fl (80-96), WCC 6.5 x 109 /L (4-11 x 109 ) with a normal differential, platelets 150 x 109 /L (150-400 x 109 ); urea 10 mmol/l (2.5-7.5), Na 139 mmol/l (137-144), K 4.6 mmol/l (3.5-4.9), creatinine 135 m mol/l (60-110), total protein 88 g/l (61- 76), alb 24 g/l (37-49), Ca 2.29 (2.2-2.6) and viscosity 8.2 centipoise (1.5-1.72); IgG 7.0 g/l (7.0-14.5), IgA 0.55 g/l (0.80-4.0), IgM 22.7 g/l (0.45-2.00). What is the most appropriate treatment to improve his clinical state?

**1- Urgent plasmapheresis**

2- Transfusion of packed cells

3- Immediate chemotherapy

4- Intravenous fluids

5- Prednisolone

Q1028. A 60-year-old woman is referred to you with numbness affecting her hands and feet. Electrophysiological testing confirms the presence of peripheral neuropathy. She recently completed a course of chemotherapy for breast cancer. Which chemotherapeutic agent is most likely to be responsible?

1- 5-Fluorouracil

2- Epirubicin

**3- Docetaxel**

4- Cyclophosphamide

5- Doxorubicin

Q1029. A 45-year-old woman who is currently 4 weeks into a course of postoperative radiotherapy for locally advanced cervical carcinoma is admitted with abdominal pain and diarrhoea. What is the most likely cause of the clinical picture?

1- Complication of surgery

**2- Radiation enteritis**

3- Bowel obstruction

4- Local malignant infiltration

5- Bowel perforation

Q1030. A 65-year-old man is admitted on the 'medical take' with recurrent pyrexia. He has a long history of arthritis. On examination positive findings include changes in his hands consistent with chronic arthritis, a temperature of 38.5°C, coarse crepitations at his lung bases, and a 2-cm splenomegaly. His blood count is as follows: Hb 11.3 g/dl, with a normochromic, normocytic picture, WCC 2.1 x 109 /L, neutrophils 0.3 x 109 /L, platelets 142 x 109 /L. What is the diagnosis?

1- Kostmann's syndrome

2- Curran syndrome

3- De Grouchy syndrome

**4- Felty's syndrome**

5- Di George syndrome

Q1031. A 70-year-old woman is investigated for recurrent chest infections and bleeding. Routine investigations show a WCC 32 x 103 /mm3 , Hb 9.1 g/dl, platelets 37 x 103 /mm3 , with a blood film showing cells of the myeloid series at various stages of maturation. What further investigation will be most helpful in terms of diagnosis?

1- Cytogenetic analysis

2- Neutrophil LAP score

**3- Bone marrow trephine**

4- Immunophenotyping

5- Bone marrow aspirate

Q1032. A 20-year-old woman student attends the blood transfusion service wishing to donate blood. She is currently well, has never had a serious illness and weighs 60 kg. About 6 months ago she spent the summer doing voluntary work in Nigeria. She also had her ears pierced 3 years ago and had a tattoo put on her left arm 2 years ago. She is not acceptable as a donor. What is the reason for her rejection for blood donation in the UK?

1- Body piercing

**2- Travel to an endemic area**

3- Tattoo

4- Age

5- Underweight

Q1033. A 60-year-old is taking warfarin long-term for recurrent pulmonary emboli. The patient presents to A&E complaining of vomiting a large amount of bright red blood. On examination he is pale, hypotensive with a blood pressure of 90/60 mmHg and has epigastric tenderness. Initial blood tests show: Hb 6.5 g/dl, with a normochromic normocytic anaemia; WCC 12.3 x 109 /L; platelets 375 x 109 /L and INR 9.2. How should his coagulation be corrected immediately?

1- Transfusion of fresh blood

2- Transfusion of packed red cells

3- Transfusion of 20 units cryoprecipitate and 20 mg iv vitamin K

4- Transfusion of 2000 U factor VIII concentrate

**5- Transfusion of 4 units fresh-frozen plasma**

Q1034. A 1-week-old baby presents with a widespread bleeding problem. He was born a normal delivery after 36 weeks' gestation weighing 2.6 kg and has been solely breast-fed since. His mother has noticed bleeding from his gums and extensive bruising over the last 24 hours. His motions have been black. Blood tests show: His Hb is 10.3 g/dl, WCC 13.4 × 109 /l, with a normal differential, platelets 236 × 109 /l, PT 32 s (normal range 12-17), APTT 38 s (normal range 24-38), TT 34 s (normal range 14-22), fibrinogen 2.9 g/l (normal range 2-5). What is the cause of the coagulation problem?

**1- Haemorrhagic disease of the newborn**

2- Meningococcal septicaemia

3- Haemophilia A

4- Munchausen’s syndrome by proxy

5- von Willebrand’s disease

Q1035. A 35-year-old women had a bone marrow transplant, for acute myeloid leukaemia in second remission, 14 days ago from her HLAidentical sibling. She has been pyrexic for the last 3 days and is on second-line antibiotics. Nothing has been grown in blood cultures. Over the last 48 hours she has developed tenderness in the right hypochondrium, jaundice and has gained 6 kg in weight. Her liver function tests have been deteriorating and are now AST 205 U/l, ALT 134 U/l, ALP 95 U/l, bilirubin 184 m mol/l, LDH 850 U/l. What is the most likely cause of her hepatic dysfunction?

1- Ciclosporin toxicity

2- Aspergillosis

**3- Veno-occlusive disease**

4- Acute graft-versus-host disease

5- Infectious hepatitis

Q1036. A 58-year-old businessman presents with bilateral leg weakness that has suddenly become worse over the last 12 hours. Some 10 months ago he had a lobar resection for a stage-II squamous-cell carcinoma followed by radiotherapy and adjuvant chemotherapy. On examination there is reduced power and altered sensation in both legs. What is the most likely cause of the current problem?

1- Peripheral neuropathy secondary to carcinomatosis

2- Paraneoplastic myelopathy

**3- Spinal cord compression as a result of vertebral metastases**

4- Secondary spinal tumour deposit

5- Spinal tuberculosis

Q1037. You are contacted by the cardiothoracic registrar for advice about a surgical patient. A 65-year-old man had an aortic valve replacement and coronary artery bypass grafting earlier in the day. The operation was uneventful but the patient has continued to ooze from his wounds and is bleeding considerable amounts into drains. You are told that his haematology is as follows: Hb 10.7 g/dl, WCC 14.2 x 109 /L, with a normal differential, platelets 136 x 109 /L, PT 18 s (normal range 12-17), APTT 72s (normal range 24-38), TT 32s (normal range 14-22) and fibrinogen 2.1 g/l (normal range 2-5). The reptilase time was 16s (normal range 15-18), FDP 10 mg/ml (normal range < 10). What is the cause of his coagulation abnormality?

**1- Heparin in the sample**

2- Acquired haemophilia

3- Disseminated intravascular coagulation

4- Coagulation factor deficiency due to dilution

5- ‘Surgical bleeding'

Q1038. A 55-year-old woman, who is a non-smoker, presents with rib pain. A bone scan shows multiple lesions highly suggestive of metastases. Clinical examination is normal apart from unilateral axillary lymphadenopathy. Excision biopsy of an affected lymph node shows adenocarcinoma. Which investigation should be prioritised in finding the site of the primary?

1- Ca125

2- Chest X-ray

3- Gastroscopy

**4- Mammography**

5- Colonoscopy

Q1039. You are consulted by the neonatologists about a 1-day-old baby who has an extensive purpuric rash. The baby, a primigravida, was born at 39 weeks' gestation by normal delivery after an uncomplicated pregnancy. The mother is aged 24 years and has had no medical problems before or during the pregnancy. Further investigation of the baby shows: His Hb is 14.2 g/dl, WCC 13.5 x 109 /L, with a normal differential, and platelets 4 x 109 /L. An infection screen is so far negative but a CT scan of his head shows a small intracranial haemorrhage. What is the most likely cause of his thrombocytopenia?

1- Haemolytic disease of the newborn

2- Maternal autoimmune thrombocytopenia

3- Disseminated intravascular coagulation

4- Septicaemia

**5- Fetomaternal alloimmune**

Q1040. A 29-year-old woman was diagnosed with Hodgkin's disease 10 years ago. She is in hospital having received combination chemotherapy for a third relapse. Now, she is pancytopenic and requires considerable blood-product support. Over the last 3 days she has developed a persisting fever, an extensive maculopapular rash, diarrhoea and deterioration in liver function tests. Her blood count is now: Hb 10.2 g/dl; WCC 0.2 x 109 /L and platelets 9 x 109 /L. AST 122 IU/l ALT 200 IU/l Gamma GT 99 IU/l What is the most likely cause of her current symptomatology?

**1- Transfusion-associated graft-versus-host disease**

2- Cytomegalovirus infection

3- Disseminated Hodgkin's disease

4- Chickenpox

5- Allergy to allopurinol

Q1041. A 35-year-old man had an extensive DVT 3 weeks after fracturing his femur. Now, 1 year later, and when he has been off anticoagulants for 6 months, he is planning to fly from the UK to Australia. He is a smoker and his mother had a DVT following the birth of her second child. He is referred for consideration of management of the trip. On investigation his full blood picture and coagulation screen is normal. However, his thrombophilia screen is as follows: Protein C 0.8 IU/ml (normal range 0.7-1.40 IU/ml), protein S 0.92 IU/ml (normal range 0.6-1.40 IU/ml), antithrombin III 1.1 IU/ml (normal range 0.8-1.20 IU/ml), lupus anticoagulant-negative, APC resistance 1.9 (normal > 2.2 negative, heterozygous 1.64+/- 0.11, homozygous 1.26+/-0.01), Factor V Leiden-positive. You decide that he should be given subcutaneous heparin prophylaxis to cover the long-haul flight. What is the most important reason for making this decision?

1- He smokes 10 cigarettes/day

2- Presence of Factor V Leiden mutation

**3- He is at high risk because of his previous history of a DVT**

4- His positive family history of thrombosis

5- He may have an occult carcinoma

Q1042. A 52-year-old man is referred to the haematology clinic after a routine FBC showed a WCC of 6 x 103 /mm3 , Hb 18.4 g/dl and platelets 142 x 103 /mm3 . He smokes and has hypertension that is controlled by atenolol. He was admitted two years ago with a pulmonary embolism after a trans-Atlantic flight, at which time his blood gases showed p(O2) of 6.6 kPa, p(CO2) 3.2 mmHg, pH 7.53, O2 saturation 98%. His FBC results at the time were WCC 9.9 x 103 /mm3 , Hb 17.9 g/dl, platelets 198 x 103 /mm3 . Clinical examination reveals a normal cardiovascular and respiratory system, with a respiratory rate 12/min and BP 121/74 mm Hg. What is the most likely cause of his polycythaemia?

1- Polycythaemia rubra vera (PRV)

2- Chronic pulmonary vascular disease

3- ‘Stress' polycythaemia

**4- Increased-affinity haemoglobin**

5- Chronic obstructive airways disease

Q1043. A 60-year-old pipe lagger is referred to you with a 6-month history of increasing shortness of breath and weight loss. He is a lifelong nonsmoker and has always led a fit, healthy life. Clinical examination indicates a left pleural effusion, which is confirmed on the chest Xray. Which malignant cause is most likely?

**1- Mesothelioma**

2- Small-cell lung cancer

3- Squamous-cell lung cancer

4- Bronchial carcinoid

5- Alveolar-cell carcinoma

Q1044. A 45-year-old man presents to A&E with a 1- day history of dark-coloured urine. He returned from a holiday in Kenya 1 week ago. On examination he is anaemic and mildly confused. His Hb is 8.6 g/dl, MCV 87 fl, MCH 29 pg, MCHC 32 g/dl, WCC 15 x 109 /l and platelets 81 x 109 /l. A coagulation screen shows a PT of 19 s (normal range 12-17), APTT 45s (normal range 24-38), TT 23s (normal range 14-22), fibrinogen 1.2 g/l (normal range 2-5) F.D.P. 35 mg/ml (normal range < 10). The laboratory reports the presence of red cell inclusions. What is the most likely cause of his illness?

1- Bartonella bacilliformis

**2- Plasmodium falciparum**

3- Plasmodium vivax

4- Plasmodium ovale

5- Trypanosoma brucei gambiense

Q1045. A 38-year-old woman presents with painful swelling of her left arm. Venography shows occlusion of her left subclavian vein. Her only previous medical history is of three spontaneous miscarriages. Her haematological investigations before treatment were as follows:Hb 13.2 g/dl, WCC 7.4 x 109 /L, with a normal differential, platelets 123 x 109 /L, PT 16 s (normal range 12-17), APTT 44 s (normal range 24-38), TT 17 s (normal range 14-22) and fibrinogen 2.4 g/l (normal range 2-5). What is the most likely cause of her thrombotic problem?

1- Factor V Leiden mutation

2- von Willebrand's disease

3- Primary thrombocythaemia

**4- Antiphospholipid syndrome**

5- Autoimmune thrombocytopenia

Q1046. A 58-year-old woman was admitted with a pulmonary embolism. After 7 days she has developed an arterial thrombosis in her left leg: her thrombocyte count is 40 x 109 /l. What is the most likely diagnosis?

1- Acute adrenal insufficiency

2- Disseminated intravascular coagulation

**3- Heparin-induced thrombocytopenia**

4- Immune thrombocytopenic purpura

5- Thrombotic thrombocytopenic purpura

Q1047. A 20-year-old patient with coeliac disease presents with a bleeding abnormality. She has noticed an increased susceptibility to bleeding which is difficult to stop. What is the most likely cause?

1- Disseminated intravascular coagulation

2- Folate deficiency

3- Iron deficiency

**4- Vitamin K deficiency**

5- Vitamin A deficiency

Q1048. Small-cell carcinoma of the lung is diagnosed in a 66-year-old patient. What is the best therapeutic action to improve her survival?

1- Radiotherapy

**2- Chemotherapy**

3- Pneumonectomy of the affected lung

4- Lobectomy of the affected lung

5- Hormone therapy with oestrogen

Q1049. A 25-year-old woman noticed one episode of passing blood instead of urine. Her GP arranged for a urological examination, which was normal. She looks anaemic, but examination is otherwise normal. What is the most appropriate test to confirm the likely clinical diagnosis?

1- Bone marrow biopsy

2- Full blood count

3- Erythrocyte sedimentation rate

**4- Ham test**

5- Pelvic ultrasound

Q1050. A 22-year-old patient who is a vegan and very active has been complaining of tiredness and shortness of breath for the last 2 months. On examination she looks anaemic. What is the most likely vitamin deficiency causing her anaemia?

1- Vitamin A

2- Vitamin B1

3- Vitamin B6

**4- Vitamin B12**

5- Vitamin C

Q1051. A 32-year-old Asian woman is referred to the haematology clinic with anaemia. She has rheumatoid arthritis and is currently taking prednisolone but has recently taken NSAIDs for analgesia. She has a palpable splenomegaly. FBC shows Hb 8.1 g/dl, MCV 69 fl, platelets 154 x 103 /mm3 , WCC 5.2 x 103 /mm3 . A bone marrow trephine is stained for iron and shows that iron is present in the developing erythroblasts. What is the likely cause for her anaemia?

1- Right medial medulla

2- Anaemia of chronic disease

3- Sideroblastic anaemia

**4- Haemoglobinopathy**

5- Myelodysplasia

Q1052. A 16-year-old Italian girl presents with anaemia. Serum haemoglobin is 70 g/l (120- 160 g/l). Her blood film shows marked hypochromia and variation in cell shape and size. Nucleated red cells are also found. What is the most likely diagnosis?

1- Aplastic anaemia

**2- Thalassaemia**

3- Sickle-cell anaemia

4- Acute myeloblastic leukaemia

5- Chronic myeloid leukaemia

Q1053. A 38-year-old patient is investigated for his anaemia. A bone marrow biopsy shows a reduction of haematopoietic cells, a trephine biopsy shows mainly fatty bone marrow. Given the likely diagnosis, what is the most effective long term treatment if this problem persists without an obvious predisposing factor having been identified?

1- Blood transfusions

2- Chemotherapy

3- Corticosteroids

4- Splenectomy

**5- Haematopoietic stem-cell transplantation**

Q1054. A 30-year-old patient presents with an episode of jaundice associated with feeling tired. On examination there is anaemia, splenomegaly and jaundice. He has had several such episodes in the past. The blood smear shows reticulocytosis and the red cells demonstrate increased osmotic fragility. Given the probable diagnosis, what is likely to be the most successful treatment?

1- Blood transfusion

2- Bone marrow transplantation

**3- Splenectomy**

4- Chemotherapy

5- Radiotherapy

Q1055. A 38-year-old patient is investigated for his anaemia. A bone marrow biopsy shows a reduction of haematopoietic cells and a trephine biopsy shows mainly fatty bone marrow. Given the likely diagnosis, what is the most likely complication of this disease?

1- Thromboses

2- Bleeding

**3- Infections**

4- Malignancy

5- Rupture of the spleen

Q1056. A 10-year-old boy has been complaining of pain in his right leg for 3 weeks. His mother describes him as 'being off colour'. There is nothing to find on examination. Investigation reveals a Hb of 11.5 g/dl (13-18), WCC 2.2 x 109 /L (4-11 x 109 ) with neutrophils 0.5 x 109 /L (1.5-7.0 x 109 ), lymphocytes 1.4 x 109 /L (1.5- 4.0 x 109 ) and platelets 160 x 109 /L (150-400 x 109 ), ESR is 50 mm in the first hour (0-15); urea and electrolytes are normal. Further investigation shows diffuse uptake in both femurs on MRI scan, suggestive of tumour infiltration. What is the most likely diagnosis?

1- Ewing's sarcoma

2- Juvenile arthritis

3- HIV infection

**4- Acute lymphoblastic leukaemia**

5- Acute myeloid leukaemia

Q1057. A 19-year-old man presents with a 1-week history of shortness of breath and tiredness. There is no past medical history of note. On examination he is clinically anaemic. There is a petechial rash on his lower limbs but nothing else of note on examination. His Hb is 7.2 g/dl (13-18), WCC 1.8 x 109 /L (4-11 x 109 ), neutrophils 0.2 x 109 /L (1.5-7.0 x 109 ) and platelets 10 x 109 /L (150-400 x 109 ). Coagulation screen, urea and creatinine and liver function tests are all normal. What is the most likely diagnosis?

1- Acute myeloid leukaemia

**2- Aplastic anaemia**

3- Acute folic acid deficiency

4- Lymphoma

5- Paroxysmal nocturnal haemoglobinuria

Q1058. A 60-year-old woman had her hip replaced for osteoarthritis 2 months ago. She is referred because of a persistently elevated and rising white cell count since the procedure. She has rehabilitated well from the operation but is still feeling tired. There are no other symptoms. On examination the only positive finding is 2 cm of splenomegaly. Her blood picture is as follows: Hb 10.5 g/dl (11.5-16.5), WCC 32 x 109 /L (4-11 x 109 ), blasts 3%, promyelocytes 5%, myelocytes 34%, metamyelocytes 15%, neutrophils 40%, eosinophils 2%, basophils 1% and platelets 532 x 109 /L (150-400 x 109 ). What is the most likely cause of her raised white cell count?

1- Chronic lymphocytic leukaemia

**2- Chronic myeloid leukaemia**

3- Myelofibrosis

4- Acute myeloid leukaemia

5- Chronic staphylococcal infection of the hip

Q1059. A 52-year-old woman presents to her general practitioner complaining of tiredness and lethargy. She has a 2-year history of menorrhagia with excessive blood loss. Clinically, she is anaemic. Her full blood count is as follows: Hb is 5.9 g/dl (11.5-16.5), Hct 0.24 (0.36-0.47), MCV 65 fl (80-96), MCH 22 pg (28-32), MCHC 26 g/dl (32-35), WCC 8.1 x 109 /L (4-11 x 109 ), platelets 476 x 109 /L (150- 400 x 109 ). She is started on oral iron replacement. Which of the following additional factors is most likely to aid iron absorption?

1- Ingestion of an antacid

2- A diet consisting mainly of bread and tea

3- Coincident chronic osteomyelitis

**4- Ingestion of vitamin C**

5- Ferric chloride tablets

Q1060. A 32-year-old woman presents with painless cervical lymphadenopathy which has been present for 4 months. Biopsy shows Hodgkin's disease. She is further investigated with CT scanning of her chest and abdomen and bone marrow biopsy. Which of the following clinical or histological features would most indicate a favourable prognosis?

1- Bone marrow involvement

2- Lymphocyte depleted-type histology

3- Cervical, mediastinal and infradiaphragmatic lymphadenopathy

**4- Lymphocyte-predominant histology**

5- Weight loss and Pel-Epstein fever

Q1061. A 16-year-old young man with sickle-cell anaemia is admitted with recent breathlessness. He is febrile and has a clear chest with saturations of 98% on air. From his out-patient notes his usual Hb is 9 g/dl. FBC taken in A&E shows WCC 8.6 x 103 /mm3 , Hb 4.7 g/dl, platelets 573 x 103 /mm3 with a bilirubin 25 m mol/l. Which investigation is the most useful to perform next?

1- Serum haptoglobin

2- Urinary haemosiderin

3- Parvovirus serology

**4- Reticulocyte count**

5- Chest X-ray

Q1062. A 15-year-old girl from India who recently immigrated to England has referred by her GP because she looks anaemic. On examination you notice frontal bossing of the skull and chronic leg ulcers. Her Hb is 70 g/l (120–160 g/l) and Howell–Jolly bodies are seen. What is the most likely diagnosis?

1- Thalassaemia

**2- Sickle-cell disease**

3- Aplastic anaemia

4- Myeloma

5- Acute lymphocytic leukaemia

Q1063. A 72-year-old woman presents with worsening back pain. She also feels generally weak. An X-ray of her back shows multiple vertebral collapses and lytic lesions. What is the most likely diagnosis?

1- Osteoporosis

2- Osteosarcoma

3- Bone metastases

**4- Multiple myeloma**

5- Chronic myeloblastic leukaemia

Q1064. A patient with chronic lymphocytic leukaemia on combination chemotherapy with CHOP (cyclophosphamide, Oncovin (vincristine), prednisolone, doxorubicin) still has haemolytic anaemia and thrombocytopenia despite treatment. Which intervention will most likely be of benefit?

1- Bone marrow transplantation

2- Dexamethasone

**3- Splenectomy**

4- Iron infusions

5- Erythropoietin

Q1065. A 38-year-old man presents with worsening tiredness, night sweats, cough and pruritus. His full blood count shows eosinophilia of 1800/ml (40-400ml). His GP checked his FBC 6 months ago, which reveals an eosinophil count of 1500/m l. He has no allergies or parasitic infections. What is the most appropriate treatment?

1- Ampicillin

2- Methotrexate

**3- Corticosteroids**

4- Interferon-alpha

5- Cyclophosphamide

Q1066. A 46-year-old patient has been referred because of pyrexia of unknown origin. He has had pyrexia for the last month interrupted by short afebrile episodes. Blood cultures and an infection screen were both negative. On examination his temperature is 38°C, and he has palpable, non-tender neck lymph nodes. What is the most likely diagnosis?

1- Malaria

**2- Hodgkin's disease**

3- Chronic myeloid leukaemia

4- Acute myeloblastic leukaemia

5- Infectious mononucleosis

Q1067. A 46-year-old patient has been referred because of pyrexia of unknown origin. He has had pyrexia for the last month interrupted by short afebrile episodes. Blood cultures and an infection screen were both negative. On examination his temperature is 38°C and he has palpable, non-tender neck lymph nodes. What is the most important step in obtaining the diagnosis?

1- Erythrocyte sedimentation rate

2- C-reactive protein

3- Bone marrow biopsy

4- Blood cultures

**5- Lymph node biopsy**

Q1068. A 40-year-old patient has been diagnosed with Hodgkin's disease. He is being treated with radiotherapy and chemotherapy. What is the most important factor predicting his prognosis?

1- Lymph node sizes

2- Spleen size

3- Erythrocyte sedimentation rate

**4- Response to treatment**

5- Gender

Q1069. A 25-year-old woman noticed one episode of passing blood instead of urine. Her GP arranged for a urological examination, which proved to be normal. She looks anaemic, but examination is otherwise normal. What is the most likely diagnosis?

1- Aplastic anaemia

**2- Paroxysmal nocturnal haemoglobinuria**

3- Fanconi anaemia

4- Glucose-6-phosphate dehydrogenase deficiency

5- Acute lymphocytic anaemia

Q1070. A patient with chronic lymphocytic leukaemia underwent splenectomy because he did not respond to immunosuppression and chemotherapy. What is the most likely long-term risk after splenectomy?

1- Cancer

**2- Infections**

3- Lymphoma

4- Anaemia

5- Liver fibrosis

Q1071. A 50-year-old man, who has a history of excess alcohol intake, presents complaining of arthralgia. On examination he has pigmented skin and 2 cm of hepatomegaly. On investigation his Hb is 14.5 g/dl (13-18), WCC 8.3 x 109 /L (4-11 x 109 ) with a normal differential, platelets 164 x 109 /L (150-400 x 109 ); urea 6.0 mmol/l (2.5-7.5), Na 140 mmol/l (137-144), K 4.2 mmol/l (3.5-4.9), creatinine 95 mmol/l (60-110), AST 65 U/l (1-31), ALT 82 U/l (5-35), ALP 135 U/l (45-105), bilirubin 23 mmol/l (1-22), LDH 326 U/l (10-250), serum iron 45 mmol/l (14-29), total iron-binding capacity 82 mmol/l (45-72), ferritin 623 m g/l (15-200). What is the most likely diagnosis?

1- Wilson's disease

2- Alcoholic cirrhosis

3- Acute viral hepatitis

4- Excess iron ingestion

**5- Haemochromatosis**

Q1072. A 64-year-old man is seen in the out-patient department with a persistent cough. He is a heavy smoker and has a history of diverticulitis. On examination, he is clubbed, is hyperresonant throughout his chest and has a bilateral expiratory wheeze with oxygen saturations of 92%. He has an ejection systolic murmur at the aortic area. His abdomen is slightly tender in the left iliac fossa. FBC shows Hb 14.2 g/dl, WCC 28 x 103 / mm3 (neutrophils 24 x 103 /mm3 , lymphocytes 3.3 x 103 /mm3 ), platelets 198 x 103 /mm3 . His CRP is measured at 12. His temperature is 36.8°C. What is the likely cause of the neutrophilia?

1- Acute myeloid leukaemia

2- Diverticulitis

3- Pneumonia

4- Endocarditis

**5- Bronchial carcinoma**

Q1073. A 72-year-old woman presents with worsening back pain. She also feels generally weak. An X-ray of her back shows multiple vertebral collapses and lytic lesions. What is the next investigation to confirm the diagnosis?

1- Magnetic resonance imaging

2- Muscle biopsy

**3- Serum electrophoresis**

4- Bone biopsy

5- CT scan

Q1074. A 72-year-old woman presents with worsening back pain. She also feels generally weak. An X-ray of her back shows multiple vertebral collapses and lytic lesions. Given the likely clinical diagnosis What is the most appropriate therapy?

1- Radiotherapy

2- Corticosteroids

3- Bisphosphonates

**4- Chemotherapy**

5- Splenectomy

Q1075. A 40-year-old patient has been complaining of headache, weakness, dizziness and pruritus for the last two months. He has also noticed a two stone (12.7 kg) weight loss. Gout was diagnosed some six months earlier. On examination he is cyanosed, has hepatosplenomegaly and his blood pressure is 170/100 mmHg. What is the most likely diagnosis?

1- Chronic myeloid leukaemia

2- Acute myeloblastic leukaemia

3- Myeloma

**4- Polycythaemia vera**

5- Chronic lymphocytic leukaemia

Q1076. A 40-year-old patient has been complaining of headache, weakness, dizziness, pruritus and weight loss. His laboratory results show erythrocytosis, leucocytosis, thrombocytosis and a very low erythropoietin level. Apart from thromboses, what is the major complication of this disease?

**1- Bleeding**

2- Hepatic failure

3- Renal failure

4- Respiratory failure

5- Fractures

Q1077. A 38-year-old patient is being investigated for his anaemia. A bone marrow biopsy shows a reduction of haematopoietic cells and a trephine biopsy shows mainly fatty bone marrow. What is the most likely diagnosis?

1- Vitamin B12 deficiency

2- Folate deficiency

**3- Aplastic anaemia**

4- Erythropoietin deficiency

5- Chronic myeloid leukaemia

Q1078. A 30-year-old woman was diagnosed with Hodgkin's disease 10 years ago. She was treated with radiotherapy, which led to complete remission. What is the most likely long-term risk of radiotherapy?

1- Bone marrow failure

**2- Secondary cancer**

3- Osteoporosis

4- Infections

5- COPD

Q1079. A 47-year-old alcoholic was brought into the accident and emergency department unconscious. He had multiple bruises over his trunk and had suffered a nosebleed from which he was still oozing. His spleen was palpably enlarged. What is the most likely vitamin deficiency?

1- Vitamin A

2- Vitamin B

3- Vitamin C

4- Vitamin D

**5- Vitamin K**

Q1080. A 16-year-old boy is visiting relatives in West Africa after schooling in England for his GCSEs. As part of his preparation to travel he has to be vaccinated against cholera and hepatitis A, and he has to take antimalarials such as primaquine. Two days after starting he notices that his urine is dark and he experiences back pain. He is also jaundiced. Which of these enzyme abnormalities is most likely to be responsible for his clinical symptoms?

1- Pyruvate kinase deficiency

2- Triose phosphate isomerase deficiency

**3- Glucose-6-phosphate dehydrogenase deficiency**

4- Phosphoenolpyruvate deficiency

5- Hexokinase deficiency

Q1081. A 17-year-old previously well Caucasian girl presented to her general practitioner with tiredness. The following blood counts were obtained on laboratory testing: haemoglobn 6.8 g/dl, white blood cell count 10 x 109 per litre, platelets 365 x 109 per litre, and mean cell volume (MCV) of 67 femtolitres (fl). She had been on a paracetamol and codeine compound preparation for menorrhagia and dysmenorrhoea. She eats lots of vegetables, liver, eggs, steak, and cereals. Which of these causes is playing a significant role in the aetiology of her anaemia?

1- Infestation with hookworm

2- Chronic gastrointestinal blood loss

3- Poor diet with foods not rich in iron

**4- Heavy and irregular periods**

5- Having 12 cups of tea and other binders in

Q1082. A 54-year-old man presents with a two-month history of increasing lethargy. He also reports that he has been bruising more easily of late. On direct questioning he admits to passing dark urine, but denies any other urinary symptoms. A year ago he had finished a 6-month period of anticoagulant therapy for a spontaneous deep vein thrombosis. His full blood count demonstrates haemoglobin 6.5 g/dl, white blood cell count 2.8 x 109 per litre, and platelets 27 x 109 per litre. What is the most appropriate management for his anaemia?

1- Erythropoietin injections

2- Folic acid therapy

**3- Transfusion with plasma-reduced washed red cells**

4- Androgen ‘hormonal' therapy

5- Transfusion with blood substitutes

Q1083. Which malignancy is currently the number one cause of death in women in the United Kingdom?

1- Leukaemia

2- Colon cancer

**3- Lung cancer**

4- Breast cancer

5- Uterine cancer

Q1084. A 25-year-old woman presents two days postpartum with sudden onset left-sided chest pain and shortness of breath. She is tachycardic and has a respiratory rate of 24 breaths per minute. She is started on intravenous unfractionated heparin. She is started on warfarin the day after when a ventilation/perfusion (V/Q) scan confirms a pulmonary embolus, but is slow to respond to the warfarin. Eight days into the treatment she requires increasing doses of heparin to maintain a therapeutic activated partial thromboplastin time (APTT). On day ten she has a pale, pulseless, and painful right foot. Which of the following diagnostic laboratory results support your clinical diagnosis?

**1- A low platelet count of 50 x 109per litre**

2- A prolonged international normalised ratio (INR)

3- An APTT ratio of 1.7

4- A low factor VII assay

5- A low protein C level of 43%

Q1085. A 60-year-old woman presents complaining of feeling unwell for the last 2 months. She has widespread lymphadenopathy. Her full blood count is as follows: Hb 9.5 g/dl (11.5-16.5), WCC 45 x 109 /l (4-11 x 109 ), platelets 80 x 109 /l (150-400 x 109 ); abnormal lymphocytes are present on the blood film. Bone marrow aspirate shows lymphocyte infiltration, which on immunophenotyping are CD19+, CD5+, CD10-, CD22+ and CD23-. Cytogenetics show a t(11;14) (q13;q32) translocation. What is the most likely diagnosis?

1- Chronic lymphocytic leukaemia

2- Hodgkin's disease

3- Acute lymphoblastic leukaemia

**4- Mantle-cell lymphoma**

5- Follicular lymphoma

Q1086. A 78-year-old woman on prophylactic subcutaneous low molecular weight heparin seven days after hip-replacement surgery develops a large erythematous raised area around the heparin injection site in her right arm. The following day this has enlarged, has a black necrotic centre, and a check full blood count reveals a platelet count of only 33. Further tests show a positive antibody test for platelet factor 4-heparin complex antibodies, which confirms the diagnosis of heparininduced thrombocytopenia type II. What is the most appropriate next line of management?

1- Change to an alternative form of low molecular weight heparin

**2- Stop heparin and commence a heparinoid**

3- Stop heparin and commence warfarin

4- Stop heparin and observe

5- Stop low molecular weight heparin and

Q1087. A 20-year-old man of Italian origin presents with a 3-day history of pallor and dark urine. He has had an upper respiratory tract infection and has been on antibiotics. On examination, apart from pallor and jaundice, there is nothing to find. His Hb is 4.9 g/dl (13- 18), MCV 104 fl (80-96), MCH 27 pg (28-32), MCHC 36 g/dl (32-35), WCC 6.7 x 109 /L (4-11 x 109 ) with a normal differential, platelets 380 x 109 /L (150-400 x 109 ), reticulocytes 238 x 109 /L (50-100 x 109 ); urea 3.5 mmol/l (2.5- 7.5), Na 135 mmol/l (137-144), K 4.6 mmol/l (3.5-4.9), creatinine 89 mmol/l (60-110), AST 27 U/l (1-31), ALT 43 U/l (5-35), ALP 98 U/l (45-105), bilirubin 75 m mol/l (1-22), LDH 1324 U/l (10-250). His blood film shows blister and bite cells. What is the most likely diagnosis?

1- Aplastic anaemia

2- Autoimmune haemolytic anaemia

**3- Glucose 6-phosphate dehydrogenase deficiency**

4- Hepatitis B

5- Hereditary spherocytosis

Q1088. The headmaster of the local school had recently been diagnosed as having prostatic carcinoma. Lately he had suffered bone pain, was anaemic, and had striking changes on the blood film. What is the most likely blood film abnormality?

1- Anaemia on blood film

2- Microangiopathic blood film

**3- Leucoerythroblastic blood film**

4- Thrombocytopenia on blood film

5- Leukaemoid reaction on blood film

Q1089. In terms of screening blood products for infectious agents, immunosuppressed patients should receive blood products specifically screened for which organism?

**1- Cytomegalovirus**

2- Human immunodeficiency virus-2

3- Treponema pallidum

4- Hepatitis C virus

5- Hepatitis B virus

Q1090. Which of the following is an appropriate use of blood products?

**1- Transfusion of cryoprecipitate in a patient with disseminated intravascular coagulation (DIC) and fibrinogen of 0.5g/l**

2- Transfusion of fresh frozen plasma to correct hypovolaemia after haemorrhage

3- Injection of prothrombin complex concentrate to reverse overwarfarinisation in a patient with international normalised ratio (INR) of eight and no bleeding

4- Transfusion of high-dose intravenous gamma globulin for the initial treatment of warm autoimmune haemolytic anaemia

5- Transfusion of platelet concentrate in a

Q1091. A 30-year-old intravenous drug abuser is seen in casualty after a large per vagina (PV) bleed. She is 34 weeks pregnant. She is on low molecular weight heparin following a deep vein thrombosis (DVT) at 24 weeks. A full blood count at 32 weeks was normal and antiXa levels within the therapeutic range fibrinogen 6 g/dl. She is transfused three units of crossmatched blood but four hours later is noted to be leaking from her venflon sites, and has several large bruises on her arms and legs. Other results are Haemoglobin 9.7 g/dl, platelets 54 x 109 per litre, blood film shows thrombocytopenia with some red cell fragmentation, prothrombin time 30 s, activated partial thromboplastin time (APTT) 80 s, fibrinogen 2.2 g/l, and D-dimers raised. What is the most likely cause of her clotting abnormalities?

**1- Disseminated intravascular coagulation**

2- Heparin overdose

3- Immune thrombocytopenic purpura

4- Liver failure

5- Thrombotic thrombocytopenic purpura

Q1092. A 74-year-old man presented with a threemonth history of lethargy. One month prior to referral the patient had been treated by his general practitioner for an acute attack of gout. Examination demonstrated gross splenomegaly, but there were no other findings. The full blood count was haemoglobin 9.7 g/dl, white blood cell count 125.4 x 109 per litre (differential: neutrophils 40%, metamyelocytes 12%, myelocytes 22%, promyelocytes 6%, blast cells 8%, basophils 4%, eosinophils 3%, nucleated red cells 5%), platelets 720 x 109 per litre. Which of the following is the most likely diagnosis?

**1- Chronic myeloid leukaemia**

2- Disseminated carcinoma of the prostate

3- Sickle cell anaemia

4- Non-Hodgkin's lymphoma

5- Pernicious anaemia

Q1093. A 55-year-old woman has been complaining of itching (especially in the warmth), headache, dizziness and tiredness for the last 2 years. On examination she is slightly cyanosed and has splenomegaly.The following laboratory parameters are obtained: Hb 18 g/dl; haematocrit 0.58; erythrocytes 6.8 x 1012/l; leucocytes 17 x 109 /L; platelets 395 x 109 /L. What is the most likely diagnosis?

1- Secondary erythrocytosis

**2- Polycythaemia vera**

3- Hairy-cell leukaemia

4- Brain tumour with paraneoplastic ACTH secretion

5- Waldenstrom's macroglobulinaemia

Q1094. A 32-year-old woman presents with a threemonth history of tiredness, shortness of breath, and rash. She admits to passing dark urine but denies any other urinary symptoms. There is no previous medical history of note other than a six-month course of oral anticoagulants for a spontaneous deep vein thrombosis (DVT) two years previously. On examination she has a peticheal rash around her ankles and some bruises on her forearms. The full blood count demonstrates haemoglobin 6.1 g/dl, white blood cell count 1.2 x 109 per litre, platelets 10 x 109 per litre, mean cell volume 105 femtolitres (fl), and reticulocytes 4%. Dipstick analysis of the urine was positive for 'blood', but the microscopy showed no red cells. What is the most likely diagnosis?

1- Acute myeloid leukaemia

2- Aplastic anaemia

3- Megaloblastic anaemia

**4- Paroxysmal nocturnal haemoglobinuria**

5- Systemic lupus erythematosus

Q1095. A 65-year-old smoker recently underwent radiotherapy for an inoperable lung carcinoma. He presents complaining of bleeding when he shaves. On examination he is cachectic and jaundiced. The following laboratory results are obtained. Hb, WCC normal, MCV elevated, thrombocytes 33 x 109 /L, PT, APTT and bleeding time prolonged, fibrin levels decreased. What is the most likely cause for this patient's bleeding tendency?

1- Liver metastases

2- Fibrin deficiency

**3- Disseminated intravascular coagulation**

4- Warfarin overdose

5- Bone metastases

Q1096. A 78-year-old woman attends the haematology clinic for further investigation. She receives Vitamin B12 injections every six months, having been diagnosed with pernicious anaemia four years ago. She is currently asymptomatic. Her FBC shows Hb 10.3 g/dl, MCV 101 fl, platelets 136 x 103 /mm3 , WCC 5.9 x 103 /mm3 . Other investigations show TSH 1.5 mU/l, AST 39 U/l, GGT 67 U/l, INR 1.1. What is the likely diagnosis?

1- Reticulocytosis

2- Constitutional macrocytosis

**3- Myelodysplastic syndrome (MDS)**

4- Thyroid dysfunction

5- Vitamin B12 deficiency

Q1097. A 20-year-old woman has a long history of seronegative arthritis. She has been in hospital for 2 weeks with a painful swollen knee and pyrexia. Treatment with broadspectrum antibiotics is ongoing, but a progressive deterioration of blood counts is noted. You are asked for advice on management when her full blood count is as follows: Hb 10.5 g/dl (11.5-16.5), WCC 1.5 x 109 /L (4-11 x 109 ), with neutrophils of 0.2 x 109 /L (1.5-7.0 x 109 ) and platelets 130 x 109 /L (150-400 x 109 ). Which haemopoietic growth factor is most likely to lead to improvement in her neutrophil count?

1- Thrombopoietin

**2- G-CSF**

3- Erythropoietin

4- SCF (stem-cell factor)

5- IL-3

Q1098. A 60-year-old woman presents to her general practitioner complaining of tiredness. She is a vague about her symptoms. On examination she is clinically anaemic. There is a history of abdominal surgery some years previously. Some laboratory investigations are carried out, the results of which are as follows: Hb 5.6 g/dl (11.5-16.5), MCV 117 fl (80-96), MCH 31 pg (28-32), MCHC 35 g/dl (32-35), WCC 2.5 x 109 /L (4-11 x 109 ), platelets 132 x 109 /L (150- 400 x 109 ); urea 5.0 mmol/l (2.5-7.5), Na 139 mmol/l (137-144), K 4.0 mmol/l (3.5-4.9), creatinine 65 mmol/l (60-110), AST 25 U/l (1- 31), ALT 41 U/l (5-35), ALP 90 U/l (45-105), bilirubin 35 mmol/l (1-22), LDH 850 U/l (10- 250), serum Vitamin B12 56 ng/l (140-650), serum folate 2.5 m g/l (> 1.8). Which of the following is most likely to be the cause of her macrocytic anaemia?

1- Autoimmune haemolytic anaemia

**2- Ileal resection**

3- Myelodysplastic syndrome

4- Congenital lack of intrinsic factor

5- Sideroblastic anaemia

Q1099. A 40-year-old man is referred because he was rejected as a blood donor. He has no medical history of note. There is a vague family history of anaemia, in that he thinks that his older brother, with whom he has lost touch, was investigated for anaemia. On examination he is clinically anaemic. On investigation his Hb is 9.2 g/dl (13-18), MCV 69 fl (80-96), MCH 24 pg (28-32), MCHC 29 g/dl (32-35), WCC 6.9 x 109 /L (4-11 x 109 ) with a normal differential, platelets 195 x 109 /L (150-400 x 109 ); normal urea and electrolytes and liver function tests, serum iron 45 mmol/l (14-29), total iron-binding capacity (TIBC) 64 mmol/l (45-72), ferritin 515 m g/l (15-200). A bone marrow aspirate shows abnormal erythropoiesis, and increased iron in the stores and erythroid series. What is the most likely diagnosis?

1- Haemochromatosis

2- Myelodysplastic syndrome

3- Anaemia of chronic disease

4- Acute myeloid leukaemia

**5- Sideroblastic anaemia**

Q1100. A 30-year-old woman presents to her GP with a 3-day history of menorrhagia. She has no previous history of menstrual irregularity and was previously well. On examination she is pale and has a number of bruises on her arms and legs. Blood tests are sent immediately to the hospital and are reported as follows: Hb of 7.5 g/dl (11.5-16.5), WCC 1.5 x 109 /L (4-11 x 109 ) with occasional abnormal immature cells reported on the blood film, platelets 15 x 109 /L (150-400 x 109 ), PT 19 s (12-17), APTT 45 s (24-38), TT 22 s (14-22), fibrinogen 1.2 g/l (2- 5). What is the most likely diagnosis?

**1- Acute promyelocytic leukaemia**

2- Immune thrombocytic purpura

3- Meningococcal septicaemia

4- Acute lymphoblastic leukaemia

5- Non-Hodgkin's lymphoma

Q1101. A 72-year-old woman is referred because of recurrent severe anaemia requiring transfusions. She has been admitted three times to the medical firm and has undergone extensive gastrointestinal investigations, but no source of blood loss has been found. On examination at the clinic she is clinically anaemic. There is nothing else of note on examination. Her haemoglobin is 6.8 g/dl (11.5-16.5), MCV 102 fl (80-96), MCH 30 pg (28-32), MCHC 34 g/dl (32-35), WCC 4.5 x 109 /L (4-11 x 109 ) with a normal differential, platelets 623 x 109 /L (150-400 x 109 ) and reticulocytes 75 x 109 /L (50-100 x 109 ). What is the most likely haematological diagnosis?

1- Vitamin B12 deficiency

**2- Myelodysplastic syndrome**

3- Primary thrombocythaemia

4- Tuberculosis

5- Chronic myelomonocytic leukaemia

Q1102. A 56-year-old man during a screening test for abnormal skin pigmentation was found to have an elevated serum ferritin of 3246 m g/l. He drank modestly and had no history of jaundice. He was found to be homozygous for the C282Y mutation and was confirmed to have hereditary haemochromatosis. Regular weekly venesection was started. Which of these measures of iron is best used for monitoring his therapy?

**1- Serum ferritin**

2- Zinc erythrocyte protoporphyrin

3- Serum iron and total iron-binding capacity

4- Bone marrow haemosiderin quantification

5- Serum transferrin saturation

Q1103. A 52-year-old man has a 6-month history of back pain. He now presents to casualty with a 3-day history of confusion. On examination he is disorientated and drowsy. There are no other specific signs. On investigation his Hb is 7.8 g/dl (13-18), MCV 103 fl (80-96), WCC 3.0 x 109 /L (4-11 x 109 ) with a normal differential, platelets 90 x 109 /L (150-400 x 109 ); urea 29 mmol/l (2.5-7.5), Na 135 mmol/l (137-144), K 6.2 mmol/l (3.5-4.9), creatinine 569 mmol/l (60-110), AST 22 U/l (1-31), ALT 28 U/l (5-35), ALP 78 U/l (45-105), bilirubin 15 m mol/l (1- 22), total protein 90 g/l (61-76), alb 23 g/l (37- 49), corrected Ca 3.2 mmol/l (2.2-2.6). X-ray of his lumber spine shows generalised osteopenia. What is the most likely diagnosis?

1- Hyperparathyroidism

2- Metastatic lung carcinoma

**3- Multiple myeloma**

4- Non-Hodkin's lymphoma

5- Thrombotic thrombocytopenic purpura

Q1104. A 9-year-old boy with homozygous sickle cell anaemia is brought into the accident and emergency department. He had complained of chest pain in the previous 48 hours with no cough. He was pyrexial, temperature 38°C, and shocked and clammy in the extremities. Compliance with his prophylactic medications had been poor recently because of his relocation to live with his grandmother. There was no record of childhood vaccinations. Which organism is most likely to be causative?

1- Escherichia coli

**2- Streptococcus pneumoniae**

3- Methicillin resistant Staphylococcus aureus

4- Salmonella spp.

5- Mycoplasma hominis

Q1105. You are on call and are contacted by the gynaecology registrar. A 23-year-old woman has a ruptured ovarian cyst and needs to go to theatre soon. She has mild von Willebrand's disease and has had previous operative procedures carried out without requiring blood products. Currently her Hb is 12.5 g/dl (11.5-16.5), WCC 5.2 x 109 /L (4-11 x 109 ), platelets 190 x 109 /L (150-400 x 109 ), PT 15s (12-17), APPT 40 s (24-38), TT 17 s (14-22), fibrinogen 3.1 g/l (2-5). What would be the most appropriate management of the surgery?

1- Transfusion of Haemate P

2- Transfusion of fresh-frozen plasma

**3- DDAVP and tranexamic acid**

4- Blood transfusion

5- Transfusion of platelets

Q1106. A 19-year-old student presents to A&E with a 6-hour history of severe headache and decreased level of consciousness. He has a temperature of 39°C and a widespread petechial rash. His Glasgow Coma Scale is 5/15. Emergency resuscitation is instituted, including the immediate administration of penicillin. His blood results are reported as follows: Hb 10.5 g/dl (13-18), WCC 16.3 x 109 /L (4-11 x 109 ), platelets 18 x 109 /L (150- 400 x 109 ), PT 26 s (12-17), APPT 53 s (24-38), TT 29 s (14-22), reptilase time 28 s (15-18) fibrinogen 0.7 g/l (2-5), FDP 112 m g/ml (< 10). What is the most likely cause of his coagulation problem?

1- Immune thrombocytopenic purpura

**2- Disseminated intravascular coagulation (DIC)**

3- Over-transfusion with colloid (haemodilution)

4- Blood loss

5- Acute myeloid leukaemia

Q1107. A 75-year-old woman presents on the medical take with haematemesis. On examination she is anaemic and has 2 cm of splenomegaly. On investigation her Hb is 8.2 g/dl (11.5-16.5), RCC 5.9 x 10 12/l (3.8-5.8 x 1012), Hct 0.40 (0.36- 0.47), MCV 70 fl (80-96), MCH 24 pg (28-32), MCHC 29.5 g/dl (32-35), WCC 15.5 x 109 /L (4- 11 x 109 ), platelets 756 x 109 /L (150-400 x 109 ), coagulation screen normal, ferritin 8 mg/l (15- 200). What is the most likely cause for her haematological problem?

1- Chronic myeloid leukaemia

2- Myelofibrosis

3- Iron deficiency anaemia

**4- Polycythaemia vera**

5- Primary thrombocythaemia

Q1108. A 75-year-old woman presents on the medical take with haematemesis. On examination she is anaemic and has 2 cm of splenomegaly. On investigation her Hb is 8.2 g/dl (11.5-16.5), RCC 5.9 x 1012/l (3.8-5.8 x 1012), Hct 0.40 (0.36- 0.47), MCV 70 fl (80-96), MCH 24 pg (28-32), MCHC 29.5 g/dl (32-35), WCC 15.5 x 109 /L (4- 11 x 109 ), platelets 756 x 109 /L (150-400 x 109 ), coagulation screen normal, ferritin 8 mg/l (15- 200). What is the most likely cause for her haematological problem?

1- Chronic myeloid leukaemia

2- Myelofibrosis

3- Iron deficiency anaemia

**4- Polycythaemia vera**

5- Primary thrombocythaemia

Q1109. An 85-year-old women is in a nursing home and has mild Alzheimer's disease. She has ischaemic heart disease with occasional angina on exertion but is otherwise well. Her GP refers her to haematology outpatients because of a persistently raised white cell count. When she is seen she has no complaints and there is nothing abnormal to find on examination. Her full blood picture is as follows: Hb 11.4 g/dl (11.5-16.5), WCC 27 x 109 /L (4-11 x 109 ), platelets 140 x 109 /L (150- 400 x 109 ), neutrophils 3.6 x 109 /L (1.7-7.0 x 109 ), lymphocytes 21.9 x 109 /L (1.5-4.0 x 109 ), monocytes 1.5 x 109 /L (0-0.8 x 109 ) with smear cells reported as seen on the film. What is the most likely cause of her raised white cell count?

1- Acute lymphoblastic leukaemia

2- Chronic urinary tract infection

3- Hodgkin's disease

4- Glandular fever

**5- Chronic lymphocytic leukaemia**

Q1110. A 75-year-old man presents with fatigue and weight loss. He has also been noted to be increasingly vague. On examination he is clinically anaemic and his Mini-Mental score is 5/10. He has 2 cm of splenomegaly and 2 cm of hepatomegaly. There are no other positive findings. Investigation shows the following: Hb is 8.3 g/dl (13-18), MCV 102 fl (80-96), WCC 6.5 x 109 /L (4-11 x 109 ) with a normal differential, platelets 150 x 109 /L (150-400 x 109 ); urea 10 mmol/l (2.5-7.5), Na 139 mmol/l (137-144), K 4.6 mmol/l (3.5-4.9), creatinine 135 m mol/l (60-110), total protein 88 g/l (61- 76), alb 24 g/l (37-49), Ca 2.29 (2.2-2.6) and viscosity 8.2 centipoise (1.5-1.72); IgG 7.0 g/l (7.0-14.5), IgA 0.55 g/l (0.80-4.0), IgM 22.7 g/l (0.45-2.00). What is the most appropriate treatment to improve his clinical state?

**1- Urgent plasmapheresis**

2- Transfusion of packed cells

3- Immediate chemotherapy

4- Intravenous fluids

5- Prednisolone

Q1111. A previously well 15-year-old boy presents to A&E with a 3-day history of severe diarrhoea. On examination his temperature is 37.8°C and he has a petechial rash on his lower limbs. His laboratory investigations are as follows: Hb 8.2 g/dl (13-18), WCC 13.2 x 109 /L (4-11 x 109 ) with a normal differential, platelets 15 x 109 /L (150-400 x 109 ), reticulocytes 184 x 109 /L (50- 100), PT 13 s (12-17), APPT 32 s (24-38) TT 16 s (14-22), fibrinogen 2.4 g/l (2-5), d-dimer 0 mg/ml (< 10); urea 35 mmol/l (2.5-7.5), Na 138 mmol/l (137-144), K 3.9 mmol/l (3.5-4.9), creatinine 562 mmol/l (60-110), AST 21U/l (1- 31), ALT 35 U/l (5-35), ALP 64 U/l (45-105), bilirubin 38 mmol/l (1-22), LDH 856 U/l (10- 250). What is the most likely diagnosis?

**1- Haemolytic-uraemic syndrome**

2- Immune thrombocytopenic purpura

3- Meningococcal meningitis

4- Systemic lupus erythematosus

5- Acute glomerulonephritis

Q1112. A 45-year-old patient with recently diagnosed acute myeloblastic leukaemia presents with right-sided weakness. A CT scan of his brain shows an intracerebral haemorrhage. What is the most likely cause?

**1- Hyperleucocytosis**

2- Disseminated intravascular coagulation

3- Metastases

4- Chemotherapy

5- Anaemia

Q1113. A 68-year-old with known small-cell lung carcinoma presents with a history of increasing confusion and seizures over a period of several weeks. There are no focal neurological signs and haematological and biochemical investigations are normal. A brain CT and MRI are normal. What underlying cause do you suspect?

1- Septicaemia

2- Cerebral metastases

3- Senile dementia

**4- Paraneoplastic disorder**

5- Steroid related

Q1114. A 39-year-old, previously well, woman is referred to you with a 3-month history of asthma and wheezing with occasional episodes of haemoptysis. She also tells you that she might be perimenopausal as she has had severe episodes of flushing. You suspect there might be an underlying pathological process. Which of the following investigations is most likely to reveal a cause?

1- Urine catecholamines

2- Urine vanillymandelic acid

**3- Urine 5-hydroxyindolacetic acid**

4- Urine cortisol

5- Urine calcium

Q1115. Syndrome of inappropriate antidiuretic hormone secretion (SIADH) is most commonly associated with which tumour type?

**1- Small-cell carcinoma of the lung**

2- Squamous-cell carcinoma of the lung

3- Pancreatic cancer

4- Bronchial carcinoid tumour

5- Prostate cancer

Q1116. A 27-year-old woman is reviewed in the haematology clinic. She was referred with an abnormal chest X-ray and weight loss (50 kg to 40 kg). On examination, she has cervical lymphadenopathy but no other palpable nodes and a normal abdominal examination. Her CT chest/abdomen/pelvis confirms cervical adenopathy and shows upper mediastinal adenopathy, but there are no other abnormalities. A bone marrow aspirate and trephine is normal. FBC shows neutrophils 4.3 x 103 /mm3 , lymphocytes 1.4 x 103 /mm3 , basophils < 0.1 x 103 /mm3 , eosinophils 1.7 x 103 /mm3 , Hb 11.6 g/dl, platelets 152 x 103 /mm3 . What is the likely diagnosis?

1- Burkitt's lymphoma

2- Follicular lymphoma

3- Acute myeloid leukaemia

4- Chronic Wuchereria bancrofti infection

**5- Hodgkin's lymphoma**

Q1117. You are attending a meeting where the introduction of a new screening programme to detect early lung cancer is being discussed. What is the most important criterion when deciding whether such a programme should be introduced?

1- The specificity of the test

2- The sensitivity of the test

**3- A clinically effective and cost effective method of early treatment**

4- The cost-benefit of a screening programme

5- Current technology makes early detection

Q1118. A 75-year-old retired car mechanic who is a smoker is diagnosed with lung cancer. Some 10 years ago he was treated with surgery and adjuvant chemotherapy for bladder cancer. His brother had oesophageal cancer aged 66 and another brother had prostate cancer in his seventies. His 55-year-old daughter was recently diagnosed with breast cancer. What is the most likely explanation for the cancers in your patient?

1- Exposure to aniline dyes

2- A hereditary cancer predisposition syndrome

**3- Exposure to tobacco smoke**

4- The second tumour is a late complication of chemotherapy

5- Exposure to asbestos

Q1119. Some 3 months after completing a course of chemotherapy comprising cisplatin, bleomycin and etoposide for testicular cancer, a 24-yearold smoker presents with exertional dyspnoea, wheezing and a persistent nonproductive cough. On examination there are fine bilateral basal crackles. What is the most likely diagnosis?

1- Multiple PEs

2- Lung metastases

**3- Bleomycin toxicity**

4- Cryptogenic fibrosing alveolitis

5- Tuberculosis

Q1120. A 72-year-old non-smoker presents with bone pain, constipation and malaise. Baseline investigations reveal an elevated serum calcium. Physical examination was normal. Which tumour marker investigation might be most useful for this man?

1- Carcinoembryonic Antigen (CEA)

**2- Prostate specific antigen (PSA)**

3- Alpha-fetoprotein (AFP)

4- Beta-subunit of human chorionic gonadotropin (b-hCG)

5- CA 19-9

Q1121. A 65-year-old patient has noticed worsening tiredness, weight loss and shortness of breath over the last 6 months. Lymphadenopathy and splenomegaly are present. His peripheral lymphocyte count is 60 x 109 /L (1.0-3.0 x 109 /l). What is the most likely diagnosis?

1- Hodgkin's disease

2- Non-Hodgkin's disease

**3- Chronic lymphocytic leukaemia**

4- Chronic myeloid leukaemia

5- Myeloma

Q1122. A 65-year-old patient has noticed worsening tiredness, weight loss and shortness of breath over the last 6 months. Lymphadenopathy and splenomegaly are present. His peripheral lymphocyte count is 60 x x 109 /l (1.0-3.0 x 109 /l). What is the most appropriate next step in obtaining the diagnosis?

1- Lymph node biopsy

2- CT abdomen

3- Abdominal ultrasound

4- Bone marrow biopsy

**5- Blood smear examination**

Q1123. A 60-year-old patient presents with weight loss and abdominal pain. On examination there is splenomegaly. His lymphocyte count is 5 x 109 /L (1.0-3.0 x 109 /L). His blood film shows cells that are larger than lymphocytes, without a visible nucleolus and abundant cytoplasm with broad-based projections. What is the most likely diagnosis?

1- Chronic myeloid leukaemia

2- Acute lymphocytic leukaemia

3- Chronic lymphocytic leukaemia

4- Acute myeloblastic leukaemia

**5- Hairy-cell leukaemia**

Q1124. A patient with end-stage renal failure presents with worsening anaemia. What is the most likely cause?

1- Iron deficiency

2- Folate deficiency

**3- Erythropoietin deficiency**

4- Granulocyte colony-stimulating factor deficiency

5- Pyridoxine deficiency

Q1125. A 58-year-old patient has been complaining of feeling unwell for the last 6 months. He complains of night sweats and weight loss. Molecular analysis of the peripheral blood film shows a reciprocal t (9;22) chromosome translocation. What is the most likely diagnosis?

1- Acute myeloblastic leukaemia

**2- Chronic myeloid leukaemia**

3- Acute lymphocytic leukaemia

4- Chronic lymphocytic leukaemia

5- Myeloma

Q1126. A 48-year-old man with long-standing human immunodeficiency virus (HIV) attends the clinic with a three-week history of rapidly enlarging lymphadenopathy in the left cervical region measuring 8x10 cm. There has been a recent increase in viral load and current CD4 count is 120 x 106 per litre; haemoglobin is 10.4 g/dl, white blood cell count 3.4 x 109 per litre, and platelets 115 x 109 per litre; thyroidstimulating hormone (TSH) is normal and lactate dehydrogenase (LDH) is 1140. What is the most likely diagnosis?

1- Atypical tuberculosis

2- Kaposi's sarcoma

3- Thyroid carcinoma

4- Cytomegalovirus infection

**5- High-grade non-Hodgkin's lymphoma**

Q1127. In which part of the cell cycle are cells most resistant to chemotherapeutic drugs?

1- S phase

2- M phase

**3- G0 phase**

4- G1 phase

5- G2 phase

Q1128. An 82-year-old man is reviewed in a medical clinic for weight loss and headaches. He has had trouble reading and there are no other neurological symptoms. He is an ex-smoker and has cardiac failure controlled with furosemide (frusemide) and captopril. On examination, he has axillary lymphadenopathy and splenomegaly. FBC shows Hb 10.1 g/dl, WCC 6.2 x 103 /mm3 , platelets 118 x 103 /mm3 , ESR 98, and his renal and bone profiles are normal. What is the likely diagnosis?

1- Multiple myeloma

2- Temporal arteritis

3- Hodgkin's lymphoma

**4- Lymphoplasmacytoid lymphoma**

5- Systemic lupus erythematosus (SLE)

Q1129. A 58-year-old Chinese man visiting relatives in the UK presents with a 3-month history of weight loss, jaundice and right upper quadrant pain. On examination there is hepatomegaly. He does not smoke and drinks alcohol only occasionally. Which type of malignancy is most likely to account for this presentation?

1- Pancreatic carcinoma

2- Cholangiocarcinoma

3- Stomach cancer

4- Oesophageal cancer

**5- Hepatocellular carcinoma**

Q1130. A 38-year-old woman is referred to the haematology out-patients department by her GP with anaemia. Her Crohn's disease has recently flared up after a prolonged course of non-steroidal anti-inflammatory drugs (NSAIDs) prescribed for her painful lower back. She has never had abdominal surgery. Her results show Hb 8.3 g/dl, MCV 101 fl, WCC 8 x 103 /mm3 , platelets 480 x 103 /mm3 , bilirubin 39 mmol/l, lactate dehydrogenase (LDH) 378 U/l, normal renal and liver function, her red cell folate level is low as is her serum Vitamin B12. What is the most likely cause of her anaemia?

1- NSAID-induced gastritis

2- Anaemia of chronic disease

3- Pernicious anaemia

4- Dietary deficiency of Vitamin B12 and folate

**5- Terminal ileal disease**

Q1131. You are asked to review a patient with metastatic lung cancer who has a potassium level of 6.5 mmol/l. He has been generally well, although he has recently complained of tiredness and malaise. Clinical examination is unremarkable and he has normal renal function. He is currently on no medication. A repeat measurement shows his potassium level to be 6.6 mmol/l. What might be the cause of his hyperkalaemia?

1- Tumour-lysis syndrome

2- Septicaemia

3- Bilateral uteric obstruction

**4- Bilateral adrenal metastases**

5- Haemolysed blood sample

Q1132. A 40-year-old man presents with symptoms and signs of anaemia. He has also recently had recurrent infections that have taken longer than usual to resolve, and he has frequent nose bleeds. There is no organomegaly. Some 15 years ago he had chemotherapy and radiotherapy for Hodgkin's disease. Which haematological condition would you be particularly concerned about?

1- Relapse of Hodgkin's disease

2- A new primary lymphoma

**3- A secondary acute myeloid leukaemia**

4- Multiple myeloma

5- Myelofibrosis

Q1133. A relative of a patient of yours who has metastatic cancer asks your opinion about a new experimental cancer treatment that works by cutting off the tumour blood supply. He is referring to which group of drugs?

**1- Angiogenesis inhibitors**

2- Interferons

3- Monoclonal antibodies

4- Taxanes

5- Matrix metalloproteinase inhibitors

Q1134. A 26-year-old man is admitted with a 1-week history of worsening headaches and visual disturbance. Some 6 months ago he completed a course of intensive chemotherapy for widespread advanced testicular cancer. On examination there are visual field abnormalities and papilloedema. What is the most likely cause of his symptoms and signs?

1- Cerebral abcess

2- Late chemotherapy toxicity

3- Side-effect of cranial irradiation

**4- Relapse with brain secondaries**

5- Paraneoplastic phenomenon

Q1135. A 40-year-old woman is worried about her risk of bowel cancer. Her father and two of her brothers all died from colorectal cancer in their forties and fifties. Which other cancer would you specifically ask about in female relatives?

1- Breast cancer

2- Ovarian cancer

3- Cervical cancer

**4- Uterine cancer**

5- Vulval cancer

Q1136. A 55-year-old woman presents with progressive shortness of breath and ankle swelling. Clinically there is evidence of cardiac failure. Some 15 months ago she was treated with radiotherapy, chemotherapy (including doxorubicin) and hormonal therapy for left breast cancer. Given her previous history what diagnosis would you be particularly concerned about?

1- Pericardial effusion

2- Constrictive pericarditis

**3- Cardiomyopathy**

4- Pulmonary hypertension secondary to multiple pulmonary emboli

5- Long-term side-effect of tamoxifen

Q1137. Most cancer cells activate telomerase. What is the most likely biological result of this activation?

1- Cell death

2- Angiogenesis

**3- Immortalisation**

4- Tumour suppression

5- Major histocompatibility complex activation

Q1138. A 34-year-old woman is receiving a cisplatin based chemotherapy regimen as part of a treatment programme for malignant carcinoma of the ovary. Which of the following is a typical side effect of cisplatin based chemotherapy?

**1- Ototoxicity**

2- Excessive hair growth

3- Optic neuritis

4- Hypercalcaemia

5- Hypermagnesaemia

Q1139. A 28-year-old woman is 24 days postallogeneic bone marrow transplantation (D+24) for relapsed acute myeloid leukaemia using an unrelated donor. Blood count shows hamoglobin 8.4 g/dl, white blood cell count 1.2 x 109 per litre, neutrophils 0.8 x 109 per litre, and platelets 16 x 109 per litre. She is febrile at 37.5°C with a widespread macular rash that extends from the palms and soles to involve the trunk and lower extremities. For the last 36 hours she has had profuse diarrhoea with some admixed blood. What is the most likely diagnosis?

1- Delayed haemolytic transfusion reaction

**2- Acute graft versus host disease**

3- Thrombotic thrombocytopenic purpura

4- Acute graft rejection

5- Cytomegalovirus infection

Q1140. What is mycosis fungoides?

**1- Cutaneous T-cell lymphoma**

2- Cutaneous B-cell lymphoma

3- A lymphoid reaction to insect bites

4- A fungus sepsis due to immunodeficiency

5- A graft versus host reaction

Q1141. A 27-year-old female receives 3 units of blood over 30 min to treat her blood loss after delivery. Shortly afterwards she develops urticaria, shortness of breath and back pain. On examination her pulse is 160/min. What is the most likely cause?

**1- ABO incompatibility**

2- Rhesus incompatibility

3- Antineutrophil antibodies

4- Anti-human leucocyte antigen (HLA) antibodies

5- Contamination

Q1142. A 45-year-old lady was found to have a purpuric rash on her legs associated with easy bruising which started after minor trauma. She then presented with an episode of confusion, headache and fatigue, for which she was admitted to hospital for observation. While in the ward she presented a generalised tonic-clonic seizure. On examination widespread purpura are seen, as well as retinal haemorrhage, and she has a temperature of 38°C. The following blood results were obtained: White cell count (WCC) 2.7 x 109 /L Red blood cells (RBC) 8.2 x 109 /L Platelets 10 x 109 /L Fragmented red blood cells and increased reticulocytes Serum lactate dehydrogenase and bilirubin levels elevated What is the most likely diagnosis?

1- Aplastic anaemia

2- Autoimmune thrombocytopenia

**3- Thrombotic thrombocytopenic purpura**

4- Myelodysplasia

5- Acute myeloblastic leukaemia

Q1143. A 76-year-old man presents to his GP with increasing lumbar spine pain, lethargy and tiredness. Lumbar spine x-ray reveals areas of collapse suspicious of pathological fractures. Laboratory testing reveals anaemia with haemoglobin of 8.5 g/dl and urinary Bence Jones protein is identified. Skeletal survey reveals a number of suspicious areas including the lumbar spine, both femurs and the right humerus. Multiple myeloma is confirmed. Which of the following most accurately represents the median survival prognosis for unselected patients with multiple myeloma?

1- 1 year

2- 2 years

3- 5 years

4- 4 years

**5- 3 years**

Q1144. What is the significance of the bcr/abl gene?

1- It acts on stem cell line in the DNA

2- It blocks apoptosis

**3- It codes for production of a tyrosine kinase**

4- It increases production of G-CS (cerebrospinal fluid)

5- It increases expression of G-CSF receptors

Q1145. A 32-year-old woman is receiving combination chemotherapy with cisplatin as part of her treatment for ovarian carcinoma. Which of the following correctly describes the mode of action of cisplatin?

**1- It leads to cross-linking of DNA to form adducts**

2- It is an alkylating agent

3- It inhibits protein synthesis

4- It is a topoisomerase inhibitor

5- It is an epidermal growth factor receptor

Q1146. A 30-year-old pregnant female who has reached 20 weeks has a family history of deep vein thromboses (DVTs). Her thrombophilia screen shows factor V Leiden. What is the most appropriate management?

**1- Seek medical attention for anticoagulation if the calf swells**

2- Aspirin 75 mg once daily

3- Prophylactic low-molecular weight heparin

4- Prophylactic unfractionated heparin

5- Prophylactic warfarin

Q1147. You are considering prescribing an anti-emetic for a 38-year-old woman undergoing cancer chemotherapy. Which of the following anti-emetics acts via the neurokinin-1 receptor?

1- Hyoscine

2- Ondansetron

3- Metoclopramide

4- Domperidone

**5- Aprepitant**

Q1148. A 42-year-old gentleman with pyrexia of unknown origin is being investigated. He received a renal transplant 3.5 years previously, where the donor was CMV antibody positive, EBV antibody positive, HIV negative. On examination he has enlarged axillary lymph nodes. His bloods are as follows: Hb 10.0 g/dl WCC 9.2 x 109 /L PLT 135 x 109 /L Creatinine 120 µmol/l (3yrs ago was 110) ESR 50 mm/hr Which of the following is the likely cause?

**1- Lymphoma**

2- CMV

3- EBV

4- HIV

5- Hepatitis C

Q1149. A 51-year-old man presents for review with lethargy and periodic fevers. He has experienced gradual weight loss and has noticed some lymph nodes appear under his armpits and in his groin. Biopsy of one of the axillary nodes is suggestive of a follicular lymphoma. Immunohistological staining suggests that the lymphocytes are CD20+. He is commenced on standard chemotherapy in conjunction with a monoclonal antibody. Which drug treatment for non-Hodgkin's lymphoma acts against CD20 lymphocytes?

1- Ciclosporin

2- Infliximab

**3- Rituximab**

4- Trastuzumab

5- Gemtuzumab

Q1150. An 82-year-old woman presents with tiredness and fatigue which have increased over the past few months, this is accompanied by night sweats. Additionally she feels rather full after a meal and can only eat small amounts due to a soreness/ full feeling in her abdomen; as a result she has lost a substantial amount of weight. She has attended the GP 3 times in the past few months, twice with lower respiratory tract infection, and once due to severe cold sores. Clinical examination reveals evidence of lymphadenopathy and splenomegaly. Investigations; Hb 9.0 g/dl WCC 57.2 x 109 /L (lymphocytosis) PLT95 x 109 /L Smudge cells seen on peripheral blood smear Na+ 141 mmol/l K+ 5.4 mmol/l Creatinine 120 μmol/l Which of the following represents the most appropriate therapy for this patient?

1- Busulphan

**2- Chlorambucil**

3- Fludarabine

4- Prednisolone

5- Rituximab

Q1151. A 37-year-old man noticed some mild nose bleeds followed by a small patchy reddening on both legs associated with bruising. His treatment for chronic polyarthritis was switched 2 weeks ago. Haematology laboratory results reveal a thrombocyte count of 9 x 109 /l, otherwise his blood counts were normal. What is the next step in identifying the cause?

1- Cytological bone marrow examination

2- Histological bone marrow examination

**3- Identification of the new medication**

4- Therapeutic trial with prednisolone

5- Abdominal ultrasound with spleen

Q1152. You are reviewing the samples collected and results of investigations from a 66-year-old man who was reviewed in the haematology clinic to decide on his underlying diagnosis. His results are summarised below; Hb 9.2 g/dl leukoerythroblastic blood picture with tear drop poikilocytosis WCC 4.9 x 109 /L PLT 602 x 109 /L Na+ 139 mmol/l K+ 5.4 mmol/l Creatinine 130 μmol/l Bone scan Patchy increases in bone density Bone marrow aspirate dry tap Bone marrow biopsy patchy reticular fibrosis, with small areas of haemopoetic cells Which of the following is the commonest feature of this disease which leads to presentation to medical services?

**1- Fatigue**

2- Toe pain

3- Bruising

4- Infections

5- GI haemorrhage

Q1153. A 72-year-old man with minimal change disease and nephrotic syndrome presents to the Emergency Department with acutely worsening shortness of breath. On examination his blood pressure (BP) is 100/60 mmHg, pulse 100/min regular. His respiratory rate is 38/min and auscultation of the chest reveals no signs of pulmonary oedema. He has gross swelling of his lower limbs consistent with his underlying renal disease. Arterial blood gas measurement (air): pa(O2) 6.6 kPa pa(CO2) 3.8 kPa Which underlying clotting disorder is most likely to be the cause of his presentation on this occasion?

1- Protein C deficiency

**2- Protein S deficiency**

3- Factor V Leiden mutation

4- Antiphospholipid antibody syndrome

5- Occult pelvic malignancy

Q1154. A 54-year-old white man is admitted to the hospital because of abdominal pain and 'black stools'. He has not seen a doctor in years. He smokes two packs of cigarettes daily. Physical exam reveals poor dentition, normal cardiovascular exam, and moderate splenomegaly with mild epigastric and left upper quadrant tenderness and a stool test positive for occult blood. Laboratory values reveal haemoglobin of 9.5 g/dl, haematocrit of 29%, white blood cell (WBC) count of 9000/ml with a fairly normal differential, a platelet count of 540 x 109 /L and a ferritin level of 4 mg/l. Serum Vitamin B12 levels are elevated. A bone marrow exam shows hypercellularity without other specific findings and chromosomes are reported as normal. Endoscopy reveals a gastric ulcer and biopsies are negative for malignancy but positive for Helicobacter pylori infection. Appropriate management at this stage should be?

1- Splenectomy

2- Transfusion of two units of packed RBCs

3- Observation

**4- Eradication treatment for the Helicobacter pylori infection and iron supplementation for the iron deficiency anaemia**

5- Eradication treatment for the H. pylori

Q1155. A 52-year-old black woman comes to you for another opinion regarding a history of anaemia that has been unresponsive to oral iron supplementation. She sought your opinion because her other physician was recommending iron supplementation iv. She has been on nearly continuous iron supplementation therapy ever since her second child was born 23 years ago. Over the years she says her doctors have prescribed her to take anywhere from one to three pills daily, sometimes with vitamin C concomitantly. Although she has never needed a transfusion, she says she has been told that her RBC count has never completely normalized. She is otherwise healthy and has no unusual dietary habits. Her menstrual history reveals relatively normal menstrual periods until about 3 years ago, when she attained menopause. The patient believes that her mother was also iron deficient. Your physical exam is normal. Laboratory values show a haemoglobin of 11.6 g/dl; haematocrit, 33%; MCV, 70 fl; normal white blood cell (WBC) with differential; normal platelet count; serum iron, 70 mg/l; iron-binding capacity, 255 mg/dl; and ferritin, 158 m g/l. Which is the most likely diagnosis?

1- Sickle cell disease

2- Haemoglobin C disease

3- Beta-thalassaemia major

**4- Homozygous alpha-thalassaemia**

5- Acquired alpha-thalassaemia

Q1156. A 25-year-old white woman presents to the emergency room with the complaint of extreme shortness of breath of acute onset. She was actually seen in the same emergency room 24 h previously where she was diagnosed with a urinary tract infection and given a prescription for co-trimoxazole. She is overweight and sedentary and smokes two packs of cigarettes a day. On physical exam she is markedly dyspneic and extremely cyanotic. Arterial blood gases fail to reveal any hypoxia, but a ventilation-perfusion scan is obtained anyway, which is read as low probability. What should be the next course of action?

1- Repeat the arterial blood gas to look for progression and development of hypoxia

2- Proceed to pulmonary arteriography

3- Begin anticoagulation

**4- Administer methylene blue**

5- Transfuse two units of packed RBCs

Q1157. A 60-year-old white man comes to see you because he was told he had 'a high blood count'. Physical exam is normal except for a ruddy complexion, which he says he has had most of his adult life. He has smoked two packs of cigarettes per day since he was 16 years old. A blood screen shows a normal white blood cell (WBC) count and differential, normal platelet count, haemoglobin of 18.4 g/dl and a haematocrit of 57%. In working up a diagnosis for this patient, what is the next most appropriate test to order?

1- Serum EPO (erythropoietin) level

2- Arterial blood gas analysis

**3- Red cell volume**

4- Bone marrow aspirate and biopsy

5- Pulmonary function tests

Q1158. A 60-year-old white man comes to see you because he was told he had 'a high blood count'. Physical exam is normal except for a ruddy complexion, which he says he has had most of his adult life .He has smoked two packs of cigarettes per day since he was 16 years old. A blood screen shows a normal white blood cell (WBC) count and differential, normal platelet count, haemoglobin of 18.4 g/dl and a haematocrit of 57%. Red cell volume is elevated, erythropoietin levels are low and leucocyte alkaline phosphatase score is high, suggesting primary polycythaemia. Which of the following statements fits best with primary polycythaemia?

1- Around 10% of cases progress to acute myeloblastic leukaemia

2- Around 50% of cases progress to myelofibrosis

3- Venesection is only used where chemotherapy has failed

4- Administration of radioactive phosphorous carries no increased risk of leukaemia

**5- H2-receptor antagonists may be useful in**

Q1159. A 53-year-old woman comes to see you regarding a possible diagnosis of essential thrombocytosis. She says her gynecologist has noted a platelet count of 550,000/ml on three separate occasions over the past 2 years. Apart from two uneventful childbirths, the woman says she really has no significant medical history. She says she has never been told she was anaemic. Lab values reveal a normal haemoglobin, haematocrit and MCV. The platelet count is 580,000/ml. Your review of the peripheral blood smear reveals no microcytosis or hypochromia but does show RBC Howell-Jolly bodies. The platelet count on the smear appears elevated, but there are no giant platelets or platelet clumps. What is the next most appropriate step in your diagnostic work-up?

1- Perform bone marrow aspirate and biopsy

2- Obtain a C-reactive protein and an erythrocyte sedimentation rate (ESR), looking for chronic inflammation

3- Obtain a ferritin level to confirm that there is no iron deficiency

**4- Go back and obtain a more thorough history and repeat the physical exam**

5- Perform chest, abdominal and pelvic

Q1160. Which of the following is being used as a prognostic marker in acute myeloblastic leukaemia?

**1- Bone marrow karyotype**

2- Monocytic morphology

3- White cell count

4- Percentage of blasts in bone marrow

5- C-reactive protein

Q1161. Where does glioblastoma multiforme localise most frequently in the brain?

**1- Cerebrum**

2- Ventricle wall

3- Basal ganglia

4- Cerebellum

5- Pons

Q1162. A 58-year-old man presents with tiredness, easy bruising, night sweats and weight loss. Investigations Hb 8.9 g/dl WCC22.1 x 109 /L (circulating blasts seen) PLT72 x 109 /L Na+ 139 mmol/l K+ 5.3 mmol/l Creatinine 155 μmol/l Bone Marrow Aspiration32% blasts Which of the following genetic abnormalities is associated with the worst prognosis?

1- inv 16

**2- 5q3- t(15;17)**

4- t(16;16)

5- t(8;21)

Q1163. A patient with antiphospholipid syndrome had two deep venous thromboses in the past. What is the most appropriate anticoagulation regimen?

1- Aspirin

2- Aspirin and warfarin

3- Long-term heparin

4- Warfarin for 6 months

**5- Warfarin lifelong**

Q1164. What is the most likely sequela of anaplastic thyroid carcinoma?

1- Brain metastasis

2- Hypercalcaemia

3- Liver metastasis

4- Lung metatstasis

**5- Upper airway obstruction**

Q1165. Where is the chromosomal translocation in acute promyelocytic leukaemia located?

**1- t(15:17)**

2- t(9:22)

3- t(13:18)

4- t(10:19)

5- t(16:18)

Q1166. A patient has been diagnosed with papillary carcinoma of the thyroid. He also has a solitary cervical lymph node. His thyroid function tests are normal. What is the most appropriate therapy?

**1- Total thyroidectomy and lymph node dissection**

2- Radiotherapy

3- Chemotherapy

4- Palliative care

5- Removal of lymph node

Q1167. A 72-year-old lady with confirmed anaplastic thyroid carcinoma is being screened for metastases. Which of these organs is the most likely to be involved with metastases?

1- Brain

**2- Lung**

3- Oesophagus

4- Spleen

5- Kidney

Q1168. Which of the following is being used as a prognostic marker in acute myeloblastic leukaemia?

1- Elevated lactate dehydogenase (LDH)

**2- Karyotype of bone marrow**

3- Monocytic morphology

4- The number of blasts in the bone marrow

5- White cell count at diagnosis

Q1169. A 62-year-old woman with a platelet count of 1,350,000/ml has been diagnosed with essential thrombocytosis after an exhaustive search failed to reveal any reactive causes for the elevated platelet count. Her platelet count has been greater than 1 million for more than 6 months. The most appropriate therapy now that a diagnosis of essential thrombocytosis has been established is?

1- Platelet phoresis

2- Aspirin

3- Clopidogrel

**4- Aspirin and hydroxyurea**

5- Interferon-gamma

Q1170. A 65-year-old man presents with a 4-month history of weakness and fatigue associated with chronic nasal bleeding. On direct questioning he also complains of shortness of breath, dizziness and headaches. On examination he looks pale and has hepatomegaly. Retinal examination reveals papilloedema with distended retinal vasculature. Hb is 7.0 g/l. Given the suspected diagnosis. What is the next step in obtaining the diagnosis?

1- Liver biopsy

**2- Serum protein electrophoresis**

3- Abdominal ultrasound

4- Erythrocyte sedimentation rate

5- ECG

Q1171. Which kind of tumour typically secretes serotonin?

**1- Carcinoid of the ileum**

2- Macrocystic pancreatic adenoma

3- Mucinous pancreatic cystadenoma

4- Papillary ovary cystadenoma

5- Mucinous ovary cystadenoma

Q1172. A 14-year-old boy presents acutely with petechiae on his legs, severe abdominal pain, bloody faeces, haematuria and painful joint swelling. The haematology laboratory results are normal. What is the most likely diagnosis?

1- Acute lymphocytic leukaemia

2- Alport's syndrome

**3- Henoch-Schönlein purpura**

4- Juvenile rheumatoid arthritis

5- Typhus abdominalis

Q1173. A 12-year-old boy fell while playing in the garden. He developed a very painful swelling of his right knee, aspiration of which revealed the presence of blood. The following laboratory parameters have been obtained: INR normal, APTT increased, fibrinogen normal, antithrombin III level normal, bleeding time 3.3 min. What is the most likely cause?

1- Fibrinogen deficiency

2- Glucose-6-phosphate dehydrogenase deficiency

3- Prothrombin deficiency

**4- Haemophilia**

5- Factor VII deficiency

Q1174. Cardiomyopathy as a dose-dependent sideeffect is most likely due to which cytotoxic agent?

1- Cytarabine

2- Bleomycin

3- Mercaptopurine

4- Vincristine

**5- Doxorubicin**

Q1175. What is the most likely finding in the stable phase of chronic myeloid leukaemia?

**1- Enlargement of the spleen**

2- Enlargement of lymph nodes

3- Pulmonary infiltrates

4- Joint swelling

5- Enlargement of the liver

Q1176. A 58-year-old woman who has suffered two ischaemic strokes is started on phenytoin for recurrent seizures. She is suffering from extreme tiredness and has noticed increasing bruising over the past few weeks. Other medication includes ramipril 10mg daily and clopidogrel one tablet daily. Investigations: Hb 8.2 g/dl MCV 102 fl WCC2.3 x 109 /L Platelets 38 x 109 /L Na+ 140 mmol/l K+ 4.6 mmol/l Creatinine 135 μmol/l What is the most likely diagnosis?

1- Clopidogrel induced pancytopaenia

**2- Phenytoin induced pancytopaenia**

3- Haemolytic anaemia

4- Myelofibrosis

5- Myelodysplasia

Q1177. A 16-year-old patient noticed a swelling on her neck 4 weeks ago. On examination there are several supraclavicular increased lymph nodes as well as a parasternal swelling. The haematological exam shows a neutrophil granulocytosis, neutrophil count 12 x 109 /l. When would you perform a lymph node biopsy?

1- If there is no reduction of the swelling after 3 weeks of antibiotic therapy

2- After a negative mononucleosis test, tuberculin test and yersinia antibody test

3- After intrathoracal lymph node swelling has been diagnosed

**4- Immediately**

5- After a 3-week observation period if there

Q1178. What laboratory test is most useful for screening and therapy control in patients with carcinoma of the prostate?

1- Lactate dehydrogenase

2- Alpha-fetoprotein

**3- Prostate-specific antigen**

4- Alkaline phosphatase

5- Carcinoembryonic antigen

Q1179. Where is the most likely location of a primary extranodal malignant lymphoma in nonimmunocompromised patients?

1- Kidney

**2- Upper gastrointestinal tract**

3- Brain

4- Lungs

5- Spleen

Q1180. Which brain tumour typically manifests bilaterally in patients with neurofibromatosis type 2?

1- Capillary haemangioma

2- Giant-cell astrocytoma

**3- Acoustic neurinoma**

4- Medulloblastoma

5- Ependymoma of the ventricles

Q1181. A 23-year-old man presents with a lump on the right side of his neck which he first noticed 2 months ago. He tried several homeopathic medications but the lump steadily increased in size. He also noticed some shortness of breath and sweating at night. On examination the mass is firm, non-tender, not fixed to deeper structures or to the skin. He is slightly pale but no other masses are palpable. His temperature is 38°C. Which of the following investigations is most likely to be diagnostic?

1- Fine-needle aspiration biopsy of the mass

2- CT scan of the neck

3- Ultrasonography of the neck

**4- Excision biopsy**

5- MRI scan of the neck

Q1182. A 60-year-old woman with metastatic breast cancer presents with fever. She received palliative treatment with paclitaxel chemotherapy 10 days ago. She now complains of a painful vesicular rash along her right thorax. Physical examination shows an acutely ill-looking woman. Her oral examination, as well as chest, cardiac and abdominal examination, is normal. There is a vesicular erythematous rash on her chest. Her temperature is 39°C. Laboratory examination is normal except for a haemoglobin of 105 g/l, WCC 1.1 x 109 /L and platelets 30 x 109 /l. Chest X-ray is normal. Blood cultures are obtained. What is the most appropriate next step?

**1- Parenteral aciclovir and ceftazidime**

2- Granulocyte colony-stimulating factor (GCSF)

3- Platelet infusion

4- Tamoxifen

5- Second course of paclitaxel

Q1183. A patient presents with jaundice. Physical examination reveals an enlarged, nodular liver. CT scan of the abdomen shows a cirrhotic liver with a large mass, and the CTguided biopsy of the mass demonstrates a malignant tumour derived from hepatic parenchymal cells. Infection with which of the following viruses would most likely be directly related to the development of this tumour?

1- Epstein-Barr virus

**2- Hepatitis B virus**

3- Human herpesvirus type 8

4- Human papillomavirus

5- Human T-lymphocyte virus

Q1184. An 18-year-old woman is referred to the haematology out-patients department by the gynaecologists who can't find a structural or hormonal cause for her severe menorrhagia. Clinical examination is unremarkable apart from her pallor, and she is on no medication. A full blood count shows: Hb 8.4 g/l; MCV 71 fl; RDW 21%; WCC 7.2 × 103 /mm3 ; platelets 501 × 103 /mm3 . Her liver function and renal function are normal, as is her prothrombin time. Which investigation is most likely to reveal the underlying disorder?

1- Factor VIII:C level

2- Bone marrow aspirate

3- Serum ferritin

4- Activated partial thromboplastin time

**5- von Willebrand factor level**

Q1185. A 49-year-old woman who is 12 months postchemotherapy for carcinoma of the breast comes to the clinic for review. The regime included use of trastuzumab. She has significant shortness of breath which has increased over the past 4 weeks. On examination her BP is 135/80 mmHg, pulse 92/min regular. Her JVP is raised 6cm and she has bilateral ankle swelling. Respiratory examination revealed bibasal crackles. Which of the following is the most likely diagnosis?

1- Chemotherapy related pulmonary fibrosis

2- Radiotherapy related pulmonary fibrosis

3- Malignant pleural effusion

4- Lymphangitis carcinomatosis

**5- Chemotherapy related cardiac failure**

Q1186. You review a woman who is 34 weeks pregnant. She is noted on routine blood testing to be anaemic, with a raised unconjugated bilirubin. You suspect that she may have microangiopathic haemolytic anaemia (MHA). Which of the following features/ underlying conditions is most likely to be associated with MHA?

1- Normal reticulocyte count

**2- HELLP syndrome (haemolysis, elevated liver enzymes, low platelet count)**

3- Idiopathic thrombocytopenia (ITP)

4- Normal unconjugated bilirubin

5- Normal platelet count

Q1187. A 22-year-old woman of Caucasian origin presents to the GP complaining of an acutely swollen, painful left arm. She has an unremarkable past medical history and takes the contraceptive pill as her only medication. On examination her arm looks swollen and oedematous, with some evidence of venous distension. Investigations : Hb 13.1 g/dl WCC 4.5 x 109 /L PLT 200 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 120 µmol/l APTT and PT normal Left arm venogram: extensive axillary vein thrombosis You suspect an inherited prothrombotic disorder. Which is the most common inherited prothrombotic disorder in patients of northern European origin?

1- Protein C deficiency

2- Protein S deficiency

**3- Heterozygous factor V Leiden**

4- Antithrobin III deficiency

5- Prothrombin mutation

Q1188. A 28-year-old patient is undergoing a dental extraction. He has mild haemophilia A with factor VIII activity of around 5%. He has been given desmopressin prophylaxis. What is the mode of action of desmopresssin?

1- Antithrombin III action

2- Prevention of fibrinolysis

**3- Release of stored factor VIII from endothelium**

4- Increase in von-Willebrand factor only

5- Increase in factor 10a

Q1189. A 72-year-old man presents with headaches, itching, and weight loss. He is a non-smoker with a history of mild hypertension treated with amlodipine 10mg. On examination his BP is 166/98 mmHg, and he looks plethoric. There is hepatosplenomegaly on abdominal examination. Investigations Hb 20.2 g/dl WCC 14.2 x 109 /L PLT 630 x 109 /L Haematocrit 0.55 (0.40-0.52) Visc 2.8 mPa/s (1.50-1.72) Leukocyte alkaline phosphataseelevated Which of the following is the most likely diagnosis?

**1- Primary polycythaemia**

2- Essential thrombocythaemia

3- Chronic myeloid leukaemia

4- Chronic lymphocytic leukaemia

5- Secondary polycythaemia

Q1190. A 70-year-old lady who had a lumpectomy for breast carcinoma 20 years ago now presents with lower back pain. She has been feeling tired over the past few months, and takes ramipril for blood pressure but has had no other significant symptoms. Investigations Hb 10.9 g/dl WCC 5.0 x 109 /L PLT 210 x 109 /L Visc2.25 Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 130 μmol/l Ca corrected 2.2 mmol/l Alkaline phosphatase 290 U/l Total protein 62g/l Albumin 30g/l Bone scan normal Given the likely diagnosis, which of the following is the most appropriate investigation to assess the activity of her underlying disease?

1- MR spine

**2- Serum beta 2 microgloblulin**

3- Serum protein electrophoresis

4- HER-2 status

5- Serum P1NP

Q1191. A patient diagnosed with carcinoma of the colon underwent a hemicolectomy. Staging is T3, N1, M0 . Based on large clinical trails which treatment increases the survival?

1- Postoperative radiotherapy

2- Postoperative radiotherapy and chemotherapy with doxorubicin

**3- Chemotherapy with 5-fluorouracil and folinic acid**

4- Low-fat diet

5- High-dose multivitamins

Q1192. What does the R2 classification stand for in cancer therapy?

1- Tumour size 2 cm

**2- The tumour was macroscopically visible but could not be removed completely**

3- Metastases present

4- Lymph node involvement

5- Good differentiated tumour

Q1193. A 22-year-old patient presents to the clinic with jaundice and pallor. He has recently suffered an upper respiratory tract infection. He tells you that his father had a splenectomy. On examination his temperature is 37.5°C, his BP is 122/75 mmHg. He looks pale and has jaundiced sclerae. He has splenomegaly on abdominal examination. Investigations; Hb 9.9 g/dl (Uniform speherocytes seen on blood film) WCC 5.6 x 109 /L PLT 1 30 x 109 /L Na+ 140 mmol/l K+ 4.2 mmol/l Creatinine 130 mmol/l Bili 203 mmol/l Which of the following is the best way to confirm the diagnosis?

1- Coomb’s test

2- Haemoglobin electrophoresis

**3- Osmotic fragility test**

4- Cold agglutinins

5- Mycoplasma serology

Q1194. A 62-year-old woman with breast cancer underwent a left modified radical mastectomy for an intraductal carcinoma 2 years ago. She now presents to A&E with confusion, lethargy and thigh pain. X-ray reveals a cystic lesion in the shaft of the femur. Her calcium level is 3.5 mmol/l. What is the next step in her therapy?

1- Urgent radiotherapy

2- Tamoxifen treatment

3- Glucocorticoids

**4- Saline infusion**

5- Urgent orthopaedic referral

Q1195. A 60-year-old man presents with lethargy, nausea and lower back pain. He has a previous history of hypertension for which he takes ramipril 10mg daily and symptoms of prostatism for which he takes finasteride. On examination his BP is 142/78 mmHg. He has a mild spondylosis and tenderness over his lumbar spine. Investigation; Hb 10.2 g/dl WCC 8.1 x 109 /L PLT 132 x 109 /L IgA 3.2 g/l IgG 22.1 g/l (H) IgM 1.8 g/l ESR 61 mm/hr Na+ 140 mmol/l K+ 4.9 mmol/l Creatinine 167 μmol/l Albumin 25 g/l Ca++ 2.8 mmol/l PSA 4.8 ?g/l Which of the following is the most likely diagnosis?

1- Hyperparathyroidism

2- Prostatic carcinoma

3- Monoclonal gammopathy of unknown significance

**4- Multiple myeloma**

5- Waldenstrom’s macrogammaglobulinaemia

Q1196. A 38-year-old man presents with an acute anaemia. Hb 72 g/l, haptoglobin < 0.05 g/l, reticulocytes 320 x 109 /L (reference 25-85 x 109 /L). What is the most likely form of the anaemia?

1- Iron deficiency anaemia

**2- Haemolytic anaemia**

3- Aplastic anaemia

4- Pernicious anaemia

5- Folic acid deficiency anaemia

Q1197. A 32-year-old man is seen in the casualty department complaining of breathlessness, which has gradually worsened over the last weeks following an emergency appendicectomy. He received no blood products at the time of operation. He has not noticed any frank blood loss. Currently, he is taking prn diclofenac for postoperative pain relief. This man has a past history of recurrent deep vein thromboses, the last of which was complicated by a pulmonary embolism two years ago. He declined long-term anticoagulation. A full blood count shows: Hb 8.8 g/dl; MCV 89 fl; platelets 105 × 103 /mm3 ; WCC 6.3 × 103 / mm3 and urinalysis shows the presence of haemosiderin. Which investigation is most reliably diagnostic?

1- Bone marrow trephine

**2- Blood immunophenotyping**

3- Coombs’ test

4- Acid lysis test

5- Serum haptoglobin

Q1198. What is the average lifespan of an erythrocyte once it has entered the bloodstream?

1- 1 day

2- 10 days

**3- 120 days**

4- 200 days

5- 360 days

Q1199. Where would you look for the primary tumour if a patient presents with palpable lymphadenopathy in the left superclavicular fossa (Troisier's sign)?

1- Corpus uteri

**2- Stomach**

3- Lung

4- Kidney

5- Prostate

Q1200. A 39-year-old man has Type 1 diabetes and end-stage renal failure requiring haemodialysis. He has an O positive blood group. You are trying to find an appropriate kidney donor for him. Which of the following would be the most appropriate blood group of a potential kidney donor for him?

1- A+

2- A3- AB+

4- B+

**5- O+**

Q1201. A 49-year-old man is referred from the upper GI surgeons after resection of a gastrointestinal stromal tumour. You decide to prescribe him long-term imatinib therapy. What is the mode of action of imatinib?

1- Epidermal growth factor receptor inhibitor

**2- Tyrosine kinase inhibitor**

3- Serine kinase inhibitor

4- MAP kinase inhibitor

5- Vascular endothelial growth factor receptor

Q1202. A 41-year-old man presents with a neck lump, weight loss, night sweats and alcohol-induced pain. On examination, you note he has hepatomegaly. What is the likeliest diagnosis?

1- Hodgkin's disease

2- Large-cell lung carcinoma

**3- High-grade B-cell non-Hodgkin's lymphoma**

4- Low-grade non-Hodgkin's lymphoma

5- High-grade T-cell non-Hodgkin's lymphoma

Q1203. A 45-year-old woman with known metastatic breast cancer presents with fatigue, nausea and constipation. Routine blood tests reveal a calcium level of 3.2 mmol/l (2.2-2.6) with a normal albumin level. How would she be most appropriately treated?

1- Intravenous hydration with normal saline

2- Corticosteroids, intravenous hydration with normal saline and furosemide

**3- Intravenous hydration with normal saline followed by intravenous bisphosphonate if the calcium remains elevated**

4- Intravenous hydration with normal saline and oral bisphosphonate

5- Intravenous hydration with normal saline

Q1204. A 45-year-old male smoker presents with a short history over the last few weeks of haemoptysis and increasing shortness of breath. A chest X-ray shows a right hilar mass. He is admitted to hospital for diagnostic investigations and staging. These reveal the presence of hepatic lesions. During his admission, he develops a left hemiparesis. What is the most likely histological diagnosis?

1- Adenocarcinoma of the lung

2- Large-cell lung carcinoma

3- Lymphoma

**4- Small-cell lung carcinoma**

5- Squamous-cell lung carcinoma

Q1205. A 75-year-old woman attends her follow-up at the haematology clinic. She was initially referred by her GP with anaemia but currently has no symptoms. She had pulmonary TB 15 years ago, which was treated with a sixmonths' conventional course of chemotherapy. This patient has a long history of alcohol dependence but has not drunk for 8 years. Her family have tried to get her to move out of the old family house due to its poor state of repair. Routine blood tests show Hb 9.3 g/dl, MCV 83 fl, RDW (red cell distribution width) 23%, bilirubin 49 mmol/l, LDH 537 U/l with normal renal and liver function. The only significant finding on her bone marrow trephine is an accumulation of iron around the nuclei of developing erythrocytes. What is the likely diagnosis?

1- Isoniazid effect

2- Megaloblastic anaemia

3- Myelodysplastic syndrome

**4- Lead poisoning**

5- Congenital sideroblastic anaemia

Q1206. The determination of the carcinoembryonic antigen (CEA) in patients with carcinoma of the colon is most useful for which of the following?

1- The detection of an early state

2- As a parameter for operability

3- For staging

**4- For postoperative follow-up**

5- As a screening method

Q1207. A 64-year-old man is admitted to hospital with haemoptysis. Routine laboratory tests reveal a blood calcium level of 3.21 mmol/l (2.2-2.6). What is the probable underlying cause of his presentation?

1- Tuberculosis

2- Sarcoid

3- Small-cell lung cancer

**4- Squamous-cell lung cancer**

5- Large-cell lung cancer

Q1208. A 17-year-old adolescent is brought to the Emergency department by her mother who is concerned that she has bruised easily over the past few days and has had a nosebleed this morning. There are no symptoms of other illness and she is otherwise well. On examination there are generalised petechiae and some bruising mainly affecting the lower limbs. Blood testing reveals a platelet count of 35 x 109 (150-400), but the platelets are normal size. Haemoglobin is 11.1 g/dl (11.5- 16.5) and her white blood cell count is normal. What diagnosis fits best with this clinical picture?

**1- Idiopathic thrombocytopenic purpura (ITP)**

2- Henoch-Schönlein purpura

3- Thrombotic thrombocytopenic purpura (TTP)

4- Haemolytic-uraemic syndrome

5- Generalised bone marrow suppression

Q1209. A 40-year-old woman presents with a breast lump, which following biopsy is shown to be malignant. She tells you that she has a family history of a genetic disorder. Which of the following genetic conditions would be most likely to be a relevant risk factor for the development of breast cancer?

1- von Hippel-Lindau disease

2- Chèdiak-Higashi syndrome

**3- Ataxia-telangiectasia**

4- Huntington's disease

5- Cystic fibrosis

Q1210. A 57-year-old man presents with weight loss and a neck swelling. He is subsequently confirmed to have a thyroid malignancy. Which of the following descriptions is most appropriate to this condition?

1- 80-90% are medullary carcinomas

2- Subtotal lobectomy is the minimum treatment of choice

3- Iodine-[131 ] therapy is an alternative to total thyroidectomy

**4- Serum thyroglobulin measurement is the main method of early detection of recurrent papillary and follicular thyroid cancers**

5- Papillary cell carcinoma of the thyroid

Q1211. A 60-year-old man presents with haematuria. Investigations confirm the presence of a bladder carcinoma. In his occupational history, exposure to which of the following substances would be a significant risk factor for his current diagnosis?

**1- Aromatic amines**

2- Arsenic

3- Asbestos

4- Nickel

5- Vinyl chloride

Q1212. A 30-year-old man completed adjuvant chemotherapy for a stage-I testicular teratoma one month ago. He now presents with increasing shortness of breath and a dry cough. You suspect an adverse drug reaction related to one of his chemotherapeutic agents. What would be the most likely drug responsible?

**1- Bleomycin**

2- Cisplatin

3- Etoposide

4- Methotrexate

5- Vincristine

Q1213. A 16-year-old boy who works in a farm shop presents for review. He has had gastroenteritis for a few days and is now feeling more unwell. Previously to that he received a course of penicillin 3 weeks ago for a sore throat. His mother has noticed that he has an increasing tendency to bruise, and he has been complaining of increasing headaches. During the morning of presentation he is said to have collapsed after breakfast and may have suffered an epileptic fit. Laboratory investigations reveal a haemolytic anaemia, thrombocytopenia and raised creatinine and bilirubin levels. Urine dipstick is positive for blood and protein. What diagnosis fits best with this clinical picture?

1- Idiopathic thrombocytopenic purpura

2- Henoch-Schönlein purpura

**3- Thrombotic thrombocytopenic purpura (TTP)**

4- SLE

5- Penicillin allergy

Q1214. A 45-year-old woman undergoing her third cycle of intensive chemotherapy for breast cancer is admitted via the medical take. She has been suffering from a sore throat for some 12-16 h and has now begun a fever with profuse sweating. On admission to the Emergency department she has a pyrexia of 38.2°C. She has an indwelling, tunnelled, subcutaneous catheter for chemotherapy. Which of the following micro-organisms is most likely to be responsible for her fever?

1- Candida albicans

2- Acinetobacter sp

3- Escherichia coli

4- Klebsiella sp

**5- Staphylococcus epidermidis**

Q1215. A 62-year-old woman is sent to you for review. There is a history of long-standing rheumatoid arthritis for which she takes NSAIDs and Salazopyrin. Examination reveals changes consistent with rheumatoid arthritis and a palpable spleen. Her blood picture reveals mild anaemia, neutropenia and a platelet count of 74 x 109 (150-400). Bone marrow biopsy reveals an excess of immature granulocyte precursors. Autoimmune screen reveals a raised ESR, positive rheumatoid factor, positive ANA and antihistone antibody. What diagnosis fits best with this clinical picture?

1- Portal hypertension with splenomegaly

2- Lymphoma

3- Amyloidosis

**4- Felty's syndrome**

5- Myelofibrosis

Q1216. You review a 32-year-old Greek man, who has recently married a woman from the Greek Cypriot community. They are both aware of the risk of thalassaemia that is associated with their genetic heritage and want to find out more about it. Which of the following statements fits best with thalassaemia?

1- It occurs because of an adenine to thymine single-base mutation

2- Bone marrow transplantation for thalassaemia has a mortality of less than 5% in cases of iron overload

3- Iron replacement therapy is often required

**4- Thalassaemia occurs because of an imbalance in production of alpha and beta globin chains**

5- Blood transfusions should aim to keep the

Q1217. An HIV-1-positive man develops raised purple lesions on his legs. His CD4 count is 96 cells/ mm3 (> 600 mm3 ) and his viral load measures greater than 500 000 copies/ml. What is the most likely diagnosis?

1- Cryoglobulinaemia

2- Basal-cell carcinomas

**3- Kaposi's sarcoma**

4- Fixed drug eruption

5- Melanoma

Q1218. A 28-year-old patient with thrombotic thrombocytopenic purpura presents with right upper abdominal pain, hepatomegaly, and ascites. What is the most likely diagnosis?

1- Hepatitis B virus infection

2- Hepatitis C virus infection

3- Gallstones

**4- Budd-Chiari syndrome**

5- Pancreatitis

Q1219. A 22-year-old woman from the USA falls profoundly ill while visiting relatives in the UK. She is admitted unconscious with a purpuric rash after waking earlier complaining of severe headache and neck pain. She currently takes 20mg Presdnisolone. On examination she has abdominal laparoscopic scars and her blood film shows hyposplenic features. What is the most likely indication for this woman's prior splenectomy?

1- Hodgkin's disease

2- Beta-thalassaemia trait

3- Sickle cell disease

**4- Immune thrombocytopenic purpura**

5- Gaucher's disease

Q1220. A young Vietnamese woman has been unwell for a few days with a sore throat. She presents to her general practitioner who carries out a full blood count which shows haemoglobin 12.5 g/dl, white blood cell count 19 x 109 per litre, neutrophil 14 x 109 per litre, and platelets of 498 x 109 per litre. The blood film shows atypical lymphocytes. What is the most likely diagnosis?

**1- Acute bacterial infections**

2- Chronic myeloid leukaemia

3- Tuberculosis

4- Cytomegalovirus infection

5- Pregnancy

Q1221. A patient has been diagnosed with severe haemophilia B (factor IX level <1%). What is the mode of inheritance?

1- Autosomal dominant

2- Autosomal recessive

3- X-linked dominant

4- Y-linked

**5- X-linked recessive**

Q1222. A patient has been diagnosed with von Willebrand's disease. What is the most likely blood abnormality?

1- Prolonged activated partial thromboplastin

2- Reduced factor IX levels

**3- Deficiency of von Willebrand factor**

4- Increased INR

5- Increased factor VIII level

Q1223. A 55-year-old female presented with abdominal pain and frequency. She admits to symptoms of weight loss and night sweats. Examination demonstrated a splenic tip palpable 12 cm below the costal margin and mild hepatomegaly, but there was no clinical enlargement of the peripheral lymph nodes. The full blood count was haemoglobin 8.9 g/dl, white blood cell count 5.4 x 109 per litre, platelets 470 x 109 per litre, mean cell volume 85 femtolitres (fl), and reticulocytes 2.4%. The peripheral blood film was reported to show ovalocytes (elliptocytes) and the occasional myelocyte and nucleated red cell. The serum lactate dehydrogenase (LDH) was 1256 U/l. Which of the following is the most likely diagnosis?

1- Chronic myeloid leukaemia

2- Essential thrombocythaemia

3- Megaloblastic anaemia

**4- Myelofibrosis**

5- Non-Hodgkin's lymphoma

Q1224. A child presents with lethargy and a purpuric rash and a diagnosis of acute lymphoblastic leukaemia (ALL) is established. Her white blood cell count is 30 x 109 per litre, she has a hyperdiploid karyotype and a common ALL phenotype. Philadelphia chromosome is present. What indicates a poor prognosis?

1- Female sex

2- Common ALL phenotype

3- A hyperdiploid karyotype

4- Age between 2-10 years

**5- Presence of the Philadelphia chromosome**

Q1225. A 63-year-old woman presents with a 6-week history of cervical lymphadenopathy, fevers and sweats. A biopsy of an enlarged gland is performed. Which of the following histopathological subtypes of Hodgkin's disease most suggests a poor prognosis?

**1- Lymphocyte depleted**

2- Lymphocyte predominant

3- Mixed cellularity

4- Nodular sclerosis type I

5- Nodular sclerosis type II

Q1226. A general practitioner calls you for advice about a 28-year-old woman with easy bruising. She has previously attended a psychiatric unit for self-harming behaviour. She is generally well apart from occasional diarrhoea and has no mucosal bleeding. Her mother has had recurrent venous thromboses, but there is no family history of a bleeding disorder. A full blood count is normal, but she her coagulation screen is activated partial thromboplastin time (APTT) 60 s (normal 28- 38 s), prothrombin time (PT) no clot after 120 s (normal 10- 14s), andfibrinogen 3.6 g/l (normal 2-4 g/l), which is abnormal. What is the most likely explanation?

1- Incorrect sampling

2- Inherited dysfibrinogenaemia

3- Inherited factor VII deficiency

4- Vitamin K deficiency caused by malabsorption

**5- Warfarin overdose**

Q1227. A 60-year-old woman, who has been a lifelong smoker, has been recently diagnosed with lung cancer. Her husband asks you about how her smoking is likely to have contributed to her chances of developing this condition. Which of the following best describes the contribution of smoking history to lung cancer risk?

1- Life-long smokers have a lung cancer risk 2- 3 times greater than that of non-smokers

2- Non smokers are more likely to develop small-cell cancers

3- Life-long smokers are particularly likely to develop adenocarcinoma compared with life-long non-smokers

4- Life-long smokers have a 50% increased risk of developing cancer compared with nonsmokers

**5- The relative risk for developing small-cell**

Q1228. A 62-year-old woman with breast cancer underwent a left modified radical mastectomy for an intraductal carcinoma 2 years ago. She now presents to A&E with confusion, lethargy and thigh pain. X-ray reveals a cystic lesion in the shaft of a femur. What is the most likely blood abnormality?

1- Glucose increased

2- Calcium decreased

3- Potassium increased

**4- Calcium increased**

5- Potassium decreased

Q1229. A 28-year-old patient presents with right upper abdominal pain, hepatomegaly, and ascites. What is the most likely underlying condition?

**1- Thrombotic thrombocytopenic purpura**

2- Von Willenbrand's disease

3- Haemophilia A

4- Haemophilia B

5- Hereditary spherocytosis

Q1230. A 35-year-old man with Christmas disease and associated arthropathy presents with a large swollen knee joint after playing football with his young son. He is unable to weight bear. What is the most appropriate treatment?

1- Aspiration of the joint

2- Intravenous infusion of cryoprecipitate

3- Intravenous DDAVP (desmopressin)

**4- Intravenous factor IX concentrate**

5- Bedrest and analgesia

Q1231. You review a 67-year-old man who has suffered from severe weight loss over the past few weeks. He also has epigastric pain that radiates to his back. On examination he is jaundiced and you wonder about a mass in the epigastrium. Your laboratory is able to check his tumour marker status, and you find a raised CA-19-9 result. What is the most likely source of his cancer?

1- Lung

2- Liver

3- Stomach

**4- Pancreas**

5- Colon

Q1232. A 20-year-old man has a painful swollen knee, a prolonged activated partial thromboplastin time (APTT), a prolonged bleeding time, and a normal prothrombin time. What is the most likely diagnosis?

1- Anaphylactoid (Henoch-Schönlein) purpura

2- Salicylate poisoning

3- Factor VII deficiency

4- Haemophilia A

**5- Type III von Willebrand's disease**

Q1233. A 62-year-old patient with a progressive autoimmune disease is going to be started on cyclophosphamide. Which of the following is the most likely sideeffect?

1- Haemorrhagic cystitis

2- Alopecia

3- Weight gain

**4- Thrombocytopenia**

5- Hirsutism

Q1234. A 40-year-old woman has been on intravenous heparin for 5 days for a right femoral vein thrombosis. On day 6 her platelets dropped from 360 x 109 /L to 35 x 109 /l. A heparin-induced thrombocytopenia is diagnosed. What is the most common complication?

1- Bleeding

2- Arterial thrombosis

**3- Deep vein thrombosis**

4- Stroke

5- Skin necrosis

Q1235. You are asked to provide advice on a 35-yearold woman who is admitted under the maxillofacial surgeons for the extraction of wisdom teeth. The only concern was that she had developed prolonged bleeding after a tooth extraction 10 years previously and had required suturing. Besides this, she gave no other history of bleeding. What is the most likely diagnosis?

1- Factor IX deficiency

2- Factor V Leiden

3- Factor XII deficiency

4- Primary antiphospholipid syndrome

**5- Von Willebrand's disease (vWD)**

Q1236. A 12-year-old girl who was asymptomatic presented with a painless cervical lymph node. Chest X-ray showed bilateral mediastinal lymph nodes. What is the most likely diagnosis?

1- Burkitt's lyphoma

2- Mantle cell lymphoma

**3- Hodgkin's lymphoma**

4- Sarcoidosis

5- Non-Hodgkin's lymphoma

Q1237. A 32-year-old woman who was investigated for infertility presented with post-operative bleeding from her abdominal wound. Her full blood count (FBC) showed - Haemoglobin Hb 9.2g/dl, total white cells very high, presence of pro-myelocytes, platelets 932 x109 /l, INR was raised to 1.4. What is the next step in management?

**1- Give fresh frozen plasma**

2- Give platelet infusion

3- Give hydroxyurea

4- Give interferon alpha

5- Give vincristine

Q1238. An elderly woman presented with malaise for 3 months. There is a history of rheumatoid arthritis. She had vitiligo and a 2 cm splenomegaly. Her blood picture was: haemoglobin low, total white count reduced, platelet count reduced, mild macrocytosis, lactate dehydrogenase (LDH) 3062U/l. What is the most likely diagnosis?

1- Pernicious anaemia

2- Autoimmune haemolytic anaemia

3- B12 deficiency

4- Myelodysplasia

**5- Hypersplenism**

Q1239. You are called to see a man who suddenly develops fever, chills and lower back pain while receiving a blood transfusion on the ward. What is the next step in his management?

1- Intravenous corticosteroids

2- Intravenous antibiotics

3- Blood cultures

**4- Stop the transfusion**

5- Intravenous fluids

Q1240. A 62-year-old man came in with fatigue and myalgia. His blood picture showed pancytopenia. Bone marrow aspirate showed normal haemopoetic progenitors with hypocellular picture. What is the appropriate treatment?

1- Danazol

**2- Antithymocyte globulin**

3- Bone marrow transplantation

4- Corticosteroids

5- Oxymethalone

Q1241. You review a 42-year-old man with metastatic renal-cell carcinoma. You consider him for aldesleukin therapy. Which of the following descriptions fits best with the characteristics of aldesleukin?

1- It has been shown in clinical trials to improve survival

2- Remission may be induced in up to 50% of patients

3- Hypertension is a common side-effect

**4- It may be associated with vitiligo**

5- It is a recombinant form of interleukin-1

Q1242. A woman is found to have ilio-femoral thrombosis during her pregnancy. Her mother had deep vein thrombosis (DVT) as well when she was pregnant. Her thrombophilia screen is normal. Which of the following should be done?

1- She should be advised that she has a thrombotic state

2- Repeat thrombophilia screen in one month

3- Start low molecular weight heparin for subsequent pregnancy

4- Screen her sister for thrombophilia

**5- She may be reassured that the risks of DVT**

Q1243. A woman is started on hormone replacement therapy for menopausal symptoms. Which of the following is correct in 5 years' time?

1- No change in bone density or risk of osteoporotic fracture

**2- Increased risk of pulmonary thromboembolism**

3- Reduced risk of myocardial infarction

4- Increased risk of Alzheimer's disease

5- Increased risk of large bowel carcinoma

Q1244. You review a 76-year-old man who complains of symptoms of indigestion. Endoscopy reveals a lesion suspicious of oesophageal carcinoma. Which statement about oesophageal cancer is true?

1- Dysphagia is an early manifestation

2- Adenocarcinoma is the rarest type of esophageal cancer in the United States

3- Esophageal cancer is most commonly located in the proximal third of the esophagus

**4- Most oesophageal cancers are not resectable at presentation**

5- Barrett's oesophagus is associated with

Q1245. A 65-year-old smoker develops increasing shoulder pain. After a few weeks he complains of loss of power and feeling in his left hand. Shortly after, he notices visual disturbances and a left-sided ptosis. What is the most likely diagnosis?

1- Coronary heart disease

2- Syringomyelia

**3- Pancoast tumour**

4- Vertebral disc prolapse of the cervical spine

5- Carpal tunnel syndrome

Q1246. You are asked to see a 25-year-old White man who experienced marked weakness and dyspnea 4 days after being admitted for a compound arm fracture after falling from a tree. Estimated blood loss from the initial fracture episode was 600 ml and the patient was transfused with one unit of packed erythrocytes. The initial crossmatch was reported as compatible by the transfusion service. The patient has never been transfused before this incident and has no other serious medical illnesses. The patient's arm fracture was treated with surgical pinning and prophylactic antibiotics consisting of a cephalosporin iv every 12 h. On examination, the patient is febrile and mildly tachycardic, with no evidence of wound infection or compartment syndrome. Laboratory data show a haematocrit of 15%, a raised reticulocyte count and total bilirubin of 70 mol/l with a conjugated bilirubin of 9 moll/l. The peripheral smear shows many spherocytes. No haemoglobinaemia or haemoglobinuria is seen on visual inspection of the plasma and urine. The transfusion service reports that the direct Coombs' test is now strongly positive using anti-IgG and only weakly positive with anti-C3d antisera. They further report that routine compatibility tests show no new erythrocyte antibodies in the patient's serum and that, when they attempted to elute antibody from the patient's RBCs and test against normal RBCs, the results were negative. What is the most likely diagnosis?

1- Haemolytic transfusion reaction caused by an ABO incompatibility

2- Delayed haemolytic transfusion reaction

3- Autoimmune haemolytic anaemia of warm antibody type

4- Autoimmune haemolytic anaemia of cold antibody type

**5- Drug-induced immune haemolytic anaemia**

Q1247. A 70-year-old woman with aortic stenosis complains of increasing shortness of breath associated with occasional chest pain. On examination she looks anaemic and has bilateral crepitations on auscultation. A late systolic murmur is heard at the cardiac base. Results of laboratory examination are: Hb 7.4 g/l; MCV 70 fl; leucocytes 5.4 x 109 /L; platelets 580 x 109 /L. The blood smear shows hypochromic, microcytic erythrocytes. What is the most likely diagnosis?

1- Anaemia of chronic disease

2- Autoimmune haemolytic anaemia

**3- Iron-deficiency anaemia**

4- Folate-deficiency anaemia

5- Microangiopathic haemolytic anaemia

Q1248. A man has had multiple blood transfusions for sideroblastic anemia. This time, 15 minutes into blood transfusion, he complained of severe breathlessness. Chest X-ray showed diffuse bilateral infiltrates. What is the diagnosis?

1- Febrile, non-haemolytic blood reaction

**2- Transfusion-related lung injury (TRALI)**

3- Cardiac failure

4- Acute anaphylaxis

5- ABO incompatability reaction

Q1249. A 26-year-old woman who has suffered her third spontaneous abortion is referred by the obstetricians for review. Past history of note includes a deep vein thrombosis that was thought to have been related to a long-haul flight. VDRL testing (used as a syphilis screen) is positive, and IgG anticardiolipin antibodies are positive. What diagnosis fits best with this clinical picture?

1- SLE

**2- Antiphospholipid syndrome**

3- Protein C deficiency

4- Protein S deficiency

5- Syphilis

Q1250. A 42-year-old woman presents to her GP for review. For some months now she has been feeling lethargic and has noticed abdominal discomfort, which she put down to her blouse being too tight. There have been intermittent fevers, worse over the past few weeks. Her blood count reveals anaemia, with a haemoglobin of 9.8 g/dl (11.5-16.5), her platelet count is low at 87 x 109 (150-400). The oncogene BCR-ABL is detected on reversetranscriptase polymerase chain-reaction testing. Her white cell count is raised, with a number of myeloid precursor cells present on examination of the film. What diagnosis fits best with this clinical picture?

1- Chronic lymphocytic leukaemia (CLL)

2- Acute myeloid leukaemia (AML)

**3- Chronic myeloid leukaemia (CML)**

4- Acute lymphocytic leukaemia (ALL)

5- Hairy-cell leukaemia (HCL)

Q1251. A 52-year-old woman is referred to the oncology clinic by the local general surgeon. She has undergone mastectomy for carcinoma of the right breast. Which of the following factors is associated with a poor prognosis in patients with breast cancer?

**1- Young age**

2- Oestrogen receptor-positive tumour

3- Progesterone receptor-positive tumour

4- Low-grade tumour

5- Negative lymph node status

Q1252. You are asked to review a postmenopausal 57- year-old woman who has attended the oncology clinic for review. She has recently had a left mastectomy with axillary lymph node clearance, nine lymph nodes contained evidence of tumour infiltration. The tumour cells are oestrogen and progesterone receptor-positive. You are considering starting her on the drug treatment anastrozole. Which of the following options most accurately describes the mode of action of anastrozole?

1- It blocks the ovarian production of oestrogens

**2- It blocks the peripheral tissue conversion of androgens to oestrogens**

3- It blocks the production of progesterone

4- It is an oestrogen-receptor antagonist

5- It is a progesterone-receptor antagonist

Q1253. You are reviewing a 35-year-old patient who presented to the Emergency department with bleeding. His blood picture in Emergency suggested disseminated intravascular coagulation, and unfortunately acute promyelocytic leukaemia (APML) was confirmed soon after his admission. He begins treatment with all-trans retinoic acid (ATRA). Which of the following descriptions best fits with the features of ATRA therapy?

1- ATRA should only be used during the acute period of DIC

2- ATRA worsens the DIC picture

**3- ATRA promotes the differentiation of APML cells into mature granulocytesand apoptosis of these cells**

4- ATRA is usually given as maintenance therapy for 6 months after postremission therapy is completed

5- APML carries a worse prognosis where

Q1254. A 28-year-old Afro-Caribbean man with a history of sickle-cell disease presents to the Emergency department with acute chest pain. He is a heavy smoker of 25 cigarettes per day. His chest pain mainly affects the sternum and left side, radiating to the back. It is pleuritic in nature. Temperature is 37.6°C. There is reduced air entry at the lung bases but no other chest signs. His pa(O2) is 6 kPa (11.3- 12.6). Chest X-ray reveals some evidence of consolidation at the left base. What diagnosis fits best with this clinical picture?

**1- Myocardial infarction**

2- Pericarditis

3- Acute pneumonia

4- Pulmonary infarction

5- Viral lung infection

Q1255. A 64-year-old man with a long history of smoking presents to the Emergency department following a fracture of his left humerus associated with a very minor twisting injury. On reviewing the films with the on-call radiographer you are concerned about a lytic lesion possibly being related to the fracture. Which of the following primary tumours is this patient likely to have?

1- Bronchial carcinoma

2- Renal carcinoma

3- Thyroid carcinoma

4- Gastric carcinoma

5- Colorectal carcinoma

Q1256. A 50-year-old woman presents with acute chest pain and dyspnoea. Examination reveals bilateral ankle oedema, with 24 hour urine protein assessment showing 8 g/d (<0.2). Which is the most likely explanation for these findings?

1- Factor V Leiden

**2- Reduced antithrombin III activity**

3- Reduced concentration of von Willebrand factor

4- Reduced fibrinogen concentration

5- Reduced factor VIII

Q1257. A 67-year-old smoker recently underwent radiotherapy for an inoperable lung carcinoma. On examination is cachectic and jaundiced. Laboratory results reveal a serum sodium concentration of 120 mmol/l. What is the most likely cause?

1- Sodium-restricted diet

2- Sodium-reduced water drinking

**3- Syndrome of inappropriate antidiuretic hormone secretion (SIADH)**

4- Liver metastases

5- Bone metastases

Q1258. A 58-year-old Greek man is found to have a microcytic anaemia on routine screening at his daughter's general practitioner. Red cells have low mean corpuscular volume (MCV) and mean corpuscular haemoglobin (MCH). Serum ferritin is normal. What would be the next management step?

1- Barium enema

2- Iron therapy

3- Upper and/or lower endoscopy

**4- Haemoglobin electrophoresis**

5- Labelled red-cell scan

Q1259. A 55-year-old man presents for review. He attended for an insurance medical and the reviewer noticed there was lymphadenopathy on palpation of the neck, axillas and groins. Chest X-ray confirmed the presence of hilar lymphadenopathy. Bone marrow biopsy revealed multinucleated giant cells (ReedSternberg cells). Given the likely diagnosis, which of the following features would be most consistent with a good prognosis in this condition?

**1- Young age**

2- Presence of pain on consumption of alcohol

3- Lymphocyte-depleted picture on histology

4- Mixed cellularity picture on histology

5- Presence of night sweats, indicating active

Q1260. A 62-year-old man presents to his GP for the third time in 6 months complaining of tiredness, lethargy and depression. Finally the GP consents to some blood tests; to his surprise, the Hb is raised at 19 g/dl (13-18), white blood cell count is 12.0 x 109 (4-11) and platelets are 495 x 109 (150-400). Past history of note includes gout, which has developed over the past year and was put down to excess alcohol consumption. Plasma volume and leucocyte alkaline phosphatase are also elevated. What diagnosis fits best with this clinical picture?

**1- Primary polycythaemia**

2- Haemochromatosis

3- Myelofibrosis

4- Myelodysplasia

5- Lymphoma

Q1261. A 75-year-old heavy smoker of 40 cigarettes per day is admitted to the Emergency department. He has a past history of hypertension and atrial fibrillation. Over the past few months he has suffered a chronic cough and has lost approximately 2 stone (about 12.5 kg) in weight. He has been increasingly drowsy over the past few days and his relatives were unable to rouse him this morning. On examination he has a GCS of 6 and you notice that he has been incontinent of urine and faeces. What diagnosis fits with this clinical picture?

1- Subarachnoid haemorrhage

2- Embolic stroke

3- Cerebral meningioma

4- Glioblastoma multiforme

**5- Metastatic carcinoma with cerebral**

Q1262. You review a 48-year-old man who has a diagnosis of colorectal carcinoma. You are considering oxaliplatin therapy for his case. Which of the following descriptions best fits with the use of oxaliplatin therapy?

1- It is commonly used as monotherapy

**2- Concomitant folinic acid and 5-FU are usually prescribed**

3- Ototoxicity is not seen with this platinum derivative

4- Renal function monitoring is only advised in severe renal impairment

5- Motor neuropathy is a common side-effect

Q1263. You review a 68-year-old heavy smoker who has laryngeal carcinoma. He is not keen to have surgical intervention and wants to consider radiotherapy. For which of the following tumours can radiotherapy alone be best considered a potentially curative intervention?

1- Lung cancer

2- Breast cancer

**3- Laryngeal carcinoma**

4- Gastric carcinoma

5- Colonic carcinoma

Q1264. You review a 64-year-old woman who is anaemic, with raised reticulocyte count and unconjugated bilirubin. Which of the following is a cause of microangiopathic haemolytic anaemia?

1- March haemolysis

2- Cold-agglutinin disease

**3- Vasculitis**

4- Mechanical heart valve

5- Dapsone

Q1265. A 42-year-old man attends the infertility clinic as a new referral from his GP. His sperm count is noted to be low, and the GP suspects that he has a left varicocele. Other history of note includes hypertension, for which he takes ramipril, and night sweats intermittently over the past few months. ESR is markedly raised and anaemia is noted on full blood count. Urinalysis reveals the presence of haematuria. What diagnosis may best explain this clinical picture?

1- Multiple myeloma

2- Testicular carcinoma

3- Chronic urinary tract infection

**4- Renal-cell carcinoma**

5- Lymphoma with local obstruction

Q1266. A 60-year-old man presents with a haemoglobin level of 18 g/dl, raised serum Vitamin B12 level, pruritus, neutrophilia, thrombocytosis, and splenomegaly. You understand that he previously attended to his GP with macrocytosis and was advised to take B vitamin supplements. What is the most likely diagnosis?

**1- Polycythaemia rubra vera**

2- Secondary polycythaemia

3- Haemochromatosis

4- Von Willebrand's disease

5- Thrombotic thrombocytopenic purpura

Q1267. Which of the following would be more suggestive of essential thrombocythaemia compared with a reactive thrombocytosis in a patient with a platelet count of 650 x 109 per litre?

1- Plasma viscosity of 1.95 mPa s

2- Low neutrophil alkaline phosphatase (NAP) score

3- Hypochromic anaemia

**4- Cutaneous bruising**

5- Reduced bone marrow reticulin

Q1268. A 9-month-old infant is brought to A&E because he has a swollen knee and seems to have stopped moving his leg. His mother gives no history of injury. On examination he has a swollen painful right knee and numerous bruises of all ages on his arms and legs. Otherwise he is apyrexic and appears well. Blood tests show: Hb of 12.5 g/dl; WCC 10.5 x 109 /L with a normal differential; platelets 243 x 109 /L; PT 13 s (normal range 12-17); APTT 45 s (normal range 24-38); TT 16 s (normal range 14-22); fibrinogen 3.4 g/l (normal range 2-5). What is the most likely diagnosis?

1- Acute lymphoblastic leukaemia

2- Non-accidental injury

3- Meningococcal septicaemia

**4- Haemophilia A**

5- Aplastic anaemia

# Chapter 6 Basic Science

Q1269. A patient presents with eczema, thrombocytopenia and recurrent infections. What is the most likely diagnosis?

**1- Wiskott-Aldrich syndrome**

2- Hyper-IgE syndrome

3- Gaucher's disease

4- IgA deficiency

5- Malignancy

Q1270. You identify an IgAk paraprotein in an elderly male and need to decide whether this is part of an underlying malignancy such as myeloma, or a monoclonal gammopathy of underdetermined significance. Which of the following tests most supports a malignant process?

**1- Kappa light chains in the urine (Bence Jones protein)**

2- Normal IgG and IgM

3- Reduced plasma viscosity

4- Elevated b 2-glycoprotein-1

5- Elevated serum creatinine

Q1271. In the investigation of a woman presenting with jaundice and itching, which one of the following would most strongly support the diagnosis of primary biliary cirrhosis (PBC)?

1- Raised serum IgM

2- Positive antinuclear antibodies

**3- Antimitochondrial antibodies (M2 pattern)**

4- Raised serum IgA

5- Anti-smooth muscle antibodies

Q1272. Which of the following diseases is correctly matched to the immunodeficiency?

1- Ataxia-telangiectasia - absent NBT (neutrophil nitroblue tetrazolium) reduction

2- Bruton's disease - impaired phagocytosis

3- Chronic granulomatous disease (CGD) - hypogammaglobulinaemia

4- Chèdiak-Higashi - reduced IgA levels

**5- DiGeorge syndrome - absent T-cell function**

Q1273. A 22-year-old woman with partial lipodystrophy presents with a 3- month history of increasing swelling of her legs, which is now up to her knees. Urinalysis shows heavy proteinuria but no haematuria. A diagnosis of nephrotic syndrome is therefore made. Which investigation is most likely to help in the definition of the underlying renal pathology?

1- Serum immunoglobulins

**2- Complement studies**

3- Antineutrophil cytoplasmic antibodies (ANCA)

4- Antiglomerular basement membrane antibodies (anti-GBM)

5- Antistreptolysin titre (ASOT)

Q1274. A 16-year-old youth presents with lethargy and abdominal bloating. He has lost 5 kg in weight over the last 6 months. Examination confirms a thin teenager with obvious pallor. Which is the most appropriate serological test to investigate possible malabsorption?

1- IgG antireticulin antibodies

2- IgG antiendomysial antibodies

3- IgA antigliadin antibodies

4- IgA enterocyte antibodies

**5- IgA antiendomysial antibodies**

Q1275. A man presents with an eczematous rash on his hands suggestive of contact dermatitis, possibly related to wearing latex gloves at work. He requests confirmatory tests. Which of the following tests is most likely to be helpful establishing the diagnosis?

1- Atopy patch testing

2- Skin-prick testing

**3- Patch testing**

4- Intradermal testing

5- Direct exposure tests to gloves

Q1276. A 58-year-old man develops generalised oedema. He has heavy proteinuria and his serum albumin concentration is 24 g/l (35-50). Which of the following additional findings would most suggest a specific cause for this condition?

**1- Bence Jones protein in urine**

2- Decreased plasma antithrombin III concentration

3- Elevated serum cholesterol concentration

4- Increased beta-globulin band on serum protein electrophoresis

5- Low serum 25-hydroxycholecalciferol

Q1277. A 72-year-old man presents with weight loss, low-grade fever, mononeuritis and hypertension. You consider the diagnosis of polyarteritis nodosa (PAN) and request certain immunological investigations. Which one of the following would best support your clinical diagnosis?

1- Positive c-ANCA

2- Positive p-ANCA

**3- ANCA-negative**

4- Positive ANA

5- Positive thyroid microsomal antibodies

Q1278. A patient presents with facial abnormalities that may include abnormal ears, a shortened philtrum, micrognathia and hypertelorism. Which cells is this patient lacking?

**1- T lymphocytes**

2- B lymphocytes

3- Erythrocytes

4- Melanocytes

5- Leucocytes

Q1279. A 22-year-old woman presents to Accident & Emergency with an acute hereditary angioedema involving the larynx. What is the optimum immediate management?

1- Antihistamines

2- IV hydrocortisione

3- Fresh frozen plasma

**4- C1 inhibitor concentrate**

5- Recombinant C1 inhibitor

Q1280. Which of the following immunoglobulin isotypes has the highest concentration in serum?

1- IgA

2- IgD

3- IgE

**4- IgG**

5- IgM

Q1281. Immunoglobulin structure - which of the following regions forms the antigen binding site?

1- The heavy chain

2- The light chain

3- The constant region of one heavy and one light chain

4- The hinge region

**5- The variable region of one heavy and one**

Q1282. Which immunoglobulin can fix complement via the alternative pathway?

**1- IgA**

2- IgM

3- IgG

4- IgE

5- IgD

Q1283. A medical SHO is required to give a blood sample to check his HepB status. He received a course of vaccinations nine months ago. What is his blood test likely to show?

1- Anti-HBeAb

**2- Anti-HBsAb**

3- Anti-HBsAb + anti-HBcAb

4- HBsAg + HBcAg

5- IgM to HBcAg

Q1284. You are reviewing a man who has paid privately for HLA tissue typing. He is found to be HLA B5-positive on typing. Which of the following diseases is most closely associated with HLA B5?

1- Dermatitis herpetiformis

**2- Behçet's syndrome**

3- Grave's disease

4- Addison's disease

5- Sjögren's syndrome

Q1285. Which of the following statements concerning hyperacute rejection after renal transplantation is correct?

1- Occurs at least three days after surgery

2- Is successfully treated with ciclosporin A

3- Is caused by ciclosporin A

**4- Is mediated by preformed circulating antibodies**

5- Is largely a B-cell-mediated respons

Q1286. A patient collapses during induction with a general anaesthetic. Which of the following investigations will be most useful in subsequently establishing an IgE-mediated process (anaphylactic mechanism)?

1- Elevated serum tryptase at approximately 1 hour after collapse

2- Total serum IgE level

**3- Skin-prick tests to anaesthetic agents**

4- Serum/plasma C3 and C4 levels

5- Specific IgE to latex

Q1287. A 50-year-old woman, who is a non-smoker, presents with bilateral claudication of her arms when performing tasks such as using a paint-roller when decorating. She is noted to have absent radial pulses and be normotensive. Investigations reveal a raised ESR of 80 mm/h and a CRP of 30 mg/l. What is the most likely diagnosis?

1- Antiphospholipid antibody syndrome (APLS)

**2- Takayasu's arteritis**

3- Giant-cell arteritis

4- Polyarteritis nodosa (PAN)

5- Berger's disease

Q1288. You are investigating a 24-year-old woman with pyrexia of unknown origin, and a diagnosis of systemic lupus erythematosus (SLE) may need to be excluded. What negative test virtually excludes the condition?

1- Negative double-stranded DNA antibodies (dsDNA)

**2- Negative ANA and negative anti-Ro antibodies**

3- Negative ANA and anti-dsDNA antibodies

4- Negative ANA and Sm antibodies

5- Negative Sm antibodies

Q1289. A 50-year-old man is referred by his GP with general ill health. An autoimmune screen reveals high titres of anti-smooth muscle antibodies. Which of the following conditions is suggested by this autoantibody profile?

1- Fibrosing alveolitis

**2- Autoimmune hepatitis**

3- EBV infection

4- Hepatitis A

5- Hypothyroidism

Q1290. A 50-year-old woman presents with symptoms and signs of cerebellar ataxia and an abdominal mass that on ultrasound is suggestive of ovarian cancer. You consider the possibility of a paraneoplastic syndrome and request some immunological investigations. Which antibody test would best support your clinical diagnosis?

1- Anti-Hu antibodies

2- Anti-intrinsic factor antibodies

**3- Anti-Yo antibodies**

4- Antinuclear antibodies (low titre)

5- Antiendomysial antibodies

Q1291. A young woman with known systemic lupus erythematosus, complicated by an autoimmune neutropenia, is referred for consideration of her therapeutic options. The initial choice of treatment would have been azathioprine; however, monitoring of the drug therapy is likely to be highly problematic since this patient is neutropenic. A cytotoxic agent selective for lymphocytes is therefore preferable, to circumvent such problems. Which agent best fits her requirements?

**1- Mycophenolate mofetil**

2- Sirolimus

3- Chlorambucil

4- Ciclosporin

5- Thalidomide

Q1292. Susceptiblity to Pneumocystis jiroveci can be associated with high levels of:

**1- IgM**

2- IgG

3- IgA

4- IgE

5- IgD

Q1293. A 20-year-old woman complains of an immediate intense itching in her throat when eating apples, but says that she can eat cooked ones. She mentions that she has allergic rhinitis but the current symptoms occur in April and May and not the typical June/July period associated with grass pollen. What is the most likely diagnosis?

**1- Birch-associated oral allergy syndrome**

2- Food intolerance

3- Allergy to the wax coating on apples

4- Latex allergy

5- Salicylate sensitivity

Q1294. A 42-year-old, atopic, health-care worker presents with red weals and itchy hands within 20 minutes of wearing latex gloves. Which of the following mechanisms is most likely to be relevant?

1- Contact dermatitis

2- Complement-mediated

3- Immune complex-mediated

4- Delayed-type hypersensitivity

**5- IgE-mediated sensitivity**

Q1295. During the last trimester, IgG is actively transported across the placenta to supply passive immunity to the fetus. Which disease occurring during pregnancy is most likely to lead to the neonate having low immunoglobulin levels and hence being prone to bacterial infections?

**1- Intestinal lymphangiectasia**

2- Systemic lupus erythematosus

3- Myasthenia gravis

4- Ulcerative colitis

5- Prematurity

Q1296. A 48-year-old man went up in a hot air balloon without sufficient clothes to keep him warm. In the evening he presents with acute renal failure and a purpuric/vasculitic rash on his legs. Which of the following investigations is likely to be most helpful in identifying the process leading to the above?

1- Cold agglutinins

**2- Cryoglobulins**

3- Cryofibrinogens

4- Plasma viscosity

5- Paroxysmal cold haemoglobinuria

Q1297. An 82-year-old woman, who is not on drug therapy, presents with a bullous skin rash on her arms. Which of the following tests is most likely to supply the definitive diagnosis?

1- Search for anti-skin antibodies in blood

2- Complement studies

3- Antineutrophil cytoplasmic antibodies (ANCA)

**4- Skin biopsy for examination by immunofluorescence**

5- Immunoglobulins

Q1298. A pregnant woman in her second trimester presents with a recent onset of a bullous rash on her lower anterior abdominal wall. She has no other clinical features. Which of the following bullous conditions is the most likely diagnosis?

1- Pemphigus

2- Pemphigoid foliaceus

**3- Pemphigoid gestationis**

4- Drug-associated rash

5- Flea bites

Q1299. In a patient with suspected hereditary angiooedema (HAE), which of the following is most likely to be helpful in identifying this clinical condition?

1- Persistently low C3 levels, including between attacks

**2- Persistently low C4 levels, including between attacks**

3- Search for a paraprotein

4- Drug history of taking ACE inhibitors

5- Presence of urticaria with angiooedematous swellings

Q1300. Regarding the clinical physiology of the adrenal gland in Cushing's disease, which of the following pertains?

1- The zona glomerulosa of the cortex is predominantly responsible for sex steroid production

**2- The zona fasciculata is predominantly controlled by ACTH and is often hypertrophied**

3- The zona reticularis is predominantly responsible for mineralocorticoid production

4- About 15% of glucocorticoid production takes place in the adrenal medulla

5- The zona fasciculata is primarily responsible

Q1301. A 58-year-old female patient goes into anaphylactic shock in the operating theatre soon after induction. She has been previously patch tested for severe asthma, and was found to be allergic to cats, dogs, trees and pollens. She received vecuronium and propofol on induction. Which of the following is the most likely cause?

1- Latex allergy

2- C1-esterase deficiency

**3- Vecuronium**

4- Propofol

5- Nitrous oxide

Q1302. A 32-year-old woman with a history of Sjögren's syndrome gives birth to her second child. On examination the baby is noted to be bradycardic at 65 beats per minute during birth checks carried out by the on-call midwife. The baby's ECG shows that she appears to be in a junctional rhythm. Which of the following antibodies is most likely to be responsible for the child's heart block?

1- Anti-nuclear

2- Anti-mitochondrial

3- Anti-smooth muscle

**4- Anti-ro**

5- Rheumatoid factor

Q1303. Which of the following is true concerning immunity to viruses?

**1- IgA can offer protection at mucosal surfaces**

2- Cytotoxic T cells are activated before natural killer cells during the course of infection

3- Viruses stimulate the non-immune cells that they infect to produce interferon-g

4- Non-enveloped viruses are susceptible to damage by complement

5- Influenza virus can avoid antibody

Q1304. A 76-year-old patient is admitted to the acute admission unit with septic shock. Pulse is 106 and BP 90/40 mmHg. Urinary catheterisation produces 75 ml of concentrated urine. Which of the following principles applies to the choice of an appropriate intravenous fluid for resuscitation?

**1- Certain intravenous solutions, which would be hypo-osmolar, have dextrose added to ensure they are iso-osmolar**

2- Hartmann's solution contains sodium, potassium, chloride, calcium and bicarbonate

3- An advantage of crystalloid solutions is that relatively small volumes have to be infused to restore an intravascular volume deficit

4- The normal colloid oncotic pressure is 70 mmHg

5- Albumin is indicated

Q1305. Which of the following takes place during inspiration?

1- The diaphragm drops by 10 cm during normal breathing

**2- A negative pressure of 1-3 mmHg is created**

3- The rib cage recoils

4- Abdominal muscles contract

5- Accessory muscles relax

Q1306. Periodic fever can be associated with high levels of:

1- IgM

2- IgG

3- IgA

4- IgE

**5- IgD**

Q1307. Which of the following statements applies to the physiology of the normal menstrual cycle?

1- The luteal stage lasts from day 1 to day 14 of the menstrual cycle

2- The follicular stage lasts from day 18 to day 28 of the menstrual cycle

3- Rising levels of progesterone occur during the follicular stage

4- There is a large fall in GnRH just before ovulation

**5- There is a large rise in GnRH just before**

Q1308. A 24-year-old woman visits her GP complaining that she is tired and lethargic. He arranges some routine blood tests including FBC, U&E, LFT, TFT, viscosity and immunoglobulins. The only abnormality is elevated IgE levels to 1.2 times the upper limit of normal. Raised IgE levels are a normal finding in what % of the population?

1- 2%

2- 5%

**3- 2.5%**

4- 1.25%

5- 10%

Q1309. A 41-year-old patient complains of tinnitus. Which of the following statements is correct regarding the clinical physiology of the ear?

1- High-frequency waves are detected in the scala tympani

2- Low-frequency waves are detected in the scala vestibuli

3- The scala media is filled with perilymph

**4- The scala media contains the organ of Corti**

5- Normal hearing frequency only ranges from

Q1310. Whilst treating a diabetic patient who is controlled with insulin you perform fundoscopy and find new vessel disease in the macula lutea. Which of the following is true of ocular physiology?

1- The macula is rich in rods

2- This corresponds with the optic papilla

**3- The central portion of the macula is known as the fovea centralis**

4- As it corresponds with the blind spot, retinopathy will have less functional effect on acuity

5- There is a direct relationship between

Q1311. Which of the following statements is most accurate with regards to the chemoreceptor control of breathing?

1- The aortic body is located in the root of the aorta

2- When the CO2 concentration of plasma falls, the central chemoreceptors stimulate the inspiratory area of the brain

**3- Central chemoreceptors are sensitive to the H+ content of the CSF**

4- The carotid bodies are located on the external carotid artery

5- Central chemoreceptors are sensitive to the

Q1312. Which of the following physiological characteristics relates to the lining of the respiratory tract?

1- About 1 litre of mucus is produced every day

**2- The cilia are under the control of a physiological motor, dynein**

3- The mucociliary escalator moves at 0.2 cm/minute

4- The bronchioles have cartilage in their wall

5- The bronchioles have diameters up to 5 mm

Q1313. In estimating the physiological clearance of 10 ml of an intravenous substance which has been administered at 10 mg/ml, the plasma concentration at equilibration is 15 mg/litre, the urine concentration is 150 mg/litre and the subject produces 1440 ml of urine during a 24h collection. The substance is not actively secreted or absorbed by the kidney. What is the clearance of the substance?

1- 1 ml/min

**2- 10 ml/min**

3- 0.1 ml/min

4- 100 ml/min

5- Cannot say from the information given

Q1314. Pulmonary gas exchange occurs under which of the following physiological principles?

**1- Gas exchange can occur in the final seven branches of the bronchoalveolar tree**

2- The first 12 branches of the bronchial tree are collectively known as the conducting zone

3- The equilibration of gases takes about 2.5 s in the resting lung

4- Only about 0.15% of oxygen is carried in solution in the plasma

5- Carbon dioxide is less water-soluble than

Q1315. Blood is circulated through the arteries by which of the following physiological mechanisms?

1- Suction during cardiac diastole

2- Negative pressure during inspiration

**3- Maintenance of diastolic pressure in the arteries and arterioles**

4- Contraction of external muscles

5- Residual pressure from blood flow through

Q1316. Which of the following is true concerning complement activation?

1- IgG and IgE are the main antibody classes involved in classical pathway activation

2- C1q binds to the Fab regions of antigencomplexed IgG antibodies

**3- The alternative, but not the classical C3, convertase enzyme involves C3b**

4- Elevated serum C3dg is a good marker of complement activation

5- The membrane-attack complex involves

Q1317. Haemolytic disease of the newborn is typically restricted to the presence of Rhesus antigens on red cells rather than ABO antigens. Predominantly, such anti-Rh antibodies cross the placenta during the third trimester. Which of the following statements best explains the background physiology?

**1- Antibodies to ABO blood groups are IgM, whereas antibodies to Rhesus antigens are IgG**

2- Antibodies to ABO blood groups are IgG, whereas antibodies to Rhesus antigens are IgM

3- Antibodies to ABO blood groups are IgA, whereas antibodies to Rhesus antigens are IgG

4- Antibodies to Rhesus antigens are IgD, whereas anti-ABO blood groups are IgM

5- Antibodies to Rhesus antigens are IgE,

Q1318. A 25-year-old woman with systemic lupus erythematosus (SLE) has dsDNA antibodies and a grade III glomerulonephritis. Which is the most likely immunopathological process?

1- Activation of the alternative complement pathway

2- Type-II hypersensitivity reaction

3- Type-I hypersensitivity reaction

**4- Activation of the classical complement pathway**

5- A complement deficiency

Q1319. A 15-year-old boy presents with fever, rash and arthralgia. He has ++ protein and + blood on urinalysis. Investigations reveal the following: erythrocyte sedimentation rate 32; C-reactive protein 12; full blood count normal; and U+Es normal. Antistreptolysin-O titres are raised. What immunological phenomenon is taking place?

1- Type-I hypersensitivity reaction

2- Type-II hypersensitivity reaction

**3- Type-III hypersensitivity reaction**

4- Type-IV hypersensitivity reaction

5- Cryoglobulinaemia

Q1320. A 13-year-old boy of Spanish descent has suffered from recurrent sinus infections for the past 2 years and has a history of intermittent diarrhoea. As an infant he had many episodes of otitis media and at the age of 10 years was hospitalised with tonsilitis. His mother has coeliac disease and his sister autoimmune haemolytic anaemia. His full blood count is normal. What is his most likely diagnosis?

1- Coeliac disease

2- Systemic lupus erythematosus

**3- Selective IgA deficiency**

4- X-linked agammaglobulinaemia

5- Wiskott-Aldrich syndrome

Q1321. A patient with AIDS develops Pneumocystis jiroveci pneumonia. He is deficient of what immunological component?

1- Complement

**2- T cells**

3- B cells

4- IgM

5- IgA

Q1322. A patient presents with hypocalcaemic tetany. He has abnormal ears, hypertelorism and an absent thymus. What is the most likely diagnosis?

**1- DiGeorge syndrome**

2- Wiskott-Aldrich syndrome

3- Gaucher's disease

4- Tay-Sachs disease

5- Ataxia-teleangiectasia

Q1323. You see a teenage girl who presents to you from a summer children's party. She says that she had helped to blow up balloons at the party. She has wheezing, angiodema and lip swelling, urticaria and rash. What is the most likely diagnosis?

**1- Latex allergy**

2- Peanut allergy

3- Allergic contact dermatitis

4- C1-esterase deficiency

5- Wasp sting allergy

Q1324. Cells from a patient with severe combined immunodeficiency disease (SCID) lack the adenosine deaminase enzyme. This will have a direct effect on?

1- synthesis of deoxynucleoside diphosphates (dNDPs)

2- degradation of guanine nucleotides

**3- purine salvage**

4- de novo synthesis of purine nucleotides

5- degradation of adenine nucleotides

Q1325. You review a 16-year-old boy who has a history of Type 1 diabetes. He is doing a project at his school on aspects of the human immune system and asks about the function of T lymphocytes and how they interact with other cells in the body. Which of the following fits best with the action of the immune system?

1- CD4 T cells interact with macrophages via MHC class I

**2- CD4 T cells interact with B cells via MHC class II**

3- CD8 T cells interact with any cell via MHC class II

4- CD8 T cells only interact with detritic cells via MHC class I

5- Only cells of the immune system express

Q1326. Where is the immune defect in chronic lymphocytic leukaemia situated?

1- Complement

2- Immunoglobulin G (IgG)

3- Macrophages

4- Mast cells

**5- B cells**

Q1327. Where is the antibody targeted in LambertEaton syndrome?

1- Anticholinesterase

2- Mitochondria

3- Sodium channels

4- Potassium channels

**5- Voltage-gated calcium channels**

Q1328. A dental practice nurse is admitted for an elective operation. During induction with a general anaesthetic she develops tachycardia, rash and diffuse wheeze. She had mentioned that she has had rashes when assisting with anaesthetics at work. What is the likely diagnosis?

1- Systemic mastocytosis

**2- Anaphylaxis**

3- Pseudoallergy

4- Serum sickness

5- Contact dermatitis

Q1329. How is the Mantoux test administered?

1- Intramuscular

2- Subcutaneous

3- Multiple subcutaneous places

**4- Intradermal**

5- Intravenous

Q1330. A 16-year-old girl presents to the Emergency Department complaining of an urticarial skin rash. There is a history of recent ingestion of peanut butter, although she is not known to be allergic to peanuts. Measurement of peanut specific IgE on RAST testing is in the normal range. Which of the following fits best with this clinical situation?

1- Diagnosis of peanut allergy can be made on history alone

2- Negative RAST testing rules out peanut allergy

**3- Skin prick testing may be useful**

4- Food provocation is the next most appropriate investigation

5- Complement testing is the most useful next

Q1331. Gluten-sensitive enteropathy (GSE) can be associated with low levels of:

1- IgM

2- IgG

**3- IgA**

4- IgE

5- IgD

Q1332. A young boy has his second episode of Neisseria meningitis. You suspect he may have complement deficiency. Which of the following deficient complement factors is particularly associated with Neisseria infection?

1- C1

2- C2

3- C3

4- C4

**5- C5**

Q1333. You review a 19-year-old man who is referred to the clinic with recurrent nose bleeds. On examination you notice that he has multiple telangiectases on his body and you are concerned that he may have an underlying genetic disorder. On further questioning you understand that one relative had a similar skin appearance and unfortunately died of a GI haemorrhage, and another suffered from a stroke. What is the likely mode of inheritance for this condition?

**1- Autosomal dominant**

2- Autosomal recessive

3- Polysomal

4- X-linked recessive

5- X-linked dominant

Q1334. An 18-year-old suffers recurrent, proven bacterial chest infections requiring regular antibiotic treatment. Which of the following is the best way to exclude antibody deficiency?

1- Serum immunoglobulins

2- Immunoglobulin subclasses

**3- Specific antibodies to haemophilus and pneumococci**

4- Complement levels

5- Mannan-binding protein

Q1335. You are working in the Emergency Department and notice that a tall and thin 19 year old student has attended for the second time with spontaneous pneumothorax. He displays clear signs of hyperflexibility and on further questioning it appears he has also had problems with shoulder dislocation. He also has a reduced upper to lower body segment ratio. You suspect he may have Marfan's. Which of the following correctly describes the mutation associated with Marfan's syndrome?

**1- Fibrillin-1 (FBN-1) gene mutation**

2- PLOD-1 gene mutation

3- COL-3A1 gene mutation

4- ADAMST-2 gene mutation

5- COL-5A1 gene mutation

Q1336. A 19-year-old man from a family of travellers presents to the Emergency department. He has suffered a sudden deterioration in vision. Additional past medical history of note includes bilateral shoulder dislocation. On examination he is tall and thin with a high arched palate. He appears to have suffered a lens dislocation Which of the following genes is most likely to be abnormal?

**1- Fibrillin-1**

2- Collagen Type II

3- Collagen Type III

4- Collagen Type IV

5- Collagen Type V

Q1337. Which of the following should be considered in the management of haemophilia A?

1- The infant is protected at birth due to maternal transfer of factor VIII

**2- Desmopressin may be useful**

3- A factor VIII concentration < 10% causes severe disease

4- Most cases are the result of new mutations

5- von Willebrand factor levels are reduced

Q1338. A 17-year-old boy with a history of type 1 diabetes mellitus, sensorineural high tone deafness and colour blindess presents for review in the genetics clinic. You learn from his mother that other members of the family are affected, including a daughter aged 21 who also suffers from Type 1 diabetes. Which of the following represents the usual mode of inheritance for the likely genetic syndrome?

1- Autosomal dominant

2- X-linked

3- X-linked recessive

**4- Autosomal recessive**

5- Chromosomal non-dysjunction

Q1339. Which of the following disorders may have an autosomal recessive mode of inheritance?

1- Achondroplasia

2- Glucose 6-phosphate dehydrogenase deficiency

3- Huntington's disease

**4- Ehlers-Danlos syndrome Type IV**

5- Haemophilia A

Q1340. A couple aged in their early 30s come to the genetics clinic. They have one 6-year-old son who has gross obesity and mild mental impairment, diagnosed as Prader Willi syndrome and they are concerned about the possibility of further children being affected. Which of the following most accurately describes the mode of inheritance of Prader Willi?

1- Autosomal recessive

2- Autosomal dominant

3- X-linked recessive

4- X-linked dominant

**5- Non-mendelian**

Q1341. In which of the following genetic diseases is DNA analysis useful?

1- Adult polycystic kidney disease

2- Down's syndrome

**3- Huntington's disease**

4- Hyperobstructible coronary myopathy

5- Klinefelter's syndrome

Q1342. The father of a 12-year-old girl attends the genetics clinic with his new partner. The 12- year-old girl suffers from mild sensorineural hearing loss and dipstick positive haematuria. He wants to start a new family with his second partner. You want to advise him of the chances of further children being affected by the disease. He tells you that out of other affected relatives, males seem much more severely affected than females, with a number of them having required renal replacement therapy before the age of 40 years. Given the history above, what is the most likely mode of inheritance?

1- Autosomal dominant

2- Autosomal recessive

3- Polysomal

4- X-linked recessive

**5- X-linked dominant**

Q1343. A male patient age 33 presents with depression, weight loss and choreiform movements. He informs you that his father had similar symptoms aged 50, his grandfather at aged 75, and both deteriorated in terms of mobility and mental state and eventually died. What is the phenomenon described here known as?

1- Increased penetrance

2- Autsomal dominance

**3- Anticipation**

4- X-linked dominant characteristics

5- Mitochondrial characteristics

Q1344. Which of the following is a feature of restriction fragment length polymorphisms (RFLPs)?

1- They utilise restriction exonucleases

2- They are infrequently used in linkage analysis

**3- They may be used to diagnose Huntington's disease**

4- They use Western blotting technique

5- They are used in linkage which involves a

Q1345. Sickle-cell anaemia is characterised by which of the following?

1- Occurrence due to the substitution of alanine for valine on position 6 of the bglobin gene

2- Presence of 70-90% HbS, 5-10% HbA and 2- 20% HbF on electrophoresis

3- Resistance to falciparum malaria

4- Absent reticulocytosis

**5- Vaso-occlusive crises**

Q1346. Which of the following is a feature of the Sézary disease?

1- B-cell lymphoma

2- Macrophage disorder

3- Natural killer cell deficiency

4- Neutrophil disease

**5- T-cell malignancy**

Q1347. Which of the following statements is true concerning immunity to bacteria?

1- Antibodies to secreted bacterial products play no protective role

**2- Bacteria opsonised by antibodies and complement are more effectively phagocytosed than those opsonised by antibodies alone**

3- Humoral rather than cellular immunity is predominant in protection against all types of bacteria

4- Phagocytes cannot engulf bacteria in the absence of antibodies

5- Endotoxin induces shock mainly through

Q1348. A 27-year-old Jewish man attends the clinic with his wife. They are keen to start a family but are worried because his brother developed jaundice during teenage years and was given a diagnosis of Dubin Johnson syndrome. He asks for advice as to the chance of his children inheriting the condition. Which of the following most accurately represents the mode of inheritance for Dubin Johnson syndrome?

1- X-linked recessive

2- Autosomal dominant

**3- Autosomal recessive**

4- X-linked dominant

5- Occurs by new mutation only

Q1349. The 3' to 5' exonuclease activity possessed by some DNA polymerases that enables the enzyme to replace misincorporated nucleotide is called what?

**1- Proofreading**

2- Replication

3- Recombination

4- Retrotransposition

5- Splicing

Q1350. A 25-year-old woman presents with primary hyperparathyroidism. It emerges that she has been treated previously for a prolactinoma. What is your diagnosis?

1- Familial parathyroid hyperplasia

**2- Multiple endocrine neoplasia type 1**

3- Neurofibromatosis type 1

4- Polyglandular autoimmune syndrome type 1

5- von Hippel-Lindau syndrome

Q1351. A 30-year-old man is found to have 3 adenomatous polyps in the sigmoid colon at colonoscopy. He mentions that his father died at 45 with colon cancer, his paternal aunt was treated for rectal cancer at 45 and his paternal grandfather was treated for colon cancer at 50. What is the most likely diagnosis?

1- Familial adenomatous polyposis (FAP)

2- Cowden syndrome

3- Gardner syndrome

**4- Hereditary non-polyposis colon cancer (HNPCC)**

5- Peutz-Jeghers' syndrome

Q1352. A 45-year-old lady is referred to you with a diagnosis of renal cell carcinoma. She tells you that she had surgery for phaeochromocytoma at the age of 25 years. What is the most likely diagnosis?

1- Familial paraganglioma

2- Multiple endocrine neoplasia type 1

3- Multiple endocrine neoplasia type 2A (MEN2A)

4- Neurofibromatosis type 1 (Nf1)

**5- Von Hippel-Lindau disease**

Q1353. A patient presents with distal weakness and muscle wasting. Myotonic dystrophy is confirmed by which investigation?

1- Nerve conduction studies

2- CT scan

3- ECG

4- Muscle biopsy

**5- Genetic testing**

Q1354. A 20-year-old man presents with pes cavus, distal weakness and wasting of his leg muscles, absent knee and ankle jerks and reduced sensation to touch and vibration in his feet and legs. His father is said to have similar problems. Nerve conduction studies show absent sensory potentials from his sural nerve and reduced motor nerve conduction velocities in his common peroneal nerve. What is the most likely diagnosis?

1- Autosomal dominant cerebellar ataxia

2- Dejerine-Sottas syndrome

3- Friedreich's ataxia

**4- Hereditary sensory and motor neuropathy type 1 (HMSN1)**

5- Hereditary neuropathy with liability to

Q1355. A young pregnant girl would like to know the risk of having a child with genetic abnormalities. Her father and two brothers are affected by haemophilia, which is inherited as an X-linked disease. She is herself completely asymptomatic. She knows from her last ultrasound test that her baby is a boy. What is the chance for her son to be genetically affected by the same condition?

**1- 1 in 2**

2- 1 in 4

3- 1 in 6

4- 1 in 8

5- 1 in 16

Q1356. Which enzyme breaks base pairs in a doublestranded DNA molecule?

**1- Helicase**

2- Nuclease

3- Phosphodiesterase

4- Restriction endonuclease

5- Telomerase

Q1357. In a patient with nickel-associated contact dermatitis which of the following statements is true?

1- Mediated by mast cells

2- Mediated by IgE

3- Skinprick testing is the best way to establish the sensitising antigen

4- Systemic cytokine release induces skin inflammation

**5- Elimination of the responsible agent is the**

Q1358. A 16-year-old girl presents with primary amenorrhoea. On examination, her height is 145 cm and weight 45 kg. What is the most likely diagnosis?

1- Crohn's disease

2- Cystic fibrosis

3- McCune-Albright syndrome

4- Iron deficiency anaemia

**5- Turner's syndrome**

Q1359. You review a 28-year-old man with a family history of early thyroid carcinoma and phaeochromocytoma. Your patient has been searching on the internet and has found information about the RET proto-oncogene. The proto-oncogene RET causes which thyroid cancer?

1- Papillary

**2- Medullary**

3- Follicular

4- Anaplastic

5- Lymphoma

Q1360. A man who has autosomal recessively inherited common variable immunodeficiency would like to start a family. His partner does not have the disease. What is the percentage that his children will inherit his disease?

1- 100%

**2- <5%**

3- 25%

4- 50%

5- 0%

Q1361. A 25-year-old adopted man consults for review. He is interested in having children and is concerned about the possibility of inheritance of genetic disease. Which of the following is most prevalent in northern Caucasians?

1- Cystic fibrosis

**2- α1-antitrypsin deficiency (A1AT)**

3- Congenital hypothyroidism

4- Sickle cell disease

5- Phenylketonuria

Q1362. A 16-year-old boy presented with absence of pubertal development. He had no other symptoms of note. On examination he was tall, his voice was unbroken, testes were undescended and there was only scanty pubic hair. The remainder of the examination was unremarkable. What is the most likely diagnosis?

**1- Klinefelter's syndrome**

2- Turner's syndrome

3- Kallmann's syndrome

4- Testicular feminisation

5- Hypopituitarism

Q1363. Patients with xeroderma pigmentosum have a high risk of developing skin cancer. What kind of genetic deficiency do those patients have?

**1- Nucleotide excision repair**

2- Protein kinase

3- Base excision repair

4- Mismatch repair

5- Ligase

Q1364. A 35-year-old man presents with a one-year history of choreiform movements, personality changes and mild memory loss. His father died with similar problems at the age of 50. What is the most likely diagnosis?

1- Alzheimer's disease

2- Creutzfeldt-Jakob disease

3- Hallervorden-Spatz disease

**4- Huntington's disease**

5- Wilson's disease

Q1365. Concerning monoclonal free light chains, which of the following statements is true?

1- They are usually found in association with Waldenstrom's macroglobulinaemia

2- They are commonly found in the serum of myeloma patients with normal renal function

**3- They are found in isolation in 20-30% of cases of myeloma**

4- They are not associated with IgE- or IgDsecreting myelomas

5- They are rarely associated with renal

Q1366. A 60-year-old man presents to the emergency team with dramatic swelling of his tongue and lips. He has hypertension and type-2 diabetes mellitus. His drug therapy has been unchanged for 5 years and comprises lisinopril, low-dose aspirin and metformin. Which of the following diagnoses is most likely?

1- Acquired angioedema related to a paraprotein

2- Idiopathic angioedema

3- Hereditary angioedema

**4- ACE inhibitor-associated angioedema**

5- Salicylate-induced angioedema

Q1367. Which of the following is associated with hereditary angio-oedema?

**1- Low levels of C1 inhibitor**

2- High levels of C1 inhibitor

3- C3 deficiency

4- High levels of C4 complement during an attack

5- Deficiency of the membrane-attack

Q1368. In a patient with anaphylaxis, which of the following should be given to inhibit the important late-phase reaction?

1- Antihistamines

2- Epinephrine

3- Leukotriene inhibitor

**4- Hydrocortisone**

5- NSAID

Q1369. In a 20-year-old man, recurrent and/or severe infections with which of the following organisms would make you suspect immunodeficiency associated with hypogammaglobulinaemia?

**1- Haemophilus influenzae**

2- Chlamydia Psitacci

3- Herpes simplex virus

4- Candida spp

5- Pneumocystis jiroveci

Q1370. Which of the following statements in relation to skin disease is true?

1- Eye involvement is unusual in benign mucous membrane pemphigoid

2- The rash of herpes gestationis most commonly affects the chest

3- Pemphigus is associated with subepidermal bullae

4- Epidermolysis bullosa acquisita is strongly associated with HLA-DR4

**5- Nasal swabs should be routinely checked in**

Q1371. In a patient developing anaphylaxis, which of the following is true?

**1- May be exacerbated by exercise**

2- Involves leukotriene A4

3- Initial symptoms include a sensation of coldness

4- 20% of fatalities are due to respiratory complications

5- Less than 10% of patients have a second

Q1372. Which of the following is true of the ChurgStrauss syndrome?

1- Granuloma formation is uncommon

**2- It is likely to be associated with a history of asthma and atopy over a few years before the diagnosis is made**

3- May be characterised by basophilia

4- Is associated with polyneuritis

5- pANCA is positive in > 80% of cases

Q1373. Parents of a boy with suspected peanut allergy want answers to many questions, including prediction of the severity of future reactions and whether he will grow out the allergy. Which of the following is a valid statement?

1- The weal size resulting from the skinprick test is a good indicator for the severity of the next anaphylactic reaction

2- The amount of plasma-specific IgE to peanuts/treenuts is a good indicator for the severity of the next anaphylactic reaction

**3- The weal size resulting from the skinprick test is an excellent predictor of a positive food challenge to peanuts**

4- A negative skinprick is insufficient evidence to definitely exclude peanut allergy

5- More than 50% of peanut allergic

Q1374. A 40 year old woman, who is under investigation in the medical out-patient department for symptoms of fatigue, proves to have weakly positive serum anti-nuclear antibodies (ANAs). Other blood tests are all normal. Which of the following is the most likely explanation for her ANA positivity?

1- Ankylosing spondylitis

2- Primary antiphospholipid antibody syndrome (APL)

3- Chronic fatigue syndrome

**4- Age-related**

5- Myasthenia gravis

Q1375. Anti-Ro antibodies in isolation (negative ANA) occur in which of the following conditions?

1- Sjögren's syndrome

2- Sicca syndrome

**3- Systemic lupus erythematosus (SLE)**

4- Scleroderma

5- Polymyositis

Q1376. A 74-year-old-man is seen in the preoperative assessment clinic prior to a right total hip replacement scheduled in eight weeks time. He had a recent chest infection and suffered chronic joint pain and prostatism for many years. On examination there were few chest signs and the musculoskeletal examination revealed evidence of severe arthritis in the right hip and base of the thumb. The prostate is firm and enlarged. It was thought that he was fit to have the operation. However, the blood tests showed raised immunoglobulins and the immune electrophoresis identified an M-protein of the IgG type at 2.5 g/dl. Further tests reveal no lytic bone lesions on skeletal survey and no Bence-Jones proteinuria. The bone profile and the prostate specific antigen were within normal limits. The MOST likely underlying disease is?

1- Carcinoma of the prostate

2- Multiple myeloma

3- Rheumatoid arthritis

**4- Monoclonal gammopathies of undetermined significance (MGUS)**

5- Waldenstrom's macroglobulinaemia

Q1377. Absent immune deposits on immunohistochemical analysis of renal tissue is characteristic of which one of the following renal disorders?

1- Systemic lupus erythematosus

2- Henoch-Schönlein nephritis

3- Goodpasture's disease

**4- Wegener's granulomatosis**

5- Berger's disease

Q1378. Which of the following is associated with the correct disease?

1- HLA DR4 - ankylosing spondylitis

2- HLA B27 - Behçet's disease

3- HLA B5 - haemochromatosis

4- HLA A3 - multiple sclerosis

**5- HLA Cw6 - psoriasis**

Q1379. A 36-year-old woman with an eight month history of Raynaud's phenomenon presents to the emergency room with new onset precordial chest pain. Physical examination reveals a pericardial friction rub and her CPK is elevated 5 times above the upper normal limit, but the MB isoenzyme is negative. The immunology profile reveals a positive ANA test at 1:640 with a speckled staining pattern. The MOST appropriate immunology test at this stage is?

1- Parasagittal cerebral rheumatoid nodule

**2- Anti-ribonucleoprotein (anti-RNP antibody)**

3- Anti-centromere antibody

4- Rheumatoid factor

5- Anti-neutrophil cytoplasmic antibody

Q1380. Immunological investigations in a patient with renal disease are important in the diagnostic work-up, which of the following statements is correct?

1- Henoch-Schönlein purpura is associated with IgG in the mesangium

2- SLE is typically associated with sparse deposits of IgG and complement in the glomeruli

3- C3 nephritic factor is associated with mesangiocapillary glomerulonephritis type I

4- Minimal-change glomerulonephritis is associated with hypocomplementaemia

**5- Antiglomerular basement-membrane**

Q1381. Which of the following definitely excludes IgG subclass deficiency?

1- Normal serum immunoglobulins

**2- Good IgG antibody responses to immunisations**

3- The presence of existing antibody responses to past infections

4- Normal IgG subclasses

5- Normal peripheral blood lymphocyte

Q1382. Which one of the following is MOST likely to increase during exercise?

1- Peripheral vascular resistance

2- Pulmonary vascular resistance

**3- Stroke volume**

4- Diastolic pressure

5- Venous compliance

Q1383. In a 21-year-old female with systemic lupus erythematosus, which of the following investigations/statements is true?

**1- CRP is typically normal in non-infected patients with active disease**

2- Rheumatoid factor is positive in < 5% of patients

3- Neutropenia is more common than lymphopenia

4- The low-dose oral contraceptive pill and HRT are contraindicated

5- Pulmonary fibrosis is a common disease

Q1384. A 49-year-old man presents with an acutely red and painful eye. Following ophthalmalogical assessment, a diagnosis of anterior uveitis is made. Further investigations are to be undertaken to examine the possible underlying systemic cause. Which of the following underlying diagnoses would the least likely in his case?

1- Tuberculosis

2- HLA B27 associated arthritis

3- Behçet's disease

**4- T-cell lymphoma**

5- Sarcoid

Q1385. In patients with systemic lupus erythematosus which of the following statements is correct?

**1- Up to 80% of patients have anti-dsDNA antibodies**

2- Patients with anti-dsDNA antibodies are less likely to have renal disease

3- 10% of patients can be antinuclear antibody-negative

4- Ro positivity is associated with Raynaud's disease

5- Beta-blockeres should be avoided in

Q1386. When taking a history from a patient with suspected vasculitis, clinical determination of the size of vessel involved is important in the identification of the underlying vasculitic condition. Which of the following statements is true?

1- Takayasu's arteritis mainly affects small blood vessels

2- Churg-Strauss syndrome mainly affects large blood vessels

3- Wegener's granulomatosis mainly affects large blood vessels

4- Classical polyarteritis nodosa only affects small arteries

**5- Behçet's disease is a postcapillary venulitis**

Q1387. A 40-year-old man presents with a purpuric rash on his lower limbs. You request cryoglobulin screening. The report indicates a moderate amount of a mixed cryoglobulin, having both a monoclonal and a polyclonal component. With what are these typically associated?

1- Hepatitis B

**2- Hepatitis C**

3- Chronic lymphocytic leukaemia

4- Chronic myeloid leukaemia

5- Active SLE

Q1388. In a patient presenting acutely with severe abdominal pain presumed to be related to previously diagnosed hereditary angioneuritic oedema, which of the following treatment strategies would be optimal?

1- Start/increase the dose of danazol

2- Start tranexamic acid

**3- Give an intravenous C1-inhibitor concentrate**

4- Give intravenous fresh-frozen plasma

5- Give intramuscular adrenaline

Q1389. Antibodies to which of the following are found in patients with myasthenia gravis?

1- Acetylcholine esterase

**2- Acetylcholine receptors**

3- Myelin

4- Striated muscle

5- Tensilon

Q1390. Which of the following adverse food reactions is mediated by IgE-dependent mechanisms and hence can be ascertained by skinprick testing?

1- Monosodium glutamate in Chinese food

2- Scombroid fish poisoning

3- Sulphites on prepacked salads

4- Salicylate-induced urticaria

**5- Kiwi fruit**

Q1391. Selective IgA deficiency is often discovered incidentally in the investigation of a patient, however you will need to explain to the patient the clinical significance of such a finding. Hence which of the following statements is relevant?

1- Predisposition to Staphylococcus aureus infection

2- An increased risk of colonic carcinoma

**3- IgG2 deficiency leading to recurrent bacterial infections**

4- A reduced risk of allergy

5- An increased risk of viral infections

Q1392. In patients with severe oral and genital ulceration, therapy with agents having clinically significant anti-TNF- a activity can be beneficial, which of the following is used for this indication?

1- Cyclophosphamide

2- Dapsone

3- Methotrexate

4- Pentoxifylline

**5- Thalidomide**

Q1393. In an elderly patient found to have a large IgM-kappa paraprotein, which of the following helps to decide that it is related to Waldenstrom's macroglobulinaemia?

1- Light chains in the urine

**2- No isotype suppression (normal IgG and IgA levels)**

3- Recurrent infections

4- Hyperviscosity

5- Thrombocytosis

Q1394. Regarding B cells and plasma cells, which of the following is true?

1- B cells and plasma cells have surface-bound IgG

2- B cells and plasma cells have surface MHC class II

3- Plasma cells can undergo somatic hypermutation

**4- B cells can undergo isotype switching**

5- Plasma cells can undergo isotype switching

Q1395. Only IgE-mediated allergic reactions can be formally tested by skinprick testing. Adverse reactions to which of the following substances can be tested in this manner?

1- Morphine

2- Radiocontrast media

3- Scombrotoxins

4- Colloid plasma expanders

**5- Latex**

Q1396. In a healthcare worker with a proven natural rubber/latex allergy, which of the following foods is most commonly associated with this condition?

**1- Bananas**

2- Melons

3- Potatoes

4- Tomatoes

5- Chestnuts

Q1397. High titres of antithyroid microsomal and antithyroglobulin antibodies would suggest which of the following diagnoses in a patient presenting with a complaint of tiredness?

**1- Hashimoto's thyroiditis**

2- Reidel's thyroiditis

3- Grave's disease

4- Hypoparathyroidism

5- Idiopathic hypothyroidism

Q1398. You are called to ICU to see a 65-year-old patient who requires controlled mechanical ventilation after major non-cardiac surgery but is becoming hypoxaemic when the FiO2 is reduced from 0.4 to 0.3. Which of the following statements is true?

1- Simple indices of circulatory status - such as urine output, blood pressure and CVP - correlate better with operative risk in highrisk non-cardiac surgery than a history of previous cardiovascular disease

2- Survivors after major surgery decrease their cardiac index and oxygen delivery in the perioperative period below baseline normal values

3- Measurement of mixed venous oxygen saturation (SVO2) requires a pulmonary venous (PV) catheter to sample pulmonary capillary blood

4- Cardiac index and oxygen delivery correlate poorly with outcome from high-risk surgery

**5- Pre- or perioperative beta-blockade can**

Q1399. A 75-year-old woman undergoes total gastrectomy for carcinoma of stomach. With which of the following nutrients is she most likely to require parenteral replacement?

1- Ascorbic acid

2- Folic acid

3- Iron

**4- Vitamin B12**

5- Vitamin D

Q1400. A 39-year-old man presents with recurrent episodes of early morning dizziness, which resolve rapidly when he has his breakfast. Which of the following metabolic pathways is most likely to be functioning abnormally?

**1- Gluconeogenesis**

2- Glycolysis

3- Glycogen synthesis

4- Ketogenesis

5- The tricarboxylic acid cycle (citric acid cycle,

Q1401. A 32-year-old man is referred to a dermatologist with soft, fleshy lumps over his elbows. Examination also reveals that he has yellow fat deposits in his palmar creases. His (fasting) serum cholesterol concentration is 12.4 mmol/l, triglyceride 14.2 mmol/l. Which of the following groups of lipoprotein particles is likely to be present in excess?

1- Chylomicrons

**2- Intermediate-density lipoproteins (IDL)**

3- Lipoprotein (a)

4- Low-density lipoproteins (LDL)

5- Very low-density lipoproteins (VLDL)

Q1402. A 21-year-old man is alarmed to find that his urine has become unusually dark 2 days before he is to leave on a backpacking holiday in South-East Asia . He consults his GP, who observes that he is slightly jaundiced. Deficiency of which of the following enzymes could best explain these clinical features?

1- Bilirubin glucuronyltransferase

**2- Glucose 6-phosphate dehydrogenase**

3- Glucose 6-phosphatase

4- Hydroxymethylbilane synthase

5- Pyruvate kinase

Q1403. A 25-year-old man, previously rather sedentary in his habits but alarmed by his increasing weight, is persuaded by his girlfriend to join a gym, and begins an exercise programme. Although there are several similar people enrolled in the programme, he finds that he is unable to keep up with them because of muscle pain, particularly in his legs. Within a few minutes of resting, however, the pains resolve. Investigation revealed a slight fall in blood lactate concentration during exercise. Which of the following is most likely to be the cause of his complaint?

1- Decreased muscle glucose uptake

2- Decreased hepatic glycogenolysis

**3- Decreased muscle glycogenolysis**

4- Impaired hepatic gluconeogenesis

5- Premature atherosclerosis

Q1404. When taking a history from a 61-year-old woman with disseminated sclerosis, you ascertain that she is intermittently incontinent for liquid stools. Which of the following pertains to the clinical physiology of faecal continence?

1- Voluntary faecal continence is controlled by the internal anal sphincter

2- Involuntary faecal continence is controlled by the external anal sphincter

3- Anal ultrasound is widely used to assess sphincter function

4- The commonest cause of sphincter weakness is pudendal neuropathy

**5- Incontinence may be associated with rectal**

Q1405. A 70-year-old man presents in an acute confusional state. His plasma sodium concentration is 108 mmol/l, his creatinine is 106 micromol/l, urea of 5.0 mmol/l. Which of the following findings would be most suggestive of the hyponatraemia being due to inappropriate secretion of vasopressin (antidiuretic hormone, ADH)?

1- Plasma osmolality of 230 mmol/kg

2- Plasma urea concentration 2.5 mmol/l

3- Urine sodium concentration of 50 mmol/l

**4- Urine osmolality 510 mosmol/kg**

5- Plasma albumin concentration of 28 g/l

Q1406. Some 4 hours after sustaining major trauma in a road traffic accident, a 22-year-old man, not known to have diabetes, is found to have a high blood glucose concentration. Increased secretion of which of the following substances is most likely to be responsible?

**1- Adrenaline (epinephrine)**

2- Cortisol

3- C-reactive protein

4- Growth hormone

5- Insulin

Q1407. A 71-year-old man with known chronic obstructive pulmonary disease is admitted to A&E with severe shortness of breath. Blood gas analysis shows: arterial [H+] 55 nmol/l (pH 7.26), p(CO2) 9.4 kPa, p(O2) 9.1 kPa, derived [HCO3- ] 31 mmol/l. Which of the following types of acid-base disturbance is most likely?

1- Acute respiratory acidosis

2- Chronic, compensated respiratory acidosis

**3- Exacerbation of chronic respiratory acidosis**

4- Mixed respiratory acidosis and metabolic alkalosis

5- Severe metabolic acidosis

Q1408. A 19-year-old man presents with clinical features suggestive of malabsorption. Which of the following investigations has the potential to indicate a single cause for this?

1- Breath hydrogen measurement

2- Faecal fat excretion

**3- Lactose tolerance test**

4- Pancreolauryl test (comparison of the absorption of fluorescein and fluorescein dilaurate)

5- Xylose tolerance test

Q1409. A 47-year-old man with a long history of alcohol abuse is admitted to hospital with acute abdominal pain and is diagnosed clinically as having acute pancreatitis. This is confirmed by finding a high serum amylase activity and by the results of an ultrasound scan. He has not had a similar illness before. His serum is seen to be lipaemic: serum triglyceride concentration is 26 mmol/l. Which of the following is the most likely cause of the hypertriglyceridaemia?

1- Decreased pancreatic lipase secretion

2- Deficiency of apolipoprotein C-II

3- Deficiency of LDL (low-density lipoprotein) receptors

4- Deficiency of lipoprotein lipase

**5- Increased synthesis of VLDL (very lowdensity lipoprotein)**

Q1410. A 49-year-old postmenopausal woman of Southern Asian origin complains of muscle weakness. She is found to have hypocalcaemia, and X-ray examination reveals two Looser's zones in her left upper femur. A defect in which of the following physiological processes is most likely to be the cause of her illness?

**1- Absorption of calcium from the gut**

2- Osteoblastic activity

3- Osteoclastic activity

4- Parathyroid hormone secretion

5- Renal excretion of calcium

Q1411. A 17-year-old phenotypic female with no clinical evidence of dysmorphism is referred to the Endocrine Clinic for the investigation of primary amenorrhoea. On examination, breast development is normal, the external genitalia are normal female in appearance but pubic hair is sparse. Her karyotype is found to be 46XY. A defect in which of the following hormonal processes is most likely to be the abnormality causing this presentation?

1- Conversion of testosterone to dihydrotestosterone

2- FSH (follicle-stimulating hormone) secretion

3- Prolactin secretion

4- Testosterone secretion

**5- The androgen receptor**

Q1412. A 20-year-old man is referred to the endocrinology clinic because of delayed puberty. On examination, he has a preadolescent body habitus and no evidence of the development of secondary sexual characteristics. Serum testosterone, LH (luteinising hormone) and FSH (folliclestimulating hormone) concentrations are all in the prepubertal range. The LH and FSH concentrations increase only slightly following a single injection of GnRH (gonadotrophinreleasing hormone) but a normal response is elicited after GnRH is given daily for seven consecutive days. Which of the following is most likely to be the cause of his delayed puberty?

**1- A hypothalamic disorder**

2- A pituitary disorder

3- Klinefelter's syndrome

4- Mumps orchitis in childhood

5- Seminiferous tubular dysfunction

Q1413. A 24-year-old man is being provided with long-term parenteral nutrition for Crohn's disease. His energy requirement is estimated to be approximately 597 J (2500 kcal)/24 h. Which of the following combinations of lipid emulsion and dextrose solutions would be most appropriate to provide his energy requirements?

1- Dextrose 50% 500 ml, lipid emulsion 20% 500 ml

2- Dextrose 50% 500 ml, lipid emulsion 20% 750 ml

3- Dextrose 50% 500 ml, lipid emulsion 20% 1000 ml

**4- Dextrose 50% 750 ml, lipid emulsion 20% 500 ml**

5- Dextrose 50% 1000 ml, lipid emulsion 20%

Q1414. A 25-year-old man is admitted to hospital with persistent vomiting. He is clinically dehydrated and hypotensive. His serum sodium concentration is 124 mmol/l, potassium 4.9 mmol/l, urea 9.8 mmol/l, creatinine 96 m mol/l. Urine sodium concentration in a specimen passed on admission is 62 mmol/l. Which of the following is the most likely cause of the hyponatraemia?

**1- Adrenal failure**

2- Cerebral salt wasting

3- Gastrointestinal fluid loss

4- Low sodium intake

5- Syndrome of inappropriate antidiuresis

Q1415. Which of the following statements is true in the epidemiology of disease associated with a1-antitrypsin deficiency?

1- Smoking is not a major risk factor

2- There is an increased incidence of hyperreactive airways in adult life

3- It is an autosomal dominant disorder with low penetrance

**4- The disorder is an indication for liver transplantation in a child**

5- Most cases present during the neonatal

Q1416. Which one of the following is higher at the apex of the lung than at the base when a person is standing?

**1- V/Q ratio**

2- Ventilation

3- paCO2

4- Compliance

5- Blood flow

Q1417. The primary neurochemical disturbance in idiopathic Parkinson's disease involves

1- Noradrenaline

**2- Dopamine**

3- Gamma-aminobutyric acid (GABA)

4- Substance P

5- Adrenaline

Q1418. The secretion of growth hormone is increased by?

1- Hyperglycaemia

**2- Exercise**

3- Somatostatin

4- Growth hormone

5- Free fatty acids

Q1419. A 65-year-old smoker with a history of transient ischaemic attacks presents with loss of co-ordination of his right side. On examination there is decreased skin sensation in the right half of his face and the left half of his body. In addition he has a right Horner syndrome. Which vessel is most likely to be involved?

1- Basilar artery

**2- Posterior inferior cerebellar artery**

3- Middle cerebral artery

4- Internal carotid artery

5- Posterior cerebral artery

Q1420. A 49-year-old woman has been complaining of a tingling feeling in her right hand at night and is under the impression that her hand is swollen although there is no obvious oedema. In the last few days she has noticed numbness in her right index finger and the tip of her thumb, especially while working. Which nerve is most likely to be responsible for her symptoms?

1- Ulnar nerve

**2- Median nerve**

3- Radial nerve

4- Nerve root C7

5- Nerve root C8

Q1421. A 21-year-old man takes advantage of his employer's health benefits and undergoes a private health screen. Urinalysis is positive for protein on two occasions, once at the health screen and a later repeated sample at the GP. His serum urea and creatinine concentrations are normal. Which of the following would be the most important investigations to perform next?

1- Creatinine clearance

**2- Measurement of urine protein immediately on getting out of bed in the morning**

3- Mid-stream urine for culture and sensitivity

4- Urine protein electrophoresis

5- 24-hour urine protein excretion

Q1422. You have performed a liver biopsy, and shortly after the procedure the patient develops pain on the tip of his right shoulder. Which nerve is most likely to be responsible for his pain?

**1- Right phrenic nerve**

2- Axillary nerve

3- Right vagus

4- Right sympatheticus

5- Intercostobrachial nerve

Q1423. A 32-year-old woman on nasogastric aspiration for paralytic ileus following surgery develops a metabolic alkalosis. Which of the following intravenous fluids would be the preferred treatment for the alkalosis?

1- 5% dextrose

2- Dextrose saline

**3- Normal (0.9%) saline**

4- Ringer's lactate

5- Twice normal (1.8%) saline

Q1424. You are called to see a 56-year-old man 2 h after a cardiac catheterisation. He is actively bleeding from his catheter site and his dressings and bedclothes are soaked with blood. Which of the following statements is true?

1- Grade I shock applies with up to a 20% loss of circulating blood volume

2- Loss of 2 litres of blood is consistent with normal systolic blood pressure

**3- The pulse can remain normal in patients with grade I shock**

4- Anuria is pathognomonic of grade III shock

5- Grade IV shock is seen with a 30% loss of

Q1425. A 24-year-old man, a new immigrant to the UK from Eastern Europe, who had worked in his own country as a demolition contractor, undergoes a medical examination and is found to have glycosuria. His blood lead concentration is high. Which of the following findings would suggest that he has a generalised disorder of proximal tubular function?

1- Albuminuria

2- Hyperkalaemia

3- Increased serum urea concentration

4- Inability to acidify the urine

**5- Metabolic acidosis**

Q1426. Some 24 hours after sustaining severe skeletal and soft tissue trauma in a road traffic accident, a 19-year-old man becomes oliguric. Which of the following would be LEAST likely to present if acute tubular necrosis were the likely diagnosis?

1- Glycosuria

2- Hyperkalaemia

3- Hyperuricaemia

4- Urinary osmolality less than 250 mmol/kg

**5- Urinary sodium concentration less than 10**

Q1427. A 77-year-old man presents with a history of vomiting undigested food. Routine biochemistry shows a serum bicarbonate concentration of 38 mmol/l. Which of the following findings would most strongly suggest that he had a chronic metabolic alkalosis?

1- Alkaline urine

2- Base excess 18 mmol/l

**3- Elevated arterial p(CO2)**

4- Hypokalaemia

5- Hypomagnesaemia

Q1428. A 72-year-old man presents to A&E with acute retention of urine. He has a serum creatinine concentration of 522 mmol/l. Which of the following features, if present, would help most to identify possible aetiologies for his renal failure and suggest that it is longstanding?

1- Anaemia

**2- Small kidneys on ultrasound examination**

3- High serum parathyroid hormone concentration

4- Hypotension

5- Hyperuricaemia

Q1429. The oxygen-haemoglobin dissociation curve is shifted to the left by which of the following factors?

**1- Rise in pH**

2- Rise in 2,3-DPG (2,3-diphosphoglycerate)

3- Rise in plasma temperature

4- Rise in blood CO2 content

5- Fall in plasma bicarbonate concentration

Q1430. You have performed a liver biopsy, and shortly after the procedure the patient develops pain on the tip of his right shoulder. Which nerve is most likely to be responsible for his pain?

**1- Right phrenic nerve**

2- Axillary nerve

3- Right vagus

4- Right sympatheticus

5- Intercostobrachial nerve

Q1431. A patient on enteral nutrition develops constipation. What could explain the underlying clinical physiology?

1- Hyperosmolar feed

2- Bacterial contamination

3- Low feed temperature

**4- Inadequate fluid replacement**

5- Reduced intestinal absorptive capacity

Q1432. A 56-year-old woman sustains a myocardial infarction. ST elevation and Q waves are present in leads V4-V6 , I and AVL. Which of the following aspects of the heart is most likely to have been involved in the infarct?

1- Anterior

**2- Anterolateral**

3- Anteroseptal

4- Inferior

5- Lateral

Q1433. You are researching a new agent for the management of hypoxia related to acute pneumonia. Part of the assessment includes changes in the pulmonary vasculature in response to hypoxia. When considering acute hypoxia, which of the following is true of the pulmonary vasculature?

1- An area of lung affected by pneumonia is likely to experience vasodilatation

**2- An area of lung unaffected by pneumonia is likely to experience vasodilatation**

3- An area of lung unaffected by pneumonia is likely to experience vasoconstriction

4- Increased cardiac output promotes pulmonary vasoconstriction

5- Hypothermia promotes pulmonary

Q1434. The mean lower oesophageal sphincter pressure is reduced in which of the following situations?

**1- Grade III oesophagitis**

2- Grade IV oesophagitis post-laparoscopic Nissens fundoplication

3- Achalasia

4- Nutcracker oesophagus

5- Diffuse oesophageal spasm

Q1435. Which enzyme in serum is increased in Gaucher's disease?

1- Alkaline transferase (ALT)

2- Aspartate transaminase (AST)

3- Lactate dehydrogenase (LDH)

**4- Acid phosphatase**

5- Alkaline phosphatase (ALP)

Q1436. An otherwise well, 62-year-old woman with hypertension is referred to an outpatient clinic for assessment. Despite treatment with a thiazide diuretic, a beta-adrenergic antagonist (beta-blocker) and an angiotensin-converting enzyme (ACE) inhibitor, her blood pressure is 158/92 mmHg. Investigations show serum sodium concentration is 138 mmol/l, serum potassium concentration 3.2 mmol/l, serum creatinine concentration 108 mmol/l. What is the most likely cause of the hypokalaemia?

1- A low dietary potassium intake

2- Excessive secretion of aldosterone

3- The ACE inhibitor

4- The beta-adrenergic antagonist

**5- The thiazide diuretic**

Q1437. Which of the following statements about prostaglandin synthesis is correct?

1- It is activated by glucocorticoids

2- It is produced by lipoxygenase

3- It is activated by aspirin

**4- It is mediated by cyclooxygenase**

5- It causes vasoconstriction

Q1438. Fatty acids transported from adipose tissue to the muscle. Which enzyme is essential for this process?

**1- Carnitine acyltransferase I**

2- Xanthine oxidase

3- Arginine hydroxylase

4- Phosphoribosyl pyrophosphate synthetase

5- Cyclooxygenase

Q1439. A patient who had a myocardial infarction 6 months ago is diagnosed as having gingival hypertrophy. Which drug is most likely to be responsible for this?

1- Atorvastatin

2- Isosorbide mononitrate

3- Aspirin

**4- Amlodipine**

5- Atenolol

Q1440. A 20-year-old female presents with the following blood gases: pH 7.48 p(CO2) 3.9 mmHg HCO3- 22 mmol/l H+ 35mmol/l What is the most likely reason for these results?

1- Amitriptyline

2- Cushing's syndrome

3- Hepatic failure

**4- Pregnancy**

5- Diazepam overdose

Q1441. A patient has the following urea and electrolytes results: Sodium 140 mmol/l Potassium 4 mmol/l Chloride 105 mmol/l Bicarbonate 20mmol/l Calculate the anion gap.

**1- 19 meq/l**

2- 5 meq/l

3- 10 meq/l

4- 30 meq/l

5- 0 meq/l

Q1442. In relation to the nutritional physiology of patients, which of the following would represent appropriate nitrogen requirements (g N/kg per day) and calorie requirements (kcal/kg per day)?

1- Reduced food intake: nitrogen requirement 0.3 g N/kg per day, calorie requirement 35 kcal/kg per day

2- Moderate injury: nitrogen requirement 0.15 g N/kg per day, calorie requirement 25 kcal/kg per day

3- Moderate sepsis: nitrogen requirement 0.3 g N/kg per day, calorie requirement 15 kcal/kg per day

**4- Severe injury: nitrogen requirement 0.3 g N/kg per day, calorie requirement 35 kcal/kg per day**

5- Severe sepsis: nitrogen requirement 0.2 g

Q1443. What is the importance of the P1 receptor?

**1- Inducing apoptosis**

2- Increasing cytotoxic drug excretion from cells

3- Increasing cytotoxic drug metabolite clearance

4- Calcium channel activator

5- Potassium channel activator

Q1444. Which of the following respiratory physiology tests would be consistent with a diagnosis of moderately established cryptogenic fibrosing alveolitis?

**1- Diffusion capacity decreased, FEV1/FVC normal, total lung capacity reduced**

2- Diffusion capacity increased, FEV1/FVC normal, total lung capacity increased

3- Diffusion capacity normal, FEV1/FVC reduced, total lung capacity reduced

4- Diffusion capacity decreased, FEV1/FVC normal, total lung capacity normal

5- Diffusion capacity decreased, FEV1/FVC

Q1445. What is the mechanism of action of erythropoietin when used as a performanceenhancing drug?

1- Improvement of renal function

2- Increase in muscle mass

3- Improvement of blood pressure control

**4- Improvement of exercise tolerance**

5- Reduction in pain

Q1446. A patient undergoes respiratory function tests. Which of the following are normal readings for a 70-kg man?

1- Peak expiratory flow of 376 l/min

2- Total lung capacity of 3.5 litres

3- Functional residual capacity of 3.5 litres

4- Tidal volume of 250 ml

**5- Inspiratory reserve volume of 2 litres**

Q1447. You are asked to review a 15-year-old boy with abnormal weight gain and learning difficulties. As part of your assessment you arrange for an assessment of peptide hormones to assess if a deficiency may be involved in the pathogenesis of his condition. Elevated levels of which of the following may be involved in the pathogenesis of his condition?

1- Leptin

2- Somatostatin

3- CCK

4- Secretin

**5- Gherelin**

Q1448. Glucokinase exists in brain, pancreas and liver, and responds differently in different locations. In the brain, response is governed merely by different glucose levels, while in liver glucokinase activity increases after meals. Downregulation of glucokinase activity in the liver is an example of which of the following?

1- Affinity

2- Specificity

3- Co-activation

4- Stereoisomerism

**5- Co-repression**

Q1449. A 19-year-old woman is found in the desert following an accident 7 days earlier. She is severely dehydrated, drowsy and confused. On examination she looks very dry and has a BP of 90/65 mmHg. Investigations: Hb 14.9 g/dl WCC 6.0 x 109 /L PLT 190 x 109 /L Na+ 145 mmol/l K+ 5.4 mmol/l Creatinine 198 μmol/l Urea 21.0 mmol/l Which of the following is the adaptive mechanism which has prevented her from dying from dehydration?

**1- Increase of aquaporin-2 in collecting duct**

2- Decrease in ADH

3- Reduction in GFR

4- Decrease in BP

5- Increase in renal sodium excretion

Q1450. A patient on total parenteral nutrition (TPN) regimen presents with drowsiness and abnormal serum electrolytes. What is the most likely cause?

1- Hypocalcaemia

2- Hypercalcaemia

3- Hypernatraemia

**4- Hypophosphataemia**

5- Hypomagnesaemia

Q1451. Which one of the following features in an adult patient presenting with porphyrinuria would most suggest lead poisoning rather than acute intermittent porphyria as a cause?

1- Abdominal pain

**2- Anaemia**

3- Foot drop

4- Hypertension

5- Seizures

Q1452. Which one of the following porphyrias can be both acquired and inherited?

1- Acute intermittent porphyria

2- Congenital erythropoietic porphyria

3- Erythropoietic protoporphyria

**4- Porphyria cutanea tarda (cutaneous hepatic porphyria)**

5- Variegate porphyria

Q1453. What is the medical treatment of choice for the majority of patients with carcinoid syndrome?

1- Conventional chemotherapy

2- Cyproheptadine

3- Interferon-a

4- Methysergide

**5- Octreotide**

Q1454. A 54-year-old Afro-Caribbean man consults his family doctor because of the chest discomfort he first noticed 4 days ago after a session digging in his garden, but which he says is now resolving. He has previously been well, but is being treated with a statin for hypercholesterolaemia, and a thiazide and a calcium-channel antagonist for hypertension. Serum creatine kinase activity is 425 U/l (normal up to 150 U/l); serum troponin-T concentration is normal. What is the most likely explanation for the elevated creatine kinase?

1- Myocardial infarction

**2- Racial variant**

3- Recent exercise

4- Statin treatment

5- Thiazide treatment

Q1455. A young man is admitted to the emergency room unconscious and hyperventilating. His breath smells of alcohol. Which of the following findings would suggest a specific cause for his condition?

1- Blood glucose concentration of 12 mmol/l

2- Ketonuria

3- Metabolic acidosis

**4- Serum calcium concentration (corrected) 1.62 mmol/l**

5- Serum sodium concentration 131 mol/l

Q1456. An 8-year-old child is admitted to hospital having ingested some of her mother's iron tablets (ferrous fumarate) 4 hours earlier. Her serum iron concentration is 182 mmol/l. Plain abdominal X-ray is unremarkable. What would be the most useful therapeutic measure?

1- Gastric lavage with desferrioxamine

2- Induction of vomiting

**3- Intravenous infusion of desferrioxamine**

4- Oral activated charcoal

5- Whole bowel irrigation

Q1457. In metabolic alkalosis associated with prolonged nasogastric aspiration in postoperative ileus, what is the most important cause of the acid-base disturbance?

1- Hypoventilation

2- Increased renal bicarbonate reabsorption

**3- Loss of gastric acid**

4- Potassium depletion

5- Secondary aldosteronism

Q1458. A young woman is admitted to A&E having taken an aspirin overdose. The plasma concentration of salicylate is 550 mg/l (4.0 mmol/l). What clinical feature would most suggest that another drug has been taken in addition to aspirin?

**1- Coma**

2- Hyperventilation

3- Sweating

4- Tinnitus

5- Vomiting

Q1459. A 24-year-old, unconscious man is admitted to A&E. No history is available. The results of arterial blood gas analysis are: [H+] 80 nmol/l (pH 7.1), p(CO2) 7.0 kPa, p(O2) 8.2 kPa, [HCO3-] 17.1 mmol/l. These results indicate which one of the following acid-base disturbances?

1- Metabolic acidosis with respiratory compensation

**2- Mixed metabolic and respiratory acidosis**

3- Respiratory acidosis

4- Respiratory acidosis with metabolic alkalosis

5- Uncompensated metabolic acidosis

Q1460. A young man is admitted to A&E having taken an overdose of an unknown drug. On examination, he is hyperventilating and has a tachycardia. Results of arterial blood gas analysis (breathing room air) are: [H+] 30 nmol/l (pH 7.56); p(CO2) 3.5 kPa; p(O2) 14.2 kPa; [HCO3-] 21 mmol/l. Which of the following drugs is he most likely to have taken?

1- A benzodiazepine

2- A tricyclic antidepressant

3- Cocaine

4- Paracetamol (acetaminophen)

**5- Theophylline**

Q1461. A 41-year-old man has a body mass index of 38 kg/m2 . He is normotensive and a nonsmoker. A fasting blood glucose concentration is normal. His mortality in comparison with an otherwise comparable individual of normal body weight is increased primarily because of an increased risk of which one of the following?

1- Carcinoma of colon

**2- Cardiovascular disease**

3- Chronic respiratory disease

4- Hypertension

5- Type-2 diabetes mellitus

Q1462. A 34-year-old woman with a body mass index of 44 kg/m2 seeks medical help for her obesity. Which one of the following treatments offers her the highest probability of achieving a longterm reduction in weight?

1- An energy-deficient diet (600 kcal/day (~ 143 J/day) less than requirements) for 6 months

2- Jaw-wiring and milk feeding for 3 months

3- Treatment with orlistat for 12 months

4- Treatment with sibutramine for 12 months

**5- Vertical banded gastroplication**

Q1463. Which of the following is the most important causative factor in the development of obesity in the majority of patients?

**1- Energy intake in excess of expenditure**

2- Genetic predisposition

3- Insulin resistance

4- Intrauterine malnutrition

5- Leptin deficiency

Q1464. In deciding whether to provide nutritional support to a malnourished patient either enterally or parenterally, which of the following is the most important consideration? How long nutritional support is likely to be required

1- The patient's nutritional requirements

**2- Whether the small intestine is functioning normally**

3- Whether the patient can swallow

4- Whether there is a risk of aspiration of

Q1465. A 55-year-old diabetic patient complains of soreness of his tongue, he has also noticed white plaques on his tongue. Which antibody in the saliva is the most important host defence in preventing further spreading of the disease?

**1- IgA**

2- IgG

3- IgM

4- IgD

5- IgE

Q1466. Which of the following statements is most consistent with the Crigler-Najjar syndrome?

1- Autosomally inherited, severe conjugated hyperbilirubinaemia

**2- Autosomally inherited, severe unconjugated hyperbilirubinaemia**

3- Autosomal-recessive, mild unconjugated hyperbilirubinaemia

4- X-linked, severe conjugated hyperbilirubinaemia

5- X-linked, severe unconjugated

Q1467. Which of the following is the initial treatment of choice for the hyponatraemia in the majority of patients with the syndrome of inappropriate [secretion of] ADH (antidiuretic hormone, vasopressin)?

1- Intravenous infusion of hypertonic saline

2- Intravenous infusion of isotonic saline

3- Oral demeclocycline

4- Oral frusemide

**5- Restriction of water intake**

Q1468. Which of the following patterns of serum lipids is most characteristic of diabetes mellitus?

1- Elevated LDL-cholesterol, elevated HDLcholesterol, elevated triglycerides

2- Elevated LDL-cholesterol, elevated HDLcholesterol, normal triglycerides

3- Elevated LDL-cholesterol, low HDLcholesterol, normal triglycerides

4- Normal LDL-cholesterol, elevated HDLcholesterol, elevated triglycerides

**5- Normal LDL-cholesterol, low HDLcholesterol, elevated triglycerides**

Q1469. A 55-year-old woman is diagnosed with type 2 diabetes mellitus. Her weight is 76 kg, body mass index 34 kg/m2 . After 3 months' trial of dietary modification, she has lost 2 kg in weight, but her Hb A1c, which was 10.2% at diagnosis, is 9.6%. The most appropriate treatment would now be which of the following?

1- Acarbose

2- A sulphonylurea

3- A thiazolidinedione

4- Insulin

**5- Metformin**

Q1470. A 42-year-old man consulted his family doctor because of a 2-3 month history of lethargy and feeling generally unwell. The history was otherwise unremarkable. His urine tested positive for glucose, and a random venous plasma glucose concentration was 8.3 mmol/l. The family doctor arranged an oral glucose tolerance test: glucose concentration at baseline 5.6 mmol/l, 9.3 mmol/l at 120 minutes. Which of the following statements is correct?

1- Diabetes could have been diagnosed on the random glucose value alone

2- The combination of the random glucose and glycosuria are diagnostic of diabetes

3- The result of the OGTT confirms a diagnosis of diabetes

**4- The result of the OGTT indicates impaired glucose tolerance**

5- The result of the OGTT indicates that he is

Q1471. A 38-year-old woman with type-1 diabetes reports at her regular clinic review that she has been experiencing frequent episodes of hypoglycaemia during the previous 6 months, despite reducing her overall dose of insulin by almost 50%. Her Hb A1c in the clinic is 5.6%, having been 6.8 % a year previously. She also says she has lost some weight and that her periods are becoming scanty and irregular, and wonders if she is having an early menopause. Gonadotrophin concentrations are in the normal early follicular range. What is the most likely cause of the reduction in her insulin requirement?

1- Addison's disease

**2- Hypopituitarism**

3- Increased exercise

4- Spontaneous regression of diabetes

5- Weight loss

Q1472. A 42-year-old man with type-1 diabetes mellitus, which was diagnosed 23 years ago, is admitted to hospital with diabetic ketoacidosis. He is complaining of abdominal pain. Which of the following findings on admission would most suggest an acute event has preciptated his DKA?

**1- Serum amylase activity of 1244 U/l (upper limit of normal, 150 U/l)**

2- Serum creatinine concentration 140 m mol/l

3- Serum lactate concentration 4.3 mmol/l

4- Serum triglyceride concentration 12.2 mmol/l

5- White cell count of 15 x 109

Q1473. A 75-year-old man with prostatism has a serum prostate-specific antigen (PSA) concentration of 15 ng/l. Which of the following statements is true with regard to this result?

**1- It could be explained by prostatitis**

2- It is diagnostic of malignancy

3- It is likely to be invalidated if he underwent a digital rectal examination 48 h before the blood sample was taken

4- It is prognostically highly significant

5- It is unremarkable in a man of this age

Q1474. In a patient with chronic hyponatraemia (sodium concentration 112 mmol/l), which of the following findings would most suggest a diagnosis of the syndrome of inappropriate [secretion of] antidiuretic hormone (SIADH)?

1- Normal cortisol response to ACTH

2- Plasma albumin concentration 28 g/l

3- Plasma osmolality 248 mOsmol/kg

**4- Urinary osmolality 350 mOsmol/kg**

5- Urinary sodium concentration < 20 mmol/l

Q1475. Which of the following is an acute porphyria?

1- Congenital erythropoietic porphyria

2- Erythropoietic protoporphyria

3- Porphyria cutanea tarda

**4- Variegate porphyria**

5- None of the above

Q1476. Which of the following findings would most suggest that fluid loss from the body was primarily hypotonic (water depletion) rather than isotonic (sodium depletion)?

1- Hyponatraemia

2- Increased haematocrit

3- Postural hypotension

**4- Production of a highly concentrated urine**

5- Tachycardia

Q1477. A 62-year-old woman with type-2 diabetes being treated with a thiazide, β-blocker and ACE inhibitor for hypertension is found to have a serum potassium concentration of 3.1 mmol/l. Her blood pressure is 156/94 mmHg; serum creatinine concentration is 115 mmol/l. What is the most likely cause of the hypokalaemia?

1- Low dietary potassium intake

2- Primary aldosteronism

3- Renal tubular acidosis type 4

4- The ACE inhibitor

**5- The thiazide diuretic**

Q1478. A woman, aged 55, presents with features consistent with Cushing's syndrome. She is taking no medication. Her basal cortisol and plasma ACTH levels are significantly raised. ACTH levels have failed to suppress in response to a low dose dexamethasone suppression test. What is the most likely diagnosis?

1- Adrenal tumour

2- Carney's syndrome

**3- Cushing's disease**

4- Depression

5- Ectopic ACTH-secreting tumour

Q1479. A 45-year-old woman with type-2 diabetes is making an apparently good recovery 7 days after a partial resection of the small intestine following trauma sustained in a stabbing incident. She is receiving parenteral nutrition with additional 'normal' saline and, because of a history of deep vein thrombosis some 10 years previously, is on prophylactic heparin. Before her admission she was well, with no ongoing medical problems and taking no regular medication. Serum electrolyte results are as follows: sodium 129 mmol/l, potassium 6.5 mmol/l, bicarbonate 24 mmol/l, urea 8.5 mmol/l, creatinine 120 mmol/l, glucose 10.2 mmol/l. Her potassium concentration has risen over the past 3 days. The potassium content of the parenteral feed has been reduced from 60 to 20 mmol/24 h during this period. Urine output is appropriate to her fluid input. Her red cell, white cell and platelet counts are all normal. What is the most likely cause of the hyperkalaemia?

**1- Heparin treatment**

2- Overprovision of potassium in the parenteral feed

3- Primary adrenal failure (Addison's disease)

4- Pseudohyperkalaemia

5- Renal impairment

Q1480. A 54-year-old man with a long history of excessive alcohol ingestion develops a blistering skin eruption. His urine tests positive for porphyrins. What is the most likely diagnosis?

1- Acute intermittent porphyria

**2- Cutaneous hepatic porphyria**

3- Hepatoerythropoietic porphyria

4- Hereditary coproporphyria

5- Variegate porphyria

Q1481. In an adult patient with cirrhosis, which of the following findings is the most reliably diagnostic of hereditary haemochromatosis as the cause?

**1- Liver biopsy**

2- Serum ferritin concentration

3- Serum iron concentration

4- Serum total iron-binding capacity

5- Transferrin saturation

Q1482. A 44-year-old pharmacist presents with a history of recurrent episodes of faintness, sweating and tremor, occurring particularly in the late morning or late afternoon. An insulinoma is suspected. The patient is admitted for 3 days' consecutive overnight fasting with blood glucose measurements in the morning. She remains asymptomatic during her admission and the lowest blood glucose concentration is 4.4 mmol/l. On discharge from hospital, she reports that her symptoms have recurred. What would be the most useful investigation to establish the diagnosis?

1- Measurement of plasma b - hydroxybutyrate

2- Measurement of glycated haemoglobin (Hb A1c)

3- Prolonged glucose tolerance test

**4- Simultaneous measurement of glucose and C-peptide when symptomatic**

5- Simultaneous measurement of glucose and

Q1483. A 21-year-old male medical student who has been feeling non-specifically unwell for several days is noticed to have slightly icteric sclerae by his girlfriend and has liver function tests performed. The results of these are normal apart from a serum bilirubin concentration of 44 mmol/l (3-17). His urine does not contain bilirubin. Which of the following is the most likely diagnosis?

1- Dubin-Johnson syndrome

**2- Gilbert's syndrome**

3- Hereditary spherocytosis

4- Infectious mononucleosis

5- Rotor syndrome

Q1484. Insulin binds to a 400-kDa glycoprotein, which straddles the cell membrane of many cells and exerts much of its peripheral effects through action at this receptor. The expression of which glucose transporter (GLUT) is upregulated by insulin binding at this receptor site?

1- GLUT-1

2- GLUT-2

**3- GLUT-4**

4- GLUT-5

5- GLUT-3

Q1485. You are asked to review a 45-year-old obese woman who is jaundiced. Which of the following best fits the metabolism of bile acids?

1- Concentration in the gall-bladder is around 500 mmol/l

**2- Their production is catalysed by cholesterol 7a-hydroxylase**

3- Around 30% of the bile acid pool is lost in faeces each day

4- 80% of bile salts are reabsorbed during each cycle

5- The total bile salt pool in the liver is around

Q1486. You are reviewing a young woman who presents with intermittent abdominal pain, depression and anxiety. She has a diagnosis of acute intermittent porphyria. Which of the following statements best fits the production of haem?

1- Increased haem levels increase the activity of delta-ALA synthetase

**2- Protoporphyrin is formed as the penultimate step before haem formation**

3- Defects of uroporphyrinogen co-synthetase cause acute intermittent porphyria

4- Defects of ferrocheletase cause variegate porphyria

5- Protoporphyrinogen oxidase catalyses the

Q1487. A 55-year-old, chronic heavy smoker is brought to A&E with a 2-day history of polyuria, polydipsia, nausea and altered sensorium. On examination, he is lethargic and confused. A chest X-ray shows a round shadow in the right mid-zone with enlarged hilar lymph nodes on the right side. An ECG is normal except for a narrowed QT interval. What is the most likely metabolic abnormality in this case?

1- Hypernatraemia

2- Hyperkalaemia

**3- Hypercalcaemia**

4- Hyperphosphataemia

5- Hypokalaemia

Q1488. A 52-year-old woman undergoes investigation for jaundice. She first noticed this symptom 2 months ago, but for 4 months prior to that, she had been experiencing generalised pruritus. The results of liver function tests are as follows: serum bilirubin 325 mmol/l, aspartate aminotransaminase 55 U/l (15-42), alkaline phosphatase 436 U/l (80-150), gamma-glutamyltransferase 82 U/l (11-51), albumin 36 g/l, total protein 82 g/l. Which of the following is the most likely diagnosis?

1- Alcoholic cirrhosis

2- Carcinoma of the head of the pancreas

3- Cholangiocarcinoma

**4- Primary biliary cirrhosis**

5- Primary sclerosing cholangitis

Q1489. A 40-year-old woman patient has been referred to hospital with jaundice. On examination there is hepatosplenomegaly. She does not take any medication nor drinks alcohol. Her sister, who is 10 years older, had similar problems. Following serum testing, antibodies to which antigen are most likely to be detected in her serum?

1- Double-stranded DNA

2- Proteinase 3

**3- Mitochondria**

4- T cells

5- Immunoglobulins

Q1490. A 20-year-old woman presents with tremor and dysarthria, she is also noticed to be slightly jaundiced; clinically, Wilson's disease is considered to be the most likely diagnosis. Which of the following investigations will most reliably confirm this diagnosis?

1- Identification of a mutation in the HFE gene

2- Measurement of copper in a liver biopsy

3- Serum ceruloplasmin concentration

4- Serum copper concentration

**5- Urinary copper excretion after**

Q1491. You are reviewing a man with familial hypertriglyceridaemia who has presented to the surgeons with pancreatitis. He asks about why he suffers from this condition. Which of the following best describes the metabolism of VLDL (predominant triglyceride) particles?

1- They are synthesised postprandially in the small intestine

2- They are formed from IDL particles

3- They bind to the hepatic LDL receptor

**4- They are synthesised continuously in the liver**

5- They take up cholesterol from cells

Q1492. A 71-year-old-man is given a health check by his doctor. He has no complaints, apart from pain in his hip, which he attributes to arthritis. He has blood taken for a panel of routine biochemical and haematological tests. The only abnormality is a serum alkaline phosphatase activity of 822 U/l. Which of the following is the most likely cause of this abnormality in his case?

1- Metastatic carcinoma

2- Osteoarthritis

3- Osteomalacia

4- Osteoporosis

**5- Paget's disease**

Q1493. A 36-year-old man presents to his family doctor complaining of excessive sweating. Thyroid function tests are performed: serum TSH concentration is normal, but the concentrations of both free thyroxine and free triiodothyronine are elevated. Which of the following is the most likely explanation for these results?

**1- A TSH-secreting pituitary tumour**

2- Graves' disease

3- Self-administration of thyroxine

4- The presence of heterophilic antibodies in the patient's serum

5- Thyroid hormone resistance

Q1494. A 22-year-old man presents with a long history of intermittent abdominal discomfort and diarrhoea. On examination, he has a body mass index of 19 kg/m2 and is clinically anaemic. Coeliac disease is suspected. Which of the following investigations will most reliably diagnose this condition?

1- Detection of antigliadin antibodies in serum

2- Detection of endomysial antibodies in serum

3- Detection of tissue transglutaminase antibodies in serum

**4- Microscopic examination of a small bowel biopsy specimen**

5- Xylose absorption test

Q1495. A 65-year-old man consults his family doctor complaining of feeling 'tired all the time'. His haemoglobin is 11.5 g/dl (13-17); mean cell volume (MCV) is 105 fl (82-102). Bone marrow examination does not indicate megaloblastic changes. Which of the following investigations is most important to determine the cause of the anaemia?

1- Measurement of red cell folate concentration

2- Measurement of serum ferritin concentration

**3- Measurement of serum TSH (thyroidstimulating hormone) concentration**

4- Measurement of serum Vitamin B12 concentration

5- Reticulocyte count

Q1496. A 72-year-old woman is found to have a serum calcium concentration of 3.12 mmol/l. Which of the following clinical features, if present, would most direct you towards a specific cause?

1- Bone pain

**2- Hilar lymphadenopathy**

3- Polyuria

4- Short QT interval

5- Ureteric colic

Q1497. What is the most likely diagnosis in a 30-yearold man with tall stature, gynaecomastia and azoospermia?

1- Cystic fibrosis

2- Homocystinuria

**3- Klinefelter's syndrome**

4- Marfan's syndrome

5- XYY syndrome

Q1498. A 45-year-man sustains a myocardial infarction. His serum cholesterol concentration is 9.6 mmol/l. Which of the following physical signs would most suggest a diagnosis of familial hypercholesterolaemia?

1- Arcus senilis

2- Eruptive xanthomas

3- Palmar xanthomas

**4- Tendon xanthomas**

5- Xanthelasmas

Q1499. A 19-year-old patient presents with gradual worsening myopia and decreased night vision. On examination there is atrophy of the retina. What enzyme deficiency is this patient most likely to have?

1- Lipoprotein lipase

2- Acetyl-coenzyme A acetyltransferase

**3- Ornithine aminotransferase**

4- Argininosuccinic acid synthetase

5- Glutathione synthetase

Q1500. Antibodies to which of the following are most frequently present in the serum of patients with type-1 diabetes at diagnosis?

1- Cocksackievirus

2- Glucagon

3- Insulin

**4- Islet cells**

5- Cytomegalovirus

Q1501. A 25-year-old patient presents with yellow papules on the extensor surfaces of the arms, legs, buttocks and back. His triglycerides are grossly elevated. On questioning he admits that there is a family history. What kind of deficiency is the patient most likely to have?

1- Apolipoprotein A

2- Apolipoprotein B48

**3- Lipoprotein lipase**

4- LDL receptor

5- Acetyl-coenzyme A acetyltransferase

Q1502. A 35-year-old woman is referred by her GP because she has been feeling unwell and has pain, stiffness and tenderness in her joints which have gradually worsened over the last 6 months. She has a detectable rheumatoid factor. What is the most likely structure that these antibodies are targeted against?

1- Double-stranded DNA

2- Tumour necrosis factor-alpha

3- Complement

4- Interleukin

**5- Fc portion of immunoglobulins**

Q1503. A patient receives too many infusions after an operation resulting in a 20% increase in his blood volume. What is the physiological process that is most likely to correct this abnormality?

1- Reduced activity of arterial pressure sensors

2- Increased activity of renal sympathetic nerves

3- Aldosterone release

**4- Atrial natriuretic peptide (ANP) release**

5- Venous dilatation

Q1504. A 25-year-old patient suffered recurrent deep vein thromboses and also one pulmonary embolism. She was extensively investigated and diagnosed with protein C deficiency. What pathological process is most likely to be responsible for her venous thromboembolisms?

**1- Reduced degradation of factors Va and VIIIa**

2- Reduced factor Xa complex

3- Reduced inhibition of tissue-factor expression

4- Reduced protein S

5- Reduced synthesis of antithrombin III

Q1505. A 70-year-old patient has become more forgetful, in that he has lost his day-to-day memory and is unable to learn new tasks. What kind of pathological deposits are most likely to be present in his brain?

1- b2-Microglobulin

2- Transthyretin

**3- Amyloid**

4- Immunoglobulins

5- Acute-phase proteins

Q1506. You suspect that a 48-year-old man is suffering from Cushing's syndrome. At what time of day is a random cortisol test most likely to be abnormal?

1- 0900 h

2- 1200 h

**3- 2400 h**

4- 1700 h

5- 2000 h

Q1507. A patient with liver cirrhosis develops metabolic alkalosis. What is the most likely pathological mechanism?

1- Bicarbonate loss due to ascites

**2- Reduced urea synthesis**

3- Increased gastric acid production

4- Reduced bicarbonate secretion from the pancreas

5- Reduced lactate formation in skeletal

Q1508. A 34-year-old immigrant of African origin is prescribed ciprofloxacin for an infection. He suffers problems with acute haemolysis. You suspect G6PD deficiency. Given this, what is the likely underlying cause of haemolysis?

1- Increased levels of NADPH

2- Decreased levels of NADP

3- A defect on chromosome 29

4- Reduced levels of ATP

**5- Reduced levels of NADPH**

Q1509. A 15-year-old youth with haemophilia A has suffered recurrent bleeding episodes into his joints. As a consequence he has arthropathies in his knees, elbows and wrists. What is the most likely coagulation deficiency causing his bleeding tendency?

1- Thromboxane

2- Factor X

3- Protein C

4- Factor IX

**5- Factor VIII**

Q1510. You are reviewing a man with significant early arterial disease. The brachial artery response postocclusion is severely diminished and confirms a diagnosis of endothelial dysfunction. The successful production of which compound is best linked to vascular smooth muscle cell relaxation?

1- Angiotensin II

2- Nitrous oxide

3- Endothelin I

**4- Nitric oxide**

5- Serotonin

Q1511. A teenager presents with excess hair and amenorrhoea. She is normotensive. Her prolactin levels are normal but she has a raised 17a-hydroxyprogesterone level. What is her diagnosis?

1- Complete 21-hydroxylase deficiency

2- Complete 11b-hydroxylase deficiency

**3- Partial 21-hydroxylase deficiency**

4- Partial 11b -hydroxylase deficiency

5- None of the above

Q1512. You are asked to assess the cardiovascular risk status of a man with the insulin-resistance syndrome. Which of the following pathophysiological changes are most strongly associated with increased insulin resistance?

1- Hypotension

**2- Increased levels of Plasminogen activator inhibitor-1 PAI-1**

3- Decreased platelet aggregation

4- Improved endothelial function

5- Increased HDL levels

Q1513. An 81-year-old, nursing-home resident is admitted to hospital in an unconscious state. His blood sugar is measured as 1.5 mmol/l (normal 3-6 mmol/l). You administer glucagon. Which of the following best describes one of the main actions of glucagon?

1- Decreased ketone body production from fatty acids

2- Increased lipogenesis in adipose tissue

3- Decreased glycogenolysis

4- Decreased gluconeogenesis

**5- Increased glycogenolysis and**

Q1514. A 17-year-old adolescent complains of intermittent face swelling. It varies in severity but sometimes he has difficulty breathing. His brother has similar symptoms. What protein is most likely to be responsible for his condition?

1- Interleukin-1

2- Interferon-gamma

3- Complement C3

**4- C1 esterase inhibitor**

5- Interleukin-6

Q1515. A 50-year-old man with a long-standing history of alcohol abuse was admitted to hospital because he was difficult to rouse. On examination he is confused and ataxic. Examination of the eyes reveals nystagmus and ophthalmoplegia. Deficiency of which vitamin is most likely to have caused his symptoms?

1- Vitamin A

**2- Vitamin B1**

3- Vitamin B6

4- Vitamin B12

5- Folic acid

Q1516. Following an apparent transient ischaemic attack, a patient is demonstrated to have a small left homonymous hemianopia with partial sparing of central vision. Which of the following is the most likely anatomical site of the lesion responsible?

**1- Right occipital cortex**

2- Left occipital cortex

3- Right optic radiation

4- Left optic radiation

5- Optic chiasm

Q1517. You are asked to review an 80-year-old woman who has suffered previous neurological damage. You note that she has a lower homonymous quadrantanopia affecting the temporal side of the left visual field and the nasal side of the right visual field. Where is the most likely site of her brain lesion?

1- Optic chiasm

2- Temporal lobe

3- Left parietal lobe

**4- Right parietal lobe**

5- Optic nerve

Q1518. A 54-year-old woman presents with longstanding tinnitus and evidence of a unilateral fifth (trigeminal nerve) palsy. Her MRI scan shows evidence of an acoustic neuroma. Where is compression of the trigeminal nerve most likely to be occurring?

**1- Cerebellopontine angle**

2- Cavernous sinus

3- Brainstem

4- Skull base

5- Trigeminal ganglion

Q1519. A 32-year-old, 6 ft 7 inch (2.01 m) man is admitted via ambulance from Heathrow airport after a flight from Australia. He is ataxic with double vision and complains of facial numbness. On examination there is leftsided facial numbness, nystagmus, ataxia and Horner 's syndrome. There appears to be some loss of pain and temperature sensation on the right-hand side. Which artery is most likely to be occluded in this case?

1- Middle cerebral artery

**2- Posterior inferior cerebellar artery**

3- Anterior inferior cerebellar artery

4- Labyrinthine artery

5- Posterior communicating artery

Q1520. Following a rock-climbing accident in which a foothold gave way, leaving him suspended by one arm, a young man develops weakness of his right hand. He can manoeuvre his arm into any position but cannot use the hand effectively. What structure is most likely to have been damaged in this accident?

1- The C6 nerve root

2- The C7 nerve root

**3- The T1 nerve root**

4- The ulnar nerve

5- The radial nerve

Q1521. An 82-year-old woman with atrial fibrillation develops a sudden arterial occlusion of her right arm due to a brachial embolism. Which statement pertaining to the arterial system of the upper limb best accords with usual clinical findings?

**1- The brachial artery bifurcates into the ulnar and radial arteries at the level of the head of the radius**

2- The brachial artery is crossed by the median nerve immediately above the elbow

3- A large single brachial vein accompanies the artery on its medial side

4- Profunda brachii arises from the brachial artery a hand's breadth above the elbow

5- A brachial artery embolus is especially

Q1522. A patient has been diagnosed with a fastgrowing pituitary adenoma. Magnetic resonance image (MRI) scanning reveals suprasellar extension. Which structure is most likely affected?

1- Abducens nerve

2- Hypothalamus

3- Oculomotor nerve

4- Third ventricle

**5- Optic chiasm**

Q1523. During the assessment of a stroke, a middleaged man undergoes detailed neurological examination. Which of the following physical signs would most suggest a pyramidal lesion?

1- Weakness of forearm flexion

2- Weakness of hip extension

**3- Weakness of knee flexion**

4- Weakness of ankle plantar flexion

5- Weakness of wrist flexion

Q1524. Following a stroke, a patient is found to have a left homonymous inferior quadrantic visual field defect. Which one of the following structures is most likely to have been affected by the stroke?

1- The left optical nerve

2- The right occipital cortex

3- The left frontal lobe

**4- The right parietal lobe**

5- The right internal capsule

Q1525. A 36-year-old man presents to his GP with a feeling of numbness in his left leg. On examination, he has decreased position sense and light touch and vibration sensation affecting his left leg to the upper part of the thigh. No other neurological deficit is demonstrable. Which of the following is the most likely cause of this presentation?

**1- Left dorsal column lesion**

2- Left spinothalamic tract lesion

3- Peripheral polyneuropathy

4- Partial section of the spinal cord

5- Sensory root compression

Q1526. A 24-year-old woman attends the neurological clinic for review of multiple sclerosis, diagnosed 2 years before. She had presented with blurring of vision and mild pain in her left eye, which had resolved over a period of 3 months and had not recurred. On examination now, the following observations are made: light shone in the left eye causes constriction of the left and right pupils; light shone into the right eye causes constriction of the right and left pupils but when the light is shone back into the left eye, the left pupil dilates slightly. Which of the following is the most likely site of the lesion responsible?

1- Left ciliary ganglion

2- Left oculomotor nerve

**3- Left optic nerve**

4- Right ciliary ganglion

5- Right optic nerve

Q1527. You review a 39-year-old sportsman who complains of knee pain. Arthroscopy reveals damage to the cartilage. Which of the following stems best describes a property of hyaline cartilage?

1- It has a blood supply from small arterioles

2- It is rich in type 1 collagen

3- Chondrocytes secrete collagen only

**4- It is avascular**

5- Pressure from normal joint loading

Q1528. You review a 54-year-old man with a history of alcoholism; you are concerned that there may be evidence of portal hypertension. Which of the following stems best describes blood flow to the liver?

1- The hepatic artery supplies 75% of the total liver blood flow

2- The normal portal vein pressure is 8-12 mmHg

**3- The portal vein supplies 75% of liver blood flow**

4- The caudate lobe of the liver does not have it's own branch of the hepatic vein

5- Only the portal vein enters the liver via the

Q1529. You are asked to see a 45-year-old man who is haemodynamically compromised and plan to insert a right subclavian line. He has a body mass index (BMI) of 38, where is the correct position for central venous cannulation?

1- 1 cm under the mid-point of the clavicle and 0.5 cm laterally

**2- 2 cm under the mid-point of the clavicle and 1 cm laterally**

3- 2.5 cm under the mid-point of the clavicle and 2 cm laterally

4- 0.5 cm under the mid-point of the clavicle and 1 cm laterally

5- 1 cm under the mid-point of the clavicle

Q1530. A 45-year-old man presents with prognathism and interdental separation. Which of the following is the most appropriate investigation?

1- Fasting glucose test including growth hormone measurement

**2- Glucose tolerance test including growth hormone measurement**

3- Basal growth-hormone measurement

4- Serum prolactin measurement

5- Thyroid function test

Q1531. Intervertebral disc prolapse in the lumbar spine most often affects the L4/l5 and L5/S1 discs. In a man presenting with acute back pain following an episode of lifting a heavy weight, reduced force of which of the following movements would most suggest an L5/S1 (L5 root) rather than an L4/5 disc lesion (L4 root)?

1- Ankle plantar flexion

2- Eversion of the foot

**3- Extension of great toe**

4- Inversion of the foot

5- Knee extension

Q1532. A 52-year-old hypertensive man presents with a right hemisphere stroke. Neuroimaging demonstrates the presence of a recent infarction of the right internal capsule. Which anatomical features of this region should be borne in mind?

1- The anterior limb of the internal capsule lies between the tail of the caudate nucleus and the lentiform nucleus

2- Medial to the posterior limb lies the septum lucidum

3- The lentiform nucleus itself comprises an outer globus pallidus and an inner putamen

4- The junction of the anterior and posterior limbs of the internal capsule is termed ‘the crus'

**5- The internal capsule receives its arterial**

Q1533. A 50-year-old woman has a suspected right renal artery stenosis. A transfemoral aortogram has been performed. Which one of the following is likely to be correct?

1- The femoral artery at the groin is situated halfway between the anterior superior iliac spine and the pubic tubercle

2- The catheter passes through the common femoral artery into first the external iliac artery and then the aorta at its bifurcation

3- The right renal artery also gives off the right ovarian and suprarenal arteries

**4- The right and left renal arteries lie in the transpyloric plane at the level of the first lumbar vertebra**

5- The aorta passes through the diaphragm at

Q1534. A patient presents with mononeuritis multiplex affecting the oculomotor nerve (III). What clinical feature is likely to be present on examination?

**1- Ptosis of the upper eyelid on the affected side**

2- Constricted pupil on the affected side

3- Inability to laterally deviate the eye on that side

4- Decreased sweating of the face on the affected side

5- A light shone into the affected eye fails to

Q1535. A young man sustains a skull-base fracture at the middle cranial fossa which injures his right abducent (VI) nerve. Which signs are most likely to be present on clinical examination?

1- There is ptosis on the right side

2- The pupil on the right side is constricted and fails to respond to light

3- The right eyelid is numb

4- The patient is unable to deviate his right eye medially

**5- The patient is unable to deviate his right**

Q1536. A dental surgeon carries out a block of the inferior alveolar nerve by infiltrating local anaesthetic at the mandibular foramen. Which clinical feature may result from this procedure?

**1- Numbness of the lower lip on the injected side**

2- Ineffective block for the incisor teeth

3- Numbness of the side of the tongue

4- Inability of the patient to clench his jaws

5- Transient weakness of the facial muscles on

Q1537. A patient undergoes a radical parotidectomy for a malignant parotid tumour, at which time it is found necessary to perform a total division of the left facial (VII) nerve. Postoperatively, which is the most likely sequel?

1- Preservation of left sided frown in all cases

2- Numbness over the cheek on the left side

3- Ptosis of the upper eyelid on the left side

4- Loss of taste sensation over the anterior two-thirds of the tongue on the left side

**5- Tendency for food and fluids to collect in**

Q1538. A patient undergoes excision of the left submandibular salivary gland for sialectasia. Unfortunately, his hypoglossal (XII) nerve on that side is damaged. What is the most likely outcome?

1- There is numbness of the posterior onethird of the tongue

2- On protruding the tongue, it deviates towards the right

3- The uvula deviates towards the left

**4- All the intrinsic muscles of the left side of the tongue are paralysed**

5- The genioglossus muscle is spared

Q1539. You are reviewing a 52-year-old man who has suffered a myocardial infarction. You suspect occlusion of the posterior descending coronary artery. In this case, which region of myocardium would you expect to be most affected?

1- The right atrium

2- The right ventricle

3- The anterior septum

4- The anterior left ventricular wall

**5- The posterior portion interventricular**

Q1540. In performing a lumbar puncture, the operator needs to be familiar with the anatomy involved. Which anatomical feature is relevant to this procedure?

1- In the newborn baby, the spinal cord occupies the full length of the dural sac

2- The dural sac in the adult terminates at the lower end of the sacral canal

**3- The spinal cord in the normal adult terminates anywhere from opposite the body of T12 to the body of L3; however, the commonest level is at the disc space between L1 and L2**

4- The spinal cord in the average male is 12 inches (30 cm) in length

5- The extradural space comprises a thin layer

Q1541. A 28 year old man, who is a keen bodybuilder, presents with a short history of left upper limb discomfort and difficulty in moving his shoulder. On examination he is noticed to have winging of the left scapula. There is no wasting of the shoulder girdle muscles. With stabilisation of the scapula, he has a full range of movement and is able to elevate the shoulder. Sensory testing is normal, as are upper limb reflexes. What is the likely anatomical origin of his problem?

1- C3,4 nerve root

**2- Long thoracic nerve**

3- Diffuse left brachial plexus injury

4- Spinal accessory nerve (cranial nerve XI)

5- C5,6 nerve root

Q1542. A 28-year-old man presents with a septic cavernous sinus thrombosis, with high fever, orbital oedema and proptosis. The primary source of infection would most likely arise from which site?

1- The chin

2- The occipital region

3- The skin over the parotid gland

4- The pinna of the ear

**5- The upper lip**

Q1543. A motor cyclist involved in a road traffic accident sustained an injury to the brachial plexus on the right side. He is found to have weakness of right shoulder abduction and forearm flexion, as well as some sensory loss over the lateral aspect of his upper arm. The right biceps and brachioradialis reflexes are absent. What is the likely level of maximal plexus injury?

1- C4,5 root

**2- C5,6 root**

3- C6,7 root

4- C7,8 root

5- C8, T1 root

Q1544. A cerebral angiogram is performed on a 37- year-old woman, following a suspected aneurysmal bleed. Which anatomical feature should be considered when interpreting the angiogram?

**1- The middle cerebral artery is the largest single component of the circle of Willis**

2- The posterior cerebral artery is clearly seen on a lateral carotid angiogram

3- The vertebral arteries meet at the foramen magnum to form the basilar artery

4- The middle cerebral artery courses over the lateral aspect of the temporal lobe of the cerebrum

5- The middle meningeal artery is an

Q1545. A hypertensive, heavy smoking, 73-year-old man suffers a massive cardiac infarct following occlusion of his anterior interventricular artery, (anterior descending artery). Angiography is performed to demonstrate the coronary vessels. Which anatomical relationship of these vessels should be borne in mind?

1- The anterior interventricular artery arises above the left posterior aortic cusp

**2- The anterior interventricular artery supplies almost all of the left ventricle**

3- There is a rich collateral circulation between the right and left coronary arteries

4- The circumflex artery is the major branch of the right coronary artery

5- The posterior interventricular artery is a

Q1546. In the clinical examination of the chest, accurate knowledge of the surface markings of the lungs is essential. Which of the following corresponds to the clinical situation?

1- The apex of the lung corresponds precisely to the upper border of the medial third of the clavicle

**2- The oblique fissure of the lung corresponds to the medial border of the scapula when the arm is fully abducted**

3- The transverse (horizontal) fissure of the right lung corresponds to the right fifth intercostal space

4- The lower border of the lung on each side corresponds to the tenth rib in the midaxillary line

5- The lower border of the lung reaches the

Q1547. A 38-year-old builder's labourer sustained a severe fracture of his left elbow, which damaged the ulnar nerve behind the medial epicondyle of the humerus. A month later, he still has a total ulnar nerve paralysis. Which clinical sign is most likely to be present on examination?

1- Sensory loss over the ulnar 3آ 1/2digits on the ulnar side of the hand

**2- Inability to grip a sheet of paper between his fingers when the hand is placed flat on the table**

3- Excessive sweating over the ulnar border of the left hand

4- Index and middle fingers on the affected side are held in the claw position

5- Marked wasting of the thenar eminence

Q1548. A patient has her inferior laryngeal nerve inadvertently divided during a partial thyroidectomy. Which clinical features are likely to result from this?

**1- The larynx is anaesthetic inferior to the vocal cord on the affected side**

2- The larynx is totally anaesthetic on the affected side

3- All the laryngeal muscles on the affected side are paralysed

4- All the laryngeal muscles are paralysed on the affected side, apart from the posterior cricoarytenoid muscle

5- At laryngoscopy, the affected cord is seen

Q1549. A 54-year-old woman has undergone some blood tests as part of an employment health screen. She reports she is in good health and, being very health conscious, takes regular vitamin and mineral supplements. She is taking bendrofluazide 2.5 mg for hypertension and her blood pressure is 132/82 mmHg. The only abnormality is a serum calcium concentration of 2.94 mmol/l. Which of the following is the most likely cause?

1- Diuretic treatment

2- High dietary calcium intake

3- High dietary vitamin D intake

4- Occult malignancy

**5- Primary hyperparathyroidism**

Q1550. A patient with familial hypercholesterolaemia has a total cholesterol concentration of 10.2 mmol/l, LDL-cholesterol 8.1 mmol/l, HDLcholesterol 1.2 mmol/l and fasting triglycerides 1.9 mmol/l. He has a strong family history of premature myocardial infarction. He is a non-smoker and normotensive. He is given lifestyle and dietary advice and prescribed a statin. Some 2 months after being on the maximum dose of the statin, his total cholesterol concentration is 6.8 mmol/l, LDL-cholesterol 5.2 mmol/l, HDLcholesterol 1.3 mmol/l and fasting triglycerides 1.0 mmol/l. What would be the most appropriate next step in his management?

1- Adding a bile-acid sequestrant to his medication

2- Adding a fibrate to his medication

**3- Adding ezetimibe to his medication**

4- Adding nicotinic acid to his medication

5- Continuing on the present medication with

Q1551. A 19-year-old man is admitted by ambulance after falling into a river. He is pulled out by two friends but is thought to have inhaled a significant quantity of water. On examination in the Emergency room his saturation is 90% on O2 by mask. He is drowsy but conscious, with bradycardia and a temperature of 34.8oC. Auscultation of his chest reveals wheeze and crackles consistent with fluid inhalation. Which of the following is the most likely biochemical imbalance to be seen?

1- Alkalosis on ABG measurement

2- Low Urea

**3- Acidosis on ABG measurement**

4- Hypokalaemia

5- Hyponatraemia

Q1552. You are examining some strategies for research into a possible metabolic defect. You think this involves an abnormality of pyruvate kinase. In which of the following processes is pyruvate kinase the rate limiting step?

**1- Glycolysis**

2- Hydrolysis

3- Hydroxylation

4- Carbonation

5- Dehydrogenation

Q1553. You are reviewing the clinical chemistry results of a 9-year-old South Asian girl. Investigations Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 67 μmol/l Ca++2.05 mmol/l PO4-0.58 mmol/l Which of the following is the most likely diagnosis?

1- Hypoparathyroidism

2- Hyperparathyroidism

3- Pseudohypoparathyroidism

4- Osteomalacia

**5- Rickets**

Q1554. A 24-year-old woman who is 11 weeks into her first pregnancy presents with severe nausea and vomiting and weight loss. On examination she looks tired and dehydrated. She looks like she has lost weight, but the thyroid does not feel abnormal to palpation and there are no bruits. Investigations; Hb 11.9 g/dl WCC 4.6 x 109 /L PLT 170 x 109 /L Na+ 140 mmol/l K+ 3.9 mmol/l Creatinine 100 μmol/l TSH 0.3 U/l Free T3 7.4 pmol/l Free T4 29 pmol/l Thyroid autoantibodies negative Which of the following is the most appropriate next step?

1- Start carbimazole

2- Start propylthiouracil

3- Arrange an FNA of the thyroid

4- Arrange an ultrasound of the thyroid

**5- Observe**

Q1555. A 42-year-old man with a history of road traffic accident and injury to his back and neck presents with global muscle wasting of the left hand. Which is the nerve or nerve root most likely to be involved?

1- Radial nerve

2- Median nerve

3- Ulnar nerve

**4- T1 nerve root**

5- C7 nerve root

Q1556. Which of the following statements best characterises low-density lipoproteins (LDL)?

1- 50% of their fat content is triglyceride

2- Their concentration is highly correlated with dietary cholesterol content

3- They are involved in reverse cholesterol transport

4- They are synthesised de novo in the liver

**5- They contain apolipoprotein B-100**

Q1557. A 75-year-old man has gangrene of the left hallux. There are no pulses to feel below the rather weak femoral pulse on that side. A duplex scan reveals a block in the superficial femoral artery. Which statement pertaining to the arterial system of the lower limb best accords with usual clinical findings?

1- The common femoral artery divides into its superficial and profunda branches a hand's breadth below the inguinal ligament

2- The femoral vein lies on the lateral side of the common femoral artery at the groin

3- The femoral artery passes into the popliteal fossa, as the popliteal artery, by passing between the adductor longus and magnus

**4- The popliteal artery lies against the popliteal surface of the femur deep to the popliteal vein, which itself lies deep to the tibial nerve**

5- The pulse of the posterior tibial artery is felt

Q1558. A 75-year-old man is given a routine health check by his family doctor. He has no specific complaints and is not on any regular medication. Biochemical tests reveal a serum alkaline phosphatase activity of 550 U/l (upper limit of normal (ULN) 150 U/l); serum creatinine concentration is 132 mmol/l, calcium 2.42 mmol/l, phosphate 1.21 mmo l/l, albumin 41 g/l. Which of the following is the most likely cause of the high alkaline phosphatase?

1- Osteomalacia

2- Osteoporosis

**3- Paget's disease of bone**

4- Primary hyperparathyroidism

5- Renal osteodystrophy

Q1559. A 24-year-old woman undergoes resection of the terminal ileum with fashioning of an ileostomy for Crohn's disease. Some 2 weeks after surgery, she is making a good recovery, and is eating a high-energy, low-residue diet, but has a high ileostomy volume, necessitating intravenous fluid replacement. Her serum calcium concentration is 1.82 mmol/l, phosphate 1.28 mmol/l, alkaline phosphatase 82 U/l (normal < 150), albumin 30 g/l, creatinine 80 m mol/l. Prior to surgery, her serum calcium concentration was 2.18 mmol/l, albumin 36 g/l. What is the most likely cause of her hypocalcaemia?

1- Formation of insoluble calcium salts in the intestine

2- Hypoalbuminaemia

**3- Hypomagnesaemia**

4- Malabsorption of calcium

5- Malabsorption of vitamin D

Q1560. Hypercalcaemia in malignant disease secondary to the secretion of parathyroid hormone-related peptide by the tumour is most frequently associated with which one of the following?

1- Carcinoid tumours

2- Lymphoma

3- Multiple myeloma

4- Small-cell carcinoma of the bronchus

**5- Squamous-cell carcinoma of the bronchus**

Q1561. Osteoporosis is most reliably diagnosed by which one of the following techniques?

**1- Dual-energy X-ray absorptiometry (DEXA)**

2- Measurement of serum osteocalcin

3- Measurement of urinary collagen telopeptides

4- Quantitative computed tomography (CT)

5- Quantitative ultrasonography

Q1562. Which of the following features most reliably suggests that a patient presenting with diabetes has type 1?

1- Family history of diabetes

2- Hypertriglyceridaemia

**3- History of recent weight loss**

4- Onset below 20 years of age

5- Retinopathy

Q1563. A 48-year-old man is referred by his GP with suspected acromegaly. Which of the following would be the most useful investigation to establish the diagnosis?

**1- Glucose tolerance test with measurement of growth hormone**

2- Measurement of serum basal growth hormone concentration

3- Measurement of serum growth hormone concentration during sleep

4- Measurement of serum insulin-like growth factor I (IGF-1, somatomedin C)

5- Measurement of serum growth hormone

Q1564. A 67-year-old woman presents to the clinic with generalised bony aches. She has Type 2 diabetes with chronic renal impairment and had a breast carcinoma excised some 6 years earlier. Medication includes ramipril, indapamide, gliclazide and pioglitazone. On examination her BP is 155/92 mmHg, her BMI is 31. General examination is unremarkable. Investigations Hb 10.9 g/dl WCC 4.5 x 109 /L PLT 197 x 109 /L ESR 15 mm/hr Na+ 140 mmol/l K+ 4.9 mmol/l Creatinine 210 μmol/l Ca++ 2.85 mmol/l Alk P 178 U/l Which of the following is the most likely diagnosis?

1- Metastatic breast carcinoma

2- Primary hyperparathyroidism

**3- Secondary hyperparathyroidism**

4- Paget’s disease

5- Multiple myeloma

Q1565. A 61-year-old patient who suffered a humeral fracture after falling off a ladder presents for review after being in a cast for the past 8 weeks. He presents with weakness in the deltoid, and sensory loss over the deltoid region. Which of the following is the most likely underlying lesion?

1- Brachial plexus injury

**2- Axillary nerve injury**

3- Radial nerve injury

4- Ulnar nerve injury

5- Neuralgic amyotrophy

Q1566. Where would you visualise the azygous lobe on an antero-posterior (A-P) chest X-ray?

1- Left lower zone

2- Left middle zone

3- Left upper zone

**4- Right upper zone**

5- Right lower zone

Q1567. Which of the following structures is located in the anterior mediastinum on computed tomography (CT)?

**1- Thymus**

2- Oesophagus

3- Aorta

4- Heart

5- Trachea

Q1568. Which organ lies anterior in direct contact with the left kidney without separation by visceral peritoneum?

1- Spleen

2- Left suprarenal

**3- Tail of the pancreas**

4- Left psoas muscle

5- Splenic flexure

Q1569. What would be consistent with femoral nerve damage in a patient with pelvis trauma?

1- Preserved knee reflex

**2- Loss of sensation over the anterior-lateral aspect of the thigh**

3- Loss of power in the biceps femoris muscle

4- Loss of power in the peroneus muscle

5- Reduced power on adduction

Q1570. A 24-year-old woman is admitted with dysarthria, tremor and parkinsonian symptoms. On examination you notice yellow brown rings on examination of the eyes, seen at the limbus of the corneae. Given the most likely diagnosis, which part of the brain is predominantly affected by her underlying condition?

1- Cerebral cortex

2- Frontal lobes

**3- Basal ganglia**

4- Brainstem

5- Cerebellum

Q1571. A 40-year-old lady presents with numbness and tingling in little finger of her right hand, and a diagnosis of ulnar neuropathy is made. Which muscle of her hand is most likely to be affected?

1- Extensor digiti minimi

2- Lateral 2 lumbricals

3- Flexor pollicis longus

4- Flexor pollicis brevis

**5- Adductor pollicis**

Q1572. Which of the following is not typically a cause of hypercalcaemia?

1- Hyperparathyroidism

**2- Hypothyroidism**

3- Milk-alkali syndrome

4- Sarcoid

5- Squamous-cell carcinoma

Q1573. A 22-year-old golfer presents for review. He has noticed a decrease in his grip strength over the past few weeks and pain over his elbow. On examination he has pain over his elbow which is worse on wrist flexion and resisted forearm pronation. There is weakness of the adductor policis muscle and loss of pinch grip and loss of sensation over the lateral fingers of the hand. Which of the following is the most likely cause for his injury?

1- Lateral epicondylitis

2- Radial neuropathy

3- Median neuropathy

**4- Medial epicondylitis**

5- Brachial plexus injury

Q1574. A 64-year-old man is admitted with a severe haematemesis. Upper GI endoscopy identifies a posterior gastric ulcer. Bleeding is most likely to having occurred from which main vessel?

**1- Splenic artery**

2- Left gastroepiploic artery

3- Inferior pancreaticoduodenal artery

4- Oesophageal branch of the left gastric artery

5- Gastroduodenal branch of the right gastric

Q1575. A 44-year-old woman presents complaining that she has trouble opening jars and holding a pencil. On examination she has weakness of the adductor pollicis muscle. There is also sensory loss over the volar surface of the hypothenar eminence. Which of the following is the likely site of the lesion which has caused this clinical picture?

1- Median nerve

2- Radial nerve

**3- Ulnar nerve**

4- T7

5- Anterior interosseous nerve

Q1576. An anaesthetist performs a successful block of the median nerve at the elbow. Which neurological sign is likely to be present on examination?

1- Inability to flex the fingers

2- An obvious wrist drop deformity

3- The palm of the hand is totally anaesthetised

4- Inability to abduct and adduct the fingers

**5- Inability to abduct the thumb**

Q1577. A 62-year-old man presents with lower back pain radiating into the posterior part of the tops of both legs. He also reports trouble with difficulty starting and stopping his stream of urine and difficulty making it to the toilet when he wants to pass stool. On examination he has local tenderness to palpation over the lower back. There is diminished light touch in the perianal region and decreased anal tone. Where is the most likely cause of his symptoms?

1- Conus medullaris lesion

2- L1 disc lesion

**3- Cauda equina syndrome**

4- T10 disc lesion

5- Spinal meningioma

Q1578. A 78-year-old man had poliomyelitis as a child, which left him with total paralysis of the left deltoid muscle. Which feature is most likely to be present on clinical examination?

1- Anaesthesia over the ‘epaulette’ region of the left shoulder

2- The acromion process of the scapula forms the most lateral bony landmark of the left shoulder

3- Drooping of the left shoulder compared to the right side

**4- Detectable weakness in drawing the arm forward and internally rotating the shoulder when this is compared with the right side**

5- Abduction of the shoulder to 60o is likely to

Q1579. An 84-year-old man had his left sciatic nerve completely transected just inferior to the buttock crease by a piece of shrapnel during the D-day landings in 1944. Which sign is likely to be present on current neurological examination?

1- Complete anaesthesia below the knee

2- Spastic paralysis of the lower limb, with increased ankle jerk

3- Plantar flexed and everted foot

4- Paralysed quadriceps femoris

**5- Unimpaired hip abduction**

Q1580. Which of the following is typically the earliest lesion to develop in diabetic retinopathy?

1- Blot haemorrhages

**2- Dot haemorrhages**

3- Hard exudates

4- Macular oedema

5- Soft exudates

Q1581. A 48-year-old woman presents to the clinic complaining that her left foot drags and gets caught when she tries to climb the steps at home. On examination there is weakness of the foot and ankle dorsiflexors and she has a so-called steppage gate. She has sensory loss over the lateral portion of the leg extending onto the dorsum of the foot. Which of the following is the most likely location of neurological injury?

1- Femoral nerve injury

**2- Common peroneal nerve injury**

3- Tibial nerve injury

4- L3 nerve lesion

5- L4 nerve lesion

Q1582. A 25-year-old woman is referred to you for treatment of her asthma. She is otherwise well and there is no significant previous medical history. During the consultation it transpires that her sister died of cystic fibrosis and she is worried about having a child affected with the same disease. Her chest Xray is normal. Assuming a population carrier frequency of 1 in 25, what is the chance of her having an affected child?

1- 1 in 10

2- 1 in 50

3- 1 in 100

**4- 1 in 150**

5- 1 in 200

Q1583. A 75-year-old woman is being followed by her GP for suspected developing primary hypothyroidism. Which of the following biochemical changes would you most expect to occur first?

1- Fall in serum free thyroxine

2- Fall in serum thyroxine-binding globulin

3- Fall in serum free triiodothyronine

4- Fall in serum total triiodothyronine

**5- Increase in serum TSH**

Q1584. Botulinum toxin has which of the following features?

1- It is produced by a Gram-positive, aerobic bacillus

2- The bacillus has 15 serotypes

3- Its main activity is at the presynaptic membrane

4- It may be used in the treatment of myasthenia gravis

**5- It may be used in the treatment of**

Q1585. A 25-year-old patient presents with anaemia and jaundice. A blood film shows polychromasia, bite cells, reticulocytosis and Heinz bodies. What is the most probable diagnosis?

1- Haemolytic uraemic syndrome

2- Autoimmune haemolytic anaemia

**3- Glucose-6-phosphate dehydrogenase deficiency**

4- Hereditary spherocytosis

5- Paroxysmal nocturnal haemoglobinuria

Q1586. In Duchenne's muscular dystrophy, which of the following statements applies?

1- Serum creatinine kinase is elevated in 30% of cases

**2- Exon deletion or duplication in the dystrophin gene occurs in 60% of patients**

3- Prenatal diagnosis involves analysis of restriction fragment length polymorphisms (RFLPs)

4- The genetic defect affects mainly skeletal muscle

5- The majority of cases are due to new

Q1587. A middle-aged woman is referred to you by her GP with a 6-month history of increasing breathlessness on exertion. Her son is affected with Duchenne's muscular dystrophy, as was her brother. What would you be concerned about in her?

1- Bronchiectasis

**2- Cardiomyopathy**

3- Emphysema

4- Respiratory muscle failure

5- Pericardial effusion

Q1588. Which of the following statements is true about the matrix metalloproteinases, which play a major role in pathological processes, including rheumatoid arthritis, periodontitis, vascular disease as well as tumour invasion and metastasis?

1- All are controlled by specific tissue stimulators of the metalloproteinases

2- All contain an iron atom

3- Each is involved in the synthesis of at least one component of the extracellular matrix, basement membrane proteins and bioactive mediators

4- All are secreted as a proenzyme, which in each case is activated by cleavage of defined glycoprotein sequences

**5- All share sequence homologies**

Q1589. You are asked to see a 19-year-old man who has had recurrent pneumothoraces. He is tall with pes planus and has an increased arm span to height ratio and upper segment to lower segment body ratios. Which other feature would be most helpful in making a diagnosis of Marfan's syndrome?

1- Joint hypermobility

2- High arched palate

3- Mid-systolic click

4- Arachnodactyly

**5- Early diastolic murmur**

Q1590. You are teaching molecular biology to a group of medical students, and one asks you about how reverse transcriptase works. How does reverse transcriptase work?

1- It amplifies segments of DNA

2- It cleaves specific portions of DNA

3- It is involved in protein synthesis

4- It transcribes RNA from DNA

**5- It transcribes DNA from RNA**

Q1591. A 27-year-old woman presents with worsening back pain. As a child, she and her sister had several admissions to hospital with bone fractures following minor trauma and she has recently developed bilateral hearing loss. Apart from some teeth discoloration and mild joint laxity, examination was normal. A vertebral X-ray showed partial collapse of L3. What is the most likely diagnosis?

**1- Osteogenesis imperfecta**

2- Early-onset osteoporosis

3- Ehlers-Danlos syndrome

4- Malignant bone metastases

5- Multiple myeloma

Q1592. A 38-year-old woman is sent as an emergency to you with an acute-onset headache and deteriorating conscious level. Her husband mentions that her brother has recently had a kidney transplant, although he is not sure why. What condition may be running in the family?

1- von Hippel-Lindau disease

2- Hereditary haemorrhagic telangiectasia

**3- Polycystic kidney disease**

4- Alport's syndrome

5- Tuberous sclerosis

Q1593. What is the main feature of DNA sequence polymorphisms that differentiates them from mutations?

**1- They are common in the population**

2- They often cause serious medical conditions

3- They usually interfere with normal gene function

4- They are not found in certain ethnic groups

5- They are evenly spread throughout all

Q1594. When is a gene mutation causing a particular genetic disorder said to be highly penetrant?

1- It affects a large number of the population

2- Affected individuals with the same mutation have a very similar phenotype

**3- Individuals with the mutation invariably develop the phenotype**

4- The disorder only manifests early in life

5- It affects both sexes equally

Q1595. Multiple members from a large family suffer from an autosomal-dominant disorder. Although the gene for the condition is known, a mutation has not been found in the family. One of the family members wants to know if he will develop the disease as his father is affected. Blood samples are available from both affected and unaffected members. Which molecular technique is most useful in this situation?

1- DNA sequence analysis

**2- Linkage analysis**

3- Southern blotting

4- Microarray analysis

5- Chromosome analysis

Q1596. A 25-year-old accountant is admitted to hospital with severe abdominal pain, vomiting and postural hypotension. She has had similar attacks in the past. A mid-stream urine sample shows the presence of high levels of aminolaevulinic acid (ALA) and porphobilinogen (PBG). What is the most likely diagnosis?

1- Hereditary coproporphyria

2- Porphyria cutanea tarda

**3- Acute intermittent porphyria**

4- Erythropoietic protoporphyria

5- Variegate porphyria

Q1597. A 70-year-old Irish man is diagnosed with haemochromatosis. Subsequently, his son is also diagnosed with the condition. Both are homozygous for the common Northern European mutation. What is the most likely explanation?

1- Autosomal-dominant inheritance

2- Mitochondrial inheritance

3- Non-paternity

**4- Pseudo-dominant inheritance**

5- X-linked inheritance

Q1598. You review a 21-year-old man with albinism. He is from Central/ South America and you believe that he has Hermansky-Pudlak syndrome (HPS). You believe that this is due to a defect in the transport of glycoproteins from the Golgi body. Which of the following best fits the position of the Golgi body within the cell?

1- In the nucleus

**2- Adjacent to the endoplasmic reticulum**

3- Moves within the cytoplasm

4- Sits across the cell membrane

5- Just inside the cell membrane

Q1599. Phase 0 of the cardiac action potential relates to a:

1- Rapid efflux of calcium

2- Rapid influx of calcium

3- Rapid influx of potassium

**4- Rapid influx of sodium**

5- None of the above

Q1600. By which process are particles moved along a concentration gradient across a selectively permeable membrane?

1- Endocytosis

**2- Diffusion**

3- Exocytosis

4- Osmosis

5- Phagocytosis

Q1601. Which protein defect is responsible for Marfan's syndrome?

1- Elastin

**2- Fibrillin**

3- Myosin

4- Actin

5- Collagen

Q1602. Where does RNA splicing occur?

1- Ribosome

**2- Nucleus**

3- Golgi

4- Proteasome

5- Peroxisome

Q1603. A patient with type 1 diabetes presents to clinic for review and says he has read about cloning as a cure for diabetes mellitus. He asks you about the mechanism. Which of the following best describes the mechanism currently used for cloning?

1- An enucleated adult cell is fused with the nucleus from a donor cell

**2- An enucleated oocyte is fused with the nucleus from a donor cell**

3- An enucleated adult cell is fused with the nucleus from an oocyte

4- Genes are transfected into a donor oocyte using a retrovirus

5- Oocytes are harvested from the donor and

Q1604. The polymerase chain reaction (PCR) is becoming widely used in both research and clinical medicine. Which of the following statements is correct?

1- The Taq polymerase used is of viral origin

2- After approximately 30 cycles, a million cDNA copies can theoretically be made from a single target copy

3- Cycling of the reaction-mixture temperature enables sequential extension, annealing and denaturation

4- Specific sense and antisense primers that bind to part of the downstream target sequence are used as the starting point of the polymerase

**5- Reverse transcriptase-PCR (RT-PCR) is able**

Q1605. A 58-year-old man presents with progressively worsening indigestion and weight loss. His GP can feel an epigastric mass and arranges upper gastrointestinal (GI) endoscopy. Biopsy of a suspicious lesion in the stomach reveals numerous signet ring cells. Which of the following is the most likely underlying diagnosis?

1- Gastric lymphoma

2- Oesophageal carcinoma

**3- Gastric adenocarcinoma**

4- Gastric leiomyoma

5- Gastrinoma

Q1606. Why can trinucleotide repeat disorders become worse in successive generations?

1- Modifying genes exacerbate the phenotype

2- The phenotype is worse if the expansion is inherited by a male

3- There is ascertainment bias with younger family members diagnosed earlier

4- There is variable gene penetrance from generation to generation

**5- The repeat can expand from one generation**

Q1607. A 74-year-old man receives an acyclovir shingles treatment pack from his GP. He is a retired chemist and is interested in asking you about how acyclovir works. Which of the following best describes the step required for acyclovir activation?

1- Conversion to diphosphate form by viral thymidine kinase

**2- Conversion to monophosphate form by viral thymidine kinase**

3- Metabolism by intracellular phosphatases

4- Reverse transcriptase activation

5- Viral protease activity

Q1608. You are asked to help identify whether the child of a woman with a neuromuscular disorder is affected by the condition. A specific DNA sequence associated with the mutation which causes the disorder has been identified. Which of the following methods is a technique to identify a particular DNA sequence?

1- Northern blot

2- Eastern blot

**3- Southern blot**

4- Western blot

5- South-Western blot

Q1609. You are asked to review a 17-year-old who suffers from leprachaunism. You understand that this occurs due to a mutation associated with the insulin receptor. Where is the insulin receptor located?

**1- Cell membrane**

2- Nucleus/nuclear membrane

3- Cytoplasm

4- Endoplasmic reticulum

5- Chromatin

Q1610. When planning the radiotherapy dosage for solid tumours, it has to be remembered that the division of cells is governed by the cell cycle, the mechanism of which is disrupted by radiation. Which of the following is true concerning the cell cycle?

1- M represents the phase of premitotic DNA synthesis

**2- G1 is a gap phase under the influence of the p53 gene**

3- S is the mitotic phase

4- G2 is a gap phase when cells contain half as much DNA as non-dividing cells

5- In normal tissues, cells with significant

Q1611. You are consenting a 19-year-old man, who is thought to have a congenital neurological degenerative disorder, for collection of genetic material. He tells you he has heard about the human genome project. Which of the following statements is true concerning the project?

1- 10,000 genes have been identified

2- The project was completed in 2006

3- 95% of the gene containing part of the human DNA sequence was examined

**4- 3.7 million human single nucleotide polymorphisms (SNPs) were mapped**

5- 10,000 full length human cDNAs were

Q1612. You are working on your PhD project into the underlying basis for an inherited neurological condition. Part of your project involves identifying a protein expressed in an abnormal cell line. Which of the following is the appropriate method for identifying such a protein?

1- Northern blot

2- Southern blot

3- Eastern blot

**4- Western blot**

5- RT-PCR

Q1613. You review a young man with hypocalcaemia and notice on review of his hands that he has a shortened fourth and fifth digit on each hand. You wonder if he may have pseudohypoparathyroidism, caused by a Gprotein abnormality. Which of the following best describes the location of G-proteins?

1- In the nucleus

2- In the nuclear membrane

3- In the nucleolus

**4- In the cytoplasm**

5- In the cell membrane

Q1614. A woman has von Willebrand's disease and so does her partner. They wish to have children and seek genetic counselling. How would the risk of disease transmission to her offspring be best described?

1- All the children will have the disease

2- All the children will be carriers

3- Half the children will be carriers

**4- Three-quarters of the children will have the disease**

5- All the sons will be affected

Q1615. Which one of the following inherited diseases is due to mutation in mitochondrial DNA?

1- Alport's syndrome

**2- Leber's optic neuropathy**

3- Noonan's syndrome

4- Fabry's disease

5- Marfan's syndrome

Q1616. You are asked to review a young man with short stature, short fifth metacarpals, subcutaneous calcification, intellectual impairment and hypocalcaemia. Given the likely clinical diagnosis, mutation resulting in the dysfunction of what structure is most likely?

1- An ion-channel linked to the PTH receptor

**2- A G-protein linked to the PTH receptor**

3- A tyrosine kinase receptor

4- A tyrosine phosphatase receptor

5- A serine kinase receptor

Q1617. Genomic imprinting is seen in which of the following conditions?

1- Neurofibromatosis

**2- Prader-Willi syndrome**

3- Huntington's chorea

4- Hurler's syndrome

5- Marfan's syndrome

Q1618. You are reviewing an 18-year-old woman with cystic fibrosis. How would the genetic inheritance of this condition best be described?

1- It has an autosomal-dominant mode of inheritance

2- It has an X-linked dominant mode of inheritance

**3- It has an autosomal-recessive mode of inheritance**

4- It has an X-linked recessive mode of inheritance

5- It is a chromosomal disorder

Q1619. An 18-year-old army recruit undergoes preliminary health screening and is found to have a haemoglobin of 11.5 mg/dl (13-17). Spherocytes are present in the peripheral blood film. Investigation of his siblings reveals that one of his two brothers also has spherocytic anaemia. A defect in which of the following is most frequently responsible for this condition?

1- Actin

2- Ankyrin

3- Glucose-6-phosphate dehydrogenase

4- Protein 4.1

**5- Spectrin**

Q1620. A 20-year-old woman presents with hypothyroidism. On further questioning it transpires she has primary amenorrhoea. She is also of relatively short stature compared to her sisters. What is the most likely diagnosis?

**1- Turner's syndrome**

2- Down's syndrome

3- Noonan's syndrome

4- XXX syndrome

5- Achondroplasia

Q1621. An 18-year-old woman presents with mild polyuria and polydipsia; her fasting blood glucose concentration is 14 mmol/l. Her father and two of her three sisters have diabetes. She responds well to treatment with insulin, and is stabilised on a total dose of 14 units per 24 h. A mutation in which of the following is likely to be responsible for her condition?

1- Glucokinase

2- Glutamic acid decarboxylase

**3- Hepatic nuclear factor-1a**

4- Insulin

5- Insulin promoter factor-1

Q1622. In which of the following hereditary conditions will affected males have a significant risk of fathering affected sons?

1- Duchenne's muscular dystrophy

2- Cystic fibrosis

**3- Myotonic dystrophy**

4- MELAS (myopathy, encephalopathy, lactic acidosis, stroke)

5- Haemophilia type A

Q1623. A couple attends genetic screening for an inherited condition that has been observed in the husband's family. More severe cases of socalled 'anticipation' have been observed. What is the most likely condition?

1- Achondroplasia

2- Haemophilia B

3- Marfan's syndrome

**4- Myotonic dystrophy**

5- Polycystic kidney disease

Q1624. A patient with colon cancer presents with cafè au lait spots around the nose and mouth, hand and feet and within the oral cavity. What is the most likely diagnosis?

1- Fanconi's anaemia

2- Neurofibromatosis type 1

3- Neurofibromatosis type 2

**4- Peutz-Jeghers' syndrome**

5- Tuberous sclerosis

Q1625. A patient has been diagnosed with Marfan's syndrome. Which gene mutation is responsible for this condition?

**1- Fibrillin**

2- Mitochondria

3- Cyclooxygenase

4- Hexosaminidase

5- Galactosidase

Q1626. A patient has been investigated for loose joints. He also complains of reduced vision. On examination he has very thin extremities and arachnodactyly. What is the most likely diagnosis?

**1- Marfan's syndrome**

2- Tay-Sachs disease

3- Fabry disease

4- Gaucher disease

5- Niemann-Pick disease

Q1627. You see a healthy 20-year-old man in your clinic. There is no significant past medical history and he plays rugby for Saracens rugby club. He tells you that his brother died at the age of seven years with cystic fibrosis. What are his chances of being a carrier?

1- 1 in 4 (25%)

2- 1 in 3 (33%)

3- 1 in 2 (50%)

**4- 2 in 3 (67%)**

5- 3 in 4 (75%)

Q1628. A 40-year-old man develops jerky movements affecting various parts of his body. His father died at the age of 55 and had been diagnosed as having Huntington's disease. Which of the following genetic abnormalities is responsible for this condition?

1- Frame-shift mutation

2- Point mutation

3- Splicing mutation

4- Termination mutation

**5- Triplet-repeat mutation**

Q1629. A 20-year-old woman, who was prescribed the oral contraceptive pill a week earlier, develops central abdominal pain, vomiting and weakness in both lower limbs. Blood tests show an elevated white cell count. What is the most probable diagnosis?

1- Guillain-Barrè syndrome

2- Polyarteritis nodosa

3- Sarcoidosis

4- Diabetic ketoacidosis

**5- Acute intermittent porphyria**

Q1630. A 7-year-old boy who came from India presented with fever, maculopapular rash and pharyngitis with greyish membranes surrounding the tonsils. There is regional lymphadenopathy. What is the most likely diagnosis?

1- Infectious mononucleosis

**2- Diphtheria**

3- Rubella

4- Measles

5- Streptococcus pyogenes

Q1631. A 35-year-old man is referred to you with altered bowel habit and weight loss. One of his sisters had a hysterectomy for uterine cancer aged 42, another sister had colorectal cancer aged 44 and his father died from colorectal cancer in his fifties. Colonoscopy shows a few polyps and a caecal mass. Which genetic condition might be running in the family?

1- Familial adenomatous polyposis

2- Peutz-Jeghers' disease

3- Neurofibromatosis type 1

4- von Hippel-Lindau disease

**5- Hereditary non-polyposis colorectal cancer**

Q1632. Which of these are well-recognised late complications of trisomy 21 (Down's syndrome)?

1- Ischaemic heart disease

2- Addison's disease

**3- Alzheimer's dementia**

4- Glioblastoma

5- Cataracts

Q1633. A 20-year-old man is referred for investigation of hypogonadism and infertility. He went through normal puberty and there is no significant family history. On examination he is tall with gynaecomastia and small testes. He has a normal sense of smell. Which condition would be high on your list of differential diagnoses?

**1- Klinefelter's syndrome**

2- XYY syndrome

3- Marfan's syndrome

4- Kallmann's syndrome

5- Fragile X syndrome

Q1634. A 40-year-old man comes to see you because he is worried about his family history of Huntington's disease. His 45-year-old sister is known to be affected and has been given a molecular diagnosis, but neither parent is affected and both have had a normal gene test. What is the most likely reason for this inheritance pattern?

1- Anticipation

2- A new mutation in the sister

**3- Non-paternity**

4- Females are more often affected

5- Non-penetrance in the parents

Q1635. A colleague asks for your help in designing a new diagnostic molecular assay where small amounts of DNA need to be accurately amplified and analysed. Which would be your technique of choice?

1- Southern blotting

2- Immunoprecipitation

**3- Polymerase chain reaction (PCR)**

4- Western blotting

5- Enzyme-linked immunoabsorbant assay

Q1636. The substitution of the amino acid valine instead of the normal glutamic acid at position 6 of the b-globin chain is the genetic abnormality encountered in which one of the following types of congenital haemolytic anaemia?

**1- Sickle cell anaemia**

2- β-Thalassaemia

3- Hereditary spherocytosis

4- Glucose-6-phosphate dehydrogenase (G6PD) deficiency

5- Methaemoglobinaemia

Q1637. A man in his mid-60s is referred to you because he is worried about his family history of ischaemic heart disease. His father was a non-smoker and died of a myocardial infarction aged 39 years. His maternal grandfather and a paternal uncle both had myocardial infarcts in their 40s. What is his history most suggestive of?

1- Hyperhomocysteinaemia

2- Homocystinuria

**3- Familial hypercholesterolaemia**

4- Factor V Leiden deficiency

5- Haemochromatosis

Q1638. Which one of the following statements BEST describes a patient with Wilson's disease?

1- The primary defect is believed to be enhanced intestinal absorption of copper

**2- An alternative diagnosis should be considered if chorea occurs with no evidence of Kayser-Fleischer rings**

3- Chronic liver disease and autoimmune haemolytic anaemia are recognised features

4- Raised serum copper levels evident at birth

5- Siblings with biochemical evidence of the

Q1639. A 19-year-old woman is referral to you with a blood pressure of 180/130 mmHg. On examination she has cafè-au-lait patches and some axillary freckling. She required surgery for scoliosis as a child. What is the most likely underlying diagnosis?

1- Marfan's syndrome

**2- Neurofibromatosis type 1**

3- Hypertrophic cardiomyopathy

4- Tuberous sclerosis

5- Cushing's disease

Q1640. A 29-year-old man is referred to you with lethargy, constipation and generalised bone pain. Some 5 years ago he had pituitary surgery for a prolactinoma. He mentions that his father had required surgery to his parathyroid a few years ago and his brother is currently in hospital with kidney stones. What is the most likely diagnosis?

1- Pseudohypoparathyroidism

2- Hypophosphataemia

3- Familial hypocalciuric hypercalcaemia

**4- Multiple endocrine neoplasia type 1**

5- Multiple endocrine neoplasia type 2

Q1641. A 26-year-old teacher of Ashkenazi Jewish descent presents with long-standing bone pain. On examination there is marked hepatosplenomegaly. Which genetic disorder should be included in the list of differential diagnoses?

1- Tay-Sachs disease

2- Canavan's disease

3- Niemann-Pick's disease type A

4- Galactosaemia

**5- Gaucher's disease**

Q1642. A young man with severe learning difficulties and congenital heart disease is referred to you for a cardiac assessment. He is accompanied by his carer who says he has a chromosome abnormality. What type of abnormality is most likely to cause such a severe phenotype?

1- Balanced autosomal translocation

**2- Unbalanced autosomal translocation**

3- Pericentric inversion

4- Paracentric inversion

5- Sex chromosome aneuploidy

Q1643. A 35-year-old man presents with severe hypertension and is found to have a unilateral phaeochromocytoma. His father died from metastatic renal-cell carcinoma aged 48 and previously had surgery for a brain tumour. What is the most likely underlying genetic condition?

1- Neurofibromatosis type 1

2- Multiple endocrine neoplasia type 2A

**3- von Hippel-Lindau syndrome**

4- Hereditary haemorrhagic telangiectasia

5- Neurofibromatosis type 2

Q1644. A 40-year-old man is referred to you with breathlessness and bradycardia. During the consultation you notice that he has a bilateral ptosis. He is estranged from his family and never knew his father, but he does know that his sister has a muscle problem and lost a child in infancy. What diagnosis might you suspect in this man?

1- Duchenne's muscular dystrophy

2- Facioscapulohumeral dystrophy

3- Becker's muscular dystrophy

**4- Myotonic dystrophy**

5- Spinal muscular atrophy

Q1645. Angelman's and Prader-Willi syndromes both involve defects in the same chromosome region. What is the best molecular explanation for differences in the phenotypes in these two conditions?

1- It is sex-linked with the Prader-Willi syndrome, occurring mainly in boys

2- It is due to anticipation, with successive generations becoming more severely affected

3- It is related to the degree of X chromosome inactivation

4- It is due to modifying genes on other chromosomes

**5- It is due to the differential expression of**

Q1646. Which of the following statements is true concerning kinins?

1- They are lipids

2- They promote vasoconstriction

3- They decrease the permeability of blood vessels

**4- They are proteins that attract phagocytes**

5- They perforate invading bacteria

Q1647. A patient in the intensive care unit following liver transplant surgery has a metabolic alkalosis. Which of the following biochemical abnormalities is most specifically indicative of this?

1- Acidic urine

2- High arterial blood pH (low hydrogen-ion concentration)

3- High arterial partial pressure of carbon dioxide p(CO2)

**4- High plasma bicarbonate concentration**

5- Hypochloraemia

Q1648. Which of following is true regarding gammaglutamyl transferase (GGT)?

**1- It is increased in patients with fatty liver disease**

2- If elevated in prostate cancer it means liver metastases

3- It is a better indicator of infectious hepatitis than of cholestasis

4- It is only found in the liver

5- It is elevated in pregnancy

Q1649. A 52 year old man is being treated in hospital for digoxin toxicity. Which of the following biochemical abnormalities, if present, would be most likely to exacerbate the digoxin?

**1- Hypokalaemia**

2- Hypocalcaemia

3- Hypomagnesaemia

4- Hyponatraemia

5- Hypophosphataemia

Q1650. A 27-year-old woman presents with global weakness, lethargy and numbness of her extremities, which has worsened over the past 6 weeks. She admits to intermittent diarrhoea. On examination in the Emergency Department she is markedly underweight with a body mass index (BMI) of only 19. Blood testing reveals hypokalaemia, raised chloride levels, low serum bicarbonate and pH of 7.31. Which of the following diagnoses seems most likely in this case?

1- Bartter's syndrome

2- Liddle's syndrome

3- Gitelman's syndrome

**4- Laxative abuse**

5- Diuretic abuse

Q1651. You are trialing a new antihypertensive agent, 'Wonderone'. As part of the drugdevelopment programme you must assess the half-life of Wonderone. Some results are sent to you for calculation of the half-life: 15 mins after iv injection - Wonderone level 150 2 h 15 mins after iv injection - Wonderone level 37.5 4 h 15 mins after iv injection - Wonderone level 9.4. Which of the following stems fits best with the half-life of this agent?

1- 90 min

2- 15 min

**3- 1 h**

4- 2 h

5- 3 h

Q1652. You are asked to see a patient who had a chest drain removed 4 days ago. There appears to be some infection. What are the stages in the cell biology of normal wound healing?

1- Demolition is the first phase

**2- Maturation and remodelling can continue for up to a year**

3- Acute inflammation usually lasts for 6-12 hours

4- Epithelial cell proliferation is the hallmark of the demolition phase

5- Collagen deposition is the key process

Q1653. Concerning the respiratory cell biology of an asthmatic individual, which of the following is true?

1- Monocytes are granular and static

2- Eosinophils are agranular and mobile

3- Basophils are granular and their mode of action is phagocytosis

4- B cells are mobile and their mode of action is phagocytosis

**5- T cells are mobile and contribution to**

Q1654. A 45-year-old man has severe pulmonary emphysema. A diagnosis of α1-antitrypsin deficiency is being considered. What is the genotype most typically associated with this condition?

1- PiMM

2- PiMZ

3- PiSS

4- PiSZ

**5- PiZZ**

Q1655. In the selection of an optimum agent to prevent rejection postrenal transplantation, which of the following cell biological principles is correct?

1- Daclizumab blocks the de novo pathway of purine synthesis

2- Mycophenolate mofetil is a monoclonal antibody against IL-2

3- Basiliximab inhibits inosine monophosphate dehydrogenase

**4- Tacrolimus is a calcineurin inhibitor**

5- Sirolimus is a calcineurin inhibitor

Q1656. Which of the following is a feature of the early asthma response?

1- It occurs between 3-5 hours after an initial response to an allergen

2- Eosinophils are particularly important

3- Attraction of phagocytes is predominant

**4- Mast-cell degranulation is seen in response to the B-cell production of IgE**

5- Usually resolves spontaneously after 6-8

Q1657. Which of the following features applies to acetylcholine-mediated transmission at the motor endplate?

**1- The synaptic fusion complex is made of synaptobrevin, syntaxin and synaptosomeassociated protein**

2- Syntaxin forms a SNAP complex, together with NSF, Ca2+ and other proteins

3- Tetanus toxin (TeNT) cleaves specific sites of SNAP-25

4- Botulinum toxin type B (BoNT/B) cleaves syntaxin

5- Botulinum toxin type A (BoNT/A) cleaves

Q1658. Which of the following statements pertains to a resting neurone?

1- It is uncharged

2- It is depolarised

3- It is negatively charged externally

**4- It is positively charged externally**

5- It is unable to conduct impulses

Q1659. Degranulation of eosinophils allows which of the following cellular processes?

**1- Fusion of the lysosomal membrane with the plasma membrane**

2- Chemotaxis

3- Ingestion within a phagosome

4- Intracellular enzymatic degradation

5- Endocytosis

Q1660. The accumulation of gangliosidic GM2 in the central nervous system of individuals with TaySachs disease is attributed to:

**1- Decreased lysosomal hydrolysis**

2- Decreased Golgi stimulation

3- Increased permeability of the blood-brain barrier

4- Increased receptor-mediated endocytosis

5- Increased synthesis in the endoplasmic

Q1661. Which of the following statements regarding the eukaryotic cell cycle is correct?

1- M phase signifies meiosis

2- DNA is made in the G1 phase

**3- DNA is made in the S phase**

4- G2 phase commences as G1 finishes

5- G2 determines variability in the length of

Q1662. A 42-year-old Afro-Caribbean man sustains a myocardial infarction. He is discharged from hospital 4 days later. His medication is aspirin, simvastatin and a β-blocker. A month later, he is well and has routine blood tests in the outpatient clinic. His serum creatine kinase (CK) activity is reported as being 400 U/l. His CK 24 h after admission had been 620 U/l and had fallen to 415 U/l after a further 48 h. Which of the following is the most likely cause of the high CK when he was reviewed in outpatients?

1- Effect of simvastatin

2- Further myocardial infarction

3- Heavy exercise

**4- Racial variant**

5- Undiagnosed hypothyroidism

Q1663. A 25-year-old man is found to have a fasting serum triglyceride concentration of 4.2 mmol/l at a routine examination for life insurance. His serum cholesterol concentration is 5.4 mmol/l; liver function tests are normal apart from a gglutamyltransferase activity of 74 U/l (upper limit of normal, 55 U/l). He claims to be in good health but has a history of epilepsy for which he is taking sodium valproate. His body mass index is 24 kg/m2 . What is the most likely cause of the abnormal findings?

1- Familial combined hyperlipidaemia

**2- Hepatic steatosis secondary to alcohol**

3- Non-alcoholic steatohepatitis

4- Remnant hyperlipidaemia (familial dysbetalipoproteinaemia, broad beta disease)

5- Valproate treatment

Q1664. A 55-year-old-woman presents with the clinical features of Cushing's syndrome. She is on no medication. The results of routine biochemical investigations are normal. Her 0900-h cortisol concentration is 800 nmol/l (normal 150-650) and ACTH 80 ng/ml (normal < 50). Following dexamethasone 1 mg the previous evening, a repeat 0900-h cortisol concentration is 720 nmol/l. Which of the following is the most likely diagnosis?

1- Adrenal adenoma

2- Adrenal carcinoma

**3- Cushing's disease (pituitary adenoma)**

4- Depression

5- Ectopic ACTH secretion

Q1665. A patient with hypoalbuminaemia is suspected of having a protein-losing enteropathy. Measurement of which of the following in a sample of faeces would be most appropriate to prove this?

1- Albumin

**2- α1-antitrypsin**

3- Calmodulin

4- Calprotectin

5- Elastase

Q1666. A 20-year-old man presents with mild jaundice following a flu-like illness. Following review by a gastroenterologist, he has been told that a diagnosis of Gilbert's syndrome is probable. Which of the following laboratory tests is most likely to confirm this diagnosis?

**1- Absence of bilirubin in the urine**

2- Decreased serum haptoglobin concentration

3- Elevated serum aspartate aminotransferase (transaminase, AST) activity

4- Increased reticulocyte count

5- Increased urinary urobilinogen excretion

Q1667. A 71-year-old man presents with fatigue and breathlessness. The results of initial investigations include a serum creatinine concentration of 654 mmol/l. Which of the following best suggests a specific cause for his renal failure?

1- Anaemia

**2- Bence Jones proteinuria**

3- Hyperuricaemia

4- Hypocalcaemia

5- Metabolic acidosis

Q1668. An overweight 32-year-old woman presents with a short history of painless jaundice. There is no previous history of illness and, apart from the jaundice, she has no signs of chronic liver disease. Initial investigations reveal a haemoglobin of 12.7 g/dl, MCV 105 fl, serum bilirubin 162 mmol/l, AST 145 U/l, alkaline phosphatase 224 U/l, gammaglutamyltransferase 200 U/l. Which of the following is the most likely diagnosis?

**1- Alcoholic liver disease**

2- Autoimmune chronic hepatitis

3- Carcinoma of the head of the pancreas

4- Cholecystitis

5- Hepatitis A infection

Q1669. Which one of the following statements best applies to renal tubular acidosis type 4?

1- It is an inherited condition

**2- It is a recognised complication of diabetes mellitus**

3- It is associated with hypokalaemia

4- It is due to decreased renal bicarbonate reasborption

5- Renal calculi are a common presentation

Q1670. A 19-year-old woman has been diagnosed as having acute intermittent porphyria. How is she most likely to have presented?

**1- Acute abdomen**

2- Hypertension

3- Motor neuropathy

4- Psychosis

5- Sensory neuropathy

Q1671. A 70-year-old man with symptoms of prostatism has a serum prostate specific antigen (PSA) concentration of 20 mg/l (normal value, < 4 mg/l). Which one of the following statements about the clinical importance of this result is the most likely?

1- It could be elevated because a digital rectal examination was performed 48 h before the blood sample was taken

2- It could be elevated because of cancer elsewhere in the urinary tract

3- It is diagnostic of prostatic cancer

**4- It is more likely to reflect prostatic cancer than benign prostatic hypertrophy**

5- It is normal for a man of this age

Q1672. An elderly man with a history of prostatism presents with acute retention of urine. His serum creatinine concentration is 520 mmol/l. Which of the following additional abnormal serum biochemistry test results is most suggestive of a chronic component to his renal failure?

1- Hyperkalaemia

2- Hyperuricaemia

**3- Hypocalcaemia**

4- Hyponatraemia

5- Low serum bicarbonate concentration

Q1673. A 68-year old man undergoes a routine health check-up, which includes various laboratory investigations. He has abnormal results as follows: fasting blood glucose 5.6 mmol/l; urea 7.2 mmol/l; alkaline phosphatase activity 176 U/l (upper limit of reference range 150); TSH 9.1 mU/l; creatinine clearance (calculated) 70 ml/min. Which one of the following parameters can be regarded as a normal result of ageing?

1- Fasting blood glucose concentration

**2- Glomerular filtration rate**

3- Alkaline phosphatase activity

4- Urea concentration

5- TSH (thyroid-stimulating hormone)

Q1674. A 25-year-old man is referred to a dermatologist with fleshy nodules on the backs of his elbows. He also has yellow linear deposits in his palmar creases. His fasting serum lipids are: cholesterol 14.2 mmol/l, triglycerides 16 mmol/l. Fasting plasma glucose and thyroid function tests are normal. In addition to dietary and lifestyle advice, what would be the most appropriate treatment?

1- A bile-acid sequestrant

**2- A fibrate**

3- A statin

4- Nicotinic acid

5- Omega-3 fish oils

Q1675. A 56-year-old woman with known metastatic breast cancer presents to A&E with a calcium concentration of 3.22 mmol/l. Which of the following is the most appropriate initial management?

1- Intravenous hydrocortisone

**2- Intravenous infusion of 0.9% sodium chloride (‘normal saline')**

3- Intravenous infusion of sodium phosphate

4- Oral bisphosphonate

5- Oral thiazide diuretic

Q1676. Which of the following fluids would be the most appropriate to replace the fluid being lost in a patient with a paralytic ileus draining 2 litres of fluid a day through a nasogastric tube?

1- Compound sodium lactate (Hartmann's solution)

2- 5% dextrose

3- 10% dextrose

4- 0.18% sodium chloride with 4% dextrose (‘dextrose saline')

**5- 0.9% sodium chloride (‘normal saline')**

Q1677. Which of the following tumour-associated antigens is linked with the correct cancer?

1- CA-125: Testicular teratoma

**2- CA 19-9: Pancreatic cancer**

3- Alpha-fetoprotein: Ovarian cancer

4- CEA: Hepatocellular carcinoma

5- HCG: Breast cancer

Q1678. A 48-year-old woman with known renal disease presents to A&E, and admission biochemistry profile shows a serum potassium concentration of 5.9 mmol/l. Her ECG is abnormal. Which ECG abnormality is most likely to have occurred earliest as her hyperkalaemia developed?

1- Prolonged PR interval

2- Prominent U wave

3- Reduced P wave

4- Sine-wave pattern

**5- Tall, tented T wave**

Q1679. A woman presented with diarrhoea that has persisted up to 2 weeks after cholecystectomy. What is the most likely cause of the diarrhoea?

1- Salmonella spp.

2- Yersinia

3- Campylobacter

**4- Bile acid malabsorption**

5- Lactose malabsorption

Q1680. A 49-year-old woman presents to her gynaecologist with CIN-3 changes. She has been reading on the Internet about how the human papillomavirus interferes with the programmed death of defective cells and may predispose to cancers. Which of the following protein names best identifies the DNA-binding protein with which the papillomavirus interferes?

1- p52

2- p51

**3- p53**

4- p54

5- p55

Q1681. You are reviewing a 45-year-old woman who is suffering from multiple sclerosis and are considering prescribing beta-interferon for her. Which of the following best describes the action of beta-interferon?

1- It increases MHC class-II expression on antigen-presenting cells

**2- It leads to increased MHC class-I expression**

3- It is used in the treatment of hepatitis B

4- It may be used as an adjunct in atypical mycobacterial disease

5- It activates macrophage and neutrophil

Q1682. A 68-year-old man is admitted to hospital for elective femoral angioplasty. On examination, he is found to have widespread lymphadenopathy. Blood is taken for 'group and save'. His cells are not agglutinated by either anti-A or anti-B; his serum does not cause agglutination of cells of blood group A or B. Based on these data, which of the following is most likely to be his genotype?

1- AB

2- AO

3- BB

4- BO

**5- OO**

Q1683. A 16-year-old youth collapses during a game of football. He has previously been well. He has no carotid pulse and attempts at cardiopulmonary resuscitation are unsuccessful. At postmortem, he is found to have mild hypertrophy of the septum. Microscopic examination shows myocyte disarray and disorganisation of myofibrils within the mycoytes. Which of the following proteins is likely to be abnormal in this condition?

1- b-Myosin heavy chains

2- Myosin-binding protein C

3- Myosin light chains

4- Troponin I

**5- Troponin T**

Q1684. A previously healthy 25-year-old man presented with watery diarrhoea of 10 days' duration. He had no significant past medical history. Examination showed significant postural drop. Stool culture samples yielded Cryptosporidium parvum. What is the next appropriate management after replacement with intravenous fluids?

1- Albendazole

2- Co-trimoxazole

3- Metronidazole

**4- No specific therapy**

5- Ciprofloxacin

Q1685. A 42-year-old man is put on a proton-pump inhibitor to suppress symptoms of oesophagitis. The cell and membrane biology of the gastric acid pump has which of the following features?

1- Histamine-stimulated acid production is independent of the proton pump

2- The proton is exchanged with magnesium ions

3- Acetylcholine-stimulated acid production is independent of the proton pump

**4- The proton pump spans the apical membrane of the gastric parietal cell**

5- The proton pump spans the basolateral

Q1686. Which of the following is the most likely presentation of Staphylococcus aureus food poisoning?

1- Severe vomiting 24-48 h after food ingestion

2- Watery diarrhoea without vomiting

3- Dysentery

**4- Severe vomiting 2-4 h after food ingestion**

5- Severe vomiting 6-12 h after food ingestion

Q1687. A 22-year-old marathon runner is preparing for a special event in 3 months' time and gradually increases his physical exercise. Which of the following biochemical processes is likely to contribute most to energy creation in his long-distance running?

1- Ketogenesis

2- Creatine formation

3- Lactate formation

**4- Fatty acid oxidation**

5- Glycogenesis

Q1688. You review an elderly woman who has presented to the Emergency Department with dehydration resulting from severe diarrhoea. She was prescribed antibiotics for a recent respiratory tract infection. Which of the following drugs would be the most likely cause of Clostridium difficile diarrhoea?

1- Penicillin V

2- Ciprofloxacin

3- Clarithromycin

4- Metronidazole

**5- Cephalexin**

Q1689. A 76-year-old diabetic woman presented with a non-healing ulcer on her right foot. Blood culture samples grew methicillin-resistant Staphylococcus aureus (MRSA). Which of the following antibiotics may be considered in addition to iv vancomycin?

1- Flucloxacillin

2- Metronidazole

**3- Rifampicin**

4- Ticarcillin

5- Ampicillin

Q1690. A 45-year-old woman presented with pyrexia of unknown origin. She had recently returned from a hiking trip to America. Initially she reported problems with a skin rash, this was later followed by problems with arthralgia, joint stiffness and pain. Blood, urine and sputum were sent for culture. The microbiological advice was to start a thirdgeneration cephalosporin. What is the most likely pathogen?

1- Streptococcus pneumoniae

2- Legionella pneumophila

**3- Borrelia burgdorferi**

4- Mycoplasma

5- Chlamydia pneumoniae

Q1691. A 76-year-old lady presented with headache and neck stiffness. Lumbar puncture was done and patient was started on iv ceftriaxone. Culture samples grew Listeria monocytogenes. What is the most appropriate treatment?

1- Change to ampicillin + gentamicin and treat for 5-7 days total

2- Add ciprofloxacin

3- Continue iv ceftriaxone as monotherapy

**4- Change to ampicillin + gentamicin and treat for 10-14 days total**

5- Add ampicillin to the ceftriaxone

Q1692. A man returning from holiday in South Africa presents with a painful ulcer over the sulcus of the penis with reactive inguinal lymph nodes. What is the most likely diagnosis?

**1- Haemophilus ducreyi**

2- Primary syphilis

3- Herpes simplex

4- Lymphogranuloma venereum

5- Gonorrhoea

Q1693. You see a 20-year-old girl with ataxia and restricted eye movements in the clinic. She tells you that she developed bilateral hearing loss at the age of nine years, retinitis pigmentosa at 10 years, and insulindependent diabetes mellitus at 15 years. When she was 18 years old she had a pacemaker inserted for complete heart block. What is your diagnosis?

1- Friedreich's ataxia

**2- Kearns-Sayre syndrome**

3- Myotonic dystrophy

4- Spinocerebellar ataxia (SCA) type 7

5- Usher syndrome

Q1694. Which of the following is a trinucleotiderepeat disorder?

1- Amyotrophic lateral sclerosis

2- Becker's muscular dystrophy

**3- Kennedy's syndrome**

4- Sydenham's chorea

5- Wallenberg's syndrome

Q1695. Which enzyme breaks base pairs in a doublestranded DNA molecule?

**1- Helicase**

2- Nuclease

3- Phosphodiesterase

4- Restriction endonuclease

5- Telomerase

Q1696. Endothelin-1:

1- Is a vascular cell-adhesion molecule

**2- Is a polypeptide**

3- Is also known as ICAM-1

4- Is a heat-shock protein

5- Was formally known as IL-1

Q1697. Which of the following neoplasms responds to the specific tyrosine kinase inhibitor, imatinib?

**1- Gastrointestinal stromal tumours**

2- Acute myeloid leukaemia

3- Philadelphia -ve chronic lymphoid leukaemia

4- Acute lymphoid leukaemia

5- Multiple myeloma

Q1698. Which of the following antineoplastic agents is correctly paired with the site of action at the cellular level?

1- Vinca alkaloids and abnormal microtubule disassembly

2- Taxanes and abnormal microtubule assembly

**3- Irinotecan and topoisomerase inhibition**

4- Imatinib mesylate and competitive inhibition of nucleotide synthesis

5- Doxorubicin and competitive inhibition of

Q1699. Granuloma is seen in which of the following conditions?

**1- Syphilis**

2- Typhoid

3- Cholera

4- Amoebiasis

5- Shigellosis

Q1700. Which of the following statements is true regarding the cellular and molecular mechanisms that control apoptosis?

1- The extrinsic pathway is initiated at the mitochondrial level

2- The intrinsic pathway is triggered at death receptors on the cell surface

**3- Abnormalities of caspase control are associated with a range of lymphomas and carcinomas**

4- Caspase 8 is an example of an executioner protein

5- Death domains attract extracellular adapter

Q1701. You are investigating periodic episodes of unexplained hypoglycaemia in a 23-year-old nurse and request a C-peptide assay. Which of the following statements is correct?

1- The level of C-peptide will be reduced in insulinoma

2- C-peptide cleavage is an example of posttranscriptional modification

3- C-peptide is attached to only the alpha chain

4- The level of C-peptide will be unchanged in factitious hypoglycaemia

**5- C-peptide cleavage in an example of posttranslational modification**

Q1702. You are reviewing a 54-year-old woman who is suffering from the blistering skin disorder pemphigus vulgaris. How would the underlying pathological process of this disorder best be described?

1- It is a disorder affecting ‘tight junctions' between cells

2- It is a disorder affecting claudins

**3- It is a disorder affecting desmoglein-3**

4- It is a disorder affecting desmoglein-1

5- It is a disorder affecting connexons

Q1703. Which enzyme synthesises phosphodiester bonds as part of DNA replication, repair and recombination processes?

1- DNA gyrase

**2- DNA ligase**

3- DNA polymerase

4- DNA photolyase

5- DNA glycolyase

Q1704. A 50-year-old obese patient has been complaining of gradually increasing firm nodules over the extensor surfaces of his fingers, hands and forearms. He also noticed similar ear lesions. Which is the most likely enzyme when inhibited to cause a reduction of these deposits?

1- Urease

**2- Xanthine oxidase**

3- Hypoxanthine phosphoribosyltransferase

4- Adenylate kinase

5- Creatine kinase

Q1705. The 3' to 5’ exonuclease activity possessed by some DNA polymerases that enables the enzyme to replace misincorporated nucleotide is called what?

**1- Proofreading**

2- Replication

3- Recombination

4- Retrotransposition

5- Splicing

Q1706. Following a liver biopsy on a 38-year-old alcoholic man, the pathological examination reveals liver fibrosis. What is the most likely cell responsible for this process?

1- Hepatocytes

2- Kupffer cells

**3- Ito cells**

4- Endothelial cells

5- Bile-duct epithelial cells

Q1707. Nitric oxide is derived from?

1- Cyclic GMP

2- Endothelium-derived relaxing factor

3- GTN

**4- l-Arginine**

5- Nitrous oxide

Q1708. A 50-year-old company director was admitted to hospital due to a myocardial infarction. He was thrombolysed and received a coronary artery bypass graft. The lesion leading to the myocardial infarction started many years ago with foam cells. What is the most likely cell contributing to this formation?

1- Endothelial cells

2- Fibroblasts

3- Lymphocytes

**4- Macrophages**

5- Erythrocytes

Q1709. A 60-year-old obese smoker has been admitted to hospital with chest pain due to unstable angina. A nitrate infusion is started to relieve his chest pain. Which blood vessels are most sensitive to the vasodilatatory effect of nitrates?

1- Large arteries

2- Coronary arteries

3- Capillaries

**4- Large veins**

5- Pulmonary arteries

Q1710. For what metabolic process is riboflavin required?

1- The synthesis of the protein, collagen

2- The synthesis of glycogen from glucose phosphate

3- The synthesis of non-essential amino acids

4- Prostaglandin synthesis

**5- The hydrogen-transfer chain in the**

Q1711. The gene for which of the following disorders is correctly paired with the stated chromosome?

**1- Duchenne muscular dystrophy: X chromosome**

2- Haemophilia A: Chromosome 11

3- Variegate porphyria: X chromosome

4- Cystic fibrosis: Chromosome 1

5- Hereditary haemochromatosis :

Q1712. Which one of the following muscles in the hand is supplied by the median nerve?

1- Lateral two interossei

**2- Abductor pollicis brevis**

3- Medial two lumbricales

4- Flexor pollicis longus

5- Extensor pollicis

# Chapter 7 Statistics

Q1713. stroke. His blood pressure is 155/90 mmHg and he is in sinus rhythm with a pulse of 65 bpm. On carotid duplex it appears there is a stenosis which is amenable to surgical therapy. He asks you about the risks of surgery versus intensive medical therapy. On reviewing the trials you note that the incidence of stroke in the surgical intervention group was 8%, versus 18% in those who had medical intervention only. How would you calculate the number needed to treat over 2 years with surgery to prevent 1 stroke?

**1- 100/(18-8)**

2- 18/8

3- 100/(18/8)

4- 18-8

5- 100-(18/8)

Q1714. ining methodology and statistical tests to determine effectiveness of this agent. What is the power of a statistical test?

**1- The probability that it will correctly lead to rejection of a false null hypothesis**

2- The probability that it will falsely lead to rejection of a true null hypothesis

3- The probability that it will falsely lead to rejection of a false null hypothesis

4- The probability that it will correctly lead to rejection of a true null hypothesis

5- The sample size needed to detect a

Q1715. In a cohort study of 1000 nonsmokers and 1000 smokers, 450 of the smokers and 50 of the non-smokers developed COPD. What is the relative risk of smoking for COPD?

**1- 9**

2- 1/9

3- 8

4- 1/8

5- 7

Q1716. A new anti-diabetic agent is launched on the UK market. There was some concern in one of the animal studies which took place in development that there may be an increased risk of carcinoma of the bladder associated with its use. Which of the following would be most useful in determining if there is a risk of bladder cancer when the drug is used in a larger population?

1- Further mechanistic studies in another mammalian mode

2- A long-term post-marketing randomised controlled trial

3- A cohort study

**4- A case control study**

5- A database study

Q1717. . Relative-risk reduction for the combined end-point of death from any cause, non-fatal myocardial infarction (excluding silent) or stroke was 16%, absolute-risk reduction of 2.1% over 3 years. Which of the following fits best with the numbers needed to treat to avoid the combined end-point shown above?

1- 84

**2- 48**

3- 6

4- 2.1

5- 2

Q1718. After treatment with one of two antihypertension agents in a randomised controlled trial (50 patients per treatment group), the changes in diastolic blood pressure appear to be approximately symmetrically distributed within each treatment group. Which of the following statements is most appropriate for analysis of the trial data?

1- As the results may not be normally distributed, a non-parametric test for independent samples, such as the MannWhitney U-test, should be applied

2- As the results may not be normally distributed, a non-parametric test for paired samples, such as the Wilcoxon Signed Rank Sum Test, should be applied

3- A paired sample t-test should be applied to test the null hypothesis that both treatments produce the same mean reduction in diastolic blood pressure

**4- An independent sample t-test should be applied to test the null hypothesis that the same mean reduction in diastolic blood pressure occurs with each treatment**

5- The changes in blood pressure should be

Q1719. A phase 1 pharmacokinetic study is conducted to investigate whether a drug's plasma concentrations are related to weight. Subjects are given a single dose of the drug and plasma levels are measured 2 h later. What is the most appropriate statistical test to evaluate the results?

1- Paired t-test

2- Chi-squared test

3- Unpaired t-test

**4- Log regression analysis**

5- Pearson's correlation

Q1720. In a study of 100 normal males aged 40-49 years, the FEV1 levels were found to be approximately normally distributed with a mean value of 3.50 litres, and 95% confidence limits for the mean were calculated as 3.34- 3.66 litres. Which of the following statements is most accurate?

1- 5% of subjects will have FEV1 levels less than 3.34 l

2- 2.5% of subjects will have FEV1 levels less than 3.34 l

3- If another group of normal males of the same age was studied, the sample mean would have a 95% chance of being between 3.34 l and 3.66 l

4- The 95% confidence limits can be used to screen subjects for abnormal respiratory function

**5- The range of values 3.34-3.66 l exclude the**

Q1721. A group of 400 male asthmatics attending a hospital out-patient clinic had their forced vital capacity (FVC) assessed at the start and end of a 5-year period. The mean annual reduction in FVC was 60 ml and the standard error of the mean annual reduction in FVC was 4 ml. Which of the following statements is the most appropriate?

1- 95% of patients had reductions in FVC between 260 ml and 340 ml over a 5-year period

2- Almost all patients had a lower FVC at the end of the study, compared with their level at the beginning

**3- 95% confidence limits for the mean annual reduction in FVC are approximately 52 ml and 68 ml**

4- 95% confidence limits for the mean annual reduction in FVC are approximately 56 ml and 64 ml

5- Calculation of confidence intervals requires

Q1722. In a randomised controlled trial to compare two drugs (A and B) for the secondary prevention of myocardial infarction, in the first year there were five deaths in 100 patients treated with drug A and ten deaths in 100 patients treated with drug B. The results are reported as X2 = 1.15, P = 0.28. Which of the following statements is most appropriate?

1- There is a 28% probability that the death rate with drug A is lower at one year than the death rate with drug B

2- There is a 72% probability that the null hypothesis of equal drug effects is true

**3- The null hypothesis of equal drug effects has not been disproved**

4- The two drugs may be considered equivalent

5- A larger trial would have given statistically

Q1723. A randomised controlled trial has been conducted to evaluate fish-oil capsules against corn-oil capsules (as a control group) to determine the antihypertensive effects in a group of mild, untreated hypertensive patients. How are the results best summarised?

1- The significance level of a test to compare blood-pressure changes in the two treatment groups

2- Separate levels of significance for each treatment to evaluate whether the blood pressure has been significantly reduced in each case

3- Means and standard deviations for the blood pressures before treatment and after treatment in each of the treatment groups

**4- Mean and confidence interval for the difference in reduction in blood pressure between the two treatments**

5- Means and confidence intervals for the

Q1724. Which statement best describes a crossover trial?

1- Drugs with long-term effects are typically used

2- Each patient receives only one drug

**3- Each patient will usually receive all drugs within the study**

4- Patients are always blinded to which drug they are receiving

5- Self-limiting illnesses are easily studied

Q1725. A cross-over trial is being planned to compare the efficacy of two drugs in the treatment of rheumatoid arthritis. Which of the following design considerations should you adopt?

1- There should be a run-in period when the patient receives a placebo

2- The design should be simplified by avoiding randomisation as patients receive both treatments

3- A washout period, where the patient receives placebo, should take place between the administration of the two treatments

**4- If either drug is thought to be a diseasemodifier, plans to run a cross-over trial should be abandoned**

5- Only patients who will guarantee to

Q1726. You are drawing up a trial of a new screening test. If the threshold of the screening test is increased, which of the following would increase?

1- Sensitivity

2- Specificity

**3- Prevalence**

4- Negative predictive value

5- Positive predictive value

Q1727. A new glucose test is developed to detect diabetes. The test has sensitivity 80% and specificity 90%. The positive likelihood ratio is therefore 80/(100 - 90) = 8. One person in every 17 of those presenting to your clinic has diabetes (i.e. pretest odds = 1/16). For a person who enters your clinic and then tests positive on the new screening test, their post-test odds of having diabetes are which of the following?

**1- 50%**

2- 25%

3- 6.6%

4- 80%

5- 90%

Q1728. A group of 30 patients with asthma underwent treadmill tests on two occasions, four weeks apart. Before the first test, each patient was randomly allocated to receive either drug A (standard treatment) or drug B (new treatment); before the second test, each patient received the alternative drug. The distances walked in each test were found to follow an approximate normal/Gaussian distribution. What statistical significance test is best for comparing the effects of the two drugs?

1- The Fisher exact test

2- The Student unpaired t-test

**3- The Student paired t-test**

4- The Mann-Whitney U-test

5- The Wilcoxon test

Q1729. Two groups were recruited on the basis of their height at age 5-6 years. One group was chosen as 'short' and the other, of normal height, acted as controls. At approximately 12 years of age the intelligence quotient (IQ) of the children in both groups were measured and the results compared and the 'short' group had on average lower scores. The mean difference was 6.2 IQ points (95% confidence interval (4.1, 8.3), P < 0.01). Which of the following statements interprets the results most accurately?

**1- A difference in IQ as large as that observed (i.e. 6.2 IQ points) would have occurred by chance less than one time in 100 if short children at age 5-6 did not differ from the non-short population in terms of IQ at age 12**

2- Being short at age 5-6 years causes a significant reduction in intelligence at age 12

3- IQ is not significantly related to height

4- IQ must be non-normally distributed in these samples

5- No valid information can be gleaned from

Q1730. Short stature normal children are randomised to receive a new growth hormone or a placebo preparation. The percentage of individuals recording sideeffects (yes/no) in each group is to be compared. Which statistical test or technique is appropriate for this purpose?

**1- Chi-square**

2- Correlation analysis

3- Mann-Whitney U test

4- Regression analysis

5- Student's t-test

Q1731. Blood pressures are measured in a group of 25 children (ages 3-15). Regression analysis does not show a significant relationship between blood pressure and age (average increase in blood pressure per year of age = 10 mmHg, 95% confidence interval (- 40 to 60), P = 0.66). Which of the following should be concluded?

**1- A much larger study needs to be undertaken**

2- Age affects blood pressure

3- Blood pressure is completely unrelated to age

4- Blood pressure was not reliably measured in this group

5- Older children have higher blood pressures

Q1732. A linear regression analysis of data collected from a random sample of 200 normal healthy individuals found that, on average, a 20 kg increase in weight was associated with a 5 mmHg (95% confidence interval 2 to 8 mmHg) increase in systolic blood pressure (SBP). How should this finding be best interpreted?

**1- There is a statistically significant relationship between weight and SBP**

2- Only a small increase in SBP was associated with a large increase in weight, so a much bigger study is needed

3- A person who weighs 60 kg will have a SBP that is 10 mmHg lower than a person who weighs 100 kg

4- Losing weight will lower systolic blood pressure

5- The relationship between weight and SBP

Q1733. A new test is developed for the diagnosis of hepatitis C. Out of 10,000 tests 100 were positive using the gold standard method for diagnosing hepatitis C, whereas using the new method 150 tests were positive. What is the positive predictive value of the new test?

1- 25%

2- 30%

**3- 66%**

4- 150%

5- 50%

Q1734. A clinical psychologist carries out a large-scale study to measure anxiety levels in patients attending a hospital day-surgery unit. To help with the interpretation of the study findings, he recruits a group of control subjects from the orthopaedic clinic held on the same day each week as the day-surgery clinic. When the study has ended, he finds that the controls include a slightly greater proportion of men and are slightly older on average than the day-surgery patients; both age and sex are known to influence the anxiety scale he used. What would be the most appropriate method of comparing the anxiety levels of the two study groups?

1- A Mann-Whitney U-test

2- An unpaired Student's t-test

**3- Multiple linear regression**

4- A series of Pearson correlation coefficients

5- Nothing - the anxiety levels cannot be

Q1735. of dry nights was recorded in each of two 28-day periods of treatment. Which of the following strategies for analysis is the most appropriate?

1- Construct a contingency table with the number of dry nights forming the columns, and the treatments forming the rows, and apply a Chi-squared test

2- For each child, identify the treatment producing the greater number of dry nights, and apply an appropriate test of significance to test the null hypothesis that the proportion of ‘preferences' for each treatment is the same

**3- Apply a paired t-test if the differences in the number of dry nights are approximately symmetrical, otherwise apply a Wilcoxon Signed Rank Sum Test**

4- Apply a non-parametric test to compare the distribution of the number of dry nights for the two treatments

5- Calculate the correlation coefficient

Q1736. Several samples were randomly taken from a population for a study. Which of the following statements is correct regarding the sample means and the population mean for the variable under study?

1- The distribution of sample means will be negatively skewed if the variable is distributed in the population with a positive skew

2- The distribution of sample means will be positively skewed if the variable is distributed in the population with a positive skew

3- The mean of the sample means will be different to the population mean if the variable is not distributed normally in the population

**4- The distribution sample means will be normally distributed even if the population values are not normally distributed**

5- The standard error of the sample mean is

Q1737. Ultrasound scanning at 20 weeks was found to correctly detect 35 of the 50 babies ultimately diagnosed as having a congenital heart defect. However, five of the 500 babies born with no congenital defect were also recorded as problematic when screened. Which of the following is a correct statement of the properties of ultrasound scanning as a screening test for congenital heart defects?

1- Positive predictive value = 70%; negative predictive value = 99%

2- Positive predictive value = 70%; negative predictive value = 1%

**3- Sensitivity = 70%; specificity = 99%**

4- Sensitivity = 70%; specificity = 1%

5- No test properties can be estimated as

Q1738. Concern has been expressed that people who live near overhead electricity power cables are at increased risk of developing a cancer. What would be the best design for a study to investigate this concern?

1- A group comparative randomised controlled trial (RCT)

2- A cross-over RCT

**3- A retrospective case-control study**

4- A prospective cohort study

5- An observational survey

Q1739. In a trial of a new antihistamine drug, an extra 1 in every 5 patients treated (95% confidence interval: 1 in 3.3 to 1 in 10) were found to have reduced symptoms two weeks after commencing the drug, compared to placebo. The most correct interpretation of the results of this study is:

1- 5% of patients did not have reduced symptoms after 2 weeks on the new drug

2- The effect of the new drug is not significantly different from placebo

**3- We can be 95% certain that between 10% and 30% of patients will benefit from the new drug**

4- The ‘number needed to treat' (NNT) statistic presented is inappropriate for this type of study

5- The statistical significance of this result

Q1740. A letter published in a journal suggests an established antidepressant may cause photosensitivity. The manufacturer wishes to determine as rapidly as possible whether this a true association. Which one of following techniques is most appropriate?

1- Case-control study

2- Dose-ranging study

3- Double-blind, randomised, placebocontrolled study

**4- Meta-analysis**

5- Sequential trial

Q1741. Which of the following most accurately reflects information from postmarketing surveillance of 10 000 patients given a new drug?

**1- Adverse events profile**

2- Cost-benefit analysis

3- Cost-effectiveness

4- Comparative therapeutic efficacy

5- Drug potency

Q1742. A large-scale national study into the stature of schoolchildren concludes that there is a relationship between the heights of siblings, in that tall boys tend to have tall sisters (r = +0.27, P < 0.010). We can conclude from this study that:

1- 27% of girls were actually taller than their brothers

2- The value of the correlation coefficient is too small to be statistically significant - a larger study is needed

3- Height is genetically determined

4- The sisters of tall boys are very much taller than the sisters of short boys

**5- There is a numerically small but statistically**

Q1743. An oncologist has gained the impression that many women diagnosed as having breast cancer also have high levels of work-related stress. What type of design would be best to test this possible association?

1- Group comparative, randomised controlled trial

2- Cross-over, randomised cross-over trial

3- Prospective cohort study

**4- Retrospective case-control study**

5- Prospective observational study

Q1744. What does the p-value refer to?

1- The probability that the null hypothesis is true

2- The probability that the alternative hypothesis is true

3- The probability of having incorrectly rejected the null hypothesis

**4- The probability of obtaining the observed results or results which are more extreme if the null hypothesis is true**

5- A value that is always less than 0.05

Q1745. Which of the following statements best describes the standard deviation?

1- It is derived from the p value

2- It is derived from the (variance) 2

3- It is a measure of how close the sample mean is to the population mean

**4- It is a measure of the spread of the sample distribution**

5- Its numerical value is 1.96

Q1746. Which is the most characteristic feature of an ogive?

1- The first percentile has 99% of the observations in the ordered set below it

2- The first decile is equal to the 90th percentile and has 10% of the observations in the ordered set below it

3- The mean is equal to the 50th percentile

4- The range is the difference between the 1st and 99th percentiles

**5- The interquartile range lies between the**

Q1747. Which of the following describes the standard deviation of a set of observations?

1- It is a measure of the peak values of the data

**2- It is the square root of the variance**

3- It is a measure of spread, which is equal to the range

4- It is not affected by outliers

5- It is an appropriate measure of spread for

Q1748. ?

1- Always lies between zero and one

**2- Is always positive**

3- Measures the increased (or decreased) risk of the factor when the individual has the disease

4- Measures the risk of the disease in the population

5- Takes the value zero when the risk is

Q1749. In a parallel group trial, which of the following claims for randomisation is the most appropriate?

1- It guarantees that all variables are well balanced across the treatment groups prior to treatment

2- Any differences in response found between the treatment groups must be due to the treatments rather than chance

**3- It prevents systematic differences between the treatment groups at baseline**

4- It results in a simplified analysis of the trial

5- It ensures that an equal number of patients

Q1750. In a small double-blind study of pain following dental surgery, patients are randomly allocated to receive either an analgesic tablet or a matching placebo tablet 1 hour preoperatively. All patients were asked to rate their pain at 4 hours after surgery using the following scale: 0 = nil, 1 = mild, 2 = moderate, 3 = severe. What is the best statistical test for analysing the results of this study?

1- Chi-square test

2- One-way analysis of variance

**3- Mann-Whitney U-test**

4- Fisher exact test

5- Unpaired Student t-test

Q1751. Which of the following is a characteristic of confidence intervals?

1- The intervals are smaller with a smaller sample size

2- They indicate the presence or otherwise of a statistical difference between two groups

**3- A 95% confidence interval means that there is only a 5% chance that the true mean value for the variable lies outside the ranges quoted**

4- In an odds ratio, if the 95% confidence interval includes unity, then this indicates a significant difference

5- The narrower the confidence interval, the

Q1752. of patients needed to give the study adequate power. All patients were followed up either to re-infarction or to the end of the study. The proportions of patients with reinfarctions were 12% and 16% for treatments A and B, respectively. Which of the following methods is best for analysing the results from this study?

1- Chi-square test of re-infarction proportions

**2- Cox proportional hazards regression**

3- Mann-Whitney U-test of median times to re-infarction

4- Unpaired t-test of mean times to reinfarction

5- Logistic regression

Q1753. Treatment X is licensed as an effective treatment for lung cancer. The pharmaceutical company that markets treatment X believes it has a beneficial effect on quality of life. Before embarking on a fullscale randomised controlled trial, the company tested its hypothesis in an open study restricted just to patients prescribed treatment X. Each patient completed a validated quality-of-life scale at the start of treatment and then 12 months later. The scale gives integer values between 0 and 50; scores above 30 are considered to be desirable. Which of the following methods is best for presenting the results from this study?

1- Change in the proportion of patients with scores above the desired cut-off level, with its 95% confidence limits

2- Chi-square test and p-value for pre- and post-study proportions above the desired cut-off level

**3- Average change in scale scores, with its 95% confidence limits**

4- Mean scores at the start and end of the treatment period, with their standard deviations

5- Unpaired t-test statistic and p-value only

Q1754. A team of consultants has identified a set of 10 clinical symptoms they believe may help an insurance company predict how long a person will be off work after suffering whiplash injury in a car accident. Each symptom is assessed separately as 0 = absent, 1 = present. To determine exactly how useful these 10 symptoms are, 200 patients with whiplash injuries were assessed within 7 days of their accident and then followed up until all had returned to work. Which of the following methods is best for analysing the results from this study?

**1- Multiple linear regression**

2- Series of one-way analyses of variance, with time off work as the outcome (dependent) variable and each symptom in turn as the predictor (independent) variable

3- Paired t-test comparing time off work with total symptom score

4- Pearson correlation coefficient of total symptom score against time off work

5- Spearman correlation coefficient of total

Q1755. An unpaired t-test is used to compare the mean height in two populations. A random sample is taken from each population and the difference in sample means is 10 cm, with a 95% confidence interval from -2 cm to 22 cm. If the true means in the two populations are 150 cm and 165 cm, which one of the following statements is correct?

1- The test shows we can be 95% sure there is a difference

2- There is no difference in height between the two populations

3- A type-1 error has occurred

**4- A type-2 error has occurred**

5- A paired t-test should have been used

Q1756. What is the type-1 error most closely related to?

1- Correlation coefficient

**2- The p value**

3- Positive predictive value

4- Standard deviation

5- Standard error of the mean

Q1757. , which of the following statements is most applicable?

1- The median and mean do not differ even when the population distribution is skewed

2- Mean refers to the value that occurs with the highest frequency

**3- The value of ‘r' (coefficient of variation) ranges from -1 to +1**

4- Incidence is defined as the number of cases seen in the population at any given time

5- The probability that a given result could

Q1758. In the design of a randomised controlled trial, to what does the 'power of the study' refer?

1- The size of treatment difference that the trial can be expected to detect

2- The probability of rejecting the null hypothesis that the treatments have the same effect

3- The chance that a clinically significant difference will be observed

4- The probability of a type-2 error

**5- The probability of a statistically significant**

Q1759. In a positively skewed distribution:

1- Mean increases, median remains the same, mode increases

2- Mean remains the same, median remains the same, mode increases

3- Mean increases, median increases, mode increases

4- Mean remains the same, median remains the same, mode remains the same

**5- Mean increases, median increases, mode**

Q1760. In an observational study of 200 patients with asthma, forced vital capacity (FVC) was measured at the start and end of a 5-year period. Potential predictors of a change in FVC were recorded at the start of the 5-year period. A correlation coefficient of 0.3 (P < 0.05) was reported for the correlation of asthma duration and change in FVC after 5 years. Which of the following is the most appropriate conclusion?

1- Increasing duration of asthma causes a greater rate of loss of lung function

2- Duration of asthma does not have a significant effect on rate of change in lung function

**3- Greater rate of decline in lung function is significantly associated with a shorter duration of asthma**

4- Bigger rates of reduction in FVC tend to be seen in patients with a longer duration of asthma

5- Because of possible confounding, no

Q1761. In a cross-sectional study of 600 children, mental ability scores were calculated from a standardised test. The correlation between lead in their blood and their ability score was reported as r = -0.05, P < 0.05. What does this show?

1- Extra patients should be recruited and randomised to the treatments in such a way that a balance in mean age is achieved

**2- Higher levels of lead in the blood are associated with lower ability scores**

3- The association between lead in the blood and ability score is likely to be due to chance

4- The null hypothesis for the significance test is that lead in the blood is associated with lower ability scores

5- The probability that lead in the blood

Q1762. In a randomised, controlled, parallel group trial to compare two treatments for lowering blood pressure, comparison of the mean ages at the time of randomisation shows an average difference of 3 years between the two treatments. A t-test shows that the difference is highly significant (P < 0.01).

1- This should be ignored as we know the allocation to treatment was at randomisation

**2- An analysis should be undertaken to see if the imbalance alters the conclusions of the trial**

3- The validity of the trial is compromised

4- The patients should have been stratified by age when undertaking the randomisation

5- Extra patients should be recruited and

Q1763. In a randomised controlled trial of treatments for heart failure in which the primary end-point is death, which is the most important of the following?

**1- To have an independent Data Monitoring Committee to review the data as it accumulates**

2- For the trial statistician to examine the data whenever a death occurs and stop the trial as soon as the log rank test shows P < 0.05

3- To have a clearly defined set of rules for a sequential analysis of the data, and only to stop the trial if it is indicated by this analysis

4- The Trial Steering Committee should be kept aware of the results throughout the trial

5- To ensure that all patients have a minimum

Q1764. In a group of 80 subjects, measurements of diastolic blood pressure (DBP) are found to be approximately normally distributed with a mean of 74 mmHg and a standard deviation of 6 mmHg. Which of the following statements is most likely to be true?

1- Approximately 40 subjects will have DBP levels between 68 mmHg and 80 mmHg

2- There will be 40 subjects with measured DBP levels higher than 74 mmHg and 40 patients with measured levels lower than 74 mmHg

**3- Approximately 13 subjects will have a measured DBP level that is less than 68 mmHg and 2 will have a BP which is above 86 mmHg**

4- Nobody will have a DBP level of 90 mmHg or higher

5- Approximately 27 subjects will have

Q1765. Which of the following is a characteristic of sampling?

**1- A sample statistic is a point estimate of a population parameter**

2- Sampling error arises when we transcribe data incorrectly

3- No criteria for sample selection are involved in random sampling

4- For a set of observations, the standard deviation is always less than the standard error of the mean

5- The inferential process involves drawing

Q1766. Which of the following best describes a positively skewed distribution?

1- Mean, median and mode lie at the same point

2- Mean lies to the left of the mode

3- Mean lies to the left of the median

4- Mean is left-most

**5- Mean is right-most**

Q1767. Regarding statistical definitions, which of the following statements is true?

1- Null hypothesis describes the probability that a relationship exists between two samples

**2- Analytical statistics are the same as inferential statistics**

3- Descriptive statistics do not provide mean values from data

4- The mode is the measurement that lies exactly between each end of a range of values ranked in order

5- Skewed data invalidates further statistical

Q1768. If the prevalence of Rett syndrome is 1 per 10,000 and a genetic screening test applied in infancy has a sensitivity of 90% and a specificity of 99.99%, then

**1- The positive predictive value is less than 50% and the negative predictive value is greater than 99.99%**

2- The positive predictive value is less than 50% and the negative predictive value is less than 99.99%

3- The positive predictive value is greater than 50% and the negative predictive value is greater than 99.99%

4- The positive predictive value is greater than 50% and the negative predictive value is less than 99.99%

5- The positive predictive value and the

Q1769. If two new screening tests for colon cancer and for pancreatic cancer are introduced, both of the tests have the same sensitivity and specificity, and they are applied to the general population aged between 55 and 69 years, then which of the following statements would best apply?

1- Both tests will have the same positive predictive value, and both tests will have the same negative predictive value

2- The positive predictive value for the colon cancer test will be higher and the negative predictive value for the colon test will be higher

**3- The positive predictive value for the colon cancer test will be higher and the negative predictive value for the pancreatic test will be higher**

4- The positive predictive value for the pancreatic cancer test will be higher and the negative predictive value for the pancreatic cancer test will be higher

5- The positive predictive value for the

Q1770. , the age of the patient, the centre at which the patient is treated and the baseline level of lung function. In the Statistical Analysis Plan it is most important that?

**1- The trial is analysed by an analysis of covariance that incorporates only the variables specified above**

2- The trial is analysed by an analysis of covariance that includes all variables that are statistically significant at the 5% level

3- The changes in lung function are analysed using the unpaired Student t-test

4- Subgroup analyses are performed for all the variables expected to affect the change in lung function

5- Lung function measurements are

Q1771. Regarding definitions of true- and false-positive and -negative rates, which of the following is true?

1- The true-positive rate is the same as specificity

**2- The false-negative rate is calculated as (1 - sensitivity)**

3- A perfect test would have a sensitivity of at least 70%

4- The false-positive rate is calculated as (false-positive/[true-positive + falsepositive])

5- The true-negative rate is (1 - false-negative

Q1772. The results of a statistical study were expressed as follows: R = +0.67, p < 0.1 > 0.05. Which of the following options applies?

**1- A negative R-value indicates an inverse association**

2- R stands for standard coefficient

3- A positive R-value indicates lack of association

4- This study indicates there is a strong association

5- p < 0.1 > 0.05 is significant

Q1773. In an age-/sex-matched, casecontrol study, 20 children with chronic asthma were compared with 20 controls from the same general practice. Their birthweights were compared using a paired t-test. This showed that the controls were 150 g heavier with a standard error of 100 g. Which is the most appropriate conclusion?

1- A lower birthweight causes an increased incidence of asthma

2- Birthweight is not associated with the subsequent development of asthma

3- There is a statistically significant association (P < 0.05) between low birthweight and the development of asthma

**4- There is insufficient evidence to conclude whether or not birthweight affects the development of asthma**

5- The study design is inappropriate

Q1774. A clinical trial was designed to compare the use of a heater probe plus injection of thrombin versus the use of a heater probe plus placebo injection into the bleeding sites of haemorrhagic gastric ulcers. Results showed 16 out of 127 patients required emergency surgery in the thrombin arm, and 13 out of 120 patients required emergency surgery in the placebo arm. An appropriate analysis would use which of the following?

1- McNemar's test

2- An unpaired t-test

3- Analysis of covariance

**4- Chi-square test**

5- Log-rank test

Q1775. An observational study of immunoglobulin G (IgG) levels was carried in human immunodeficiency virus (HIV)- and non-HIV-infected individuals. The two large groups studied were similar with respect to age and sex; there are no other potential confounding factors that need to be corrected for. The IgG levels recorded had a positively skewed distribution. What statistical significance test is best for comparing the average IgG levels of the two groups?

1- The Chi-square test (contingency table analysis)

2- The Student unpaired t-test

**3- The Mann-Whitney U-test**

4- The Spearman correlation coefficient

5- Multiple regression analysis

Q1776. Anaesthetic recovery time was recorded for 100 consecutive patients undergoing the same surgical procedure. Mean and median times for the procedure were 40 and 65 minutes respectively; the standard deviation was 50 and the range 95 (20 to115 minutes). What is the best way of summarising these data for a paper to a medical journal?

1- Mean = 40; standard deviation = 50

2- Mean = 40; standard error = 5

3- Mean = 40; range = 20 to 115

4- Median = 65; standard deviation = 50

**5- Median = 65; range = 20 to 115**

Q1777. Which of the following statements best describes a type-2 error?

1- Risk of a false-positive result

2- Alpha error

3- Risk of detecting a treatment difference when there is none

**4- Risk of not detecting a significant difference when there is one**

5- None of the above

Q1778. Which of the following observations is very sensitive to extreme scores in a distribution?

**1- Mean**

2- Median

3- Mode

4- 50th centile

5- All are equally affected

Q1779. In a sample from a normal distribution, what statistic best describes the precision with which the population mean can be estimated?

1- Coefficient of variation

2- Skewness

3- Standard deviation

**4- Standard error**

5- Variance

Q1780. of basal-cell or squamous-cell carcinomas of the skin, the primary outcome measure is the incidence of basal-cell or squamous-cell carcinomas at 1 year. Which of the following tests is most appropriate to assess this outcome?

1- Analysis of variance

**2- Chi-squared test**

3- Mann-Whitney U-test

4- McNemar test

5- Student's t-test

Q1781. You are deciding on additional treatment for a 22-year-old man who has continuing asthma symptoms on 500 m g/day of inhaled fluticasone dipropionate. When reviewing available papers on asthma management, which of the following represents the best grade of evidence?

**1- A randomised double-blind trial of increased inhaled steroid versus the addition of long-acting b-agonist therapy**

2- An open-label study of increased inhaled steroid therapy

3- A consensus statement from a group of experts

4- A retrospective chart analysis

5- An observational study

Q1782. Response to call, time to visit, prescribing and hospital admissions were recorded for 2152 patients who requested out-of-hours care from 49 practice doctors and 183 deputising doctors. For patients visited at home, the mean and median times to arrival for practice doctors were 55.4 and 35 minutes respectively (range = 102 minutes). Times to arrival are which of the following?

1- Binary

2- Downwardly (negatively) skewed

3- Normally distributed

**4- Upwardly (positively) skewed**

5- Valid measurements of patient care

Q1783. volume in 1 second (FEV1) levels were measured in 1000 individuals selected at random from the general population. FEV1 levels were found to follow a normal/Gaussian distribution with mean of 3.50 l and standard deviation of 0.75 l (standard error 0.02). If the 'normal range' for a population is defined as being the central 95% of individuals around the mean value, then the 'normal range' for FEV1 is:

1- Mean ± 1 standard error (i.e. 3.48 to 3.52 litres)

2- Mean ± 2 standard errors (i.e. 3.46 to 3.54 litres)

3- Mean ± 1 standard deviation (i.e. 2.75 to 4.25 litres)

**4- Mean ± 2 standard deviations (i.e. 2.00 to 5.00 litres)**

5- Mean ± 3 standard deviations (i.e. 1.25 to

Q1784. Concern has been expressed that low birthweight (LBW) children have impaired motor skills when starting school. To test this hypothesis, motor development index (MDI) was measured in 30 LBW and 30 normal birthweight children, all of whom were aged 5 years. The results of this study are best summarised by:

1- Mean and 95% confidence interval for each group separately

**2- Mean difference between the two groups and its 95% confidence interval**

3- Mean and standard error for each group separately

4- Difference between the two groups and its standard error

5- Mean and standard deviation for each

Q1785. The birthweights of 100 babies born to drug-abusing mothers were summarised as follows: mean = 2500 g, standard deviation = 500 g. Which stem best describes the (approximate) 95% confidence interval for the mean birthweight?

1- Mean ± 1 standard deviation (i.e. 2000 to 3000 g)

2- Mean ± 2 standard deviations (i.e. 1500 to 3500 g)

3- Mean ± 1 standard error (i.e. 2450 to 2550 g)

**4- Mean ± 2 standard errors (i.e. 2400 to 2600 g)**

5- The 95% confidence interval cannot be

Q1786. In a group of children the heights are normally distributed. 1 in 40 of the children is shorter than 50 cm and 1 in 40 is taller than 70 cm. Which of the following statements best describes the statistics which describe their heights?

1- Mean height = 50 cm, median = 70 cm, standard deviation = 10 cm

2- Mean height = 60 cm, median = 60 cm, standard deviation = 10 cm

3- Mean height = 50 cm, median = 50 cm, standard deviation = 5 cm

4- Mean height =70 cm, median = 60 cm, standard deviation = 1 cm

**5- Mean height =60 cm, median = 60 cm,**

Q1787. How is the power of a statistical test best defined?

1- The probability of not rejecting the null hypothesis when it is false

2- The probability of not rejecting the null hypothesis when it is true

3- The probability of obtaining a statistically significant result

**4- The probability of rejecting the null hypothesis when it is false**

5- The probability of rejecting the null

Q1788. A group of patients have their albumin levels measured at hospital admission and again 3 weeks into their hospital stay. Which one of the following statistical tests is most appropriate to test the hypothesis that the albumin levels have changed?

1- Chi-squared test

2- Independent samples t-test

3- Linear regression

4- One-way analysis of variance

**5- Paired samples t-test**

Q1789. The total cost to the NHS of two treatments for cholecystectomy are to be compared in the setting of a randomised controlled trial. A total of 40 patients have received each treatment. The distribution of the costs is seen to be strongly positively skewed. Which of the following is the preferred method of analysis to assess whether average costs differ significantly?

1- A paired t-test

**2- An independent samples t-test**

3- An independent samples t-test applied to the logarithms of the costs

4- A Wilcoxon Signed Ranks Sum Test

5- A Mann-Whitney U-test

Q1790. In a prospective clinical trial, 140 patients with hepatitis were randomly allocated to receive either a new drug or conventional treatment; the patients were followed up for between 3 and 5 years. When evaluating the study results, a Chisquare test can be used to compare the two groups with respect to:

**1- The proportions of patients who died within three years of starting their treatment**

2- The proportions of patients who died within five years of starting their treatment

3- The proportions of patients who had died when the study was terminated

4- Median survival times

5- Mean survival times

Q1791. is 10 per 1000 population, on average what proportion of those that test positive will truly have the disease?

**1- 1/11**

2- 1/10

3- 1/2

4- 9/10

5- 99/109

Q1792. A new drug is being developed to treat COPD. It has been found to be safe in healthy volunteers, and seems effective in small-scale trials in patients. The effects of the drug are short-lived when it is withdrawn. What is the most appropriate design for the next phase of trials?

1- Case-control study

2- Cohort study

**3- Double-blind crossover RCT**

4- Double-blind parallel groups RCT

5- Open-label parallel groups RCT

Q1793. If screening for breast cancer by mammography has a sensitivity of 75% and a specificity of 95% in a certain population, what is the positive predictive value?

1- 1/16

2- 5/24

3- 19/24

4- 15/16

**5- There is not enough information to**

Q1794. Which one of the following statements concerning the distribution curve is accurate?

1- The mode is the sum of all the scores divided by the number of scores

2- The mean is a good measure of central tendency in skewed distributions

**3- The mean is higher than the median in positively skewed distributions**

4- When there is an even number of numbers, the mode is the mean of the two middle numbers

5- In any given distributions there is only one

Q1795. A trial was conducted to look for coagulation abnormalities in patients with tuberculosis. Serum fibrinogen levels were taken as a criterion to diagnose coagulation abnormalities. The subjects were divided into three groups - those without tuberculosis, those with pulmonary tuberculosis and those with disseminated fulminant tuberculosis. The mean fibrinogen level was calculated for each group of patients and compared for significant difference between the groups. Which of the following tests would be ideal for this measurement?

1- Chi-square test

2- Student's t test

3- Regression analysis

**4- ANOVA**

5- Pearson test

Q1796. in the group who smoke is 0.25. This means which one of the following:

1- Smoking causes disease

2- For every 4 who smoke, 1 has the disease

**3- For every 5 who smoke, 1 has the disease**

4- The disease occurs 4 times more often in those who smoke

5- A larger sample is needed

Q1797. A study is designed to assess the safety of recombinant human erythropoietin (rhEPO) when used in premature infants of less than 33 weeks gestation to reduce postnatal haemoglobin decline. Out of 31 infants given the treatment none suffered serious side-effects. What should be concluded from this study?

1- rhEPO is safe

2- rhEPO is safe when used in dosages used in this study

**3- Nothing conclusive can be said, a larger study is needed**

4- rhEPO does not cause serious side-effects when used in moderate doses

5- Premature infants of less than 33 weeks

Q1798. Blood pressure is normally distributed. For a sample of 100 Asian women the average blood pressure is 50, standard deviation = 5, standard error = 1/2. Which one of the following statements is correct?

1- Approximately 95% of Asian women have blood pressures in the range (45,55)

**2- We are approximately 95% confident that the population average blood pressure for Asian women lies in the interval (49, 51)**

3- Blood pressure measurement in Asian women is not informative

4- 10% of Asian women have blood pressure below 40 mmHg

5- The mean blood pressure of Asian women

Q1799. In an RCT, 1000 patients were randomised to receive either an active drug or a placebo. Of the 500 randomised to placebo, 20 received the active drug. Of the 500 randomised to the active drug, 10 did not receive the treatment. The results are to be analysed on an 'intention to treat' basis. What is the final sample size in each arm in the analysis?

1- 510 treatment, 490 placebo

2- 510 treatment, 480 placebo

**3- 500 treatment, 500 placebo**

4- 490 treatment, 500 placebo

5- 490 treatment, 480 placebo

Q1800. A study is being planned to investigate the efficacy of antibiotics to reduce urinary catheter-associated sepsis in elderly male patients who are at risk of pressure sores. What study design is most appropriate?

**1- Double-blind, placebo-controlled, randomised controlled trial (RCT)**

2- Open-label, RCT comparing antibiotics with no antibiotics

3- Prospective audit of antibiotic use and patient outcomes

4- Retrospective audit of patient notes

5- Unblinded, pragmatic RCT comparing the

Q1801. A study is being planned to investigate the effect of environmental exposure to pesticides on the incidence of cancer. Which of the following study designs is most appropriate?

**1- Case-control study**

2- Case series

3- Cohort study

4- Cross-sectional survey

5- Randomised controlled trial

Q1802. of episodes of PDassociated peritonitis is associated with decreased time to failure of the peritoneal membrane. Which of the following procedures is appropriate for analysing the results?

1- F-test

2- Kruskal-Wallis test

3- One-sample t-test

4- One-way analysis of variance (ANOVA)

**5- Spearman's rank correlation**

Q1803. Patients presenting with a sudden onset of severe occipital headache have a 10% chance of having had a subarachnoid haemorrhage (SAH). If a computed tomography (CT) scan has 90% sensitivity for detecting SAH, lumbar puncture (LP) following a negative CT has 99% sensitivity and both have perfect specificity, then what is the probability that a patient who tests negative on both CT and LP has had an SAH?

1- 1/91

2- 1/901

**3- 1/9001**

4- 1/91 + 1/901

Q1804. Clinically obese patients are randomised to receive either intensive dietician follow-up or normal treatment. Which of the following tests is appropriate to test whether the mean weight loss is different between the two groups?

1- Analysis of variance

2- F-test

**3- Independent samples' t-test**

4- Paired samples' t-test

5- Z-test

Q1805. In a sample of 64 patients admitted to an intensive care unit, the mean APACHE II illness severity score was 14 with variance 16. Which of the following is an approximate 95% confidence interval for the mean score?

1- 6 to 22

2- 10 to 18

**3- 13 to 15**

4- 13.5 to 14.5

5- 13.75 to 14.25

Q1806. Which one of the following groups is arranged as nominal scale data?

**1- Hot/cold**

2- Hot/hotter/hottest

3- 81-90/91-100/101-110°C

4- 271-280/281-290/291-300 kelvin

5- None

Q1807. The average weight of a group of 100 patients is 60 kg, standard deviation 5 kg. Weights are normally distributed. The standard error of the weights is which one of the following?

1- 12 kg

2- 0.6 kg

3- 5 kg

4- Larger than the standard deviation

**5- Smaller than the standard deviation**

Q1808. A study seeks to find an association between increasing perceptions of pain (ranked on a scale of 1-10) and increasing heart rate. Which of the following measures is most appropriate?

1- Analysis of variance

2- Chi-squared test

3- Pearson's correlation coefficient

4- Product moment correlation coefficient

**5- Spearman's rank correlation coefficient**

Q1809. In a study of hypertension, systolic blood pressure measurements are found to be approximately normally distributed with a mean 150 mmHg and variance 100. Which of the following statements is correct?

**1- Approximately 95% of measurements in this population lie between 130 and 170 mmHg**

2- Half of the patients had a systolic blood pressure below 100 mmHg

3- The difference between the highest and lowest measurements was 100 mmHg

4- The distribution of blood pressure measurements is skewed

5- We can be 95% confident that the mean of

Q1810. A randomised controlled trial compared recurrence rates for patients receiving a new drug compared to the standard treatment. The relative risk of recurrence for the experimental group compared to the control group was 0.9 with a 95% confidence interval of 0.7-1.1. How should these results be interpreted?

**1- Recurrence rates with the new drug were consistent (with 95% confidence) with anywhere between a 30% decrease and a 10% increase compared to the standard treatment**

2- Recurrence was significantly higher (at the 5% level) in patients receiving the new drug compared to the standard treatment

3- Recurrence was significantly lower (at the 5% level) in patients receiving the new drug compared to the standard treatment

4- The difference between the treatments was too small to be of any clinical importance

5- There was no difference between the

Q1811. In a trial of a new cancer drug, the mortality in the control arm was 12.5% and the relative risk for patients receiving the new treatment was 0.8. How many patients must be treated with the new drug to save one life?

1- 8

2- 10

3- 25

**4- 40**

5- 80

Q1812. Cholesterol is measured in populations from Britain, Finland, Japan and the USA, and the four groups are compared using a one-way analysis of variance (anova). Which of the following graphical methods could best be used to illustrate the results?

1- Bar graph showing the mean cholesterol level of each group

2- Box plot showing the median, quartiles and range for each group

3- Four histograms showing the distribution of cholesterol within each group

**4- Plot of the mean cholesterol level with a 95% confidence interval for each group**

5- Scatter plot of cholesterol level against

Q1813. A patient is admitted with a suspected DVT. The patient has a high clinical score giving a pretest probability for DVT of 2/5 (40%). If a clinical test has a sensitivity of 90% and a specificity of 80% to detect DVT, what is the post-test probability for this patient if the test is negative?

1- 1/25

2- 1/15

**3- 1/13**

4- 1/12

5- 8/25

Q1814. Admissions to a medical admissions unit were audited for a period of 1 week. For 225 admissions, the mean length of time to see a doctor was 2.5 hours (standard deviation 1.5 h), and the median time to see a doctor was 1.5 h. Which of the following statements is correct?

1- A 95% confidence interval for the mean time to see a doctor is 2.4-2.6 h

2- Half of all patients waited at least 2.5 h to see a doctor

3- 95% of patients were seen by a doctor within 5.5 h

4- The distribution of the time to see a doctor was approximately normal

**5- The distribution of the time to see a doctor**

Q1815. In a randomised controlled trial of a new treatment for preventing recurrence of stroke, 1000 patients are randomised to the new treatment and 1000 to standard therapy. A total of 66 patients receiving the new treatment suffered recurrent stroke, compared to 110 in the control arm. What was the relative risk reduction?

1- 4.4%

2- 6.6%

3- 11%

**4- 40%**

5- 60%

Q1816. Which of the following types of studies have the greatest problems with recall bias?

**1- Case-control studies**

2- Cohort studies

3- Crossover trials

4- Randomised controlled trials

5- Systematic reviews

Q1817. In 200 consecutive patients attending a diabetic out-patients clinic, 27 are found to have diabetic retinopathy. Which of the following statements is correct?

1- The incidence of diabetic retinopathy in diabetics in the UK is 13.5%

2- The incidence of diabetic retinopathy in this population was 13.5%

3- The prevalence of diabetic retinopathy in diabetics in the UK is 13.5%

**4- The prevalence of diabetic retinopathy in this population was 13.5%**

5- This study does not provide any

Q1818. A study is undertaken to investigate the impact of simple hygiene measures on the rates of MRSA contamination of doctors' tourniquets. A random sample of tourniquets is swabbed before the intervention, and a second random sample is tested after the intervention. The results are presented in a 22—أ contingency table, and the reduction in MRSA contamination rates is tested with a Chi-squared test. The result of the Chisquared test is reported as 'C2 = 4.8, p = 0.03'. What does 'p = 0.03' mean?

1- 3% of doctors' tourniquets are contaminated with MRSA

2- If the experiment were to be repeated 100 times, this result would be found at least 3 times

**3- The probability that a difference of this magnitude would have occurred by chance is 3%**

4- The probability that this intervention has reduced the contamination rate is 3%

5- The rate of contamination has been

Q1819. A new smoking-cessation therapy is found to increase quality-adjusted life years (QALYs) compared to standard therapy by an average of 1.2 QALYs at a cost of £35,000 per QALY gained. Which of the following conclusions can be drawn from this information?

1- An additional 1.2 lives per year could be saved if the government invested £35,000 in funding this therapy

2- Patients receiving the new therapy lived an average of 1.2 years longer than those who did not

3- The new therapy improved smokers' quality of life

4- The new therapy is cost-effective

**5- To decide whether the new therapy is costeffective requires a value judgement**

Q1820. In an audit of hospital episode statistics, length of hospital stay for acute medical admissions is found to be highly positively skewed with a median of 4 days and an interquartile range of 2-10 days. Which of the following statements is correct?

1- 25% of patients stayed between 2 and 10 days

**2- 50% of patients stayed between 2 and 10 days**

3- 90% of patients stayed between 2 and 10 days

4- 95% of patients stayed between 2 and 10 days

5- All patients stayed between 2 and 10 days

Q1821. A study of hospital admissions reports a product moment correlation coefficient between age and length of hospital stay of R = 0.76 with a 95% confidence interval of 0.67-0.85. How should these results be interpreted?

1- Inadequate provision of nursing homes prevents the discharge of older patients

**2- Older age was significantly associated with a longer length of stay**

3- Older patients are sicker and require longer stays in hospital

4- Older patients die more quickly leading to shorter hospital stays

5- There was no significant relationship

Q1822. A study measures the reduction in Hb A1c in patients with type-2 diabetes randomised to receive either a new drug or standard therapy. Which of the following tests is most appropriate to test the hypothesis that the mean Hb A1c reduction is different in the two groups?

1- Mann-Whitney U-test

2- McNemar's test

3- Paired t-test

**4- Unpaired t-test**

5- Wilcoxon signed-rank test

Q1823. In an audit of renal biopsies, there were 17 complications in 54 biopsies performed by consultants (31%) and 6 complications in 49 biopsies performed by registrars (12%). The complication rates are compared using a Chi-squared test, reported as 'X 2 = 5.5, p = 0.02'. How should these results be interpreted?

1- In a given biopsy in the future, a complication is significantly more likely to occur if it is performed by a consultant

2- In a given biopsy in the future, a complication is significantly more likely to occur if it is performed by a registrar

**3- We cannot draw any conclusion on complication rates in future biopsies as consultants may have performed more difficult biopsies in the audit**

4- We cannot draw any conclusion on complication rates in future biopsies as no information has been given regarding the nature of the complications

5- We cannot draw any conclusion on

Q1824. s of reported cases of leptospirosis in the USA over the 10- year period from 1985 to 1994 were: 57, 41, 43, 54, 93, 77, 58, 54, 51, 38. What was the mean, median and modal number of cases per year?

1- Mean = 54, median = 54, mode = 54

2- Mean = 54, median = 85, mode = 93

**3- Mean = 56.6, median = 54, mode = 54**

4- Mean = 56.6, median = 54, mode = 93

5- Mean = 56.6, median = 85, mode = 93

Q1825. outpatients' clinic with atopic dermatitis are assessed with the six area, six sign, atopic dermatitis (SASSAD) score. The mean SASSAD score is found to be 28 with a 95% confidence interval of 26.5 to 29.5. Which of the following statements best describes the interpretation of the 95% confidence interval?

1- 95% of the entire UK adult population will have an SASSAD score between 26.5 and 29.5

2- 95% of patients in this population have an SASSAD score between 26.5 and 29.5

3- 95% of the patients in the sample of 23 had an SASSAD score between 26.5 and 29.5

4- We are 95% confident that the mean SASSAD score in the UK adult population is between 26.5 and 29.5

**5- We are 95% confident that the mean**

Q1826. A study is investigating the relationship between body mass index and systolic blood pressure in a group of individuals. Which of the following graphical methods would best illustrate the results?

1- Bar chart

2- Box and whisker plot

3- Histogram

4- Pie chart

**5- Scatter plot**

Q1827. A group of patients attending an outpatients clinic have their systolic blood pressure measured before and after their appointment, and are asked to grade their satisfaction with the appointment. The variables recorded are: (i) sex, (ii) initial blood pressure, (iii) end blood pressure and (iv) satisfaction rating (graded A for satisfied, B for neutral and C for dissatisfied). What are the scales of measurement of each of these different variables?

**1- (i) Nominal, (ii) continuous, (iii) continuous, (iv) ordinal**

2- (i) Nominal, (ii) continuous, (iii) ordinal, (iv) nominal

3- (i) Nominal, (ii) ordinal, (iii) ordinal, (iv) ordinal

4- (i) Ordinal, (ii) continuous, (iii) ordinal, (iv) continuous

5- (i) Ordinal, (ii) continuous, (iii) continuous,

Q1828. ines the relationship between blood pressure and age using linear regression. The result is reported as the equation: Y = 81.3 + 1.3X; where Y is systolic blood pressure in mmHg and X is age in years. How would you best describe the interpretation of the 'regression coefficient' of 1.3?

1- A 95% confidence interval for the mean systolic blood pressure in this population is 81.3 ± 1.3 mmHg

2- On average, age increased by 1.3 years for every additional 1-mmHg increase in systolic blood pressure

**3- On average, systolic blood pressure increased by 1.3 mmHg for every additional year of age**

4- The average systolic blood pressure measurement must be multiplied by 1.3 for every additional year of age

5- The range of systolic blood pressures

Q1829. In a study of the effect of cannabinoids in reducing pain in multiple sclerosis, participants were asked to rate their level of pain on a scale of 0 (no pain) to 10 (worst pain imaginable). Which of the following statements is correct?

1- The pain scale is a continuous measurement

2- The pain scale is an interval measurement

3- The pain scale is a nominal measurement

**4- The pain scale is an ordinal measurement**

5- None of the above

Q1830. In a study of the recurrence of colorectal adenomas, 50 patients were randomised to receive daily aspirin and 50 to receive placebo. After 1 year, at least one adenoma was observed in 15 patients receiving aspirin and 20 patients receiving placebo. What was the relative risk reduction associated with aspirin?

1- 10%

**2- 25%**

3- 30%

4- 40%

5- 75%

Q1831. of randomised controlled trials were combined to produce a single estimate of the odds ratio for an outcome of hospital admission. Which technique is being described here?

1- Cohort analysis

2- Cost-effectiveness analysis

3- Life-table analysis

**4- Meta-analysis**

5- Survival analysis

Q1832. of at least 6 months' exposure to a pet bird; of the 210 controls, 70 reported such an exposure. What was the odds ratio for the development of lung cancer associated with keeping pet birds in this study?

1- 1

2- 8/7

3- 52/45

4- 6/5

**5- 4/3**

Q1833. A study reports that in a certain NHS Trust the median door-to-needle time for receiving thrombolysis following myocardial infarction was 27 minutes, with a lower quartile of 18 minutes and an upper quartile of 33 minutes. The National Service Framework target is that 75% of eligible patients should receive thrombolysis within 30 minutes of hospital admission. Which of the following statements best describes whether this Trust is meeting the target?

1- Yes, because the lower quartile is less than 30 minutes

2- Yes, because the median is less than 30 minutes

3- Yes, because the upper quartile is greater than 30 minutes

4- No, because the median is less than 30 minutes

**5- No, because the upper quartile is greater**

Q1834. A randomised controlled trial comparing a new drug for seasonal rhinitis to current best treatment uses an equivalence design, concluding that the two treatments are equivalent. Which of the following statements best describes the results of the trial?

**1- The 95% confidence interval for the treatment effect fell entirely within prespecified limits**

2- The design of the study was inappropriate as neither treatment was compared to placebo

3- The outcomes in the two arms of the trial were identical

4- The results of the study were inconclusive, indicating that a larger study needs to be performed

5- There was no statistically significant

Q1835. How would you best describe the statistical benefit of increasing the sample size of a study comparing two treatments?

1- A larger sample size decreases the probability of a type-1 error

2- A larger sample size ensures that the sample must be representative of the population

**3- A larger sample size produces more precise estimates**

4- A larger sample size removes the need for randomisation

5- A larger sample size will increase the

Q1836. A child is being monitored for body weight and it has been determined that its current weight is in the 40th centile. This means that:

1- It is 40% as heavy as the average weight of children of that age group in the population

2- It is 60% as heavy as the average weight of children of that age group in the population

**3- 40% of the children of that age group in the population weigh less than this child**

4- 60% of the children of that age group in the population weigh less than this child

5- It is 40% as heavy as the heaviest child of

Q1837. s of a population each have an independent probability of 25% of carrying a certain disease, what is the distribution of the number of people carrying the disease in a random sample of 12 people drawn from this population?

**1- Binomial with n = 12, p = 0.25**

2- Chi-squared with 3 degrees of freedom

3- Poission with lambda= 3

4- Normal with mean = 3, standard deviation = 1.5

5- Uniform with p = 1/12

Q1838. In a certain population, total cholesterol has a normal (Gaussian) distribution, with 5% of values being less than 4 mmol/l and 5% of values over 7 mmol/l. What are the mean, median and mode of total cholesterol in this population?

1- Mean = 4 mmol/l; median = 4 mmol/l; mode = 4 mmol/l

2- Mean = 4 mmol/l; median = 5.5 mmol/l; mode = 7 mmol/l

3- Mean = 5.5 mmol/l; median = 1.5 mmol/l; mode = 7 mmol/l

**4- Mean = 5.5 mmol/l; median = 5.5 mmol/l; mode = 5.5 mmol/l**

5- Mean = 5.5 mmol/l; median = 5.5 mmol/l;

Q1839. Investigators hypothesise that lower staffing levels in intensive therapy units (ITUs) at night may lead to worse outcomes for patients admitted at night than those admitted during the day. An observational cohort study of all ITU admissions is planned to investigate this hypothesis. Which would be the best method to control for selection bias in analysing the results of this study?

1- Blinding

**2- Case-mix (risk) adjustment**

3- Double-data entry

4- Randomisation

5- Repeated measurement

Q1840. of cases of severe sunburn presenting at an A&E department. Which of the following is the most likely explanation for this association?

1- Cause and effect

2- Coincidence

**3- Common cause**

4- Confounding

5- Correlation

Q1841. ined to test whether admissions to this hospital are older or younger than average. The mean age of the 100 admissions is 58 years, with a standard deviation of 17 years. A one-sample t-test is used to compare this to the national average and is reported as 't = 1.76, p = 0.08'. What conclusion can be best drawn from this test using a 95% confidence level?

1- The mean age of admissions to this hospital is 55 years

2- The mean age of admissions to this hospital is 58 years

3- The mean age of admissions to this hospital is not equal to 55 years

**4- We cannot reject the hypothesis that the mean age is 55 years**

5- We cannot reject the hypothesis that the

Q1842. In a trial of a new drug compared to standard therapy, the risk of complications in the control arm is 2.4% and the risk of complications in the treatment arm is 1.8%. What is the absolute risk reduction associated with the new treatment?

**1- 0.6%**

2- 1.8%

3- 2.4%

4- 25%

5- 33%

Q1843. About 2% of the UK population have diabetes.' Which of the following statistical concepts is being described here?

1- Incidence

2- Lifetime risk

3- Mortality

**4- Prevalence**

5- Relative risk

# Chapter 8 Clinical pharmacology

Q1844. One of the mechanisms of action of antimicrobial drugs is to bind to bacterial ribosomes and disrupt protein synthesis. Which of the following drugs has this mechanism of action?

1- Penicillin

2- Ceftriaxone

**3- Azithromycin**

4- Ciprofloxacin

5- Sulfadiazine

Q1845. A patient presents with congestive heart failure. Which drug may be effective in reducing mortality?

**1- Enalapril**

2- Aspirin

3- Digoxin

4- Frusemide

5- Lidocaine (lignocaine)

Q1846. A 67-year-old man on warfarin present with epistaxis. On examination he is tachycardic and requires emergency treatment from the Ear, Nose and Throat Service. It transpires that he has inadvertly taken too much warfarin and his INR is 8.7. What is the most appropriate management?

1- Vitamin K

2- Cryoprecipitate

**3- Fresh-frozen plasma**

4- Desmopressin

5- Tranexamic acid

Q1847. A 35-year-old woman, who is receiving fortnightly intramuscular injections for rheumatoid arthritis, presents to her GP with sore throat, cough and tingling and numbness in her hands and feet. Blood tests show pancytopenia. What medication is she most likely to be on for rheumatoid arthritis?

1- Indometacin

2- Methotrexate

**3- Gold**

4- Sulfasalazine

5- Hydroxychloroquine

Q1848. A 69-year-old asthmatic hypertensive male with cardiac failure and peptic ulcer disease complains of seeing yellowish-green haloes for the past week. He has also lost appetite and feels nauseated. Physical examination is essentially normal as his conditions appear to be well controlled. Which of the drugs that he has been prescribed could be a cause for his present condition?

**1- Digoxin**

2- Enalapril

3- Salbutamol

4- Ranitidine

5- Aspirin

Q1849. A 39-year-old woman who underwent excision of a meningioma 3 months ago, has developed severe bruising and menorrhagia. She has also noticed swelling of her gums and progressive malaise and weakness. Which drug could be responsible for these symptoms?

1- Carbamazepine

**2- Phenytoin**

3- Sodium valproate

4- Topiramate

5- Oxcarbazepine

Q1850. A 7-year-old boy attends the clinic with a history of tonic-clonic seizures 2 days earlier. EEG shows a 3-s spike and wave. Cerebral imaging is normal. What would be the drug of choice for this patient?

**1- Sodium valproate**

2- Lamotrigine

3- Topiramate

4- Phenytoin

5- Phenobarbital

Q1851. A 27-year-old Asian man on antituberculous therapy complains of tingling and numbness in his hands and feet. Which antitubercular drug may be causing this problem?

**1- Isoniazid**

2- Ethambutol

3- Pyrazinamide

4- Streptomycin

5- Rifampicin

Q1852. Which of the following statements best pertains to gastrointestinal bleeding due to NSAID therapy?

1- Only occurs in patients who have preexisting gastric and/or duodenal ulcers

**2- It is due to depletion of mucosal prostaglandin E (PGE) levels**

3- Only occurs with high-risk NSAIDs such as piroxicam

4- Occurs when the patient complains of severe dyspepsia

5- It is due to decreased platelet adhesiveness

Q1853. A 29-year-old woman on antituberculous treatment with rifampicin, isoniazid, pyrazinamide, ethambutol and pyridoxine has been taking the oral contraceptive pill regularly but now suddenly finds she is pregnant. Which drug could have resulted in failure of the oral contraceptive treatment?

1- Isoniazid

2- Pyrazinamide

3- Ethambutol

4- Pyridoxine

**5- Rifampicin**

Q1854. What is the mechanism of action of carbimazole?

1- Destruction of functioning thyroid cells

2- Inhibition of 5'-deiodinase

**3- Inhibition of the iodination of tyrosine**

4- Inhibition of thyroglobulin proteolysis

5- Conversion to methimazole, which blocks

Q1855. Which one of the following features is MOST characteristic of lead poisoning?

1- Predominantly sensory peripheral neuropathy

2- Posterior uveitis

**3- Punctuate basophilic stippling on peripheral blood film examination**

4- Membranous glomerulonephritis as the primary kidney lesion

5- A gingival blue line in children

Q1856. You are a locum medical SHO in clinic and are asked to see a parent who is concerned that their 6-year-old child's poor performance at school is due to lead poisoning. Which of the following statements concerning lead toxicity is true?

1- Oral DMSA (2,3-dimercaptosuccinic acid) increases absorption from the gastrointestinal tract

2- Hypercalcaemia is associated with increased bone deposition

3- Lead is rapidly absorbed through the skin

4- Haematological effects are only seen at concentrations above 1000 µg/l

**5- Chronic moderate poisoning (450-600 µg/l)**

Q1857. D-penicillamine is an antidote used as a chelating agent for which one of the following heavy metal poisoning?

1- Thallium

**2- Copper**

3- Arsenic

4- Cadmium

5- Mercury

Q1858. Which one of the following statements BEST describes warfarin?

**1- Reduces protein C levels in the blood**

2- It may induce autoimmune thrombocytopenia

3- Chronic use is often associated with osteoporosis

4- An initial loading dose is given because it has a short half-life (3 hours)

5- Should be avoided in lactating women

Q1859. Which of the following is a characteristic clinical finding of opioid poisoning?

1- Pupillary dilatation

2- Hypothermia

3- Deep respiration

**4- Bradycardia**

5- Sweating and lacrimation

Q1860. Treatment of an acute attack of gout with allopurinol may result in which of the following?

**1- Exacerbation and prolongation of the attack**

2- Complete remission of symptoms within a few days of treatment

3- Reduction of uric acid levels to normal within a week of commencement of treatment

4- Acute pyelonephritis

5- Renal impairment if the starting dose is >

Q1861. Of the following drugs, which has the least mortality benefit in chronic heart failure?

1- Spironolactone

**2- Digoxin**

3- Bisoprolol

4- Enalapril

5- Candesartan

Q1862. At therapeutic doses, which of the following are side-effects of aminophylline?

1- Hypotension

**2- Jitteriness**

3- Diarrhoea

4- Arrhythmias

5- Hyperkalaemia

Q1863. Cough as a side-effect of ACE inhibitors occurs because of which of the following?

1- ACE inhibitors cause dysgeusia

2- They cause bronchoconstriction

**3- They affect the breakdown of bradykinin within the lungs**

4- ACE inhibitors increase bronchial mucous secretion

5- They cause vasodilatation, which may

Q1864. A 22-year-old woman is brought to A&E having ingested 20 tablets of paracetamol 8 hours earlier. What should her immediate management consist of?

1- Activated charcoal

2- Liver function tests, prothrombin time and INR estimations

3- Plasma paracetamol concentration estimation

4- Inform the local liver unit for management of acute liver failure

**5- Intravenous N-acetylcysteine**

Q1865. Organophosphates such as Sarin have been used as chemical-warfare agents by terrorists. Which of the following statements is true concerning organophosphate poisoning?

1- Their principal action is the stimulation of acetylcholinesterase activity

2- They are only absorbed through the respiratory tract

3- Miosis, sweating and hypersalivation are due to nicotinic-receptor effects

**4- Atropine is useful in the management of organophosphate poisoning**

5- Organophosphate neuropathy occurs

Q1866. Which of the following statements relates to the pharmacology of trimethoprim?

1- It is a bacteriocidal drug

**2- It is combined with sulfamethoxazole for synergistic reasons**

3- It requires estimation of serum levels to assess therapeutic efficacy

4- It may cause marrow depression and microcytic anaemia

5- It may cause side-effects such as hepatic

Q1867. Which one of the following antiplatelet agents acts by inhibiting the phosphodiesterase enzyme and increasing the cellular concentration of cyclic adenosine monophosphate (cAMP)?

1- Abciximab

2- Ticlopidine

3- Aspirin

4- Clopidogrel

**5- Dipyridamole**

Q1868. Side-effects of acetazolamide include which of the following?

1- Metabolic alkalosis

2- Hyponatraemia

3- Membranous nephropathy

**4- Acute interstitial nephritis**

5- Macrocytic hypochromic anaemia

Q1869. Side-effects of ciclosporin therapy include which of the following?

1- Alopecia

2- Myelosuppression

**3- Chronic interstitial nephritis**

4- Stomatitis

5- Urolithiasis

Q1870. Monitoring serum levels is important in preventing adverse drug effects of which of the following?

1- Warfarin

**2- Theophylline**

3- Carbimazole

4- Rifampicin

5- Cyclophosphamide

Q1871. A 50-year-old female on chemotherapy complains of tingling and numbness in her lower limbs and weakness in her left hand. On examination, she is noted to have a wrist drop and loss of ankle jerks. Blood tests show hyponatraemia and a plasma osmolality of 260 mOsm/kg. Her urine osmolality is 350 mOsm/kg. Which chemotherapeutic drug may be associated with these features?

1- Doxorubicin

**2- Vincristine**

3- Cyclophosphamide

4- Methotrexate

5- Bleomycin

Q1872. A 58 year old man with chronic upper GI symptoms has recently been diagnosed as having a duodenal ulcer at endoscopy. No evidence of oesophageal or gastric pathology was found. Helicobacter pylori testing was positive. Which of the following treatment regimen would be best suited to his case?

**1- Proton-pump inhibitor, clarithromycin and metronidazole, followed by a protonpump inhibitor long term**

2- Proton-pump inhibitor, bismuth, metronidazole and tetracycline, followed by antacids long term

3- H2 receptor antagonist and antacids long term

4- Proton-pump inhibitor and sucralfate

5- Proton-pump inhibitor long term and

Q1873. A 34-year-old woman has an acute attack of migraine. She is given a subcutaneous injection of sumatriptan, which relieves her symptoms. What is the drug's most likely mechanism of action?

1- Blocking adrenergic receptors

2- Blocking receptors to acetylcholinesterase

3- Inhibiting cyclo-oxygenase

**4- Causing vasoconstriction of cranial arteries**

5- Acting on opioid receptors in the central

Q1874. A 54-year-old woman gardener with long- standing depression presents to A&E following a deliberate suicide attempt by ingestion of the pesticide paraquat. Which of the following statements is true following exposure to paraquat?

1- The principal site of toxicity is the gastrointestinal tract

2- Pulmonary fibrosis is an early cause of death

**3- Supplemental oxygen may increase paraquat toxicity**

4- Toxicity is directly due to the paraquat

5- Survival is common after the ingestion of 5

Q1875. An elderly woman is taking furosemide and ramipril for heart failure. She visited her GP complaining of pain in her left knee and was prescribed rofecoxib. She is admitted in A&E 2 weeks later with breathlessness and pedal oedema. What is the most likely cause of her symptoms?

1- Drug interaction with furosemide

2- Drug interaction with ramipril

**3- Fluid retention due to rofecoxib**

4- Impairment of renal function

5- Anaemia due to gastrointestinal bleeding

Q1876. A 39-year-old woman who is planning to travel overseas to a malaria-endemic area later this month presents to you (the medical SHO on call) after taking an overdose of her antimalarial medications. Which of the following statements is true concerning overdoses of antimalarials?

**1- High-dose diazepam and adrenaline infusion may be useful in the management of chloroquine toxicity**

2- Blindness associated with quinine toxicity is only transient

3- Lidocaine (lignocaine) is safe in the management of quinine-induced cardiac arrhythmias

4- Hyperkalaemia is initially protective in chloroquine overdoses

5- Urinary acidification has a role in the

Q1877. A 35-year-old woman, who has been on antiepileptic medication for many years, presents complaining of fatigue, lethargy, bone pain, tingling and numbness in her lower limbs and swelling of her gums. Investigations reveal Hb 8.4 g/dl, MCV 106 fl, WCC 7.2 x 109 /L, platelets 170 x 109 /L, alkaline phosphatase 534 IU/l, parathyroid hormone 10.4 pmol/l. Which antiepileptic medication is most likely to cause these problems?

1- Phenobarbital

**2- Phenytoin**

3- Primidone

4- Sodium valproate

5- Carbamazepine

Q1878. A patient on treatment for anxiety neurosis stops his medication abruptly on the advice of his yoga teacher. He then develops acute anxiety, insomnia, irritability, rage, feelings of unreality and depersonalisation, diplopia, paraesthesias, palpitations, flushing and hyperventilation. Which drug is most likely to cause these withdrawal symptoms?

1- Amitriptyline

2- Buspirone

3- Phenelzine

**4- Lorazepam**

5- Paroxetine

Q1879. Which one of the following diuretics is associated with metabolic acidosis?

1- Bumetanide

2- Metolazone

3- Thiazide

4- Frusemide

**5- Acetazolamide**

Q1880. A 45-year-old asthmatic patient with a history of myocardial infarction presents with palpitations. An ECG shows supraventricular tachycardia. Carotid sinus massage is unsuccessful. What treatment would you administer next?

1- Adenosine

**2- Verapamil**

3- Digoxin

4- Flecainide

5- Lidocaine

Q1881. Which one of the following represents the recommended daily dietary intake of calcium and vitamin D in the treatment of established osteoporosis?

1- 800 mg/day of calcium, 100 units/day of vitamin D

**2- 1500 mg/day of calcium, 400-800 units/day of vitamin D**

3- 1200 mg/day of calcium, 200-400 units/day of vitamin D

4- 900 mg/day of calcium, 200 units/day of vitamin D

5- 1800 mg/day of calcium, 800-1000

Q1882. An 18-year-old young woman presents with a 4-day history of cough, headache, fever and joint pains. Blood tests show the presence of raised antibody titres and the presence of cold agglutinins. A diagnosis of Mycoplasma pneumoniae infection is made. Which drug would you prescribe as first-line treatment for this patient?

1- Cefuroxime

2- Rifampicin

3- Penicillin

**4- Clarithromycin**

5- Co-trimoxazole

Q1883. A middle-aged man is rushed in an unconscious state to the A&E department. It is stated that he swallowed a large number of unknown tablets. Investigations reveal: Na+ 137 mmol/l; K+ 3.5 mmol/l; Cl- 96 mmol/l; HCO3- 16 mmol/l; pH 7.25; anion gap 25 mmol/l. What tablets is he most likely to have swallowed?

1- Allopurinol

**2- Aspirin**

3- Indometacin

4- Benzylpenicillin

5- d-Penicillamine

Q1884. A patient undergoing cancer chemotherapy complains of increased urinary frequency and suprapubic pain. Investigations reveal he has microcytic, hypochromic anaemia, leucopenia, thrombocytopenia and haematuria. What could be the possible cause for his symptoms?

1- Methotrexate

**2- Cyclophosphamide**

3- Chlorambucil

4- Cisplatin

5- Melphalan

Q1885. An elderly, normotensive man with poor left ventricular function presents with a broadcomplex tachycardia. Which of the following drugs would be the first choice in treatment?

1- Sotalol

**2- Amiodarone**

3- Verapamil

4- Lidocaine

5- Flecainide

Q1886. Which one of the following contributes to the beneficial effect of nitro-glycerine?

1- Decreases oxygen transport to the myocardium

**2- Dilation of systemic veins**

3- Increase of left ventricular preload

4- Reduces sodium potassium transport in myocardial muscle

5- Increase of left ventricular afterload

Q1887. A patient on cancer chemotherapy complains of burning micturition, haematuria and increased frequency. Blood counts reveal a mild anaemia and leucopenia. Which of the following could be a causative factor?

1- Cisplatin

2- Urinary tract infection

**3- Cyclophosphamide**

4- Mithramycin

5- Bladder metastases

Q1888. β-blockers (β-adrenergic agents) are used in the treatment of angina because they have one of the following properties?

1- Increase sinus node automaticity

2- Increase the left atrial volume and pressure

3- Increase the peripheral vascular resistance

**4- Decrease the heart rate and myocardial contractility**

5- Increase the preload

Q1889. A 40-year-old obese female teacher is determined to lose weight. She exercises three times a week at the local gym and is on a slimming diet. In the last month she managed to lose three kilograms in weight and asked your opinion about initiating Orlistat therapy. On advising her you would explain that Orlistat therapy has which one of the following effects?

**1- Prevents fat absorption from the intestine**

2- Improves the bone mineral density

3- Causes dramatic weight loss in the first month

4- Increases the cholesterol level in the first year of therapy

5- Increases the risk of clotting

Q1890. Propylthiouracil has a modest therapeutic advantage over carbimazole in the treatment of thyrotoxicosis because it has which one of the following properties?

1- Inhibits the organification of iodine at the thyroid gland

2- Is not excreted in breast milk

3- Is more potent

4- Has different chemical structure and hence does not share the same adverse effects profile

**5- Inhibits T4 to T3 conversion**

Q1891. Which one of the following cytotoxic agents is frequently associated with cardiotoxicity?

**1- Doxorubicin**

2- Cyclophosphamide

3- Cisplatin

4- Bleomycin

5- Vincristine

Q1892. A 65-year-old woman with type 2 diabetes of 11 years' duration presents with poorly controlled blood glucose levels. She was overweight and initially started on metformin therapy. Her diabetes was well controlled until the last 12 months. Despite strict adherence to diet, exercise and maximum daily doses of metformin, satisfactory blood glucose control has proved difficult to achieve and the last Hb A1c was at 13%. You consider adding pioglitazone. This agent is which one of the following?

1- Abenzoic acid derivative

2- An a-glucosidase inhibitor

3- An insulin secretagogue which stimulates insulin secretion by the beta cell

4- Asulphonylurea

**5- An insulin sensitizer which decreases**

Q1893. The husband of a patient admitted with pyogenic meningitis is concerned that he may develop the disease. What is the prophylaxis of choice in this case?

1- Ceftriaxone

2- Ciprofloxacin

**3- Rifampicin**

4- Co-trimoxazole

5- Vancomycin

Q1894. Which one of the following antihypertensive agents controls the blood pressure by blocking the peripheral a1-adrenoceptor?

1- Losartan

**2- Doxazosin**

3- Minoxidil

4- Methyldopa

5- Clonidine

Q1895. A 12-year-old boy presents to an 'Out of Hours' service with headache, drowsiness, fever and neck stiffness. The fundi appear normal. There is a purpuric rash on his body. Previous medical history and family history are unremarkable. The GP phones you for advice as to what he should do pending urgent transfer to hospital. What advice should be given?

1- Give bolus IV cefotaxime

2- Give single high dose oral cephalosporin

3- Do nothing pending blood cultures and CSF analysis

4- Give single high dose oral benzylpenicillin

**5- Give IM benzylpenicillin**

Q1896. Which one of the following anticonvulsants has been associated with the development of polycystic ovarian syndrome (PCOS)?

1- Vigabatrin

**2- Sodium valproate**

3- Phenobarbitone

4- Phenytoin

5- Topiramate

Q1897. Which one of the following pharmacokinetic parameters remains normal in chronic renal failure?

1- Absorption

2- Protein binding

3- Volume of distribution

4- Renal metabolism of drugs

**5- Bioavailability immediately following**

Q1898. In renal drug elimination, the extraction ratio can be defined as which one of the following?

**1- Decline of drug concentration in the plasma from the arterial to the venous side of the kidney**

2- A measure of the time during which the concentration of drug in the plasma falls by 50%

3- The proportion of an orally administered drug reaching the circulation

4- The ratio of drug concentration in the urine to drug concentration in the bile

5- The concentration of a drug in the urine

Q1899. Which one of the following treatments is effective in severe lithium toxicity?

1- Activated charcoal

2- Methionine

**3- Haemodialysis**

4- Forced diuresis with sodium chloride

5- Methylprednisolone

Q1900. Which one of the following is associated with hyperkalaemia?

1- Bartter's syndrome

2- Treatment with corticosteroids

3- Liquorice addiction

4- Liddle's syndrome

**5- Ciclosporin**

Q1901. Which one of the following statements BEST describes radioactive iodine (131I) in the treatment of thyrotoxicosis?

1- Triple dose therapy (one month apart) is the standard regimen used in most cases

2- Given by intravenous infusion to avoid gastrointestinal toxicity

**3- Not associated with increased incidence of late leukaemia**

4- Hypoparathyroidism secondary to betaemissions and ablation of the parathyroid gland occurs in 30% of cases

5- Rapid regression of exophthalmos is

Q1902. An 18-year-old woman presents to A&E following the ingestion of an unknown quantity of aspirin. Which of the following statements is true concerning salicylate poisoning?

1- Tinnitus occurs at plasma salicylate concentrations of 200 mg/l

2- Metabolic acidosis is the first acid-base disturbance seen

3- Hypoglycaemia is common in adults

4- Acidosis reduces the rate of salicylate transfer across the blood-brain barrier

**5- Multi-dose activated charcoal may be**

Q1903. A 17-year-old male is admitted to the Emergency Department. He volunteers that he has taken some 40 paracetamol tablets around 5hrs earlier after splitting up from his girlfriend. His paracetamol levels are in the range for N-acetylcysteine treatment and you commence this. Which of the following is best representative of the mode of action by which Nacetylcysteine leads to liver protection?

1- It replenishes cysteine

2- It depletes cysteine

**3- It replenishes glutathione**

4- It depletes glutathione

5- It replenishes cysteine

Q1904. Which of the following gives rise to protooncogene stimulation, resulting in protein synthesis and causing hypertrophy of cardiac muscle?

1- Propranolol

2- Thyroxine

3- Lidocaine (lignocaine)

**4- Angiotensin II**

5- Cortisol

Q1905. A 24-year-old woman is undergoing chemotherapy for acute leukaemia. She is suffering from severe vomiting and you plan to choose an appropriate antiemetic for her. Which of the following would be the most appropriate choice?

1- Metoclopramide im

2- Prochlorperazine im

3- Oral ondansetron

**4- Ondansetron iv**

5- Oral domperidone

Q1906. A 39-year-old woman with a history of manicdepressive disorder visits her GP for review. She is currently treated with lithium therapy. The GP has been monitoring her blood pressure for the last few months, it is 155/105 mmHg in the clinic and he is keen to commence pharmacotherapy. Which one of the following statements best represents the interaction between blood pressure lowering agents and lithium?

1- Bendroflumethiazide leads to decreased lithium concentration

**2- Acetazolamide leads to decreased lithium concentration**

3- Methyldopa leads to decreased neurotoxicity

4- Angiotensin-converting enzyme (ACE) inhibitors lead to decreased lithium concentration

5- Calcium channel blockers lead to

Q1907. A 60-year-old man who has been taking warfarin for 3 years for atrial fibrillation with a previously stable INR presents for review. He noticed some bruising on his arms from working in the garden. INR is now markedly elevated at 7.0 Which of the following interactions with warfarin is the most likely cause of this clinical picture?

1- Carrot juice

2- Orange juice

**3- Cranberry juice**

4- Grapefruit juice

5- St John's Wort

Q1908. A 64-year-old man presents to the Emergency Department complaining of marked muscle aches and tenderness. He has a history of previous myocardial infarction and takes a number of medications including simvastatin. Recently he has made a number of changes to his diet to try and improve his health. Plasma CK in the emergency department was measured at 4800U/l and you suspect rhabdomyolysis. Which of the following interactions with simvastatin is most likely to be responsible for his presentation?

1- Consumption of St John's Wort

2- Consumption of cranberry juice

**3- Grapefruit juice**

4- Vitamin C

5- Cod liver oil capsules

Q1909. A 32-year-old man presents with epigastric tenderness and fever. He is known to be on treatment for epilepsy. On examination he has a blood pressure of 100/60 mmHg, pulse of 110/min and regular and severe pain on palpation of the epigastrium. Blood tests reveal hypocalcaemia, metabolic acidosis and a markedly elevated serum amylase. He cannot remember what he takes for his epilepsy. Which of the following antiepileptic agents is most likely to have caused his acute pancreatitis?

1- Lamotrigine

2- Phenytoin

**3- Valproate**

4- Carbamazepine

5- Topiramate

Q1910. A 78-year-old recently widowed lady is admitted by ambulance to the Emergency Department. She was found unconscious by a neighbour surrounded by three empty bottles of propranolol tablets. On examination her pulse was noted to be 38 bpm with a blood pressure of 78/50 mmHg. She is given activated charcoal, intravenous fluid loading and atropine but fails to respond. Which of the following is the most appropriate next step in her management?

1- IV adrenaline

2- Insertion of temporary pacing wire

3- IV phenytoin

**4- IV glucagon**

5- IV calcium chloride

Q1911. An 18-year-old boy is brought by ambulance to the Emergency Department. He has had a row with his father who found him in his bedroom some 2 h later in an unrousable state. It is known that his father takes tablets for blood pressure. On examination the patient has a pulse of 42/min and a blood pressure of 74/40 mmHg. Which of the following is the most appropriate treatment for this patient?

1- Arrange fitting of a temporary pacing wire

2- Fit an external pacing system

3- Give repeated small doses of adrenalin

4- Start an isoprenaline infusion

**5- Treat with iv glucagon**

Q1912. A 58-year-old man attends the nephropathy clinic for review. He admits at the end of his consultation that he suffers from erectile dysfunction. You are considering prescribing vardenafil for him. He is taking multiple agents for the treatment of hypertension. Which of the following agents is contraindicated for use in patients taking vardenafil?

1- Atenolol

2- Ramipril

3- Bendrofluazide

**4- Nicorandil**

5- Carbamazepine

Q1913. A 22-year-old policeman attends the Emergency Department after being bitten on the hand by his dog. You clean the wound and steristrip it. He is covered for tetanus. Which antibiotic would be most appropriate in this case?

**1- Co-amoxiclav**

2- Penicillin V

3- Doxycycline

4- Trimethoprim

5- Ciprofloxacin

Q1914. A 19-year-old woman presents to the emergency department. She had a row with her boyfriend and took a handful of tablets of her mother’s which she found in a bottle. Her mother has multiple health problems, including hypertension, reflux oesophagitis, dyslipidaemia and night cramps. She complains of involuntary spasms affecting the left side of her neck, particularly the sternocleidomastoid muscle, and feels very upset. On examination her blood pressure is 155/90 mmHg. Bloods; Hb 13.0 g/dl PLT 190 x 109 /L WCC 5.4 x 109 /L Na+ 140 mmol/l Creatinine 100 μmol/l Which of the following drugs is she most likely to have taken?

1- Quinine

**2- Metoclopramide**

3- Simvastatin

4- Ramipril

5- Omeprazole

Q1915. A 17-year-old girl is admitted from her birthday party. She does not normally drink alcohol, but you understand she was given some by a friend, and a pill to “loosen up and have fun”. On examination she is barely rousable. On examination her GCS is 9, BP is 155/95 mmHg, pulse is 95/min. Which of the following features is most specific in terms of elucidating the likely underlying diagnosis?

**1- Hyperthermia**

2- Hypernatraemia

3- Pin point pupils

4- Hyperthyroidism

5- Hyperkalaemia

Q1916. You are asked to see a 17-year-old woman in the Emergency department. She has been brought to the unit by her boyfriend who is concerned that she may have taken an overdose after being depressed about her mother who is dying of carcinoma of the breast. Which of the following may indicate that she has taken some of her mother's morphine sulphate pills?

1- Increased libido

**2- Sweating**

3- Dilated pupils

4- Hypertension

5- Urinary incontinence

Q1917. A 26-year-old woman, who is 8 weeks pregnant, has two episodes of convulsions. The decision is made to commence antiepileptic drug treatment. She wants advice about the anti-epileptic drug associated with the lowest risk of congenital malformations. Which of the following would you most avoid?

**1- Sodium valproate**

2- Pheyntoin

3- Lamotrigine

4- Carbamazepine

5- Topiramate

Q1918. You review a 75-year-old man in clinic with long-standing Alzheimer's disease. His family attends with him and asks you some questions about memantine, a drug that has recently been licensed for the management of dementia in the United Kingdom. Which of the following statements is true?

1- It is an NMDA-receptor agonist

**2- Amantadine can increase its unwanted effects**

3- Concomitant baclofen doses may have to be increased

4- Quinine serum concentrations will fall during memantine use

5- It is a cholinesterase inhibitor

Q1919. Which of the following drugs requires plasma level monitoring?

**1- Vancomycin**

2- Ciprofloxacin

3- Bleomycin

4- Erythromycin

5- Cefuroxime

Q1920. A 55-year-old man diagnosed with hypertension and not responding to recommended lifestyle changes was commenced on drug treatment one month ago. There is a past history of benign prostatic hypertrophy. He complains of dizziness and severe postural hypotension is found. What is the most likely aetiological agent?

**1- Doxazosin**

2- Bendrofluazide

3- Angiotensin-converting enzyme (ACE) inhibitor

4- Angiotensin receptor blocker

5- β-blockers

Q1921. Thiazide diuretics have their mode of action in which part of the kidney?

1- Convoluted tubule

**2- Proximal segment of the distal convoluted tubule**

3- Ascending limb of Henle's loop

4- Distal segment of the distal convoluted tubule

5- Descending limb of Henle's loop

Q1922. A 56-year-old patient is currently being treated for rheumatoid arthritis, depression and epilepsy. He presents with bilateral central visual field defects. Which drug is most likely to be responsible for this finding?

1- Amitriptyline

2- Carbamazepine

**3- Vigabatrin**

4- Prednisolone

5- Hydroxychloroquine

Q1923. What is the mode of action of amiodarone?

1- a-adrenoreceptor blocker

2- b-adrenoreceptor blocker

**3- Potassium channel blocker**

4- Calcium channel blocker

5- Sodium channel blocker

Q1924. What is the mode of action of ondansetron?

1- Dopamine agonist

2- Dopamine antagonist

**3- Serotonin receptor subtype 5- hydroxytryptamine(5-HT3) antagonist**

4- Serotonin receptor subtype 5-HT3 agonist

5- Histamine agonist

Q1925. You review a 42-year-old woman with type 1 diabetes who has undergone a renal transplant. She is taking azathioprine and tacrolimus for immunosuppression. Which of the following fits best with the characteristics of the given immunosuppressive agent?

1- Sirolimus is a calcineurin inhibitor

**2- Tacrolimus is a calcineurin inhibitor**

3- Azathioprine inhibits pyrimidine synthesis

4- Azathioprine has a half-life of 2.5 hours

5- Tacrolimus has a half-life of around 5 hours

Q1926. Which of the following drug can cause galactorrhoea?

1- Furosemide

2- Rifampicin

3- Atenolol

**4- Metoclopramide**

5- Lisinopril

Q1927. A 25-year-old man presents to A&E with an acute exacerbation of asthma that is failing to respond to inhaled bronchodilators. As part of the medical team on call you are asked to review him, and you decide to treat him with intravenous magnesium. Which of the following statements is true?

1- The usual dose is 2 mg

2- Magnesium increases acetylcholine release

3- Hypertension is commonly seen after treatment

**4- Magnesium relaxes bronchial smooth muscle**

5- Drowsiness and coma in this situation are

Q1928. Which drug is most likely responsible for postural hypotension in a 76-year-old man who is taking simvastatin 20mg, ramipril 5mg, nifedipine 40mg SR, bendroflumethiazide 5mg, aspirin 75mg?

1- Simvastatin

2- Ramipril

**3- Bendroflumethiazide**

4- nifedipine

5- Aspirin

Q1929. Two patients are brought in from the same flat, unconscious with suspected carbon monoxide poisoning. Which of the following is true concerning the symptoms, signs and management of carbon monoxide poisoning?

1- Pre-existing arteriosclerosis does not increase mortality

2- Carboxyhaemoglobin concentrations are always below 5% in healthy patients

3- Pregnancy is a contraindication to hyperbaric oxygen therapy

**4- Cerebellar signs are the most reliable sign of neurological toxicity**

5- Sodium bicarbonate is useful in correcting

Q1930. In a pulmonary hypertension clinic, a patient asks you about bosentan, they have read on the internet that it is a drug for the management of pulmonary arterial hypertension. Which of the following statements is true concerning the actions and unwanted effects of bosentan?

1- It is a competitive antagonist of the ETA but not ETB receptor

2- Dose-related nephrotoxicity can occur

3- Haemoglobin concentrations rise

4- It is safe for use in pregnancy

**5- Systemic vascular resistance falls**

Q1931. You review a 36-year-old man with a history of premature cardiovascular disease in the family who has fasting cholesterol of 8.2 mmol/l with a high-density lipoprotein (HDL) of 1.4 mmol/l. You elect to commence him on atorvastatin 20 mg po daily. Which of the following fits best with the mechanism of action of the statin class of agents?

1- They stimulate lipoprotein lipase

2- They inhibit lipoprotein lipase

3- They stimulate fatty acid synthetase

4- They stimulate 3-hydroxy-3-methylglutaryl coenzyme A (HMG CoA) reductase

**5- They inhibit HMG CoA reductase**

Q1932. A 72-year-old man presents with acute onset lumbar spine pain. There is no significant neurology. He has a history of chronic obstructive pulmonary disease and rheumatoid arthritis. He takes high dose seretide for his COPD, and low dose prednisolone (5mg) for his rheumatoid. X-ray reveals an osteoporotic fracture of L4. Which of the following would be the most appropriate short term pain relief in this case?

1- Paracetamol 1 g po qds

2- Diclofenac 50 mg po tds

**3- Diclofenac 50 mg po tds, tramadol 100 mg qds and paracetamol 1 g qds**

4- Tramadol 100 mg qds

5- Tramadol 100 mg qds and paracetamol 1 g

Q1933. A 72-year-old man is reviewed in the Emergency Department. He has been feeling tired and unwell. There is a past history of glaucoma, chronic obstructive pulmonary disease and congestive heart failure. He also has anaemia and type 2 diabetes. Blood tests are unremarkable apart from a normal anion gap metabolic acidosis. Which of the following drugs is most likely to be responsible for the acid-base disturbance?

1- Ramipril

2- Aspirin

3- Metformin

**4- Acetazolamide**

5- Iron sulphate

Q1934. What is the primary mode of action of Nacetylcysteine?

1- Reduction of the formation of nitric oxide

2- Histamine antagonist

**3- Reduction of the circulation of toxic metabolites**

4- Phase I induction

5- Dopamine agonist

Q1935. You are reviewing some blood results 'on take' and notice that a 36-year-old man admitted earlier has hyperkalaemia. You go back and review the drugs he is taking to see if any of them could be contributing to the newly diagnosed hyperkalaemia. Which of the following would not contribute to the hyperkalaemia?

1- Beta-blockers

2- Lithium

3- ACE inhibitors

4- Digoxin

**5- Theophylline**

Q1936. You are reviewing guidelines on the use of antibiotics in your hospital elderly care unit and are looking at appropriate prescribing for respiratory tract infection. When considering the risk of pseudomembranous colitis, use of which of the following antibiotics represents the greatest risk?

1- Cefuroxime

2- Clarithromycin

3- Amoxicillin

4- Augmentin

**5- Ciprofloxacin**

Q1937. A 62-year-old man attends the clinic complaining of lethargy. He has recently been started on some medication for control of blood pressure but unfortunately he cannot remember its name. On examination his BP is 142/86 mmHg. His BMI is 22. Investigations; Hb 12.1 g/dl WCC 4.7 x 109 /L PLT 193 x 109 /L Na+ 124 mmol/l K+ 4.0 mmol/l Creatinine 90 µmol/l Which of the following agents is most likely to be responsible?

1- Ramipril

2- Spironolactone

**3- Bendroflumethiazide**

4- Amiloride

5- Furosemide

Q1938. A 72-year-old woman with metastatic carcinoma of the breast is admitted to the local hospice for management of her pain. She is currently managed with 120mg BD of MST, 10-20mg of oral morphine PRN and regular paracetamol, and complains of worsening pain yet is worried about the morphine making her drowsy and confused. Investigations; Hb 10.9 g/dl WCC 5.9 x 109 /L PLT 191 x 109 /L Na+ 139 mmol/l K+ 5.0 mmol/l Creatinine 146 μmol/l Which of the following would be the most appropriate plan to manage her pain?

1- Reduce her MST and add naproxen

2- Keep her MST stable and stop her oral morphine

3- Stop her MST and start naproxen

**4- Keep her MST stable, reduce her oral morphine and add naproxen**

5- Transfer her pain relief to fentanyl patches

Q1939. The use of performance-enhancing anabolic steroids by professional athletes is generally decreasing due to random drugs' testing. However, the use amongst members of the public using gyms is increasing, and, in the clinic, a 19-year-old man asks you some questions about their adverse effects. Which of the following statements is true concerning the cardiovascular effects of anabolic steroids?

1- Haematocrit is decreased

2- Blood concentrations of LDL-cholesterol are decreased

**3- Fibrinogen concentrations fall during prolonged use**

4- Blood concentrations of HDL-cholesterol are increased

5- Blood pressure decreases during prolonged

Q1940. You are reviewing a 63-year-old man in the medical admissions unit who has been given a diagnosis of community-acquired pneumonia. You remember from a recent teaching session that moxifloxacin is licensed for the treatment of community-acquired pneumonia, acute exacerbation of chronic bronchitis and acute bacterial sinusitis. Which of the following statements is true concerning the actions and unwanted effects of moxifloxacin?

1- Moxifloxacin is a bacteriostatic antibiotic

2- It inhibits cell-wall synthesis

3- It is safe in combination with erythromycin

**4- Tendonitis is an unwanted effect**

5- It can be given with aluminium salts

Q1941. A 24-year-old man is admitted from a local night club after suffering from an epileptic seizure. You understand from other people with him that he was acutely anxious and suffering from paranoid thoughts in the few minutes before his fit. The nurses find a small amount of what looks like cocaine in his jacket. On examination he is very anxious, and is reluctant even to let you take blood. His temperature is 38.0oC, BP 155/90 mmHg, pulse 120/min, regular. Bloods; Hb 14.5 g/dl WCC 4.6 x 109 /L PLT 305 x 109 /L Na+ 142 mmol/l K+ 5.7 mmol/l Creatinine 145 µmol/l Shortly after you have received his blood results he suffers a rise in his BP to 165/95 mmHg, pulse 125/min and a series of seizures which fail to terminate after IV diazepam. His ECG shows 2 mm of ST depression in the anterolateral leads. Which of the following is the most appropriate next intervention?

1- IV sodium valproate

2- IV esomolol

**3- Intubation and ventilation**

4- IV phenytoin

5- IV verapamil

Q1942. In a diabetes specialist clinic you are about to review a 59-year-old patient with type-2 diabetes mellitus that is not responding to dietary advice and weight reduction. He therefore needs to commence taking an oral hypoglycaemic agent. Which of the following is true concerning the oral hypoglycaemic agents used in the management of diabetes mellitus?

1- Metformin causes hypoglycaemia

2- Sulphonylureas reduce peripheral insulin sensitivity

3- Glitazones are strongly associated with significant hepatotoxicity

**4- Acarbose inhibits a -glucosidase**

5- Metformin increases insulin secretion

Q1943. A 61-year-old man comes to the clinic for a check up some 6 weeks after his inferior myocardial infarction. Current medication includes ramipril, bisoprolol, aspirin and simvastatin. He asks for advice about when the best time is to take his simvastatin. When is the best time for simvastatin to be taken?

1- After breakfast

2- After evening meal

**3- Last thing at night**

4- First thing in the morning

5- Just before evening meal

Q1944. You are reviewing your patients' blood results before the weekly ward round and notice that a 53-year-old woman has hyponatraemia that you think could be due to one of the drugs she is taking. Which of the following drugs/groups of drugs that can all cause hyponatraemia, does not cause it by the syndrome of inappropriate antidiuretic hormone (SIADH)?

**1- Furosemide**

2- Amitriptyline

3- Chlorpropamide

4- Phenothiazines

5- Clofibrate

Q1945. A 67-year-old man with known long-standing asthma presents to his GP following an overdose of his regular theophylline. Which of the following is true concerning theophylline overdoses?

1- Symptoms of toxicity will always occur within 12 hours

2- Nausea and vomiting are uncommon features of toxicity

3- Bradycardia is the commonest cardiac arrhythmia

4- Hypokalaemia should be rapidly corrected

**5- Multi-dose activated charcoal is useful in**

Q1946. You are reviewing a patient in an out-patient clinic and notice that he has previously been shown to be a cytochrome P450 2D6 isoenzyme slow metaboliser. Which of the following drugs will have its metabolism altered and would therefore have increased unwanted effects in this patient?

1- Omeprazole

**2- Beta-blockers**

3- Barbiturates

4- Diazepam

5- Dapsone

Q1947. A 42-year-old woman has recently undergone a total abdominal hysterectomy and bilateral salpingo-oophorectomy for pelvic inflammatory disease. What advice may she be offered?

1- Although she has had no bone loss so far, she needs to start oestrogen therapy to prevent bone loss from occurring

2- Loss of trabecular and not cortical bone is prevented by oestrogen therapy

3- A combination of oestrogen and progesterone should be commenced

**4- The benefits of oestrogen therapy are maintained only so long as treatment is continued for the next 5-10 years at least**

5- Oestrogen therapy, if started immediately,

Q1948. A patient on cancer chemotherapy complains of burning micturition, haematuria and increased frequency. Blood counts reveal a mild anaemia and leucopenia. Which of the following could be a causative factor?

1- Cisplatin

2- Urinary tract infection

**3- Cyclophosphamide**

4- Mithramycin

5- Bladder metastases

Q1949. An elderly man on digoxin is admitted with palpitations. An ECG shows tachyarrhythmia. What is the mechanism of action leading to digoxin toxicity?

1- Stimulation of myosin ATPase

2- Release of calcium from the sarcoplasmic reticulum

3- Opening of calcium channels

**4- Inhibition of the sodium pump**

5- Stimulation of membrane phospholipase C

Q1950. You are due to review a 54-year-old patient in clinic who was started on the new cholesterol treatment, ezetimibe, during his previous clinic assessment. Which of the following statements is true concerning ezetimibe?

1- Its mechanism of action is to reduce cholesterol synthesis

2- A reduction in serum digoxin concentrations can occur

3- It is an inhibitor of the cytochrome P450 enzyme system

4- Fat-soluble vitamin absorption is reduced

**5- Its principal action is to reduce intestinal**

Q1951. A 20-year-old woman who suffers from intermittent torticollis has severe vomiting and dehydration after a food poisoning incident. Investigations; Hb 14.0 g/dl WCC 7.9 x 109 /L PLT 220 x 109 /L Na+ 139 mmol/l K+ 4.8 mmol/l Urea 14.0 mmol/l Creatinine 185 μmol/l You decide to give her an anti-emetic as she is very dehydrated. Which medication should be avoided in this case?

**1- Prochlorperazine**

2- Ondansetron

3- Domperidone

4- Certirizine

5- Promethazine

Q1952. You are reviewing a phase 2 trial of a new agent for treating diabetes. You are aware from some phase 1 studies that the half-life of the agent is around 4hrs. When deciding what dosing schedule would be appropriate it is important to calculate if you should use an OD, BD or TDS dosing in the phase 2b study. Given the half life of this agent, approximately what percentage of the drug will have been eliminated after 20hrs?

1- 50%

2- 75%

3- 87.5%

4- 3%

**5- 97%**

Q1953. A total of 630mg of a new investigational intravenous anaesthetic agent is injected into a 28-year-old man as part of a phase 2 study. The half life of the agent is 30 mins. How many hours will it take before the drug level falls below 20mg?

1- 2hrs

2- 4hrs

3- 8hrs

4- 90 mins

**5- 150 mins**

Q1954. A 71-year-old man is admitted with a left sided hemiplegia. He has a history of Type 2 diabetes which is managed with metformin 500mg BD. He is poorly compliant with other medications and smokes 20 cigarettes per day. On examination he has a BP of 167/87 mmHg some 3hrs after admission. His left sided hemiplegia has undergone slight improvement. Investigations; Hb 14.1 g/dl WCC 5.6 x 109 /L PLT 341 x 109 /L Na+ 140 mmol/l K+ 5.1 mmol/l Creatinine 110 μmol Glucose 9.8 CT Head – No sign of intra-cerebral haemorrhage When does the evidence base support the initiation of anti-hypertensive therapy?

**1- Immediately**

2- 8hrs after presentation

3- 24hrs after presentation

4- 1 week after presentation

5- 2 weeks after presentation

Q1955. You are examining the protocols with reference to echocardiography for patients attending the cardiology clinic. Which of the following agents is associated with cardiac toxicity and is likely to require increased monitoring?

**1- Trastuzumab**

2- Cyclophosphamide

3- Cisplatin

4- Rituximab

5- Sunitinib

Q1956. A 58-year-old woman with severe active rheumatoid arthritis comes to the clinic. She feels dreadful and has evidence of active disease, with pain in her hands, elbows and ankles being particularly severe at the moment. Current medication includes prednisolone 5mg daily, methotrexate, and NSAIDs. On examination her BP is 130/70 mmHg, she is very thin with a BMI of 17. There are rheumatoid nodules on both elbows. Investigations Hb 10.5 g/dl WCC 6.4 x 109 /L PLT 192 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 140 μmol/l ESR 52 mm/hr You are considering adding rituximab to her regime. Against which of the following receptors does rituximab have its main activity?

**1- CD20**

2- CD19

3- CD21

4- CD3

5- CD22

Q1957. A 22-year-old woman is admitted to the Emergency department. Her mother suffers from manic depression. Apparently she had a row with her boyfriend the previous evening and was found by her mother that morning. You understand that she had two seizures during the ambulance journey to hospital. On examination she is deeply unconscious, her BP is 148/94 mmHg. She has bilateral increased tone. Investigations; Hb 13.1 g/dl WCC 5.4 x 109 /L PLT 230 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 155 μmol/l Lithium 3.7 mmol/l (therapeutic range 0.6- 1.5) Which of the following is the most appropriate way to manage her?

1- Charcoal via NG tube

2- Forced alkaline diuresis

3- IV furosemide 120mg

**4- Haemodialysis**

5- IV normal saline

Q1958. You review a 72-year-old man with a history of dementia. He is becoming increasingly hard to manage at home, is agitated and difficult and is suffering from delusions that the members of his family who care for him are trying to poison him. You decide to add risperidone to his regime. For which of the following receptors does risperidone have the highest affinity?

1- 5HT-3 receptors

**2- 5HT-2 receptors**

3- alpha-1 adrenergic receptors

4- d-1 receptors

5- h-2 receptors

Q1959. A 72-year-old woman who was treated for a severe upper respiratory tract infection in the hospital asks to see the duty doctor after feeling something "go" in her ankle and then complaining of right foot drop. She is concerned that it may be related to her antibiotic therapy. On examination she appears to have a partial rupture of her right Achilles tendon. Which of the following antibiotics is the most likely cause of her symptoms?

**1- Ciprofloxacin**

2- Penicillin

3- Erythromycin

4- Gentamicin

5- Clarithromycin

Q1960. A 54-year-old man with a history of myocardial infarction some 5 years ago comes to see you with problems maintaining the hardness of his erections. He is keen to start sildenafil. He has chronic stable angina with no intervention required post angiography and hypertension and is taking a range of medications. Investigations Hb 12.0 g/dl WCC 5.1 x 109 /L PLT 281 x 109 /L Na+ 139 mmol/l K+ 5.0 mmol/l Creatinine 120 μmol/l Which the following medication is LEAST likely to cause any interaction with sildenafil?

1- Doxazocin

2- GTN

3- Nicorandil

4- Isosorbide mononitrate

**5- Furosemide**

Q1961. You are consulted by a 33-year-old woman who is due to go on a cruise. She has been on a cruise ship previously but was kept in her room with nausea and vomiting which she thinks would be attributed to seasickness. She does not wish to have a similar experience on her next cruise. What would you prescribe for her to best avoid such symptoms?

**1- Cinnarizine**

2- Prochlorperazine

3- Ondansetron

4- Metoclopramide

5- Domperidone

Q1962. In a general medical clinic you are reviewing a patient with difficult-to-treat angina and consider that a trial of treatment with nicorandil may be appropriate. Which of the following statements is true concerning the antianginal drug nicorandil?

**1- Oral ulceration is an unwanted effect**

2- It inhibits ATP-dependent potassium channels

3- It increases ventricular filling pressures

4- Headache affects < 5% of patients using it

5- Its hypotensive effect is not potentiated by

Q1963. A patient is admitted to the ward with multiple fractures having fallen while climbing a wall after running from police. One week later he is suffering from nasal discharge, hypersalivation and irritability. He also has diarrhoea and has vomited twice since admission. Investigations Hb 11.0 g/dl WCC 5.0 x 109 /L PLT 105 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 120 μmol/l ALT85 U/l Which of the following agents do you suspect him of having abused?

1- Amphetamine

2- Cocaine

**3- Heroin**

4- Codeine

5- Alcohol

Q1964. A 32-year-old woman presents to the Emergency department with jaundice. She has been taking a 2 week course of antibiotics prescribed by her doctor for recurrent urinary tract infection, but can’t remember their name. On examination she is apyrexial, her BP is 132/78 mmHg, her BMI is 24, and she has jaundiced sclerae. There is no tenderness on abdominal examination. Investigations Hb 13.1 g/dl WCC 5.1 x 109 /L PLT 221 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 100 μmol/l ALT 82U/l Alk P394 U/l Bilirubin 160 μmol/l Which of the following antibiotics is most commonly associated with this blood picture?

1- Trimethoprim

**2- Co-amoxiclav**

3- Rifampicin

4- Ciprofloxacin

5- Erythromycin

Q1965. A 32-year-old patient was admitted with an overdose of lithium. She was immediately started on an infusion of normal saline. On admission the lithium level was 2.4 mmol/l; after 10hrs the lithium level was found to be 1.8 mmol/l. After what period of time post admission is the lithium level likely to be approaching 0?

1- 15hrs

2- 20hrs

3- 12hrs

4- 60hrs

**5- 80hrs**

Q1966. A 53-year-old man is admitted in an intoxicated state having drunk a large quantity of methanol. His blood levels indicate that you should treat him with fomepizole. When treating a methanol overdose with fomepizole, what are the pharmacokinetics involved?

**1- Competitive inhibition**

2- Competitive agonism

3- Non-competitive inhibition

4- Non-competitive agonism

5- Partial agonism

Q1967. Which of the following drugs can cause urinary retention?

**1- Amitriptyline**

2- Diazepam

3- Fluoxetine

4- Venlafaxine

5- Zopiclone

Q1968. A 14-year-old student is on medication for a urinary tract infection. She develops fever, vomiting, diarrhoea and a widespread macular rash with target lesions. Which drug has she been prescribed?

1- Ampicillin

2- Amoxicillin

3- Erythromycin

**4- Co-trimoxazole**

5- Ciprofloxacin

Q1969. A 35-year-old woman being treated for hypertension experiences a sudden onset of fever and malaise. Her temperature is 38°C, she has a malar rash, swelling and tenderness of her wrists and knees and a friction rub at the left lower sternal border. Her blood pressure is normal. Which drug is the most likely cause?

1- Enalapril

2- Hydrochlorothiazide

**3- Hydralazine**

4- Propranolol

5- Amlodipine

Q1970. A 52-year-old alcoholic was found to have tuberculosis. He was started on treatment but now, 3 months later, he complains of tingling and numbness in both feet. Which drug is most likely to be responsible for his symptoms?

**1- Isoniazid**

2- Rifampicin

3- Pyrazinamide

4- Ethambutol

5- Streptomycin

Q1971. A 14-year-old boy was diagnosed with tonsillitis and prescribed an antibiotic by his GP. A few days later, he has developed a blotchy, non-pruritic purpuric rash all over his body. Which drug is most likely to cause this problem?

1- Erythromycin

2- Benzylpenicillin

3- Cefuroxime

**4- Ampicillin**

5- Cefadroxil

Q1972. Which of the following statements is true concerning the use of multi-dose activated charcoal?

1- It is not appropriate in the management of salicylate poisoning

**2- It is unsafe in patients with signs of bowel obstruction**

3- It is of no benefit in overdoses of modifiedrelease preparations

4- Charcoal should be given every 30-60 minutes

5- It is useful in paracetamol overdoses

Q1973. A 29-year-old woman is undergoing treatment for secondary infertility. She complains of headache, dizziness on standing up and symptoms suggestive of Raynaud's phenomenon. Which drug has she been prescribed?

1- Clomifene citrate

2- Buserelin

**3- Bromocriptine**

4- Human menopausal gonadotrophin (HMG)

5- Human chorionic gonadotrophin (HCG)

Q1974. A 35-year-old chronic alcoholic is on warfarin following an acute myocardial infarction and left ventricular aneurysm 6 months ago. He now has deranged liver function tests suggestive of cirrhosis. What is the most appropriate change that should be made for his anticoagulation?

1- Stop all anticoagulant treatment

2- Stop warfarin and start subcutaneous heparin injections

3- Increase the dose of warfarin

4- Stop warfarin and start aspirin

**5- Decrease or stop the warfarin**

Q1975. A 45-year-old, petrol-station attendant complains of tingling and numbness in his hands and feet, breathlessness, lethargy, weight gain and fatigue. He is on treatment for an irregular heartbeat and for a bipolar disorder. On examination, a greyish-blue discoloration is noted on his face with slowing of peripheral reflexes. What chemical is most probably responsible for his condition?

1- Lead

2- Mercury

**3- Amiodarone**

4- Lithium

5- Prednisolone

Q1976. A 39-year-old woman, on oral medication for severe rheumatoid arthritis, attends the clinic with a history of nausea, lethargy and drowsiness. Investigations reveal a pancytopenia, urea 30 mmol/l and creatinine 600 mmol/l. Which drug is most likely to cause these adverse effects?

1- Gold

2- Methotrexate

3- Hydroxychloroquine

**4- d-Penicillamine**

5- Infliximab

Q1977. A 40-year-old bank clerk on phenelzine has shown little improvement and her GP has therefore prescribed an additional drug. Now, 2 days later, she is brought to A&E in an agitated state with high fever, tremors and restlessness. What is the additional drug that was prescribed?

1- Imipramine

2- Amitriptyline

3- Tranylcypromine

4- Lithium

**5- Fluoxetine**

Q1978. An 18-year-old man presents with nausea, vomiting and diaphoresis. His pupils are dilated and his blood pressure is elevated. Misuse of which substance is most likely to have caused this condition?

1- Morphine

**2- Cocaine**

3- Alcohol

4- Amphetamine

5- Lysergic acid diethylamide (LSD)

Q1979. A 60-year-old patient has been commenced on antihypertensive therapy. The next morning he has a dizzy spell and complains of palpitations. Which of the following drugs is the most likely cause?

**1- Doxazosin**

2- Verapamil

3- Hydrochlorothiazide

4- Atenolol

5- Clonidine

Q1980. A 65-year-old female patient suffers two vertebral fractures due to osteoporosis and complains of severe hot flushes. Which of the following would be the most appropriate drug treatment?

1- Alendronate

2- Fluocortolone

**3- Estradiol with norethisterone acetate + alendronate**

4- Cyproterone acetate

5- Medroxyprogesterone acetate

Q1981. A patient in intensive care received aminoglycosides and cephalosporins intravenously for 10 days. Shortly after completing this course of treatment he developed watery diarrhoea that was associated with abdominal pain. Now, 2 days later he has fever and bloody diarrhoea (frequency 20 times per day). Which oral therapy would be most appropriate?

1- Erythromycin

2- Amphotericin B

3- Bulk-forming medication

**4- Vancomycin**

5- Prednisolone

Q1982. A 24-year-old patient is brought in from the local airport, suspected of being a body packer. Which of following statements is true concerning the management of body packers?

**1- Abdominal X-rays may not show the total number of packages swallowed**

2- Whole-bowel irrigation is contraindicated in management

3- Gastric lavage may be indicated in body packers

4- Patients who are asymptomatic on arrival in Accident and Emergency can be discharged without further investigation

5- Paraffin laxatives are safe in these patients

Q1983. A 22-year-old man was commenced on treatment for partial seizures. Now, 3 weeks later, he complains of seeing double and has an unsteady gait. Which drug is most likely to cause these symptoms?

1- Vigabatrin

**2- Carbamazepine**

3- Gabapentin

4- Topiramate

5- Tiagabine

Q1984. A 60-year-old woman on medication presents with drowsiness and confusion. Her pulse rate is 50 bpm and her blood pressure 100/70 mmHg. An ECG shows first-degree heart block and widening of the QRS interval. What class of drugs is most likely to cause these effects?

1- Phenothiazines

2- Tricyclic antidepressants

3- Class III antiarrhythmic drugs (amiodarone)

**4- β-blockers**

5- Digitalis glycosides

Q1985. A 30-year-old woman on treatment for secondary generalised tonic-clonic seizures complains of anorexia, nausea and general fatigue. On examination, there is no peripheral oedema. Blood tests reveal Na+ 124 mmol/l, K+ 4.0 mmol/l and plasma osmolality 200 mOsmol/kg. What antiepileptic drug has she been prescribed?

1- Lamotrigine

2- Levetiracetam

3- Acetazolamide

4- Topiramate

**5- Carbamazepine**

Q1986. A 45-year-old woman has been on amiodarone for the past 3 years. She now complains of lethargy, weight gain and depression. Which investigation would be most useful in this case?

1- Blood urea and electrolytes

2- Liver function tests

3- Full blood count

**4- T3, T4 and TSH levels**

5- ECG

Q1987. A 20-year-old student suffers from hay fever. She is about to take her final examinations and is worried that the medications may cause drowsiness. She has recently been prescribed erythromycin for an ear infection. Which antihistamine would be most suitable for treating her hay fever?

1- Promethiazine

**2- Desloratadine**

3- Chlormethiazole

4- Chlorphenamine maleate

5- Terfenadine

Q1988. A 35-year-old chronic alcoholic was admitted to hospital for a period of detoxification and is now ready for discharge. She is keen to remain abstinent after discharge. Which drug would be most useful in this case?

1- Naltrexone

2- Disulfiram

3- Diazepam

4- Chlordiazepoxide

**5- Acamprosate**

Q1989. A 20-year-old student is admitted to A&E with pyrexia and sweating after an overdose of a painkiller. Which drug is most likely to cause these symptoms?

1- Paracetamol

2- Ibuprofen

**3- Aspirin**

4- Diclofenac

5- Co-proxamol

Q1990. A 25-year-old woman is admitted to hospital with severe diarrhoea following treatment with amoxicillin for a bad throat infection. Stool culture yields Clostridium difficile. She becomes deyhdrated, requiring IV fluids and is unable to tolerate oral medication due to her sore throat. What is the best treatment?

1- Vancomycin

2- Erythromycin

**3- Metronidazole**

4- Tobramycin

5- Neomycin

Q1991. A 50-year-old, mildly hypertensive businessman, on low-dose aspirin, is a regular at parties where he scouts for more business. He is a diabetic and is taking metformin and gliclazide. Recently, he was prescribed erythromycin and paracetamol for an ear infection. He presents with lactic acidosis at A&E. Which drug is most likely to interact with metformin to cause this complication?

1- Erythromycin

2- Paracetamol

3- Gliclazide

4- Aspirin

**5- Alcohol**

Q1992. A patient with tuberculosis was started on combination therapy with isoniazid, rifampicin, pyrazinamide and ethambutol. She is a known slow acetylator of isoniazid. Which particular side-effect is she most likely to be at an increased risk of experiencing?

1- Renal toxicity

2- Visual disturbances

**3- Peripheral neuropathy**

4- Cranial nerve palsy

5- Hypertension

Q1993. You are reviewing a patient in the medical admissions unit who has taken an unknown drug. On your examination you note that he has mydriasis (dilated pupils). Which of the following drugs is he likely to have taken?

1- An opiate

2- Sodium valproate

3- Clonidine

4- A phenothiazine

**5- Cocaine**

Q1994. A 45-year-old hypertensive man on phenytoin and clobazam for partial seizures is also taking lisinopril, cimetidine, sucralfate and allopurinol. He now presents with ataxia, slurred speech and blurred vision. Which recently added drug is most likely to be responsible for his symptoms?

**1- Cimetidine**

2- Clobazam

3- Sucralfate

4- Allopurinol

5- Lisinopril

Q1995. A 60-year-old retired surgeon is admitted with a short history of bizarre behaviour and paranoid symptoms. He has evidence of coarse tremor, horizontal nystagmus and an ataxic gait. There is a history of excessive drinking since retirement. Which of the following immediate treatments would be of greatest benefit to him?

**1- Intravenous thiamine**

2- Intravenous diazepam

3- Naltrexone

4- Acamprosate

5- Disulfiram

Q1996. A 46-year-old AIDS patient on medication for a respiratory tract infection and constipation complains that his urine is stained orange- red. His contact lenses have also become discoloured. Which drug is most likely to cause this?

1- B complex vitamins

2- Nelfinavir

3- Erythromycin

**4- Rifampicin**

5- Phenolphthalein

Q1997. An elderly man on treatment for an irregular heart rate presented complaining of pain and swelling in his ankles, for which he was prescribed a new drug in addition to his existing treatment. Some 2 weeks later he develops complete heart block, nausea and complains of seeing yellow. What drug has he most probably been prescribed?

**1- Furosemide**

2- Sotalol

3- Propranolol

4- Amiodarone

5- Warfarin

Q1998. A patient on treatment for a psychiatric disorder was noted to have hypertension and was prescribed bendrofluazide. Within a week she developed tremor and agitation. Now, 4 weeks later, she presents with heart block, seizures and a raised creatinine concentration of 400 mmol/l. What drug is most likely to have been prescribed for her psychiatric ailment?

1- Amitriptyline

**2- Lithium**

3- Fluoxetine

4- Chlordiazepoxide

5- Chlorpromazine

Q1999. A 40-year-old woman is brought unconscious to A&E. She apparently has swallowed a large number of pills belonging to her friend who is being treated for a psychiatric ailment. On examination, she is apyrexial, her pulse is 130 bpm and her blood pressure is 90/60 mmHg. Her pupils are dilated. ECG shows sinus tachycardia and occasional ventricular ectopics. Which drug is she most likely to have taken?

**1- Imipramine**

2- Chlordiazepoxide

3- Lithium

4- Chlorpromazine

5- Fluoxetine

Q2000. A 58-year-old obese patient presents with swelling of the first metatarsophalangeal joint. On examination it is acutely inflamed, tender, warm to the touch and the overlying skin is red, shiny and itchy. What is the most appropriate therapy?

1- Aspirin

2- Paracetamol

**3- Indometacin**

4- Allopurinol

5- Prednisolone

Q2001. Sildenafil citrate (Viagra) is widely approved for the treatment of erectile dysfunction. Which of the following best describes its mode of action?

1- Inhibition of cyclo-oxygenase II

**2- Inhibition of phosphodiesterase V**

3- Inhibition of a-glycosidase

4- Inhibition of H+/K+-ATPase

5- Inhibition of topoisomerase I

Q2002. What is the mechanism of chlamydia's resistance to cephalosporins?

1- Hydrolysation of the β-lactam ring

**2- Chlamydia has no cell wall**

3- Actively pumps cephalosporins out

4- Chlamydia lives intracellularly

5- Forms cephalosporin-binding proteins

Q2003. Cytochrome P450 interactions with which of the following drugs possessing a narrow therapeutic index leads to toxicity?

1- Lithium

**2- Ciclosporin**

3- Paracetamol

4- Salicylate

5- Penicillin

Q2004. A patient who suffers from colitis ulcerosa presents with severe active disease. He has more than six bowel motions daily with blood, and has tachycardia, fever and anaemia. His colon is tender on palpation. What is the most appropriate therapy?

1- Loperamide

2- Mesalazine

**3- Prednisolone**

4- Neomycin

5- Vancomycin

Q2005. A pharmaceutical company wants to bring generic ranitidine to the market after the patent has expired. What kind of study is needed to obtain approval to market the drug?

1- Preclinical toxicology study

**2- Phase-I bioequivalence study**

3- Phase-II proof-of-concept study

4- Phase-III study in patients

5- Phase-IV study in patients

Q2006. A patient with hypertension has been started on losartan. By which mechanism of action is this drug mostly likely to lower the patient's blood pressure?

1- Angiotensin-converting enzyme inhibition

2- Calcium-channel blockade

**3- Angiotension-II receptor antagonism**

4- Reduction of renin in plasma

5- Increase of aldosterone in plasma

Q2007. Combination therapy with a-blockers and βblockers is indicated to treat which kind of hypertension?

1- Essential hypertension

2- Hypertension due to Conn's syndrome

3- Hypertension with renal insufficiency

**4- Hypertension due to phaeochromocytoma**

5- Hypertension and asthma

Q2008. A newly diagnosed diabetic patient was started on metformin in addition to being given appropriate dietary advice. He asks you about dangerous side-effects of the drug. Which rare but serious side-effect of metformin treatment should be considered?

1- Rhabdomyolysis

**2- Lactic acidosis**

3- Anaphylaxis

4- Pulmonary fibrosis

5- Cardiotoxicity

Q2009. A patient with metastatic carcinoma of the breast is admitted for chemotherapy. Her history reveals that she has had several deep vein thromboses in the past as well as a pulmonary embolism when she was younger. Which chemotherapeutic agent should be particularly avoided in her case?

**1- Tamoxifen**

2- Anastrozole

3- Goserelin

4- Letrozole

5- Buserelin

Q2010. A 50-year-old patient takes 3.5 g aspirin daily together with omeprazole for her rheumatoid arthritis. One morning her pain is worse and she takes double the dose of aspirin before breakfast (7 g). Shortly after, she vomits and complains of tinnitus, sweating and dizziness and hyperventilation. What is her acid base status most likely to be?

1- Normal pH

2- Respiratory acidosis

3- Metabolic acidosis

**4- Respiratory alkalosis**

5- Metabolic alkalosis

Q2011. Activated charcoal is a very efficient therapy for acute poisoning. When can it be repeatedly given to increase elimination of the poison?

1- In cases where gastric lavage is contraindicated

**2- When the drug circulates through the enterohepatic circulation**

3- In cases of heavy-metal poisoning

4- If it is given shortly after ingestion of the poison

5- If a bleeding disorder develops

Q2012. A 50-year-old patient takes 3.5 g aspirin daily together with omeprazole for her rheumatoid arthritis. One morning her pain is worse and she takes double the dose of aspirin before breakfast (7 g). Shortly after, (around 50 minutes later) she vomits and complains of tinnitus, sweating and dizziness. What is the best next step in her management?

1- Acetylcysteine

2- Haemodialysis

3- Intravenous H2-receptor blocker

**4- Gastric lavage and activated charcoal**

5- Intubation

Q2013. You are called to see a 16-year-old girl who told her parents that she partied all night and took five Ecstasy tablets 6 hours ago. On examination she is restless, dehydrated, her blood pressure is 100/60 mmHg and her pulse is 100/min. What is the next step in her management?

1- Gastric lavage

2- Provocation of vomiting

**3- Intravenous NaCl infusion**

4- Sedation

5- Intubation

Q2014. Which drug is most likely to cause weight gain?

**1- Sodium valproate**

2- Phenytoin

3- Carbamazepine

4- Pregabalin

5- Diazepam

Q2015. Iron deficiency anaemia has been diagnosed in an 80-year-old woman suffering from osteoarthritis. You suspect a cause related to her medication. What kind of medication would have contributed to the iron deficiency anaemia?

1- Diclofenac-misoprostol combination

2- Lactulose

3- Celecoxib

**4- Aspirin**

5- Metoclopramide

Q2016. Probenecid can alter the renal excretion of drugs and therefore is a useful addition in the management of certain diseases. With which of the following drugs is probenecid used clinically to increase the plasma half-life and therefore the therapeutic duration of the drug?

1- Quinine

2- Bendroflumethiazide (bendrofluazide)

**3- Penicillin**

4- Furosemide

5- Salicylate

Q2017. Certain poisons and toxins, when ingested, have typical smells or odours. Which of the following smell/odour is correctly paired with the toxin/poison?

**1- Rotten eggs : Hydrogen sulphide**

2- Almonds : Arsenic

3- Garlic : Cyanide

4- Wintergreen : Selenium

5- Almonds : Selenium

Q2018. A patient is brought into hospital after accidentally drinking 300 ml diethylene glycol. He presents with a metabolic acidosis and renal failure. What is the most appropriate next step in his management?

1- Haemoperfusion

2- Forced diuresis

**3- Haemodialysis and oral ethanol**

4- Oral methanol

5- Gastric lavage

Q2019. You are planning a clinical phase-II study in oncology, testing a new chemotherapy in patients with a malignant tumour. It is a randomised, placebo-controlled, double-blind study. A total of 100 patients will receive standard therapy and 100 patients will receive the new substance. Which statistical test is most appropriate to compare the survival times?

1- Paired t-test

**2- Log-rank test**

3- Unpaired t-test

4- Analysis of variance (ANOVA)

5- Chi-square test

Q2020. A 65-year-old woman is receiving chemotherapy with bleomycin. What is the potentially most serious sideeffect that she is at increased risk of developing?

1- Neuropathy

2- Cardiomyopathy

**3- Pneumonitis**

4- Hepatotoxicity

5- Retinopathy

Q2021. A 44-year-old woman has a fasting triglyceride level of 9.6 mmol/l and total cholesterol of 5.5 mmol/l. Dietary intervention has unfortunately shown no benefit and therefore therapy is needed because of her risk factors. What would be the most appropriate drug?

1- Amlodipine

2- Pravastatin

**3- Bezafibrate**

4- Enalapril

5- Cholestyramine

Q2022. A type-2 diabetic patient presents with a blood pressure of 155/90 mmHg and microalbuminuria. Which would be the most appropriate choice of antihypertensive drug for this patient?

1- Diuretic

2- Alpha-blocker

**3- ACE inhibitor**

4- Beta-blocker

5- Calcium-channel blocker

Q2023. A 43-year-old woman with severe rheumatoid arthritis has experienced marked symptomatic improvement since the introduction of methotrexate therapy. What is the likely mechanism of action of the drug to have resulted in this improvement?

1- Inhibition of topoisomerase I

2- Methylation of guanosine

3- Inhibition of tubulin

**4- Inhibition of dihydrofolate reductase**

5- Inhibition of thymidylate synthase

Q2024. A patient with liver cirrhosis was started on a new medication. His hepatic encephalopathy worsened dramatically. Which of the following drugs was he most likely to have been given?

1- Amlodipine

2- Thiamine

**3- Diazepam**

4- Folic acid

5- Vitamin E

Q2025. A patient with peptic ulcer disease was started on omeprazole, with good response. Which mechanism of action is likely to be responsible for ulcer healing?

1- Prostaglandin increase

2- H2-receptor blockade

**3- Inhibition of H+/K+-ATPase**

4- Increase in gastric emptying

5- Helicobacter pylori eradication

Q2026. A patient is to commence on doxorubicin chemotherapy. To monitor potential toxicity, which is the most appropriate investigation to carry out before starting the chemotherapy?

1- EEG

2- Lung function test

3- Creatinine clearance

**4- Echocardiogram**

5- CT brain

Q2027. A 25-year-old patient attends suffering from bloody diarrhoea and pain in his right abdomen. He just returned from a holiday in the tropics. Entamoeba histolytica is detected in a stool sample. What is the most appropriate therapy?

1- Erythromycin

2- Mebendazole

3- Mefloquine

**4- Metronidazole**

5- Vancomycin

Q2028. An 18-year-old woman presents to casualty with nausea and vomiting. She admits that she wanted to commit suicide and took 50 paracetamol tablets (500 mg each) half an hour earlier. After the administration of activated charcoal, what is the most appropriate antidote?

1- Naloxone

2- Atropine

3- Flumazenil

**4- Acetylcysteine**

5- Adrenaline

Q2029. A 65-year-old patient with asthma was started on theophylline because his asthma was still not controlled. He continues to smoke 20 cigarettes per day and is also being treated for heart failure. In addition, he suffers from liver cirrhosis due to alcohol abuse. His GP recently started him on erythromycin for a chest infection. Which clinical feature is most likely to necessitate an increase in theophylline dose?

1- Age above 60 years

**2- Heavy smoker**

3- Heart failure

4- Liver cirrhosis

5- Concomitant use of erythromycin

Q2030. A 24-year-old pregnant woman (7 months' gestation) presents with isolated hypertension, her blood pressure is 170/110 mmHg. What is the most appropriate antihypertensive drug to use in this case?

1- Enalapril

2- Hydrochlorothiazide

3- Doxazosin

**4- Methyldopa**

5- Losartan

Q2031. A patient with coronary heart disease and high LDL-cholesterol was started on simvastatin 6 months ago. His GP recently started him on another medication and now, 2 weeks later, is complaining of muscle pain and weakness. Tests reveal an elevated creatine kinase (CK) greater 10 times the upper limit of normal. Which additional drug is he most likely to have taken?

1- Atenolol

2- Amlodipine

**3- Erythromycin**

4- Aspirin

5- Rifampicin

Q2032. A psychiatric patient on medication presents with fever, rigidity and altered consciousness, together with tachycardia and labile blood pressure. Neuroleptic malignant syndrome is diagnosed. Which is the most appropriate drug therapy?

1- Atropine

**2- Dantrolene**

3- Metoclopramide

4- Beta-blocker

5- Selegiline

Q2033. Which of t he following measures is documented to be most effective in reducing the risk of transmission of HIV to the newborn child?

1- Oral zidovudine at the time of conception

2- Elective Caesarean section

**3- Postnatal administration of zidovudine to the baby**

4- Zidovudine administration to the mother at the time of breast-feeding

5- Vaginal delivery with shortening of the

Q2034. A 32-year-old man presents to A&E following a deliberate overdose of an unknown quantity of ferrous sulphate. Which of the following statements is true concerning the symptoms and management of this patient?

1- Early gastrointestinal features of toxicity are due to systemic iron concentrations

2- Dissolved tablets are radio-opaque before absorption

**3- Initial hyperglycaemia indicates significant ingestion**

4- Serum iron concentrations of 100 µmol/l are usually asymptomatic

5- Activated charcoal is useful in earlypresenting patients

Q2035. A 24-year-old man is bought into A&E after he was found collapsed in the street with hypoglycaemia. Friends commented that he had taken a quantity of unknown tablets a few hours before. Which of the following drugs could he have ingested that would have caused the hypoglycaemia?

1- Theophylline

2- Iron

**3- Propranolol**

4- Prednisolone

5- Bendroflumethiazide (bendrofluazide)

Q2036. A 22-year-old man is diagnosed with pulmonary tuberculosis and is started on treatment. A month later, he presents with anorexia, malaise and fever. Laboratory investigations reveal: Hb 12.8 g/dl; WCC 12.0 x 109 /L; urea 27 mmol/l; creatinine 440 mmol/l. Urinalysis shows the presence of numerous pus cells. What is the most likely cause for his symptoms?

1- Renal tuberculosis

2- Isoniazid Toxicity

3- Superimposed urinary tract infection

4- Adverse effects of ethambutol

**5- Acute interstitial nephritis caused by**

Q2037. A 44-year-old man with a BMI of 34 was found to have type-2 diabetes mellitus on routine testing 3 months ago. He was advised a low-energy, weight-reducing diet and exercise. This has not been complied with and his postprandial blood glucose concentration is 14.2 mmol/l. What would be the drug of choice in this case?

1- Tolbutamide

2- Chlorpropamide

**3- Metformin**

4- Insulin

5- Pioglitazone

Q2038. A 17-year-old boy presents with anosmia and obesity. His parents are worried that he has not developed secondary sexual characteristics like his peers. What treatment would be most appropriate in this condition?

1- Buserelin

2- Nafarelin acetate

**3- Human chorionic gonadotrophin**

4- Octreotide

5- Cyclic oestrogen and progestogen

Q2039. A 6-month-old child has sensorineural deafness and a ventricular septal defect. Her mother gives a history of medication for acne, which was stopped when she realised she was pregnant. Which drug is most likely to cause these defects?

1- Oxytetracycline

2- Cyproterone acetate

3- Minocycline

4- Clindamycin

**5- Isotretinoin**

Q2040. A child is born with an open spina bifida despite adequate folate intake by the mother during pregnancy. The mother is a known epileptic on long-term medication. Which drug is most likely to be associated with this teratogenic effect?

1- Carbamazepine

2- Phenytoin

**3- Sodium valproate**

4- Primidone

5- Phenobarbital

Q2041. A 50-year-old truck driver, with type-2 diabetes for the past five years, BMI 35 kg/m2 and Hb A1c of 7.8% is taking 160 mg gliclazide twice a day and metformin 2 g daily. What would be the drug of choice in this case?

1- Acarbose

**2- Rosiglitazone**

3- A mixture of short- and medium-acting insulins

4- Chlorpropamide

5- Repaglinide

Q2042. A 30 -year-old sales executive is admitted for an operative procedure requiring general anaesthesia. He drinks over 60 units of alcohol per week. It is necessary that he does not suffer from withdrawal symptoms postoperatively. Which drug would be most appropriate in alleviating this problem?

**1- Chlordiazepoxide**

2- Temazepam

3- Lorazepam

4- Clomethiazole

5- Chlorpromazine

Q2043. A retired salesman, who is receiving treatment for hypertension and moderate heart failure, attends the clinic with complaints of a persistent dry cough. Which medication is most likely to cause this symptom?

1- Candesartan

2- Methyldopa

**3- Lisinopril**

4- Doxazosin

5- Propranolol

Q2044. A patient with congestive heart failure requires furosemide therapy for his oedema. On his follow-up visit you note persistent hypokalaemia. What would be the next step in his management?

1- Change the furosemide to bumetanide

2- Change the furosemide to hydrochlorothiazide

**3- Add a small dose of amiloride to his furosemide**

4- Consider a potassium infusion

5- Add metolazone to his furosemide

Q2045. In the prophylaxis of asthma, what is the most probable mechanism of action of sodium cromoglycate?

1- Inhibition of acetylcholine at the synaptic junctions

2- Competitive blockade of histamine at receptor sites

**3- Inhibition of mast-cell degranulation**

4- Action on eosinophils to reduce the inflammatory response to inhaled allergens

5- Potentiation of the effects of b2-receptor

Q2046. A 57-year-old presents with a subacute history of breathlessness. Following investigation, a diagnosis of pulmonary fibrosis is made. He has been taking a medication for the past few years, and the respiratory team suspects a drug-related cause for his symptoms. Which of the following medications would be most likely to be responsible?

1- Bendrofluazide

2- Prednisolone

3- Captopril

**4- Methotrexate**

5- Digoxin

Q2047. A 73-year-old man presents to A&E following an overdose of digoxin. Which of the following statements is true concerning the management of digoxin poisoning?

**1- Calcium gluconate should not be given when hyperkalaemia is present**

2- A serum sickness does not occur following the use of digoxin-specific antibodies

3- DC cardioversion is advised in the management of arrhythmias

4- Multi-dose activated charcoal has no beneficial effect

5- Bradycardia with hypotension is an

Q2048. A 68-year-old male patient with disseminated carcinoma of the prostate is being treated with buprenorphine, which until recently has controlled his bone pain well. Other significant history of note includes chronic renal failure. More recently, he has complained of increasing pain in the hip. Which of the following measures would be most appropriate to optimise his pain control?

1- Add morphine elixir to his therapy

**2- Substitute morphine elixir for buprenorphine**

3- Substitute sustained-release morphine tablets for buprenorphine

4- Add diclofenac to his therapy

5- Add amitriptyline to his therapy

Q2049. A 25-year-old woman on the oral contraceptive pill develops partial epilepsy. Over the past 3 months, she has had a number of fits, now requiring treatment. She does not wish to become pregnant. Which of the following measures are appropriate?

1- Stop the oral contraceptive, as this may be precipitating fits, and suggest using barrier contraceptive methods

2- Continue oral contraceptive, and commence on phenytoin

**3- Continue oral contraceptive, and commence lamotrigine**

4- Continue oral contraceptive, and commence on ethosuximide

5- Change to a progestagen-only

Q2050. A 67-year-old man has recently started taking dothiepin for the management of depression, his GP thinks the patient may have developed some features suggestive of the anticholinergic syndrome. Which of the following statements is true concerning the anticholinergic syndrome?

1- Bradycardia is common

2- Physostigmine is the correct treatment

**3- Hot, dry skin occurs**

4- Constricted pupils occur

5- Hypotension is common

Q2051. You are discussing policy on therapeutic drug monitoring with the ward pharmacist. For which of the following drugs would this be most appropriate?

1- Propranolol

**2- Vancomycin**

3- Cyclophosphamide

4- β-Interferon

5- Vigabatrin

Q2052. You review a 68-year-old man who has a positive Doppler scan for deep vein thrombosis and requires treatment with warfarin. Which of the following substances is most likely to reduce the effect of warfarin therapy?

**1- Colestyramine**

2- Cimetidine

3- Alcohol

4- Co-trimoxazole

5- Metronidazole

Q2053. You are asked to review a 50-year-old man in the intensive care unit who has apparently had a single epileptic seizure, several days after admission. In the absence of other obvious causes, you consider the possibility of an adverse drug effect. Which of the following drugs might be most likely to have caused this?

1- Chlordiazepoxide

2- Diazepam

**3- Intravenous benzylpenicillin**

4- Amiodarone

5- Chlomethiazole

Q2054. A 54-year-old man, in a stable condition after his anterior myocardial infarction, is now moved to the main ward. He is in mild LVF, and echocardiography puts his ejection fraction at around 34%. You commence eplerenone therapy at a dose of 25 mg. What adverse effects may be anticipated?

1- Hypocalcaemia

2- Hypertension

3- Constipation

4- Hyponatraemia

**5- Hyperkalaemia**

Q2055. A 39-year-old lady is noted to have a serum sodium concentration of 127 mmol/l (137- 144), as well as a high urine osmality. A diagnosis of syndrome of inappropriate antidiuretic hormone (ADH) secretion (SIADH) is made, and a drug-related cause is suspected. Which of the following drugs is most likely to be responsible?

**1- Carbamazepine**

2- Rifampicin

3- Lithium

4- Chlorpropamide

5- Demeclocycline

Q2056. A 60-year-old man presents with polyuria and is noted to have a serum sodium level of 159 mmol/l (137-144). You suspect nephrogenic diabetes insipidus. Which of the following medications would be most likely to have caused this?

1- Aspirin

**2- Demeclocycline**

3- Methotrexate

4- Propranolol

5- Thiazide diuretics

Q2057. A 50-year-man presnts with acute pain and inflammation of his big toe. You suspect a clinical diagnosis of gout. Which of the following drugs would be most likely to be responsible?

1- Spironolactone

2- Losartan

3- Amlodipine

4- Indometacin

**5- Aspirin**

Q2058. A 40-year-old man with polycystic kidney disease is under follow-up from the renal clinic for deteriorating creatinine. His general practitioner (GP) asks for advice regarding drug prescribing, given his renal failure. Which of the following factors is the most important when considering dosage alteration in his case?

1- Age

2- The blood urea levels

3- The molecular weight of the drug

**4- The patient's glomerular filtration rate**

5- Weight

Q2059. A 68-year-old man with known ischaemic heart disease, on regular atenolol and aspirin as well as glyceryl trinitrate therapy as required, is admitted to hospital with unstable angina. Regular oral clopidogrel and nifedipine are added, and he is placed on regular subcutaneous enoxaparin and an intravenous infusion of glyceryl trinitrate. Three days later, he is noted to be jaundiced. What is the most likely explanation?

1- He has co-existent viral hepatitis

2- Clopidogrel therapy

3- Enoxaparin therapy

**4- Nifedipine therapy**

5- High-dose glyceryl trinitrate therapy

Q2060. A 60-year-old lady presents with a 5-day history of malaise, mild jaundice and abdominal discomfort. Transaminases are markedly raised and a diagnosis of hepatitis is made. A drug-related cause is suspected. Which of the following drugs would be most likely to be responsible?

1- Isoprenaline

2- Chlorpromazine

3- Ethinylestradiol

**4- Amiodarone**

5- Tetracycline

Q2061. On admission examination, a 60-year-old man is noted to have reduced facial expression, rigidity and bradykinesia. He has been taking a long-term medication and a diagnosis of early drug-induced Parkinsonism is suspected. Which of the following treatments would be the most likely cause?

**1- Droperidol**

2- Orphenadrine

3- Domperidone

4- Imipramine

5- Selegiline

Q2062. An 81-year-old woman is admitted to A&E with a severe pneumonia, hypotension and generalised bacteraemia. There is a history of previous GP attendance for a urinary tract infection. According to her husband, she has been prescribed a prolonged course of cotrimoxazole, as this has been her third urinary infection in the past 2 months. She has had diarrhoea and vomiting for the past 24 h. Her total white count is below normal, with a neutrophil count of virtually zero. What is the most likely diagnosis that fits with this clinical picture?

1- Severe pneumonia

**2- Neutropenia secondary to co-trimoxazole therapy**

3- Urinary tract infection

4- Chronic myeloid leukaemia

5- Salmonella infection

Q2063. A 67-year-old man who has suffered a previous stroke is admitted with collapse. His drug history includes the use of dipyridamole. On examination he has a regular pulse of 150 bpm. You elect to try intravenous adenosine to slow his heart down. Which of the following best fits the characteristics of adenosine?

1- Its half-life is decreased by dipyridamole

**2- It may be used after beta-blockade**

3- The half-life of adenosine is around 15 seconds

4- It is effective in cardioverting ventricular tachycardia

5- It can be used in cases of sick-sinus

Q2064. You review a 58-year-old man with type-2 diabetes treated with metformin, and hypertension that is being treated with nifedipine. You want to add a glitazone to his therapy. Which metabolic pathway is mainly responsible for the metabolism of pioglitazone?

1- CYP2C8

2- CYP2C9

**3- CYP3A4**

4- CYP3A2

5- CYP3A1

Q2065. A 25-year-old woman who has a history of asthma attends for review. She is currently taking fluticasone dipropionate 250mg inhaled twice daily. You plan to add salmeterol. Which of the following statements best fits the pharmacological characteristics of salmeterol?

**1- It may cause paradoxical bronchospasm**

2- It is a long-acting b1-agonist

3- It is a short-acting b1-agonist

4- It is a short-acting b2-agonist

5- Tachycardias are not associated with its

Q2066. A 45-year-old woman who smokes 30 cigarettes per day is admitted as a cardiac arrest via ambulance from the local city centre. Her husband says that she has recently suffered a chest infection, she is penicillin-allergic and has been prescribed erythromycin. Other past medical history is of chronic vaginal candidiasis, for which her husband believes she is taking some antifungal tablets. Given her medication history, which of the following causes of cardiac arrest is more probable?

1- Myocardial infarction

2- Ventricular tachycardia

3- Supraventricular tachycardia

**4- Torsades de pointes ventricular tachycardia**

5- Anaphylaxis to erythromycin

Q2067. A 56-year-old man is entering his sixth year of combination antiretroviral treatment for HIV infection. Over the past few years he has noticed increasing gynaecomastia, abdominal fat and his partner has complained that he appears to be acquiring a 'buffalo hump'. Routine clinical examination reveals a blood pressure of 160/85 mmHg, and a glucose concentration of 16.1 mmol/l (3-6). What diagnosis best fits with this clinical picture?

1- Cushing's disease

2- Type-2 diabetes

**3- Antiretroviral insulin-resistance syndrome**

4- Impaired glucose tolerance

5- Metabolic syndrome

Q2068. A 40-year-old woman has been established on warfarin therapy following a deep venous thrombosis, with INR between 2.0 and 3.0. However, at her last clinic visit the INR was noted to be 4.9, without any change in warfarin dose. On questioning, she admits to having taken a medication that her GP prescribed last year before her warfarinisation. Which of the following drugs is most likely to account for the change in INR?

**1- Cimetidine**

2- Aspirin

3- Indometacin

4- Amoxicillin

5- Diazepam

Q2069. You review a 78-year-old man who was admitted with hypotension and fast atrial fibrillation. The admitting SHO diagnosed sepsis and commenced him on gentamicin therapy. He is on multiple drugs, including fluoxetine for depression, bumetanide for fluid overload, amiodarone for atrial fibrillation and diazepam to help him sleep. Which of his drugs has the longest half-life?

1- Bumetanide

**2- Amiodarone**

3- Fluoxetine

4- Diazepam

5- Gentamicin

Q2070. A 60-year-old lady, who has been an inpatient in the medical unit for several weeks, is noted to have a haemoglobin concentration of 9.9 g/dl (13-16). The blood film shows evidence of haemolysis. She has been on multiple medications and a drug-related cause is suspected. Which of the following agents is most likely to be responsible for her anaemia?

**1- Penicillin**

2- Verapamil

3- Captopril

4- Erythromycin

5- Atenolol

Q2071. Which of the following drugs is an inhibitor of the cytochrome P450 isoenzyme system?

1- Phenytoin

2- Rifampicin

3- Barbiturates

**4- Sodium valproate**

5- Carbamazepine

Q2072. You are asked to review a 55-year-old woman who is currently taking aciclovir for an episode of severe shingles. She is also taking propranolol and diazepam for anxiety, fluoxetine for depression and amiodarone for paroxysmal atrial fibrillation. Which of her drugs is the most water-soluble?

1- Amiodarone

2- Fluoxetine

3- Propanolol

**4- Aciclovir**

5- Diazepam

Q2073. A 68-year-old woman with severe rheumatoid arthritis presents for review. She complains of increasing tiredness and has multiple swollen lymph nodes. There is mild normochromic, normocytic anaemia and her ESR is markedly raised despite quiescent rheumatoid disease at present. She is currently managed with methotrexate and infliximab. What diagnosis fits best with this clinical picture?

**1- Lymphoma secondary to immunemodulation therapy**

2- Carcinomatosis

3- SLE-type syndrome related to immunemodulation therapy

4- Reactivation of rheumatoid disease

5- Chronic myeloid leukaemia secondary to

Q2074. A 65-year-old man with advanced chronic obstructive pulmonary disease presents for review. He is currently taking salbutamol as required, but requires an increase in his inhaled therapy. You decide to add tiotropium to his regime. Which of the following options best describes the mode of action of tiotropium?

1- It is a long-acting b2-agonist

2- It is an inhaled steroid

3- It is a short-acting anticholinergic agent

**4- It is a long-acting anticholinergic agent**

5- It may be used freely in patients with

Q2075. An 81-year-old woman with advanced chronic obstructive pulmonary disease is admitted in an unconscious state. She appears to have an acute lower respiratory tract infection. The anaesthesiologist feels that she is not a candidate for intensive care unit admission. You elect to begin doxapram therapy. Which of the following characteristics fits best with doxapram?

1- It causes hypotension

**2- It is contraindicated in hyperthyroidism**

3- It is safe in phaeochromocytoma

4- It is compatible in infusion with aminophylline

5- It has a half-life of 12 h

Q2076. A 57-year-old with cardiac failure is being managed in the high dependency unit. The decision has ben made to commence inotropic support. Of the following drugs, which is most likely to cause significant tachycardia?

1- Noradrenaline

2- Dopamine

3- Dobutamine

**4- Adrenaline**

5- Phenylephrine

Q2077. A 72-year-old woman presents for review in the fracture clinic. There is evidence of osteoporosis and you decide to start bisphosphonate therapy. Nausea is listed as a very common side-effect of the drug. What is the expected rate of occurrence for side-effects listed as 'very-common'?

1- Greater than 1 in 2 patients

2- 1 in 5 to 1 in 2 patients

3- 1 in 10 to 1 in 5 patients

4- 1 in 100 patients to 1 in 10 patients

**5- Greater than 1 in 10 patients**

Q2078. What is the most common cause of paranoid psychosis with visual hallucination?

**1- Alcohol withdrawal**

2- Opiate withdrawal

3- Amphetamine withdrawal

4- Selective serotonin re-uptake inhibitor withdrawal

5- Benzodiazepine withdrawal

Q2079. A 90-year-old man with chronic leukaemia presents with gout, which his general practitioner treats allopurinol. How does allopurinol prevent the accumulation of uric acid?

1- By competing for the uric acid transporter in the kidney

2- By enhancing its solubility

**3- By inhibiting a step in purine breakdown**

4- By inhibiting a step in purine synthesis

5- By inhibiting the inflammatory response

Q2080. You review a 58-year-old man with the results of a recent endoscopy. He has rheumatoid arthritis and requires regular pain-relieving medication. You are considering increasing his antiinflammatory medication. Which of the following drugs act as inhibitor of prostaglandin synthase and lipoxygenase enzymes?

1- Misoprostol

2- Loperamide

**3- Indometacin**

4- Clopidogrel

5- Ticlodipine

Q2081. A heroin addict who is on a methadone program was involved in a motor vehicle accident and sustained multiple pelvic fractures. What should be done about his analgesics?

**1- Continue on methadone and titrate additional analgesics with parenteral diclofenac**

2- Continue methadone and titrate to pain requirement

3- Discontinue methadone

4- Discontinue methadone and start on parenteral morphine

5- Discontinue methadone and titrate

Q2082. A 56-year-old worker is bought in from a nearby electroplating company following his potential exposure to cyanide gas. Which of the following statements is true concerning cyanide toxicity?

1- Cyanide is found in hazelnuts

2- Oral ingestion produces more rapid symptoms than inhalation

3- Patients with headache should be treated with dicobalt edetate

4- Sodium bisulphate should be given to patients with moderate toxicity

**5- Amyl nitrite is useful in the management**

Q2083. A man had an argument with his girlfriend and drank engine coolant in an attempt to commit suicide. On admission his conscious level is decreased and he is severely unwell. Biochemistry - pH 7.1, HCO3- 2, large base deficit, calcium (Ca) low. What would be the next immediate management after replacing Ca?

1- Haemodialysis

2- Start peripheral sodium bicarbonate 8.4% infusion

3- Start iv fomepizole

**4- Start sodium bicarbonate 8.4% infusion via central line**

5- Start ethanol infusion

Q2084. A patient is referred to you (the medical SHO on call) from the local in-patient psychiatric hospital with a potential diagnosis of serotonin syndrome following management of severe depression. Which of the following is true concerning the serotonin syndrome?

1- Hyporeflexia occurs

2- Hypertonia is uncommon

3- Sweating is not a feature

**4- Cyproheptadine may be useful in treatment**

5- Bradycardia occurs

Q2085. A 32-year-old woman with long-term epilepsy was concerned over weight gain due to taking valproate. Otherwise she is only on the oral contraceptive pill. Which of the following is the best alternative to valproate?

1- Phenytoin

2- Carbamazepine

**3- Lamotrigine**

4- Phenobarbital

5- Topiramate

Q2086. A 16-year-old girl presented with HenochSchönlein purpura and renal involvement. What is the most likely outcome?

1- High probability of relapse

**2- Complete renal recovery**

3- Persistent hypertension

4- Persistent proteinuria

5- Requirement for long-term corticosteroids

Q2087. A 63-year-old patient has a history of chronic renal failure and atrial fibrillation for which he receives warfarin. He presented with an acutely painful right big toe. Investigation: uric acid mildly elevated, creatinine 200. What is the most appropriate treatment?

1- Paracetamol

2- Ibuprofen

**3- Colchicine**

4- Allopurinol

5- Indometacin

Q2088. You review a 17-year-old girl who has taken 20 g of acetaminophen (paracetamol). Acetaminophen is an important cause of acute hepatic failure. Which of the following statements concerning paracetamol overdose is correct?

1- Significant liver injury rarely occurs with doses of less than 20 g

2- Alcoholics are less susceptible to liver injury even with a low dose

**3- N-acetylcysteine is most effective when administered within 10 h of ingestion**

4- Haemodialysis is effective in the management of hepatotoxicity

5- Survivors of acetaminophen-induced

Q2089. What is the reason for a different dose of sublingual glyceryl trinitrate (GTN) and oral isosorbide mononitrate?

1- Absorption

**2- First-pass metabolism**

3- Lipid solubility

4- Phase II metabolism

5- More rapid renal clearance

Q2090. A 34-year-old patient has been treated for rosacea for the last 3 months. He develops blue-grey skin pigmentation. Which drug is most likely to be responsible for this?

1- Amiodarone

2- Ciprofloxacin

3- Doxycycline

**4- Minocycline**

5- Oxytetracycline

Q2091. Which of the following is the main reaction involved in the normal metabolism of paracetamol?

1- Cytochrome P450-dependent oxidation

2- Hydrolysis

**3- Conjugation to glucuronic acid**

4- Conjugation to glutathione

5- Acetylation

Q2092. A 23-year-old man was brought in to the Emergency Department from a nightclub after he was found unconscious. His blood pressure was measured at 165/90 on admission. He had the following investigations: K+ 2.5 mmol/l, Na+ 138 mmol/l, Urea 5.5 mmol/l, and Creatinine 85 mmol/l. Which of the following is the most likely cause?

**1- Amphetamine**

2- Cannabis

3- Heroin

4- Ethylene glycol

5- Atenolol

Q2093. You review a 72-year-old woman known to suffer from agitation and extreme nausea after previous general anaesthetics. You are on call for the surgical wards and note that the anaesthetists have prescribed haloperidol for nausea. Which of the following stems best describes the main site of action for haloperidol with regards nausea?

**1- Chemoreceptor trigger zone**

2- Cholinergic receptors

3- Adrenergic receptors

4- Vestibular system

5- Is a prokinetic agent

Q2094. People can be described as either fast or slow drug acetylators. Which of the following statements is true?

**1- Sulfasalazine can cause haemolysis in slow acetylators**

2- Slow acetylation is an autosomal-dominant trait

3- Approximately 60% of Japanese people are fast acetylators

4- Drug acetylation is a phase-I reaction

5- Dapsone treatment can cause neuropathy

Q2095. A 37-year-old woman, 3 weeks post-partum, is being reviewed by the medical registrar for a co-existing medical problem. Which of the following drugs, in normal therapeutic doses, should be avoided from the point of view of breast-feeding?

1- Heparin

2- Warfarin

**3- Aspirin**

4- Erythromycin

5- Thyroxine

Q2096. In a normally healthy 80-year-old lady, which of these drugs should be used with particular caution?

**1- Triamterene**

2- Ranitidine

3- Amoxicillin

4- Omeprazole

5- Low-dose (75 mg daily) aspirin

Q2097. A 45-year-old man is admitted as an emergency with suspected self-poisoning. In the case of which poison would emergency measurement of plasma concentration be most indicated?

1- Diazepam

2- Imipramine

3- Chlorpromazine

4- Morphine

**5- Paraquat**

Q2098. A 29-year-old woman is admitted following paracetamol overdose. Which biochemical abnormality might you expect to find on routine testing?

1- Hypokalemia

**2- Hypoglycemia**

3- Hyperkalaemia

4- Hyponatraemia

5- Hypocalcaemia

Q2099. In a 55-year-old man on long-term phenytoin therapy, which of the following adverse effects caused by phenytoin is most likely to be observed?

1- Osteoporosis

**2- Agitation**

3- Hemiparesis

4- Bradycardia

5- Hypotension

Q2100. A 58-year-old man a history of obesity, gastro-oesophageal reflux disease, and low back pain ischaemic heart disease (IHD). He presents with large, itchy wheals over the trunk limbs and a sensation of tightness in throat. Which one of following drugs is likely to have triggered this skin eruption?

**1- Aspirin**

2- Glyceryl trinitrate (GTN) spray

3- Omeprazole

4- Paracetamol

5- Simvastatin

Q2101. A 22-year-old female student presents to the emergency department complaining of rapid regular palpitations, which started suddenly whilst she was reading. On examination she is tachycardic at 155 beats/min, normotensive, and the rest of the examination is unremarkable. Electrocardiogram (ECG) shows a supraventricular tachycardia. Vagal manoeuvres have no effect. Which of the following subsequent measures would be most appropriate as initial management?

1- Intravenous amiodarone

2- Intravenous digoxin

3- Direct current (DC) cardioversion

**4- Intravenous adenosine**

5- 24-hour urine collection for

Q2102. A 30-year-old woman was started on carbamazepine for partial complex seizures and was also advised to discontinue her moderate alcohol consumption. Therapeutic concentrations of carbamazepine were achieved within four days with a dose of 200 mg daily, but the dose needed to be increased to 400 mg daily within two weeks to achieve a therapeutic plasma concentration. Which one of the following is likely to account for this observation?

**1- Auto-induction of carbamazepine metabolism**

2- Auto-inhibition of carbamazepine metabolism

3- Cessation of alcohol intake

4- Concomitant prescription of the oral contraceptive pill

5- Reduced bioavailability of carbamazepine

Q2103. A 32-year-old glass etcher presents following a failed suicide attempt having ingested hydrofluoric acid that he uses at work. Concerning the management of poisoning with this acid, which of the following statements is true?

1- Neutralisation of acids is appropriate management

**2- Acids cause more severe corrosive effects in the stomach than the oesophagus**

3- Hydrofluoric acid can cause severe hypercalcaemia

4- Acids cause liquefactive necrosis (saponification)

5- Gastric lavage is appropriate in early

Q2104. You review a 28-year-old man who has been admitted in a state of collapse from a night club. His friends admit that because of pressure at work he has been using increasing amounts of cocaine recently. Which of the following stems is commonly associated with cocaine overdose?

1- Bradycardia

2- Hypotension

3- Metabolic alkalosis

4- Hypothermia

**5- Metabolic acidosis**

Q2105. You review a 64-year-old man who is on warfarin therapy for recurrent atrial fibrillation. He presents to the Accident and Emergency Department with bruising. An international normalised ration (INR) check reveals that his INR is raised, at 6.5. Which of the following drugs may result in increased INR when co-prescribed with warfarin therapy?

**1- Ciprofloxacin**

2- Phenobarbitone

3- Carbamazepine

4- Primidone

5- Rifampicin

Q2106. A 48-year-old man is referred with impotence. He has a history of angina, hypertension, and type-2 diabetes. Which one of the following drugs that he takes presents a contraindication to him being able to receive sildenafil?

1- Aspirin

2- Bendroflumethazide

**3- Isosorbide mononitrate**

4- Lisinopril

5- Metformin

Q2107. A 16-year-old woman attends casualty 15 hours after ingesting approximately 30 g of paracetamol and 2 g of dihydrocodeine. On examination, she is drowsy with a Glasgow Coma Scale of 15. Her pulse is 100 beats per minute, blood pressure is 110/66 mmHg, and she has pinpoint pupils, with saturations of 96% on air. What is the most appropriate treatment for this patient?

1- 10% dextrose infusion

2- Activated charcoal by mouth

3- Gastric lavage

**4- N-Acetylcysteine intravenously**

5- Naloxone intravenously

Q2108. A 63-year-old lady is found to be jaundiced. Biochemical results are as follows: bilirubin 62mmol/l (1-22), g glutamyl transferase 400 IU(4-35), alanine aminotransferase 42 IU(5- 35) and alkaline phosphatase 386IU (45-105). She is taking many different drugs. Which of the following would be most likely to be responsible for her current presentation?

1- Amiodarone

**2- Chlorpromazine**

3- Isoniazid

4- Methotrexate

5- Methyldopa

Q2109. A 69-year-old man with chronic atrial fibrillation, controlled on digoxin, is found to have a blood pressure of 178/102 mmHg. He is commenced on modified-release verapamil 240 mg daily. One week later, he is taken to the hospital emergency department having been found collapsed. He is tachycardic at 130 beats/min, hypotensive with a blood pressure 90/62 mmHg, and an electrocardiogram (ECG) shows him to be in ventricular tachycardia. What is the most likely explanation?

1- He has had a myocardial infarction

2- Verapamil has exerted a pro-arrhythmic effect

**3- He has developed digoxin toxicity**

4- He has Wolff-Parkinson-White syndrome

5- The hypotensive effect of verapamil has

Q2110. A man with advanced cirrhosis attends the clinic for review of his medications. He is taking a number of drugs, including omeprazole, propanolol and ciprofloxacin. Which of the following statements best applies to drug metabolism in patients with advanced liver disease?

1- Drug reactions mediated by mixed function oxidases are affected late in liver disease

2- Conjugation reactions are affected early in cirrhosis

**3- Conjugation reactions are affected to a lesser extent by advanced liver disease and only occur in very late stage disease**

4- Plasma proteins increase and affect drug metabolism

5- Intrahepatic cholestasis does not affect

Q2111. You are reviewing a 73-year-old man with multiple cardiac problems. He is currently taking ramipril, metoprolol, furosemide, amiodarone and aspirin. Over the past few months he has noted problems with night glare and his optician has diagnosed corneal microdeposits. Which drug in his regime is most likely to be responsible?

1- Ramipril

2- Metoprolol

3- Furosemide

4- Aspirin

**5- Amiodarone**

Q2112. You are developing a new drug for heart failure and plan a 6-month long clinical trial. During this time you are hoping to detect adverse events that might be expected to occur with an incidence of 1 in 2,000 patients during the 6 months of the study. How many patients would need to be recruited to detect one adverse event?

**1- 6,000**

2- 30,000

3- 15,000

4- 10,000

5- 7,000

Q2113. A patient you are referring to the cardiothoracic surgeons for consideration for coronary artery bypass grafting has some questions about the anaesthetics that may be used. He has heard from a friend of something called 'halothane hepatitis'. Concerning halothane hepatitis, which of the following statements is true?

1- It is due to direct halothane toxicity

2- Fulminant hepatitis occurs on the first exposure to halothane

3- Mild liver dysfunction can occur in 75% of patients treated with halothane

**4- Fulminant hepatitis results from the reactive metabolite, trifluoroacetylchloride**

5- Mortality associated with fulminant

Q2114. You are asked to review a 59-year-old man who has been referred to the allergy clinic after attending the Emergency department with a sudden attack of flushing, swelling of his tongue and airway and hypotension. He has a history of hypertension for which he takes amlodipine and enalapril. What would be the best course of action?

1- Stop his amlodipine tablets and substitute another antihypertensive agent

**2- Stop his enalapril tablets and substitute another antihypertensive agent**

3- Commence regular treatment with an H1 blocker

4- Commence regular treatment with an H2 blocker

5- Train him how to use an EpiPen

Q2115. You are reviewing a man who is taking warfarin for recurrent pulmonary emboli. Which of the following drugs may lead to an increased INR?

1- Vitamin K

2- Rifampicin

3- Phenobarbital

**4- Paracetamol**

5- Griseofulvin

Q2116. You are asked to review a 36-year-old man who suffers from partial epilepsy. He has presented to casualty after a fall, and a visualfield defect has been identified. He has been on vigabatrin combination therapy for 3 years as his epilepsy had been poorly managed up till then. What type of adverse drug reaction is most likely to be responsible for his visual-field defect?

1- Type A

2- Type B

**3- Type C**

4- Type D

5- Type E

Q2117. You are called by a local GP who asks for advice about the best antibiotic to use to treat an acute infection in a woman who is breast-feeding her 2-week-old baby. Which of the following antibiotics is safe in breast-feeding?

**1- Flucloxacillin**

2- Ciprofloxacin

3- Ofloxacin

4- Clarithromycin

5- Fluconazole

Q2118. A 72-year-old woman is admitted with renal colic. There is a past history of epilepsy but she has been fit-free for nearly 15 years. This patient has suffered multiple renal stones and has chronic renal impairment with a serum creatinine of 210 mmol/l. You prescribe pethidine for pain relief and she initially settles. However, you are asked to see her urgently on call the following morning as she has suffered a fit. What is the likely cause of her epileptic fit?

1- Accumulation of pethidine leading to toxicity

**2- Accumulation of norpethidine leading to toxicity**

3- Pseudoseizure

4- An epileptic fit in keeping with her history of previous epilepsy

5- Accumulation of morphine 6-glucuronide

Q2119. You are asked by the hospital formulary to review a pharmaceutical company's application for a new drug to be added to the list. The drug is a combination product made up of two long-standing drugs and the firm claims bioequivalence. What is the best definition of bioequivalence?

1- The two drugs compared contain the same ingredients and have the same pharmacokinetics

2- The two drugs compared contain the same ingredients and have the same pharmacodynamics

3- The two drugs compared have similar bioavailability

**4- The two drugs compared have the same biological effect**

5- The two drugs compared contain the same

Q2120. You are reviewing a 54-year-old man with a phaeochromocytoma. Which of the following is a suitable aadrenoreceptor antagonist for the presurgical management of his hypertension?

**1- Phenoxybenzamine**

2- Atenolol

3- Propanolol

4- Nebivolol

5- Salbutamol

Q2121. You are reviewing a 36-year-old man with hypertension and decide to commence βblocker therapy. Which of the following β-blockers has the largest volume of distribution?

1- Atenolol

2- Celiprolol

3- Nadolol

4- Sotalol

**5- Metoprolol**

Q2122. A 28-year-old woman is taking a course of ciprofloxacin for pyelonephritis. Which of the following best describes the mode of action of ciprofloxacin?

1- Inhibition of bacterial ribosomal protein synthesis

2- Inhibition of folate synthesis

3- Inhibition of bacterial cell wall synthesis

**4- Inhibition of DNA gyrase**

5- Production of β-lactamase

Q2123. A 27-year-old homeless man is admitted having ingested a large quantity of methanol which he found on a garage forecourt. He is inebriated with a deteriorating conscious level. He has a pH of 7.15 with a serum bicarbonate concentration of 14 mmol/l. What is the most appropriate management in this case?

1- Administration of folinic acid

**2- Administration of ethanol**

3- Administration of formate

4- Administration of formaldehyde

5- Administration of ethylene glycol

Q2124. You review a 54-year-old woman who has been referred by her GP with elevated AST and ALT to three times the upper limit of normal, accompanied by small rises in bilirubin and alkaline phosphatase. Antinuclear antibodies are negative. She admits to drinking an occasional glass of wine with her husband. She has a family history of mixed hyperlipidaemia for which she takes fenofibrate. What diagnosis fits best with this clinical history?

1- Autoimmune chronic active hepatitis

2- Chronic alcoholism

3- Wilson's disease

**4- Drug-induced hepatitis**

5- Haemochromatosis presenting after the

Q2125. You are designing a new drug for hypertension and have a number of compounds under investigation. The lead compounds have different modes of clearance. Which of the following compounds, according to its mode of clearance, is most likely to show stable pharmacokinetic properties when tested between patients?

1- Compound A is predominantly cleared via the kidneys

2- Compound B is predominantly cleared via the CYP2D6 route

**3- Compound C is one-third cleared by the kidneys and two-thirds by two different P450 isoforms, neither are CYP2D6**

4- Compound D is 50% cleared by CYP2D6, 50% by another P450 isoform

5- Compound E is predominantly cleared via

Q2126. You review a 44-year-old woman in an outpatient clinic following an urgent referral from her GP. She had recently been started on hydralazine for blood pressure management. Since then she has developed symptoms and signs suggestive of druginduced lupus. Which of the following statements is true concerning drug-induced lupus disease?

**1- It is more common in Caucasians than Afro-Caribbeans**

2- HLA-DR4 is not associated with it

3- Rapid acetylator status is a risk factor

4- dsDNA antibodies are positive

5- Antihistone antibody is negative

Q2127. A patient assessed in the Dementia clinic is found to meet the diagnostic criteria for moderately severe Alzheimer's disease, with a MMSEof 12/30. Which drug would be most appropriate to try to slow disease progression?

1- Atropine

2- Levodopa

**3- Donepezil**

4- Promethazine

5- Diphenhydramine

Q2128. A 25-year-old patient who has been suffering from cluster headaches presents with an acute attack. What is the drug treatment of choice?

1- Atenolol

2- Aspirin

**3- Sumatriptan**

4- Paracetamol

5- Levocabastine

Q2129. An 82-year-old woman is being prepared for an upper gastrointestinal endoscopy to investigate a coffee-ground vomit and melaena. After receiving intravenous midazolam she has a respiratory arrest. Which is the most appropriate choice of emergency treatment?

1- Naloxone

2- Diazepam

3- Dantrolene

**4- Flumazenil**

5- Neostigmine

Q2130. A diabetic patient is currently being treated with metformin and sulphonylurea. However, his diabetes is still suboptimally controlled. His consultant decides to add pioglitazone. What is the mode of action of this drug?

1- Increases insulin secretion

**2- Increases insulin sensitivity**

3- Inhibits glucose absorption

4- Inhibits gluconeogenesis

5- Increases glucose elimination

Q2131. You are reviewing a 75-year-old woman with mild dementia who fits the criteria for treatment with donepezil. Which of the following side-effects should be looked out for?

1- Excessive somnolence

2- Atrial tachycardias

3- Constipation

4- Nephritis

**5- Bradycardia**

Q2132. You are asked to review a 72-year-old man who is being treated with warfarin for chronic atrial fibrillation. His cholesterol is 6.5 mmol/l with triglycerides of 3.1 mmol/l. You want to start him on some lipid-lowering therapy. Which would be the best drug to prescribe to avoid potentiating the effects of his warfarin treatment?

**1- Atorvastatin**

2- Rosuvastatin

3- Simvastatin

4- Bezafibrate

5- Colestyramine

Q2133. You are asked to review a 62-year-old man who takes nifedipine for hypertension. He asks for advice about eating a healthy diet. His wife is following a homeopathic 'juicing' regime. Which of the following fruit juices should best be avoided in this case?

1- Apple juice

2- Orange juice

3- Blackcurrant juice

**4- Grapefruit juice**

5- Tomato juice

Q2134. A 31-year-old woman with a history of hypertension has a recent blood pressure of 149/78 mmHg. She wishes to become pregnant. Which of the following agents would be the best choice for managing hypertension in pregnancy?

1- Ramipril

2- Bendrofluazide

3- Hydrochlorothiazide

**4- Nifedipine**

5- Candesartan

Q2135. A 59-year-old woman who suffers from arthritis and hypertension visits you requesting increased pain relief. Which of the agents is a currently marketed COX-2 inhibitor?

1- Co-proxamol

2- Rofecoxib

**3- Celecoxib**

4- Aspirin

5- Diclofenac

Q2136. You are asked to review a 73-year-old man with chronic COPD. He is maintained by his GP on maximum inhalers and theophylline tablets and has recently been treated with antibiotics for a COPD exacerbation. His presenting symptoms are nausea, vomiting and tachycardia. Serum potassium is only 3.1 mmol/l. Unfortunately, he can't remember the name of his antibiotic therapy. Which of the following antibiotics is most likely to be responsible for his presentation?

1- Amoxicillin

2- Penicillin V

**3- Clarithromycin**

4- Ceftriaxone

5- Cefotaxime

Q2137. You are reviewing an 18-year-old young woman who has been brought into the Emergency department after a row with her boyfriend. The ambulance crew hand you a number of empty bottles of dihydrocodeine. On examination she is unconscious with a GCS of 6. Which of the following drugs is an antagonist of dihydrocodeine?

1- Flumazenil

**2- Naloxone**

3- Dextropropoxyphene

4- Dantrolene

5- Neostigmine

Q2138. A 56-year-old recently bereaved man is admitted with bradycardia and profound hypotension. He has a history of treatment for hypertension with atenolol. Which of the following pharmaceutical agents is suitable for treating a β-blocker overdose?

1- Insulin

2- Neostigmine

3- Pyridostigmine

**4- Glucagon**

5- Adrenaline

Q2139. A 72-year-old man is admitted unconscious. He has a history of type-2 diabetes and is taking 10 mg of glibenclamide. Blood testing reveals a serum creatinine level of 195 mmol/l and a blood glucose of 1.5 mmol/l. Which treatment regime would be a suitable alternative therapy for his diabetes?

1- Metformin

2- Chlorpropamide

**3- Pioglitazone**

4- Metformin and insulin combination therapy

5- Pioglitazone and insulin combination

Q2140. A 56-year-old man has recently been diagnosed with type-2 diabetes. His Hb A1c after a period of diet and exercise is still raised at 8.4%. You are considering initial drug treatment. Which of the following has a primary mode of action that is most likely to lead to short term insulin release e.g. when taken just before a meal?

1- Sulphonylureas

2- Metformin

3- Glitazones

**4- Meglitinides**

5- Alpha-glucosidase inhibitor

Q2141. A 56-year-old man is undergoing acute intervention in the cardiac catheterisation laboratory for unstable angina. The cardiologist decides to employ a glycoprotein IIb/IIIa inhibitor. Which of the following compounds would be most suitable?

1- Tirofiban

2- Eptifibatide

**3- Abciximab**

4- Ticlodipine

5- Clopidogrel

Q2142. You are reviewing a 74-year-old woman who has been treated with verapamil for chronic atrial tachycardias. You note in clinic that she is hypertensive with a blood pressure of 160/85 mmHg. You want to start additional blood pressure-lowering therapy. Which of the following would be the most appropriate next agent to add in?

1- Atenolol

2- Sotalol

3- Metoprolol

4- Diltiazem

**5- Ramipril**

Q2143. A patient who has mild benign prostatic hyperplasia has been advised to take finasteride. Production of which of the following androgens is most likely to be inhibited as a result of intake of this drug?

1- Testosterone

2- Androstenedione

**3- Dihydrotestosterone**

4- Dehydroepiandrosterone

5- Androsterone

Q2144. A cancer patient is suffering from a high degree of radiation toxicity. On questioning, it is found that the dose of a particular drug was not adjusted prior to commencement of radiotherapy. Which chemotherapeutic agent that the patient has been prescribed is most likely to have caused this toxicity?

1- Vincristine

**2- Dactinomycin**

3- Cyclophosphamide

4- 6-Mercaptopurine

5- Amifostine

Q2145. A 57-year old woman who has just had a renal transplant is being given azathioprine. Which of the following statements best describes the main mechanism of action of this drug?

1- It blocks antibody formation

2- It reduces the production of cytokines

**3- It suppresses lymphocyte numbers and function**

4- It interferes with T cell-macrophage cooperation

5- It interferes with T-cell activation

Q2146. A 34-year-old patient who is 28 weeks’ pregnant with her first baby is referred to you as an emergency with newly diagnosed symptomatic hyperthyroidism. Which of the following statements is true concerning the management of maternal thyrotoxicosis in pregnancy with carbimazole or propylthiouracil?

1- Carbimazole does not cross the placenta

2- Neonatal goitre occurs in 75% of babies following maternal treatment with carbimazole

**3- Propylthiouracil does cross the placenta**

4- ‘Block and replace’ therapy with carbimazole and thyroxine is appropriate maternal management

5- The neonatal goitre is permanent if it

Q2147. A patient with a history of angina is being investigated for dyspnoea. Blood tests confirm haemolytic anaemia and a peripheral smear shows the presence of Heinz bodies and methaemoglobinaemia. Which of the following medications may most likely be responsible for this complication?

1- Amlodipine

2- Aspirin

3- Metoprolol

**4- Isosorbide mononitrate**

5- Verapamil

Q2148. A patient in status asthmaticus is not responding to nebulised salbutamol and terbutaline. The doctor commences an intravenous infusion of aminophylline. Which of the following enzymes is this drug most likely to inhibit in order to relieve the symptoms?

1- Monoamine oxidase

**2- Phosphodiesterase**

3- Alcohol dehydrogenase

4- Adenyl cyclase

5- Guanyl cyclase

Q2149. A 19-year-old woman is referred to the Medical Admissions Unit by her GP. A few hours before she had taken some ecstasy (MDMA) while out clubbing. Which of the following is true concerning ecstasy (MDMA)?

1- It produces stimulation of the parasympathetic nervous system

**2- Hyponatraemia can be due to SIADHS**

3- Dantrolene is contraindicated in the management of hyperthermia

4- Most deaths are due to associated hyponatraemia

5- Effects only last for 2-3 hours

Q2150. A patient with AIDS has been prescribed a non-nucleoside reverse transcriptase inhibitor. Which of the following drugs has most probably been prescribed?

1- Nelfinavir

2- Abacavir

3- Lopinavir R

**4- Nevirapine**

5- Stavudine

Q2151. A 27-year old farmer presents with fever, cough and dyspnoea. On auscultation, expiratory rhonchi are heard at both apices. A chest X-ray shows a round lesion in the right apex with an air halo above it. A full blood count reveals a high eosinophil count. Which of the following drugs would be most effective in this case?

1- Nystatin

**2- Amphotericin B**

3- Terbinafine

4- Fluconazole

5- Itraconazole

Q2152. Tamoxifen has been prescribed for a woman who is undergoing treatment for breast carcinoma. What is the most significant characteristic of this drug?

1- It has absolutely no effect on tumours that are oestrogen-receptor negative

**2- It functions as a selective oestrogenreceptor modulator**

3- A yearly PAP smear is recommended for women on tamoxifen

4- It increases low-density lipoprotein cholesterol levels

5- It is recommended mainly in women who

Q2153. A 64-year-old Asian man attends the Emergency department for review. He is complaining of aching pains in his arms and leg muscles and of lethargy; he also has minor symptoms of a cold. He is a smoker with hypercholesterolaemia and has recently been prescribed oral rosuvastatin 10 mg daily. Urine is dipstick-positive for blood. What is the most likely diagnosis to fit with this clinical picture?

1- Dermatomyositis

2- Polymyositis

**3- Rhabdomyolysis**

4- Influenza

5- Proximal myopathy

Q2154. You admit a 65-year-old man, via A&E, who has suffered an acute myocardial infarction. On examination of his medication history you note that he is taking a newly licensed antihypertensive agent and you suspect an adverse drug reaction. Which of the following most accurately reflects the Yellow-Card recording system currently employed in the UK?

1- Reporting of adverse drug reactions is compulsory for health professionals

2- Up to 50% of serious adverse drug reactions are identified through the system

3- Follow-up of serious adverse events is voluntary for pharmaceutical companies

**4- Only 10% of serious adverse drug reactions are identified by Yellow Cards**

5- The scheme is administered by the ABPI

Q2155. You review a 72-year-old woman who is complaining of severe nausea and lethargy. She has chronic atrial fibrillation for which she takes digoxin 125m/day. Her GP has recently added a thiazide diuretic to her antihypertensive regime. Serum potassium level is 3.0 mmol/l (3.5-4.9). Her pulse is 42 bpm, with a BP of 122/70 mmHg. What is the best course of action in this case?

1- Permanently stop her digoxin therapy

2- Administer FAB fragment antidigoxin antibodies

**3- Stop her thiazide diuretic and substitute another antihypertensive agent**

4- Introduce a small dose of spironolactone

5- Start potassium supplements but continue

Q2156. You review a 58-year-old man with tuberculosis and commence him on triple antituberculous therapy. He has a past history of alcoholism. You are aware of the problem of peripheral neuropathy with isoniazid therapy. Which of the following best fits with isoniazidassociated peripheral neuropathy?

1- It only occurs in alcoholics

**2- Those with an N-acetyltransferase type-2 gene defect are predisposed to neuropathy**

3- Those with an N-acetyltransferase type-1 gene defect are predisposed to neuropathy

4- It occurs because of a defect in butyrylcholinesterase

5- Thiamine prophylaxis is usually used to

Q2157. A 17-year-old woman is bought into A&E by friends after she had taken an overdose of an unknown quantity of a non-steroidal antiinflammatory drug, thought to be mefenamic acid. Which of the following statements is true concerning NSAID overdoses?

1- Gastrointestinal symptoms are due to the stimulation of cyclo-oxygenase

**2- Mefenamic acid is the NSAID most likely to cause convulsions**

3- Metabolic alkalosis usually occurs following large ingestions of NSAIDs

4- Convulsions occurs in 50% of patients following NSAID overdose

5- Multi-dose activated charcoal should be

Q2158. You have seen a patient with bronchiectasis and wish to prescribe a theophylline preparation as a bronchodilator. Which of the following best describes the main feature of this drug's activity?

**1- It blocks the adenosine receptor**

2- It enhances diaphragm contractility

3- 50% of the drug is plasma-protein bound

4- Side-effects are dose-related

5- Most of the drug is excreted unchanged in

Q2159. An obstetric SHO stops you in the corridor to ask for some advice about prescribing and the pharmacological unwanted effects of drugs in pregnancy. Which of the following list of potential pharmacological risks of drugs in pregnancy is true?

1- Beta-blockers : Fetal hyperglycaemia

2- ACE-inhibitors : Polyhydramnios

**3- Aspirin : Kernicterus**

4- Thiazide diuretics : Anaemia

5- NSAIDs : Maintains patency of ductus

Q2160. A 48-year-old man has cirrhosis of the liver. Which of the following drugs undergo high first-pass metabolism and should be used with caution in patients with mild to moderate liver disease?

**1- Verapamil**

2- Ciprofloxacin

3- Omeprazole

4- Atenolol

5- Amoxicillin

Q2161. A 54-year-old man with type-2 diabetes and dyslipidaemia has been prescribed rosiglitazone, gliclazide, simvastatin and fenofibrate. Which of the following drugs has predominantly PPAR-a activity?

1- Simvastatin

2- Gliclazide

3- Pioglitazone

4- Rosiglitazone

**5- Fenofibrate**

Q2162. You are considering the use of a new antihypertensive medication in an 81-yearold woman, but have some concerns about age-related differences in metabolism in the elderly. Which of the following factors is most likely to account for differences in drug metabolism between the elderly and younger age groups?

**1- Reduced cardiac output**

2- Increased renal function

3- Improved hepatic metabolism

4- Increased cardiac output

5- Less likelihood of concomitant medication

Q2163. Which of the following drugs is most likely to produce large clinical effects for a relatively small dose change across a large range of licensed doses?

1- Hydrochlorothiazide

2- Bendrofluazide

**3- Furosemide**

4- Pioglitazone

5- Rosiglitazone

Q2164. A 40-year-old diabetic is receiving insulin. Which of the following enzymes is most likely to be inhibited by insulin?

1- Glucose 6-phosphate dehydrogenase

**2- Pyruvate carboxylase**

3- Glycogen synthetase

4- Acetyl-CoA carboxylase

5- ATP citrate lyase

Q2165. A child suffering from night blindness is prescribed vitamin A. Which of the following substances in vitamin A is most likely to be maximally involved in correcting the visual disturbance?

1- Retinyl phosphate

2- Retinoic acid

3- Beta-carotene

4- Retinol

**5- Retinaldehyde**

Q2166. A patient on amphotericin is found to have abnormal renal function tests. Which of the following metabolic disturbances is most likely to be found in this case?

**1- Hypokalaemia**

2- Metabolic alkalosis

3- Hypermagnesaemia

4- Hyponatraemia

5- Hypocalcaemia

Q2167. A 28-year-old man with a known history of glucose 6-phosphate dehydrogenase (G6PD) deficiency is prescribed an antibiotic for his urinary tract infection. He now presents with haemolytic anaemia. Which of the following drugs is most likely to be responsible for his condition?

1- Erythromycin

2- Ceftriaxone

**3- Co-trimoxazole**

4- Amoxicillin

5- Ampicillin

Q2168. A 40-year old man has been prescribed amphotericin B for a systemic fungal infection. Which of the following statements best describes a significant pharmacological characteristic of this drug?

1- Intravenous use is only rarely associated with side-effects

2- Toxicity is not dose-related

3- It has a low affinity for ergosterol present in the fungal cell wall

4- It may be given intramuscularly

**5- Lipid-bound preparations are less toxic**

Q2169. While prescribing a medication, a doctor tells his patient that it acts directly and is not a prodrug. Which of the following medications would most probably fit in this category?

1- Enalapril

2- Oxcarbazepine

3- Chloral hydrate

4- Vitamin D

**5- Diazepam**

Q2170. A 35-year-old Asian man is diagnosed as suffering from Plasmodium vivax malaria. Which of the following antimalarials is most likely to be a slow-acting schizonticide?

**1- Pyrimethamine**

2- Artemisinin

3- Mefloquine

4- Quinine

5- Mepacrine

Q2171. A 25-year-old woman is prescribed an antimicrobial agent to treat a tooth infection. She presents with headache, blurred vision and a convergent squint. On examination, there is diplopia, maximal on looking to the left side. The patient is unable to abduct her eye beyond the midline. Which of the following drugs is most likely to be responsible for her present condition?

1- Ofloxacin

**2- Tetracycline**

3- Gentamicin

4- Erythromycin

5- Ceftriaxone

Q2172. A 35-year-old woman with a bipolar disorder has been prescribed lithium. Which of the following pharmacological features should best be kept in mind when prescribing this drug?

1- Serum lithium level should not exceed 2 mmol/l

2- Amiloride is a specific antidote for lithium toxicity

**3- Lithium may cause nephrogenic diabetes insipidus**

4- Hyperkalaemia may occur

5- Thyroid antibodies may be increased

Q2173. A 14-year-old boy has been given cefuroxime for a respiratory tract infection. Which of the following characteristics is most likely to increase its efficacy in this condition?

1- It is more effective than cefadroxil against Gram-positive organisms

2- It is active against Pseudomonas aeruginosa

3- It is the first-line treatment for infection with Gram-negative organisms

**4- It is useful in mixed aerobic-anaerobic infections**

5- It is available only in parenteral form

Q2174. You are asked to see a 78-year-old man with nursing-home resident, who has recently moved into the home due to Alzheimer's disease. He has had several subacute confusional episodes since his arrival, for which the duty GP has been called. Past history of note includes previous alcoholism and an attack of gallstones many years ago. He reports no abdominal pain. On examination he is deeply jaundiced. On blood testing, his transaminases and bilirubin are markedly raised. What diagnosis fits best with this clinical picture?

1- Cholecystitis

2- Acute pancreatitis

3- Renewed excess alcohol consumption

4- Pancreatic carcinoma

**5- Phenothiazine-related hepatotoxicity**

Q2175. A 30-year-old woman, back from a trip to Thailand, presents with sunburn on her back. What is the main type of damage caused by excessive ultraviolet radiation on cells?

1- Inhibition of DNA synthesis

**2- Formation of pyrimidine dimers**

3- Ionisation

4- DNA fragmentation

5- Inhibition of synthesis of DNA polymerase

Q2176. A 6-year-old boy, who presented with infantile spasms at the age of 5 months and who has been on anti-epileptics ever since now presents with nausea and diplopia. On examination, marked visual field defects are noted. Which drug has he been prescribed?

1- Tiagabine

2- Ethosuximide

**3- Vigabatrin**

4- Sodium valproate

5- Primidone

Q2177. A 35-year-old woman on carbamazepine for epilepsy was found to have Hashimoto's thyroiditis and has been prescribed thyroxine by her GP. She comes back to the clinic a week later complaining of fatigue, depression, weight gain and constipation. Her T3 and T4 levels are found to be low despite the proper intake of medications. What is the most likely cause for her symptoms?

1- Increased binding of thyroxine by thyroxine-binding globulin

2- Interference with intestinal absorption of thyroxine by carbamazepine

3- Adverse reaction of carbamazepine

**4- Increased thyroxine clearance by the action of carbamazepine on liver enzymes**

5- Direct effect of carbamazepine on thyroxine

Q2178. A 25-year-old woman is diagnosed as having Grave's disease and is prescribed carbimazole. What is the most serious adverse effect of carbimazole?

**1- Reversible agranulocytosis**

2- Cholestatic jaundice

3- Immunosuppression

4- Hepatitis

5- Hypoprothrombinaemia

Q2179. A 29-year-old woman on antiepileptic medication presents with ankle swelling, tremor, weight gain and thinning of hair. Which medication is most likely to cause these symptoms?

1- Phenytoin

**2- Sodium valproate**

3- Phenobarbital

4- Vigabatrin

5- Carbamazepine

# Chapter 9 Rheumatology

Q2180. A 21-year-old man presents with episodic pain in his buttocks, low back pain and stiffness that is worst in the mornings. A lateral X-ray of his lower spine shows blurring of the upper and lower vertebral rims at the thoracolumbar junction. He is found to be HLA-B27-positive. Given the likely diagnosis, what would be the most appropriate treatment for him?

1- Aspirin

2- Prednisolone

3- Diclofenac

**4- Physiotherapy**

5- Dextropropoxyphene

Q2181. A 10-year-old girl presents with a high fever, rash and hip and knee joint pains. A slit-lamp examination of her eyes is normal. Blood tests are negative for autoantibodies. What is the most likely diagnosis?

1- Persistent oligoarthritis

**2- Still's disease**

3- Polyarticular arthritis

4- Enthesitis-related arthritis

5- Henoch-Schönlein purpura

Q2182. A 73-year-old woman complains of dry, gritty eyes, a constant sensation of mouth dryness and swollen parotid glands. You suspect that she has Sjögren's syndrome. Which of the following tests is not likely to help in establishing the diagnosis?

1- Serum antibody to Ro antigen

**2- Lymph node biopsy**

3- Schirmer's test

4- Labial biopsy

5- Magnetic resonance imaging of the parotid

Q2183. A 55-year-old man presents with bowed legs, low back pain and increasing deafness over the past 6 months. His father was similarly affected at 60 years of age and died of bone cancer. Given the likely clinical diagnosis, what would be the most characteristic finding in a blood test?

1- Decreased serum calcium levels

2- Elevated serum phosphate

**3- Elevated serum alkaline phosphatase**

4- Elevated ESR

5- Decreased 1,25-dihydroxycholecalciferol

Q2184. A 62-year-old woman is being treated for a pathological fracture of her right femur. An Xray of the femur shows patchy sclerosis, thickening of the trabeculae and dedifferentiation. Given the likely diagnosis, what treatment would be most appropriate for her?

1- Calcium supplements

2- Calcitonin

3- Hormone replacement therapy

**4- Tiludronate**

5- Raloxifene

Q2185. A 65-year-old woman being treated for epilepsy presents with bone pain and muscle weakness. Blood tests show increased serum alkaline phosphatase, normal plasma calcium and low serum phosphate levels. An X-ray of the femur reveals linear areas of low density surrounded by sclerotic borders. What is the most likely diagnosis?

1- Osteoporosis

**2- Osteomalacia**

3- Paget's disease

4- Osteosarcoma

5- Polymyalgia rheumatica

Q2186. A 35-year-old man presents with abdominal pain, joint pains, fever and weight loss. He gives a history of passing bulky, malodorous stools over the past month that are difficult to flush away. A biopsy of the small bowel shows stunted villi with PAS (Periodic acid-Schiff)- positive macrophages. What is a characteristic finding in this condition?

1- Occult blood in stools

**2- The presence of bacilli within macrophages on electron microscopy**

3- Mesenteric thickening with lymph node enlargement on CT scan

4- Positive HLA-B27

5- Bony erosions and subluxation of joints on

Q2187. A 46-year-old woman with a history of duodenal ulcer has developed progressively worsening pain, swelling and stiffness of her metacarpophalangeal, distal interphalangeal and wrist joints. On examination there is wasting of the muscles of the hand and limited movement of the joints. Given the most likely diagnosis, which drug would be most appropriate for her condition?

1- Prednisolone

**2- Sulfasalazine**

3- Ibuprofen

4- Aspirin

5- Diclofenac

Q2188. A 27-year-old woman is referred to the rheumatology clinic by her gynaecologist with a history of swelling and pain in her right big toe and left knee. The only positive finding on gynaecological examination was the presence of cervicitis. An endocervical swab tested positive for chlamydial infection. What is the most probable diagnosis in this case?

1- Acute gouty arthritis

2- Rheumatoid arthritis

**3- Reactive arthritis**

4- Septic arthritis

5- Gonococcal arthritis

Q2189. A 30-year-old woman presents with severe scaly, erythematous lesions all over her body. She has also developed swelling and severe pain in her distal interphalangeal joints. Given the diagnosis of psoriasis, what treatment is likely to be most suitable for her?

1- Topical corticosteroids

2- Diclofenac

3- Coal tar

4- Long-wave ultraviolet radiation (psoralen ultraviolet A; PUVA)

**5- Methotrexate**

Q2190. A 22-year-old homosexual man gives a history of high-grade fever associated with pustules on his hands and severe joint pain 4 weeks ago. His left knee is now swollen and red. Cultures from blood and joint aspirate are negative. Urethral discharge shows the presence of gonococci. He has a history of penicillin sensitivity. Which drug would be most suitable in this condition?

1- Oral penicillin

2- Amoxicillin

3- Prednisolone

4- Erythromycin

**5- Ciprofloxacin**

Q2191. A 47-year-old woman presents with an inability to raise her arms over her shoulders. Over the past few weeks she has also been having difficulty swallowing food. On examination there is muscle wasting and the muscles are tender with reduced tendon reflexes. Her serum creatine kinase is elevated. What is the most likely diagnosis?

1- Polymyalgia rheumatica

**2- Polymyositis**

3- Hypocalcaemia

4- Painful arc syndrome

5- Frozen shoulder

Q2192. A 73-year-old man presents with severe back pain. An X-ray shows the presence of osteolytic lesions in his vertebrae and pelvis. He also complains of malaise but no other symptoms of note. Based on the clinical findings and radiology, what is the most probable diagnosis?

1- Paget's disease of bone

2- Prostatic carcinoma

**3- Multiple myeloma**

4- Hypocalcaemia

5- Chronic myeloid leukaemia

Q2193. A 65-year-old woman with a past medical history of osteoarthritis only affecting her hand joints and diet-controlled diabetes mellitus complains of a sudden onset of pain, swelling and stiffness in her right knee. Examination shows that the right knee is swollen, erythematous and tender. Which of the following tests is most likely to lead to a diagnosis?

1- X-ray of the knee

2- Autoimmune screen

3- Serum uric acid level

**4- Aspiration and examination of the synovial fluid**

5- A trial of colchicine

Q2194. A 28-year-old man presents to the clinic with painful knees and ankles. He is noted to have a rash on the glans penis. He has a history of urethritis due to Chlamydia trachomatis . He has also recently attended the ophthalmology department for an episode of uveitis. What is the most likely diagnosis?

**1- Reiter's syndrome**

2- Reactive arthritis

3- Gouty arthritis

4- Septic arthritis

5- Rheumatoid arthritis

Q2195. A 30-year-old farmer presents with a history of myalgia, fatiguability, occasional bouts of fever, depression and right knee joint pain for the past 6 months. On examination there is lymphadenopathy and hepatosplenomegaly. The brucella agglutination titre is elevated fourfold. Given the likely diagnosis, what treatment would be most helpful in this condition?

1- Intravenous benzylpenicillin

2- Erythromycin

**3- Doxycycline**

4- Amoxicillin

5- Gentamicin

Q2196. A 35-year-old woman is diagnosed with systemic lupus erythematosus. What is the most common finding on blood testing that would be of help in supporting your clinical findings?

1- Anti double-stranded DNA

2- Rheumatoid factor

3- VDRL-positive

**4- Low complement levels**

5- Anticardiolipin antibody

Q2197. A 65-year-old woman presents with severe pain and stiffness of her shoulders and neck that is worse in the mornings and lasts for more than an hour. Physical examination is unremarkable. Blood tests show a mild normocytic normochromic anaemia. Her ESR is 77 mm/1st hour. What is the most likely diagnosis?

**1- Polymyalgia rheumatica**

2- Polymyositis

3- Hypocalcaemia

4- Painful arc syndrome

5- Frozen shoulder

Q2198. A 58-year-old woman complains of severe unilateral temporal headaches and jaw pain when eating. A provisional diagnosis of giantcell arteritis is made. Which of the following is a characteristic clinical feature of this condition?

1- All peripheral arteries are involved

2- It does not occur in the absence of polymyalgia rheumatica

3- Negative temporal artery biopsy excludes the disorder

**4- Treatment is monitored by measuring CRP levels**

5- NSAID treatment is an effective first line of

Q2199. A 45-year-old man presents with fever, malaise, weight loss and myalgia over the past month. You suspect polyarteritis nodosa and arrange to perform some blood tests. Which abnormality might you most expect to find?

**1- Elevated creatinine**

2- Anaemia

3- Leucopenia

4- Thrombocytosis

5- Positive ANCA

Q2200. A young African-American woman is diagnosed as having systemic lupus erythematosus. What is the characteristic epidemiological feature of this condition?

1- It is about twice as common in women than in men

2- The highest incidence is amongst Caucasian women

3- The age of onset is usually over 40 years

**4- It is associated with HLA-B8 and -DR3 in Caucasians**

5- First-degree relatives have a 25% chance of

Q2201. A middle-aged man with red scaly patches on his elbows and knees presents with pain in the distal interphalangeal joints. You suspect psoriatic arthritis. Which of the following features is most strongly linked in men to this condition?

1- Age of onset 20-30 years

2- Occurrence of arthropathy at the same time as the skin lesions

3- Minimal destruction of cartilage and bone

**4- Involvement mainly of the distal interphalangeal joints**

5- Occurrence of Bouchard's nodes in the

Q2202. A 39-year-old woman complains of swelling, stiffness and pain in her fingers. She also tells her doctor that in winter her fingers often turn dark in colour. Her autoimmune screen shows the presence of anticentromere antibody. Which of the following is she most likely to have?

1- Rheumatoid arthritis

2- Systemic lupus erythematosus

3- Pseudogout

4- Polyarteritis nodosa

**5- CREST variant of scleroderma**

Q2203. A 62-year-old woman presents with severe pain and stiffness in her shoulder muscles and pelvis for the past 3 weeks that is worse in the mornings. Her ESR is raised. What is the most likely diagnosis?

**1- Polymyalgia rheumatica**

2- Polymyositis

3- Pseudogout

4- Psoriatic arthritis

5- Rheumatoid arthritis

Q2204. A 22-year-old woman presents with red scaly plaques on her elbows, knees, lower back and scalp. She also has pitting and yellow-brown discoloration of her nails and painful deformed finger and toe joints. Given the likely clinical diagnosis, what would be the most appropriate treatment, taking current UK guidelines into account?

1- NSAIDs

2- Sulfasalazine

**3- Methotrexate**

4- Corticosteroids

5- Etanercept

Q2205. A 50-year-old diabetic woman with a history of osteoarthritis of her knees suddenly develops pain and swelling in her right knee. On examination the knee is red, hot, swollen and very tender. Which investigation would be most helpful in the management of this case?

1- Plain X-ray of the knee

**2- Joint aspiration and Gram-staining**

3- Joint fluid microscopy

4- Blood culture

5- Joint aspiration and culture

Q2206. A 20-year-old man presents with a raised red and scaly lesion on his glans penis, red discolouration and pain in both eyes and pain and swelling of his right knee. Over the past few days he has noticed painless red plaques on his hands and feet. A diagnosis of Reiter's syndrome is suspected. Which additional clinical feature would best support this diagnosis?

1- History of a flu-like illness 4-6 weeks prior to symptoms

**2- Presence of keratoderma blenorrhagica**

3- Family history of ulcerative colitis

4- Positive gonococcal culture of urethral discharge

5- Arthritis affecting the upper limb joints

Q2207. A 75-year-old woman presents with chronic back pain. An X-ray of the spine shows vertebral crush fractures and evidence of osteoporosis. Which of the following blood results would be most in keeping with this diagnosis?

1- Low calcium levels

2- Elevated phosphate levels

**3- Normal or high alkaline phosphatase levels**

4- Decreased 1,25-dihydroxycholecalciferol levels

5- Raised parathyroid hormone levels

Q2208. A 25-year-old mechanic complains of stiffness and low back pain that is worse in the mornings. He is HLA-B27-positive. A provisional diagnosis of ankylosing spondylitis is made. What would be the most characteristic finding on an X-ray of the lower spine?

1- Narrowing of disc space

**2- Erosion of the apophyseal joints**

3- Osteophyte formation

4- Spondylolisthesis

5- Osteoporosis of trabecular bone

Q2209. A 22-year-old college student complains of stiffness and low back pain that is worse in the mornings. An X-ray shows obliteration of the sacroiliac joints. Given the likely clinical diagnosis, what would be the most appropriate treatment for him?

1- Spinal osteotomy

2- Aspirin

3- Bedrest and immobilisation

4- Prednisolone

**5- Spinal extension exercises**

Q2210. A 55-year-old woman on procainamide develops drug-induced lupus erythematosus. What is the most characteristic clinical feature of this condition?

**1- It may occur with chlorpromazine**

2- It commonly involves the kidneys

3- It rarely causes pulmonary disease

4- The symptoms may be alleviated with longterm steroids

5- It does not occur with isoniazid

Q2211. A 79-year-old woman who drinks 30 units of alcohol per week presents with a red, hot swollen ankle. Which investigation may yield a definitive diagnosis?

1- Blood culture

**2- Joint aspiration and microscopy**

3- Joint aspiration and culture

4- X-ray of the ankle

5- Serum uric acid levels

Q2212. A 4-year-old girl with a 1-day history of increasing hip pain is unable to stand. Her WCC is 20 x 109 /l, ESR 90 mm/1st h and CRP 275 mg/l. A radiograph of the hip shows a widened joint space. What is the most likely diagnosis?

1- Perthe's disease

2- Slipped upper femoral epiphysis

**3- Septic arthritis**

4- Congenital dislocation of hip

5- Osteomyelitis

Q2213. A 27-year-old woman known to suffer from epilepsy has been admitted with a history of dizzy spells and a swollen left calf. Her blood pressure recordings confirm a postural drop in her systolic reading of over 20 mmHg. Her biochemistry shows a sodium concentration of 126 mmol/l and a potassium concentration of 6.1 mmol/l. Her blood count is normal apart from a low platelet count. She has no past history of any surgical procedure but has a history of three spontaneous miscarriages. The nurse has noticed that at times she makes jerky explosive movements of her limbs. What is the underlying diagnosis?

1- Uncontrolled epilepsy

2- Idiopathic thrombocytopenic purpura

**3- Antiphospholipid syndrome**

4- Syndrome of inappropriate ADH (SIADH) secretion

5- Dehydration

Q2214. A 14-year-old boy with left groin pain for the past 6 weeks is noted to be standing with his left leg externally rotated. Examination reveals negligible internal rotation of the hip. What is the most likely diagnosis?

1- Congenital dislocation of the hip

2- Juvenile rheumatoid arthritis

3- Perthe's disease

**4- Slipped upper femoral epiphysis**

5- Osteogenic sarcoma

Q2215. A 5-year-old Asian boy, who has been having episodes of fever and a persistent cough for the past 3 weeks, now complains of right hip pain. Blood tests show: WCC 19 x 109 /l, ESR 110 mm/1st h and CRP 102 mg/l. An X-ray of the hip joint shows diffuse rarefaction. What is the most likely diagnosis?

1- Septic arthritis

**2- Tuberculous arthritis**

3- Osteomyelitis

4- Reactive arthritis

5- Juvenile rheumatoid arthritis

Q2216. A 65-year-old woman who lives alone complains of increasing pain in her left knee and episodes of the joint 'giving way'. She is no longer able to climb stairs. Valgus deformity with instability is also noted. What treatment would be most appropriate for her?

1- Oral NSAIDs

2- Intra-articular steroid injections

**3- Joint replacement**

4- Physiotherapy

5- Hormone replacement therapy

Q2217. A 22-year-old man who suffers from inflammatory bowel disease has developed pain and stiffness in his lower back over the past 6 months. Examination reveals tenderness over both sacroiliac joints. He tests positive for the HLA-B27 gene. What is the most probable diagnosis?

1- Prolapsed intervertebral disc

2- Rheumatoid arthritis

**3- Ankylosing spondylitis**

4- Osteoarthritis

5- Enteropathic arthritis

Q2218. A 72-year-old man with heart disease is on diuretics. He complains of stiff, painful hands and knees. On examination Heberden's nodes are seen. What is the most appropriate treatment?

**1- Regular paracetamol**

2- Allopurinol

3- Oral NSAIDs with gastric protection

4- Knee replacement

5- Joint aspiration and microscopy

Q2219. A 35-year-old woman complains of bilateral stiff and painful joints in her hands and feet for the past 3 months. The stiffness lasts for more than an hour in the mornings. On examination her fingers are swollen and stiff. Movement is painful. Which test would be most relevant in this case?

1- X-ray of the hands and feet

2- Serum uric acid levels

3- Joint aspirate for crystals

4- CRP levels

**5- Plasma rheumatoid factor**

Q2220. A 65-year-old diabetic woman on indometacin and glibenclamide has had a blood test that shows evidence of renal failure, hyperkalaemia and hyperchloraemia. What is the most likely underlying cause of her biochemical abnormalities?

1- Acute interstitial nephritis

2- Renal artery stenosis

3- Diabetic nephropathy

4- Minimal-change nephropathy

**5- Renal tubular acidosis**

Q2221. A 74-year-old man has an acutely painful, red and swollen knee. He is suffering from congestive cardiac failure, chronic renal impairment and is currently on digoxin and furosemide. What treatment would be most suitable for the symptomatic relief of his joint pain?

1- Aspirin

2- Paracetamol

**3- Colchicine**

4- Diclofenac

5- Indometacin

Q2222. A 57-year-old man with longstanding osteoarthritis of his right hip is seen in the clinic prior to admission for hip replacement. He has a history of peptic ulcer and is on lansoprazole. Which anticoagulant formulation would offer him the best protection against postoperative thrombosis?

**1- Subcutaneous low molecular weight heparin**

2- Subcutaneous unfractionated heparin

3- Warfarin

4- Intravenous heparin

5- Low-dose aspirin

Q2223. A 12-year-old girl complains of pain in her hip and knee joints, as well as fever, bloody diarrhoea and abdominal pain. A barium enema shows rose-thorn ulcers. What is the most characteristic feature seen on colonoscopy in this condition?

1- Red-raw mucosa

2- Pseudopolyps

**3- Discrete ulcers**

4- Colonic dilatation

5- Diverticula

Q2224. A 67-year-old man known to be hypothyroid says he woke up in the morning with a painful, warm, red and swollen right knee. An X-ray of his knee shows calcification of the meniscus only. What is the most likely diagnosis?

1- Acute gout

2- Osteoarthritis

3- Rheumatoid arthritis

**4- Pyrophosphate arthropathy**

5- Septic arthritis

Q2225. A 37-year-old gym instructor gives a 2-year history of numbness and burning of his fingers precipitated by cold. He now feels tightness in the fingers and is unable to extend his fingers completely. He also complains of a progressive difficulty in swallowing food. You suspect limited cutaneous scleroderma. Which of the following blood investigations would most aid in the diagnosis?

1- Normocytic normochromic anaemia

2- Microangiopathic haemolytic anaemia

**3- Anticentromere antibodies**

4- Antinuclear antibodies

5- Rheumatoid factor

Q2226. A 20-year-old college student complains of increasing back pain and early morning stiffness. An X-ray of his lower back shows erosion of the apophyseal joints and obliteration of the sacroiliac junction. Given the most likely clinical diagnosis from these findings, what treatment would be most suitable for him?

**1- Oral NSAIDs**

2- Colchicine

3- Intra-articular steroid injections

4- Spinal osteotomy

5- Bedrest and immobilisation

Q2227. A 62-year-old woman complains of general lethargy, morning stiffness, inability to comb her hair because of arm pain. There is no muscle tenderness. Her ESR is 57 mm/1st h. Electromyography of the deltoid muscle is normal. What is the most likely diagnosis?

1- Guillain-Barrè syndrome

2- Polymyositis

**3- Polymyalgia rheumatica**

4- Multiple sclerosis

5- Fibromyalgia

Q2228. A 45-year-old woman with rheumatoid arthritis presents with leg ulcers and swollen neck glands. A diagnosis of Felty's syndrome is made. Which typical finding on blood testing would you expect to find in her case?

1- Positive Coombs' test

**2- Normocytic normochromic anaemia**

3- Lymphocytosis

4- Reticulocytosis

5- High platelet count

Q2229. A 65-year-old woman presents a 1-month history of weakness in the hip region and inability to walk or get up from a chair. On examination there is wasting of the pelvic girdle muscles. She has also developed a purple discolouration of the eyelids. You suspect adult dermatomyositis. Which of the following investigations will be most helpful in the diagnosis and management of this condition?

1- A raised ESR

2- Presence of rheumatoid factor

3- Presence of antinuclear antibody

4- Myositis-specific antibodies

**5- Raised serum creatine phosphokinase**

Q2230. A 20-year-old football player presents with a swollen left knee and locking. He complains of pain after exercise. On examination wasting over the quadriceps and lateral aspect of the joint are noted. Arthroscopy of the joint reveals three loose bodies in the synovial cavity. What is the most likely diagnosis?

1- Chip fractures of the joint surfaces

2- Osteoarthritis

3- Synovial chondromatosis

**4- Osteochondritis dissecans**

5- Semi-lunar cartilage tear

Q2231. A 24-year-old man suddenly develops severe back pain while lifting some luggage. He is unable to straighten up and subsequently develops numbness and weakness in his left leg followed by retention of urine. He is unable to move his toes. Given the likely clinical diagnosis, which plan of management is likely to be required?

1- Lumbar traction

2- NSAIDs

3- Extension exercises

4- Bedrest

**5- Laminectomy and fusion**

Q2232. A 14-year-old girl, who is otherwise fit, complains of backache and fatigue. Her parents have also noticed that she is increasingly becoming round-shouldered. On examination movements are normal. A smooth lump is seen in the thoracic region. What would be the most characteristic feature of an X-ray of the thoracic spine?

1- Anterior displacement of one thoracic vertebra upon another

2- Absent neural arch

3- Osteophyte formation on posterior facet joints

**4- Deep notches on the anterior corners of the vertebrae**

5- Scoliosis

Q2233. A 44-year-old man presents with fatigue, low-grade fever and weakness. Because of muscle weakness, he can no longer climb the stairs to his first-floor flat. Over the past few weeks, a violaceous rash has appeared on his cheeks. What is the most probable diagnosis?

**1- Dermatomyositis**

2- Chronic fatigue syndrome

3- Polymyalgia rheumatica

4- Multiple sclerosis

5- Guillain-Barrè syndrome

Q2234. A 7-year-old boy complains of having intermittent hip pain for several months. Haematological investigations are normal. Xrays show flattening of the femoral head. What is the most probable diagnosis?

1- Pyogenic arthritis

2- Slipped upper femoral epiphysis

3- Fractured femur

4- Osteogenesis imperfecta

**5- Perthe's disease**

Q2235. A 26-year-old woman complains she has had a relapsing pain in her left ankle for the last four to five weeks. She also complains of a painful rash on the soles of her feet, and pain and swelling in her right toes. Over the last two weeks she has also developed low back pain. On further questioning she mentions that for the last few days she has noticed painless oral ulcers, which heal spontaneously. She also has a recent history of chlamydial urethritis. Her full blood count and kidney and liver function tests are all normal. An autoimmune screen is negative. What is the most likely diagnosis?

**1- Reiter's syndrome**

2- Seronegative arthritis

3- Ankylosing spondylitis

4- Hypersensitivity vasculitis

5- Disseminated bacterial arthritis

Q2236. A 40-year-old woman with sickle-cell disease complains of severe right hip pain for the past week. She walks with a limp and has a positive Trendelenburg's sign. There is a tendency for the hip to twist into internal rotation during passive flexion. Blood culture is negative. An X-ray of the hip appears normal. What is the most likely diagnosis in this case?

1- Septic arthritis

**2- Avascular necrosis of the femoral head**

3- Osteomyelitis of the femur

4- Pathological fracture of the femur neck

5- Osteoarthritis of the hip

Q2237. A 70-year-old man has been experiencing a right-sided headache and severe temporomandibular joint pain for the past week. He now presents with a sudden loss of vision in his right eye. What treatment is required urgently to avoid vision loss in the left eye?

1- Intraocular steroids

**2- Intravenous steroids**

3- Pilocarpine

4- Timolol

5- Sumatriptan

Q2238. A 55-year-old woman with a history of systemic lupus erythematosus complains of loss of vision. On examination she is found to have multiple opacities in the lenses of both eyes. What is the most appropriate treatment in this case?

1- Intraocular steroids

2- Laser treatment

3- Vitrectomy

**4- Extracapsular lens extraction**

5- Timolol

Q2239. A middle-aged woman with a history of rheumatoid arthritis develops a sudden swelling in one of her knees. The knee is hot and tender. Which is the most appropriate initial investigation in her case?

**1- Joint fluid microscopy and culture**

2- Joint fluid crystal examination

3- Blood culture

4- X-ray of the knee

5- Test for rheumatoid factor

Q2240. An elderly man with recently diagnosed heart failure is being treated with diuretics. He now develops severe joint pain in his left ankle with swelling and redness. Which investigation would be the most important in making a diagnosis?

1- X-ray ankle

2- Serum uric acid estimation

3- Joint fluid culture

**4- Joint fluid microscopy**

5- ESR

Q2241. A 55-year-old woman complains of a stiff left hip joint after walking some distance. This is most evident when she attempts to abduct the hip joint. She also has pain in the distal joints of both hands and stiffness of both hands in the mornings. Her mother and aunt had had similar problems at around the same age. Which investigation would be most useful in her case?

1- X-ray of the hands

2- X-ray of the hip

3- Blood culture

**4- Synovial membrane biopsy**

5- Test for rheumatoid factor

Q2242. A 69-year-old diabetic woman is febrile with chills and rigors and has a 1-day history of pain in her right knee. What clinical diagnosis should be considered most likely until excluded?

1- Gouty arthritis

2- Osteoarthritis

3- Pseudogout

**4- Septic arthritis**

5- Reactive arthritis

Q2243. A 38-year-old woman complains of generalised body pain. She sleeps well but does not feel refreshed in the morning. There are multiple painful and tender areas on her body. What is the most likely diagnosis?

1- Polymyositis

2- Polymyalgia rheumatica

**3- Fibromyalgia**

4- Multiple sclerosis

5- Hypochondriasis

Q2244. A 40-year-old woman with longstanding rheumatoid arthritis complains of breathlessness, mouth ulcers, weakness and malaise. Blood testing shows the following results: Hb 9.0 g/dl; WCC 3 x 109 /L; platelets 75 x 109 /l. Which of her medications is most likely to be responsible for these findings?

1- Penicillamine

2- Hydroxychloroquine

3- Aspirin

**4- Gold**

5- Naproxen

Q2245. A 43-year-old man with a past history of hypothyroidism complains he has had pain and stiffness in the joints of his hand and feet for three months. He also gives a history of dyspnoea of that started six weeks ago. Examination shows swollen hand joints and signs of a right pleural effusion. A diagnosis of rheumatoid arthritis is made. Which one of the following is characteristic of a rheumatoid pleural effusion?

1- It is a transudate

**2- It has a low glucose level**

3- Long-standing rheumatoid effusions have low cholesterol levels

4- It has a high pH

5- It should be treated by decortication

Q2246. A 25-year-old man complains he has had pain in his right elbow, right wrist, left knee and left ankle for the last week or two. He recently came back from Thailand where he had been on a two-week holiday with his friends. He confessed that while on holiday he had unprotected sex. Examination shows tenderness and swelling of the tendons around the involved joints but no actual joint swelling. He also has a skin rash, which is vesicopustular. What is the most likely diagnosis?

1- Tuberculous arthritis

2- Fungal arthritis

**3- Gonococcal arthritis**

4- Gout

5- Reiter's syndrome

Q2247. You are called to see a 14-year-old boy who has had a fever of unknown origin for the last 7 days. He also complains of redness of both eyes, redness and dryness of his lips and neck swelling. A rash on his trunk disappeared 2 days ago. On examination he has cervical lymphadenopathy and his palms and soles are red and oedematous. What is the most likely diagnosis?

1- Infectious mononucleosis

2- AIDS

**3- Kawasaki disease**

4- Acute systemic lupus erythematosus

5- Sjögren's syndrome

Q2248. You are called to see a 14-year-old boy who has had a fever of unknown origin for the last 7 days. He also complains of redness of both eyes, redness and dryness of his lips and neck swelling. He had a rash on his trunk that disappeared 2 days ago. On examination he has cervical lymphadenopathy and his palms and soles are red and oedematous. Given the suspected diagnosis, what would be the most appropriate therapy?

1- Intravenous steroids

2- Topical steroids

**3- Aspirin and intravenous immunoglobulins**

4- Protease inhibitors

5- Erythromycin

Q2249. A 50-year-old obese patient presents in the middle of the night to casualty with swelling of his first metatarsophalangeal joint and left knee. On examination the joints are swollen, red, hot and tender. Given the likely diagnosis, what is the most appropriate treatment?

1- Steroids

**2- Indometacin**

3- Erythromycin

4- Ampicillin

5- Methotrexate

Q2250. A 30-year-old woman undergoes arthroscopy and joint fluid aspiration for suspected rheumatoid arthritis. Which of the following findings would best confirm the diagnosis?

1- Normal-looking synovial membrane

2- Increased viscosity of synovial fluid

3- Clear synovial fluid

4- Neutrophils in the aspirate on microscopy

**5- Marked vascular proliferation on the**

Q2251. A 44-year-old woman complains of tiredness and lower limb joint pains. Which of the following joint findings is most suggestive of an inflammatory rather than an osteoarthritic cause of joint pain?

**1- Swelling and warmth**

2- Crepitus

3- Bony articular enlargement

4- Instability

5- Painful range of motion

Q2252. A 60-year-old woman complains of feelings of aching and heaviness in both legs on walking that causes her to stop walking and bend or sit down. Extending the back aggravates the symptoms. An X-ray of the spine is normal. What is the most likely diagnosis?

1- Lumbar disc prolapse

2- Lumbar spondylolisthesis

**3- Spinal stenosis**

4- Osteoarthritis of the lumbar vertebrae

5- Crush fracture of the lumbar vertebrae due

Q2253. A 62-year-old man presents with a 2-month history of pain and stiffness in both knees. You suspect early osteoarthritis. Which clinical finding would be most important in confirming this clinical impression?

1- Muscle weakness

2- Joint swelling

3- Crepitus on movement

**4- Limitation of range of movement**

5- Joint instability

Q2254. A 67-year-old man presents with a 2-year history of pain and stiffness in both knees. You suspect osteoarthritis. Which of the following clinical findings would be most important in deciding how best to manage his condition?

**1- Severity of pain and stiffness in the knees**

2- Crepitus elicited on movement of the joints

3- Presence of subchondral sclerosis in radiographs

4- Fissuring and surface erosion of cartilage seen on arthroscopy

5- Fixed-flexion deformity

Q2255. A 40-year-old woman presents with a 6- month history of pain and swelling of the proximal interphalangeal joints of both hands. A clinical diagnosis of rheumatoid arthritis is suspected. Which finding on blood testing would be most suggestive of this diagnosis?

**1- Anaemia**

2- Leucopenia

3- Raised ESR

4- High antinuclear antibody levels

5- HLA-B27

Q2256. A 50-year-old obese patient presents in the middle of the night to casualty with swelling of his first metatarsophalangeal joint and left knee. On examination the joints are swollen, red, hot and tender. What is the most likely diagnosis?

1- Osteoarthritis

**2- Gout**

3- Rheumatoid arthritis

4- Osteomyelitis

5- Dermatomyositis

Q2257. A 38-year-old woman has been diagnosed as having rheumatoid arthritis of her knees, hands and feet. Evidence of which complication would most likely to be found on clinical examination in her case?

1- Telescopic fingers

**2- Baker's cysts**

3- Onycholysis

4- Mallet finger

5- Heberden's nodes

Q2258. An 83-year-old man complains of neck pain that has been progressively increasing over the past month. An X-ray shows forward displacement of the fifth cervical vertebra. What is the most probable cause of this condition?

1- Failure of fusion of the odontoid process with the axis

2- Inflammatory softening of the transverse ligament of the atlas due to rheumatoid arthritis

**3- Instability of the posterior facet joints due to osteoarthritis**

4- Whiplash injury

5- Osteoporosis

Q2259. A 50-year-old woman with a 20-year history of rheumatoid arthritis in both hands suddenly develops finger drop of the ring finger of her right hand. Which deformity is most likely to have caused this complication?

1- Fixed hyperextension (swan-neck deformity) of the proximal interphalangeal joint

2- Ulnar deviation at the metacarpophalangeal joints

3- Boutonnière Deformity

**4- Swelling and dorsal subluxation of the ulnar styloid**

5- Squared hand and fixed adduction of the

Q2260. A 42-year-old woman presents with pain in her shoulders, inability to lift her arms fully and pain in the joints of both wrists and fingers for the past 2 months. There is a history of morning stiffness that lasts for more than an hour. A blood test shows the presence of rheumatoid factor. What clinical conclusion can be best drawn from the available information?

1- She must be suffering from rheumatoid arthritis as rheumatoid factor is specific for this condition

2- Radiographs of the affected joints are necessary to confirm the diagnosis

3- Complement levels should be measured to rule out systemic lupus erythematosus

4- This may be a false-positive reaction

**5- Based on the symptoms and results of the**

Q2261. A 31-year-old woman complains of pain in the fingers of both hands with proximal interphalangeal joint swelling. Which additional clinical and/or immunological findings would be most indicative of a diagnosis of rheumatoid arthritis?

1- Subcutaneous nodules

2- Antinuclear antibodies

**3- Rheumatoid factor**

4- Crepitus

5- Entrapment neuropathy

Q2262. A 63-year-old man presents with an acutely red and swollen right great toe with no history of trauma. Which of the following findings is most useful for making a diagnosis of gout in this patient?

1- Elevation of serum uric acid

**2- Good response to colchicine**

3- An associated right ankle effusion

4- Painless elbow nodules

5- Radiograph showing joint erosion of the

Q2263. A 30-year-old woman visits your clinic with a 2-month history of pain in both her hands. Which characteristic symptom in her clinical history would you be most likely to see that would reflect an inflammatory arthritis such as rheumatoid arthritis?

1- Inability to knit because of pain in her fingers

2- Feels tired and unwell

3- Swelling of the finger joints

**4- Marked stiffness for more than an hour in the mornings**

5- Presence of firm non-tender nodules in the

Q2264. A 47-year-old shopkeeper who has been on analgesics for rheumatoid arthritis for the past 2 years now complains of increasing pain, stiffness and swelling in his finger joints. Which radiological feature would be most suggestive of rheumatoid arthritis?

1- Subchondral sclerosis

2- Decreased joint space

**3- Periarticular osteoporosis**

4- Lipping at the joint margins

5- Punched out, lytic lesions in juxta-articular

Q2265. A 75-year-old woman, with a long history of rheumatoid arthritis, complains of chest pain and breathlessness. On examination she has tachycardia. Her blood pressure is 80/60 mmHg. An ECG shows low QRS voltages. What is the most likely cause for her condition?

1- Aortic dissection

2- Constrictive pericarditis

3- Acute pericarditis

**4- Cardiac tamponade**

5- Hypertrophic cardiomyopathy

Q2266. A 26-year-old woman presents with a malar rash, photosensitivity and arthralgia. On examination there are oral ulcers, her urine dipstick shows haematuria and proteinuria. Given the suspected diagnosis, which antibody determination would be particularly specific for the disease?

1- Antinuclear antibody

**2- Anti-dsDNA antibody**

3- Antimitochondrial antibody

4- Rheumatoid factor

5- Nuclear U1 ribonucleoprotein (RNP)

Q2267. A 70-year-old sheep farmer presents complaining of pain and restricted movements of his right hip for over a year. He also complains of early morning stiffness in the joint that lasts for about half an hour. The stiffness and pain have been progressively increasing and now he finds it difficult to carry out his routine activities. On examination he appears physically fit. An X-ray of the hip shows some decrease in joint space and subchondral sclerosis. What is the most likely diagnosis?

**1- Osteoarthritis**

2- Lyme disease

3- Brucellosis

4- Rheumatoid arthritis

5- Gouty arthritis

Q2268. A 35-year-old man patient was referred from his GP because of recurrent genital ulcers and uveitis; he has had four recurrences in the last year. On examination the patient also has mouth ulcers. What is the most likely diagnosis?

1- Sjögren's syndrome

**2- Behçet's disease**

3- Rheumatoid arthritis

4- Systemic sclerosis

5- Polymyalgia rheumatica

Q2269. A 20-year-old man presents with a 4- day history of high spiking pyrexia and arthralgia. On examination he has a maculopapular, salmon-pink rash on his trunk and arms and his distal interphalangeal joints are swollen. Hepatosplenomegaly is present. What is the most likely diagnosis?

1- Hepatitis C infection

**2- Adult Still's disease**

3- Infectious mononucleosis

4- Rheumatoid arthritis

5- Behçet's disease

Q2270. A 65-year-old woman complains of increased morning stiffness particularly in her shoulder girdle, so that she can't get up and has to roll out of bed. The stiffness lasts approximately 2 hours. She also complains of fatigue and being depressed. What is the most likely diagnosis?

1- Systemic lupus erythematosus

2- Osteoarthritis

3- Rheumatoid arthritis

**4- Polymyalgia rheumatica**

5- Sjögren's syndrome

Q2271. A 60-year-old patient has been complaining of a 1-month history of generalised headache, malaise and fever. He has also noticed scalp sensitivity while brushing his hair. What is the most likely diagnosis?

1- Transient ischaemic attacks

2- Migraine

**3- Giant-cell arteritis**

4- Intracranial tumour

5- Systemic sclerosis

Q2272. A 60-year-old patient has been complaining of a 1-month history of generalised headache, malaise and fever. He has also noticed scalp sensitivity while brushing his hair. What is the definite test to confirm the suspected diagnosis?

1- MRI scan

2- CT scan

3- ESR

**4- Temporal artery biopsy**

5- Antinuclear antibody test

Q2273. A 65-year-old man has a history of longstanding neck pain radiating to his arm with increased neck pain, limitation of neck movement and inability to lift his right arm above the shoulder. An X-ray shows narrowing of the disc space between the C5 and C6 vertebrae. What is the most likely diagnosis?

1- Cervical spondylosis

**2- Prolapsed cervical disc**

3- Cervical spondylolisthesis

4- Spasmodic torticollis

5- Cervical rib

Q2274. A 60-year-old patient has been complaining of a 1-month history of generalised headache, malaise and fever. He has also noticed scalp sensitivity while brushing his hair. Given the likely diagnosis, what would be the most appropriate treatment after this has been confirmed?

1- Aspirin

**2- Oral corticosteroids**

3- Topical corticosteroids

4- Clopidogrel

5- Dipyridamole

Q2275. A 70-year-old man with a long history of cervical spondylosis presents with pain, tingling and numbness in both arms. What would be the most appropriate treatment in his case?

1- Bedrest

2- Analgesia and sedation

**3- Neurosurgical referral**

4- Support collar

5- Cervical root block

Q2276. A 26-year-old woman presents with a malar rash, photosensitivity and arthralgia. On examination there are oral ulcers, her urine dipstick shows haematuria and proteinuria. What is the most likely diagnosis?

1- Rheumatoid arthritis

**2- Systemic lupus erythematosus**

3- Behçet's disease

4- Polymyalgia rheumatica

5- Systemic sclerosis

Q2277. A 35-year-old woman who suffers from rheumatoid arthritis attends the rheumatology clinic complaining of marked episodic pain in her right hand. Physical examination reveals a loss of pinprick sensation in the hand. There is tingling and numbness involving the thumb, index and middle fingers. You suspect median nerve compression. Which of the following clinical findings is most commonly associated with this condition?

1- Wasting of the interosseous and hypothenar muscles

2- Severe cubitus valgus

3- Loss of sensation in the lateral palmar aspect

4- Swelling on the back of the hand

**5- Positive Tinel's sign**

Q2278. A 40-year-old woman attends the rheumatology clinic complaining of marked intermittent pain in her right hand, particularly during the early hours of the morning. Physical examination reveals a loss of pinprick sensation in part of the hand. There is tingling and numbness involving the thumb, index and middle fingers. Which of the following clinical features is most likely to also be associated with this condition?

**1- Weakness of the muscles of the thenar eminence**

2- Tingling and pain in the medial half of the palm

3- Pain also occurring during the day if the arm is rested

4- Pain relieved by repetitive actions of the hand

5- Pain aggravated if the wrist is

Q2279. A 45-year-old man complains of burning pain in his foot with diminished sensation in the sole. He twisted his ankle a week earlier. Severe pain and paraesthesias can be elicited by applying pressure behind the medial malleolus. What is the most likely aetiology of his presentation?

1- Atherosclerosis of the popliteal arteries

2- Injury to the tibial nerve

3- Rupture of the Achilles tendon

4- Injury to the common peroneal nerve

**5- Compression of the posterior tibial nerve**

Q2280. A 31-year-old physical instructor returns from a trekking expedition in the Far East complaining of pain and swelling in his left big and second toes. On examination the affected joints are red and swollen. Movement of the toes is painful. What is the most probable diagnosis?

**1- Acute gouty arthritis**

2- Stress fracture

3- Osteoarthritis

4- Morton's metatarsalgia

5- Plantar fasciitis

Q2281. A 50-year-old obese patient presents in the middle of the night to casualty with swelling of his first metatarsophalangeal joint and left knee. On examination the joints are swollen, red, hot and tender. Which examination would most definitively confirm the suspected diagnosis?

1- ESR

2- Serum uric acid

3- Rheumatoid factor

4- Muscle biopsy

**5- Examination of joint fluid**

Q2282. A 24-year-old man has been complaining of back pain for over 12 months. Which of the following features is most suggestive of ankylosing spondylitis?

1- Limited lumbar spine motion on physical examination

2- Back stiffness worsening as the day wears on

**3- Bilateral erosion of sacroiliac joints on X-ray**

4- Presence of HLA-B27 antigen on serum testing

5- Tenderness bilaterally in the lower lumbar

Q2283. A 9-year-old girl presents with pain and swelling of the fingers of both hands and wrists. X-ray of the hands is normal. A blood test is positive for rheumatoid factor. What is the most likely diagnosis?

1- Still's disease

2- Persistent oligoarthritis

3- Juvenile spondyloarthropathy

**4- Polyarticular juvenile idiopathic arthritis**

5- Psoriatic arthritis

Q2284. A 65-year-old man complains of progressive breathlessness, swelling of his ankles, painful joints and earache. X-ray of his chest shows multiple nodules scattered throughout both lung fields. Urinalysis reveals proteinuria and microscopic haematuria. What is the most probable diagnosis?

1- Goodpasture's syndrome

2- Berger's disease

**3- Wegener's granulomatosis**

4- Churg-Strauss syndrome

5- Systemic lupus erythematosus

Q2285. A 44-year-old man presents with rhinitis, asthma and tender subcutaneous nodules. Antibodies to ANCA-PR3 and -MPO are present in his blood and the eosinophil count is 1.2 x 109 /L (0.04-0.4 x 109 ). Chest X-ray shows patchy pneumonitis. What is the most likely diagnosis?

1- Wegener's granulomatosis

**2- Churg-Strauss syndrome**

3- Microscopic polyangiitis

4- Polyarteritis nodosa

5- Rheumatoid arthritis

Q2286. A 57-year-old man on ciclosporin following a renal transplant suddenly develops severe pain, swelling and redness in his left knee. Which of the following investigations would be most helpful in providing a diagnosis?

1- Serum uric acid

**2- Joint fluid microscopy and Gram stain**

3- Blood culture

4- Serum creatinine

5- X-ray of the knee joint

Q2287. A 20-year-old man complains he has had pain in his abdomen, knee and elbow for the last 7 days. He had an upper respiratory tract infection four weeks ago. He also has a rash on his buttocks and lower limbs. What is the diagnosis?

**1- Henoch-Schönlein purpura**

2- Enteropathic arthritis

3- Reactive arthritis

4- Viral arthritis

5- Sarcoidosis

Q2288. A 70-year-old woman presented complaining of pain in her legs. A dual-energy X-ray absorptiometry (DXA) scan revealed osteoporosis. Her doctor prescribed 400 IU of vitamin D along with calcium supplements. Which is the most active metabolite of vitamin D involved in calcium homeostasis?

1- 25-Hydroxycholecalciferol

2- 7-Dehydrocholesterol

**3- 1,25-Dihydroxycholecalciferol**

4- 24,25-dihydroxycholecalciferol

5- Cholecalciferol

Q2289. A 40-year-old man presents with haematuria and recurrent haemoptysis. Blood tests are positive for ANCA-PR3 and ANCAMPO. The eosinophil count is 0.3 x 109 /L (0.04-0.4 x 109 ). What is the most probable diagnosis?

1- Wegener's granulomatosis

2- Churg-Strauss syndrome

3- Goodpasture's syndrome

**4- Microscopic polyangiitis**

5- Cryoglobulinaemic vasculitis

Q2290. A 39-year-old man with coeliac disease presents complaining of pain in both legs and difficulty in walking. An X-ray shows linear areas of low density surrounded by sclerotic borders in both femurs. Given the most likely explanation for his lower limb symptoms, which test would be most useful in diagnosing this condition?

1- Plasma calcium

2- Parathyroid hormone level

3- Serum phosphate

**4- Serum alkaline phosphatase**

5- Urinary phosphate excretion

Q2291. A 40-year-old man presents with cough and haemoptysis. On examination he is found to have a nasal mucosal ulceration. The doctor suspects that this patient may be suffering from Wegener's granulomatosis. Which tissues are most commonly involved in this condition?

1- Kidneys

2- Muscles

**3- Lungs**

4- Gastrointestinal tract

5- Skin

Q2292. An 11-year-old Asian girl presents with a 2- week history of fever, joint pains, malaise and loss of appetite. Swelling, redness and pain occurred in the left knee that lasted for 3 days and then settled. This was followed by swelling, redness and pain in her left elbow for 4 days, followed by similar symptoms in her right knee. At present she has a swollen tender right ankle. No other abnormality is found on clinical examination. What is the most likely diagnosis?

1- Still's disease

**2- Rheumatic fever**

3- Polyarticular juvenile idiopathic arthritis

4- Childhood dermatomyositis

5- Familial Mediterranean fever

Q2293. A 55-year-old woman presents complaining of tiredness, arthralgia, muscle weakness, weight gain and depression. Blood tests show mild normocytic normochromic anaemia with increased serum creatine kinase levels. Her pulse is 64 bpm and BP 140/90 mmHg. Given the suspected clinical diagnosis, which of the following blood tests would be most useful in the diagnosis of this condition?

1- Serum aspartate transferase

2- Serum alkaline phosphatase

3- Erythrocyte sedimentation rate

**4- Serum TSH**

5- Serum antinuclear antibodies

Q2294. A 45-year-old woman with long-standing rheumatoid arthritis develops pain in her left knee. What is the earliest radiological evidence of rheumatoid arthritis of the knee?

1- Erosion of cartilage and bone

2- Loss of joint space

3- Varus/valgus deformity

**4- Effusion into the joint space**

5- Osteophyte formation

Q2295. A 34-year-old woman with long-standing rheumatoid arthritis is found to have anaemia. Blood tests: Hb 10.5 g/dl (11.5-16.5), MCH 30 pg (28-32), MCHC 37 g/dl (32-35), MCV 94 fl (80-96), WCC 7.5 x 109 /L (4-11) and platelets 175 x 109 /l (150-400). What is the most common cause for this condition?

1- NSAID ingestion

2- Felty's syndrome

**3- Chronic disease**

4- Disease-modifying anti-rheumatoid drug (DMARD) treatment

5- Haemolytic anaemia

Q2296. A 35-year-old woman presents with swollen and painful finger joints in both hands. You suspect rheumatoid arthritis and want to test for the presence of rheumatoid factor. Which immunoglobulin is most commonly detected by routine testing?

1- IgG

2- IgA

**3- IgM**

4- IgE

5- IgD

Q2297. A 40-year-old woman complains of pain and stiffness in the small joints of her hands especially in the mornings. An X-ray shows only soft tissue swelling, but an MRI reveals erosions at the metacarpophalangeal joints. Which of the following indicates a worse than average prognosis?

1- Anaemia occurring a year after onset

2- Negative IgM rheumatoid factor

3- Male patient

4- Positive IgG rheumatoid factor

**5- Gradual onset over a few months**

Q2298. A 44-year-old man presents with pain in his hips and lower back. Blood tests are unremarkable except for serum alkaline phosphatase, which is 1200 IU/l (45-105). A plain X-ray shows osteolytic and osteosclerotic lesions. What is the most common site of occurrence of this disease?

1- Skull

2- Tibia

3- Lumbar spine

4- Femur

**5- Pelvis**

Q2299. A 22-year-old man complains of an acute onset of pain in his right elbow and left Achilles tendon. He also gives history of dysuria, conjunctivitis and fever. He returned from holiday in the Far East three weeks ago where he had unprotected sex. He has developed a macules and pustules on his hands. What is the most likely diagnosis?

1- Gonococcal arthritis

2- HIV

**3- Reiter's disease**

4- Psoriatic arthritis

5- Syphilitic arthritis

Q2300. A 25-year-old man presents complaining of a 10-day history of low back pain and stiffness that is worse in the morning and relieved by exercise. Which of the following investigative findings would be most likely to be found on an X-ray of the lower spine?

**1- Blurring of the upper and/or lower vertebral rims at the thoracolumbar junction**

2- Sclerosis of the sacroiliac joints

3- Presence of syndesmophytes

4- Fusion of spinal facet joints

5- Calcification of intervertebral ligaments

Q2301. A 23-year-old man presents with pain in both buttocks, and redness and mild pain in his right eye. Given the most likely clinical diagnosis, which of the following clinical signs would be the earliest evidence of this condition?

1- Paraspinal muscle wasting

**2- Retention of lumbar lordosis during spinal flexion**

3- Reduction in chest expansion

4- Fixed flexion deformity of the hip

5- Visual field defects

Q2302. A 30-year-old woman presents with fever, muscle and joint pains and fatigue. Erythema in a butterfly distribution is seen on the cheeks of her face and across the bridge of her nose. What is the most common finding that you would expect to see on investigation of her joints?

1- Thickening of joint capsule

2- Tendon contraction

**3- Soft tissue swelling**

4- Aseptic necrosis

5- Bony erosions

Q2303. A 39-year-old woman has recently been diagnosed with systemic lupus erythematosus. She wishes to know more about the possible symptoms that she may have in the future. What is the commonest gastrointestinal complication seen in this condition?

1- Autoimmune hepatitis

2- Mesenteric vasculitis

3- Pancreatitis

**4- Mouth ulcers**

5- Intestinal infarction

Q2304. A patient with recently diagnosed systemic lupus erythematosus undergoes serum testing for antibody levels. Which of the following antibodies would be most indicative of severe systemic involvement?

1- Antinuclear antibodies

2- Anticardiolipin antibodies

3- Antinucleosome antibodies

4- Rheumatoid factor

**5- Anti double-stranded DNA antibodies**

Q2305. A 54-year-old Italian woman presents with purpura, pain in both knee joints and Raynaud's phenomenon. Urinalysis shows proteinuria and haematuria. A biopsy of the right kidney shows large, amorphous, PASpositive, Congo red-negative deposits within glomerular capillary lumina. Electron microscopy shows an amorphous or fibrillar appearance. Given the likely diagnosis, which organ/tissue is most commonly involved in this condition?

**1- Skin**

2- Musculoskeletal system

3- Kidneys

4- Nervous system

5- Gastrointestinal tract

Q2306. A 42-year-old woman is attending the Rheumatology clinic with a diagnosis of systemic lupus erythematosus (SLE). She complains of shortness of breath. Assuming that this is due to respiratory involvement by SLE, what would be the most likely cause?

1- Pneumonitis

**2- Pleural effusion**

3- Atelectasis

4- Restrictive lung disease

5- Pulmonary fibrosis

Q2307. A 27-year-old woman who works as a choreographer has rheumatoid arthritis of her hands. She is worried that it may spread to her feet. What is the earliest manifestation of rheumatoid arthritis in the feet?

**1- Swelling of the metatarsophalangeal joints**

2- Broadening of the foot

3- Loss of flexibility of the foot

4- Flattening of the medial arch

5- Valgus position of the ankle

Q2308. A 27-year-old woman with systemic lupus erythematosus complains of chest pain. Auscultation of her heart reveals no abnormality. You suspect, however, that her symptoms are due to cardiac involvement by SLE. What is the most likely pathology?

1- Myocarditis

2- Aortic valve lesions

3- Cardiomyopathy

**4- Pericarditis**

5- Libman-Sacks syndrome

Q2309. A 39-year-old woman presents with episodes of tingling, numbness and burning of the fingers of both hands over the past year. Her doctor thinks it could be Raynaud's phenomenon. With which disease is this phenomenon most often seen?

**1- Systemic sclerosis**

2- Systemic lupus erythematosus

3- Cryoglobulinaemia

4- Polyarteritis nodosa

5- Adult polymyositis

Q2310. A 47-year-old woman with a 15-year history of rheumatoid arthritis presents with a red, swollen and hot knee joint. A provisional diagnosis of septic arthritis is made. Which organism is most commonly responsible for this condition?

1- Streptococcus pyogenes

2- Haemophilus influenzae

**3- Staphylococcus aureus**

4- Neisseria gonorrhoeae

5- Escherichia coli

Q2311. A 30-year-old woman with systemic lupus erythematosus is eager to find out if she has any predisposing factors for the disease. Which of the following carries the highest risk?

1- Dizygotic twin

2- First-degree relative

**3- Monozygotic twin**

4- Positive HLA-B8

5- Positive HLA-DR2

Q2312. You are explaining the common manifestations of systemic lupus erythematosus to a 32-year-old woman who has been diagnosed with the disease. Which tissues are most commonly affected in this condition?

1- Skin

2- Lungs

3- Heart and blood vessels

**4- Joints**

5- Kidneys

Q2313. A 40-year-old woman presents with a 5-year history of Raynaud's phenomenon. She now complains being unable to extend her fingers and has developed a painful ulcer on the tip of her right index finger. Which antibodies are most likely to be present in this condition?

1- Anti smooth muscle antibodies

**2- Anticentromere antibodies**

3- Anti-topoisomerase-1 antibodies

4- Anti-RNA polymerase antibodies

5- Anti-Ro (SSA) antibodies

Q2314. A 42-year-old woman is attending the Rheumatology clinic with a diagnosis of systemic lupus erythematosus (SLE). She complains of shortness of breath. Assuming that this is due to respiratory involvement by SLE, what would be the most likely cause?

1- Pneumonitis

**2- Pleural effusion**

3- Atelectasis

4- Restrictive lung disease

5- Pulmonary fibrosis

Q2315. You review a 59-year-old woman with a history of deteriorating vision. You diagnose the patient to have ischaemic optic atrophy. Ischaemic optic atrophy is most likely to be associated with which of the following diseases?

1- Rheumatoid arthritis

**2- Wegener's granulomatosis**

3- Systemic lupus erythematosus (SLE)

4- Seronegative arthritis

5- Still's disease

Q2316. A 42-year-old woman with seropositive rheumatoid arthritis has become disabled by pain and tightness behind the right knee. Physical examination reveals cystic swelling over the popliteal fossa and semimembranous tendon. Which of the following is the most appropriate next step?

1- Magnetic resonance imaging (MRI) of the right knee

2- Synovial biopsy of the right knee

**3- Ultrasound study of the right knee popliteal fossa**

4- Venogram of right lower extremity

5- Arthroscopy of the right knee

Q2317. You review a 48-year-old woman who presents complaining of joint pains has suffered recurrent infections over the past few months, she has a positive rheumatoid factor on blood testing and a low WCC. Given the likely diagnosis, which of the following features is most likely to found in her case?

1- Splenic atrophy

**2- Splenomegaly**

3- Distal interphalangeal joint involvement

4- Flexural surface rheumatoid nodules

5- HLA-DR2 tissue type

Q2318. You review a 21-year-old man who has suffered from Still's disease as a child. Which of the following are common features of Still's disease?

**1- Negative rheumatoid factor**

2- Normal erythrocyte sedimentation rate (ESR)

3- Normal C-reactive protein (CRP)

4- Thrombocytopenia

5- Splenic atrophy

Q2319. You are asked to see a 50-year-old man in the surgical ward at 6 am who underwent an uncomplicated cholecystectomy for gallstones the day before. He has developed excruciating pain in his right ankle joint. He has a history of angina and hypertension for which he takes bendroflumethiazide (bendrofluazide) and aspirin. Examination of his cardiovascular and respiratory system is unremarkable, as is his abdomen. His right ankle is red, warm, swollen and tender. Routine blood tests show mildly impaired renal function. What is the most likely diagnosis?

1- Cellulitis

2- Deep vein thrombosis

3- Septic arthritis

**4- Gout**

5- Rheumatoid arthritis

Q2320. A 30-year-old man presents with malaise, fever, backache and joint pains of 1-week duration. On examination, arthritis is present asymmetrically in the lower limbs involving the knees, ankle, metatarsophalangeal and toe joints. An eye examination reveals conjunctival congestion, and there is a vesicular crusting lesion on his left sole. Investigations reveal an ESR 60 mm/h and CRP 50 U/l. RA factor is negative and HLA B27 is positive. Which of the following is the most likely diagnosis?

1- Rheumatoid arthritis

2- Gout

**3- Reactive arthritis**

4- Psoriatic arthritis

5- Ankylosing spondylitis

Q2321. A 30-year-old woman, under follow-up for well-controlled SLE and on low-dose steroids (prednisolone 5 mg/day), was noted to have deteriorating renal function by her GP (rise in creatinine from 110 to 145 m mol/l). Investigations revealed an ESR of 20 mm/hour, dsDNA -ve, ANA 1:80. Subsequent investigations, including a kidney biopsy, revealed WHO class II disease (mesangial lupus nephritis). Which of the following would be the ideal treatment in this case?

**1- No treatment needed**

2- High-dose glucocorticoid pulses

3- High-dose glucocorticoid pulses + iv cyclophosphamide

4- High-dose glucocorticoid pulses + iv cyclophosphamide + azathioprine

5- Intravenous cyclophosphamide alone

Q2322. A 46-year-old man on haemodialysis for 12 years complains of insidious onset of painful nocturnal dysesthesias involving the thumb and three fingers, relieved by shaking the hand. Physical examination of the hand reveals thenar wasting and numbness over the fingers. Which of the following statements fits best with this clinical picture?

1- Deposition of amyloid of the AL (associated with light chains) type would be likely

**2- Carpal tunnel syndrome would explain these findings**

3- Deposits of b2-microglobulin-associated amyloid are extremely unlikely to be a contributory cause

4- These findings are most likely to be associated with generalised peripheral neuropathy

5- These symptoms suggest compression of

Q2323. A 43-year-old woman presents with a 3-year history of progressive rheumatoid arthritis that has been partially responsive to various nonsteroidal anti-inflammatory drugs (NSAIDs) and to low-dose oral corticosteroids. After the examination, you decide to treat her active arthritis with methotrexate, currently the most widely used and effective agent for rheumatoid arthritis. Which of the following features are typical of methotrexate therapy?

1- Clinical improvements are usually seen within the first week of therapy initiation

2- Bone marrow suppression is not seen with low-dose methotrexate therapy

3- Yearly full blood count and liver function test monitoring is necessary

**4- Birth control measures must be in use before methotrexate is started**

5- Hepatic fibrosis is common in relation to

Q2324. Your review a 62-year-old woman with osteoarthritis. Which of the following stems is true of osteoarthritis?

1- Defects in collagen Type I genes in familial osteoarthritis (OA)

**2- Defects in collagen Type II genes in familial osteoarthritis (OA)**

3- Commonly distal polyarticular joint involvement

4- Raised ESR

5- Mild hip dysplasia is not associated with

Q2325. A 32-year-old woman presents with left inguinal and groin pain of 1-week duration that is worse with weight bearing and ambulation. Physical examination reveals full range of motion of the left hip. She walks with a limp. She had previously been treated with aggressive chemotherapy for Hodgkin's disease. An anteroposterior film of the pelvis demonstrates no osseous abnormality. Which of the following tests would be most useful in making the diagnosis?

1- Serum rheumatoid factor

2- Erythrocyte sedimentation rate

**3- Magnetic resonance imaging (MRI) of the left hip**

4- Arthrogram of the left hip

5- Blood alcohol level

Q2326. You review a 54-year-old woman who has had long-standing rheumatoid arthritis. Which of the following are common features of rheumatoid arthritis?

1- Ulcerative colitis

2- Uveitis

3- Proteinuria from renal deposition of amyloid

4- A monarticular picture

**5- Proximal interphalangeal joint involvement**

Q2327. A 50-year-old man is transferred to your hospital with a presumptive diagnosis of tuberculosis. His chest radiograph shows nodular cavitating lesions in both lung fields. His urinalysis shows 50 RBCs per high power field and 3+ proteinuria. He is scheduled for bronchoscopy with transbronchial lung biopsy in the morning. That evening he has a sudden deterioration consisting of massive haemoptysis and progressive renal failure. The most appropriate therapeutic intervention at this point would be supportive management and:

1- Corticosteroids iv

2- Antituberculous medications

3- Cyclophosphamide iv 4 mg/kg

4- Oral cyclophosphamide 2 mg/kg

**5- Corticosteroids iv and cyclophosphamide iv**

Q2328. You review a 78-year-old woman who complains of severe proximal muscle pain and stiffness, which is worst in the early morning on rising from bed. Which of the following features would suggest a diagnosis of polymyalgia rheumatica?

1- Painless muscle weakness

2- Erythrocyte sedimentation rate (ESR) just above the normal range

**3- Pain and muscle stiffness worst in the mornings**

4- Mild response to corticosteroid therapy after 4 weeks treatment

5- Thrombocytosis

Q2329. A 74-year-old man is noted to have purplishdiscoloured right third and fourth toes 4 days after coronary angiography and a creatinine level of 240 (creatinine level was normal on admission). He has a history of adult-onset diabetes mellitus, hypertension and 50 packyears of smoking. Cholesterol crystal atheromatous embolisation is suspected. Which of the following features are associated with cholesterol embolisation?

1- Anticoagulants reduce the risk of cholesterol embolisation

**2- Diabetes mellitus**

3- Abnormal creatinine on admission does not increase risk

4- Thrombolysis is of proven benefit

5- Diuretics are the mainstay of treatment

Q2330. An 82-year-old woman was hospitalised for treatment of congestive heart failure. She experienced a warm, painful right knee on the 3rd hospital day. The most appropriate procedure would be:

1- Blood cultures followed by antibiotics iv

**2- Arthrocentesis for diagnostic/therapeutic purposes**

3- Colchicine iv

4- Allopurinol

5- Ultrasound study of right knee, including

Q2331. A 78-year-old man presents with an acute onset of severe pain and swelling of the left wrist, which had developed after he had a chest infection two weeks previously. On examination, he had a temperature of 38° C and the left wrist was red, swollen, and painful. What is the most appropriate initial investigation?

1- Erythrocyte sedimentation rate

2- Full blood count

**3- Joint aspiration**

4- Serum urate concentration

5- Radiography of the joint

Q2332. A 44-year-old man presents with a sudden onset of pain, swelling and redness of his left big toe. Blood tests: urea 5.6 mmol/l (2.5-7.5), creatinine 107 mmol/l (60-110) and urate 625 mmol/l (230-460). What would be the drug of choice in this case?

**1- Diclofenac**

2- Colchicine

3- Prednisolone

4- Allopurinol

5- Probenecid

Q2333. A 65-year-old woman with a 30-year history of rheumatoid arthritis presents with severe shoulder pain and the inability to abduct the arm. An X-ray of the shoulder is normal. What is the most likely cause for her symptoms?

1- Rotator cuff tendonitis

**2- Torn rotator cuff**

3- Frozen shoulder

4- Calcific tendonitis

5- Polymyalgia rheumatica

Q2334. A 42-year-old woman complains of nocturnal tingling and pain in her right hand. On examination, there is sensory loss over the palm and radial three-and-a-half fingers. Given the probable explanation for her symptoms, what is the likeliest underlying cause?

1- Rheumatoid arthritis

2- Hypothyroidism

**3- Idiopathic**

4- Acromegaly

5- Pregnancy

Q2335. A 42-year-old woman presents with swollen, painful finger joints. Rheumatoid factor is positive. Which of the following deformities on clinical examination is most typical of this disease?

**1- Ulnar deviation of the metacarpophalangeal joints**

2- Boutonnière deformity

3- Swan-neck deformity

4- Spindling of the fingers

5- Finger drop of the little and ring fingers

Q2336. A 42-year-old obese woman with a 10-year history of rheumatoid arthritis has been on prednisolone for a number of years. She now presents with severe hip pain and is unable to walk. What is the most probable diagnosis?

1- Flare-up of rheumatoid arthritis

2- Osteoarthritis

3- Pathological fracture of the femoral neck

**4- Avascular necrosis of the femoral head**

5- Meralgia paraesthetica

Q2337. A 15-year-old girl presents with pain and swelling over her right knee that has progressively worsened over the last 10 days. She is actively involved in sports and has recently been selected for the national championships. Clinical examination and an Xray of the knee reveal no abnormality. What is the most likely cause for her condition?

1- Osteochondritis dissecans

**2- Osgood-Schlatter's disease**

3- Infrapatellar bursitis

4- Torn meniscus

5- Torn anterior cruciate ligament

Q2338. A 74-year-old woman complains of worsening left knee pain with weight bearing and ambulation. Examination of the knee reveals a small effusion without warmth, bony enlargement and there is crepitus with flexion and extension of the knee. A diagnostic arthrocentesis is performed. Which of the following features of the arthrocentesis is an unusual finding in this case?

1- Pale yellow color

2- Good viscosity

3- Routine culture negative

4- White blood cell (WBC) count 800/mm3

**5- Glucose 1.4 mmol/l**

Q2339. A 68-year-old woman complained of pain at the base of her right thumb. There is no history of recent injury, or of any particular activities involving repeated movement of the joint. There was tenderness and swelling of the right first carpometacarpal joint. What is the most likely diagnosis?

1- Avascular necrosis of the scaphoid

2- De Quervain's tenosynovitis

**3- Osteoarthritis**

4- Psoriatic arthritis

5- Rheumatoid arthritis

Q2340. A 54-year-old woman complains of severe right shoulder pain localized mainly to the mid-humerus but also diffusely around the anterolateral shoulder. The onset was sudden and not precipitated by trauma. Physical examination reveals limited abduction with point tenderness over the subacromial bursa and the greater tuberosity of the humerus. A radiograph reveals a linear calcific density in the supraspinatus tendon. Which of the following statements fits best with the underlying condition?

1- The calcific density is most likely calcium urate crystals

**2- The calcific density is most likely calcium hydroxyapatite crystals**

3- Trauma is the commonest cause of calcific tendonitis

4- Commonest age of presentation is below 40 years

5- Physiotherapy is of no value in managing

Q2341. A 40-year-old man is being evaluated for recurrent mild haemoptysis. He gives a history of recurrent sinusitis in the past. Physical examination is unrevealing. Blood investigations show: Hb 12.8 g/dl; WBC 8.9 x 109 /L; ESR 68 mm/h; urea 10 mmol/l; creatinine 180 mmol/l and active sediments in the urine. c-ANCA is positive and the chest X-ray shows multiple cavities in both lung fields. Which of the following statements is correct regarding his condition?

1- Upper respiratory tract biopsy is likely to show vasculitic changes

2- Granulomas are usually seen in a renal biopsy

**3- Lung biopsy has a high diagnostic yield**

4- c-ANCA is highly specific in active disease, but is not sensitive

5- c-ANCA is a useful marker for monitoring

Q2342. A 62-year-old woman presents for review. She has suffered from joint pains and arthritis for the past few years. Blood testing reveals positive rheumatoid factor. What is the most common human leucocyteassociated antigen (HLA) type in rheumatoid arthritis?

1- HLA B5

2- HLA B27

3- HLA DR2

4- HLA DR3

**5- HLA DR4**

Q2343. A 54-year-old woman presents with severe tiredness and lethargy. She also reports joint pains. You arrange an antibody screen which reveals positive anti-Ro antibodies, and positive anti-nuclear antibodies. What is the most likely diagnosis?

1- Systemic lupus erythematosus (SLE)

2- Rheumatoid arthritis

3- Sjögren's syndrome

4- Myasthenia gravis

**5- SLE with Sjögren's syndrome**

Q2344. A 22-year-old girl presents for review. She has recently suffered a viral upper respiratory tract infection diagnosed by her general practitioner (GP) as glandular fever. Progressive tiredness has followed and she presents to the emergency department for review. On further questioning she admits to haemoptysis but her GP put this down to the infection. Urine examination reveals the presence of blood and protein, and an admission creatinine is 342 micromol/l. She is admitted to the renal ward, renal biopsy and staining reveals a linear pattern of immunoglobulin G (IgG) deposition against the glomerular basement membrane. What diagnosis fits best with this clinical picture?

**1- Goodpasture's syndrome**

2- Henoch-Schönlein purpura

3- IgA nephropathy

4- Membranous nephropathy

5- Wegener's granulomatosis

Q2345. A 62-year-old man presents to his general practitioner (GP) for review. He has severe pain affecting the right shoulder which is worst during the middle range of abduction, he is unable to initiate abduction of his shoulder via active movement, although passive elevation is less painful. There are no other abnormal physical signs. What diagnosis fits best with this clinical picture?

1- Torn rotator cuff

2- Subacromial bursitis

**3- Supraspinatus tendonitis**

4- Adhesive capsulitis

5- Acromio-clavicular joint disruption

Q2346. A 55-year-old woman with a chronic disease develops nephrotic syndrome. She undergoes a renal biopsy to establish a diagnosis. On light microscopy, eosinophilic deposits are seen in the mesangium, capillary loops and arteriolar walls. Staining with Congo red renders these deposits pink and they show green birefringence under polarised light. With which chronic disease is this condition most commonly associated?

1- Ulcerative colitis

2- Bronchiectasis

**3- Rheumatoid arthritis**

4- Osteoarthritis

5- Crohn's disease

Q2347. A 24-year-old man presents with a five month history of low back pain, radiating to his buttocks, and back stiffness worse in the morning and worse after periods of inactivity. There is also a history of diarrhoea. Which of the following signs is the most likely to be present?

1- Exaggerated lumbar lordosis

2- Positive femoral stretch test

3- Positive Trendelenburg test

4- Restricted straight-leg raising

**5- Sacroiliac joint tenderness**

Q2348. A 42-year-old man presents with an acutely swollen, painful R 1st metatarsophalangeal joint. Which one of the following features would most reliably distinguish gout from a septic arthritis as the cause?

1- A polymorph leukocytosis

2- Increased serum C-reactive protein

3- Hyperuricaemia

**4- The presence of negatively birefringent crystals in synovial fluid**

5- The presence of polymorph leucocytes in

Q2349. A 45-year-old woman presents with a 4- month history of malaise, weight loss, occasional fever and progressive difficulty in climbing stairs. On examination there is wasting of the pelvic girdle muscles with weakness. Blood test results are unremarkable except for raised anti-Jo-1 antibodies. EMG shows spontaneous fibrillation, high-frequency repetitive potentials and polyphasic potentials on voluntary movements. What is the most likely diagnosis?

1- Polymyalgia rheumatica

2- Osteoarthritis of the hip

3- Fibromyalgia

**4- Polymyositis**

5- Guillain-Barrè syndrome

Q2350. A 70-year-old woman presents with pain and swelling in both knees. An X-ray shows a rim of calcification of the lateral meniscus in both knees. What will be the characteristic finding in the joint aspirate?

1- Neutrophils

2- Needle-shaped crystals

3- White turbid fluid

**4- Positively birefringent crystals**

5- No abnormality

Q2351. A 55-year-old man presents with an acute myocardial infarction. He has been resuscitated and thrombolysed. He now mentions he has been feeling unwell for the last two months with dyspnoea, malaise, joint pains, weight loss and intermittent fever. His doctor has recently started him on an antihypertensive drug and he has recently experienced palpitations. He also gives a history of patchy numbness over his lower limbs and arms. His blood tests reveal he has a mildly raised urea and creatinine level, his ESR is 88 mm in one hour. There is no past history of IV drug abuse or unprotected sex. What is the diagnosis?

1- Polymyalgia rheumatica

2- Wegener's granulomatosis

**3- Polyarteritis nodosa (PAN)**

4- Rheumatoid arthritis

5- Occult malignancy

Q2352. A 57-year-old obese woman presents with numbness, tingling and burning on the anterolateral aspect of the thigh. On examination there is dysaesthesia (increased sensitivity to light touch) in the affected area. An X-ray of the hip joint is normal. What is the most likely possible cause for her symptoms?

**1- Meralgia paraesthetica**

2- Trochanteric bursitis

3- Fracture of the femoral neck

4- Avascular necrosis of the femoral head

5- Polymyalgia rheumatica

Q2353. A 22-year-old man complains of having low back pain for the past 3 months. He has also noticed a swelling of his right second toe and has pain in his heels when he walks. He was treated for red eyes six months earlier. Which investigation would be most likely to provide a clue as to the cause of his condition?

1- Joint aspirate and microscopy for uric acid crystals

2- Test for serum rheumatoid factor

3- HLA testing

4- X-ray of the foot

**5- X-ray of the sacroiliac joints**

Q2354. A 31-year-old woman recently arrived in the UK from Somalia complains of marked neck pain with pins and needles affecting the left arm associated with poor grip strength of the left hand. Examination reveals her to be tender over the cervical spine with spasm of trapezius on the left hand side. Radiographs of the cervical spine show narrowing of the C3/4 and C4/5 joint space and partial collapse of C4. Investigations show Hb 9.8 g/dl, white cell count (WCC) 11.8, lymphocytes 9.2, platelets 567, ESR 121 mm in the first hour, CRP 256 g/l. calcium 2.15 mmol/l, albumin 35 g/l, alkaline phosphatase 185 U/l, phosphate 0.9 m mol/l. What is the most likely diagnosis?

1- Multiple myeloma

**2- Pott's disease**

3- Osteoporotic collapse

4- Disseminated malignancy

5- Osteomalacia

Q2355. A 31-year-old man with nephrotic syndrome complains of a 2-month history of pain in his right hip joint. The movements of the hip are free but painful. An X-ray provides evidence of a completely destroyed femoral head. What is the most probable diagnosis?

1- Tuberculosis of the hip

**2- Avascular necrosis of the femoral head**

3- Pathological fracture of the femoral neck

4- Septic arthritis

5- Gouty arthritis

Q2356. A 62-year-old, previously fit, man presents with a 2-month history of fatigue, exertional dyspnoea and abdominal pain. He also has evidence of severe arthritis in his hands and progressive numbness of his feet. On examination red spots are noted on the extensor surfaces of his lower limbs. An X-ray of the chest shows cardiomegaly. What diagnosis is best suggested by these findings?

1- Rheumatoid arthritis

2- Sarcoidosis

3- Polymyalgia rheumatica

4- Dermatomyositis

**5- Polyarteritis nodosa**

Q2357. A 61-year-old man presents with a 2-month history of pain affecting shoulders, knees, wrists and hands. He describes early morning stiffness lasting for 1 h. There is swelling of his left ankle and second and third metacarpal (MCP) joints on both hands. He has lost 3 kg in weight and has a low-grade pyrexia. Investigations reveal a normochromic, normocytic anaemia of haemoglobin (Hb) 9.7 g/dl, erythrocyte sedimentation rate (ESR) 56 mm in the first hour, C -reactive protein (CRP) 21 g/l, rheumatoid factor (RF) negative and antinuclear antibody (ANA) negative, creatine phosphokinase (CPK) 163. What is the most likely diagnosis?

1- Paraneoplastic syndrome

2- Polymyalgia rheumatica

3- Reiter's syndrome

**4- Rheumatoid arthritis (RA)**

5- Temporal arteritis

Q2358. A 37-year-old woman is referred to the rheumatology clinic with a 2-month history of pain, but no swelling, in her MCP and (proximal interphalangeal) PIP joints. She also complains of sore and gritty eyes. On direct questioning she has a dry mouth and dyspareunia. Investigations reveal: ESR 80 mm in the first hour, RF +ve 1 : 320, ANA ++, antiRo antibody positive, anti-La negative CRP < 2. What is the most likely diagnosis?

1- Rheumatoid arthritis

2- Systemic lupus erythematosus (SLE)

**3- Primary Sjögren's syndrome**

4- Sarcoidosis

5- Dermatomyositis

Q2359. A 67-year-old woman with a 10-week history of pain affecting the cervical spine, both shoulders, lumbar spine and both hips. Early morning stiffness lasts until lunchtime and she feels markedly tired. She has a low-grade pyrexia of 37.4°C and bilateral knee effusions and a right carpal tunnel syndrome. Investigations reveal a normochromic normocytic anaemia of Hb 10.1 g/dl, ESR 81 mm in the first hour, CRP 27 g/l, negative rheumatoid factor serum immunoglobulins and protein electrophoresis show a polyclonal increase in gammaglobulins and elevated a1- and a2- globulins. What is the most likely diagnosis?

1- Paraneoplastic syndrome

**2- Polymyalgia rheumatica (PMR)**

3- Polymyositis

4- Rheumatoid arthritis

5- Temporal arteritis

Q2360. A 67-year-old man with poorly controlled seropositive rheumatoid arthritis for 22 years is followed up in out-patients. He has noticed swelling around the eyes especially first thing in the morning. Routine urinalysis reveals that he has +++ protein. His current medication includes methotrexate 20 mg weekly, sulfasalazine 1 g bd, prednisolone 5 mg OD and ibuprofen 400 mg tds. What is the likely diagnosis?

1- IgA nephropathy

**2- Amyloidosis**

3- Rheumatoid vasculitis

4- Drug-induced nephropathy

5- Renal tubular acidosis

Q2361. A 23-year-old man with seropositive rheumatoid arthritis is planning to start a family. Which of the following drugs would be safest to prescribe to help control his disease?

1- Sulfasalazine

2- Methotrexate

3- Leflunomide

**4- Prednisolone**

5- Cyclophosphamide

Q2362. A 30-year-old man has erythrodermic psoriasis and arthritis mutilans involving several digits in both hands. What would be the most logical treatment for him, leaving out consideration of current NICE guidance?

1- Phototherapy

2- Prednisolone

3- Sulfasalazine

4- Methotrexate

**5- Etanercept**

Q2363. A 66-year-old man who has a red, targetshaped rash on his leg, experiences fatigue, left arm pain and numbness and difficulty using his left hand for gripping. He has also developed pain and swelling of his right wrist and left knee. Which investigation would be most likely to help in making a diagnosis?

1- CRP estimation

2- Blood culture

3- Skin biopsy

**4- Antibody titre for Borrelia burgdorferi**

5- Test for rheumatoid factor

Q2364. A 26-year-old Asian woman complains of back pain and tenderness in her thighs. She also mentions that she finds it difficult to climb stairs. She has never smoked and does not drink alcohol. She has well-controlled asthma and takes a low-dose inhaled corticosteroid only. Her full blood count is normal. She has an alkaline phosphatase level of 250 U/l (normal, 40-125 U/l), her plasma calcium concentration is 1.98 mmol/l (normal, 2.12- 2.62 mmol/l). Her liver and kidney function tests are normal. What would you expect her pelvic radiograph to show?

1- Decreased bone density

**2- Translucent bands**

3- Punched-out osteolytic lesions

4- Bone expansion and sun-ray appearance

5- Layers of periosteal new bone formation

Q2365. A 75-year-old woman with rheumatoid arthritis is being treated with methotrexate. She presents with malaise, fever and swelling and pain of her right wrist. What is the most likely diagnosis that should be considered?

1- Osteoarthritis

**2- Joint sepsis**

3- Pseudogout

4- Carpal tunnel syndrome

5- Gout

Q2366. A 30-year-old salesman recently returned from Thailand complaining of redness in his eyes and a swollen knee joint. He says he had dysentery 4 weeks earlier for which he received a course of antibiotics. There is no history of dysuria and a routine urine examination is normal. What additional assessment would be most likely to provide contributory information for making a diagnosis?

1- Joint aspiration and culture

2- Blood culture

3- Auscultation of the chest

4- Culture of urethral discharge

**5- History and physical examination**

Q2367. A 55-year-old man complains of a gritty sensation in his eyes, red spots on both calves and pain in his wrists and hands. Titres of antiRo (SS-A) and anti-La (SS-B) are high. What is the most likely diagnosis?

1- Systemic lupus erythematosus

**2- Sjögren's syndrome**

3- Avitaminosis A

4- Stevens-Johnson syndrome

5- Sarcoidosis

Q2368. A 14-year-old boy attends the clinic with a 1- day history of pain and swelling in his left knee. He is known to have factor VIII deficiency. On examination there is restriction of joint movement. The joint is hot, swollen and extremely painful. ESR and CRP levels are normal. Test for rheumatoid factor is negative. What is the most likely diagnosis?

1- Pyogenic arthritis

2- Juvenile rheumatoid arthritis

**3- Haemophilic arthritis**

4- Juvenile chronic arthritis

5- Rickets

Q2369. A 35-year-old woman presents with swollen and tender knee joints. There is a history of morning stiffness for the past 4 months and pain in the fingers while typing on her computer. On examination she has a temperature of 39°C and ulcerated lower limbs with hyperpigmentation. There are nodules over her elbows. What is the probable diagnosis?

1- Rheumatoid arthritis

2- Septic arthritis

3- Gouty arthritis

**4- Felty's syndrome**

5- Reactive arthritis

Q2370. A 38-year-old man presents with progressive breathlessness, dry cough and difficulty in swallowing. He also notes that his hands become pale and painful when exposed to the cold and that his fingers are swollen and stiff. His blood pressure is 160/110 mmHg. Chest radiographs show patchy shadows in both mid-zones and bases. What diagnosis could best explain these findings?

1- Sarcoidosis

2- Limited cutaneous scleroderma

**3- Diffuse cutaneous scleroderma**

4- Rheumatoid arthritis

5- Sjögren's syndrome

Q2371. A 58-year-old woman is admitted to hospital with a history of general muscle weakness of 12 months' duration. She also gives a history of pain in the small joints of her hand of over 18 months' duration. In addition, there is a history of difficulty in swallowing. Examination is normal except for tenderness of her upper arms and swelling of the small joints of her hands. Her ESR is 60 mm in one hour, her haemoglobin is 9.5 g/dl, and mean corpuscular volume (MCV) and mean cell haemoglobin concentration (MCHC) are normal. Serum antinuclear antibodies and rheumatoid factor are positive. Creatine Kinase is also raised. What is the most likely diagnosis?

1- Rheumatoid arthritis

2- Sjögren's syndrome

3- Polymyalgia rheumatica

4- Mixed connective tissue disease

**5- Polymyositis**

Q2372. A 27-year-old man complains of low back pain. He says he had an episode of severe diarrhoea 3 weeks earlier. An X-ray of the lumbosacral spine shows erosion of the lower joint margins. What is the probable diagnosis?

**1- Ankylosing spondylitis**

2- Reactive arthritis

3- Reiter's syndrome

4- Lumbar disc prolapse

5- Osteoarthritis

Q2373. A 5-year-old girl complains of progressively increasing severe pain in her left hip and upper leg for the last week. She is able to walk with a limp. On examination there is extreme tenderness over the upper thigh. The hip joint is not swollen. Blood tests show: WCC 18 x 109 /l, ESR 87 mm/1st h and CRP 110 mg/l. Xrays and ultrasound scans of the hip are normal. What is the most probable diagnosis?

**1- Osteomyelitis**

2- Septic arthritis

3- Ewing's tumour

4- Lumbar disc prolapse

5- Perthe's disease

Q2374. A 50-year-old woman presents with a 4- month history of Raynaud's phenomenon, progressive skin tightness, thickness of the fingers and hands, dyspnoea on exertion and dysphagia. What is the most probable diagnosis?

1- Limited cutaneous scleroderma

**2- Diffuse cutaneous scleroderma**

3- Rheumatoid arthritis

4- Sarcoidosis

5- Systemic lupus erythematosus

Q2375. A 6-year-old girl presents with cold, painful lower extremities. On examination she is found to have a blood pressure of 180/120 mmHg in her right and left arms. The femoral pulse is found to be weak and the blood pressure in her lower limbs is 80/60 mmHg. An X-ray of the chest shows notching of the ribs along their lower borders. What is the most likely diagnosis?

1- Femoral artery thrombosis

**2- Coarctation of the aorta**

3- Raynaud's disease

4- Takayasu's arteritis

5- Cervical rib

Q2376. A 25-year-old woman complains of a loss of appetite, low-grade fever, pain in the shoulders and buttocks and severe cramping pain in her arms and hands while exercising. On examination the radial pulse is weak in both arms. The blood pressure is 85/60 mmHg in her right arm, 60/40 mmHg in her left arm and 130/80 mmHg in both legs. What is the most likely diagnosis?

**1- Takayasu's disease**

2- Coarctation of the descending aorta

3- Cervical rib syndrome

4- Polyarteritis nodosa

5- Churg-Strauss syndrome

Q2377. A 67-year-old woman presents with a 3- month history of persistent malaise, anorexia, shoulder and hip pain and a weight loss of 10 kg. On examination there is mild painful limitation of the hip and shoulder motion and muscle tenderness but no weakness. What is the most likely diagnosis?

1- Polymyositis

2- Multiple sclerosis

**3- Polymyalgia rheumatica**

4- Sarcoidosis

5- Fibromyalgia

Q2378. A 30-year-old lady presents with a 2-month history of polyarthralgia, dry eyes and a lowgrade fever up to 37.8° C. She has tender joints with no demonstrable synovitis. Results: ANA 1 : 640, rheumatoid factor 1 : 320, antidsDNA and anti-Ro antibodies are present. Which of the following is the most likely diagnosis?

1- Mixed connective tissue disease

2- Primary Sjögren's syndrome

3- Rheumatoid arthritis

**4- Systemic lupus erythematosus**

5- Systemic sclerosis

Q2379. A 44-year-old, diabetic, obese man presents with a painful swollen ankle that has become worse over the past 2 weeks. He gives a history of recent alcohol consumption. Small rhomboid-shaped crystals are seen in the joint aspirate along with numerous neutrophils. An X-ray shows evidence of chondrocalcinosis. What is the most likely diagnosis?

1- Gouty arthritis

2- Osteoarthritis

3- Septic arthritis

4- Charcot's joint

**5- Pseudogout**

Q2380. A 52-year-old man presents with an acutely painful and red, right big toe. His uric acid level is 0.6 mmol/l (0.23-0.46). What is the most common cause of hyperuricaemia in gout?

1- Increased production of uric acid

2- Inborn error of metabolism

3- Decreased removal of uric acid by the liver

**4- Impaired renal excretion of uric acid**

5- Decreased faecal excretion of uric acid

Q2381. A 28-year-old woman presents with a 6-week history of weakness especially on walking up stairs or rising from a chair. She has had a dry cough and shortness of breath. On examination she has a proximal myopathy and bibasilar crepitations. Investigations reveal ESR 74 mm, CRP 32, ANA +, Jo-1 antibody positive. CK 5742, creatinine 231. Urine dipstick shows +++ blood. What is the likely cause of her renal failure?

**1- Acute tubular necrosis**

2- NSAID nephropathy

3- Malignancy

4- Amyloid

5- Acute glomerulonephritis

Q2382. A 37-year-old woman with nephrotic syndrome has been on oral prednisolone for 6 years. She now presents with right-sided hip pain and a limping gait. Examination reveals limitation of abduction and internal rotation of the right thigh. Which of the following investigations would be most useful in this case?

1- Joint fluid microscopy

2- X-ray of the hip

3- Blood culture

4- Serum uric acid

**5- MRI of the hip**

Q2383. A 55-year-old man complains of a gritty sensation in his eyes and a dry mouth of several months' duration. He also has vague joint pains in his hands and feet. His wife mentions he is also dyspnoeic on exertion and cannot keep up with her during their walks. What is the diagnosis?

1- Polymyositis

2- Polyarteritis nodosa

**3- Sjögren's syndrome**

4- Mixed connective tissue disease

5- Rheumatoid arthritis

Q2384. An 11-year-old boy weighing 70 kg presents with limitation of abduction and internal rotation of the hip. There is tenderness in Scarpa's triangle on examination. On flexing the hip, external rotation of the limb occurs. What is the most likely diagnosis?

1- Perthe's disease

**2- Slipped upper femoral epiphysis**

3- Transient synovitis of the hip

4- Tuberculosis of the hip

5- Juvenile spondyloarthropathy

Q2385. An 8-year-old boy presents with a 6-month history of gradually progressive swelling and pain below the right knee. On examination, the knee joint appears normal. An X-ray shows a lytic lesion with sclerotic margins in the upper tibial metaphysis. What is the most probable diagnosis?

1- Osteogenic sarcoma

**2- Brodie's abscess**

3- Osteomyelitis

4- Osteoclastoma

5- Ewing's sarcoma

Q2386. A 25-year-old salesman complains he has had morning back pain and stiffness for the last five months. He also complains of intermittent red and itchy eyes and arthralgia of his knees and elbows. He has a raised ESR but the other blood tests are normal. An X-ray of the lumbar spine has been taken. What is the most likely X-ray finding?

1- Bony metastasis

2- Wedge fractures of the vertebrae

3- Rugger-jersey spine

4- Extensive osteophyte formation

**5- Tramline appearance**

Q2387. A 44-year-old man with coeliac disease presents complaining of pain in his hips and thighs. A hip X-ray shows linear areas of low density surrounded by sclerotic borders. What is the most likely diagnosis?

1- Osteoporosis

**2- Osteomalacia**

3- Paget's disease

4- Enteropathic arthritis

5- Reactive arthritis

Q2388. A 56-year-old lady presents with polyarthralgia and painful restricted movement of her fingers, Raynaud's syndrome, diarrhoea, weight loss of 6 kg and a facial rash. Her investigations reveal a normochromic normocytic anaemia, positive ANA (anticentromere) pattern, anti-dsDNA negative, anti-SM, ribonucleoprotein (RNP), Ro and La negative. What is the most likely diagnosis?

**1- CREST (limited scleroderma)**

2- Mixed connective tissue disease

3- Progressive systemic sclerosis

4- Rheumatoid arthritis

5- Systemic lupus erythematosus

Q2389. A 47-year-old woman with a 15-year history of rheumatoid arthritis presents with fever, weight loss and leg ulcers. On examination she is found to have splenomegaly. Which HLA type is most associated with Felty's?

1- HLA-B27

2- HLA-B8DR3

3- HLA-B51

**4- HLA-DRW4**

5- HLA-DR4

Q2390. A 57-year-old woman with rheumatoid arthritis has been attending the Rheumatology clinic for several years. You are reviewing her case-notes in order to summarise her case for referral to a colleague. While the presentation and progression of rheumatoid arthritis is variable, what is the most common form or course of this condition?

1- Palindromic

2- Transient

3- Remitting

**4- Chronic and persistent**

5- Rapidly progressive

Q2391. A 44-year-old man complaining of bone and joint pains is found to have osteopenia. His doctor feels that his present condition may be due to the lack of attainment of peak bone mass at around 30 years of age. What is the most important influence on peak bone mass attainment in an individual?

1- Vitamin D deficiency

2- Sex hormone status

3- Physical activity

4- Calcium deficiency

**5- Genetic factors**

Q2392. A 64-year-old woman presents with a 3- month history of tiredness, fever, weight loss and pain and stiffness in her shoulders and neck. She has now developed a severe headache. Physical examination reveals tenderness over the temporal region. Blood tests: Hb 10.5 g/dl (11.5-16.5), ESR 80 mm/1st hour (0-30). What is the most probable diagnosis?

1- Polymyositis

**2- Temporal arteritis**

3- Neurosarcoidosis

4- Chronic fatigue syndrome

5- Migraine

Q2393. A 33-year-old Japanese man complains of recurrent oral and genital ulcers as well as painful nodules on his shin. In the past he has suffered from recurrent episodes of itchy and red eyes and thrombophlebitis in his legs. What is the most likely diagnosis?

1- Vasculitis

**2- Behçet's syndrome**

3- Familial Mediterranean fever

4- Reiter's syndrome

5- Palindromic rheumatism

Q2394. A 20-year-old woman complains of a 2-week history of fever, chest pain, stiffness, swelling in the wrists and fingers and oedema in both legs. She also has a rash on her palms and complains of excessive loss of hair while combing. Given the likely diagnosis, which of the following results is most likely to be found on blood testing?

1- Autoimmune haemolytic anaemia

2- Positive rheumatoid factor

**3- Low serum complement levels**

4- Anti double-stranded DNA antibodies

5- Anticardiolipin antibodies

Q2395. A 5-year-old girl presents with a 10 week history of pain in both knees and redness and pain in both eyes. Rheumatoid factor is negative but antinuclear antibody tests are positive. What is the most probable diagnosis?

1- Extended oligoarthritis

2- Polyarticular juvenile idiopathic arthritis

3- Systemic arthritis

**4- Persistent oligoarthritis**

5- Enthesitis-related arthritis

Q2396. A 73-year-old man presents with malaise, anorexia, pain in his shoulders and hips and a weight loss of 12.7 kg (two stones) during the last three months. Examination is unremarkable, except for a mildly painful limitation of his hips and shoulders. His muscles are tender but not weak. What is the most likely diagnosis?

1- Polymyositis

2- Systemic lupus erythematosus

3- Rheumatoid arthritis

**4- Polymyalgia rheumatica**

5- Gout

Q2397. A 37-year-old woman with SLE presents to Accident and Emergency (A+E) with a 2-day history of fever, 38°C, sweats and a cough. She is on 7.5 mg prednisolone and hydroxychloroquine 200 mg bd. Investigations reveal ESR 80 mm in the first hour, CRP 46, WCC 5.4 (neutrophils 4.5, lymphocytes 0.7), platelets 115. What is your management?

1- Stop hydroxychloroquine

2- Increase prednisolone

3- Antibiotics

**4- Antibiotics and increase prednisolone**

5- Stop hydroxychloroquine and give

Q2398. A 24-year-old, previously fit and well woman, presents to A+E with a swollen painful left calf. There is no past medical history. On examination she has mottled looking legs bilaterally and a swollen left calf. Investigations reveal WCC 5.4, (lymphocytes 1.5, neutrophils 3.3), platelets 86, activated partial thromboplastin ratio (APTR) 1.7, ESR 18 mm in the first hour and CRP 2. What is the most likely diagnosis?

**1- Primary antiphospholipid syndrome**

2- Secondary antiphospholipid syndrome

3- Homocystinuria

4- SLE

5- Factor V Leiden deficiency

Q2399. A 33-year-old woman is given a diagnosis of SLE based on polyarthralgia, mouth ulcers and ANA positivity (anti-Ro Ab). urea and electrolytes (U+Es) normal, ESR 90 mm in the first hour, urinalysis normal. How would you manage her?

1- Prednisolone 10 mg/day

2- Prednisolone 30 mg/day

**3- Hydroxychloroquine 200 mg/day**

4- Six monthly pulses of cyclophosphamide (2 mg/kg)

5- Nystatin drops

Q2400. A 42-year-old woman with SLE is treated with pulsed monthly IV cyclophosphamide for Gd 4 nephropathy. She presents in A+E with a dry cough, shortness of breath and fever. Her last cyclophosphamide dose was 10 days ago. Investigations reveal WCC 2.3 (lymphocyte count 0.7), platelets 81, Hb 10.5, ESR 56, CRP 43. pO2 7.2 kPa, pCO2 3.6 kPa after walking out to the lavatory. A plain chest X -ray was unremarkable. What is the likely diagnosis?

1- Pulmonary embolism

**2- Pneumocystis carinii pneumonia (PCP)**

3- TB

4- Pleuritis

5- Pericarditis

Q2401. A 50-year-old lady is concerned about osteoporosis because her mother had it. She had a premature menopause at the age of 40 but no other risk factors in her history. You decide to perform a bone mineral density (BMD) test. This comes back showing a Zscore of 0 and T-score of -0.5 SD. How do you interpret these results?

1- Patient has osteoporosis

2- Patient has osteopenia

**3- Patient has normal BMD for her age**

4- Patient is at risk of fracture and should receive treatment

5- Patient has lower than expected BMD for

Q2402. A 35-year-old man presents with a painful swollen left knee, swollen ankles, right hallux and acutely inflamed eyes and dysuria. He was previously well, except for an episode of gastro-enteritis 2 weeks previously. Clinical examination also reveals a left Achilles tendonitis and right plantar fasciitis. Radiography demonstrates a left sacroiliitis, with evidence of enthesopathy, erosions and fluffy periostitis. He is HLA-B27 positive. What is the most likely diagnosis?

1- Ankylosing spondylitis

2- Arthritis associated with inflammatory bowel disease

3- Gonococcal arthritis

**4- Reiter's syndrome**

5- Sero-negative rheumatoid arthritis

Q2403. A 63-year-old lady presents with pain and marked swelling affecting her PIP, distal interphalangeal (DIP) and carpal metacarpal (CMC) joints on both hands. The episodes of pain and swelling respond to NSAIDs. Plain radiographs demonstrate erosions of a gull's wing pattern but no periarticular osteoporosis. Full blood count (FBC) is normal, RF and ANA are negative, ESR 29 mm in the first hour and CRP 10 g/l. What is the most likely diagnosis?

**1- Erosive osteoarthritis (OA)**

2- Polyarticular gout

3- Psoriatic arthritis

4- Rheumatoid arthritis

5- Seronegative arthritis

Q2404. A 28-year-old man with ankylosing spondylitis presents with blood ++ and protein + in the urine. An ultrasound scan shows normal-sized kidneys. A renal biopsy reveals:

1- Apple-green birefringence in polarised light

2- Membranoproliferative glomerulonephritis

**3- IgA deposition**

4- Nephrolithiasis

5- Membranous glomerulonephritis

Q2405. A 63-year-old lady presents with pain and marked swelling affecting her PIP, distal interphalangeal (DIP) and carpal metacarpal (CMC) joints on both hands. The episodes of pain and swelling respond to NSAIDs. Plain radiographs demonstrate erosions of a gull's wing pattern but no periarticular osteoporosis. Full blood count (FBC) is normal, RF and ANA are negative, ESR 29 mm in the first hour and CRP 10 g/l. What is the most likely diagnosis?

**1- Erosive osteoarthritis (OA)**

2- Polyarticular gout

3- Psoriatic arthritis

4- Rheumatoid arthritis

5- Seronegative arthritis

Q2406. A 7-year-old boy presents with arthritis affecting his wrists, knees and ankles following an upper respiratory tract infection. He then develops testicular swelling, melaena, renal impairment with haematuria and proteinuria and a rash affecting the lower limbs. What is the most likely diagnosis?

**1- Henoch-Schönlein purpura (HSP)**

2- Polyarteritis nodosa

3- Crohn's disease

4- Reiter's syndrome

5- Systemic lupus erythematosus

Q2407. A 49-year-old man has pain on resisted abduction of the arm from 0-90° . Which tendon is affected to give this particular restriction of movement?

1- Infraspinatus tendonitis

**2- Supraspinatus tendonitis**

3- Subscapularis tendonitis

4- Teres minor tendonitis

5- Bicipital tendonitis

Q2408. A 38-year-old man presents with lateral swelling and tenderness of both forearms, there is severe induration of the skin (peau d'orange), bilateral carpal tunnel syndrome with flexion contractions of the fingers. He denies Raynaud's phenomenon. Investigations show Hb 13.1 g/dl, platelets 360 x 109 /L, WCC 7.8 x 109 /L, neutrophils 4.3 x 109 /L, lymphocytes 2.0 x 109 /L, eosinophils 1.5 x 109 /l, serum protein electrophoresis demonstrates hypergammaglobulinaemia. What is the diagnosis?

1- Progressive systemic sclerosis

**2- Eosinophilic fasciitis**

3- Eosinophilia myalgia syndrome

4- Paraneoplastic syndrome

5- Jaccoud's arthropathy

Q2409. A 27-year-old man known to be HIV-positive presents to clinic complaining of xerophthalmia, xerostomia, abdominal pain, weakness and exertional dyspnoea. He is noted to have bilateral parotid gland enlargement, hepatomegaly and a peripheral motor neuropathy. He is RF, ANA, SS-A and SSB antibody negative. What is the most likely diagnosis?

1- Systemic lupus erythematosus

2- Sjögren's syndrome

3- Lymphoma

**4- Diffuse infiltrative lymphocytic syndrome (DILS)**

5- Mixed connective tissue disease

Q2410. A 34-year-old man presents with severe unrelenting pain affecting the left leg. Three months earlier he had an arthroscopic washout for septic arthritis affecting his left knee caused by penetrating injury. Examination reveals a markedly reduced range of movement of the left knee with diffuse swelling of the left leg and overlying cool dry scaly skin. What is the likely diagnosis?

1- Ongoing septic arthritis

2- Underlying deep venous thrombosis

3- Reactive arthritis

**4- Reflex sympathetic dystrophy (RSD)**

5- Reiter's syndrome

Q2411. A 27-year-old woman has psoriatic arthritis. Which of the following hand conditions is most commonly associated with this disease?

1- Cutaneous lesions

2- Tenosynovitis

**3- Nail dystrophy**

4- Proximal interphalangeal arthritis

5- Arthritis mutilans

Q2412. A 27-year-old man presents with arthritis in his right knee. He is well systemically, but 3 weeks previously had food poisoning along with a number of other guests at a wedding. On examination he has an effusion in the right knee and has red eyes. What would be your initial management?

1- Ciprofloxacin

**2- Inject knee with steroids having excluded a septic arthritis**

3- Sulfasalazine

4- Steroid eye drops

5- No treatment

Q2413. A patient with type I diabetes mellitus has been complaining of a 3-month history of right shoulder pain. She describes this as a frozen shoulder, and says it hurts to move her shoulder at all. What is the most likely diagnosis?

1- Rheumatoid arthritis

2- Osteoarthritis

**3- Adhesive capsulitis**

4- Pseudogout

5- Calcific tendonitis

Q2414. In a population of 20 000 how many would have rheumatoid arthritis in the western World?

1- 1000

2- 500

**3- 200**

4- 100

5- 50

Q2415. A 66-year-old lady has sustained two vertebral fractures following minor trauma and is diagnosed with osteoporosis. Initially she is treated with biphosphonate but because of sideeffects the treatment is stopped. You are considering raloxifene as an alternative therapy. In your advice to the patient you should inform her that this therapy would?

1- Improve the bone mineral density in the spine and hips

2- Increase the risk of breast cancer

3- Cause vaginal bleeding at the end of each month of therapy

4- Increase the high density lipoprotein (HDL) levels

**5- Increase the risk of clotting**

Q2416. A 19-year-old student presents with swelling of the face, hands and feet along with diffuse abdominal pain. He gives a history of recurrent episodes since he was 10 years old, at a rate of 3-4 attacks per year. Each episode would last 2-3 days. On examination swelling is observed at the above mentioned sites but there was no evidence of urticaria. Family history reveals a history of similar episodes in the mother since childhood and in the elder brother who died of respiratory distress at the age of eight years during a similar attack. Which one of the following tests would be considered MOST helpful in establishing the diagnosis?

1- Eosinophil count in the blood

2- Prick (puncture) skin test

3- Radioallergosorbent test (RAST)

**4- C1 esterase inhibitor (C1INH)**

5- IgE levels

Q2417. Which one of the following statements BEST describes a patient with primary Raynaud's phenomena?

1- More common in middle aged females

2- Digital gangrene is a frequent complication

3- Anti-nuclear antibody is positive in 70% of cases

4- Nail fold capillary scope shows dilated vessels

**5- Fingers are symmetrically involved during**

Q2418. Which one of the following types of arthritis is the MOST common type of psoriatic arthropathy?

1- Distal interphalangeal (DIP) joint disease

2- Arthritis mutilans

3- Peripheral symmetric polyarthropathy

**4- Peripheral asymmetric oligoarthropathy**

5- Psoriatic spondylitis

Q2419. Which one of the following features is MOST suggestive of gonococcal arthritis?

1- Monoarthritis at the outset of the disease

**2- Tenosynovitis**

3- Episcleritis

4- Cloudy synovial fluid with a white cell count of < 800/mm3

5- Fever

Q2420. A 75-year-old woman presents with early morning stiffness and pain in both shoulders and hips. On examination, active movements in these joints are restricted due to pain, but passive movements are preserved. She has no other symptoms. Blood tests are normal, except for an ESR of 115 mm/h and a CRP of 4.9 mg/l. Her bone densitometry T-score value is -1.5. What are her symptoms due to?

1- Osteoarthritis

2- Rheumatoid arthritis

3- Polymyositis

**4- Polymyalgia rheumatica**

5- Postmenopausal osteoporosis

Q2421. A 32-year-old man is referred with bouts of low back pain waking him at night for about six months. The pain is localised to the lower lumbar region and the buttock. He has changed his job from working in a warehouse doing heavy lifting to clerical tasks. He has to wake himself an hour or two earlier to loosen up so he can get to work on time. Past medical history revealed a malignant skin melanoma surgically removed two years earlier. The MOST probable diagnosis in this case is?

1- Intervertebral disc prolapse and sciatica

2- Spinal canal stenosis

**3- Ankylosing spondylitis**

4- Melanoma recurrence and spread to vertebrae

5- Osteomyelitis of the lower lumbar vertebra

Q2422. A 45-year-old orthodox Muslim woman is brought to the rheumatology clinic by her husband. On questioning, she complains of pain in most of her joints associated with difficulty in walking and raising her arms. Blood tests show a microcytic hypochromic anaemia with total calcium 2.04 mmol/l; phosphate 0.35 mmol/l; alkaline phosphatase 546 IU/l; total bilirubin 11 mmol/l; AST 25 IU/l; ALT 16 IU/l; albumin 30 g/l. X-rays of the limbs show Looser's zones in the inferior femoral neck on the left side and the right medial femoral shaft. What is the most likely diagnosis?

1- Hypoparathyroidism

**2- Osteomalacia**

3- Perimenopausal osteoporosis

4- Osteoarthritis

5- Bony metastases

Q2423. You are asked to see a 65-year-old Asian woman who is complaining of generalised body aches. Her daughter also mentions that for the last few months her mother has found it difficult to get up from a chair. She suffers from diet-controlled diabetes mellitus and her blood glucose level is well controlled. Her full blood count is normal. She has low serum phosphate, normal plasma calcium and raised alkaline phosphatase levels. Which of the following would you expect her X-rays to show?

**1- Linear areas of low density**

2- Increased bone density

3- Osteolytic areas with bone destruction

4- Brodie's abscess

5- Areas of sclerosis

Q2424. A 50-year-old man is referred with a two-week history of fever, arthralgia and weight loss. During his hospital stay he develops epigastric pain and notices difficulty dorsiflexing his left great toe. Blood pressure is 160/95 mmHg. Laboratory studies reveal Hb 10 g/dl, MCV 98 fl, erythrocyte sedimentation rate (ESR) 100 mm/h, and polymorphonuclear leucocytosis. Chest X-ray is clear. Which one of the following is the MOST likely diagnosis?

1- Wegener's granulomatosus

2- Systemic lupus erythematosus

**3- Polyarteritis nodosa**

4- Polymyalgia rheumatica

5- Churg-Strauss syndrome

Q2425. A 54-year-old woman has been experiencing increased pain and stiffness in her hands, wrists, upper arms, shoulders and calves for two years. She describes transient swelling at the wrists. She is frequently roused from sleep by pain and complains of marked fatigue with little stiffness sometimes associated with tingling in the hands, arms and feet. Review of systems reveal increasing urinary urgency and recurrent attacks of headaches. On examination there is no significant abnormality apart from multiple tender spots over the spine and limbs. Blood tests reveal a white blood cell count of 4 x 109 /L and a platelet count of 167 x 109 /L. The erythrocyte sedimentation rate is 20 mm/h. The rheumatoid factor is negative and the ANA test comes back positive at 1:40. The creatine kinase and thyroid function test are within normal limits. Which one of the following is the MOST probable diagnosis?

1- Systemic lupus erythematosus

**2- Fibromyalgia syndrome**

3- Chronic fatigue syndrome

4- Hypothyroidism

5- Depression

Q2426. Which one of the following pathological features is pathognomonic of the disease listed below?

1- Reed-Sternberg cells in Hodgkin's disease

**2- Aschoff nodules in rheumatic fever**

3- Charcot-Leyden crystals in sputum from patient with asthma

4- Alcoholic hyaline (Mallory body) from liver biopsy specimen in alcoholic liver disease

5- Non-caseating granuloma in sarcoidosis

Q2427. A 35-year-old patient complains of feeling unwell for the last 6 months. He has noticed increased photosensitivity, a malar rash and weakness of his proximal muscles. On examination there is an erythematous scaly eruption over the extensor surfaces of his arms. His creatine kinase is elevated. What is the next step in obtaining the diagnosis?

1- Hand X-ray

**2- Muscle biopsy**

3- Nerve conduction test

4- Abdominal ultrasound

5- Rheumatoid factor

Q2428. A 35-year-old patient complains of feeling unwell for the last 6 months. He has increased photosensitivity and a purplish-red rash around his eyes. On examination there is an erythematous scaly eruption over the extensor surfaces of his arms. Which other concurrent disease would you suspect?

1- Hepatitis

2- Diabetes mellitus

3- Haemochromatosis

**4- Malignancy**

5- Emphysema

Q2429. A 70-year-old female has a 20-year history of rheumatoid arthritis. A year ago her gold therapy was discontinued because it was found to be ineffective in controlling her arthritis. She was started and then maintained on D-penicillamine (375 mg). Two weeks ago she noticed increased difficulty in climbing stairs. Her husband who accompanied her added that he had to wash her hair in the last four days. On examination, she has synovial swelling at the MCPs and PIPs of both hands as well as both knees. The neck and shoulder movement were very restricted. Neurological assessment reveals grade 3/5 weakness in both upper and lower muscle groups. There was patchy loss of fine touch and pinprick sensation in upper limbs; vibration sense was absent to the knees bilaterally and pinprick sensation impaired to the abdomen without a clear sensory level being obtained. Deep tendon reflexes were brisk throughout including upper limbs. The Babinski sign was extensor bilaterally. The MOST probable cause of her recent weakness is?

**1- Spinal cord compression due to cervical myelopathy from atlanto-axial subluxation**

2- D-penicillamine induced myasthenia gravis

3- Peripheral neuropathy associated rheumatoid arthritis

4- Parasagittal cerebral rheumatoid nodule

5- Generalised weakness due to disuse muscle

Q2430. A 40-year-old man is admitted with severe bloody diarrhoea over the past four days associated with a swollen painful right knee, swollen finger joints and red, raised lesions on both legs. He has had similar attacks in the past. What is the most probable diagnosis?

**1- Enteropathic arthritis**

2- Whipple's disease

3- Polyarteritis nodosa

4- Felty's syndrome

5- Reactive arthritis

Q2431. An elderly man, who had a left hip replacement 2 years ago, now presents with right hip pain. An X-ray of the affected area shows an increased trabecular pattern and cortical thickening of the right hemipelvis with narrowing of the joint space and osteophyte formation. Routine blood tests are normal except for serum alkaline phosphatase, which is elevated to 477 IU/l. What is the probable diagnosis?

1- Osteoarthritis

2- Rheumatoid arthritis

3- Osteoarthritis with cholelithiasis

**4- Paget's disease of bone**

5- Osteosarcoma

Q2432. A 24-year-old Nigerian complains of left hip pain. Blood tests show: Hb 8.0 g/dl; blood film shows target cells, sickle cells and reticulocytes. An X-ray shows loss of the right femoral head with periarticular sclerosis. What is the most likely diagnosis?

1- Osteomyelitis

2- Perthe's disease

3- Osteoporosis

4- Septic arthritis

**5- Avascular necrosis**

Q2433. A 25-year-old man complains of joint pain of three weeks' duration mainly affecting the joints of his lower limbs. He also mentions he has had low backache for the last two weeks. When he was on holiday in Spain six weeks ago, he had a mild gastrointestinal upset that settled spontaneously. He also mentioned his eyes had been irritated, but that this had now settled; and that he underwent an appendicectomy 3 years ago. On examination, he is pyrexial with a temperature of 37.5°C. Routine blood tests show a raised ESR and normal WBC. Which one of the following is true?

1- He needs high-dose corticosteroids

**2- Rheumatoid factor is likely to be negative**

3- Aspirated synovial fluid from an inflamed joint will clinch the diagnosis

4- X-rays of the affected joints are essential in making the diagnosis

5- A rash is commonly seen in such patients

Q2434. A young man who works as a clown in a circus attends the clinic with a history of recurrent dislocation of his right shoulder. He also complains of increasing pain and stiffness in his left hip. On examination, his height is 150 cm and there is evidence of skin laxity and bruising. What is the most likely diagnosis?

1- Marfan's syndrome

**2- Ehlers-Danlos syndrome**

3- McCune-Albright's syndrome

4- Acromegaly

5- Homocystinuria

Q2435. A 50-year-old shopkeeper has plaques on the extensor surfaces of her upper limbs. She complains of pain in her hands. On examination there is a telescoping deformity of both index fingers. The nails show pitting and horizontal ridging. From what is she most probably suffering?

1- Reactive arthritis

2- Systemic lupus erythematosus

3- Rheumatoid arthritis

**4- Arthritis mutilans**

5- Gouty arthritis

Q2436. A 20-year-old man is seen in the clinic with a rash over his buttocks and lower legs and pain and swelling in both knees. Some 2 weeks earlier he had an upper respiratory tract infection. His blood pressure is 170/100 mmHg. Routine blood tests are unremarkable except for raised IgA levels. Urinalysis shows evidence of proteinuria. What is the most likely diagnosis?

**1- Henoch-Schönlein purpura**

2- Diffuse cutaneous systemic sclerosis

3- Polyarteritis nodosa

4- Microscopic polyangiitis

5- Haemolytic-uraemic syndrome

Q2437. A 26-year-old man being treated for chlamydial urethritis complains of pain and swelling in his left ankle, pain in the soles of his feet, gritty red eyes and a rash on the palms of both hands. What could be the diagnosis?

1- Behçet's syndrome

**2- Reiter's syndrome**

3- Felty's syndrome

4- Psoriatic arthropathy

5- Gonococcal arthritis

Q2438. A 45-year-old woman complains of feeling tired. She also notices she has dysphagia, a dry mouth, a gritty sensation in her eyes and increased photosensitivity. What is the most likely diagnosis?

**1- Sjögren's syndrome**

2- Polymyositis

3- Oesophageal carcinoma

4- Haemochromatosis

5- Hepatitis C virus infection

Q2439. A 47-year-old woman complains of exertional dyspnoea associated with a dry cough and bloody discharge from her nose. Her ankles, fingers and toes are swollen. Blood tests for antibodies are positive for c-ANCA. What is the most likely diagnosis?

1- Churg-Strauss syndrome

2- Systemic lupus erythematosus

**3- Wegener's granulomatosis**

4- Rheumatoid arthritis with fibrosing alveolitis

5- Goodpasture's syndrome

Q2440. A 22-year-old coal miner presents at A&E with exertional dyspnoea and wheezing, right foot drop, weakness in his left hand, a purpuric rash over his abdomen and swollen ankles. Blood tests show: Hb 12.3 g/dl; MCV 92 fl; WCC 21.4 x 109 /L (neutrophils 8.0 x 109 /L, eosinophils 10.2 x 109 /L, lymphocytes 2.5 x 109 /L); urea 18.9 mmol/l; creatinine 470 mmol/l; c-ANCA negative; p-ANCA positive. What is the most probable diagnosis?

1- Wegener's granulomatosis

2- Caplan's syndrome

3- Polyarteritis nodosa

**4- Churg-Strauss syndrome**

5- Microscopic polyangiitis

Q2441. A 55-year-old man attends the clinic complaining of increasing pain and weakness of his lower limbs and a purplish rash around his eyes and on his knuckles. Blood tests show a creatinine kinase level of 14,500 IU/l. A chest X-ray reveals a large shadow in the right mid-zone. Which antibody is most strongly associated with this disease?

1- Anti-centromere

**2- Anti-Jo-1**

3- Anti-RNP

4- Anti-Scl-70

5- Anti-dsDNA

Q2442. A 34-year-old woman with a history of arthritis of many years' duration, that has deformed her hands, presents with pain and colour changes in the fingers of both hands on exposure to cold, dryness in her mouth and a gritty sensation in her eyes. What complication is she suffering from?

1- Arthritis mutilans

2- Reiter's syndrome

3- Systemic lupus erythematosus

4- Diffuse cutaneous systemic sclerosis

**5- Sjögren's syndrome**

Q2443. A 30-year-old woman with long-standing Raynaud's phenomenon, develops tightness and swelling of her fingers associated with tightness around her mouth. Blood tests show Hb 10.1 g/dl; MCV 87 fl; anti-centromere antibodies are positive. What is the probable diagnosis?

1- Systemic lupus erythematosus

2- Primary Sjögren's syndrome

**3- Limited cutaneous systemic sclerosis**

4- Polymyalgia rheumatica

5- Polymyositis

Q2444. A 60-year-old man complains he has had a cough with intermittent haemoptysis for three months. He has a smoking history of 50 packyears and is waiting for a bronchoscopy as his chest X-ray showed a left lower lobe collapse. He also complains of muscle weakness and wasting of the proximal muscles of the shoulder and pelvic girdles. His wife says he has been unable to eat solids lately. Which one of the following is true?

1- His dysphagia is due to compression by the tumour

2- He almost certainly has adenocarcinoma of the lung

3- Examination of his fingers will show only clubbing

**4- He may have a photosensitive facial rash**

5- Corticosteroids have no role in his

Q2445. A 38-year-old man complains of increasing exertional dyspnoea. On examination, he has severe thoracic kyphosis. Fine inspiratory crepitations at the apices are heard on auscultation of the chest. X-ray of the spine shows ossification of the anterior longitudinal ligament and facet joint fusion. What is the condition?

**1- Ankylosing spondylitis**

2- Reiter's syndrome

3- Fibrosing alveolitis

4- Scheuermann's disease

5- Rheumatic pulmonary nodules

Q2446. A 35-year-old patient complains of feeling unwell for the last 6 months. He notices muscle weakness. On examination there is an erythematous scaly eruption confined to the skin overlying the knuckles. What is the most likely diagnosis?

1- Systemic lupus erythematosus

2- Polymyositis

**3- Dermatomyositis**

4- Sjögren's syndrome

5- Sarcoidosis

Q2447. A 29-year-old schoolteacher has recently been diagnosed with rheumatoid arthritis. However, 3 months after treatment with an oral medication, she now complains of a rash over her cheeks and nose with increasing joint pain. Investigations reveal: Hb 8.4 g/dl; WCC 3.2 x 109 /L; platelets 37 x 109 /L; ANA ++; antidsDNA negative. What has she most probably been prescribed?

1- Gold

**2- D-Penicillamine**

3- Etanercept

4- Azathioprine

5- Sulfasalazine

Q2448. A 45-year-old woman complains of feeling tired, she also notices she has dysphagia, a dry mouth, a gritty sensation in her eyes and increased photosensitivity. Which would be is the most definitive test for the suspected diagnosis?

1- Serum iron level

2- Oesophagogastroscopy

**3- Labial gland biopsy**

4- Schirmer's test

5- Antineutrophil antibodies

Q2449. A 55-year-old obese patient complains of a 4- month history of moderate pain in her finger joints, mainly at the end of the day which improves with rest. She also noticed some swelling. On examination there is tenderness to palpation and enlargement of the distal interphalangeal joints. What is the most likely diagnosis?

1- Rheumatoid arthritis

2- Systemic sclerosis

**3- Osteoarthritis**

4- Fibromyalgia

5- Gout

Q2450. A 35-year-old patient was referred by her GP because she says that for the last 6 months she has felt unwell and has suffered gradually worsening pain, stiffness, swelling and tenderness of her joints. On examination her joints are swollen and tender. What is the most important laboratory examination?

1- CRP

2- Serum calcium

**3- Rheumatoid factor**

4- ESR

5- Full blood count

Q2451. You are reviewing a research proposal for a trial of a new TNF-alpha antagonist. When reviewing the profile of TNF alpha, which of the following is true?

**1- Raised levels lead to increased insulin resistance**

2- Acts on only one target cell

3- The gene coding for it is found on chromosome 7

4- TNF-alpha is produced only by macrophages

5- Lipopolysaccharide inhibits TNF-alpha

Q2452. A 45-year-old woman comes to the clinic complaining of skin thickening on her hands, wth subcutaneous calcinosis, and leathery skin elsewhere. She also feels that her fingers feel particularly cold and very painful when she goes out, even to the extent that she has taken to wearing gloves in the summer. She also suffers from reflux oesophagitis and was started by her GP on omeprazole a few months earlier. On examination her BP is 155/90 mmHg, she has sclerodactyly and calcification in her hands, and you notice multiple telangiectasia. Investigations Hb 11.0 g/dl WCC 8.2 x 109 /L PLT 142 x 109 /L Anti centromere antibodypositive Na+ 139 mmol/l K+ 5.0 mmol/l Creatinine 162 μmol/l Which of the following is the most likely cause of mortality related to her underlying disease?

1- Bronchial carcinoma

2- Inflammatory lung disease

**3- Chronic renal failure**

4- GI bleeding

5- Oesophageal carcinoma

Q2453. A 52-year-old woman comes for review. She has a symmetrical small joint polyarthritis affecting predominantly the proximal interphalangeal joints, both knees and ankles. Her pain is predominantly worst in the morning when she also has significant stiffness. Investigations Hb 12.1 g/dl WCC 5.2 x 109 /L PLT 190 x 109 /L Na+ 139 mmol/l K+ 5.0 mmol/l Creatinine 105 μmol/l Rheumatoid factor+++ What x-ray changes would you expect to see on views of the hands?

1- Osteophyte formation

**2- Periarticular osteopaenia around the PIP joints**

3- Periarticular sclerosis around the DIP joints

4- Cyst formation in the distal portion of the phalanges

5- Carpal bone micro fractures

Q2454. A 68-year-old man who is on a stable dose of warfarin therapy for an artificial aortic valve replacement comes to the Emergency room. He has redness, swelling and pain over the 1st MTP joint of his right foot. On examination has appears to have acute gout. Investigations: Hb 11.9 g/dl WCC 5.2 x 109 /L PLT 229 x 109 /L Na+ 140 mmol/l K+ 4.5 mmol/l Cr 145 µmol/l INR 2.9 Which of the following is the most appropriate treatment for his gout?

**1- Prednisolone**

2- Colchicine

3- Diclofenac

4- Allopurinol

5- Indometacin

Q2455. A 72-year-old woman comes to see you because she finds taking her bisphosphonate tablets an inconvenience. She is concerned that her tablets which seem rather large, should be taken whole, and swallowed with plenty of water while sitting or standing at least 30 minutes before breakfast (or any other oral medicine). This is rather inconvenient as she has diabetes. The patient should then sit or stand upright for 30 minutes after taking the tablet. How would you explain the reason for this to her?

1- To increase bioavailability

**2- To reduce GI side-effects**

3- To prevent interaction with other medications

4- Because of reduced gastric emptying

5- To reduce the incidence of osteonecrosis of

Q2456. In monosodium urate monohydrate arthropathy, what is the most characteristic feature seen on examination of the synovial fluid?

1- Orange colour of synovial fluid

2- Rhomboid shape of the crystals

3- Positive birefringence of the crystals when seen under polarised light

**4- Presence of long needle-shaped crystals**

5- Presence of crystals within lymphocytes

Q2457. A 35-year-old woman presents with increasing headache, nausea, vertigo, decreasing vision in both eyes and persistent fever. She also complains of pain in her legs on jogging. Her blood pressure is 190/110 mmHg. Femoral pulses are weak with a radiofemoral delay. What is the most likely diagnosis?

1- Wegener's granulomatosis

2- Coarctation of aorta

3- Giant-cell arteritis

4- Polyarteritis nodosa

**5- Takayasu's arteritis**

Q2458. A 28-year-old man presents with pain in his left arm. Until recently he has worked as a chef but was forced to give up this work because he had difficulty sensing when objects were hot to touch and was frequently getting burned. On examination he has mild bilateral weakness of the biceps, triceps and finger muscles, with absent biceps, triceps and brachioradialis reflexes. There is reduced pin prick sensation over a diffuse area involving both upper limbs and the shoulder areas, but vibration and joint position sense are preserved. He has a mild increase in tone affecting both legs. Investigations; Hb 12.4 g/dl WCC 5.9 x 109 /L PLT 231 x 109 /L ESR 12 mm/hr Na+ 141 mmol/l K+ 4.3 mmol/l Creatinine 110 μmol/l Glucose 5.2 mmol/l Which of the following is the most likely diagnosis?

1- Neuralgic amyotrophy

2- Cervical myelitis

3- Meningioma

4- Multiple sclerosis

**5- Syringomyelia**

Q2459. A 47-year-old woman presents to the clinic with severe rheumatoid arthritis for review. She has suffered from the disease for some 7 years and is managed with a combination of low dose prednisolone and methotrexate. On examination she has evidence of joint disease affecting both hands, elbows and knees. Her investigations are shown below. Hb 11.3 g/dl WCC 6.1 x 109 /L PLT 215 x 109 /L ESR 34 mm/hr Na+ 139 mmol/l K+ 4.8 mmol/l Creatinine 145 μmol/l You are reviewing possible targeted immunotherapies as the next treatment option. Which of the following is closely involved in the pathology of rheumatoid arthritis?

1- IL-10

2- IL-2

**3- TNF-alpha**

4- TGF-alpha

5- Epidermal growth factor

Q2460. A 74-year-old woman presents with left knee pain. She has a history of hypertension which is treated with indapamide 1.5mg daily and is obese, with a BMI of 31. On examination she looks well, her BP is 135/82 mmHg. On examination the knee is unremarkable, but internal rotation of the left hip is limited by pain. Investigations; Hb 12.1 g/dl WCC 5.2 x 109 /L PLT 192 x 109 /L Na+ 141 mmol/l K+ 4.9 mmol/l Creatinine 110 μmol/l ESR 10 mm/hr Left knee x-raynormal Which of the following is the most appropriate next investigation?

1- MRI knee

2- Arthroscopy knee

3- X-ray femur

**4- X-ray left hip and pelvis**

5- Bone scan

Q2461. A 19-year-old woman presents with a painful left hip and groin and is unable to weight bear. She completed therapy for acute myeloblastic leukaemia some 6 months earlier. On examination she walks with a limp, and there is limitation of hip flexion, internal and external rotation. Investigations; Hb 12.1 g/dl WCC 6.1 x 109 /L PLT 191 x 109 /L Na+ 140 mmol/l K+ 4.7 mmol/l Creatinine 130 μmol/l CRP 12 mg/l Left hip x-rayjoint sclerosis with collapse of the femoral head Which of the following is the most likely diagnosis?

1- Septic arthritis

2- Gout

3- Pseudogout

**4- Avascular necrosis**

5- Osteoarthritis

Q2462. A 49-year-old woman visits her GP complaining that he fingers become white/blue and painful when she goes out into the cold. Past medical history of note includes prescription of an asthma inhaler by her GP for symptoms of increased shortness of breath, and reflux for which she takes intermittent omeprazole. She also has joint pains which she self medicates for with ibuprofen tablets. On examination she is hypertensive at 145/92 mmHg and has telangiectasia. You notice soft tissue calcification and sclerodactyly on examination of her hands. Investigations; Hb 12.0 g/dl WCC 5.4 x 109 /L PLT 180 x 109 /L Na+ 140 mmol/l K+ 4.9 mmol/l Creatinine 140 μmol/l Which of the following antibodies is most likely to be found in this patient?

**1- Anti-centromere**

2- Anti-smooth muscle

3- Anti-GBM

4- Rheumatoid factor

5- P-ANCA

Q2463. A 42-year-old woman presents with low grade fever, fatigue and weight loss. In addition she has suffered from increasing headaches and joint pains over the past few months. She has no significant past medical history of note. On examination she is mildly hypertensive at 148/90 mmHg, and has a BMI of 21. She has a malar rash affecting her face. There are signs of symmetrical joint tenderness affecting her wrists, knees, MCP and PCP joints on both sides. Investigations; Hb 10.9 g/dl WCC 8.2 x 109 /L PLT82 x 109 /L ESR 56 mm/hr Na+ 140 mmol/l K+ 4.9 mmol/l Creatinine 134 μmol/l What level of anti-nuclear antibody titre would most prompt consideration of SLE as the underlying diagnosis?

1- 1:10

2- 1:20

3- 1:40

4- 1:400

**5- 1:1600**

Q2464. A 24-year-old man presents with myalgia, arthralgia, fever and abdominal pain. On examination, his pulse is 110/min and blood pressure 180/100 mmHg. His abdomen is tender with guarding, and bowel sounds are absent. What is the probable diagnosis?

**1- Polyarteritis nodosa**

2- Behçet's syndrome

3- Takayasu's arteritis

4- Wegener's granulomatosis

5- Polymyalgia rheumatica

Q2465. A 59-year-old woman complains of left knee pain. On examination no abnormality is found except that her BMI is 32. An X-ray of the knee joint shows narrowing of the joint space and subchondral sclerosis. What is the possible cause for her condition?

1- Ageing

2- Pyrophosphate arthropathy

**3- Obesity**

4- Menopause

5- Gout

Q2466. A 19-year-old man presents to the GP 1 month after returning from a holiday to Berlin. He complains of rectal discharge, pain and diarrhoea and pain affecting his right knee. Additionally he has pain and photosensitivity affecting both eyes, and hyperkeratotic reddened skin on his palms and the soles of his feet. On examination he appears to have conjunctivitis, keratoderma blennorrhagica and oligoarthritis of his right knee. Investigations; Hb 12.1 g/dl WCC 13.1 x 109 /L PLT 190 x 109 /L Na+ 141 mmol/l K+ 4.0 mmol/l Creatinine 94 μmol/l ESR 35 mm/hr Right knee aspirate no organism grown Which of the following is the most appropriate initial treatment for him?

1- Salazopyrine

2- Doxycycline

3- Prednisolone

4- Diclofenac

**5- Intra-articular corticosteroid injection**

Q2467. A 42-year-old alcoholic gentleman is admitted with pain, swelling and redness over the 1st MTP joint. On examination he has a number of tophi, and this is diagnosed as gout. He is started on allopurinol and discharged. 2 days later he returns complaining of pain and inflammation over the small joints of his hands, his wrists, ankles and knees. His temperature is 38.5°C. Bloods Hb 11.0g/dl WCC 6.9 x 109 /L PLT 145 x 109 /L Na+ 138 mmol/l K+ 4.0 mmol/l Creatinine 90 µmol/l Which of the following is the most likely cause of his presentation?

1- Allergy to allopurinol

2- Septic arthritis

3- Rheumatoid arthritis

4- Pseudogout

**5- Allopurinol therapy**

Q2468. A patient with rheumatoid arthritis has the following full blood count results: Haemoglobin 11.4 g/dl, platelets 470 x 109 /L (150-400), white cell count 9 x 109 /L (4-11), mean corpuscular volume 102 fl (80-96). Which drug therapy is most likely responsible?

1- Leflunomide

**2- Methotrexate**

3- Ciclosporin

4- Myocrisin

5- Hydroxychloroquine

Q2469. A patient complains of tenderness of the patella while walking. Which of the following signs or investigations may be most useful in initial diagnosis of prepatellar bursitis?

**1- Crepitation of the knee**

2- Wasting of the quadriceps muscle

3- Absent patella reflex

4- X-ray

5- Magnetic resonance imaging (MRI) scan

Q2470. A patient with systemic lupus erythematosus has uncontrolled hypertension during her pregnancy. She is in week 32 and has blood pressure of 152/84. What is the most appropriate therapy?

1- Warfarin

2- Heparin

3- Ramipril

**4- Labetolol**

5- Cyclophosphamide

Q2471. A 31-year-old woman presents for review. She complains of severe pain and restriction of movement affecting her right elbow, particularly bad on the outside of the arm. There is no past medical history of note and she is a keen gardener. The pain is reproduced on resisted wrist extension when the examiner fixes the right elbow. Which of the following diagnoses fits best with this clinical history?

1- Medial epicondylitis

**2- Lateral epicondylitis**

3- Cervical radiculopathy

4- Osteoarthritis of the elbow

5- Medial collateral ligament instability

Q2472. A 40-year-old woman attends the rheumatology clinic complaining of marked intermittent pain in her right hand. Physical examination reveals a loss of pinprick sensation in the hand. There is tingling and numbness involving the thumb, index and middle fingers. Given the likely clinical diagnosis, which of the following clinical features is most likely to be noted with this condition?

1- Tingling and pain in the medial half of the palm

2- Pain aggravated if the wrist is hyperextended for 2 minutes

3- Pain relieved by repetitive actions of the hand

4- Pain occurring mainly during the day

**5- Pain in the forearms and hands mainly at**

Q2473. A 62-year-old lady is admitted to the psychiatric ward with delusions that her neighbours are trying to poison her. She is later discharged on chlorpromazine with her behaviour returned to normal; but then presents a few weeks later with joint pains and a dry mouth. Investigations Hb 12.4 g/dl WCC 6.1 x 109 /L PLT 167 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 134 μmol/l ALT 36 U/l Anti-ss DNA positive Anti-Ro positive C4 slightly reduced Which of the following is the most likely diagnosis?

**1- Drug induced lupus**

2- SLE

3- Sjögren's

4- Mixed connective tissue disorder

5- Scleroderma

Q2474. A 46-year-old woman presents to the rheumatology clinic for review. She has a history of SLE. Currently she is maintained on 60mg of prednisolone per day and you are considering introducing azathioprine as a second line agent. Her blood results are: Hb 11.0 g/dl WCC 7.1 x 109 /L PLT 130 x 10 9 /L Na+ 139 mmol/l K+ 4.0 mmol/l Creatinine 130 μmol/l Plasma Viscosity 2.1 mPa/s (1.50-1.72) The levels of which of the following can be easily measured to assess the risk of azathioprine toxicity?

1- 6-mercaptopurine

**2- Thiopurine S-methyltransferase activity (TPMT)**

3- 6-thioguanine nucleotides

4- Inosine triphosphatase activity

5- 6-methylmercaptopurine

Q2475. You see a patient in clinic who was diagnosed with ankylosing spondylitis 2 years ago. Which of the following findings would you expect to see on X-ray of the spine?

1- Syndesmophytes

2- Sclerosis of vertebral discs

3- Fusion of the costovertebral joints

4- Bamboo spine

**5- Subchondral bony sclerosis on the iliac side**

Q2476. A 48-year-old man presents to the clinic complaining of painful hands and fingers. On examination he has bilateral sausage shaped fingers and pain over the distal interphalangeal joints. His nails are also pitted. There is no other past medical history of note. His blood results are shown below. Hb 14.0 g/dl PLT 180 x 109 /L WCC 8.1 x 109 /L CRP46 mg/l Rheumatoid factor negative Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 100 μmol/l Which of the following is the most likely diagnosis?

1- Rheumatoid arthritis

**2- Psoriatic arthritis**

3- Gout

4- Osteoarthritis

5- Post viral arthritis

Q2477. Which of the following is a potentially fatal complication of microscopic PAN, but not of classic PAN?

1- Renal failure

2- Bowel perforation

3- Myocardial infarction

**4- Pulmonary haemorrhage**

5- Cerebrovascular accident

Q2478. A 27-year-old woman presents to the rheumatology clinic. She complains of arthritis affecting her knees, elbows, wrists, ankles and the small joints of her fingers. There has also been fever and weight loss of 4kg over the past 5 months. On examination she has hepatomegaly and arthritis over a joint distribution consistent with rheumatoid arthritis. Which of the following investigations would be most appropriate in determining if this patient was suffering from adult onset Still's disease?

1- Rheumatoid factor

2- Anti-nuclear antibody

3- Raised ESR

**4- Raised ferritin**

5- Anti-CCP antibodies

Q2479. A 70-year-old woman presents with pain over her left hip, which occurred suddenly with no history of trauma. Past history of note includes severe COPD for which she is managed with multiple medications including combination steroid/long-acting beta-agonist inhaler and chronically prescribed oral corticosteroids. On examination she looks Cushingoid in appearance, there is pain over the hip, clicking on movement, flexion, abduction and internal rotation is limited and she walks with a marked limp. You suspect that she may have avascular necrosis of the hip. Which of the following is the most sensitive examination to support the diagnosis?

1- MRI

2- Ultrasound

3- X-ray

4- CT scan

**5- Bone scan**

Q2480. A 23-year-old man presents with chronic lower back pain which is much worse in the morning. There is no history of bowel symptoms. Occasionally the pain seems to radiate to involve the buttocks and the backs of his thighs. On examination he appears to have some loss of lateral flexion. You suspect that he may have ankylosing spondylitis. Which of the following is the most appropriate investigation to confirm the diagnosis?

1- HLA testing for B27

2- ESR

3- CT lumbar spine

4- Nuclear imaging

**5- Lumbosacral spine x-ray**

Q2481. An 8-year-old Japanese boy complains of pain in his elbows and knees with swelling of his hands and feet. On examination, his temperature is 39°C, pulse 120/min and blood pressure 100/60 mmHg. His tongue is red in colour. Conjunctival congestion and cervical lymphadenopathy are noted. What is the most likely diagnosis?

**1- Kawasaki's disease**

2- Sjögren's syndrome

3- Diffuse cutaneous systemic sclerosis

4- Behçet's syndrome

5- Felty's syndrome

Q2482. A 40-year-old woman who is a keen gardener presents to the GP complaining of pain in her right elbow. She is right handed and has spent the past two weeks planting bulbs in the garden. Which of the following features would be most suggestive of a diagnosis of tennis elbow?

1- Pain on pressure over the medial epicondyle

2- Pain on wrist flexion against resistance

3- Pain on wrist pronation

**4- Pain on attempting the chair raise test**

5- Pain on elbow flexion

Q2483. A 73-year-old man complains of right leg pain of two years' duration. There is no history of falls or injury. In the past he has been admitted for cardiac failure and takes inhaled bronchodilators and steroids for obstructive airway disease. Examination shows a healthy elderly man with mild tenderness of his right leg only. Routine blood tests show normal serum calcium and phosphate levels with a markedly raised alkaline phosphatase level. What is the most likely diagnosis?

1- Osteoarthritis of the hip

2- Bony metastasis from an occult malignancy

3- Multiple myeloma

**4- Paget's disease**

5- Osteomalacia

Q2484. A 27-year-old man presents with swelling and pain in the proximal interphalangeal joints of both hands. Both hands show ulnar deviation with pitting of the nails and onycholysis. What could be the cause of his condition?

1- Rheumatoid arthritis

2- Gonococcal arthritis

**3- Psoriatic arthritis**

4- Reactive arthritis

5- Dermatophyte infection

Q2485. A 75-year-old woman complains of increasing pain and swelling in both ankles with stiffness and decreased mobility. She also has painful finger joints with nodules at the proximal and distal interphalangeal joints. Over the past 2 weeks she has had increasing difficulty in passing urine with dysuria. From what is she most probably suffering?

1- Reiter's syndrome

2- Rheumatoid arthritis

3- Osteoporosis

**4- Osteoarthritis**

5- Behçet's disease

Q2486. A 20-year-old Italian waiter has painful mouth and genital ulcers associated with arthralgia of his elbows and knees. On examination, tender, red raised lesions are seen on both legs. He has had two such attacks in the past. What is the most likely diagnosis?

**1- Behçet's syndrome**

2- Enteropathic arthritis

3- Reiter's syndrome

4- Polyarteritis nodosa

5- Gonococcal arthritis

Q2487. A college student complains of painful mouth ulcers associated with pain and swelling in both hands. She has had several episodes of vasospasm in her fingers with pallor, cyanosis and subsequent redness caused by reactive hyperaemia. Blood tests reveal anti-dsDNA antibodies and antinuclear antibodies. What is the most likely diagnosis?

1- Behçet's syndrome

2- Wegener's granulomatosis

**3- Systemic lupus erythematosus**

4- Systemic sclerosis

5- Sjögren's syndrome

Q2488. A 42-year-old woman with chronic arthritis complains of grittiness in her eyes and a dry mouth. Investigations reveal a positive Schirmer's test. Rheumatoid factor is present, as are anti-Ro and anti-La antibodies. What is the most probable diagnosis?

1- Systemic lupus erythematosus

2- Felty's syndrome

3- Still's disease

**4- Sjögren's syndrome**

5- Episcleritis

Q2489. A 66-year-old man presents complaining of acute loss of vision in his right eye with rightsided headache for the past 4 months. He also has pain in his jaw while eating. Fundoscopy reveals a swollen optic disc with flame-shaped haemorrhages. Eye movements are painless. Investigations reveal a raised ESR. A temporal artery biopsy is reported as normal. What is the most likely cause for his condition?

1- Diabetic retinopathy

**2- Giant-cell arteritis**

3- Polyarteritis nodosa

4- Sjögren's syndrome

5- Central retinal vein occlusion

Q2490. A 32-year-old man with rheumatoid arthritis presents with left-sided chest pain. On examination, he is febrile. The ECG shows saddle-shaped ST elevation in leads V1, V4 and V5, lead I and aVF. What is the most probable diagnosis?

**1- Pericarditis**

2- Cardiac tamponade

3- Myocardial infarction

4- Cardiomyopathy

5- Pulmonary fibrosis

Q2491. A young man presents to the A&E department with an acutely swollen and painful right knee associated with red gritty eyes and dysuria. He has recently returned from Thailand where he had diarrhoea and vomiting for several days. Joint aspiration shows the presence of giant macrophages. No organisms are seen on Gram staining. What could be the diagnosis?

**1- Reiter's syndrome**

2- Behçet's disease

3- Sjögren's syndrome

4- Gonococcal arthritis

5- Septic arthritis

Q2492. A 42-year-old woman with rheumatoid arthritis presents with painful red eyes. On examination, her visual acuity is normal but there is marked dilatation of the deep and superficial scleral vessels. What is she suffering from?

1- Sjögren's syndrome

2- Episcleritis

3- Reiter's syndrome

**4- Scleromalacia**

5- Conjunctivitis

Q2493. A 35-year-old computer operator with rheumatoid arthritis comes with an upper respiratory tract infection and malaise. He has a purpuric rash all over his body and, on examination, a mass is felt in the left upper quadrant of his abdomen. A full blood count shows: Hb 7.3 g/dl; MCV 79 fl; WCC 2.5 x 109 /L; platelets 47 x 109 /L. What is the most probable diagnosis?

1- Fibrosing alveolitis

2- Rheumatoid pulmonary nodules

3- Caplan's syndrome

4- Polyarteritis nodosa

**5- Felty's syndrome**

Q2494. A 45-year-old obese woman on long-term treatment for rheumatoid arthritis attends the clinic with a history of hirsutism and weakness over the past 4 months. Purplish patches are seen over her legs and elbows. A full blood count and clotting screen are both within normal limits. Which drug treatment is most likely to give rise to these symptoms?

1- Hydroxychloroquine

2- Gold

3- Azathioprine

**4- Prednisolone**

5- Diclofenac

Q2495. A young woman with rheumatoid arthritis presents with dyspepsia and complains of the passage of black tarry stools on two occasions. What is she most likely to have been prescribed?

1- Aspirin

2- Paracetamol

3- Refecoxib

4- Celecoxib

**5- Ibuprofen**

Q2496. A 35-year-old ship's steward is started on a new drug for rheumatoid arthritis before leaving for Africa. He returns after 4 months complaining of hair loss and blurring of vision. It is found that he has misread the prescription and is taking double the prescribed dose daily. Which drug is most likely to cause these symptoms?

1- Gold

2- D-Penicillamine

**3- Hydroxychloroquine**

4- Diclofenac

5- Sulfasalazine

Q2497. A middle-aged woman with a history of rheumatoid arthritis presents with right foot drop and numbness in her right hand with thenar eminence wasting and sensory loss over the radial half of her hand. What is the most likely cause for her symptoms?

1- Peripheral sensory neuropathy

**2- Mononeuritis multiplex**

3- Entrapment neuropathy

4- Myasthenia gravis

5- Multiple sclerosis

Q2498. A 65-year-old Caucasian male, who is a chronic smoker, presents with low back and hip pain. His serum alkaline phosphatase level is 1000 IU/l, calcium 2.25 mmol/l and phosphate 1.2 mmol/l. Other liver function tests are normal. He also complains of difficulty in hearing. What is the probable diagnosis?

1- Squamous-cell carcinoma of the lung

2- Multiple myeloma

3- Osteomalacia

4- Osteoporosis

**5- Paget's disease of bone**

Q2499. A 70-year-old man attends the rheumatology clinic complaining of a stiff, painful right hand and pain and swelling in both knees. On examination, bony lumps are seen at the distal interphalangeal joints. What is the most probable diagnosis?

1- Rheumatoid arthritis

**2- Osteoarthritis**

3- Reiter's syndrome

4- Psoriatic arthritis

5- Pseudogout

Q2500. A 65-year-old woman, who lives alone, complains of increasing pain in her left knee. She finds it difficult to climb stairs. Valgus deformity with obvious instability is also noted. Her BMI is 23. What would be the treatment of choice for this patient?

1- Oral NSAIDs

2- Oral NSAIDs with gastric protection

3- Arthrodesis of the knee joint

**4- Joint replacement**

5- Weight loss and physiotherapy

Q2501. A 25-year-old man presents in the casualty department with a two-day history of a painful and swollen left knee. He is pyrexial with a temperature of 38.5°C. Examination of his cardiovascular and respiratory system is normal. An abdominal examination is normal. He also mentions that he developed a painful right ear and saw his doctor five days ago who told him he had an infected ear and prescribed antibiotics. His left knee is swollen, red, tender and slightly flexed. A diagnosis of septic arthritis is made. What is the most likely causative organism?

1- Streptococcus viridans

2- Staphylococcus epidermidis

**3- Staphylococcus aureus**

4- Escherichia coli

5- Neisseria meningitides

Q2502. A middle-aged man with long-standing rheumatoid arthritis presents with a red, swollen and hot right knee. His temperature is 39.2°C. What would be the best immediate management of this case?

1- Flucloxacillin and benzylpenicillin

2- Blood culture

**3- Joint aspiration, microscopy and culture**

4- Oral prednisolone and physiotherapy

5- Commence sulfasalazine

Q2503. A 75-year-old woman, who is a chronic alcoholic, presents with recurrent episodes of a swollen, red-hot right ankle. Aspiration of the joint reveals negatively birefringent crystals. What is the probable diagnosis?

1- Calcium pyrophosphate arthropathy

**2- MSUM arthropathy**

3- Basic calcium phosphate deposition

4- Osteoarthritis

5- Osteoporosis

Q2504. A 22-year-old student with ankylosing spondylitis has increasing back pain and early morning stiffness. What treatment would you advise?

1- Paracetamol

2- Colchicine

3- Laminectomy and spinal fusion

4- Oral prednisolone

**5- Oral NSAIDs**

Q2505. A 60-year-old diabetic woman with chronic arthritis has a swollen, red-hot and painful right knee following an intra-articular injection of steroid for pain relief 4 days earlier. What test would confirm the diagnosis?

1- Urgent blood sugar estimation

2- Blood culture

**3- Joint aspiration and culture**

4- Joint aspiration and microscopy under polarised light

5- Serum rheumatoid factor estimation

Q2506. A 63-year-old man from Ghana presents with backache, lethargy and thirst. His ESR is raised with normocytic normochromic anaemia. What is the most likely diagnosis?

**1- Multiple myeloma**

2- Osteoporosis

3- Osteoarthritis

4- Paget's disease of bone

5- Calcium pyrophosphate arthropathy

Q2507. A 59-year-old chronic smoker with longstanding diabetes mellitus is admitted to hospital with a lung infection. He is found to have a grossly swollen and deformed right ankle with tingling and numbness in the area. What is the probable diagnosis?

1- Candidiasis

2- Mononeuritis multiplex

**3- Charcot's joint**

4- Thromboangiitis obliterans

5- Septic arthritis

Q2508. A 45-year-old Caucasian woman complains of sudden back pain radiating down to her ankles. Her menstrual periods are regular. On examination, there is sensory loss over the soles of her feet and calves. The straight legraising test is positive. Her BMI is 34. Routine blood tests are normal. What is the most likely diagnosis?

1- Osteoarthritis

2- Spinal stenosis

**3- Lumbar disc prolapse**

4- Osteoporosis

5- Osteomalacia

Q2509. An old woman has back pain radiating down both legs. The pain is aggravated by walking and is relieved on rest and by leaning forwards. On examination, the straight legraising test is negative. Ankle jerks are absent. What is the most probable cause of her pain?

1- Osteoporosis

**2- Spinal stenosis**

3- Osteoarthritis

4- Disc prolapse

5- Vertebral fracture

Q2510. A business executive presents with a red hot, swollen and very painful right big toe. Joint aspiration reveals no organisms but there are numerous neutrophils containing long needleshaped crystals. What is the probable diagnosis?

1- Septic arthritis

**2- Gouty arthritis**

3- Rheumatoid arthritis

4- Gonococcal arthritis

5- Reiter's syndrome

Q2511. An elderly man complains of an acutely swollen left knee. An X-ray shows intraarticular calcification. Joint aspiration reveals small, rhomboid shaped crystals. These signs occur in which of the following?

1- Acute gouty arthritis

2- Osteoarthritis

3- Rheumatoid arthritis

4- Reactive arthritis

**5- Pyrophosphate arthritis**

Q2512. A 55-year-old woman known to suffer from severe disabling rheumatoid arthritis has a 12- month history of dyspnoea. She also complains of a dry cough of similar duration. She has never smoked and has never been employed. Examination shows a woman of average build with severe hand deformities and nodules at the elbow. Cardiovascular examination is normal. Lung fields reveal a diffuse expiratory wheeze. Routine blood tests, a chest X-ray and an ECG are all normal. What is the most likely reason for her symptoms?

**1- Bronchiolitis obliterans**

2- Chronic obstructive airway disease

3- Bronchiectasis

4- Asthma

5- Pleural effusion

Q2513. A 37-year-old man is receiving weekly injections for rheumatoid arthritis. He has developed a sore throat and a pruritic rash over his body over the past few days. A full blood count shows microcytic hypochromic anaemia, leucopenia and thrombocytopenia. What is he most likely to have been prescribed?

**1- Gold**

2- D-Penicillamine

3- Infliximab

4- Methotrexate

5- Celecoxib

Q2514. A 16-year-old GCSE student complains of low back pain radiating to the back of his legs. There is no loss of sensation or movement. ESR is elevated and serum rheumatoid factor is negative. X-ray of the spine shows anterior squaring of the vertebrae. What could be the probable diagnosis?

1- Lumbar disc prolapse with sciatica

2- Rheumatoid arthritis

3- Spinal stenosis

**4- Ankylosing spondylitis**

5- Paget's disease of bone

Q2515. A 60-year-old man presents to the medical out-patients clinic with fever, headache, body aches and a weight loss of 6 kg over 3 months. On questioning, he tells of a recent onset of jaw pain while chewing food. Physical examination reveals normal temporal arteries. Fundus examination shows a pale, swollen optic disc on the right side and perimetry reveals an altitudinal field defect. Blood examination reveals mild normocytic anaemia, ESR of 220 mm/h and a mildly elevated alkaline phosphatase. Which of the following is the next best step in his management?

1- Immediate temporal artery biopsy to confirm the diagnosis and start treatment subsequently

**2- Immediate temporal artery biopsy and concurrent initiation of treatment**

3- Immediate treatment, biopsy not needed

4- Treatment as soon as possible after biopsy

5- Schedule another visit in 2 weeks to follow

# Chapter 10 Respiratory

Q2516. A 65-year-old man known to have COPD presented with progressive respiratory failure. He was treated in ITU with mechanical ventilation and improved. After extubation he was transferred to the ward. On the second day on the ward, his temperature spiked and he developed a productive cough with a yellow-greenish sputum. Blood results showed leucocytosis. A chest X-ray revealed a rightsided middle and lower lobe pneumonia. What is the most probable cause of his pneumonia?

1- Pneumococcal pneumonia

2- Aspiration pneumonia

**3- Pseudomonas pneumonia**

4- Staphylococcal pneumonia

5- Haemophilus pneumonia

Q2517. A 48-year-old woman is admitted with a couple of days' history of fever with rigors and breathlessness. On examination she looks extremely unwell and is confused, cyanosed, has a respiratory rate of 36/min and a systolic blood pressure of 86 mmHg. There is dullness on percussion and bronchial breathing at her right base. The chest radiograph reveals consolidation. Which of the following would be the most appropriate antibiotic regimen to use?

1- Oral amoxicillin

2- Oral amoxicillin and oral clarithromycin

**3- Intravenous cefotaxime and intravenous clarithromycin**

4- Intravenous ceftazidime and intravenous vancomycin

5- Intravenous amoxicillin and intravenous

Q2518. A 46-year-old meat-factory worker is found to have Q fever pneumonia. Which of the following statements is correct?

1- He requires high-dose penicillin for his treatment

2- His occupation is not important for the diagnosis

3- There is no long-term sequel of the disease

4- The organism responsible is Coxiella pneumoniae

**5- The organism is usually inhaled from**

Q2519. A 65-year-old man with severe rheumatoid arthritis (RA) is admitted with a right pleural effusion. He has been complaining of dyspnoea on exertion for the last three months. He has never smoked and has not worked for over 20 years when he was diagnosed to be suffering from rheumatoid arthritis. Which of the following is true?

1- Pleural effusions with rheumatoid arthritis occur in over 50% of patients

**2- A glucose level in pleural fluid of < 1.6 mmol/l is characteristic of a rheumatoid pleural effusion**

3- Pleural effusions associated with RA have low levels of cholesterol

4- The most appropriate treatment is chemical pleurodesis

5- Bilateral pleural effusions do not occur in

Q2520. Which pulmonary function test may be altered to a similar degree in both restrictive lung disease and obstructive lung disease?

1- Residual volume

**2- Tidal volume**

3- Total lung capacity

4- Forced expiratory volume in 1 second/forced vital capacity (FEV1/FVC) ratio

5- Forced expiratory volume in 1 second (FEV1)

Q2521. An 82-year-old man living alone in a bungalow came to the clinic complaining of feeling generally unwell for about the last 3-4 months and of losing about 9.5 kg (21 lbs) in weight during this period. On further enquiry he said he had been having night sweats for the last month. He also has a past history of angina and arthritis and was on medication. On examination he did not look well. He was pyrexic and without lymphadenopathy. Bibasal crepitus on the lower zone was heard on chest auscultation. He had hepatosplenomegaly and clubbing. Investigations showed WBC 12.3 x 106 /l (neutrophils 52%, lymphocytes 39%), Hb 9.1 g/dl, with all other routine investigations being normal. A chest X-ray showed 1-2 cm diameter miliary shadows all over the lung field. The Mantoux test was negative. No bacteria grew in a sputum culture. What is the probable cause of the illness and the X-ray finding?

1- Sarcoidosis

2- Mycoplasma pneumonia

3- Staphylococcal pneumonia

**4- Miliary tuberculosis**

5- Bacterial endocarditis

Q2522. A 65-year-old man came to clinic with a history of proximal muscle weakness. He has had a cough for 8 weeks. There is associated pain in the small joints of the hands, and has small haemorrhages in the nail folds. He is apyrexic and on examination there is no lymphadenopathy or clubbing. Bibasal crackles can be heard and his chest X-ray reveals diffuse reticular infiltrates. Lung function tests show a restrictive pattern. What is the underlying cause of his interstitial lung disease?

1- Cryptogenic fibrosing alveolitis

2- SLE

3- Ankylosing spondylitis

**4- Polymyositis**

5- Rheumatoid arthritis

Q2523. At the time of discharge of a 75-year-old nonsmoker, with known COPD, it was decided that, according to the criteria, he should be having long-term oxygen therapy in home. What is not considered as a lone criterium for LTOT among the following options?

**1- Arterial blood gas showing pa(O2) 7.5 kPa**

2- Cor pulmonale

3- FEV1 < 1.5 litres despite maximal treatment

4- FVC < 2 litres despite maximal treatment

5- Arterial blood gas showing pa(O2) 7.8 kPa

Q2524. A 67-year-old woman has been diagnosed as suffering from bronchiectasis on a highresolution computed tomography (HRCT) scan of the lung. Which one of the following statements is NOT true?

1- She is at risk of developing a pneumothorax

2- She is at risk of developing a brain abscess

**3- Massive haemoptysis is the commonest cause of death in her age group**

4- Recurrent chest infections are likely at her age

5- Her immunoglobulin levels should be

Q2525. A 32-year-old Black woman presents with a 3- month history of a non-productive cough, dyspnoea and pleuritic chest pain, especially with climbing stairs. She reports intermittent fevers of up to 39°C and a 3.5-kg weight loss. She complains of wrist and ankle pain that has interfered with her work. She smokes two packets of cigarettes per day. Her full blood count is normal and serum ANA is negative. On examination there are red nodules over her lower legs. What is the most likely diagnosis?

1- Goodpasture's syndrome

2- Adenocarcinoma of the lung

3- Systemic lupus erythematosus

**4- Sarcoidosis**

5- Histoplasmosis

Q2526. A 24-year-old thin man complains of constant daytime sleepiness. He mentions involuntary naps النوم في رغبة, often in the middle of activity, which occur suddenly and without warning. He also caused an accident when he fell asleep while driving home from work. The patient works as an office manager and has no history of exposure to chemicals. Which of the following treatments would be indicated?

1- Nortriptyline

2- Fluoxetine

3- Diazepam

**4- Modafinil**

5- Continuous positive airway pressurebreathing device

Q2527. A patient with small-cell lung cancer has a serum sodium concentration of 121 mmol/l. Which of the following is the most likely cause?

1- Sodium-restricted diet

2- Sodium-reduced water drinking

**3- SIADH**

4- Liver metastases

5- Bone metastases

Q2528. As the medical SHO on call you are summoned to A&E to see a 25-year-old man whose condition has suddenly deteriorated. He arrived about 45 minutes earlier with a 2-hour history of central pleuritic-type chest pain and breathlessness. He collapsed while awaiting radiography. He is now agitated and cyanosed. His pulse is 128/min and BP 76/40 mmHg. Oxygen saturation is reading 76% with the patient breathing high-flow oxygen via a rebreathing mask. On respiratory examination you hear reduced breath sounds in the right lung field with deviation of the trachea towards the left. On percussion it is resonant bilaterally. What immediate course of action should you take?

1- Contact the ITU for urgent mechanical ventilation

2- Insert a large-bore needle into the left, second intercostal space

**3- Insert a large-bore needle into the right, second intercostal space**

4- Check his arterial blood gases and start nebulisation with salbutamol

5- Ask for an urgent portable chest radiograph

Q2529. The 18-year-old son of an immigrant from Bangladesh who recently came to the UK has been complaining of tiredness, weight loss and generally not feeling well for the last month. He presents to his GP because of haemoptysis, especially in the morning. What is the most likely diagnosis?

1- Pneumothorax

2- Pulmonary embolism

3- Lung cancer

**4- Pulmonary tuberculosis**

5- Asthma

Q2530. A 36-year-old primary schoolteacher from the East End of London presents with increasing shortness of breath accompanied by suddenonset, right-sided pleuritic chest pain. She gives a history of influenza for a few days before this acute presentation and also says she suffered a pulmonary embolus 2 years ago while taking the contraceptive pill and describes her pain as identical to that occasion. On further questioning it transpires that her mother had suffered from recurrent deep vein thrombosis. Arterial blood gases reveal a p(O2) of 7.2 kPa on a re-breather mask, with a p(CO2) of 3.2 kPa. Her chest X-ray reveals a wedge-shaped area of consolidation affecting her right middle and lower lobes. The white blood cell count is normal. Which diagnosis fits best with this clinical picture?

**1- Recurrent pulmonary embolism**

2- Staphlyoccal pneumonia

3- Pneumothorax

4- Tuberculosis

5- Bronchial carcinoma

Q2531. A patient with tuberculosis was initially treated with streptomycin, which was later changed to a combination of isoniazid, rifampicin, pyrazinamide and ethambutol. Abnormal liver functions are noted on this, his follow-up, visit. Which drug is most likely to be responsible?

1- Streptomycin

2- Ethambutol

3- Rifampicin

4- Pyrazinamide

**5- Isoniazid**

Q2532. Which is the most common malignant neoplasm of the lung?

1- Carcinoid tumour

2- Squamous-cell carcinoma of the bronchus

**3- Metastatic carcinoma**

4- Adenocarcinoma of the bronchus

5- Oat-cell carcinoma

Q2533. A patient with cystic fibrosis presents with a severe bronchopneumonia. What is the most likely pathogen?

1- Streptococcus pyogenes

2- Streptococcus pneumoniae

**3- Pseudomonas aeruginosa**

4- Klebsiella pneumoniae

5- An atypical Mycobacteria sp

Q2534. A 16-year-old girl presents to A&E with a severe asthma attack. What is the most important therapy to relieve her bronchoconstriction?

1- Propranolol

**2- Salbutamol**

3- Oxygen

4- Glucocorticosteroids

5- Cromoglycate

Q2535. A 36-year-old lorry driver who smokes heavily presents with a 2-day history of cough associated with fever. He also complains of right-sided chest pain on inspiration. On examination he is slightly cyanosed. His temperature is 38°C, respiratory rate 38/min, BP 100/70 mmHg and pulse 130/min. He has basal crepitations and dullness to percussion at the right lung base. What is the most important next step in confirming the diagnosis?

1- ESR (Erythrocyte sedimentation rate)

2- d-Dimer

**3- Chest X-ray**

4- Sputum sample

5- Blood cultures

Q2536. A 25-year-old patient with epilepsy aspirated gastric juice after a seizure (Mendelson syndrome). What is the most likely clinical symptom?

1- Bradypnoea

2- Paradoxical breathing

**3- Bronchospasm**

4- Laryngospasm

5- Tenderness to percussion

Q2537. A 24-year-old man with HIV and a CD4+ lymphocyte count of 150/ml has been complaining of gradually worsening dyspnoea associated with a non-productive cough and fever for the last 2 weeks. A chest X-ray shows bilateral diffuse ground-glass opacities. What is the most appropriate therapy?

1- Glucocorticoids

2- Erythromycin

3- Cefaclor

4- Ampicillin

**5- Co-trimoxazole**

Q2538. A 33-year-old man is found to have strongly positive aspergillus precipitins in his blood and complains of a cough with intermittent bloody sputum. He has a business working as a builder, particularly involved in renovating farm houses and barns. What is the most likely diagnosis?

1- Allergic bronchopulmonary aspergillosis (ABPA)

**2- Colonising aspergillosis**

3- Invasive aspergillosis

4- Asperger's syndrome

5- Type I hypersensitivity to Aspergillus

Q2539. A 30-year-old asthmatic patient has the following drug regimen: regular inhaled corticosteroids, regular inhaled long-acting b 2-agonists (salmeterol) and inhaled shortacting b 2-agonists when required. Although her compliance is good, her symptoms are still not satisfactorily controlled. What is the next step in her therapy?

1- Antibiotics

2- Salbutamol nebuliser

3- Oral steroids

4- Oral cromoglycate

**5- Oral leukotriene-receptor antagonists**

Q2540. A 30-year-old asthmatic patient has the following drug regimen: regular inhaled corticosteroids, regular inhaled long-acting b 2-agonists (salmeterol), oral leukotrienereceptor antagonists and inhaled short-acting b 2-agonists when required. Although her compliance is good, her symptoms are still not satisfactorily controlled. What is the next step in her therapy?

1- Oral steroids

2- Antibiotics

3- Switch to nebuliser

4- Oral cromoglycate

**5- Oral theophylline**

Q2541. A 24-year-old woman is brought to casualty with thorax injuries after a road traffic accident. Her chest X-ray shows multiple rib fractures and a right-sided shadow suggestive of a haemothorax. What is the next step in her management?

1- Blood transfusion

2- Intubation and ventilation

3- CT thorax

**4- Intercostal drain insertion**

5- Surgical referral for thoracotomy

Q2542. A 55-year-old man presents with increasing shortness of breath. He has been working in the sandblasting industry and exposed to quartz particles. What is the most likely diagnosis?

1- Asbestosis

2- Sarcoidosis

**3- Silicosis**

4- Eosinophilic pneumonitis

5- Asthma

Q2543. A 17-year-old boy has been complaining of shortness of breath for the last 2 days. On examination bronchial breathing is heard over the right lower lobe. What is the most likely diagnosis for this clinical finding?

1- Pneumothorax

**2- Pneumonia**

3- Asthma

4- Emphysema

5- Chronic obstructive pulmonary disease

Q2544. A 30-year-old shepherd presents with a 1- week history of headaches, rhinitis and pharyngitis associated with high fever and you elicit a systolic murmur on examination. Three days ago he noticed a painful cough and blood-stained phlegm. What is the most likely diagnosis?

1- Tuberculosis

2- Borreliosis

3- Brucellosis

**4- Q-fever**

5- Pulmonary embolism

Q2545. A 69-year-old former coal-miner is referred to you by the on-call team. There is a smoking history and he has been managed by his GP for COPD. He has been admitted with dyspnoea that is now so bad that he is unable to manage at home and cannot walk from the chair to the bathroom. There is a cough productive of black sputum. Lung function tests show a mixed restrictive and obstructive picture. A chest X-ray shows marked changes with massive fibrotic masses predominantly in the upper lobes. There are also changes consistent with lung destruction and emphysema. His rheumatoid factor is positive. Which diagnosis fits best with this clinical picture?

**1- Progressive Massive Fibrosis (PMF)**

2- Chronic obstructive pulmonary disease

3- Tuberculosis

4- Asthma

5- Category 1 pneumoconiosis

Q2546. A 29-year-old office secretary has been suffering from intermittent pain and tenderness affecting her elbows, wrist and ankles for last 2 years. Symptomatic relief had being obtained from NSAIDs. For last 3 months she has been increasingly unwell, and with night sweats, fever and a weight loss of about 6.4 kg (14 lbs). She also developed a non-productive cough and left-sided pleuritic chest pain. She smoked 30 cigarettes per day. On examination she had temperature of 37.8°C. The syno vium was palpable over her wrist joints. On respiratory examination her left lower zone was dull to percussion with decreased breath sounds. A chest X-ray confirmed a left-sided pleural effusion in addition to some fibrotic patches on both the upper zones. Aspiration showed a strawcoloured fluid with a protein concentration of 46 g/l and a glucose concentration of 1.6 mmol/l. The fluid contained many lymphocytes but no malignant cells. A culture was sterile on the fifth day. What is the probable cause of the pleural effusion?

1- Sarcoidosis

2- Rheumatoid pleural effusion

**3- Tuberculosis**

4- Pleural effusion secondary to lung malignancy

5- Lymphoma

Q2547. A 33-year-old HIV-positive man presents for review. He is poorly compliant with antiretroviral therapy and his recent CD4 count is only 90/ml blood. He complains of a gradual-onset headache, fever, malaise, night sweats and a cough associated with haemoptysis. He is emaciated. On examination there is widespread lymphadenopathy, there are crackles and wheeze on auscultation of his chest, and tenderness over the liver edge. Blood testing reveals a normochromic normocytic anaemia, he has a low white count, urea and creatinine levels are raised and liver function tests are abnormal. Sputum samples reveal acid- and alcohol-fast bacilli (AFB). Chest X-ray reveals calcified lymph nodes, cavitation and areas of lung fibrosis and hilar retraction. Which diagnosis fits best with this clinical picture?

1- Primary pulmonary tuberculosis

**2- Miliary tuberculosis**

3- Bacterial pneumonia

4- Pulmonary fibrosis

5- Bronchial carcinoma

Q2548. A 56-year-old man has a chest X-ray performed as he has become breathless on exertion and has inspiratory crackles. The chest X-ray reveals upper lobe lung fibrosis. Which of the following is the most likely explanation?

1- Cryptogenic fibrosing alveolitis

**2- Langerhans' cell histiocytosis**

3- Asbestosis

4- Connective tissue fibrosing alveolitis

5- Drug-induced pulmonary fibrosis

Q2549. A 30-year-old woman presents with shortness of breath. This began gradually, around 2.5 years ago, but now she is breathless on climbing a flight of stairs. There is no past history of note. On examination the JVP is raised, carotid pulse volume is reduced and there is evidence of right ventricular hypertrophy. There are right-sided murmurs on cardiac auscultation. Her chest X-ray shows pulmonary artery enlargement, ECG shows right axis deviation and right ventricular hypertrophy. Arterial blood gases reveal hypoxia and hypercapnia, a lung perfusion scan is normal. Cardiac catheterisation reveals that right-sided pressures are markedly raised. Which diagnosis best fits with this clinical picture?

1- Chronic thromboembolic disease

2- Right ventricular failure

**3- Primary pulmonary hypertension (PPH)**

4- Cryptogenic fibrosing alveolitis

5- Asthma

Q2550. A 58-year-old memorial stonemason presents to the chest clinic. Over the past few years he has noted a gradual increase in shortness of breath, with cough and occasional wheeze. He is a non-smoker and has no other past history of note. His chest X-ray is abnormal with small rounded opacities and irregular upper zone fibrosis. There is hilar lymphadenopathy with 'eggshell' calcification. Pulmonary function testing reveals a restrictive picture and there is mild hypoxia. Which diagnosis best fits with this clinical picture?

**1- Silicosis**

2- Asthma

3- Idiopathic pulmonary fibrosis

4- Tuberculosis

5- Byssinosis

Q2551. A 67-year-old patient with lung cancer complains of a cough and has difficulty breathing. He has swelling of his face, neck, upper body and arms. What is the most likely diagnosis?

1- Side-effects from radiotherapy

2- Allergic reaction

**3- Superior vena cava syndrome**

4- Side-effect from chemotherapy

5- Acute myocardial infarction

Q2552. A 42-year-old cotton worker from Southern India is staying with her brother in London . While here, they pay for a private medical consultation. She reports what sounds like a work-related illness. During the first hour at work after the weekend she reports severe shortness of breath, cough and chest tightness, this appears to gradually ease during the week, only to return after the next weekend off. Which diagnosis best fits this clinical picture?

1- Occupational asthma

2- Chronic obstructive pulmonary disease

**3- Byssinosis**

4- Berylliosis

5- Functional shortness of breath

Q2553. A 50-year-old woman patient presents with increasing dyspnoea. She is obese, smokes and takes oestrogens for menopausal symptoms. On examination you find clinical, electrocardial and radiological findings of a right-sided heart failure without signs of left ventricular failure. What is the most likely cause for the cor pulmonale?

1- Asthma

2- Recurrent pneumonias

**3- Recurrent small pulmonary embolisms**

4- Bronchiectasis

5- Carcinoma of the lung

Q2554. A 72-year-old former coal-miner visits you for review. He reports having frequently worked at the coal face in cramped conditions, with exposure to a large volume of coal dust. He says he has had increasing symptoms of cough and shortness of breath over the past few years, but continues to smoke 10-15 cigarettes per day. His chest X-ray reveals a large number of small round opacities within the lung fields, with almost complete obscurement of normal lung markings. Which diagnosis fits best with this clinical picture?

1- Chronic obstructive pulmonary disease

2- Asthma

3- Category 1 pneumoconiosis

4- Category 2 pneumoconiosis

**5- Category 3 pneumoconiosis**

Q2555. A 67-year-old man who suffers from recurrent ventricular tachycardia has been taking amiodarone 200 mg daily for 5 years, as well as phenytoin for epilepsy and NSAIDs for arthritis. Over the past few months he has suffered progressive shortness of breath on exercise. Lung function testing reveals a restrictive picture and his chest X-ray is suggestive of diffuse lung fibrosis. Which diagnosis best fits this clinical picture?

1- Phenytoin-induced lung fibrosis

2- NSAID-induced lung fibrosis

**3- Amiodarone-induced lung fibrosis**

4- Cardiac failure

5- Cryptogenic fibrosing alveolitis

Q2556. A 38-year-old woman presents with recurrent chest infections. For some time she has noticed that her nails are yellow and misshapen and that she often has oedematous legs after standing all day in the shop where she works. Examination reveals evidence of lower lobe consolidation and possible pleural effusion. This is confirmed on chest X-ray. Her nails are very abnormal, thickened and yellow and she has bilateral lymphoedema affecting her legs. Which diagnosis fits best with this clinical picture?

1- Bronchiectasis

2- Asthma

3- Underlying bronchial carcinoma

4- COPD

**5- Yellow-nail Syndrome**

Q2557. A patient with small-cell lung cancer has a serum sodium concentration of 121 mmol/l. The patient is asymptomatic. What is the most appropriate therapy?

**1- Fluid restriction**

2- Glucocorticoids

3- Start chemotherapy

4- Start radiotherapy

5- Hypertonic fluid infusion

Q2558. A 26-year-old man presents with fever, headache and a non-productive cough. The chest X-ray shows increased interstitial markings. The laboratory examination shows an elevated LDH and anaemia with the presence of cold agglutinins. What is the most appropriate treatment?

**1- Erythromycin**

2- Piperacillin

3- Clindamycin

4- Ampicillin

5- Imipenem

Q2559. A 37-year-old man who speaks little English comes to the TB clinic. His notes are missing but he is able to tell you that he has been on treatment for almost 1 year. What is the most likely reason he has been treated for this length of time?

1- Pulmonary TB

2- Lymph-node TB

**3- TB meningitis**

4- Bony TB

5- Pleural TB

Q2560. A morbidly obese 36 year-old man presents for review. His main reason for attendance is that his wife is concerned about his loud snoring and the fact that he stops breathing during the night for periods of up to 8-10 seconds, followed by coughing, snoring and arousal. Recently he has become hypertensive and is also on treatment for impotence. His 24-h urinary free cortisol level is normal. Which diagnosis best fits this picture?

1- Cushing's disease

**2- Obstructive sleep apnoea**

3- Simple snoring

4- Simple obesity

5- Essential hypertension

Q2561. An adolescent girl has chronic cough and recurrent respiratory infections over the past two to three years. Which one of the following pieces of clinical information in her history would point most strongly to the development of bronchiectasis?

1- Pale stools and low weight

2- History of wheeze

**3- Previous whooping cough in early childhood**

4- Serum precipitins to Aspergillus fumigatus

5- Pepperpot calcification on chest X-ray (CXR)

Q2562. A 64-year-old mechanic and lifelong smoker noticed haemoptysis a few days after he had a cold. Clinical examination is unremarkable. His chest X-ray shows bilateral hilar enlargement and mediastinal widening. What is the next step in obtaining the diagnosis?

**1- CT thorax**

2- Bronchoscopy

3- Ventilation-perfusion scan

4- Sputum sample

5- d-Dimer

Q2563. A 65-year-old patient with new-onset chronic obstructive pulmonary disease (COPD) asks you about his prognosis. Which of the following single tests is the most important predictor of survival in patients with COPD?

1- Blood gases

2- Chest X-ray

**3- FEV1**

4- Exercise tolerance

5- ECG

Q2564. Which treatment improves the longterm prognosis in patients with chronic obstructive pulmonary disease (COPD)?

1- Inhaled steroids

2- Oral steroids

3- Inhaled b2-agonists

**4- Long-term domiciliary oxygen therapy**

5- Theophylline

Q2565. People with coal-workers' pneumoconiosis are predisposed to developing which disease?

1- Tuberculosis

2- Carcinoma of the lung

**3- Progressive massive fibrosis**

4- Silicosis

5- Heart failure

Q2566. A 16-year-old boy is brought to casualty after a fire in his parents' house. He inhaled a lot of smoke and has a hoarse voice, stridor and burned nasal hairs. Due to deterioration in his peak flow rate and arterial blood gases, he has been intubated, ventilated and transferred to the intensive care unit where his condition is now stable. In terms of investigation, what is the most important next step in assessing this boy's condition?

1- CT thorax

2- Chest X-ray

**3- Bronchoscopy**

4- Ventilation-perfusion scan

5- Echocardiography

Q2567. A young man has been in a car accident and has sustained a trauma to his thorax. He has a tear in his right main bronchus without any obvious fractures. What is the most likely finding?

1- Pulmonary oedema

2- Pulsus paradoxus

**3- Atelectasis**

4- Expiratory stridor

5- Wheezing

Q2568. A 48-year-old woman presented with increasing shortness of breath. She also reported that her abdominal girth had increased over the past few months but put this down to good living. On examination her GP noticed a right-sided pleural effusion and a very large mass in her right pelvis. Signs of ascites were also present. CA-125, hCG, CEA and α-fetoprotein were unremarkable. A few weeks later a large ovarian fibroma was removed. Some 6 months later she remains well. Which diagnosis best fits with this picture?

1- Ovarian carcinomatosis

2- Heart failure

3- Cirrhosis

**4- Meigs' syndrome**

5- Rheumatoid arthritis

Q2569. A patient with lung cancer underwent radiotherapy 2 weeks ago. He now complains of a severe dry cough, increasing dyspnoea and tachypnoea. On examination there are local crepitations and his chest X-ray shows hazy consolidation that corresponds to the irradiation field. What is the most important therapy to relieve his symptoms?

1- Anticoagulation

2- Restart radiotherapy

**3- Corticosteroids**

4- Antibiotics

5- Salbutamol inhaler

Q2570. A 41-year-old woman presents to the Accident & Emergency department with a sudden onset of pleuritic chest pain and breathlessness. A chest radiograph reveals a large right-sided pneumothorax. Pleural aspiration fails to result in adequate re-expansion of the lung and you therefore insert an intercostal tube connected to an underwater seal. After 24 hours of intercostal drainage the lung has not re-expanded despite the drain still swinging with respiration. What would you do next?

**1- Wait another 24 hours**

2- Negative suction should be started at -1 to - 2 cm H2O

3- High-volume/low-pressure suction should be used

4- Refer for immediate surgical intervention

5- Reposition chest drain

Q2571. A 62-year-old man has cryptogenic fibrosing alveolitis (CFA). Which of the following lung function abnormalities would be typical of CFA?

1- Obstructive lung defect

2- Narrowing of the alveolar-arterial (A-a) gradient on exercise

3- Increased gas transfer factor

**4- Increased lung elastic recoil**

5- Decreased forced expiratory (FEV1/FVC)

Q2572. A 60-year-old man develops a small pneumothorax after a computerised tomography (CT)-guided biopsy of a left upper lobe mass. He is asymptomatic. The most appropriate management of his pneumothorax should be:

1- Aspiration

**2- Conservative only**

3- Intercostal tube drainage

4- Intercostal tube drainage and high-pressure suction

5- Surgical pleurodesis

Q2573. Which of the following statements best fits with the features of spontaneous pneumothorax?

1- Cigarette smoking is not a risk factor

**2- Simple aspiration is preferred to intercostals tube drainage as an initial procedure where the rim is 2cm**

3- Recurrence rates following first pneumothorax are as high as 75%

4- Risk is greatest during the sixth decade of life

5- The male : female ratio is approximately 2 :

Q2574. A 49-year-old man with unexplained cough undergoes bronchoscopy and transbronchial biopsy. Histology shows evidence of neutrophil infiltrate, granulomas are absent. Which is the most likely diagnosis?

1- Histiocytosis X

2- Histoplasmosis

3- Churg-Strauss syndrome

4- Berylliosis

**5- Polyarteritis nodosa (PAN)**

Q2575. A 43-year-old woman has a pleural effusion and evidence of fibrosis on CXR. She has noticed a facial rash on sun exposure that has worsened over the past few months. Which is the most likely diagnosis?

**1- Systemic lupus erythematosus**

2- Adenocarcinoma lung

3- Wegener's granulomatosis

4- Progressive massive fibrosis

5- Actinomycosis

Q2576. A 29-year-old woman noticed shortness of breath and dry cough while jogging last winter. She now wakes up twice a week at 4 o'clock in the morning with a troublesome cough. What is the most appropriate therapy?

1- Salbutamol inhaler

**2- Salbutamol inhaler and inhaled steroids**

3- Oral steroids

4- Ampicillin

5- Theophylline

Q2577. A patient with asthma complains of worsening of her symptoms and increasing shortness of breath. She was recently started on a new medication. What is this medication most likely to be?

1- Salbutamol

**2- Timolol eye drops**

3- Hormone replacement therapy

4- Ferrous sulphate

5- Leukotriene antagonists

Q2578. A 54-year-old overweight man, landed at Heathrow airport after a long-haul flight from Australia and collapsed while waiting for his luggage. After fluid resuscitation his systolic blood pressure is only 80 mmHg on arrival at A&E, his p(O2) is 6.3 kPa on a re-breather mask and his p(CO2) is 3.1 kPa. His chest X-ray reveals possible slight elevation of the right diaphragm. ECG reveals tachycardia. Apparently, he had had a cough and was laid up for a few days before travelling. Which diagnosis best fits this clinical picture?

1- Myocardial infarction

2- Acute pneumonia

3- Acute exacerbation of asthma

4- Acute exacerbation of COPD

**5- Pulmonary embolism**

Q2579. A 50-year-old man has been referred by his GP because of a long-standing history of persistent cough productive of mucopurulent sputum. The patient was treated several times for recurrent chest infections. What is the most appropriate diagnostic step to confirm the diagnosis?

1- Bronchoscopy

2- Chest X-ray

3- Ventilation-perfusion scan

**4- High-resolution CT**

5- Spirometry

Q2580. A 35-year-old woman has been complaining of a 3-month history of increasing shortness of breath. The clinical examination is unremarkable, the chest X-ray has a diffuse reticulonodular appearance and there is hilar lymphadenopathy. A transbronchial biopsy shows widened alveolar septae and granulomas without necrosis. What is the most likely diagnosis?

1- Tuberculosis

2- Pneumonia due to fungi

3- Mycoplasma pneumonia

**4- Sarcoidosis**

5- Bronchiectasis

Q2581. A 26-year-old woman arrives in the UK from Australia. A few days later she presents to hospital with pleuritic chest pain and breathlessness. She is not on the oral contraceptive pill and has no family or personal history of DVT/PE. A pulmonary embolus is confirmed radiologically and she is commenced on warfarin. How long would you continue warfarin therapy in these circumstances?

**1- 4-6 weeks**

2- 3 months

3- 6 months

4- 1 year

5- Lifelong

Q2582. A 50-year-old man patient was referred by his GP because of a long-standing history of persistent cough productive of mucopurulent sputum. He also noticed increasing shortness of breath. The patient has been treated several times for recurrent chest infections. What is the most likely diagnosis?

1- Lung cancer

**2- Bronchiectasis**

3- Chronic cardiac failure

4- Extrinsic allergic alveolitis

5- Asthma

Q2583. A 45-year-old woman presents with progressive fibrosing alveolitis. When performing lung function tests, which parameter would be expected to be normal?

1- Total lung capacity

**2- Forced expiratory volume in 1 second/forced vital capacity (FEV1/FVC) ratio**

3- Vital capacity

4- Carbon monoxide transfer factor

5- Forced vital capacity

Q2584. A 64-year-old mechanic and lifelong smoker noticed haemoptysis a few days after he had a cold. Clinical examination is unremarkable. His chest X-ray shows bilateral hilar enlargement and mediastinal widening. What is the most likely diagnosis?

1- Tuberculosis

**2- Bronchial carcinoma**

3- Lymphoma

4- Hilar metastases

5- Lung abscess

Q2585. A 40-year-old man presents with a 2-month history of cough and breathlessness. He has also noted haemoptysis, which he says has gradually worsened. On examination he has bilateral basal crepitations. His chest X-ray shows diffuse shadowing. He has moderate renal failure. What is the most likely diagnosis?

1- Tuberculosis

**2- Goodpasture's disease**

3- Bronchial carcinoma

4- Legionella pneumonia

5- Pulmonary embolism

Q2586. A 29-year-old woman noticed shortness of breath and dry cough while jogging last winter. She now wakes up twice a week at 4 o'clock in the morning with a troublesome cough. What is the next step in the diagnosis?

1- Chest X-ray

2- CT thorax

**3- Measurement of airflow limitation**

4- Bronchoscopy

5- d-Dimer

Q2587. A 40-year-old man presents with a 2-month history of cough and breathlessness. He has also noticed haemoptysis, which he says has gradually worsened. On examination he has bilateral basal crepitations. His chest X-ray shows diffuse shadowing. He has moderate renal failure. Which investigation would be most useful in obtaining the diagnosis?

1- CT thorax

2- Ventilation-perfusion scan

3- Bronchoscopy

**4- Renal biopsy**

5- Sputum sample

Q2588. A 55-year-old patient with systemic sclerosis has been referred by her rheumatologist because of increasing shortness of breath and occasional dry cough. On examination fine crackles are heard at the lung bases. What is the most likely cause for her symptoms?

1- Chest infection

2- Pulmonary embolism

**3- Fibrosing alveolitis**

4- Tuberculosis

5- Late asthma

Q2589. A patient with lung cancer underwent radiotherapy 2 weeks ago, he now complains of a severe dry cough, increasing dyspnoea and tachypnoea. On examination there are local crepitations, his chest X-ray shows hazy consolidation that correspond to the irradiation field. What is the most likely diagnosis?

1- Pulmonary embolism

2- Mycoplasma pneumonia

**3- Radiation pneumonitis**

4- Legionella pneumonia

5- Cancer progression

Q2590. A 29-year-old woman noticed shortness of breath and a dry cough while jogging last winter. She now wakes up twice a week at 4 o'clock in the morning with a troublesome cough. What is the most likely cause?

1- Cardiac insufficiency

2- Mycoplasma pneumonia

**3- Asthma**

4- Bronchiectasis

5- Extrinsic allergic alveolitis

Q2591. You are trying to introduce D-dimer testing into your Accident & Emergency department to reduce the number of patients who are admitted for suspected pulmonary embolus and heparinised unnecessarily. Which of the following is true regarding the use of D-dimer measurement in the diagnosis of pulmonary embolus?

1- It is a useful screening test for PE

2- It is likely to be useful in a patient with pleuritic chest pain, in the absence of breathlessness

**3- It is not useful for confirming PE when the clinical probability is high**

4- A positive result is of more use clinically than a negative result

5- Should be performed in patients with a

Q2592. Within a few weeks several patients in a geriatric ward contracted a legionella pneumonia which has been successfully treated with macrolide antibiotics. What was the most likely source of those nosocomial infections?

1- Droplet transmission from staff

2- Insufficient hand disinfection

3- Contaminated instruments

**4- Contaminated warm-water source**

5- Contaminated medication boxes

Q2593. An 18-year-old young woman presents to casualty with acute onset of shortness of breath, dizziness, tingling in both hands and chest pain. She has presented to casualty with the same symptoms three times in the last month. The clinical examination and chest Xray are both normal. What is the most likely diagnosis?

1- Tuberculosis

2- Chlamydia pneumonia

3- Mycoplasma pneumonia

**4- Hyperventilation syndrome**

5- Pulmonary embolism

Q2594. A 28-year-old black nurse develops painful nodules on the shin of both legs. She has low grade fever and has lost 5 kg in the two months prior to her presentation. Her chest Xray shows bilateral hilar lymphadenopathy. The MOST likely outcome of this patient's illness is?

1- Complete remission after appropriate course of steroid and cytotoxic drugs

**2- Complete remission without any specific treatment**

3- Complete initial remission soon interrupted by increasing relapses

4- Diffuse reticulo-nodular changes in the lung and progressive shortness of breath

5- Generalised lymphadenopathy and

Q2595. A 24-year-old immigrant from Eastern Europe presents for review. He has suffered several months of fevers, night sweats and weight loss and has a chronic cough, occasionally associated with haemoptysis. Chest X-ray reveals a calcified lesion within the periphery of his left lung, with enlarged calcified left hilar lymph nodes. There is a normochromic normocytic anaemia, and his white blood cell count is just below the normal range. Acid-fast bacilli (AFB) are found in one out of six sputum samples. Sputum is sent for extended culture. Which diagnosis fits best with this clinical picture?

1- Bronchial carcinoma

2- Pneumonia

3- Old tuberculosis

4- Idiopathic pulmonary nodule

**5- Active pulmonary tuberculosis**

Q2596. Which one of the following clinical findings is MOST suggestive of pulmonary embolism (PE)?

1- Spiking temperature of 39°C lasting more than one week

2- Haemoptysis of more than 5 ml with negative chest X-ray

**3- Chest pain worse on deep breathing and respiratory rate of 26/min**

4- Recurrent chest pain in the same location

5- Chest pain on lying flat

Q2597. Which one of the following conditions is MOST likely to be associated with obstructive spirometry and normal TLCO?

**1- Asthma**

2- Emphysema

3- Sarcoidosis

4- Pulmonary hypertension

5- Fibrosing alveolitis

Q2598. Which one of the following features is rarely encountered in patients with sleep apnoea syndrome?

**1- Female gender**

2- Day time sleepiness

3- Hypertension

4- Large neck size

5- Snoring

Q2599. Which one of the following features is MOST accurate regarding Pneumocystis jiroveci pneumonia (PCP)?

1- Occurs exclusively in AIDS

2- Pleural effusion is frequently bilateral

**3- Auscultation of the lungs usually reveals no abnormality**

4- Blood culture is positive in one-third of cases

5- Metronidazole is the treatment of choice

Q2600. A 50-year-old man who has a history of iv drug use is admitted with a productive cough, fevers and rigors. Examination and chest X-ray show a small right-sided effusion and right lower lobe consolidation. Pleural aspiration of the fluid shows it to be a clear straw colour, with a protein level of 35 g/l and a pH of 7.12. It has been sent for culture, along with blood cultures. Which would be the most appropriate course of management?

1- Start iv cefuroxime and oral metronidazole and reassess the size of the effusion in 3 days

**2- Start iv cefuroxime and oral metronidazole and insert a chest drain into the effusion**

3- Start oral amoxicillin and oral metronidazole and repeat a pleural tap the following day

4- Start iv cefuroxime and oral metronidazole and arrange a medical thoracoscopy

5- Start oral amoxicillin and oral

Q2601. A 52-year-old woman with COPD is assessed for long-term oxygen therapy (LTOT). She is found to be suitable for LTOT; but, as a minimum, how many hours per day would you advise her to use the oxygen?

1- 3

2- 5

3- 10

**4- 15**

5- 20

Q2602. A 35-year-old woman with recently diagnosed primary pulmonary hypertension asks you some questions regarding treatment options. She is awaiting transfer to a specialist centre for right heart catheterisation. Which of the following are true?

**1- She will benefit from taking long-term anticoagulation with warfarin**

2- She will benefit from taking verapamil

3- She will benefit from taking lisinopril

4- She will benefit from taking the oral contraceptive pill

5- She will be able to have children, as long as

Q2603. Which one of the following features is MOST characteristic of small cell bronchial carcinoma?

1- History of prior asbestos exposure is usually obtained

**2- Hyponatraemia**

3- Known as small cell because the cancer cell origin is from small lymphocytes

4- It has a relatively better prognosis when compared with other bronchial cancers

5- Surgery is often the only defined treatment

Q2604. Which one of the following conditions is rarely associated with pulmonary infiltrates and peripheral eosinophilia?

1- Allergic bronchopulmonary aspergillosis

2- Loeffler's syndrome

3- Churg-Strauss syndrome

4- Sulphonamide therapy

**5- Fibrosing alveolitis**

Q2605. Which one of the following statements with regard to sarcoidosis is true?

1- Parenchymal lung disease is often accompanied with pleural effusion

2- Clubbing of the fingers is an early feature

3- Jaundice and portal hypertension are the predominant features of hepatic sarcoidosis

**4- A positive tuberculin test in a patient with chronic sarcoidosis is suggestive of concomitant tuberculosis**

5- Hypercalcaemia when it manifests is usually

Q2606. A 21-year-old medical student presents with confusion and dyspnoea 24 hours after fracturing his left femur in a ski competition. Which one of the following skin lesions is expected on physical examination?

1- Multiple vesicular lesions on the upper back

2- Target lesions on the chest

3- Tender red nodules on the shin

**4- Multiple petechiae in both axillae**

5- Palpable purpura on the buttock

Q2607. Most cases of community acquired pneumonia are caused by which one of the following?

**1- Streptococcus pneumoniae**

2- Mycoplasma pneumoniae

3- Staphylococcus aureus

4- Haemophilus influenzae

5- Viral pneumonia

Q2608. The main limiting feature of spiral computed tomographic scanning for pulmonary embolism is?

1- High level of artefacts due to unavoidable chest movement during respiration

2- Low sensitivity for detecting pulmonary emboli in main pulmonary arteries

3- Technical difficulty in passing a catheter into the pulmonary artery

4- Long scanning time

**5- Low sensitivity for detecting pulmonary**

Q2609. Which one of the following features is MOST characteristic of cystic fibrosis?

1- Inherited as autosomal dominant

**2- Pancreatic insufficiency is almost always identified in adult patients**

3- In patients with recurrent chest infections Burkholderia cepacia is the most frequent organism isolated from sputum

4- Family members who carry the gene are at risk of developing mild recurrent bronchitis

5- Patients typically have reduced levels of

Q2610. A 40-year-old Afro-Caribbean woman presents to clinic following an insurance medical examination, where she was found to have bilateral hilar lymphadenopathy on her chest radiograph. Her CT scan confirms hilar lymphadenopathy and comments on nodularity in the lung fields. What would you do next?

1- Arrange a trans-bronchial, lymph node needle aspiration

2- Arrange a lung biopsy

3- Commence oral prednisolone

4- Send sputum samples to microbiology

**5- Observe and repeat her chest X-ray in 3**

Q2611. A 68-year-old man with bronchiectasis is found to have acid-fast bacilli in his sputum. The microbiology report suggests this may be an opportunistic or atypical mycobacterium. Which of the following is the least likely infectious agent?

1- Mycobacterium kansasii

2- Mycobacterium malmoense

3- Mycobacterium xenopi

**4- Mycobacterium leprae**

5- Mycobacterium avium intracellulare

Q2612. A 70-year-old man with chronic obstructive pulmonary disease and bronchiectasis had a sputum sample sent from clinic because he had been more breathless for 6 months and was coughing purulent sputum. The result has shown the presence of Mycobacterium malmoense. What does this mean?

**1- He should have further sputum samples sent for culture**

2- He needs admitting to hospital and isolating in a side room

3- Public health authorities should be informed to begin contact tracing

4- He should be started on triple-drug antituberculous therapy

5- He should be started on quadruple-drug

Q2613. A 23-year-old woman who is 34 weeks' pregnant is admitted to the emergency department with shortness of breath, cough and wheeze. She is known to have moderate asthma and normally takes fluticasone 750 mg salmeterol twice a day and salbutamol as needed. Her peak flow is usually 450. She has been deteriorating over the past 3 days despite increasing her fluticasone and starting 40 mg oral prednisolone daily. She is now unable to speak in sentences, her peak flow is less than 150 l/min and her pulse rate is 130/minute. Saturations are 96% and you hear a widespread wheeze on examination. Her p(O2) is 15 kPa and p(CO2) 4.5 kPa. She has been given high-flow oxygen, repeated nebulised salbutamol and Atrovent. Which of the following would you consider to be appropriate next?

1- Liase with the obstetricians regarding emergency section

2- Intravenous aminophylline

3- Intravenous hydrocortisone

4- Non-invasive ventilation

**5- Intubation and ventilation**

Q2614. A 29-year-old woman with asthma is seen on the ward round. She was admitted the previous day with anaphylaxis due to latex exposure. She asks you about immunotherapy for anaphylaxis. What do you tell her?

1- This is a well-established treatment for anaphylaxis

2- This is a universally safe treatment for anaphylaxis

3- This will give her protection against anaphylactic episodes for about 15 years

**4- This is useful if she cannot avoid latex exposure**

5- It takes 2 months to complete the

Q2615. You see a 70-year-old woman in clinic with COPD. She is breathless when walking around her house and garden and is a current smoker of 10 cigarettes per day. She has an FEV1 of 1.2 litres (40% predicted) and an FVC of 2.0 litres (50% predicted). She had minimal bronchodilator reversibility following nebulised salbutamol. Her oxygen saturations are 93% on air and she takes salbutamol only as needed. What would be the next treatment option for her?

**1- Anticholinergic inhaler**

2- Inhaled steroids

3- Oral leukotriene-receptor antagonist

4- Oral theophylline

5- Long-term domiciliary oxygen

Q2616. In a cyanosed patient which one of the following statements is accurate?

**1- The paO2 is not normally above 50 mmHg (7 kpascal)**

2- In methaemoglobinaemia the paO2 is never above 50 mmHg (7 kpascal)

3- The expected reduced haemoglobin level is around 3 g/l

4- The blue tinge of the skin and mucous membrane is due to CO2 retention

5- O2 therapy should be avoided as it may

Q2617. A 60-year-old man who has a 30-pack year smoking history comes to clinic with worsening shortness of breath over the last 6 months. He works as a baker and keeps racing pigeons. On examination, he is clubbed, has saturations of 91% on air and has widespread fine inspiratory crepitations. His chest radiograph shows reticulonodular shadowing and his CT scan confirms reticulation, mainly subpleural and some honeycombing. What is the diagnosis?

1- Pulmonary sarcoidosis

**2- Usual interstitial pneumonitis**

3- Hypersensitivity pneumonitis

4- Occupational asthma

5- Langerhans' cell histiocytosis

Q2618. A 50-year-old sales representative with a body mass index (BMI) of 34 is referred to the Sleep Clinic because he keeps falling asleep at the wheel, having had three car crashes. His wife complains that he keeps her awake all night snoring. A sleep study confirms moderate sleep apnoea. He has been warned not to return to driving until reviewed in 6 months time. Which one of the treatments below would be the most suitable first line therapy?

1- Long-term oxygen therapy

2- Mandibular advancement splinting

3- Pharyngeal wall surgery

4- Tracheostomy

**5- Weight loss**

Q2619. A 30-year-old woman who is a non-smoker comes to clinic with a 1-year history of a dry cough and most recently haemoptysis. Examination is normal, but her chest radiograph shows a smooth lesion at the origin of her right lower lobe bronchus. CT scan confirms this and is otherwise normal. You perform the bronchoscopy and see a smooth red tumour. What would you do next?

1- Biopsy the tumour

2- Discuss her with the thoracic surgeons with a view to biopsy

**3- Discuss her with the thoracic surgeons with a view to tumour resection**

4- Discuss her with the oncologists with a view to chemotherapy

5- Repeat the chest X-ray in 3 months

Q2620. A 40-year-old man presents to the emergency department with difficulty breathing and swallowing. Examination is normal. Chest Xray shows an enlarged upper mediastinum, so you arrange a CT scan, which is performed the next day. This shows an enlarged thymus gland. What would you do next?

1- Arrange a fine-needle aspirate of the thymus

2- Arrange a biopsy of the thymus

**3- Refer to the surgeons for thymus excision**

4- Refer to the oncologists for radiotherapy

5- Await the results of antibody testing prior

Q2621. What would be the optimal management for a 70-year-old man with moderate COPD who has attended the emergency department with increasing dyspnoea and has been found to have a 3-cm pneumothorax?

1- Conservative management, with observation and repeat chest X-ray after 4 hours

2- Conservative management, with observation and repeat chest X-ray after 12 hours

3- Needle aspiration

4- Chest drain insertion if needle aspiration fails

**5- Chest drain insertion initially**

Q2622. The anatomical dead space may be used to calculate alveolar ventilation by subtracting it from the tidal volume and multiplying the result by the respiratory rate. What would you expect the normal anatomical dead space to be in a healthy adult male?

1- 50 ml

**2- 150 ml**

3- 250 ml

4- 350 ml

5- 450 ml

Q2623. The nurses on the ward ask you to look at a chest drain that has been inserted in a patient for a pneumothorax. They are concerned about whether it is still working. When the patient coughs, nothing happens. When he breathes in and out, the fluid in the tube moves up and down. What does this mean?

1- Air and fluid are draining from the pleural space

2- Fluid alone is draining from the pleural space

3- Air is no longer draining from the pleural space as the drain is blocked

**4- Air is no longer draining from the pleural space, but the drain is still working**

5- He needs to commence suction to the drain

Q2624. A 40-year-old woman comes to clinic with a 1- year history of breathlessness and chest pain on exertion. She has a loud P2 on listening to her heart and ECG shows right axis deviation and right ventricular hypertrophy. Her pulmonary function tests are normal, although blood gas shows hypoxia. Echocardiogram shows a resting pulmonary artery pressure of 25 mmHg. CT scan shows enlarged pulmonary arteries, but no clot. What features in her history may help with the diagnosis?

1- Previous breast cancer

2- Previous heroin use

**3- Previous dexfenfluramine use**

4- Previous sildenafil use

5- Previous bosentan use

Q2625. A 70-year-old man attends clinic. He is an exsmoker of 50 pack years. He has COPD, with an FEV1 of 40% predicted and minimal bronchodilator reversibility. He is breathless after walking 500 metres and was keen to be referred to discuss the possibility of pulmonary rehabilitation. What do you tell him?

1- His exercise tolerance is too poor to be considered for the rehabilitation programme

2- Rehabilitation will make little difference to the length of any future hospital stays

3- Following the rehabilitation programme, his lung function should improve

**4- Following the rehabilitation programme, his walking distance should improve**

5- If his exercise tolerance did improve

Q2626. A 43-year-old woman is referred by her general practitioner with a productive cough and inspiratory crackles at the left base. Which of the following is considered to be a core adverse prognostic factor?

1- Respiratory rate of 28/minute

2- Blood pressure of 98/65 mmHg

**3- Serum urea concentration of 7.1 mmol/l**

4- Oxygen saturation of 92% on room air

5- Bilateral changes on chest radiograph

Q2627. A 37-year-old woman visits your clinic with her 12-year-old daughter who is affected by cystic fibrosis. She now has a new partner and wants to have a second child with him. There are a number of questions she has about the inheritance pattern of cystic fibrosis. Which of the following statements best explains the inheritance pattern?

1- Cystic fibrosis has an autosomal-dominant inheritance pattern

2- Cystic fibrosis has a sex-linked dominant inheritance pattern

3- Cystic fibrosis has a sex-linked recessive inheritance pattern

4- Cystic fibrosis occurs mostly due to new mutations

**5- Cystic fibrosis has an autosomal-recessive**

Q2628. A 39-year-old woman attends her GP complaining of a chronic cough. Her only past history of note includes trandolapril for hypertension, which is now well controlled. She is a non-smoker. Chest X-ray was unremarkable. The cough is becoming socially embarrassing and she is seeking help and reassurance. What is the most likely cause?

**1- Her trandolapril therapy**

2- Anxiety

3- Asthma

4- Occupational asthma

5- Chronic sinusitis

Q2629. A 45-year-old oil executive returns from Indonesia for investigation after an extended period of illness. During his stay he has developed asthma, associated with progressive malaise and weight loss. He is now lethargic and has lost 6.4 kg (1 stone) in the past 3 months. His chest X-ray is abnormal with basilar reticulonodular and alveolar infiltrates. Blood testing reveals a marked peripheral blood eosinophilia. The filarial complement-fixation test is positive. What is the most likely cause of this clinical?

1- Tuberculosis

2- Invasive aspergillosis

**3- Infection with Wuchereria bancrofti**

4- Brucellosis

5- Sarcoidosis

Q2630. A 23-year-old smoker of 30 cigarettes per day presents with rapidly increasing shortness of breath, cough and haemoptysis over the past month following a chest infection. His chest Xray demonstrates diffuse alveolar infiltrates. Blood testing indicates raised urea and creatinine levels, with positive anti-GBM antibodies. Urine analysis reveals haematuria and proteinuria. Pulmonary transfer factor is elevated. What diagnosis best fits this clinical picture?

1- Wegener's granulomatosis

**2- Goodpasture's syndrome**

3- Drug-induced renopulmonary disease

4- Systemic lupus erythematosus

5- Idiopathic glomerulonephritis

Q2631. A 35-year-old woman visits her GP complaining of a dry non-productive cough and lethargy. There has been slow weight loss over the past few months and there is a nodular rash on her shins. Blood testing reveals mild hypercalcaemia, a non-specific increase in immunoglobulins, normochromic normocytic anaemia and a raised serum ACE level. A chest X-ray reveals bilateral hilar lymphadenopathy. Tuberculin skin testing is negative. What diagnosis fits best with this clinical picture?

**1- Sarcoidosis**

2- Tuberculosis

3- Lymphoma

4- Lymphangitis carcinomatosa

5- Cryptogenic fibrosing alveolitis

Q2632. A 50-year-old hospital porter is an inpatient on the surgical ward after a routine cholecystectomy. He normally smokes 30 cigarettes a day. Two days after the operation he begins to spike fevers and expectorate green phlegm. A CXR shows lobar consolidation in his right lung. He has O2 saturations of 85% on air. The surgical consultant asks you to assess him and start him on some antibiotics. Which one of the following treatments would you choose?

1- Penicillin + Macrolide

2- Cephalosporin alone

3- Quinolone alone

**4- Cephalosporin + aminoglycoside**

5- Penicillin + Flucloxacillin + Macrolide

Q2633. A 26-year-old, previously healthy, naval diving officer is admitted to the hospital with a sudden-onset, left-sided chest pain. A chest Xray confirms a small left-sided pneumothorax. The patient is slightly breathless and his oxygen saturation on air is 95%. He smokes 5- 10 cigarettes a day. Which of the following statements is true?

**1- Simple aspiration is the first-line treatment if the patient is symptomatic**

2- If admitted for observation, he does not need oxygen

3- Once the pneumothorax has resolved he can go back to work, including resuming his diving duties

4- Smoking cessation has no role in management, apart from in the prevention of COPD in later life

5- He should be treated with a small (10-14 F)-

Q2634. A 32-year-old contract spray painter presents to the respiratory clinic for review. His asthma is becoming increasingly difficult to control and he now requires fluticasone 500 mg/day and salmeterol 100 mg/day just to perform reasonable activities of daily living. He reports that the only time he has felt well in recent months is when he spent 3 weeks on holiday at his mother's house at the seaside. Chest Xray reveals mild hyperinflation, and lung function reveals an obstructive defect. What is the diagnosis that best fits with his symptoms?

1- Simple asthma

**2- Occupational asthma**

3- Bronchiectasis

4- α1-antitrypsin deficiency

5- Pulmonary fibrosis

Q2635. A 61-year-old man with a 40 pack-year smoking history presents with chronic cough, haemoptysis and weight loss. Unfortunately his chest X-ray reveals a large mass at the left hilum, suggestive of a bronchial carcinoma. A raised calcium is noted on routine blood workup. What type of carcinoma would best fit this clinical picture?

1- Adenocarcinoma of the bronchus

**2- Squamous cell-carcinoma of the bronchus**

3- Small-cell bronchial carcinoma

4- Large-cell bronchial carcinoma

5- Bronchioalveolar-cell carcinoma

Q2636. A 73-year-old woman presents with weight loss and a chronic cough. Her husband has noticed that her pupil is constricted and her right eyelid is drooping. She has had pain in her right shoulder for some months, which her GP has described as 'probable rheumatism'. Unfortunately her chest x-ray reveals a mass in the right lung apex with possible lymphadenopathy at the right hilum. What is the most likely diagnosis in this case?

1- Eaton-Lambert Syndrome

**2- Horner's syndrome caused by Pancoast's tumour**

3- Small-cell carcinoma

4- Tuberculosis

5- Aspergilloma

Q2637. A 68-year-old man presents with suddenonset, left-sided weakness. He has a past history of smoking but nothing else. There is a suggestion of papilloedema on fundoscopy. His chest X-ray on admission to A&E reveals a right middle and lower lobe consolidation, with evidence of a mass at the right hilum. Blood testing reveals a normochromic normocytic anaemia with a calcium concentration of 2.9 mmol/l and a mildly raised urea and creatinine concentrations. What is the best next stage in your management plan?

1- Urgent non-contrast CT brain scan

**2- Urgent contrast CT brain scan**

3- CT brain scan after interval of 3-5 days

4- Arrange urgent treatment of his hypercalcaemia

5- Admit for bronchoscopy

Q2638. A 53-year-old parrot expert presents for review. For some months he has suffered increasing tiredness, high fevers at night, cough and muscle ache. Chest X-ray reveals a diffuse pneumonic picture. His white blood cell count is normal, transaminases are just above the normal range. Two sets of blood cultures prove negative. What diagnosis fits best with this clinical picture?

1- Streptococcal Pneumonia

2- Tuberculosis

**3- Chlamydia psittaci pneumonia**

4- Chlamydia pneumoniae pneumonia

5- Mycoplasma pneumonia

Q2639. An 81-year-old woman consulted her GP because of influenza 2 weeks previously. For the past few days she has had increasing cough, associated with purulent sputum and haemoptysis. Her daughter visits and notices that she has become acutely confused and arranges an ambulance. On arrival to A&E she is agitated with a respiratory rate of 35/min. Blood gasses reveal that she is hypoxic, her white blood cell count is 20 x 109 /L, predominantly neutrophils. Her creatinine concentration is 250mmol/l. Chest X-ray reveals patchy areas of consolidation, with necrosis and empyema formation. What diagnosis best fits this clinical picture?

1- Streptococcus pneumoniae pneumonia

**2- Staphlococcus aureus pneumonia**

3- Haemophilus influenzae pneumonia

4- Mycoplasma pneumonia

5- Chlamydia psittaci pneumonia

Q2640. An 18-year-old student presents to A&E suffering from severe pharyngitis and earache, there is also lethargy and muscle ache. He also complains of wheezing, but there is no previous history of asthma. On examination he has a non-exudative pharyngitis and bullous myringitis, wheeze on auscultation but no evidence of consolidation. There is erythema nodosum. The white blood cell count is 14 x 109 /L , but there is no specific indication of bacterial infection. Cold agglutinins are detected. A chest X-ray reveals dramatic upper-lobe consolidation quite out of character with the clinical examination. What diagnosis best fits this clinical picture?

1- Streptococcus pneumoniae pneumonia

2- Haemophilus influenzae pneumonia

3- Tuberculosis

**4- Mycoplasma pneumonia**

5- Chlamydia pneumonia

Q2641. A 42-year-old has had Raynaud's phenomenon for many years, but now presents to her GP with non-specific symptoms of shortness of breath and a dry non-productive cough, as well as heartburn and a flitting arthralgia affecting a number of small joints. On examination the GP notices that her face appears a little waxy and expressionless and that her hands are cold with nodular thickening of the skin over the fingers. There is telangiectasia. The most striking abnormality on respiratory examination are fine end-expiratory crackles on chest auscultation. Chest X-ray reveals a fibrotic lung picture. Antinuclear antibodies are positive. What diagnosis fits best with this clinical picture?

1- Amyloidosis

2- Cryptogenic fibrosing alveolitis

3- Systemic lupus erythematosus

**4- Progressive systemic sclerosis**

5- Primary pulmonary hypertension

Q2642. A 21-year-old trainee nursery nurse presents to A&E acutely unwell. She has a cough and has become progressively worse, now with severe shortness of breath. Her flatmate reports that she has become unsteady on her feet over the past few days. There is no important past history of note, she smokes 20 cigarettes per day. There is a striking rash over her scalp, face and trunk with a mixed crop of vesicles and pustules suggestive of chickenpox. On examination she has bilateral cerebellar ataxia. Which diagnosis best fits with this clinical picture?

**1- Acute varicella zoster virus infection with CNS and lung involvement**

2- Bacterial pneumonia

3- Herpes simplex encephalitis

4- Generalised viral infection of unknown origin

5- Likely immunocompromised patient

Q2643. A 37-year-old man presents with increasing breathlessness and is diagnosed after investigation with emphysema. Which of the following conditions is most likely to predispose to the development of emphysema?

1- Allergic bronchopulmonary aspergillosis

2- Hypogammaglobulinaemia

**3- Childhood bronchiolitis**

4- Bronchial adenoma

5- Crohn's disease

Q2644. A 62-year-old man presents with flushing and wheezing. A mass is seen on his chest radiograph and you suspect that he may have a carcinoid tumour. Which of the following features is LEAST expected in a diagnosis of carcinoid?

1- Histological appearance similar to that of a small-cell carcinoma

2- Highly vascular appearance

**3- Normal bronchoscopic examination**

4- Less than 40% probability of developing carcinoid syndrome

5- 90% 5-year survival post-surgery

Q2645. A 74-year-old man, who is a retired builder of railway carriages, presents to his GP. Over the past year or so he has noticed gradually increasing shortness of breath on exertion. He has a frequent dry and non-productive cough. On examination the GP notices that he has digital clubbing, peripheral oedema and a raised JVP, with fine end-inspiratory crackles heard at the bases on auscultation. Chest Xray reveals irregular shadows in the lower lung zones and thickened pleural plaques affecting the lower zones. What diagnosis would fit best with this clinical history and these findings on examination and investigation?

1- Asthma

2- Bronchial carcinoma

3- Cryptogenic fibrosing alveolitis

**4- Asbestosis**

5- Silicosis

Q2646. A 64-year-old demolition worker presents to his GP with a severe dull right-sided chest pain. He first noticed it some months ago and he is now having particular problems with shortness of breath. On examination he appears to have a right-sided pleural effusion and is clubbed. He admits to being exposed to asbestos. On further questioning he says his brother, who worked with him, died of 'some sort of lung cancer' around 2 years ago. X-ray confirms the right pleural effusion with evidence of pleural plaques elsewhere. What diagnosis would fit best with this clinical picture?

**1- Mesothelioma**

2- Bronchial carcinoma

3- Tuberculosis

4- Asthma

5- Rheumatoid arthritis

Q2647. A 35-year-old woman who has been treated for asthma presents for review. She helps with mucking out at a horse-riding stable over the weekends. She had been well until the past year or so, bit has since suffered recurrent chest infections, a dry cough and shortness of breath. There is no haemoptysis. Full blood count reveals a raised eosinophil count. Chest X-ray reveals evidence of pulmonary infiltration and some lobar consolidation and cavitation. What is the diagnosis that fits best with this clinical picture?

1- Aspergilloma

**2- Allergic bronchopulmonary aspergillosis (ABPA)**

3- Asthma

4- Tuberculosis

5- Bronchiectasis

Q2648. A 78-year-old woman with a previous history of tuberculosis presents to her GP. She has had three episodes of haemoptysis in the past few months. As a previous smoker she is worried that she may have lung cancer. Chest X-ray reveals an old tuberculosis cavity containing a mass surrounded by a crescent of air. What is the diagnosis that fits best with this clinical picture?

1- Bronchial carcinoma

2- Wegener's granulomatosis

**3- Aspergilloma**

4- Asthma

5- Reactivated tuberculosis

Q2649. A 23-year-old woman presents to A&E with acute asthma. She has had a cough and progressively worsening symptoms over the past 3 days. This will be her fourth hospital admission in recent years and she has had two previous stays on ITU. On admission to the department you note her to be drowsy and that she has a bradycardia with poor air entry. Which of the following biochemical features on 40% oxygen would best fit with a near fatal attack?

1- pa(CO2) 4 kPa, pa(O2) 10 kPa, pH 7.38

**2- pa(CO2) 7 kPa, pa(O2) 7 kPa, pH 7.18**

3- pa(CO2) 5.6 kPa pa(O2) 8.5kPa, pH 7.42

4- pa(CO2) 4.5 kPa, pa(O2) 12 kPa, pH 7.40

5- pa(CO2) 4 kPa, pa(O2) 11 kPa pH 7.37

Q2650. A 72-year-old woman who smokes 5-10 cigarettes per day and has a past history of whooping cough presents with chronic cough and recurrent chest infections for review. She admits to producing frequent amounts of purulent sputum and of intermittently suffering night sweats for a number of months. There have also been occasional episodes of haemoptysis. Chest X-ray reveals hyperinflation, crowded lung markings and small cyst-like spaces at the lung bases. What is the most likely underlying pathology?

1- Tuberculosis

2- Asthma

**3- Bronchiectasis**

4- Chronic lung abscess

5- Bronchial carcinoma

Q2651. Leukotriene-receptor antagonists (LTRAs) may be used as add-on therapy in the treatment of asthma. Which of the following statements best describes how and when they should be used?

1- LTRAs should be used as initial therapy in adults

2- They are an ideal add-in for those patients using excessive prn salbutamol

3- LTRAs are usually not of therapeutic value in patients with aspirin-intolerant asthma and should be avoided in this group

**4- LTRAs should be add-in therapy when patients are poorly controlled on dual therapy with high-dose inhaled corticosteroids and a long-acting b2- agonist**

5- LTRAs may elicit a delayed response in

Q2652. A 72-year-old man is admitted via the on-call team with an acute respiratory tract infection. He has a 40 pack-year smoking history and continues to smoke 15 cigarettes per day. After recovery from his initial infection, lung function testing indicates that his FEV1 (forced expiratory volume in 1 second) is less than 50% of predicted, and chronic obstructive pulmonary disease (COPD) is diagnosed. This is his third exacerbation this year so far, which have necessitated hospital admission. What is the best pharmacological intervention for him?

1- Salbutamol prn for symptom relief

2- Low-dose beclometasone inhaled-steroid therapy as prophylaxis

3- High-dose inhaled steroid therapy as prophylaxis

4- Inhaled anticholinergics for symptom relief

**5- Combination therapy with a high-dose**

Q2653. A 75-year-old woman visits your COPD clinic for review. Her blood gases were checked on her last visit 2 months ago when she was relatively well, and you check them again today. Her pa(O2) on air on both occasions was only 6.8 kPa. To her credit, she did succeed in stopping smoking 6 months ago. She is maintained on combination inhaled steroid and long-acting b2-agonist therapy. What is the best next management step?

1- Continue her current treatment and review in 4 months time

2- Offer her oxygen cylinders for use as required

**3- Suggest she uses an oxygen concentrator for at least 19 h per day**

4- Give her rotational antibiotics to prevent an exacerbation

5- Add in an anticholinergic to her therapy

Q2654. A 33-year-old man presents with increasing symptoms of severe breathlessness on exercise. Up until the last few months he had been holding down a job as a successful salesman. There is a history of smoking 8-10 cigarettes per day. His father died at a young age (below 50 years) of severe chest disease. Routine blood tests reveal that this patient is mildly jaundiced with a bilirubin of 90 m mol/l, his AST and ALT are also outside the normal range. Chest X-ray reveals basal emphysema. Which diagnosis best fits this clinical picture?

1- COPD secondary to excessive smoking

2- Cirrhosis

3- Stress

**4- a-1-Antitrypsin deficiency**

5- Gilbert's syndrome

Q2655. A 58-year-old man with a heavy previous asbestos-exposure history smokes 20 cigarettes per day and has done since he was 17 years old. What is his increased risk of developing bronchial carcinoma compared to a lifelong non-smoker, never exposed to asbestos?

1- 100 times

**2- 50 times**

3- 20 times

4- 10 times

5- 2 times

Q2656. A 45-year-old woman visits the surgery with her 15-year-old son who has recently been diagnosed with asthma. She has studied the pathology of asthma and has a number of questions as to potential causative factors. Which of the following responses best describes the pathology of asthma?

1- Asthma predominantly occurs due to airway hyporesponsiveness

2- Asthma predominantly occurs due to airway hyperresponsiveness

3- Asthma predominantly occurs due to airflow limitation

4- Asthma predominantly occurs due to airway inflammation

**5- Asthma occurs due to a combination of**

Q2657. A sixty-year-old lady is seen every six months in the Chest Clinic for follow-up for her cryptogenic fibrosing alveolitis. Despite several prolonged courses of corticosteroids her lung function continues to deteriorate. You organise a repeat set of PFTs before starting her on a course of cyclophosphamide. Which one of the results below would best fit this patient? (Options expressed as % predicted values)

**1- FEV1 60 FVC 65 ratio 90% Va 60 KCO 60**

2- FEV1 60 FVC 65 ratio 90% Va 85 KCO 130

3- FEV1 65 FVC 85 ratio 70% Va 60 KCO 60

4- FEV1 65 FVC 85 ratio 70% Va 85 KCO 130

5- FEV1 60 FVC 65 ratio 90% Va 100 KCO 50

Q2658. A 30-year-old woman with a history of asthma presents for review. She has been taking 400 mg bd of beclometasone and salbutamol prn, which she is using with increasing frequency. What is the best-fit next change to her therapy?

1- Increase her regular repeat prescriptions for salbutamol

2- Increase her inhaled beclometasone dose

3- Changer her inhaled steroid to fluticasone

**4- Add in a long-acting inhaled b2-agonist**

5- Do nothing

Q2659. Causes of a restrictive pattern on pulmonary function testing include?

1- Emphysema

2- Asthma

3- Early cystic fibrosis

**4- Severe scoliosis**

5- Bronchiectasis

Q2660. A 62-year-old man with a heavy smoking history presents with a mass on CXR. Which of the following clinical features might still permit curative surgical resection for bronchial carcinoma?

1- Ipsilateral malignant pleural effusion

2- Invasive superior vena caval (SVC) obstruction

3- FVC <1.2 pre-op

4- Left recurrent laryngeal nerve (RLN) palsy

**5- Hypercalcaemia**

Q2661. A 17-year-girl who has known cystic fibrosis presents with increasing cough productive of purulent sputum. She has had 3 previous admissions to hospital with exacerbations over the past 4 years. So far she is maintaining her weight and is able to continue her studies at school. On examination she is pyrexial 37.8oC, her BP is 120/72 mmHg, pulse 90/min, regular. She has bilateral crackles and wheeze; the crackles are particularly increased at the left base. Investigations; Hb 12.0 g/dl WCC 13.1 x 109 /L PLT 181 x 109 /L Na+ 141 mmol/l K+ 4.9 mmol/l Creatinine 110 μmol/l CRP71 mg/l Which of the following is the most appropriate initial antimicrobial treatment?

**1- Piperacillin plus tazobactam (Tazocin)**

2- Ciprofloxacin

3- Benzylpenicillin

4- Erythromycin

5- Clindamycin

Q2662. A 28-year-old woman comes to the clinic for review 4 weeks after discharge from the ward following an asthma attack. She was diagnosed with asthma aged 7 and has been taking inhaled beclomethasone 800mcg and salbutamol PRN since then. She tells you that since discharge she has been using her salbutamol 3 times per day and has been waking 2-3 times per night with coughing. On examination her peak flow is 340 (predicted is 570). She has scattered wheeze throughout both lung fields on examination. Good inhaler technique with volumatic as assessed in the clinic. Investigations; Hb 13.1 g/dl WCC 6.5 x 109 /L PLT 231 x 109 /L ESR 12 mm/hr Na+ 140 mmol/l K+ 4.9 mmol/l Creatinine 110 μmol/l CXRNo evidence of consolidation Which of the following is the most appropriate management plan for her?

1- Change her to 800mcg of fluticasone

2- Add low dose oral theophylline to her regimen

3- Add oral monteleukast to her regimen

**4- Add BD inhaled salmeterol to her regimen**

5- Add omalizumab

Q2663. A 32-year-old man with a 2 year history of asthma diagnosed and managed by his GP now presents with weight loss, abdominal pain diarrhoea, and petechial skin changes. During the past week he has become increasingly lethargic with associated feelings of nausea. Other past history of note includes an episode of foot drop which occurred some 3 months ago. Investigations; Hb 11.0 g/dl WCC 10.0 x 109 /L (raised eosinophils) PLT 190 x 109 /L Na+ 141 mmol/l K+ 5.7 mmol/l Creatinine 234 μmol/l ESR 71 mm/hr Rheumatoid factor+ CXRBilateral pulmonary infiltrates Urine blood ++, protein ++ Which of the following is the most likely positive antibody finding in this case?

1- Anticardiolipin

2- C-ANCA

3- Antimitochondrial

4- Anti GBM

**5- Anti-myeloperoxidase**

Q2664. A 50-year-old man attended a clinic complaining of a 15-day history of dyspnoea and weight loss. On examination, a diagnosis of pleural effusion was made that was confirmed on chest X-ray. A pleural tap revealed few red cells and lymphocytes and a protein level of 40 g/l. What should be the next investigative step?

1- Bronchoscopy

**2- CT scan of the thorax**

3- Percutaneous pleural biopsy

4- Sputum examination for tubercle bacilli

5- Thoracoscopic pleural biopsy

Q2665. Regarding the value of lung function tests

**1- The peak expiratory flow rate is most closely correlated with height**

2- In a restrictive disease, the flow-volume loop is different in shape to normal

3- A mid-expiratory flow rate between 25% and 75% of expired vital capacity is not indicative of airway obstruction

4- They are not needed as a routine in the management of asthma

5- They cannot differentiate between

Q2666. A 25-year-old basketball player is brought to the accident and emergency department with a history of sudden onset of right-sided chest pain and breathlessness. On examination, tachycardia is noted. Decreased breath sounds are heard on the right side. What is the probable diagnosis?

1- Rupture of subpleural tuberculous focus

2- Rupture of a subphrenic abscess through the diaphragm

**3- Rupture of apical subpleural blebs**

4- Pulmonary embolism

5- Lobar pneumonia

Q2667. A 71-year-old man with a 40 pack year smoking history is admitted with an exacerbation of COPD. He is usually independent at home and manages with no intervention or social support. He has been unwell for the past 3 days with increasing cough productive of purulent sputum. On admission he appears to be significantly hypoxic and hypercapnic, with a pO2 of 7.1, and pCO2 of 5.9. He is very short of breath, but struggles to tell you that he does not want to be ventilated. Unfortunately he becomes increasingly tired and becomes unresponsive some 30 mins later. Which of the following is the most appropriate plan with respect to his further management?

1- Continue on antibiotics only

2- Contact hospital legal team to proceed to intubate

3- Ask the family to consent for him to be intubated

**4- Intubate and act on the best interests of the patient, whilst informing the relatives**

5- Withdraw ALL treatment

Q2668. A 25-year-old male is admitted with dyspnoea. Pulmonary function tests reveal a reduced peak expiratory flow rate 55% below the normal range for his height and age. What could be the probable diagnosis?

**1- Asthma**

2- Bronchial carcinoma

3- Kyphoscoliosis

4- Bronchiectasis

5- Whooping cough

Q2669. A 23-year-old army cadet is admitted to hospital with cough, headaches and malaise. He has a temperature of 38°C. His blood count, renal and liver functions are normal. Cold agglutinins are positive. A chest X-ray shows bi-basal shadowing. What is the most likely diagnosis?

1- Legionella pneumonia

2- Viral pneumonia

3- Q fever

4- Klebsiella pneumonia

**5- Mycoplasma pneumonia**

Q2670. An 18-year-old girl presents with a four-day history of cough, headache, fever and joint pains. Blood tests show the presence of raised antibody titres and the presence of cold agglutinins. A diagnosis of Mycoplasma pneumoniae infection is made. Which drug would you prescribe as first line treatment for this patient?

1- Tetracycline

2- Rifampicin

3- Penicillin

**4- Clarithromycin**

5- Co-trimoxazole

Q2671. Male infertility in cystic fibrosis is mostly due to which of the following?

1- Impotence

**2- Failure of development of the vas deferens**

3- Median survival age of 20 years

4- Delayed puberty

5- Decreased spermatogenesis

Q2672. A 56-year-old man with confirmed squamous cell carcinoma of the right upper lobe of the lung has a normal FEV1 and normal serum biochemistry. Which one of the following investigations is most appropriate to assess operability?

1- Bone scan

**2- Chest CT scan**

3- Differential perfusion lung scan

4- Measurement of total lung capacity

5- Sputum cytology

Q2673. Which of the following conditions is most likely to be associated with a decreased DLCO?

1- Dehydration

2- Anaemia

**3- Pulmonary embolism**

4- Exercise

5- Acute poliomyelitis

Q2674. A 70-year-old man with chronic bronchitis is admitted with dyspnoea and peripheral cyanosis. On auscultation, there are scattered rhonchi but no wheeze or evidence of consolidation. Arterial blood-gas determinations show a pH of 7.38, pa(O2) 40 mmHg and pa(CO2) 45 mmHg. 40% oxygen is given by facemask. Within 10 minutes he becomes more drowsy and his respiratory rate falls. A repeat arterial blood-gas estimation shows a pH of 7.24, pa(O2) 72 mmHg, pa(CO2) 63 mm Hg. What is the next step in his management?

1- Obtain a chest X-ray

2- Do a ventilation/perfusion scan

**3- Decrease the fraction of inspired oxygen**

4- Initiate mechanical ventilation

5- Administer intravenous aminophylline

Q2675. A 70-year-old woman with a history of rheumatoid arthritis comes to the clinic for review. Most recently she has been suffering from increased shortness of breath. She takes diclofenac and methotrexate for her arthritis. Other history of note includes smoking of 10 cigarettes per day. On examination her BP is 145/82 mmHg, she is mildly clubbed. On auscultation there are inspiratory crackles throughout both lung fields. Investigations Hb 12.2 g/dl WCC 5.6 x 109 /L PLT 200 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 139 μmol/l Anti-GBM antibody negative FEV1 84% FVC 81% KCO reduced pO2 7.8 kPa pCO2 3.5 kPa What is the most likely diagnosis?

1- Asthma

2- COPD

**3- Methotrexate pneumonitis**

4- PE

5- Haemorrhage

Q2676. A 38-year-old man presents to the GP clinic complaining of shortness of breath. He has a history of smoking 10 cigarettes per day and is obese. Other history of note includes hypertension, for which he is treated with atenolol 50mg daily. PEFR is 540L/min (predicted is 600) FEV1/FVC is 90% predicted FVC falls when measured supine versus standing up Which of the following is the most likely diagnosis?

**1- Obesity related changes in PFTS**

2- COPD

3- Asthma

4- Early fibrotic lung disease

5- Atenolol related obstructive lung picture

Q2677. A 59-year-old woman with severe rheumatoid arthritis presents to the respiratory clinic with worsening shortness of breath. Her rheumatoid arthritis has been present for 17 years and she is now managed with a methotrexate based regime. Other medical history of note includes hypertension, for which she is treated with ramipril 10mg daily. On examination she has evidence of severe rheumatoid joint disease. Crackles are heard on auscultation of the chest. Investigations; Hb 11.0 g/dl WCC 4.8 x 109 /L PLT 345 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 140 μmol/l CXR – Patchy consolidation, small pulmonary nodules, small bilateral pleural effusions CT Thorax – Patchy ground glass opacities (peribronchovascular region), bronchial wall thickening and areas of bronchial dilatation, centrilobular pulmonary nodules PFTS – Restrictive pattern, reduced DLCO, fall in oxygenation on exercise Which of the following is the most likely diagnosis?

1- Chronic eosinophilic pneumonia (CEP)

2- Methotrexate related pulmonary fibrosis

**3- Bronchiolitis obliterans organising pneumonia (BOOP)**

4- Cryptogenic organising pneumonia (COP)

5- Idiopathic pulmonary fibrosis

Q2678. A 42-year-old man with a history of asthma presents to the GP with shortness of breath and a cough productive of green/yellow blood stained sputum. On examination he has saturations of 91% and bilateral bronchial breathing at both bases. He also has reactivation of a cold sore on his upper lip. Investigations; Hb 12.9 g/dl WCC 15.2 x 109 /L PLT 305 x 109 /L Na+ 134 mmol/l K+ 5.4 mmol/l Creatinine 130 μmol/l ESR 55 mm/hr CXR Bilateral lower lobe pneumonia Which of the following is the most likely causative organism?

1- Legionella pneumophilia

2- Klebsiella

3- Staphylococcus aureus

**4- Streptococcus pneumoniae**

5- Mycoplasma pneumoniae

Q2679. A 38-year-old woman presents to the Emergency room with severe asthma. She is visiting the area on holiday, but her partner informs you that she has suffered 3 admissions to the intensive care unit at home and has brittle asthma poorly controlled with maximum dose seretide, theophylline and intermittent oral corticosteroids. On examination she looks tired and has a respiratory rate of 21/min. There is marked wheeze and poor air entry on auscultation of the chest. Investigations; Hb 13.1 g/dl WCC 6.1 x 109 /L PLT 245 x 109 /L Na+ 140 mmol/l K+ 3.9 Creatinine 100 µmol/l ECG - Sinus tachycardia 104 BPM Sats 94% on O2 on admission PEFR 160 l/min You arrange back to back nebulisers and ask the SHO to repeat some arterial blood gasses afterwards. Which of the following would be most worrying when you review the results?

1- Normal pH

2- Raised lactate

3- Normal bicarbonate

**4- Normal CO2**

5- Slightly low O2

Q2680. Regarding lung development, which of the following statements is the most appropriate?

**1- Continues until the age of 7 years**

2- Fetal lung growth is more influenced by hormones than mechanical stimuli

3- Polycystic kidneys may be associated with maldevelopment of the lungs

4- Surfactant production is recognised by 20 weeks' gestation

5- Alveoli are seen by 24 weeks' gestation

Q2681. A 25-year-old smoker of 5 cigarettes per day comes to the clinic complaining of recurrent haemoptysis that he has suffered from for the past 2 years. He has been treated for intermittent cough and respiratory infections over the past few years. On examination he looks a little thin but otherwise well. Respiratory examination raises the suggestion of left upper lobe collapse. There are no other abnormal findings. Investigations; Hb 11.9 g/dl WCC 5.9 x 109 /L PLT 187 x 109 /L Na+ 141 mmol/l K+ 4.2 mmol/l Creatinine 110 μmol/l CXR left upper lobe collapse Which of the following is the most likely diagnosis?

1- Inhaled foreign body

2- Bronchiectasis

3- Bronchial carcinoma

4- Left upper lobe pneumonia

**5- Bronchial carcinoid**

Q2682. A 63-year-old man is admitted with a severe cough productive of rusty coloured sputum that he has had for the past 4 days. On admission he is pyrexial 38.5°C, has a BP of 105/65 mmHg, and a pulse of 105/min. His respiratory rate is 29/min. There is extensive bronchial breathing over the lower right lung field. Which of the following in his history, examinations or investigations would be the worst prognostic factor for pneumonia?

1- Respiratory rate 29/min

2- Age 63

3- BP 105/65 mmHg

**4- Urea 8.2 mmol/l**

5- Pyrexia 38.5°C

Q2683. Which of the following does not increase the risk of death in patients with severe pneumonia?

1- Diastolic blood pressure < 60 mmHg

**2- Age 49 years**

3- Urea > 7 mmol/l

4- WBC count < 4 x 109 /l

5- Atrial fibrillation

Q2684. A female who is a known alcoholic was rescued from a burning house. She has no burns and appears clinically well, although she has suffered some smoke inhalation. On examination her temperature is 34oC, she is haemodynamically stable with a BP of 122/72 mmHg. Investigations - ABG results; paO212 kPa PaCO2 2.6 kPa pH normal Bicarbonate normal SpO2 92% What is the cause for the apparent hypoxia seen on SpO2?

1- Poor peripheral circulation

2- Respiratory alkalosis

3- Pulmonary embolism

**4- Carbon monoxide poisoning**

5- Pulmonary haemorrhage

Q2685. A 38-year-old nurse who has had a positive tuberculin skin test comes to you for advice. She had been in contact with a patient who had pulmonary tuberculosis some 6 days earlier, and has not received a BCG vaccination in the past. She is well and her CXR is normal. She has started a course of isoniazid. Which of the following is the most appropriate occupational health advice?

1- Continue to work as normal

2- Stay off work for 2 weeks while she is on the initial prophylactic isoniazid course

3- Stay off work and have a repeat CXR in 6 weeks

4- Stay off work for 6 weeks

**5- Continue isoniazid for at least 3 months**

Q2686. A 38-year-old patient with a history of asthma presents with weakness of right hand and plantar flexion of his left foot. His asthma is managed with salmeterol fluticasone combination inhaler. On examination his BP is 152/91 mmHg. He has polyphonic wheeze on auscultation of the chest. Investigations Hb 13.2 g/dl WCC 8.2 x 109 /L (raised eosinophils) PLT 180 x 109 /L Na+ 139 mmol/l K+ 4.3 mmol/l Creatinine 149 μmol/l Urine dipstick blood +, protein + Which of the following is the most appropriate autoantibody to test for?

**1- p-ANCA**

2- ANA

3- c-ANCA

4- Anti-ds DNA

5- Anti-SM antibody

Q2687. A 74-year-old man presents to the clinic complaining of increased shortness of breath. He has smoked 40 cigarettes per day for the past 30 years. Medications include diclofenac and paracetamol for joint pain. He comes to the clinic with a CXR from his GP which shows a spiculated left hilar mass. What would be the expected respiratory findings over the abnormal area?

1- Monophonic wheeze

2- Hyper-resonance

**3- Whispering pectoriloquy**

4- Polyphonic wheeze

5- Inspiratory crackles

Q2688. A 62-year-old man who had previously undergone treatment for tuberculosis some 8 years ago presents via his GP complaining of haemoptysis. He also says that over the past 3 months he has suffered night sweats on a few occasions each week and a chronic cough. He smokes 10 cigarettes oer day. On examination he is mildly pyrexial 37.4°C and his BP is 142/89 mmHg. Auscultation of the chest reveals evidence of consolidation affecting the right upper lobe. Investigations; Hb 11.9 g/dl WCC 11.1 x 109 /L PLT 190 x 109 /L Na+ 138 mmol/l K+ 4.8 mmol/l Creatinine 105 μmol/l CXR Right upper lobe cavitating lesion Aspergillus precipitins+ve Which of the following is the most likely diagnosis?

1- Allergic bronchopulmonary aspergillosis

**2- Aspergilloma**

3- Invasive aspergillosis

4- Reactivated tuberculosis

5- Lung cancer

Q2689. A 50-year-old retired boiler man with shortness of breath comes to the clinic. The GP wonders if he has obstructive lung disease and the man arrives with his spirometry results. They are shown below. Investigations; FEV1 1.86 (predicted 3.0) FVC 2.5 (predicted 2.8) Post salbutamol FEV1 2.0 FVC 2.7 Transfer factor55% Which of the following is the most likely diagnosis?

1- Asthma

**2- Emphysema**

3- Pulmonary fibrosis

4- Pulmonary embolism

5- Asbestos related pleural plaque disease

Q2690. A 71-year-old man who has a 40 pack year smoking history presents to the GP with shortness of breath and bilateral ankle swelling. On examination he has a BP of 145/90 mmHg, a plethoric face and bilateral coarse wheeze on auscultation of the chest. There is pitting oedema affecting both ankles. Which of the following has proven mortality benefit in this condition?

1- Digoxin

**2- Long term oxygen therapy (LTOT)**

3- Bisoprolol

4- Ramipril

5- Ipratropium

Q2691. An anxious 22-year-old woman presented with mild shortness of breath on exertion that had come on gradually over months. Her symptoms are intermittent, but worse in the evening, and her speech becomes slurred during the episodes. She has recently started on treatment for anxiety. On examination she looked depressed but there were no other positive clinical findings. Other than an ESR of 26, her routine blood results were normal. Chest X-ray, lung function tests and ECG were all normal. What is the most likely diagnosis?

1- Unstable angina

2- Eaton-Lambert syndrome

**3- Myasthenia gravis**

4- Somatisation disorder

5- TIA

Q2692. What is the most common cause of haemoptysis?

**1- Infective exacerbation of COPD**

2- Pulmonary infarction

3- Tuberculosis

4- Goodpasture's syndrome

5- Bronchial carcinoma

Q2693. A 46-year-male accompanied by his partner came to the clinic. She complained that he has become lethargic, increasingly sleepy in the daytime, has a headache in the morning and some degree of impairment of intellectual ability. He has a BMI of 34, smokes 20 cigarettes per day and about 30 units of alcohol per week. No significant past history and drug history is present. Other than a slightly lower air entry in both lungs, there was no other significant finding on examination. Chest X-ray showed emphysema. Arterial blood gas results were: pH 7.41, pa(O2) 9.8, pa(CO2) 5.8. Which investigation would you next perform to obtain the correct diagnosis?

1- Lung function test

2- Thyroid function test

**3- Polysomnographic studies**

4- Echocardiography

5- CT scan brain

Q2694. In which of the following emergency medical presentations is non-invasive ventilation an established treatment?

1- Tension pneumothorax

2- Acute asthma

**3- Acute exacerbation of COPD with Type 2 respiratory failure**

4- ARDS

5- Pulmonary oedema with hypertension

Q2695. A 49-year-old homosexual accountant came to the clinic with increased breathlessness. He had began to become wheezy after a tooth extraction procedure 5 months ago and also had an associated troublesome cough. He used to smoke 15 cigarettes per day but gave up smoking about 2 months ago. Salbutamol and beclometasone inhalers poorly controlled his symptoms. Recently he had been unwell: he had had a fever and had lost about 3.2 kg (7 lb.) in weight. There was no history of recent foreign travel and no significant past illness. On examination, he had a temperature of 37.2°C and occasional rhonchi on both sides. Tests showed: Hb 14.6 g/dl, WBC 10.2 x 109 /L (neutrophils 53%, lymphocytes 30%, raised eosinophils noted) , ESR 110 mm in first hour; normal U&E; normal urine dipstick. Chest X-ray showed extensive symmetrical homogenous shadowing affecting all the peripheral lung field. A skin test for inhaled antigens, including Aspergillus fumigatus , was negative. His serum IgE was normal. A serological screen for parasitic infection was negative. Pulmonary function was within normal limits. Oxygen saturations are 97% and there is no desaturation on exercise. What is the probable diagnosis?

1- Pneumocystis pneumonia

2- Loffler's syndrome

3- Asthma

**4- Cryptogenic pulmonary eosinophilia**

5- Churg-Strauss Syndrome

Q2696. A 60-year-old hairdresser complains that, after an attack of flu last year, she has been more breathless than usual when taking her evening walk, and has also felt short of breath when climbing the stairs. She has become concerned that she has a cardiac problem. She has lost about 6.4 kg (14 lbs) during the last year. She has smoked 20 cigarettes per day for 45 years but does not drink alcohol. Other than an occasional paracetamol for her headache, she is on no regular medication. On examination she was apyrexic and had bilateral clubbing. No lymphadenopathy was seen. Her JVP was not raised and heart sounds were normal. Bibasal inspiratory crepts were audible. No pedal oedema was seen. Bilateral reticular shadowing, mostly on the bases, was seen on chest X-ray. Routine bloods were normal, except for an ESR of 35 mm in the first hour. Her HRCT showed peripheral reticular ground-glass opacification, best seen in the basal region. Respiratory function test showed restrictive ventilatory defect. Bronchoalveolar lavage showed an increased number of cells - neutrophils and macrophages - but no malignant cells. An open-lung biopsy showed an exudate of intra-alveolar macrophages with patchy interstitial fibrosis. What is the likely diagnosis?

**1- Idiopathic pulmonary fibrosis**

2- Extrinsic alveolitis

3- Lymphangitis carcinomatosis

4- Chronic left heart failure

5- Sarcoidosis

Q2697. Which of the following statements applies to the epidemiology and characteristic presentation of bronchial asthma?

1- The associated mortality rate has increased during the past three decades

2- The incidence is higher in males than females

3- Adults typically present with nocturnal cough as an isolated symptom

**4- Bronchial hyper-reactivity is strongly associated with atopy**

5- Chronic asthma may decrease bone age by

Q2698. A 26-year-old office secretary who smokes 10- 15 cigarettes per day presented in the clinic after a couple of episodes of haemoptysis. She also said that she had felt tired recently and gave a history of treatment for an upper respiratory tract infection a couple of months ago. According to her she never fully recovered from the episode and had been persistently coughing ever since. On examination she looked pale, had minimal pedal oedema and diffused crepitations on chest auscultation. Her urine was positive for protein and blood. FBC showed anaemia, ANCA proved positive and the chest X-ray showed blotchy shadows over the lung field. What is your probable diagnosis?

1- Pulmonary tuberculosis

2- Bronchogenic carcinoma

3- Sarcoidosis

**4- Goodpasture's syndrome**

5- Wegener's granulomatosis

Q2699. A breathless 70-year-old smoker presents with the following lung function tests: FEV1 1.5 l (60%) FVC 1.8 l (55%) FEV1/FVC ratio = 84% TLC = 66% predicted RV = 57% predicted TLCO = 55% predicted KCO = 60% predicted What is the most likely diagnosis in this case?

1- Emphysema

2- Anaemia

**3- Fibrosing alveolitis**

4- Asthma

5- Obesity

Q2700. A 69-year-old woman with rheumatoid arthritis is referred with a history of recurrent chest infections, intermittent wheeze and production of half an eggcup-full of phlegm daily, on occasions with a streak of blood. She is a retired secretary and has never smoked. On examination she had coarse crepitations on both the bases. What is the most likely diagnosis?

1- Chronic bronchitis

2- Diffuse interstitial lung fibrosis

3- Carcinoma of the lung

4- Tuberculosis

**5- Bronchiectasis**

Q2701. You are asked to see a newly diagnosed asthmatic woman who is eight weeks' pregnant. She is not on any treatment at the moment. Her PEFR diary shows wide diurnal variations and she also gives a past history of eczema. Which of the following is true?

1- Short-acting β-agonists are contraindicated during the first trimester

2- Inhaled steroids are associated with major congenital deformities

3- A leukotriene-receptor antagonist is the first-line treatment

**4- Theophyllines are safe during pregnancy**

5- Steroid tablets are teratogenic

Q2702. A 69-year-old woman with rheumatoid arthritis is referred with a history of recurrent chest infections, intermittent wheeze and production of half an eggcup-full of phlegm daily, on occasions with a streak of blood. She is a retired secretary and has never smoked. On examination she had coarse crepitations on both the bases. What is the most likely diagnosis?

1- Chronic bronchitis

2- Diffuse interstitial lung fibrosis

3- Carcinoma of the lung

4- Tuberculosis

**5- Bronchiectasis**

Q2703. A 27-year-old woman presented in A&E with a 2-week history of haemoptysis and a 3-day history of red-coloured urine. She had a similar problem 2 years ago but recovered fully. She looked pale and was tachycardic, her pulse was 128 and regular and her BP was 150/96 mmHg. Bilateral crackles were present on auscultation. Laboratory testing gave the following results: Hb, 7.5 g/dl; WBC, 13 x 106 /l; Platelets, 480 x 106 /l; Clotting, normal; Na, 140 mmol/l; K, 6.7 mmol/l; Urea, 46 mmol/l; Creatinine, 650 mmol/l. Urine showed blood and protein. The chest Xray showed patchy interstitial shadowing in both lung fields. What is the probable diagnosis?

1- Goodpasture's syndrome

**2- Microscopic polyangiitis**

3- Wegener's granulomatosis

4- PAN

5- Tuberculosis

Q2704. A 56-year-old retired man who smoked was diagnosed with smear-positive mycobacterium tuberculosis. He used to work as a stonemason. If there is an increased occupational risk of getting the infection, what is the cause?

1- Pneumoconiosis

2- Asbestosis

**3- Silicosis**

4- Lead poisoning

5- Berylliosis

Q2705. In which of the following respiratory disease is clubbing not a feature?

1- Asbestosis

2- Fibrosing alveolitis

3- Lung abscess

**4- Bronchitis**

5- Bronchial carcinoma

Q2706. Which of the following statements applies to patients with cystic fibrosis (CF)?

1- Neonatal screening for CF results in a better survival rate and reduced decline in lung function

**2- Allergic bronchopulmonary aspergillosis is a recognised complication, found in 15% of adult CF patients**

3- The controlled intake of high-calorie food is the first line of management for patients with CF-related diabetes

4- Reduced body mass index is an absolute contraindication for heart-lung transplantation

5- A correlation exists between genotype and

Q2707. An anxious, 25-year-old saleswoman presented with mild shortness of breath on exertion, which had come on gradually over several months. The symptom was intermittent and seemed to get worse in the evening. She has also been on treatment for depression over the last 2 months. On examination she has minimal weakness of shoulder abductors and slight weakness of eye closure bilaterally. Deep tendon reflexes are present and symmetrical throughout and plantars responses are flexor. You now have the results of the investigations: bloods, normal; chest X-ray and lung function tests, normal; ECG, normal. What is the likely diagnosis?

1- Angina

2- Eaton–Lambert syndrome

**3- Myasthenia gravis**

4- Somatisation disorder

5- TIA

Q2708. A 51-year-old-life-long smoker, who has worked for many years in a shipyard presents with a few months history of increasing breathlessness. On examination he has a BP of 145/85 mmHg and a pulse of 75/minute; his BMI is 31 and he also appears to have finger clubbing. Auscultation of the chest reveals bibasal inspiratory crackles. CXR is reported as showing evidence of pleural plaques Pulmonary function testing reveals a mixed obstructive/restrictive picture Which of the following is the most likely cause of his breathlessness?

1- COPD

2- Obesity

3- Asbestos related pleural plaques

**4- Asbestosis**

5- Idiopathic pulmonary fibrosis

Q2709. A 26-year female iv drug user presents with a productive cough and fever of 2-3 days' duration She had flu last week. Other than a leucocytosis and high CRP, her blood results are normal. A chest X-ray shows bilateral cavitating pneumonia. What is the most probable cause of her pneumonia?

1- Pneumococcal pneumonia

**2- Staphylococcal pneumonia**

3- Pneumocystis jiroveci pneumonia

4- Klebsiella pneumonia

5- Fungal pneumonia

Q2710. A 62-year-old smoker with a 2-day history of cough and fever is admitted with a diagnosis of left-sided pneumonia and leftsided pleural effusion up to the sixth intercostal space. Pleural fluid is aspirated and sent for tests. Which of the following is an indication for inserting a chest drain?

1- Blood-stained pleural fluid

**2- Pleural fluid pH < 7.2**

3- Serous pleural fluid

4- Pleural fluid lactate dehydrogenase > 200 IU/l

5- Pleural fluid glucose > 2 mmol/l

Q2711. A 75-year-old man with a BMI of 31 presents with a history of worsening breathlessness and cough of about 1-week duration. He is a smoker and still smoked 20 cigarettes per day until he became ill this time. His arterial blood gases in room air are as follows: pH 7.24, pa(O2) 6.2 kPa, pa(CO2) 9.8 kPa, bicarbonate 33 mmol/l. Which of the following is the most likely diagnosis?

1- Pulmonary embolus

2- Acute asthma

3- Obstructive sleep apnoea (OSA)

**4- Acute exacerbation of chronic obstructive pulmonary disease (COPD)**

5- Pulmonary oedema

Q2712. A 35-year-old woman complains of a painful rash on her legs. She also gives a three-month history of dyspnoea on exertion. Her doctor arranged for her to have a chest X-ray and this shows bilateral hilar prominence. Examination of her legs reveals a purplish-red, nodular tender rash on her shins. Apart from few bibasal crepitations on auscultation, systemic examination is normal. A pulmonary function test shows a mildly impaired DLCO. Which one of the following is the best investigation to confirm the diagnosis?

1- Sputum microscopy and culture

**2- High-resolution CT scan of the thorax**

3- Open lung biopsy

4- Kveim test

5- Serum ACE level

Q2713. A 72-year-old woman is admitted with a sudden-onset, left-sided pleuritic chest pain with shortness of breath. She is being treated for asthma, which has been well controlled on a low dose of inhaled corticosteroids and longacting β-agonist. She underwent left hemiarthroplasty 12 days ago, and was discharged as she was doing well. Her chest is clear on auscultation. She is tachycardic (132 beats/min) and an ECG shows sinus tachycardia. Her peak expiratory flow (PEF) rate is 300 l/min (best 400 l/min). Arterial blood gases are as follows: pH 7.34, pa(O2) 7.6 kPa, pa(CO2) 3.5 kPa. She is started on oxygen. A chest radiograph is normal. What would be the most appropriate immediate action taken by you as a medical SHO?

1- Start nebulised bronchodilators and monitor PEF rate

2- Request D-dimers urgently

3- Start low molecular weight heparin suspecting PE, and request a V/Q scan

**4- Start low molecular weight heparin suspecting PE, and request CT pulmonary angiography**

5- Request a chest radiograph in expiration

Q2714. A 50-year-old smoker was diagnosed with a non-small-cell carcinoma. Investigation revealed the presence of a 4 cm x 3 cm x 2 cm tumour on the left side in the lower lobe of his lung that has invaded the visceral pleura. The ipsilateral hilar lymph node is also involved, but there is no metastatic involvement of any distal organ. What is the stage of disease in this patient?

1- T4 N0 M0

2- T2 N0 M0

**3- T2 N1 M0**

4- T3 N1 M0

5- T4 N1 M0

Q2715. A 72-year-old woman is admitted with an infective exacerbation of chronic obstructive pulmonary disease (COPD). On admission her blood gases taken while breathing 28% oxygen are as follows: pH 7.31, p(O2) 7.9 kPa, p(CO2) 7.5 kPa. Which of the following best describes the blood gas picture?

1- Compensated type-1 respiratory failure

2- Compensated type-2 respiratory failure

3- Decompensated type-1 respiratory failure

**4- Decompensated type-2 respiratory failure**

5- Partially compensated respiratory alkalosis

Q2716. A 64-year-old woman is referred to the medical team from the orthopaedic ward. She underwent a right total-hip replacement six days ago. She is known to suffer from mild COAD and is on regular inhaled steroids and a short-acting β-agonist. She now complains of left-sided chest pain and is also dyspnoeic. Your clinical diagnosis is pulmonary embolism (PE). Which one of the following would NOT be a feature of PE in this patient?

1- Dyspnoea

2- Tachypnoea

3- New-onset atrial fibrillation

4- Fever

**5- Bradycardia**

Q2717. A 25-year-old male patient with cystic fibrosis is to undergo lung transplantation. Which of the following is NOT true about the lung transplant in this patient?

1- Donor-selection parameters include age under 40 years

2- Donor's chest measurements should be slightly smaller than those of the recipient

3- It is essential to match for the ABO blood group

4- Matching for the rhesus blood group compatibility is not essential

**5- A single lung transplant is preferred to**

Q2718. A 76-year-old woman, who is generally fit, self-caring and independent, is admitted with an acute COPD exacerbation. She has been put on bronchodilator therapy. One hour after admission she remains distressed with a respiratory rate of 30/minute and is peripherally cyanosed. Repeated arterial blood gases show a severe respiratory acidosis. The report of her latest arterial blood gas is: pH 7.252, pa(O2) 6.5, pa(CO2) 9.8. She is on 28% O2. She is becoming exhausted and her oxygen saturation is 76%. The on-call anaesthetist says there are no intensive-care beds available for mechanical ventilation. Which of the following management options is correct for a patient in such a situation?

1- Continue with bronchodilator therapy and arrange repeat arterial gases in an hour's time

**2- Arrange for non-invasive, positive-pressure ventilation**

3- Transfer her to another hospital with a mechanical ventilation facility

4- Give an intravenous infusion of aminophylline

5- Intubate the patient at the bedside and

Q2719. Which of the following is not a common symptom of lung cancer on presentation?

1- Cough

2- Chest pain

3- Cough and chest pain

4- Coughing blood

**5- Shortness of breath**

Q2720. A 48-year-old mechanic presented to the clinic complaining of increasing shortness of breath over the last 3 months, but with no symptoms of cough. There was no recent history of chest trauma. He smokes 20-25 cigarettes per day and two cans of beer every day. His brother recently died of stomach cancer and he was quite concerned about his problem. Clinically, he had a large pleural effusion on his left side, which was confirmed on X-ray. On aspiration, a white fluid came out and there was no clear supernatant after centrifugation. Cocholesterol crystals were detected. What is the probable cause of the effusion?

**1- Lymphoma**

2- Tuberculosis

3- Metastatic stomach carcinoma

4- Lymphangioleomyomatosis

5- Yellow-nail syndrome

Q2721. A 42-year-old salesman was admitted with a diagnosis of pneumonia. He is allergic to erythromycin. X-ray shows a hazy opacity in the right lower and mid-zone. Blood investigations show hyponatraemia and slight rise in the level of liver aminotransferase. After starting the medication on the fifth day he became acutely jaundiced and his liver aminotransferase level became very high. He also complained of discoloration of his urine, which did not show haematuria on dipstick testing. Which of the following drugs probably caused the jaundice?

1- Ciprofloxacin

2- Clarithromycin

3- Amoxicillin

**4- Rifampicin**

5- Flucloxacillin

Q2722. Which of the following statements applies to the peak expiratory flow rate?

1- It is a less sensitive parameter for assessing improvement to therapy in patients with acute bronchial asthma

**2- It measures small-airway obstruction**

3- It is more related to age than height

4- Less than 50% of normal is an indication for aminophylline therapy in those with acute asthma

5- It is usually effort-dependent

Q2723. A 35-year-old woman who was previously fit and well presents with breathlessness that has been getting worse over 3 or 4 months. Her sister died a few years ago with a lung disease. On examination, her jugular venous pressure is raised and she has a palpable heave at the left sternal edge. What would be your provisional diagnosis?

**1- Familial primary pulmonary hypertension**

2- Tricuspid regurgitation

3- Chronic pulmonary thromboembolism

4- Constrictive pericarditis

5- Pulmonary venous hypertension

Q2724. A man came in with breathlessness and anterior chest pain. Chest X-ray showed 50% pneumothorax on the right side with midline shift away from teh side of the pneumothorax. His PR was 85 and BP was 110/70. What is the next appropriate management?

**1- Intravenous cannula on the second intercostal space mid-clavicular line**

2- Needle aspiration

3- Chest-drain insertion

4- Repeat CXR after a few hours

5- Chest-drain insertion under radiology

Q2725. An arterial blood sample from a 48-year-old male patient with progressive dyspnoea has an oxygen tension of 8.5 kPa (11.3-12.6), and a carbon dioxide tension of 8.5kPa (4.7-6.0). Given these blood gas results, what is the most likely diagnosis?

1- Pulmonary embolus

2- Aspirin overdose

**3- Ankylosing spondylitis**

4- Viral pneumonitis

5- Lobar pneumonia

Q2726. A 36-year-old woman is under follow up for recurrent pulmonary thrombo-embolic disease. Which of the following features is she most likely to have?

1- Quiet P2

2- Matched ventilation perfusion defect

3- Paroxysmal dyspnoea

4- Increased transfer factor

**5- Widening of the alveolar-arterial (A-a)**

Q2727. A 60-year-old man presents with inspiratory stridor with a chest radiograph that reveals compression of the trachea by a retrosternal goitre. Which of the following investigations is the most useful to assess the severity of his airway obstruction?

**1- Flow/volume loop**

2- Forced expiratory volume

3- Forced vital capacity

4- Peak expiratory flow rate

5- Residual volume

Q2728. You review a 72-year-old man with severe chronic obstructive pulmonary disease (COPD), who asks about the provision of oxygen therapy at home. In which of the following have randomised controlled trials shown that long-term oxygen therapy (LTOT) reduces mortality?

1- Asthma

**2- Cor pulmonale caused by chronic airflow obstruction**

3- Cryptogenic fibrosing alveolitis

4- Cystic fibrosis

5- Pulmonary sarcoidosis

Q2729. An 18-year-old woman presents with an acute exacerbation of asthma associated with a chest infection. She is unable to complete a sentence and her peak flow rate was 35% of her normal level. She is treated with high-flow oxygen, nebulised bronchodilators. and oral corticosteroids, but this is associated with little change in her condition. Which of the following treatments, given intravenously, would be the most appropriate for this patient?

1- Aminophylline

2- Augmentin

3- Hydrocortisone

**4- Magnesium**

5- Salbutamol

Q2730. A 72-year-old farmer presented with a history of massive haemoptysis. He has a 50-year smoking history and takes inhaled long-acting b2-agonists and steroids. Chest X-ray showed a left upper lobe mass that was smooth. Investigation: positive Aspergillus fumigatus precipitin. He was transfused and resuscitated. In the meantime, he had another massive haemoptysis but was maintaining a systolic blood pressure of 145 mmHg. What is the next appropriate management?

1- Lobar resection

**2- Angiography and embolisation**

3- Fluid resuscitation with transfusion

4- Commence amphotericin B therapy

5- Nebulised b -agonist therapy to reduce

Q2731. A 40-year-old man presents with a long history of productive cough breathlessness. He had complained of halitosis, exacerbations that consisted of productive sputum, chest pain, and occasional haemoptysis. Examination in the clinic reveals bilateral inspiratory crackles. Which of following treatments is likely to best decrease the frequency of his exacerbations?

1- Cyclical antibiotic therapy

2- Inhaled corticosteroids

3- Nebulised bronchodilators

**4- Postural drainage**

5- Surgical resection

Q2732. A 72-year-old man with ischaemic heart disease is on a variety of medication following a myocardial infarction 12 months ago, including aspirin, atenolol, lisinopril, amiodarone and furosemide (frusemide). He is becoming progressively breathless and his cardiologist sends him for pulmonary function tests, which show a restrictive ventilatory defect with decreased gas transfer. Which one of his medications is most likely to be the cause of these abnormalities?

1- Aspirin

2- Atenolol

3- Lisinopril

**4- Amiodarone**

5- Furosemide

Q2733. A 49-year-old woman with ulcerative colitis becomes breathless and develops a dry cough. Her pulmonary function tests are shown; ValuePredicted FEV1 1.62.6 FVC 2.73.0 TLC 4.13.7 RV 1.30.8 TLCO 65% pred KCO 62% pred Which of the following pulmonary complications of ulcerative colitis is the most likely explanation?

**1- Bronchiolitis**

2- Interstitial lung disease

3- Pulmonary infiltrates with eosinophilia (PIE Syndrome)

4- Bronchiectasis

5- Cryptogenic organising pneumonia (COP)

Q2734. A 38-year-old man presents with emphysema. He is a non-smoker. He also has abnormal liver function tests, and his liver biopsy reveals evidence of cirrhosis. You suspect alpha-1 antitrypsin deficiency. What is the genotype that fits best with this clinical picture?

1- PiMM

2- PiMZ

3- PiSZ

**4- PiZZ**

5- PiSS

Q2735. A 62-year-old man with a history of smoking has been followed up for breathlessness with productive cough. His spirometry results are as follows: 5 years ago, FEV1/FVC 90%; currently FEV1/FVC 50%. Which of the following is the most appropriate treatment?

**1- Smoking-cessation advice**

2- Start salbutamol

3- Start prednisolone

4- Start inhaled steroids

5- Start inhaled anticholinergics

Q2736. You review a 58-year-old man who has been admitted with pneumonia. He is a heavy smoker, and chest X-ray confirms that he has an obstructing tumour, revealed on bronchoscopy to be a squamous cell carcinoma of the bronchus. Which of the following features would be a contraindication to surgery?

1- FEV1 1.8 litres

2- Paraneoplastic neuropathy

3- Hypercalcaemia

**4- Spread to involve the C8, T1 and T2 nerve roots**

5- Gas transfer reduced by 33%

Q2737. You review a 56-year-old man with chronic obstructive pulmonary disease, who is suffering an acute exacerbation. Which of the following features would suggest suitability for non-invasive ventilation?

1- Profound hypoxia

**2- Hypercapnia without profound hypoxia**

3- Confusion

4- Cryptogenic fibrosing alveolitis

5- Decreased conscious level

Q2738. A 40-year-old farmer’s wife presents to the GP complaining of increasing shortness of breath, worsening cough with mucus plugs and wheeze. She was diagnosed with asthma some years ago and is managed with combination steroid and long acting beta agonist (LABA) therapy. She has used 2 courses of oral corticosteroids in the past 3 months. On examination there is wheeze on auscultation of the chest. Investigations; Hb 13.0 g/dl WCC 7.0 x 109 /L (Increase in eosinophils) PLT 235 x 109 /L IgE increased Skin prick positive for aspergillus Na+ 139 mmol/l K+ 4.2 mmol/l Creatinine 100 μmol/l CXR Scattered pulmonary infiltrates, no focal lesion Which of the following is the most likely diagnosis?

1- Invasive pulmonary aspergillosis

2- Aspergilloma

3- Uncomplicated asthma

**4- Allergic Bronchopulmonary Aspergillosis**

5- Cryptogenic fibrosing alveolitis

Q2739. An 18-year-old woman presents with an acute pulmonary embolism in the ninth week of pregnancy. No obvious factors contributed to the risk of pulmonary embolus. What is the most appropriate treatment for this patient throughout her pregnancy?

1- Aspirin

2- Intravenous unfractionated heparin

**3- Subcutaneous low molecular weight heparin**

4- Subcutaneous unfractionated heparin

5- Warfarin

Q2740. A 45-year-old man who races pigeons becomes breathless. Which of the following features is suggestive of extrinsic allergic alveolitis?

1- Almost immediate onset after exposure

2- Eosinophilia of sputum

3- Positive skinprick testing

4- Type 1 hypersensitivity reaction

**5- Circulating IgG precipitins**

Q2741. Which of the following treatments have been shown to prolong life in patients with COPD?

1- Anticholinergics

2- b2-agonists

3- Inhaled corticosteroids

**4- Long-term oxygen therapy**

5- Lung volume reduction surgery

Q2742. A 64-year-old cigarette smoker presents with increasing breathlessness. Examination confirms basal crackles in the absence of finger clubbing. His CXR shows widespread pleural plaques with additional reticular shadowing at the bases. Lung function tests confirm mild restriction with a low TLCO. Which of the following is likely to be true?

1- Inhaled steroids may prevent disease progression

2- Open lung biopsy is mandatory to establish a histological diagnosis

3- Oral corticosteroids should lead to a significant improvement in lung function

**4- The condition is slowly progressive**

5- The most likely diagnosis is extrinsic allergic

Q2743. A 48-year-old man with hepatitis B is admitted via his GP with a history of breathlessness. He has signs of chronic liver disease and does not want to stay in hospital. His INR is 2.8 and his chest radiograph appears normal. The nurses comment that his oxygen saturation drops from 98% to 91% on room air every time he gets up to leave. What is the most likely diagnosis?

1- Small pneumothorax

2- Aspiration pneumonia

3- Pulmonary embolus

**4- Hepatopulmonary syndrome**

5- Viral pneumonitis

Q2744. A 78-year-old White woman presents with left upper lobe cavitating consolidation and sputum samples confirm the presence of Mycobacterium tuberculosis, which is fully sensitive. There is no previous history of treatment for tuberculosis (TB). The most appropriate antibiotic regimen is?

1- Bacillus Calmette-Guerin (BCG) vaccination

2- Rifampicin/clarithromycin 12 months

3- Rifampicin/ethambutol 12 months

**4- Rifampicin/isoniazid/pyrazinamide/ethamb utol 2 months then rifampicin/isoniazid 4 months**

5- Rifampicin/isoniazid/pyrazinamide 4

Q2745. A 48-year-old woman presents with a pleural effusion. You perform a diagnostic pleural aspiration. Which of the following is true regarding the results that you receive from the laboratory?

1- Low levels of salivary amylase suggest oesophageal rupture

2- Heavy blood staining effectively excludes pulmonary embolic disease

3- The presence of antinuclear factor is virtually diagnostic of scleroderma

4- High glucose levels occur in rheumatoid arthritis

**5- An eosinophilia makes malignancy less**

Q2746. A 28-year-old woman presents to Accident and Emergency with an acute asthmatic attack. Which of the following lung function abnormalities is she likely to have?

**1- Increased residual volume**

2- Increased forced expiratory ratio

3- Increased forced vital capacity

4- Increased airway conductance

5- Increased gas transfer factor

Q2747. A 29-year-old breathless Afro-Caribbean woman is referred by the ophthalmologists with anterior uveitis and a suspected diagnosis of sarcoidosis. Which of the following clinical features is most strongly associated with sarcoidosis?

1- Obstructive defect on spirometry

2- A slowly worsening picture of breathlessness with no periods of improvement

3- Bronchoalveolar lavage shows an eosinophilia

4- Positive Mantoux test

**5- Decreased gas transfer factor (TLCO) with**

Q2748. A 64-year-old man is brought to the Accident and Emergency Department by his wife with drowsiness and confusion. He has a history of COPD and attends the chest clinic. He had been commenced on antibiotics by his general practitioner 2 days earlier for an exacerbation of his COPD. Which of the following blood gases (on 2 litres O2/min) fit best with this mans condition?

1- pH 7.14 pa(CO2) 7.3pa(O2) 9.1 bicarbonate 14

**2- pH 7.24 pa(CO2) 9.3 pa(O2) 8.1 bicarbonate 34**

3- pH 7.38 pa(CO2) 8.3pa(O2) 8.1 bicarbonate 38

4- pH 7.38 pa(CO2) 5.3 pa(O2) 8.1 bicarbonate 30

5- pH 7.54 pa(CO2) 3.3 pa(O2) 9.1 bicarbonate

Q2749. A 58-year-old man is referred by his GP with probable obstructive sleep apnoea (OSA). Which of the following features is most strongly associated with OSA?

1- Normal blood pressure

2- Normal oxygen saturations at night

3- Epworth sleepiness score of 6

4- Body mass index of 26

**5- Daytime somnolence**

Q2750. The parents (both cystic fibrosis gene carriers) of a child with cystic fibrosis (CF) come to see you for advice after reading about CF on the Internet. Which of the following bits of information from their Internet printout is correct?

1- The gene defect is a mutation on chromosome 6

2- There is evidence of pulmonary disease at birth

3- <50% of patients survive to adulthood

**4- Burkholderia cepacia is a significant pathogen**

5- Probability of a further child being affected

Q2751. Which of the following investigations is most specific to allergic bronchopulmonary aspergillosis (ABPA)?

1- Positive history of exposure to Aspergillus

**2- An early positive skinprick test for Aspergillus fumigatus**

3- CT evidence of proximal bronchiectasis

4- Positive precipitins for Aspergillus

5- Upper zone fibrosis

Q2752. An elderly gentleman with a history of atrial fibrillation and cardiac failure presents to the chest clinic with increasing effort breathlessness. A CXR shows bilateral upper lobe fibrosis. Which of the following is the most likely diagnosis?

1- Asbestosis

2- Bronchopneumonia

3- Multiple pulmonary emboli

**4- Sarcoidosis**

5- Worsening cardiac failure

Q2753. A 34-year-old woman, who is a non-smoker, is found to have moderate hypoxaemia on blood gases with a pa(O2) of 7.9 kPa. Lung function tests confirm normal lung volumes but a reduced TLCO at 45% of predicted. The most likely cause for this is:

**1- Pulmonary AV malformation**

2- Acute asthma

3- Emphysema

4- Goodpasture's syndrome

5- Polycythaemia

Q2754. A patient from a chemical factory presents with cough and is found to have lung carcinoma. He was quite sure that it was work-related. What is the most likely cause?

1- Coal dust

**2- Isocyanates**

3- Polyvinyl chloride

4- Passive smoking

5- Aromatic amines

Q2755. Which of the following statements fits best with α1-antitrypsin (AAT) deficiency?

1- AAT deficiency is never associated with asthma and bronchiectasis

**2- AAT is an autosomal co-dominant condition**

3- Emphysema with a late presentation is the major respiratory complication

4- Severe deficiency affects the lungs and kidney predominantly

5- The main function of AAT is to neutralise

Q2756. A 54-year-old man with a 40 pack year smoking history presents to the clinic complaining of a chronic cough and haemoptysis. He has lost 4kg in weight recently. He has an abnormal chest x-ray consistent with bronchial carcinoma. Investigations: Hb 11.0 g/dl WCC 6.1 x 109 /L PLT 352 x 109 /L ESR 65 mm/hr Na+ 132 mmol/l K+ 3.9 mmol/l Creatinine 130 μmol/l Bronchoscopy with transbronchial biopsy reveals adenocarcinoma of the bronchus You arrange a CT thorax. Which of the following would tend to rule out the possibility of a surgical cure?

1- FEV1 1.6

2- Superior vena caval obstruction

**3- Malignant pleural effusion**

4- Ipisilateral mediastinal lymph node involvement

5- Horner’s syndrome

Q2757. A 67-year-old man consults his doctor complaining of a painful mouth and increasing dysphagia. He has a past history of smoking and has chronic pulmonary disease (COPD). Medication history includes use of fluticasone/salmeterol combination inhaler and omeprazole for indigestion. On examination he has a body mass index (BMI) of 29 and looks well. There is extensive stomatitis and pharyngitis on examination of the oropharynx, with white plaques on examination of the tongue. Full blood count, U&E, liver function test (LFT) and viscosity are normal. Which of the following would be the most appropriate management in this case?

1- Arrange urgent upper gastrointestinal (GI) endoscopy

2- Arrange urgent barium swallow

3- Stop his inhaled steroids

**4- Advise him to rinse the mouth each time he uses his inhaler and use a spacer device**

5- Increase his dose of omeprazole

Q2758. A 29-year-old woman is admitted complaining of intermittent pleuritic chest pain and shortness of breath. She is using the oral contraceptive pill. Other past history of note includes recent separation from a violent man partner and a recent attack of shingles, which has now resolved. On examination her pulse is 74/min and regular, with blood pressure of 124/72 mmHg. Saturations are 98% on air and she does not de-saturate on exercise. Arterial blood gasses reveal: • pH 7.48 • pa(O2) 11.1 kPa • pa(CO2) 3.1 kPa • D-dimers are negative • free thyroxine (T4) is 17.1 pmol/l (10-22) • chest X-ray is unremarkable Which of the following represents the most likely diagnosis in this case?

1- Hyperthyroidism

2- Chronic thrombo-embolic disease

3- Chickenpox pneumonitis

**4- Hyperventilation syndrome**

5- Diffuse interstitial lung disease

Q2759. You are asked to see a 57-year-old smoker, who complains of shortness of breath some 7 days after a total hip replacement. On examination he is obese and has a swollen left leg, and he is visibly short of breath. There appears to be increased prominence of vascular markings at the right hilum on chest X-ray. His calculated alveolar-arterial (A-a) gradient is 4.5 kPa. Which of the following fits best with his diagnosis?

1- Postoperative pneumonia

**2- Pulmonary embolus**

3- Hyperventilation syndrome

4- Atelectasis

5- Pneumothorax

Q2760. A 42-year-old man presents to his GP with symptoms of lower respiratory tract infection. This fails to clear after 2 weeks of oral antibiotics and unfortunately chest X-ray reveals a suspicious mass in the central region of the right lung. At bronchoscopy the tumour is noted to be particularly vascular. Histology reveals small polygonal cells with a finely granular eosinophilic cytoplasm, and the nuclei are small and round. There is no evidence of tumour metastasis. Which of the following represents the most likely diagnosis in this case?

1- Small-cell carcinoma of the bronchus

**2- Carcinoid tumour of the bronchus**

3- Squamous-cell carcinoma of the bronchus

4- Alveolar carcinoma

5- Adenocarcinoma of the bronchus

Q2761. A 36-year-old man attends with his wife for review at the GP surgery. His wife complains that he snores excessively, regularly stops breathing during the night and now has a habit of falling asleep in the daytime, sometimes even in the middle of a conversation. He is noted to have a neck collar size of 18 inches. To which of the following conditions does his underlying problem predispose?

1- Hypotension

2- Osteomalacia

**3- Stroke**

4- Osteoporosis

5- Hypoglycaemia

Q2762. An obese man with history of hypertension presented with history of daytime sleepiness, abrupt onset and associated vivid dreams. His wife says he is restless at night and snores occasionally. What is the diagnosis?

**1- Obstructive sleep apnoea**

2- Central sleep apnoea

3- Narcolepsy

4- Simple obesity

5- Complex partial seizures

Q2763. You review a 35-year-old woman with progressively increased shortness of breath and lethargy after the birth of her 1st child. You send her for some pulmonary function tests, including measurement of gas transfer. Which of the following gases is usually used for measurement of gas transfer?

1- Carbon dioxide

2- Oxygen

3- Methane

**4- Carbon monoxide**

5- Nitrous oxide

Q2764. An 18-year-old man presents with a gradual onset of pallor, weakness, lethargy, dry cough and occasional haemoptysis. There are no extrapulmonary features. His chest X-ray shows diffuse pulmonary infiltrates. Lung biopsy shows no vasculitic changes and no evidence of immunoglobulin or complement deposition. His gas transfer factor (TLCO) is found to be elevated. What is the most likely diagnosis?

1- Goodpasture’s syndrome

**2- Idiopathic pulmonary haemosiderosis**

3- Wegener’s granulomatosis

4- Beçhet's Disease

5- Systemic lupus erythematosus

Q2765. Which of the following relates to exacerbation of chronic bronchitis in patients with COPD?

**1- Moraxella catarrhalis is commonly isolated on culture**

2- Clinical symptoms are usually severe

3- An elevated white cell count indicates exacerbation

4- Trimethoprim-sulfamethoxazole combinations are effective in the treatment of M. catarrhalis infection

5- Gram's stain is inconclusive and blood

Q2766. A 71-year-old woman with a 30 pack year history of smoking presents with rapidly worsening shortness of breath. Her daughter has brought her to the hospital and is concerned as despite having antibiotics from the GP her cough has worsened and she now seems very tired and lethargic. Normal medication includes salbutamol and atrovent inhalers. On examination she looks weary and has a cough productive of yellow green sputum, there are coarse crackles and wheeze on auscultation of the chest. Her blood gases on 28% O2: pH 7.25 pO2 7.4kPa (11.3-12.6) pCO2 8.9kPa (4.7-6.0) HCO3- 35mmol/l (20-28) BE +9 What is the next most appropriate management step?

**1- Non-invasive ventilation**

2- Intubation and ventilation

3- IV doxapram

4- Increase inspired oxygen

5- Decrease inspired oxygen

Q2767. A 48-year-old non-smoking lady with asthma managed with seretide 50 2 puffs BD and a BMI of 35 presents with 3 months progressive shortness of breath. Her lung function tests are as follows: FEV1 2.2 (87% predicted) Post salbutamol 2.3 FVC 3.4 (82% predicted) Post salbutamol 3.5 Transfer coefficient 55% What is the most likely diagnosis?

**1- Pulmonary Embolism**

2- Asthma

3- Alveolar haemorrhage

4- Obesity

5- Chronic obstructive pulmonary disease

Q2768. A 19-year-old woman has recently started work as an apprentice in a carpentry factory. She reports cough and wheeze which worsens as the working week progresses. Unusually though, she seemed free of symptoms when she joined some friends on a week's holiday to Spain, and certainly she is better at weekends. Her peak flow in the GP surgery is 450 (predicted 510). You suspect that she may have occupational asthma; which of the following is the most appropriate way to diagnose it?

1- Trial of 30mg prednisolone PO for 1 week

2- Outpatient spirometry

**3- Peak flow diary**

4- Trial of salbutamol inhaler

5- Patch testing

Q2769. A 40-year-old obese lady with a history of asthma presents with progressive breathlessness. On examination she is has a raised JVP, ankle oedema, right parasternal heave and a murmur consistent with tricuspid regurgitation. Chest auscultation is clear. You understand from her husband that she has suffered progressively worsening symptoms over the past year, he has noticed that she has had particular problems with snoring and stopping breathing at night since he met her. ABG results; pH 7.39 pO2 7.3kPa (11.3-12.6) pCO2 3.9kPa (4.7-6.0) What is the most likely diagnosis?

1- Primary pulmonary hypertension

2- Chronic asthma

**3- Secondary pulmonary hypertension**

4- Atrial septal defect

5- Pulmonary fibrosis

Q2770. A 22-year-old student attends the clinic for his 6-week check after admission with pneumonia. Which of the following complications of pneumonia is most likely to be a chronic rather than an acute complication of the infective process?

**1- Bronchiectasis**

2- Bronchopleural fistula

3- Empyema

4- Lung abscess

5- Organising pneumonia

Q2771. You review a 71-year-old former boilermaker. He has suffered increasing shortness of breath and vague right sided chest pain over the past few months. He has a history of smoking 30 cigarettes per day for 30 years. On examination he appears to have a large right sided pleural effusion. This is confirmed on chest x-ray. Pleural fluid evaluation reveals this to be an exudate and you suspect an underlying mesothelioma. Which of the following fit best with the pathophysiology of mesothelioma?

1- Cigarette smoking is a known primary risk factor

2- Simian SV 40 is the most common cause

**3- Loss of one copy of chromosome 22 is the most common karyotypic change in mesothelioma cell lines**

4- Drainage of pleural effusion is never associated with tumour seeding along the track

5- Surgical cure is possible in 30% of cases

Q2772. A 40-year-old male complains of increasing shortness of breath, his chest X-ray shows an elevated hemidiaphragm on the left side, no other abnormalities are seen. What is the most likely investigation to elucidate the underlying mechanism behind his presentation?

1- CT Thorax

2- Magnetic resonance imaging (MRI) scan

3- Echocardiography

**4- Fluoroscopy**

5- Electrocardiogram (ECG)

Q2773. Which cell type produces surfactant?

1- Alveolar macrophage

2- Endothelial cell

3- Goblet cell

4- Type I pneumocyte

**5- Type II pneumocyte**

Q2774. Which of the following is a poor prognostic factor in patients suffering from pneumonia?

1- White cell count (WCC) 17 x 109 /l

2- Blood pressure 110/70mmHg

**3- Respiratory rate 35/min**

4- Rigors

5- Temperature 39°C

Q2775. Surgical resection in carcinoma of the lung is absolutely contraindicated in the presence of which one of the following?

1- Adenocarcinoma

**2- Forced expiratory volume in 1 s (FEV1) 25% of predicted**

3- Pulmonary artery involvment

4- Ischaemic heart disease

5- Superior vena cava obstruction

Q2776. A 46-year-old woman is admitted to hospital with a left basal, community-acquired pneumonia. She is on the appropriate antibiotics. She is still pyrexial four days after admission and a chest X-ray confirms a left pleural effusion. The house officer has performed a diagnostic tap. Which of the following is an indication to insert a chest drain?

1- Pleural fluid protein level more than 50% of serum protein level

2- Pleural fluid LDH more than 60% of serum LDH

3- Haemorrhagic pleural fluid

**4- Pleural fluid pH < 7.2**

5- Pleural fluid glucose < 1.6 mmol/l

Q2777. What are the indications for home oxygen?

1- Low forced expiratory colume in 1 s (FEV1)

2- Low p(CO2)

**3- Cor pulmonale**

4- Low p(O2) during exacerbations

5- Ischaemic heart disease

Q2778. A homeless alcoholic has been admitted to hospital with increasing shortness of breath, sweats and purulent sputum. His casualty records indicate that he was admitted in an unconscious state a few days ago but selfdischarged when he woke up. On examination there is pyrexia and dullness at the apex associated with bronchial breathing. His chest X-ray shows right upper lobe consolidation. What is the most likely cause?

**1- Aspiration**

2- Chlamydia

3- Legionella

4- Mycoplasma

5- Tuberculosis

Q2779. A 68-year-old man who has a long history of smoking presents to the Emergency Department with worsening shortness of breath. His general health has deteriorated over the past few months and recently he has been prescribed a salbutamol inhaler by his GP for cough and wheezing, particularly on exercise and at night. On examination in the Emergency Department he is lip pursing and has considerable wheeze on auscultation of the chest. He is pyrexial at 37.8°C and has purulent sputum. He can only manage a peak flow of 150 l/min. Arterial blood gas sampling reveals a pa(O2) of 7.2 kPa. Which of the following would be the most appropriate choice for antibiotic therapy in this man?

**1- Clarithromycin 500 mg po bd**

2- Penicillin V 500 mg po qds

3- Metronidazole 500 mg po tds

4- Cefotaxime 1 g iv tds

5- Ciprofloxacin 500 mg po bd

Q2780. Surgical resection in carcinoma of the lung is contraindicated in the presence of which one of the following?

1- Adenocarcinoma

**2- Forced expiratory volume in 1s (FEV1) = 1.4 l**

3- Mediastinal lymph nodes < 1cm diameter

4- Paraneoplastic syndrome

5- Severe pulmonary hypertension

Q2781. Which of the following is a feature in acute exacerbation of chronic bronchitis?

1- Respiratory acidosis is associated with a lowering of bicarbonate levels

2- Exacerbation is usually due to anaerobic infection

3- Aminophylline/theophylline combinations form the first line of management

**4- An extensor-plantar response is common**

5- Oxygen therapy should be continued until

Q2782. A 40-year-old male complains of increasing shortness of breath, his chest X-ray shows an elevated hemidiaphragm on the left side. Which feature shows the sniff test?

1- Decreased vital capacity in a supine position

2- Decreased vital capacity while standing

**3- Paradoxical hemidiaphragm movement**

4- Decreased transfer coefficient (Kco)

5- Increased transfer coefficient (Kco)

Q2783. A 42-year-old patient was diagnosed with mediastinal tuberculosis 3 weeks ago and commenced on treatment. He presents with worsening breathlessness and stridor. His chest X-ray shows mediastinal lymph nodes compressing the carina area, whilst he is distressed he is alert and orientated and maintaining his oxygenation. What is the next step in the investigation and/or management?

**1- Urgent computed tomography (CT) scan**

2- Tracheostomy

3- Hydrocortisone

4- Ethambutol

5- Broad spectrum antibiotics

Q2784. A patient presents with shortness of breath. His transfer coefficient (KCO) is 160% of predicted. What is the most likely cause?

1- Fibrosing alveolitis

2- Asthma

**3- Pulmonary haemorrhage**

4- Pulmonary embolus

5- Pneumonia

Q2785. In which pulmonary disease is the alveolar structure preserved?

**1- Asthma**

2- Pneumonia

3- Pulmonary fibrosis

4- Allergic alveolitis

5- Toxic alveolitis

Q2786. You are asked to see a 32-year-old immigrant who complains of chronic cough and weight loss over the past few months. Examination of sputum reveals acid and alcohol fast bacilli (AAFBs) and tuberculosis is confirmed. You elect to begin treatment with isoniazid, rifampicin, ethambutol and pyrazinamide as he is from an area where high levels of drug resistance are present. Which of the following blood tests is most desirable before starting therapy?

**1- Liver function testing**

2- Serum calcium

3- Platelet count

4- Clotting

5- Haemoglobin

Q2787. A 54-year-old shipyard worker with a 30 pack year smoking history presents to the GP with increasing shortness of breath. He rarely consults the doctor, but now he is unable to walk up the road to the shops. His BP is 150/80 mmHg, with a pulse of 75/minute, in atrial fibrillation. On auscultation of the chest there is pronounced wheeze interspersed with occasional coarse crackles. His FEV1/FVC is 60%, with a KCO of 55%. CXR shows slightly increased lung markings, but nil else of note. Which of the following is the most likely diagnosis?

1- Idiopathic pulmonary fibrosis

2- Asthma

**3- COPD**

4- Asbestosis

5- Left ventricular failure

Q2788. A 26-year-old patient admitted with suspected pneumonia and an abnormal chest X-ray mentions to the attending physician that he has an azygous lobe. Where would you visualize the azygous lobe on an anterior-posterior chest X-ray?

**1- Right upper zone**

2- Right middle zone

3- Right lower zone

4- Left upper zone

5- Left lower zone

Q2789. Which drug therapy is indicated for a young adult with mild intermittent asthma (no nighttime symptoms, no trigger) as required medication?

1- Budesonide inhaler

**2- Salbutamol inhaler**

3- Salmeterol inhaler

4- Oral cromoglycate

5- Oral leukotriene-receptor antagonists

Q2790. A 26-year-old man presents with fever, headache and a moderate productive cough. The chest X-ray shows increased interstitial markings. Laboratory examination shows an elevated LDH and anaemia with the presence of cold agglutinins. What is the most likely diagnosis?

1- Non-Hodgkin's lymphoma

2- Pneumocystis jiroveci pneumonia

**3- Mycoplasma pneumonia**

4- Exogene allergic alveolitis

5- Chlamydia pneumonia

Q2791. A 24-year-old man with HIV and a CD4+ lymphocyte count of 150 m/l has been complaining of gradually worsening dyspnoea associated with a non-productive cough and fever for the last 2 weeks. A chest X-ray shows bilateral diffuse ground-glass opacities. What is the diagnosis?

1- Tuberculosis

2- Legionellosis

**3- Pneumocystis jiroveci pneumonia**

4- Infectious mononucleosis

5- Toxoplasmosis

Q2792. A patient with tuberculosis was initially treated with streptomycin, later this was changed to a combination of isoniazid, rifampicin, pyrazinamide and ethambutol. He now complains of impaired visual acuity and loss of red/green colour discrimination. Which drug is responsible?

1- Streptomycin

**2- Ethambutol**

3- Rifampicin

4- Pyrazinamide

5- Isoniazid

Q2793. A 60-year-old man presents to the clinic complaining of a 6-month history of dyspnoea on exertion and a non-productive cough. On examination there is clubbing, and crepitations are heard at the lung bases. Lung function tests show a reduced vital capacity and an increased FEV1/FVC ratio. What is the most likely diagnosis?

**1- Idiopathic pulmonary fibrosis**

2- Carcinoma of the lung

3- COPD

4- Tuberculosis

5- Bronchiectasis

Q2794. A 45-year-old woman known to suffer from systemic lupus erythematosus (SLE) is referred to the chest clinic with a history of worsening dyspnoea. She is on a maintenance dose of 15 mg of prednisolone. She has never smoked, and according to her she developed an unproductive cough and dyspnoea three months ago. There is no history of fever, night sweats or weight loss. Her doctor has tried various types of inhalers with no benefit. A PEFR diary shows no nocturnal dips. A chest Xray shows a reticulonodular pattern. Examination is unremarkable apart from the skin changes of SLE. What is the most likely diagnosis?

1- Asthma

2- Bronchiectasis

**3- Bronchiolitis obliterans**

4- Tuberculosis

5- Fungal infection

Q2795. A 49-year-old woman has been admitted with haemoptysis and epistaxis, the chest X-ray shows multiple rounded lesions with alveolar shadowing. Serum is c-ANCA positive. What is the most likely diagnosis?

1- Tuberculosis

2- Carcinoma of the lung

3- Echinococcosis

**4- Wegener's granulomatosis**

5- Systemic lupus erythematosus

Q2796. Which of the following is the best agent for treating chlamydia pneumonia?

**1- Clarithromycin**

2- Piperacillin

3- Clindamycin

4- Ampicillin

5- Imipenem

Q2797. A young adult was referred because of cough and shortness of breath. An extrinsic allergic alveolitis was diagnosed. Beside reduction of exposure to the allergen, which other therapy is most likely to be successful?

1- Antibiotics

2- Non-steroidal anti-inflammatory drugs

3- Immunoglobulins

**4- Corticosteroids**

5- Desensitisation

Q2798. A 24-year-old medical student (height 165 cm, weight 78 kg) has been complaining of a few months’ history of shortness of breath on exertion and of coughing up blood once. She is a few days away from her final examination and smokes 20 cigarettes per day. She takes no medication except for the oral contraceptive pill. What is the most likely diagnosis?

1- Hyperventilation syndrome due to stress

2- Tuberculosis

**3- Recurrent pulmonary embolism**

4- Sarcoidosis

5- Goodpasture’s syndrome

Q2799. A 60-year-old smoker is being evaluated for a coronary bypass graft. Which is the best preoperative screen of pulmonary function for this patient?

1- Arterial pH

2- Arterial p(CO2)

3- Arterial p(O2)

**4- Forced expiratory volume in 1 second/forced vital capacity (FEV1/FVC) ratio**

5- Oxygen saturation

Q2800. Which one of the following statement is true about the FEF25%-75% (forced expiratory flow rate between 25% and 75% of the forced vital capacity) in pulmonary function tests?

**1- It reflects the status of the small airways**

2- It is not impaired in bronchiolitis obliterans

3- It is effort-dependent

4- It is not affected in smokers

5- It is useful to identify tracheal obstruction

Q2801. You have a Caucasian patient with cystic fibrosis on the ward. His 20-year-old sister does not have cystic fibrosis, but comes to ask you about the chances of her having children with cystic fibrosis. They have the same parents. Which of the following statements is correct?

1- She has a 1 in 4 chance of being a carrier of the cystic fibrosis gene

2- She is not a carrier of the cystic fibrosis gene

3- If she does not have the DF508 deletion she is not a cystic fibrosis carrier

4- Genetic testing is not necessary to assign carrier status

**5- Her Caucasian partner has a 1 in 25 chance**

Q2802. A 49-year-old woman has been admitted with haemoptysis and epistaxis, the chest X-ray shows multiple rounded lesions with alveolar shadowing. Laboratory parameters show a leucocytosis without eosinophilia but with microhaematuria, proteinuria as well as antineutrophil cytoplasmic antibodies (cANCA). Which drug treatment is the most appropriate?

1- Erythromycin

2- Ampicillin

**3- Cyclophosphamide in combination with corticosteroids**

4- Ciclosporin

5- Aciclovir

Q2803. A 62-year-old housewife has been complaining of a 2-month history of lethargy associated with shortness of breath. She has never smoked and takes no medication. The chest X-ray shows multiple round lesions increasing in size and numbers at the base. There is no hilar lymphadenopathy. What is the most likely diagnosis?

1- Tuberculosis

**2- Pulmonary metastases**

3- Silicosis

4- Rib fractures

5- Lung abscesses

Q2804. A 67-year-old retired man has been complaining of a 6-month history of increasing shortness of breath, dull right-sided chest pain, loss of appetite and night sweats. He worked all his life in the ship-building industry where he was exposed to asbestos. He has never smoked in his life. On examination he is slightly cyanosed but there is no clubbing. Examination of the lungs revealed dullness to percussion and reduced air entry at the right base. What is the most likely diagnosis?

1- COPD

2- Bronchial carcinoma

3- Recurrent pulmonary embolism

**4- Malignant mesothelioma**

5- Tuberculosis

Q2805. A 32-year-old patient with asthma has been stable with inhaled salbutamol when required. Recently she had to use her inhaler more frequently and also at night. What is the next step in her therapy?

1- Inhaled β-agonist at maximum dose

**2- Regular inhaled budesonide, inhaled salbutamol when required**

3- Addition of oral corticosteroids

4- Addition of oral leukotriene-receptor antagonist

5- Addition of oral theophylline

Q2806. Carcinoma of the lung is diagnosed in a 66- year-old smoker. Which of the following techniques would be most reliable in staging of intrathoracic lymph node involvement?

1- Pulmonary angiography

2- Magnetic resonance imaging (MRI)

3- Bronchoscopy

**4- Computed tomographic (CT) scanning**

5- Isotope scan

Q2807. A 58-year-old woman has been admitted with pulmonary embolism. After 7 days she develops an arterial thrombosis in her left leg, the thrombocyte count is 40 x 109 /L. Which drug is most likely to be responsible?

**1- Intravenous heparin for acute treatment**

2- Warfarin for continuous out-patient treatment

3- Temazepam for night-time sleep

4- Tramadol for pain control

5- Bisacodyl for her constipation

Q2808. A 24-year-old patient presents with anorexia, fever and hot flushes. The chest X-ray shows a 4-cm, large, left upper lobe cavity. Active tuberculosis is suspected. What is the next appropriate step to confirm the diagnosis?

1- Computed tomographic (CT) scanning

2- Mantoux test

3- Blood cultures

**4- Sputum sample**

5- Serum inflammatory markers

Q2809. A 20-year-old woman complains of a sudden onset of dyspnoea associated with pleuritic chest pain. Which assessment is the most accurate to confirm your diagnosis of pulmonary embolism?

1- D-Dimer

2- Echocardiography

3- Ventilation/perfusion scan

4- Contrast-enhanced spiral computed tomography

**5- Pulmonary angiography**

Q2810. A 65-year-old man complains of lethargy, fever, dry cough, headache, chest pain and increasing shortness of breath. He returned from a cruise 2 days ago. His chest X-ray shows bilateral infiltrates, the p(O2) is 8.35 kPa. What is the most likely diagnosis?

1- Tuberculosis

2- Pulmonary embolism

3- Small-cell carcinoma of the lung

4- Sarcoidosis

**5- Legionella pneumonia**

Q2811. A 55-year-old patient has been complaining of a 4-week history of shortness of breath and cough with occasional bloody phlegm. He has been smoking 10 cigarettes per day for 25 years. The clinical examination, chest X-ray and laboratory parameters including arterial blood gases are unremarkable. Which of the following investigations is most likely to give the correct diagnosis?

1- Sputum cytology

2- Spirometry

**3- CT thorax**

4- Follow-up chest X-ray in 6 weeks

5- Ventilation/perfusion scan of the lung

Q2812. A 65-year-old man complains of lethargy, fever, dry cough, headache, chest pain and increasing shortness of breath. He returned from a cruise 2 days ago. His chest X-ray shows bilateral infiltrates, the p(O2) is 8.35 kPa. What is the most appropriate therapy?

1- Intravenous corticosteroids

2- Isoniazid

3- Ampicillin

4- Amphotericin B

**5- Erythromycin**

Q2813. A 30-year-old asylum السياسي اللجوء حق seeker has been complaining of cough, fever and weight loss. The chest X-ray shows a large, upper lobe lesion, the sputum shows acid-fast bacilli that are confirmed as Mycobacterium tuberculosis by polymerase chain reaction (PCR). Drug therapy with isoniazid, rifampicin, ethambutol and pyrazinamide has been started under directly observed therapy (DOT). During the next 4 weeks the disease is still progressing. What is the most likely reason?

**1- Infection with multi-resistant tuberculosis**

2- Infection with atypical mycobacteriae

3- Underlying bacterial pneumonia

4- Carcinoma of the lung

5- Aspiration pneumonia

Q2814. After a tennis match, a 20-year-old thin woman complains of left-sided chest pain that radiates into her abdomen. The physical examination reveals reduced air entry at the right base of the lung with hyper-resonant percussion. The abdominal examination shows generalised tenderness. A few minutes later she develops cyanosis. What is the diagnosis?

1- Myocardial infarction

**2- Tension pneumothorax**

3- Ectopic pregnancy

4- Pulmonary embolism

5- Acute pancreatitis

Q2815. A patient presents with symptoms suggesting bronchiectasis and abdominal distension, bloating and foul-smelling faeces. What is the most likely diagnosis?

1- Carcinoma of the lung

2- Wegener's granulomatosis

3- Pneumococcus pneumonia

4- Goodpasture's syndrome

**5- Cystic fibrosis**

Q2816. A 47-year-old man presents to hospital with acute breathlessness. His arterial blood gases show a pa(O2) of 8.5 kPa (65 mmHg) and a pa(CO2) of 5.6 kPa (42.5 mmHg) whilst breathing room air. Which of the following is the least likely explanation for this abnormality?

1- Ventilation/perfusion (VQ) mismatch

2- Right-to-left shunting

**3- Hypoventilation**

4- Diffusion abnormality

5- Anaemia

Q2817. A 50-year-old patient presents with blood eosinophilia in association with a radiographic pulmonary infiltrate. A bronchoscopy shows an excess of eosinophils in bronchoalveolar lavage fluid in the absence of pathogenic micro-organisms. The diagnosis of eosinophilic pneumonia is made. What is the best treatment apart from removing the causal factors?

1- Clarithromycin

**2- Systemic steroids**

3- Leukotriene-receptor antagonists

4- Inhaled β-agonists

5- Nebulised β-agonists

Q2818. A 53-year-old woman with end-stage renal failure develops pulmonary tuberculosis. Which one of the following drugs should be used in a reduced dose?

1- Rifampicin

2- Isoniazid

3- Pyrazinamide

**4- Ethambutol**

5- Pyridoxine

Q2819. A 56-year-old woman, who is known to suffer from rheumatoid arthritis, complains she has had recurrent haemoptysis for over 5 years. She has never smoked and only takes a nonsteroidal anti-inflammatory agent. According to her, she coughs up phlegm every day and at times this contains streaks of fresh blood. She has no known respiratory disease, but tends to get frequent chest infections that are relieved by a course of antibiotics. What is the most likely diagnosis?

1- Lung cancer

**2- Bronchiectasis**

3- Tuberculosis

4- Pulmonary embolism

5- Atypical pneumonia

Q2820. A 44-year-old man is admitted with right-sided pneumonia. According to him he has been unwell for three to four days with malaise, fever, cough and muscular pain. He also has a rash on his abdomen and neck pain. He was previously fit and has not travelled abroad. He is a plumber and also keeps pigeons. According to his wife, two of his favourite pigeons died two weeks ago. Which organism would you be suspicious of as being responsible for his pneumonia?

1- Streptococcus pneumoniae

2- Legionella pneumophila

3- Coxiella burnetii

**4- Chlamydia psittaci**

5- Mycoplasma pneumoniae

Q2821. Which form of lung disease develops typically in people with α1-antitrypsin deficiency?

1- Atelectasis

2- Pneumonitis

**3- Emphysema**

4- Interstitial fibrosis

5- Bronchiectasis

Q2822. A 78 year old patient with COPD was admitted to a medical ward and received appropriate pharmacological treatment according to BTS guidelines (systemic steroids, nebulised bronchodilators, controlled oxygen therapy). He is severely disabled and would not be considered for the intensive care unitand he has previously failed a trial of non-invasive ventilation due to inability to tolerate the mask. The night following his admission his condition worsened. Arterial blood gases were measured and demonstrated: pH 7.29, pa(O2) 5.85 kPa, pa(CO2) 9.33 kPa on 28% oxygen delivered by Venturi mask. What is your next management decision based on published studies?

1- Start aminophylline infusion

**2- Start doxapram infusion**

3- Increase oxygen

4- Give iv antibiotics

5- Start salbutamol infusion

Q2823. A 60-year-old patient was referred with a 1- year history of persistent cough productive of mucopurulent sputum throughout the year. He has been treated by his GP for recurrent chest infections. What is the most likely diagnosis?

1- Fibrosing alveolitis

2- Carcinoma of the lung

3- Sarcoidosis

**4- Bronchiectasis**

5- Allergic asthma

Q2824. A 40-year-old nurse, who is a UK-born Caucasian, comes to clinic. She has been coughing for the last 3 months, has a cavity on her chest radiograph and Mycobacterium tuberculosis has been grown from her sputum. HIV testing is negative. Antibiotic sensitivities are awaited. Which of the following antibiotic regimes would be optimal?

1- Rifampicin, isoniazid

2- Rifampicin, isoniazid, pyrazinamide

**3- Rifampicin, isoniazid, pyrazinamide and ethambutol**

4- Rifampicin, isoniazid, pyrazinamide, ethambutol and ciprofloxacin

5- Rifampicin, isoniazid, pyrazinamide,

Q2825. A 22-year-old student is admitted to the emergency department, having been found by her flatmates to be unsteady on her feet and having problems with her memory. They tell you they have been using old-fashioned gas fires as it has been so cold and you are wondering whether she could have carbon monoxide poisoning. Which test will be the most helpful in determining this?

1- Clinical examination

2- Pulse oximetry

3- Arterial blood oxygen level

**4- Exhaled breath test**

5- Chest radiograph

Q2826. You are fast-bleeped to see a 50-year-old woman on the medical ward. She was admitted earlier that day with a swollen lower leg following her return from a holiday in Australia. Her d-dimers were raised and she was started on subcutaneous unfractionated heparin. She is now short of breath, pale, clammy, tachycardic and hypotensive. Her ECG shows sinus tachycardia. The house officer has given her iv fluids, but her blood pressure is continuing to fall. What would you consider doing next?

1- Intravenous heparin

2- Further iv fluids

**3- Thrombolysis**

4- Echocardiogram

5- V/Q scan

Q2827. Which of the following is the best predictor for obstructive sleep apnoea?

**1- Neck size**

2- Chest size

3- Abdominal girth

4- Waist to hip ratio

5- Uvulopalatal distance

Q2828. You are asked to review a patient with known asthma on the haematology ward. He is neutropenic from chemotherapy for Hodgkin's lymphoma. He has a cough and a low-grade fever, sparse crepitations on chest examination and his chest X-ray shows diffuse pulmonary shadowing. He has been on broadspectrum antibiotics for 1 week with no improvement. His sputum has shown a few hyphae, but is culture-negative. Blood cultures have been negative. Aspergillus precipitins are negative, as is an aspergillus skin-prick test. What is the diagnosis?

1- Allergic bronchopulmonary aspergillosis

**2- Invasive aspergillosis**

3- Aspergilloma

4- Pneumocystis pneumonia

5- Systemic candidosis

Q2829. You see a 50-year-old man in the general medical clinic. He was previously a keen sportsman, but over the past two months or so has begun to feel breathless whenever he lies down flat or when he goes swimming. He has also noticed some weakness of grip in both hands. On examination he has mild weakness and wasting of his intrinsic hand muscles. Power in his legs is also minimally decreased, with reflexes being present and symmetric. What is the most likely cause of this presentation?

1- Periodic paralysis

2- Polymyositis

3- Chronic inflammatory demyelinating polyneuropathy

**4- Motor neurone disease**

5- Spinal muscular atrophy

Q2830. A 36-year-old lorry driver who smokes heavily has been complaining of a 2-day history of cough associated with fever. He also complains of right-sided chest pain on inspiration. On examination he is slightly cyanosed, has a temperature of 38°C, a respiratory rate of 38/min, a BP of 100/70 mm/Hg and a pulse rate of 130/min. He has basal crepitations and dullness to percussion at the right lung base. What is the most likely diagnosis?

1- Atelectasis due to carcinoma of the lung

**2- Bronchopneumonia**

3- Mesothelioma

4- Tuberculosis

5- Pneumothorax

Q2831. A 30-year-old man from Somalia attends your clinic with a productive cough. Sputum is smear-positive for tuberculosis. What does this mean?

1- He needs treatment for tuberculosis and his close contacts need screening, but he is not infectious to casual contacts

**2- He needs treatment for tuberculosis, his close contacts need screening and he needs to be isolated from casual contacts**

3- He needs treatment for tuberculosis, but he is not infectious to close or casual contacts

4- He has multidrug-resistant tuberculosis

5- He has HIV-associated tuberculosis

Q2832. A 50-year-old woman comes to clinic complaining of breathlessness on exertion, which has been worsening for 1 year. She has never smoked. Chest x-ray shows mild hyperinflation but is otherwise unremarkable. Her lung function tests are shown below: Predicted FEV1 (l) 1.11.7-3.0> FVC (l) 2.72.0-3.5 FRC (l) 4.21.7-3.4 TLC (l)6.53.6-5.6 TLCO (mmol/min per kPa) 5.86 (77%) 5.7-9.5 KCO (mmol/min per kPaper l) 1.19 (72%) 1.66 What is the most likely diagnosis?

**1- Asthma**

2- COPD

3- Pulmonary fibrosis

4- Bronchiectasis

5- Pulmonary haemorrhage

Q2833. A 30-year-old man from the Russia is seen in the emergency department. He was diagnosed with pulmonary tuberculosis 4 months ago in Russia and is taking rifampicin and isoniazid. He comes because of a productive cough, fevers, weight loss and malaise. What would you like to do next?

1- Send a sputum sample and arrange to see him in out-patients

2- Admit him to hospital, send a sputum sample and start him on amoxicillin

3- Admit him to hospital, send a sputum sample and start him on pyrazinamide

4- Admit him to hospital, send a sputum sample and start him on amoxicillin and pyrazinamide

**5- Admit him to hospital, send a sputum**

Q2834. Antituberculous treatment for 12 months is recommended for which of the following?

**1- TB meningitis**

2- TB pericarditis

3- TB of the spine

4- Miliary TB

5- Genitourinary TB

Q2835. A 55-year-old woman attends the chest clinic complaining of a dry cough she has had for 6 months. It is worse when she has been walking and when she wakes up in the mornings. Examination and chest X-ray are both normal, as are her pulmonary function tests. Which of the following would be most helpful in making a diagnosis?

1- CT scan of her chest

2- Serial peak flows

3- ENT examination with direct laryngoscopy

**4- Trial of high-dose inhaled steroids**

5- Ambulatory oesophageal pH monitoring

Q2836. A 60-year-old woman attends the clinic complaining of shortness of breath over the preceding 2 months. She has also had problems with nasal irritation, discharge and sinus pain. She is known to have asthma, which has recently been poorly controlled, despite inhaled steroids. Her full blood count has shown an eosinophilia of 13% and her chest X-ray shows peripheral pulmonary shadows. What is the most likely diagnosis?

1- Severe asthma

2- Allergic bronchopulmonary aspergillosis (ABPA)

**3- Churg-Strauss syndrome**

4- Wegener's granulomatosis

5- Cryptogenic organising pneumonia (COP)

Q2837. A 40-year-old woman with severe rheumatoid arthritis is referred to you from the rheumatologists. She has been short of breath over the last 2 months and her chest X-ray shows some widespread patchy shadowing. She has bilateral inspiratory crepitations. She is taking methotrexate for her arthritis and has been for 4 years. You perform a CT scan, which shows multifocal consolidation. What is the most likely diagnosis?

1- Pneumocystis pneumonia

2- Methotrexate pneumonitis

3- Tuberculosis

4- Rheumatoid lung fibrosis

**5- Organising pneumonia**

Q2838. A 60-year-old man is referred following a chest X-ray that suggests interstitial lung disease. You proceed to bronchoscopy with transbronchial lung biopsy to try and make a definitive histological diagnosis. Which of the following is the least likely diagnosis to be confirmed in this way?

**1- Cryptogenic fibrosing alveolitis (CFA)**

2- Sarcoidosis

3- Extrinsic allergic alveolitis

4- Cryptogenic organising pneumonia (COP)

5- Lymphangitis carcinomatosa

Q2839. A 65-year-old man, who has smoked 20 cigarettes a day for 50 years and who has worked in the shipyard industry, presents to clinic with chest pain and increasing shortness of breath. Clinical examination and chest radiograph show he has a right pleural effusion. What investigation would you perform next?

**1- Pleural aspiration**

2- Abrams' pleural biopsy

3- Bronchoscopy

4- Thoracoscopy

5- CT scan

Q2840. A 67-year-old patient with lung cancer complains of difficulty breathing, coughing and swelling of his face, neck, upper body and arms. Superior vena cava syndrome is diagnosed. Which of the following treatments is most likely to be successful in giving early relief of symptoms?

1- Corticosteroids

**2- Radiotherapy**

3- Surgery

4- Chemotherapy

5- Antihypertensive drugs

Q2841. A 58-year-old smoker with chronic bronchitis was treated with antibiotics for a right upper lobe bronchopneumonia by his GP. After 6 weeks he was readmitted to hospital. The chest X-ray shows signs of a pneumonia in the same place. What is the most likely reason?

1- Candida pneumonia

2- Immunodeficiency

**3- Bronchial carcinoma with post-stenotic pneumonia**

4- Sarcoidosis

5- Tuberculosis

Q2842. A 43-year-old patient with rheumatoid arthritis has been referred to you because of increasing shortness of breath and dry cough. Which medication is most likely to be responsible for her symptoms?

1- Gold

2- Oral corticosteroids

**3- Methotrexate**

4- Sulfasalazine

5- Ibuprofen

Q2843. Which of the following interventions is most likely to improve the FEV1 and prognosis of a cigarette smoker with spirometric evidence of moderate COPD?

**1- Tobacco-smoking cessation**

2- Frequent use of antibiotics for acute bacterial exacerbations of chronic bronchitis

3- Daily use of salmeterol to improve FEV1

4- Long-term oxygen therapy at 2 l/min

5- Daily use of ipratropium bromide to

Q2844. A 60-year-old man presents with a history of cough and weight loss. He has smoked 40 cigarettes per day since he was 17 years old. He describes recent darkening of his skin, and the chest X-ray reveals a suspicious mass for lung cancer at the left hilum. What is the most likely histology?

1- Adenocarcinoma

**2- Small-cell carcinoma**

3- Squamous-cell carcinoma

4- Mesothelioma

5- Large-cell carcinoma

Q2845. A 50-year-old woman is admitted with a dry cough, shortness of breath and a 2-week history of intermittent fevers. She had had flulike symptoms at the beginning of her illness. On examination she has right-sided crepitations and a chest X-ray shows patchy shadowing at her right lower lobe, with an air bronchogram. Her white cell count and CRP are raised. She is started on antibiotics for community-acquired pneumonia and after 2 days of clinically improving, she is discharged. You see her in clinic 3 months later, when she tells you she is no better. Her chest X-ray shows left upper lobe consolidation. What is the most likely cause of this?

1- Recurrent bacterial pneumonia

2- Eosinophilic pneumonia

**3- Cryptogenic organising pneumonia**

4- Lymphangioleiomyomatosis

5- Pulmonary alveolar proteinosis

Q2846. A 23-year-old woman with a lifelong history of atopy, hay fever and mild asthma attends her GP. Over the last 3 months she has been waking in the early morning coughing and wheezing, and it is slowly getting worse. She is taking inhaled salbutamol seven times a day and is also using inhaled steroids 400 mg twice a day. Her predicted peak flow rate is 500 l/min and it is now 350 l/min. What would you advise her GP to do?

1- Call an ambulance and admit her to hospital

2- Start an oral leukotriene-receptor antagonist, such as montelukast

3- Start her on oral theophylline

**4- Start an inhaled long-acting b 2-agonist**

5- Lend her a nebuliser to use at home

Q2847. A 50-year-old man attends clinic with haemoptysis and a 1-week history of dyspnoea. Examination is unremarkable, but his chest radiograph shows bilateral fluffy shadows. Urine dipstick is positive for blood and protein. What would you do next?

1- Send a serum ANCA and arrange to see him in clinic in 1 week

2- Perform pulmonary function tests and see him in 1 week for repeat tests

3- Arrange an out-patient renal ultrasound

**4- Admit him to the ward, check his renal function and send blood for autoantibodies**

5- Admit him to the ward and start iv

Q2848. A 78-year-old man, who worked as a plumber, presents with a unilateral pleural effusion. He has felt unwell for some time and spends much of the day sitting in a chair. Pleural biopsies taken at thoracoscopy have shown malignant mesothelioma and extensive tumour on all pleural surfaces was noted. Having explained the diagnosis to him, which would be the most appropriate treatment to consider next?

1- Radical surgery alone

2- Radical surgery combined with chemotherapy and radiotherapy

3- Chemotherapy alone

4- Radiotherapy to the hemithorax

**5- Radiotherapy to the thoracoscopy tract site**

Q2849. A 70-year-old woman with known chronic obstructive pulmonary disease (COPD) is admitted to the respiratory ward. She is breathless, coughing up green sputum and has an audible wheeze. She is given 24% oxygen via a Venturi mask, nebulised salbutamol and ipratropium and oral prednisolone. After one hour, she is still dyspnoeic, tells you she feels no better and you note that her blood gases have deteriorated. Her pH is 7.30, p(O2) 6 kPa, p(CO2) 10 kPa, bicarbonate 22 mmol/l, base excess -4 mmol/l. What management would you recommend next?

1- Increase the oxygen to 28%

2- Commence intravenous aminophylline

3- Commence intravenous doxapram

**4- Commence non-invasive ventilation (NIV)**

5- Refer her to the intensive care unit for

Q2850. A 36-year-old woman with systemic sclerosis develops breathlessness on exertion. Her pulmonary function tests show normal spirometry but a decreased gas transfer factor (TLCO, transfer factor for carbon monoxide) and transfer coefficient (KCO). Which of the following is the most likely explanation for this abnormality?

1- Fibrosing alveolitis

**2- Pulmonary vascular disease**

3- Severe thoracic skin thickening

4- Pleural involvement

5- Respiratory muscle weakness

Q2851. A fit 50-year-old man with a 20-pack year smoking history presents with haemoptysis and a 3-cm right upper lobe mass on his chest radiograph. Bronchoscopy has shown this is a squamous-cell carcinoma; CT has confirmed the mass and has also shown enlarged 1-cm short-axis hilar and paratracheal nodes. He is discussed at the lung-cancer multidisciplinary team meeting. What are they likely to think is the most appropriate next course of management?

**1- Refer for PET scan**

2- Refer for surgical resection of the mass

3- Refer for radiotherapy to the mass

4- Refer for chemotherapy

5- Refer to the palliative care team

Q2852. A 30-year-old lorry driver comes to clinic. He is overweight with a body mass index of 40 and has been having trouble staying awake at the wheel. His wife says he has always snored and she has often heard him stop breathing. His baseline oxygen saturation in clinic is 97%. His overnight sleep study shows a 4% oxygen dip rate of 20/hour, and his Epworth Sleepiness Score is 19. What would you recommend as the most appropriate management for him?

1- Weight loss

2- Mandibular advancement device

3- Start modafanil – a wake-promoting drug

**4- Start CPAP (continuous positive airways pressure ventilation)**

5- Start BiPAP (bilevel positive airways

Q2853. Which lung disease is associated with the clinical observations 'pink puffer' and 'blue bloater'?

1- Cystic fibrosis

2- Pulmonary fibrosis

**3- COPD**

4- Small-cell lung cancer

5- Tuberculosis

Q2854. A 65-year-old man who has a 40-pack year history of smoking is referred to the clinic with haemoptysis. He has no other symptoms. His chest radiograph shows an ill-defined 2-cm opacity at the periphery of his left lower lobe. After checking his routine blood tests and spirometry in clinic, which test would you arrange next?

1- Bronchoscopy

**2- CT scan of the chest**

3- PET scan

4- Repeat chest radiograph in 1 month from now

5- Sputum cytology

Q2855. You are called to see a 50-year-old woman who is having difficulty breathing following a laparoscopic cholecystectomy. She is making a lot of noisy inspiratory effort with stridor. You notice she is taking warfarin long term for thromboembolic disease, salbutamol and inhaled steroids for asthma and penicillamine for severe rheumatoid arthritis. Which test might be the most helpful in diagnosing her current problem?

1- Peak flow

2- Spirometry with transfer factor measurement

**3- Spirometry with flow volume loops**

4- Chest X-ray

5- CT chest

Q2856. A 46-year-old cardiologist attended a local conference last weekend and fell ill with a fever of up to 40°C that lasted for 2 days. He had associated shortness of breath and dry cough. In addition, he had loose motions for a day. His blood results showed deranged LFTs and hyponatraemia. His WBC count was 10.2 × 109 /l. Bibasal consolidation was seen on his Xray. What would be the most effective treatment for his condition?

1- Amoxicillin

2- Cefuroxime

**3- Clarithromycin**

4- Flucloxacillin

5- Ciprofloxacin

Q2857. A 22-year-old man presented with shortness of breath, an increase in sputum production and a temperature of 37.9°C. He suffers from recurrent chest infections three or four times a year. This young man regularly produces copious amounts of sputum, more so in the morning. A slow, progressive clumsiness and instability set in during early childhood and he has been wheelchair-bound since the age of 12 years. He grew up in foster care but found out that his uncle died young, wheelchairbound. There are coarse crackles bilaterally and a chest X-ray shows signs of bronchiectasis. What is the cause of this?

1- Cystic fibrosis

**2- Hypogammaglobulinaemia in ataxia telangiectasia**

3- Hereditary spinocerebellar degeneration

4- Williams-Campbell syndrome

5- Mounier-Kuhn syndrome

Q2858. You are asked to look at a Heaf test performed 1 week ago on a man. His wife is on the ward with pulmonary tuberculosis. He is asymptomatic and has a normal chest radiograph. He has had a previous BCG vaccination. The dots are joining up to make a faint red ring. What does this mean?

1- The man has tuberculosis

**2- The man has previously had a BCG vaccination**

3- The man does not have tuberculosis and has not had a BCG vaccination

4- This man has had a BCG vaccination and has tuberculosis

5- The man has HIV, but does not have

# Chapter 11 Cardiology

Q2859. A 34-year-old professional footballer is evaluated for symptoms of 'dizziness' during exercise. Physical examination reveals a laterally displaced apical impulse. On auscultation, there is a 2/6 mid-systolic murmur in the aortic area that increases on sudden standing. The ECG shows LVH and Q waves in the V2-V5 leads. What is the most likely diagnosis?

1- Young-onset hypertension

2- Acute MI

3- Aortic stenosis

**4- Hypertrophic cardiomyopathy**

5- Atrial septal defect

Q2860. What is the most likely lipid abnormality in a 48-year-old Asian man with good glycaemic control?

1- Elevated high-density lipoprotein (HDL)

2- Elevated low-density lipoprotein (LDL)

3- Elevated LDL/elevated triglycerides

4- Low HDL/elevated LDL

**5- Low HDL/elevated triglycerides**

Q2861. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

1- Cryptogenic fibrosing alveolitis

2- Pulmonary embolus

3- Exacerbation of COPD

4- Sarcoidosis

**5- Pulmonary oedema**

Q2862. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

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Q2865. A 64-year-old woman presents with an episode of syncope while out shopping. On more direct questioning she also reports a few episodes of fast palpitations, which she is able to tap out on her hand. She is discharged to await an outpatient 24-h ECG Holter recording. Unfortunately she is readmitted after suffering a fit while in bed, her husband felt her pulse at the time and claims that she was pulseless for a few seconds. What diagnosis fits best with this clinical picture?

1- Paroxysmal atrial fibrillation

2- Atrial flutter

**3- Sick-sinus syndrome**

4- Multiple transient ischaemic attacks

5- Epilepsy

Q2866. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

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Q2867. A 42-year-old painter presents to A&E with symptoms of vertigo, diplopia and gait unsteadiness at the end of a busy afternoon painting the interior of a property. On examination there is a markedly lower blood pressure in the left arm. What diagnosis fits best with this clinical picture?

1- Anterior circulation transient ischaemic attack

**2- Subclavian steal syndrome**

3- Vestibular neuronitis

4- Posterior circulation transient ischaemic attack

5- Unexplained cardiac arrhythmia

Q2868. A 70-year-old-man reverts to atrial fibrillation after several attempts at cardioversion, but remains symptomatic despite rate control with digoxin and metoprolol. He developed pulmonary fibrosis with amiodarone. Which of the following will be the next step in the management of this patient?

1- Switch metoprolol to amlodipine

2- Double the dose of digoxin

**3- Perform radiofrequency ablation of the AV node, and implant a pacemaker**

4- Make another attempt at cardioversion

5- Implant a cardiovertor defibrillator

Q2869. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

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Q2871. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

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Q2872. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

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Q2873. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

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3- Exacerbation of COPD

4- Sarcoidosis

**5- Pulmonary oedema**

Q2875. A 40-year-old man is noted to have palmar crease xanthomas. Which form of lipid disorder is most likely?

1- Familial hypercholesterolaemia

2- Familial mixed hypercholesterolaemia

3- Hyperchylomicronaemia

4- Familial hypertriglyceridaemia

**5- Broad b disease**

Q2876. A 78-year-old-man presents to Casualty with a history of syncope. An ECG shows complete heart block. Which of the following physical signs is consistent with the diagnosis?

1- Regular cannon 'a' waves on JVP

2- Soft first heart sound

3- Low-volume pulse

**4- Basal systolic murmur**

5- Loud second heart sound

Q2877. A 56-year-old man has known tricuspid regurgitation. Which part of the jugular venous waveform is likely to be most prominent?

1- a wave

2- c wave

**3- v wave**

4- x descent

5- y descent

Q2878. A 50-year-old woman presents with an acute myocardial infarction, and thrombolysis is being considered. Which one of the following would be an absolute contraindication for thrombolytic therapy?

1- Background diabetic retinopathy

2- Past history of a minor stroke 5 years ago with full recovery and no evidence of underlying cerebrovascular lesion

3- Menstruation

4- Dyspeptic symptoms

**5- Resting blood pressure 220/130 mmHg**

Q2879. A 45-year-old man with a strong family history of ischaemic heart disease presents with atypical chest pains. Electrocardiographic (ECG) exercise testing shows J point depression of 1 mm with a heart rate of 120 beats/min (bpm). What is the most appropriate next step?

1- Coronary angiography

2- Dobutamine stress echocardiography

3- Radionuclide myocardial perfusion scanning

**4- Reassure and discharge**

5- Repeat ECG exercise testing on anti-anginal

Q2880. A 17-year-old youth is brought to the GP by his mother. He was previously seen 2 weeks earlier suffering from acute pharyngitis. His teeth are in generally poor condition, but otherwise there is no previous medical history. On examination he is febrile with a temperature of 38.2 A°C, and has a polyarthritis affecting his knees, ankles, wrists and elbows. He also appears to have subcutaneous nodules over his elbows, and mitral regurgitation on cardiovascular examination. What diagnosis fits best with this clinical picture?

1- Bacterial endocarditis

2- Juvenile rheumatoid arthritis

3- Scarlet fever

**4- Rheumatic fever**

5- Congenital valvular heart disease

Q2881. A 56-year-old man presents with a cardiac rhythm disorder. Which one of the following scenarios would be an indication for temporary transvenous cardiac pacemaker insertion?

1- Asymptomatic 2.8 s sinus pauses

2- A short period of complete heart block complicating inferior myocardial infarction, (pre-thrombolysis) with blood pressure 110/70 mmHg

3- Asymptomatic complete heart block with broad complex ventricular complexes at 35 bpm

**4- Mobitz II AV block complicating anterior myocardial infarction with blood pressure 110/70 mmHg**

5- Bifascicular block prior to aortic aneurysm

Q2882. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

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Q2883. A 15-year-old patient undergoes echocardiography, which shows a right-sided aortic arch. Which cardiac condition is most likely?

1- Coarctation of the aorta

2- Ebstein's anomaly

**3- Tetralogy of Fallot**

4- Hypoplastic left ventricle

5- Noonan's syndrome

Q2884. A 36-year-old old woman presents with a cerebral infarct following treatment for a deep vein thrombosis. Cardiovascular examination is entirely normal. The most likely underlying cardiac abnormality is?

1- Partial anomalous pulmonary venous drainage

2- Ostium primum atrial septal defect

3- Ostium secundum

4- Common atrium

**5- Patent foramen ovale**

Q2885. A 70-year-old man undergoes successful DC cardioversion for atrial fibrillation (AF). Which one of the following factors best predicts long-term maintenance of sinus rhythm following this procedure?

1- Age under 75 years

2- Normal left ventricular function

3- Warfarin therapy

4- No alcohol intake

**5- AF duration less than 6 months prior to**

Q2886. A 60-year-old lady has evidence of left ventricular dysfunction. Which of the following causes an increase in end-diastolic left ventricular dimension?

1- Patent ductus arteriosus

2- Hypertrophic cardiomyopathy

**3- Severe mitral regurgitation**

4- Pericardial effusion

5- Mitral stenosis

Q2887. Which of the following statements is true regarding pulsus alternans?

1- It is found in beriberi heart disease

2- The pulse is irregular

3- It is diagnosed electrocardiographically

**4- It is found in association with a third heart sound**

5- It is found in patients with pericardial

Q2888. A 38-year-old man of Chinese descent who smokes 60 cigarettes per day presents to his GP. He is developing pain at rest in his legs, and is unable to walk more than a few yards due to ischaemic pain. On examination there is prolonged capillary refill and necrotic ulcers at the tips of his toes. There is also evidence of thrombophlebitis. What diagnosis fits best with this clinical picture?

**1- Buerger's disease**

2- Simple peripheral vascular disease

3- Polyarteritis nodosa

4- Familial hypercholesterolaemia

5- Temporal arteritis

Q2889. A 45-year-old man with a strong family history of ischaemic heart disease presents with atypical chest pains. Electrocardiographic (ECG) exercise testing shows J point depression of 1 mm with a heart rate of 120 beats/min (bpm). What is the most appropriate next step?

1- Coronary angiography

2- Dobutamine stress echocardiography

3- Radionuclide myocardial perfusion scanning

**4- Reassure and discharge**

5- Repeat ECG exercise testing on anti-anginal

Q2890. A 67-year-old lady during preoperative assessment is found to have a small pericardial effusion located posteriorly on routine Echocardiography. Electrocardiogram (ECG) is entirely normal. What is the next most appropriate step in her management?

1- Cardiac catheterisation

**2- Reassure**

3- Pericardiocentesis

4- Diuretics

5- Computed tomography (CT) of the heart

Q2891. A 62-year-old patient presents with atrial fibrillation of unknown duration. Which drug may slow his ventricular rate over a prolonged period but is unlikely to result in cardioversion?

1- Adenosine

2- Amlodipine

**3- Digoxin**

4- Flecanide

5- Amiodarone

Q2892. Which of the following statements are most indicative of myocardial ischaemia?

1- Associated shortness of breath

2- Claudication

3- Dizziness

**4- Radiation to jaw**

5- Relief by glyceryl trinitrate

Q2893. Which is the best clinical marker of the severity of aortic stenosis?

1- Character of apex beat

2- Character of carotid pulse

**3- Character of S2**

4- Intensity of murmur

5- Pulse rate

Q2894. A 55-year-old man who has sustained an acute MI subsequently presents with heart failure. As well as other treatments the cardiologist has recommended that abetablocker be commenced. According to currently available evidence which of the following beta-blockers would be most appropriate?

1- Celiprolol

2- Labetalol

**3- Bisoprolol**

4- Propranolol

5- Sotalol

Q2895. A 67-year-old lady is found to have a small pericardial effusion located posteriorly on routine echocardiography. There is no haemodynamic compromise. What is the next most appropriate step in her management?

1- Diagnostic tap

2- Mammography

3- Tuberculosis screen

**4- Reassure**

5- Right heart catheter examination

Q2896. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

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2- Pulmonary embolus

3- Exacerbation of COPD

4- Sarcoidosis

**5- Pulmonary oedema**

Q2897. A 39-year-old female is admitted with pulmonary oedema, blood pressure 230/140 mmHg and fundoscopy showing retinal haemorrhages and papilloedema. She has systemic sclerosis and asthma. Which of the following agents would be the most appropriate immediate management?

1- Intravenous labetalol

2- Intravenous sodium nitroprusside

3- Atenolol

**4- Nifedipine oral**

5- Nifedipine sublingual

Q2898. A 69-year-old man has been admitted to the emergency department with syncope. He felt hot, complained of nausea and then fainted. His electrocardiogram (ECG) was normal. His brother suffers from adult onset epilepsy. What is the most appropriate investigation?

1- Electroencephalogram (EEG)

2- 24-h ECG

3- Computed tomography (CT) of the brain

4- Echocardiography

**5- Tilt test**

Q2899. An elderly gentleman is admitted with syncope. He also complains of shortness of breath and is diagnosed as having aortic stenosis. Which of the following conditions when associated with aortic stenosis would indicate a poor prognosis?

1- Aortic regurgitation

**2- Left ventricular failure**

3- Electrocardiography (ECG) changes

4- Endocarditis

5- Valvular calcification

Q2900. A 46-year-old man is admitted with shortness of breath, headache, blood pressure 190/110 mmHg and fundoscopy showing retinal haemorrhages and papilloedema. ECG revealed left ventricular hypertrophy, chest xray did not reveal any evidence of left ventricular failure. Which of the following agents would be the most appropriate management?

1- Intravenous labetalol

2- Intravenous sodium nitroprusside

**3- Atenolol**

4- Doxasosin MR oral

5- Nifedipine sublingual

Q2901. A patient with underlying ischaemic heart disease had two transient episodes of loss of consciousness but feels fine at present. Both episodes were preceded by a feeling of dizziness, "vision going black" and witnesses report that the subject went very pale and then collapsed, lying motionless for a few seconds before making a rapid recovery. No abnormal movements were seen during the period of unconsciousness. What investigation will you order next?

1- Echocardiography

2- Computed tomography (CT) of the head

**3- 24-hour electrocardiogram (ECG)**

4- Cardiac catheterisation

5- Treadmill test

Q2902. An elderly man is admitted to the ICU and put on intermittent positive-pressure ventilation. Which of the following statements is true when compared to spontaneous ventilation?

1- Lung volumes are decreased

2- Pulmonary vascular resistance is decreased

3- Systemic blood pressure rises

**4- Venous return and cardiac output fall**

5- Intrathoracic pressure is decreased

Q2903. A 65-year-old male patient with stable angina complains of shortness of breath after walking two flights of stairs. He has normal left ventricular function on the echocardiogram and a positive exercise tolerance test (3 mm ST depression at stage III). What is the most appropriate therapy?

**1- Atenolol**

2- Simvastatin

3- Isosorbide mononitrate

4- Angiotensin-converting enzyme (ACE) inhibitor

5- Nicardipine

Q2904. A 65-year-old female patient with severe heart failure presents with increasing shortness of breath. Her current pharmacological treatment consists of an angiotensin-converting enzyme (ACE) inhibitor, loop diuretic and β-blocker. What is the most appropriate management?

1- Add digoxin

**2- Add spironolactone**

3- Stop β-blocker

4- Stop ACE inhibitor

5- Add simvastatin

Q2905. A 39-year-old female is admitted with pulmonary oedema, blood pressure 230/140 mmHg and fundoscopy showing retinal haemorrhages and papilloedema. She has systemic sclerosis and asthma. Which of the following agents would be the most appropriate immediate management?

1- Intravenous labetalol

2- Intravenous sodium nitroprusside

3- Atenolol

**4- Nifedipine oral**

5- Nifedipine sublingual

Q2906. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

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4- Sarcoidosis

**5- Pulmonary oedema**

Q2907. A 67-year-old man with chronic heart failure is reviewed in terms of his drug therapy. Which of the following treatments has no proven mortality benefit?

1- Bisoprolol

**2- Digoxin**

3- Enalapril

4- Nitrates and hydralazine

5- Spironolactone

Q2908. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

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Q2909. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

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Q2910. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

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2- Pulmonary embolus

3- Exacerbation of COPD

4- Sarcoidosis

**5- Pulmonary oedema**

Q2911. A 35-year-old-woman of African origin presents with a 4-month history of increasing swelling over her feet and abdominal distension. She has no history of cough, orthopnoea or breathlessness on exertion. Her heart rate is 98 beats/minute: irregularly irregular. Her JVP is markedly raised and she has pitting lower limb oedema. The heart sounds are soft, and there are no audible murmurs. Abdominal examination reveals hepatomegaly along with ascites. Chest X-ray reveals a normal cardiac size and clear lung fields. A lateral X-ray shows calcification around the heart border. Urinalysis is normal. Her ECG shows a low QRS voltage and lateral T-wave changes. What is the likely diagnosis?

1- Dilated cardiomyopathy

2- Cirrhosis of the liver

**3- Constrictive pericarditis**

4- Restrictive cardiomyopathy

5- Hypertrophic cardiomyopathy

Q2912. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

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3- Exacerbation of COPD

4- Sarcoidosis

**5- Pulmonary oedema**

Q2913. A 69-year-old man has been admitted to the emergency department with syncope. He felt hot, complained of nausea and then fainted. His electrocardiogram (ECG) was normal. His brother suffers from adult onset epilepsy. What is the most appropriate investigation?

1- Electroencephalogram (EEG)

2- 24-h ECG

3- Computed tomography (CT) of the brain

4- Echocardiography

**5- Tilt test**

Q2914. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

1- Cryptogenic fibrosing alveolitis

2- Pulmonary embolus

3- Exacerbation of COPD

4- Sarcoidosis

**5- Pulmonary oedema**

Q2915. Which of the following is the commonest cardiovascular abnormality seen in an adult patient with Marfan's syndrome?

1- Aortic regurgitation

**2- Aortic root dilatation**

3- Aortic dissection

4- Mitral regurgitation

5- Mitral annular calcification

Q2916. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

1- Cryptogenic fibrosing alveolitis

2- Pulmonary embolus

3- Exacerbation of COPD

4- Sarcoidosis

**5- Pulmonary oedema**

Q2917. A 32-year-old man is recently diagnosed with ankylosing spondylitis. Echocardiogram showed a valvular abnormality. What is the most likely diagnosis?

1- Mitral regurgitation

**2- Aortic regurgitation**

3- Mitral stenosis

4- Aortic stenosis

5- Tricuspid stenosis

Q2918. A patient presents with shortness of breath and ankle swelling. An echocardiogram has been ordered to determine the left ventricular ejection fraction. Which echocardiography mode is the most appropriate?

1- M-mode

2- A-mode

**3- Modern transthoracic**

4- Continuous wave

5- Power wave

Q2919. A 28-year-old man presents with a 2-year history of increasing dyspnoea with strenuous exertion. Hypertrophic cardiomyopathy is diagnosed. Which is the most appropriate screening method for his brother?

1- Computed tomography (CT) scan

2- Exercise tolerance test

3- Ventilation-perfusion scan

**4- Echocardiography**

5- Genetic screening

Q2920. A patient with left ventricular failure undergoes echocardiography. Which is the correct formula for calculating the ejection fraction (EF)?

**1- EF = [end diastolic volume (EDV) - endsystolic volume (ESV)]/EDV**

2- EF = [end diastolic volume (EDV) - endsystolic volume (ESV)]/heart rate (HR)

3- EF = [heart rate (HR) ?— end diastolic volume (EDV)]/end-systolic volume (ESV)

4- EF = [heart rate (HR) ?— end-systolic volume (ESV)]/end diastolic volume (EDV)

5- EF = [end-systolic volume (ESV) - end

Q2921. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

1- Cryptogenic fibrosing alveolitis

2- Pulmonary embolus

3- Exacerbation of COPD

4- Sarcoidosis

**5- Pulmonary oedema**

Q2922. A 65-year-old woman with a history of heavy smoking presents for review. She has woken during the early hours of the morning for the second time with shortness of breath so bad that she had to fling open the windows. On examination there are crackles in the lung bases, her chest X-ray shows bilateral fluffy perihilar shadowing. ECG reveals small anterior Q waves and a sinus tachycardia of 105 bpm. What diagnosis fits best with this clinical picture?

1- Cryptogenic fibrosing alveolitis

2- Pulmonary embolus

3- Exacerbation of COPD

4- Sarcoidosis

**5- Pulmonary oedema**

Q2923. A 30-year-old man with known hypertrophic obstructive cardiomyopathy (HOCM) presents to casualty with an episode of witnessed syncope: a passer-by provided initial resuscitation. On admission he is unwell with pulse rate of 160 bpm, blood pressure 70/40 mmHg and decreased conscious level. ECG confirms ventricular tachycardia. Sinus rhythm is restored with a DC shock. What would be the most appropriate strategy for the long term?

1- Amiodarone

**2- Automatic implantable cardioverter defibrillator**

3- Dual-chamber pacemaker

4- Sotalol

5- Verapamil

Q2924. A 72-year-old man presents with 15 min of central crushing chest pain. ECG shows 0.5 mm ST elevation in leads V1 and V2. You are in a peripheral hospital with no acute cardiac catheterisation lab. What is the most appropriate treatment?

1- Accelerated tissue plasminogen activator (tPA) + aspirin

**2- Aspirin + heparin and repeat electrocardiogram (ECG) in 15 min**

3- Heparin only

4- No treatment and repeat ECG in 15 min

5- Streptokinase + aspirin

Q2925. Aortic stenosis in adults is commonly the result of which one of the following?

**1- Bicuspid aortic valve disease**

2- Left ventricular membrane

3- Hypertrophic obstructive cardiomyopathy (HOCM)

4- Rheumatic fever

5- Cystic medial necrosis

Q2926. Left bundle branch block is associated with which one of the following conditions?

**1- Ischaemic heart disease**

2- Mitral stenosis

3- Pericarditis

4- Pulmonary embolism

5- Tricuspid stenosis

Q2927. Normal pregnancy is associated with which one of the following haemodynamic changes?

1- A 20% reduction in blood volume and cardiac output

**2- A 10 mmHg drop in diastolic blood pressure during the second trimester**

3- Bradycardia with a radial pulse rate between 45 and 55 beats per minute

4- Grade 2/6 diastolic murmur at the mitral area

5- Pulsus alternans

Q2928. A 60-year-old man underwent a coronary angiogram for unstable angina. The next day whilst recovering in hospital he complains of severe pain in his right foot and partial loss ofsight in the left eye. On examination the lower limb peripheral pulses are present and of good volume. There is gangrene of the lateral two toes on the right foot. Fundoscopy reveals cholesterol emboli in a branch of the central retinal artery in the left eye. Which one of the following is the most probable diagnosis in this case?

**1- Atheroembolic disease**

2- Polyarteritis nodosa

3- Buerger’s disease

4- Arterial thromboembolism

5- Disseminated intravascular coagulopathy

Q2929. A 57-year-old female is admitted with Gramnegative septicaemia. She is given intravenous antibiotics and normal saline. Two days later she becomes anxious, tachypnoeic, and short of breath. An emergency chest X-ray demonstrates diffuse, bilateral interstitial and alveolar infiltrates. Her past medical history revealed hypertension and that she has been on regular antihypertensive treatment for seven years. She has never had any evidence of congestive heart failure. In this case, adult respiratory distress syndrome can be distinguished from cardiogenic pulmonary oedema by?

1- Asymmetrical hypertrophy of the interventricular septum is revealed on echocardiography

2- Calculation of the alveolar-arterial p O2 difference

**3- Measurement of pulmonary artery wedge pressure**

4- Measurement of lung compliance

5- Measurement of ejection fraction

Q2930. A 58-year-old-woman suffers a cardiac arrest while on the ward. A rhythm strip shows VF. What is the strength (in joules) recommended for the monophasic shock used for defibrillation?

1- 50J

2- 100J

3- 200J

4- 300J

**5- 360J**

Q2931. Which one of the following is characteristic of atrial myxoma?

1- Usually originates in the right atrium

2- Fragments of tumour easily break off and grow in its peripheral sites

**3- Echocardiogram is diagnostic in most cases**

4- The clinical signs can mimic severe mitral regurgitation

5- Recurrence is frequent even after

Q2932. A 45-year-old woman is being investigated for heart disease. It is found that the pressure-volume curve of the left ventricle is shifted to the left. What is the most likely diagnosis in this case?

1- Aortic regurgitation

2- Mitral stenosis

**3- Aortic stenosis**

4- Mitral regurgitation

5- Tricuspid stenosis

Q2933. The pressure-volume curve in a patient with heart failure is shifted to the right. What is the most important feature in cardiovascular dynamics responsible for this right shift?

1- Increased contractility of the chamber

2- Increased sympathetic activity

3- Concentric hypertrophy of the chamber

**4- Increased compliance of the chamber**

5- Pressure overload in the chamber

Q2934. A 65-year-old man with angina pectoris undergoes serum lipid testing. Which of the following abnormalities is most likely to be found?

1- Increased triglyceride levels

**2- Increased low-density lipoprotein cholesterol levels**

3- Increased high-density lipoprotein cholesterol levels

4- Increased chylomicrons

5- Increased intermediate-density lipoprotein

Q2935. A 70-year-old obese man is admitted with a 6-hour history of chest pain. An ECG reveals an inferior wall myocardial infarction. Measurement of which of the following would best confirm the diagnosis?

1- Creatine kinase

2- Creatine kinase MB

**3- Cardiac-specific troponin T**

4- Aspartate aminotransferase

5- Lactate dehydrogenase

Q2936. A 40-year-old salesman presents with frequent flushing of his face and neck, abdominal pain and watery diarrhoea, fatigue, breathlessness, anorexia and nausea. On examination, there is jugular venous distension with prominent v waves, hepatomegaly and dependent oedema. On auscultation, a blowing pansystolic murmur is heard on inspiration at the lower left sternal edge. What is the most likely cardiac abnormality in this case?

1- Mitral regurgitation

**2- Tricuspid incompetence**

3- Tricuspid stenosis

4- Pulmonary stenosis

5- Prolapsing mitral valve

Q2937. A patient who has been inadvertently given an intravenous injection of potassium chloride, develops ventricular tachycardia. His pulse is 150 beats per minute and blood pressure 60/40 mmHg. What would be the best line of treatment in this case?

1- Lidocaine

2- Insulin 10 units and 50 ml of 50% glucose

3- Amiodarone

**4- DC cardioversion**

5- 10 ml of 10% calcium gluconate

Q2938. Which one of the following features is MORE common in constrictive pericarditis than in cardiac tamponade?

1- Pulsus paradoxus

**2- Kussmaul's sign**

3- Prominent x trough

4- 4-chamber diastolic equilibrium

5- Right-sided heart failure

Q2939. A 72-year-old Caucasian woman is referred to out-patients for advice regarding her hypertension management. She has been on treatment in the form of perindopril 4 mg od for the past 3 years. However, on repeated measurements, her readings have been > 160 mmHg systolic, with diastolic readings being in the order of 80-85 mmHg. Renal function is normal as is urine dipstick testing. There is no evidence of left ventricular hypertrophy on ECG. She is obese with a BMI of 33. What would you consider adding as your next drug?

1- Atenolol

2- Bendrofluazide

3- Doxazosin

**4- Amlodipine**

5- Spironolactone

Q2940. A 38-year-old woman is seen in A&E with a history of collapse. She recalls rushing for the bus before feeling faint. Her brother recently died suddenly due to a heart problem. On examination she has a 'jerky' pulse, a thrusting cardiac impulse and a mid-systolic murmur. What is the likely diagnosis?

1- Dilated cardiomyopathy

**2- Hypertrophic cardiomyopathy**

3- Mitral valve prolapse

4- Aortic stenosis

5- Pericarditis

Q2941. A 68-year-old man is admitted with syncope. He is known to have ischaemic cardiomyopathy. His medications include: aspirin 75 mg od, frusemide 80 mg bd and lisinopril 10 mg od. An initial ECG shows sinus bradycardia (50 bpm) and RBBB. Results of blood tests are as follows: sodium, 134 mmol/l; potassium, 3.5 mmol/l; creatinine 124 mmol/l. He has recurrent syncopal episodes on the CCU, where monitoring shows episodes of non-sustained torsades de pointes (polymorphic VT). Which of the following would be your initial line of treatment?

1- DC cardioversion

2- Intravenous amiodarone

**3- Intravenous magnesium**

4- Oral metoprolol

5- Temporary pacing

Q2942. A 65-year-old man is admitted via A&E with acute shortness of breath. His past medical history includes an anterior MI 5 years ago. He is usually short of breath after walking around 400 m (0.25 mile), but is not on regular treatment. Clinically he is distressed: respiratory rate 30/min, basal crepitations to mid-zones, saturations 90%, pulse rate 110 sinus, blood pressure 180/100 mm Hg. The casualty officer has already given iv diamorphine 5 mg, iv metoclopramide and iv frusemide 40 mg (twice) but the patient remains short of breath, although saturations have increased to 94% with high-flow oxygen. CXR confirms pulmonary oedema. What further intravenous therapy would you commence?

1- Atenolol iv

2- Dobutamine iv

3- Dopamine iv

**4- GTN iv**

5- Milrinone iv

Q2943. A 78-year-old woman presents to A&E with three episodes of syncope in the last 24 hours. There is no history of chest pain. She is taking frusemide 80 mg od and ramipril 10 mg od for known hypertension. She is conscious with a blood pressure of 100/40 mmHg. Potassium is 5.3 mmol/l. Her ECG shows complete heart block with rate of 40 bpm. QRS duration is 150 ms with a right bundle-branch block configuration. What is the optimum initial management?

1- Dobutamine

2- Isoprenaline

3- Intravenous calcium chloride

**4- Temporary transvenous pacing**

5- Withhold medication and observe

Q2944. A 50-year-old man presents with a 1-hour history of severe central chest pain. There is no significant past medical history. He is haemodynamically stable with pulse rate of 90 bpm and blood pressure of 120/70 mm Hg. ECG shows 5 mm of ST-segment elevation in the anterior leads (V2-V4). He received aspirin 300 mg in the ambulance and 5 mg diamorphine. What would be the next line of treatment?

1- Clopidogrel

2- Enoxaparin

3- GIIb/IIa blocker

4- Streptokinase

**5- Tissue plasminogen activator**

Q2945. A 30-year-old woman presents with a three month history of chest pain. On auscultation, there is a midsystolic click and a late systolic murmur. Her electrocardiogram shows T-wave inversions in leads II, III, and aVF. Which of the following statements concerning her condition is true?

1- The woman’s chest pain could be due to associated coronary artery disease

**2- The click and murmur is likely to occur earlier in systole when the patient stands**

3- An exercise stress test would most likely be positive

4- Asymmetrical hypertrophy of the interventricular septum is revealed on echocardiography

5- Prophylactic measures to prevent subacute

Q2946. As medical registrar on call you are summoned to assist with a cardiac arrest on CCU. A 60-year-old man is being resuscitated having presented with unstable angina 3 days before. He has had three unsuccessful shocks for ventricular fibrillation and is receiving his second cycle of cardiopulmonary resuscitation. An anaesthetist is looking after his airway. He has a large-bore iv access in his antecubital fossa. What additional therapy would you consider at this point?

**1- Amiodarone**

2- Bretylium

3- Calcium chloride

4- Lidocaine

5- Sodium bicarbonate

Q2947. A 12-year-old boy with known heart disease is being advised regarding the risks of infective endocarditis. Which cardiac lesion is most likely to be prone to infection?

1- Atrial septal defect

**2- Aortic regurgitation**

3- Mitral stenosis

4- Mitral valve prolapse without regurgitation

5- Mitral regurgitation

Q2948. A 40-year-old man is referred by his GP for advice with regard to primary prevention of cardiovascular disease. He is a smoker with a strong family history of premature death from ischaemic heart disease. Following a period of lifestyle modification, his fasting cholesterol concentration is 7.2 mmol/l. On consultation of the local guidelines you find that his estimated 10-year risk of a coronary heart disease event is > 30%. What would you advise?

1- Cholestyramine

2- Dietician advice

3- Fibrate

4- Nicotinic acid

**5- Statin**

Q2949. A 53-year-old bus driver presents with a history of chest pain at rest. Initial ECG shows minor ST-segment depression in the lateral leads. Cardiac enzymes, including troponin, are normal. He has known angina, with angiography 3 years previously demonstrating minor right coronary artery disease. He is commenced on aspirin, a βblocker and a statin. His symptoms settle over 24 hours, 12 hr troponin is normal, and following mobilisation he is discharged home. He needs to know how this episode might affect his future employment. Assuming his condition remains stable with no further symptoms, what would be hte next stage of investigation?

1- Angiography

2- Echocardiogram

**3- Exercise testing**

4- Myocardial perfusion imaging

5- Review in outpatients after 6 weeks

Q2950. A 50-year-old woman is referred to out-patients for a previously asymptomatic atrial septal defect (ASD). She is new to the area and was last seen around 6 years ago in her previous local hospital. She is a smoker but without other significant medical history. She now complains of shortness of breath on exertion, together with peripheral oedema. Clinical examination reveals her to be clubbed and cyanosed. Her pulse rate is 90 bpm and blood pressure 98/60 mmHg. Echo demonstrates a dilated right heart with an estimated right ventricular pressure of 90 mmHg and significant tricuspid and pulmonary regurgitation. What is the likely diagnosis?

1- Cor pulmonale

**2- Eisenmenger's syndrome**

3- Infective endocarditis

4- Primary pulmonary hypertension

5- Pulmonary emboli disease

Q2951. A 48-year-old man is admitted with a prolonged episode of chest pain at rest. The ECG shows ST depression in the lateral leads and his troponin T level is 8.2 mg/l. Which of the following is the most appropriate combination of drugs for initial treatment?

1- Aspirin, ramipril, unfractionated heparin, diltiazem

2- Aspirin, warfarin, low molecular weight heparin, atenolol

**3- Aspirin, clopidogrel, low molecular weight heparin, atenolol**

4- Aspirin, losartan, unfractionated heparin, atenolol

5- Aspirin, ramipril, low molecular weight

Q2952. Which one of the following statements BEST describes primary pulmonary hypertension?

1- The familial form is inherited as sex-linked recessive

2- Chronic thromboembolic disease can be identified in 30% of primary cases

3- Spontaneous remission is the rule in more than half the cases

4- Cannabis inhalation may induce similar disease

**5- The risk for subacute bacterial endocarditis**

Q2953. Which one of the following statements is MOST accurate regarding coarctation of the aorta?

**1- The coarctation is proximal to the left subclavian artery origin if the right arm blood pressure is significantly higher than in the left arm**

2- Continuous murmur over the thoracic spine usually originates from extensive collaterals

3- Rib notching on plain chest X-ray can be identified as early as three months after birth

4- Atrial septal defect (ASD) is the commonest associated congenital abnormality

5- The risk for bacterial endocarditis means

Q2954. A 52-year-old man undergoes Bruceprotocol exercise testing 6 weeks following an uncomplicated inferior myocardial infarction. He is currently on aspirin 75 mg od, simvastatin 40 mg od, lisinopril 20 mg od and atenolol 25 mg od. Resting heart rate is 72 bpm and blood pressure is 130/70 mmHg. He achieves 4 minutes 15 seconds, stopping secondary to chest pain and associated STsegment depression in the inferolateral leads. What would be the next stage in his management?

1- Add diltiazem and review in clinic

2- Arrange an echocardiogram

3- Increase atenolol 50 mg od and repeat the exercise test

**4- Refer for coronary angiography**

5- Refer for a myocardial perfusion scan

Q2955. A 62-year-old lady is noted to have a loud first heart sound with reversed splitting of the second heart sound on auscultation. Which cardiological diagnosis is she most likely to have?

1- Hypertrophic cardiomyopathy

2- Left bundle branch block

3- Mitral stenosis

4- Right bundle branch block

**5- Wolff-Parkinson-White syndrome type B**

Q2956. A 30-year-old postman with hypertension but normally in good health presents to the emergency department with sudden severe breathlessness and sweating. Chest examination reveals bilateral basal crackles. He improves with diamorphine and frusemide (furosemide). Electrocardiograms (ECGs) and cardiac enzymes are normal. He develops two further episodes of pulmonary oedema which respond well to diuretics. The most likely cause of pulmonary oedema is?

1- Dilated cardiomyopathy

2- Myocarditis

3- Ischaemic heart disease

4- Phaeochromocytoma

**5- Renal artery stenosis**

Q2957. A 46-year-old Asian man with a past history of coronary artery bypass grafting presents with breathlessness. The jugular venous pressure (JVP) shows prominent x and y descents. The most likely cause is?

**1- Constrictive pericarditis**

2- Dilated cardiomyopathy

3- Pericardial effusion

4- Restrictive cardiomyopathy

5- Severe mitral regurgitation

Q2958. A 57-year-old man with ischaemic heart disease, and a recent transient ischaemic attack, is prescribed clopidogrel. How would the mechanism of action of this drug be best described?

1- Blocks glycoprotein IIb/IIIa receptors

2- Blocks thrombin receptors

3- Blocks thromboxane production

**4- Blocks platelet ADP receptors**

5- Potentiates antithrombin-III action

Q2959. A 47-year-old female patient attends the cardiology clinic for her symptoms of fatigue and ankle oedema. 2-D echocardiography shows diffuse ventricular wall thickening and marked dilatation of both atria, with granular sparkling of the left ventricular myocardium. She has been advised to avoid taking digoxin. Which of the following conditions is she most likely to have?

1- Hypertrophic cardiomyopathy

2- Dilated cardiomyopathy

3- Restrictive cardiomyopathy

**4- Amyloid heart disease**

5- Constrictive pericarditis

Q2960. A neonate is noted to be cyanosed within the 24 h following delivery. Which cardiac abnormality would be the most likely cause?

1- Ebstein's anomaly

2- Eisenmenger ventricular septal defect

3- Hypoplastic left heart

4- Tetralogy of Fallot

**5- Transposition of the great vessels**

Q2961. A 65-year-old man with chronic renal failure has a serum potassium level of 7.1 mmol/l (normal 3.5-5.5 mmol/l). What would be the most characteristic finding on ECG?

**1- Reduced P waves**

2- Prolonged QT intervals

3- Prominent U waves

4- Narrow QRS complexes

5- T-wave inversion

Q2962. A 35-year-old-woman gives a history of progressive exertional dyspnoea and fatigue over the last year. Examination reveals features of right-sided heart failure with pulmonary hypertension. Pulmonary function testing rules out obstructive airways disease. Lung perfusion scanning and pulmonary angiography fail to detect pulmonary thromboembolic disease. An echocardiogram shows enlarged right heart chambers. What is the likely diagnosis?

1- Pulmonary vasculitis

2- Mitral valve prolapse

**3- Primary pulmonary hypertension**

4- Mitral stenosis

5- Dilated cardiomyopathy

Q2963. A patient attending the cardiology clinic requires dental treatment. Which of the following conditions merit antibiotic prophylaxis?

1- Atrial septal defect

2- Hypertrophic cardiomyopathy

3- Patent ductus arteriosus

4- All of the above

**5- None of the above**

Q2964. A 60-year-old woman is found to have a systolic murmur at a routine medical. When you see her she is asymptomatic. Electrocardiography (ECG) shows marked left ventricular hypertrophy with strain. Echocardiography shows a peak aortic valve gradient of 90 mmHg, and decreased LV systolic function. What is the correct management?

1- Aortic valvuloplasty

2- Anticoagulation

3- Regular out-patient review

4- Routine aortic valve replacement

**5- Urgent aortic valve replacement**

Q2965. A 58-year-old man is having his drug therapy reviewed following a myocardial infarction. Which of the following has no proven benefit on mortality following myocardial infarction (MI)?

1- Atorvastatin

**2- Isosorbide mononitrate**

3- Ramipril

4- Timolol

5- Tirofiban

Q2966. A 70-year-old lady, who underwent mitral valve replacement surgery 2 years ago. She appeared to make a good recovery initially, but now presents with infective endocarditis. What causal organism would be most likely in her case?

1- E. coli

2- Staphylococcus aureus

3- Staphylococcus epidermidis

4- Streptococcus faecalis

**5- Streptococcus viridans**

Q2967. The plateau phase of the myocardial action potential is mediated by?

1- ATP-sensitive potassium current

2- Delayed rectifier potassium current

3- Fast sodium inward current

4- L-type calcium current

**5- Slow calcium inward current**

Q2968. The first-line treatment for a 50- year-old man with known poor left ventricular function who presents with a broad complex tachycardia at a rate of 150 beats/min (bpm) and a blood pressure of 120/70 mmHg is?

**1- Amiodarone**

2- β-blockers

3- Flecainide

4- Lidocaine

5- Verapamil

Q2969. An 18-year-old man with Marfan's syndrome is reviewed in the cardiology clinic after a screening ECG is found to be abnormal, with left axis deviation and prominent Q waves in I, III, aVF and V3-V6. Which cardiac abnormality is most likely to be found?

**1- Aortic regurgitation**

2- Atrial septal defect

3- Dilated cardiomyopathy

4- Pulmonary regurgitation

5- Persistent ductus arteriosus

Q2970. A 49-year-old man is noted to have shortening of the QT interval on the ECG. Which drug is most likely to be responsible?

1- Amiodarone

2- Atenolol

**3- Digoxin**

4- Flecainide

5- Sotalol

Q2971. A 3-month-old boy with a cyanotic heart lesion is found to have a patent ductus arteriosus (PDA). What is the best treatment for maintaining patency the PDA prior to surgery?

1- Indometacin

2- Surgical ligation

3- Angiographic ligation of the pulmonary artery

**4- Prostaglandin E1 administration**

5- No treatment

Q2972. A 16-year-old girl presents to the Emergency Department with a collapse and palpitations after attending her end-of-term school disco. Only medication history of note includes a recent antibiotic prescription for an infected toe. Past medical history includes allergy to penicillin. Family history reveals that her mother died suddenly at the age of 34 when the daughter was 3 years old. One aunt and one uncle have also passed away suddenly. Electrocardiogram (ECG) reveals sinus rhythm in the Emergency Department but the QT interval is prolonged at 550 ms (corrected). Which of the following conditions is most likely to be related to her collapse?

1- Wolff-Parkinson-White type A

2- Wolff-Parkinson-White type B

**3- Congenital long QT syndrome**

4- Lown-Ganong-Levine syndrome

5- Ebstein's anomaly

Q2973. A 42-year-old-man, known to be hypertensive, ran out of his medication two days ago. He presented to Casualty feeling short of breath and dizzy. His blood pressure on admission was 230/140 mmHg. Fundoscopy showed blurred disc margins. His chest revealed bibasal crepitations. With therapy, what blood pressure should you aim for in the next 1 hour in such cases?

1- < 130/80 mm Hg

2- < 140/90 mmHg

3- Decrease in mean arterial pressure (MAP) by 50%

**4- Decrease in MAP by 25%**

5- Decrease in MAP by 75%

Q2974. A 69-year-old man presents with a 3-hour history of chest pain. ECG shows an inferior wall infarction with ST elevation of 3 mm. There is no history of diabetes mellitus, injury or previous surgery. Blood pressure is 132/70 mmHg with a pulse of 58/min. Which of the following treatments would be most appropriate?

**1- Tissue plasminogen activator**

2- Aspirin

3- 2b3a inhibitor

4- Heparin

5- Metoprolol

Q2975. A 72-year-old diabetic man is admitted to A&E with a 40 minute history of central, crushing chest pain. The pain eases after an hour with bedrest, oxygen and morphine. ECG shows mild anterior ST flattening. The troponin T level is slightly raised. What would be the optimal management of the underlying cause of his chest pain be besides usual medical measures?

1- Discharge home with referral to the outpatients department

2- Low molecular weight heparin

3- Clopidogrel

4- Thrombolysis with tissue plasminogen activator

**5- Urgent coronary angiography**

Q2976. A 47-year-old man with chest pain of 1-hour duration is diagnosed as having acute myocardial infarction. Which of the following features, if present, would most contraindicate thrombolytic therapy?

1- Blood pressure 160/110 mmHg

**2- History of likely ischaemic stroke within the past month**

3- ST-segment elevation in ECG

4- Previous aspirin therapy

5- Elevated serum cholesterol

Q2977. A 20-year-old woman presents with a history of dyspnoea on exertion. On examination she has a wide, fixed, splitsecond sound with an ejection systolic murmur (III/VI) in the left second intercostal space. Her ECG shows left axis deviation. What is the most probable diagnosis?

**1- Ostium primum septal defect**

2- Tricuspid incompetence

3- Ostium secondum septal defect

4- Pulmonary stenosis

5- Aortic stenosis

Q2978. A 67-year-old lady, post-myocardial infarction, is suspected to have a left ventricular apical thrombus. What is the most suitable imaging technique for confirming this diagnosis?

1- Cardiac MR

2- Left ventricular angiography

3- Multiple uptake gated acquisition scanning

4- Transoesophageal echocardiography

**5- Transthoracic echocardiography**

Q2979. During a routine medical check-up, a 2-yearold boy has been found to have a continuous machinery murmur on auscultation just below the left clavicle. Given the likely diagnosis, what would be the most characteristic investigative finding in this patient?

**1- Dilated left ventricle on echocardiogram**

2- Right ventricular hypertrophy on ECG

3- Hilar haziness on chest X-ray

4- Prominent pulmonary artery and pulmonary plethora on chest X-ray

5- Polycythaemia

Q2980. A 19-year-old patient with WolffParkinson-White syndrome presents to the emergency department with a two-hour history of rapid palpitations. The heart rate is 180 beats/min (bpm). Blood pressure is 130/80 mmHg. The electrocardiogram (ECG) shows a regular broad complex tachycardia. What is the best treatment for the tachycardia?

**1- Direct current (DC) cardioversion**

2- Intravenous adenosine

3- Intravenous amiodarone

4- Intravenous flecainide

5- Intravenous verapamil

Q2981. An Asian boy with a known history of rheumatic heart disease presents with lowgrade fever for the past month. He received a course of antibiotics from his GP a week ago. Which of the following investigations would be most useful in the diagnosis?

1- Blood culture

2- Serological testing

**3- Echocardiogram**

4- C-reactive protein

5- Full blood count

Q2982. A 64-year-old man with WolffParkinson-White syndrome presents with uneasiness and palpitations. The ECG shows fine oscillations of the baseline and no clear P waves. The QRS rhythm is rapid and irregular. The ventricular rate is 120 beats per minute. His blood pressure is 90/60 mmHg. Which of the following interventions would be most appropriate in this case?

1- Digoxin

2- Verapamil

**3- DC Cardioversion**

4- Metoprolol

5- Procainamide

Q2983. A 60-year-old man complains of dizziness and palpitations. An ECG shows tachycardia, broad QRS complexes, AV dissociation and the presence of capture beats. What is the most probable diagnosis?

**1- Sustained ventricular tachycardia**

2- Ventricular fibrillation

3- Torsades de pointes

4- Ventricular premature beats

5- Atrial tachycardia

Q2984. A 30-year-old-man presents to the outpatient clinic with a 2-month history of progressive effort intolerance. Some three weeks ago he experienced an episode of shortness of breath at rest, suggestive of paroxysmal nocturnal dyspnoea. Examination reveals a JVP raised up to his earlobes, a soft tender hepatomegaly and a bilateral pitting oedema up to his knees. Chest examination reveals bibasal crepitations, and an audible S3 on auscultation of the heart. The chest X-ray shows cardiomegaly with interstitial infiltrates. Echocardiography shows global left ventricular hypokinesia with an ejection fraction of 25-30%. Which of the following is the LEAST likely aetiological factor?

1- Alcohol abuse

2- Genetic factor

3- Adenovirus

**4- Eosinophilic states**

5- HIV infection

Q2985. A 65-year-old man is admitted with a broad complex tachycardia. Which one of the following features would suggest a diagnosis of supraventricular tachycardia with aberrancy and help to exclude ventricular tachycardia?

1- Capture beats on the electrocardiogram (ECG)

2- Past history of ischaemic heart disease

3- Right bundle branch block morphology with left axis deviation on the ECG

**4- Temporary alleviation by carotid sinus massage**

5- Variable intensity of the first heart sound

Q2986. A patient with acute inferior wall myocardial infarction develops shock. Which of the following complications of his MI is most likely to be the cause?

1- Cardiac rupture

2- Interventricular septal perforation

3- Papillary muscle rupture

**4- Right ventricular infarction**

5- Atrial fibrillation

Q2987. A 67-year-old man is admitted with chronic congestive heart failure. Based on this history, what is the most important factor to be kept in mind when prescribing drugs for this patient?

1- Loop diuretic administration would result in a decrease in mortality

2- Digoxin is more effective than ACE inhibitors in providing symptomatic relief

**3- Administration of a β-blocker reduces the time spent in hospital**

4- Administration of spironolactone has no effect on the incidence of sudden cardiac death

5- Angiotensin II-receptor antagonists have a

Q2988. A 25-year-old primigravida who is 26 weeks' pregnant, presents to the casualty department with symptoms of headache, flashing lights and vomiting. Her blood pressure was recorded at 140/100 mmHg and her antenatal diary showed consistent systolic readings of 110-120 mmHg and consistent diastolic readings of less than 80 mmHg. She has a history of mild asthma but was otherwise in good health prior to pregnancy, and there is no family history of note. Which of the following would be the drug of first choice?

1- Valsartan

2- Labetolol

**3- Methyldopa**

4- Nifedipine

5- Ramipril

Q2989. A 22-year-old cocaine addict presents with an acute myocardial infarction. His blood pressure is 180/110 mmHg. Which is the most appropriate treatment?

1- Thrombolysis

2- Heparin

**3- Percutaneous coronary intervention**

4- Naloxone

5- Glycoprotein 2b/3a inhibitors

Q2990. An elderly woman is taking frusemide and ramipril for heart failure. She visited her GP complaining of pain in her left knee and was prescribed rofecoxib. Two weeks later she is admitted in A&E with breathlessness and pedal oedema. What is the most likely cause of her symptoms?

1- Drug interaction with frusemide

2- Drug interaction with ramipril

**3- Fluid retention due to rofecoxib**

4- Impairment of renal function

5- Anaemia due to gastrointestinal bleeding

Q2991. An obese 50-year-old woman suddenly develops dyspnoea and hypotension 3.5 days after undergoing a total abdominal hysterectomy. There is mild jugular venous distension with prominent A waves. The lung fields are clear. ECG shows tachycardia with a right bundle-branch block and minor ST-segment changes. What is the most likely diagnosis?

1- Acute myocardial infarction

**2- Pulmonary embolism**

3- Aspiration pneumonia

4- Aortic dissection

5- Pneumothorax

Q2992. The epsilon potential is seen on the ECG of patients with which of the following?

1- Hypertrophic cardiomyopathy

2- Restrictive cardiomyopathy

**3- Right ventricular dysplasia**

4- Romano Ward syndrome

5- Digoxin toxicity

Q2993. A 72 year old man is being reviewed in the cardiac unit. He has developed a ventricular tachycardia of 160bpm, looks unwell and has a blood pressure of 90/62mmHg. Which of the following would be the most immediate treatment choice?

1- Immediate heparinisation

2- Intravenous lidocaine

**3- DC cardioversion**

4- Intravenous adenosine

5- Carotid sinus massage

Q2994. A 45-year-old asthmatic patient presents with palpitations. An ECG shows supraventricular tachycardia, with narrow QRS complexes. Carotid sinus massage is not successful. What would you do next?

1- Administer intravenous adenosine

**2- Administer intravenous verapamil**

3- Administer intravenous digoxin

4- Administer intravenous sotolol

5- DC cardioversion

Q2995. A 60-year-old man with unstable angina on long-term digoxin was being monitored on the ward with telemetry when the monitor displayed a tachycardia of 180 bpm. The printout showed discrete normal morphology P waves before each QRS complex and there was an acceleration in the rate after initiation of the arrhythmia. The QRS width was 0.12 s. Which of the following is the most likely arrhythmia?

**1- Automatic supraventricular tachyarrhythmias**

2- AV nodal re-entrant tachycardia

3- Bypass tract-mediated macroentrant tachycardia

4- Intra-atrial re-entry

5- Ventricular tachycardia

Q2996. A patient with an aortic valve replacement develops right hemiparesis. CT scan shows cerebral infarction. There is no evidence of cerebral haemorrhage. The INR is 2.0. How would you manage this case?

1- Reverse the anticoagulation with vitamin K

**2- Stop warfarin and start intravenous heparin**

3- Increase the dose of warfarin

4- Continue warfarin and add intravenous heparin

5- Decrease the dose of warfarin until the INR

Q2997. A 75-year-old man with isolated systolic hypertension, who also has urinary incontinence, gout and asthma, attends outpatients with a blood pressure reading of 190/86 mmHg. Which of the following drugs would you initiate for this patient?

**1- Amlodipine**

2- Atenolol

3- Bendrofluazide

4- Doxazosin

5- Valsartan

Q2998. A 60-year-old man with NYHA (New York Heart Association) class II heart failure, is taking angiotensin-converting enzyme (ACE) inhibitors and Β-blockers for his heart failure. He is generally well in himself. On direct questioning at his routine outpatient visit, it is noticed that his exercise tolerance has decreased over the last year. Which of the following drugs should be added to his list of medications?

1- Digoxin

2- Frusemide

3- Isosorbide mononitrate

**4- Spironolactone**

5- Valsartan

Q2999. A 50-year-old man suffers an extensive anterior myocardial infarction but recovers well in hospital. His predischarge ECHO shows him to have an ejection fraction of 35%. He is otherwise asymptomatic. His medications on discharge should include which of the following?

**1- Aspirin, atenolol, ramipril and a statin**

2- Aspirin, atenolol, ramipril, frusemide and a statin

3- Aspirin, isosorbide mononitrate, ramipril and a statin

4- Aspirin, nitrate, losartan and a statin

5- Aspirin, atenolol, ramipril, losartan and a

Q3000. A 55-year-old obese woman presents to the casualty department with worsening dyspnoea and ankle swelling due to end-stage heart failure. Her renal functions are within normal limits and her potassium is 4.4 mmol/l. Which of the following combinations of drugs is best suited for her in terms of mortality benefit?

1- Ramipril, amiloride and bendrofluazide

2- Ramipril, amiloride, bendrofluazide and atenolol

3- Ramipril, frusemide and bendrofluazide

4- Ramipril, frusemide, bendrofluazide and atenolol

**5- Ramipril, frusemide, bendrofluazide,**

Q3001. A 50-year-old woman who is already on ramipril, frusemide and bisoprolol for heart failure, decompensates and presents to A&E with pulmonary oedema. Her heart rate is 120 bpm and her blood pressure is 100/65 mmHg. She is given oxygen and diamorphine. Which of the following actions is indicated in her further management?

**1- Increase diuretics and maintain the current dose of β-blocker**

2- Increase diuretics, reduce the β-blocker dose

3- Increase diuretics, increase the β-blocker dose

4- Increase diuretics, stop β-blockers and later increase the β-blocker dose when her lungs are dry

5- Increase diuretics, stop β-blockers and

Q3002. A 50-year-old man had a mechanical aortic-valve replacement for severe aortic stenosis, and was discharged home 10 days later. Two weeks later, he started feeling unwell and had lethargy, nausea and pyrexia of 38.3 A°C. Echocardiography showed vegetations on the aortic valve. Which of the following is the most likely causative organism?

1- Enterococci

2- Group D streptococci

3- Haemophilus influenzae

**4- Staphylococcus epidermidis**

5- Streptococcus viridans

Q3003. A patient presents with congestive heart failure. Which drug may be effective in reducing mortality?

**1- Enalapril**

2- Aspirin

3- Digoxin

4- Frusemide

5- Lidocaine

Q3004. An elderly, normotensive man with poor left ventricular function presents with a broadcomplex tachycardia. His BP is stable at 125/70 mmHg, his pulse is 145/min. A previous ECG in his records shows that he was in left bundle branch block 2 years earlier. Which of the following drugs would be the first choice in treatment?

1- Sotalol

**2- Amiodarone**

3- Verapamil

4- Lidocaine

5- Flecainide

Q3005. A 20-year-old woman complains of recurrent syncope. Each attack has occurred after attending an aerobics class. On examination, a systolic murmur is heard which worsens with the Valsalva manoeuvre and improves on squatting. What could be the diagnosis?

1- Epilepsy

**2- Hypertrophic obstructive cardiomyopathy**

3- Atrial fibrillation

4- Aortic stenosis

5- Vasovagal attack

Q3006. A 70-year-old woman is admitted with chest pain and breathlessness. On examination, her heart rate is 170 beats/min, her BP is 125/72 mmHg. ECG shows atrial fibrillation. What is the next step in her management?

1- Administration of propranolol

2- Administration of verapamil

3- Asynchronous cardioversion

4- Administration of warfarin

**5- Immediate heparinisation**

Q3007. A 75-year-old man with congestive cardiac failure presents with atrial fibrillation. He is haemodynamically stable with a ventricular rate of 72. He has a good functional state, although ECHO cardiography revealed a dilated left atrium and mild mitral regurgitation. Which drug option would be most beneficial for this patient?

1- Aspirin

2- Digoxin

3- Frusemide

4- Lidocaine

**5- Warfarin**

Q3008. What is the commonest cause of restrictive cardiomyopathy in the UK?

1- Pompe's disease

**2- Amyloidosis**

3- Endocardial fibroelastosis

4- Carnitine deficiency

5- Acute coxsackievirus infection

Q3009. The use of prostaglandin to keep the ductus arteriosus open is necessary in which of the following?

**1- Tricuspid atresia**

2- Atrioventricular septal defect

3- Total anomalous pulmonary venous return with obstruction

4- Aortic stenosis

5- Atrial septal defect

Q3010. A previously fit young man with a history of heavy smoking comes to the casualty department complaining of breathlessness and dull chest pain occurring suddenly in the middle of a pub team football match. On examination a systolic click is heard over the precordium. What is the possible diagnosis?

1- Pulmonary embolism

2- Mitral valve prolapse

3- Unstable angina

4- Myocardial infarction

**5- Pneumothorax**

Q3011. A patient has broad-complex tachycardia features resembling ventricular tachycardia rather than supraventricular tachycardia with a bundle-branch conduction defect. Which of the following makes WolffParkinson-White the most likely underlying diagnosis?

1- Absence of capture or fusion beat

**2- ECG in sinus rhythm reveals right bundlebranch block with left axis deviation**

3- QRS duration less than 140 ms

4- P wave preceding wide QRS complex

5- V-lead polarity is discordant

Q3012. A 20-week pregnant woman with a history of asthma is noted to have consistent blood pressure readings over 170/95 mmHg. Which of the following antihypertensives would you initiate for this patient?

**1- Nifedipine**

2- Diltiazem

3- Bendrofluazide

4- Enalapril

5- Losartan

Q3013. A 58-year-old man's ECG shows a combination of a prolonged QT interval with tall T waves. What is this suggestive of?

**1- Uraemia**

2- Hypocalcaemia

3- Hypokalaemia

4- Hypermagnesaemia

5- Metabolic alkalosis

Q3014. Which of the following is a feature of coarctation of the aorta?

1- If it occurs above the left subclavian artery, blood pressure elevation may be evident only in the left arm

2- It is always associated with a continuous murmur

**3- It is often accompanied by a bicuspid aortic valve**

4- It presents with the inability to augment cardiac output with exercise

5- Surgical correction usually resolves the

Q3015. A young man comes to the A & E Department complaining of feeling unwell and palpitations. Supraventricular tachycardia is confirmed on ECG and he responds to carotid sinus massage. Subsequently, the ECG shows a PR interval of 0.09 sec, widened QRS complex in all leads with a slurred upstroke, dominant R wave in V1 and left axis deviation. What is the most likely diagnosis?

1- Rheumatic fever

**2- Wolff-Parkinson-White syndrome**

3- Atrial fibrillation

4- ASD

5- Right bundle-branch block

Q3016. A patient with angina is admitted for cardiac catheterisation. There is a suspicion that she may be suffering from hyperthyroidism. Which investigation would be useful to differentiate as to whether the use of contrast media may worsen any underlying thyroid condition?

**1- Thyroid radionucleotide isotope scan**

2- TSH levels

3- T4 levels

4- Measurement of TPO (thyroid peroxidase) antibodies

5- Ultrasound scan

Q3017. A 32-year-old man with WolffParkinson-White syndrome presents with a 2- hour history of palpitations and breathlessness. On examination, his heart rate is 190 beats/min with blood pressure of 100/60 mmHg. ECG shows broad-complex tachycardia. What would be your first line of treatment?

1- Intravenous amiodarone

2- Intravenous flecainide

3- Intravenous adenosine

**4- DC cardioversion**

5- Intravenous verapamil

Q3018. A 40-year-old healthy man attends a health check-up clinic prior to procuring a health insurance policy. He is found to have a faint systolic murmur. An echocardiogram reveals a bicuspid aortic valve. What should he be told?

1- His family members should be checked for a similar condition

2- He should start treatment with a cholesterol-lowering drug

3- He should undergo further tests to check for any autoimmune disorder

**4- He may require heart surgery at a later date**

5- He should start treatment with low-dose

Q3019. A 54-year-old man suddenly develops weakness of the left side of his face and arm and difficulty in speech. This episode lasts for 15 minutes. He has a history of hypertension, which is well controlled on a calcium channel blocking agent. His brother had had a severe disabling stroke at the age of 50. Cholesterol level is 5.8mmol/l. CT scan performed the same day shows the presence of 2 old lacunar strokes in the right middle cerebral artery territory. CT angiogram of the carotid system shows a 60% stenosis of the right internal carotid artery. Which of the following factors is the strongest predictor of his being at a high risk of early recurrent stroke?

1- Positive family history

2- History of hypertension

3- Hyperlipidaemia

**4- Presence of moderate carotid stenosis**

5- Presence of previous strokes on CT scan

Q3020. In the cardiology outpatients' department, a 50-year-old obese woman was noticed to have a systolic murmur over her precordium. Isometric exercise by handgrip intensified the murmur. What is the most likely cause of her murmur?

1- Aortic stenosis

2- Hypertrophic obstructive cardiomyopathy

**3- Mitral regurgitation**

4- Mitral valve prolapse

5- Tricuspid regurgitation

Q3021. Which of the following microanatomical structures within the heart interacts with conventional calcium-channel blockers?

**1- L type Calcium-channels**

2- Calcium-channel T type

3- T tubules

4- Titin

5- Tropomyosin

Q3022. Which of the following antiarrhythmic agents works primarily by its action on SA and AV nodes?

1- Amiodarone

2- Atenolol

3- Flecainide

4- Sotalol

**5- Verapamil**

Q3023. Which of the following best describes the mechanism of action of flecainide as an antiarrhythmic agent?

**1- Slows the upstroke of the action potential**

2- Increases the action-potential duration

3- Has a direct membrane effect

4- Increases vagal tone

5- Affects SA and AV nodes

Q3024. A 30-year-old woman with a previous history of deep vein thrombosis is expecting her first child. During which phase of her pregnancy and puerperium does she have the greatest risk of venous thrombosis?

1- First trimester

2- Second trimester

3- Third trimester

4- During delivery

**5- First 6 weeks after delivery**

Q3025. Which of the following antiarrhythmics have the highest risk of producing torsades de pointes?

1- Flecainide

2- Lidocaine

3- Phenytoin

4- Propafenone

**5- Sotalol**

Q3026. A 68-year-old man, although asymptomatic from the cardiac viewpoint, has an ejection systolic murmur best heard in the aortic area. The murmur radiates to the carotids. Echocardiography confirms severe aortic stenosis with a gradient of 85 mmHg across the calcified aortic valve. What is the risk of sudden cardiac death per year in such patients?

**1- <5%**

2- 6-9%

3- 10-25%

4- 25-50%

5- More than 75%

Q3027. A 25-year-old medical student noticed that he had a murmur when he tested his new stethoscope. On assessment in the cardiology clinic, he was found to have a harsh systolic murmur over his precordium, which did not change with inspiration. ECG showed features of biventricular hypertrophy. What is the most likely diagnosis?

1- Aortic stenosis

2- Hypertrophic cardiomyopathy

3- Mitral regurgitation

4- Tricuspid regurgitation

**5- Ventricular septal defect**

Q3028. To establish the aetiology of pulmonary hypertension, a cardiac catheter study was performed. The wedge pressure was normal and the mean mitral valve diastolic pressure gradient was > 3 mmHg at rest, both of which increased with exercise. From this data, what is the probable diagnosis?

1- Congenital heart disease

2- Left ventricular diastolic dysfunction

3- Major pulmonary artery occlusion

4- Mitral regurgitation

**5- Mitral stenosis**

Q3029. A 25-year-old man presents to the emergency department wth a 1-week history of fever and myalgia. He had travelled to Chile 8 weeks ago. On examination there are no positive findings, although the patient recollects that his right eyelid was swollen for a few weeks after he left Chile. ECG reveals non-specific, T-wave changes in all leads. What is the most likely diagnosis?

1- Echinococcosis

2- Falciparum malaria

3- Schistosomiasis

4- Toxoplasmosis

**5- Trypanosomiasis**

Q3030. A 25-year-old man presents to the emergency department wth a 1-week history of fever and myalgia. He had travelled to Chile 8 weeks ago. On examination there are no positive findings, although the patient recollects that his right eyelid was swollen for a few weeks after he left Chile. ECG reveals non-specific, T-wave changes in all leads. What is the most likely diagnosis?

1- Echinococcosis

2- Falciparum malaria

3- Schistosomiasis

4- Toxoplasmosis

**5- Trypanosomiasis**

Q3031. A 25-year-old man presents to the emergency department wth a 1-week history of fever and myalgia. He had travelled to Chile 8 weeks ago. On examination there are no positive findings, although the patient recollects that his right eyelid was swollen for a few weeks after he left Chile. ECG reveals non-specific, T-wave changes in all leads. What is the most likely diagnosis?

1- Echinococcosis

2- Falciparum malaria

3- Schistosomiasis

4- Toxoplasmosis

**5- Trypanosomiasis**

Q3032. A 25-year-old man presents to the emergency department wth a 1-week history of fever and myalgia. He had travelled to Chile 8 weeks ago. On examination there are no positive findings, although the patient recollects that his right eyelid was swollen for a few weeks after he left Chile. ECG reveals non-specific, T-wave changes in all leads. What is the most likely diagnosis?

1- Echinococcosis

2- Falciparum malaria

3- Schistosomiasis

4- Toxoplasmosis

**5- Trypanosomiasis**

Q3033. A 25-year-old man presents to the emergency department wth a 1-week history of fever and myalgia. He had travelled to Chile 8 weeks ago. On examination there are no positive findings, although the patient recollects that his right eyelid was swollen for a few weeks after he left Chile. ECG reveals non-specific, T-wave changes in all leads. What is the most likely diagnosis?

1- Echinococcosis

2- Falciparum malaria

3- Schistosomiasis

4- Toxoplasmosis

**5- Trypanosomiasis**

Q3034. A 25-year-old man presents to the emergency department wth a 1-week history of fever and myalgia. He had travelled to Chile 8 weeks ago. On examination there are no positive findings, although the patient recollects that his right eyelid was swollen for a few weeks after he left Chile. ECG reveals non-specific, T-wave changes in all leads. What is the most likely diagnosis?

1- Echinococcosis

2- Falciparum malaria

3- Schistosomiasis

4- Toxoplasmosis

**5- Trypanosomiasis**

Q3035. Urinary hesitancy as a sign of druginduced toxicity is characteristic of which of the following antiarrhythmics?

1- Amiodarone

2- Sotalol

**3- Disopyramide**

4- Flecainide

5- Verapamil

Q3036. A 25-year-old man's blood pressure is consistently 30 mmHg higher when measured in his right arm compared with in his left arm. What is the most likely diagnosis?

1- Arterial obstructive disease

2- Artefact due to lack of simultaneous recording

3- Subclavian steal syndrome

**4- Supravalvular aortic stenosis**

5- Takayasu's arteritis

Q3037. A 50-year-old male is brought to A&E with acute-onset central chest pain that started 1½ hours ago. His ECG taken on arrival showed ST elevations of 4 mm in leads II, III, aVF and V4-V6 with hyperacute T waves. His pulse was 60 per minute and his BP was 146/60. The SaO2 was 92%. He was given O2 by mask and two large intravenous cannulas were inserted. Which of the following blood tests would be most useful prior to commencing definitive treatment?

1- Myoglobin

2- Troponin I

3- CK-MB

4- LDH

**5- None**

Q3038. An 80-year-old man has isolated systolic hypertension. He also suffers from angina, gout and peripheral vascular disease. Which of the following antihypertensives is best suited for him initially?

1- Bendrofluazide

2- Frusemide

3- Atenolol

**4- Nifedipine**

5- Ramipril

Q3039. An article in a leading medical journal reads: 'an insertion of 5 nucleotides in the gene was identified as the cause of hypertrophic cardiomyopathy in this family'. Which of the following type of mutation is the author referring to?

**1- Frame-shift mutation**

2- Repeat mutation

3- Missense mutation

4- Nonsense mutation

5- Point mutation

Q3040. A 50-year-old man has effort-related angina. His total cholesterol is 5.5 mmol/litre. He has no other cardiac risk factors and no other relevant medical history. Which of the following is the most appropriate initial treatment?

**1- β-blocker and statin**

2- Calcium-channel blocker and nitrate

3- Diltiazem and statin

4- Nitrate, β-blocker and calcium-channel blocker

5- Nitrate and statin

Q3041. A 30-year-old pilot, who is otherwise fit and well, is found to have a WPW (WolffParkinson-White) pre-excitation pattern on the ECG. Which of the following is the most suitable management?

1- Amiodarone

2- Class Ia antiarrhythmics

3- Electrophysiological study for risk stratification

4- Leave alone and repeat ECG after 6 months

**5- Radiofrequency catheter ablation of**

Q3042. Which of the following conditions is most likely to produce a wide, relatively fixed split of S2?

1- Congestive cardiac failure

2- Left bundle-branch block

3- Moderate ventricular septal defect

**4- Right bundle-branch block and heart failure**

5- Wolff-Parkinson-White syndrome

Q3043. A 25-year-old woman is seen in outpatients and is found to have loud first heart sound, an early diastole sound followed by a mid-diastolic murmur. What is the likely diagnosis?

1- Mitral stenosis with a fourth heart sound

2- Mitral stenosis with atrial fibrillation

**3- Mitral stenosis with mobile leaflets**

4- Mitral stenosis with pulmonary hypertension

5- Mitral valve prolapse

Q3044. What does a prominent left precordium in a 16-year-old young man with an ejection murmur in the second left intercostal space indicate?

1- ASD with aortic regurgitation

2- ASD with aortic stenosis

3- ASD with mitral stenosis

**4- ASD with pulmonary hypertension**

5- Uncomplicated ASD

Q3045. A 17-year-old young man presents with palpitations. His physical examination is normal except for a systolic murmur in the second left intercostal space and prominent precordial motion with a late systolic impulse. Which of the following conditions is he likely to have?

1- Aortic stenosis

2- Atrial septal defect

**3- Hypertrophic cardiomyopathy**

4- Mitral valve prolapse

5- Mixed aortic valve disease

Q3046. A 32-year-old man is brought to A&E in a collapsed state having sustained a precordial stab wound. Which of the following cardiac valves is most likely to have been injured?

1- Aortic valve

**2- Tricuspid valve**

3- Pulmonary valve

4- Mitral valve

5- Thebasian valve

Q3047. Which of the following pharmacological agents is most likely to benefit a patient with angina due to cardiac syndrome X?

1- Aspirin

2- Bisoprolol

3- Diazepam

4- Diltiazem

**5- Isosorbide mononitrate**

Q3048. A 25-year-old man with right ventricular cardiomyopathy, previously asymptomatic, has sustained monomorphic ventricular tachycardia on treadmill exercise. Which of the following treatment options is considered the usual first line option?

1- Flecainide

2- Implantable cardioverter defibrillator

3- Radiofrequency catheter ablation

4- Rate-responsive, dual-chamber pacemaker

**5- Sotalol**

Q3049. A 16-year-old young man had a cardiac arrest while playing football and was resuscitated. He recovered fully and was later found to have HOCM (hypertrophic obstructive cardiomyopathy). Which is the best treatment option?

**1- Implantable cardioverter defibrillator**

2- Amiodarone

3- β-Blockers

4- Verapamil

5- Rate-responsive, dual-chamber pacemaker

Q3050. A patient has tuboeruptive xanthomas, distributed subcutaneously and mainly on the extensor surface of extremities. What is the probable diagnosis?

1- Type I hyperlipoproteinaemia

2- Type II hyperlipoproteinaemia

**3- Type III hyperlipoproteinaemia**

4- Type IV hyperlipoproteinaemia

5- Type V hyperlipoproteinaemia

Q3051. Which of the following patients would be best served by a permanent pacemaker?

1- 40-year-old man with third-degree AV block and a maximum documented period of asystole of 1.5 s

**2- 40-year-old man with type II seconddegree AV block and an escape rate of 30 bpm when awake and asymptomatic**

3- 40-year-old man with Lyme disease having symptomatic complete AV block

4- 40-year-old man with chronic asymptomatic trifascicular block and firstdegree AV block

5- 40-year-old man 3 days after suffering an

Q3052. A 30-year-old man presents complaining of wheezing and loose motions. On examination he has prominent precordial pulsations. What is the most likely diagnosis?

**1- Carcinoid heart disease**

2- Congenital tricuspid regurgitation

3- HIV-associated heart disease

4- Rheumatic heart disease

5- Traumatic heart disease

Q3053. A 58-year-old man with a history of hypertension managed with ramipril 10mg daily and 40 pack years of cigarette smoking presents to the Emergency department after a collapse at work. Neurological examination reveals a left sided hemiplegia. Investigations; Hb 13.8 g/dl WCC 5.4 x 109 /L PLT 192 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 149 µmol/l CT head - No intra-cerebral haemorrhage identified What is the time limit after presentation during within which thrombolysis should be administered?

1- 1hr

2- 3hrs

**3- 4 1/2 hrs**

4- 6hrs

5- 12hrs

Q3054. A 70-year-old woman presents to the preoperative orthopaedic clinic prior to hip replacement. She has suffered a myocardial infarction 4 years earlier and is managed with aspirin 75mg daily, ramipril 10mg daily and atorvastatin 40mg daily. There is no history of angina but she is only able to walk around 50 yards. On examination she looks well, her BP is 145/80 mmHg with a pulse of 75/minute. Bloods; Hb 14.0 g/dl WCC 5.9 x 109 /L PLT 180 x 109 /L Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 130 µmol/l Which of the following is the most appropriate investigation to assess her suitability for surgery from the point of view of her cardiovascular status?

1- 12-lead ECG

2- Treadmill stress test

3- Echocardiogram

**4- Dobutamine stress echo**

5- Cardiac angiography

Q3055. A 65-year-old-man is admitted with dyspnoea and tachypnoea, a respiratory rate of 26/min and haemoptysis. Which of the following statements is true regarding ventilation/perfusion (V/Q) scans in such patients?

1- V/Q scans are of use if they are performed immediately

2- V/Q scans are superior to spiral CT scans in patients with underlying COAD

3- Ventilation scans are performed with argon gas

**4- A high probability V/Q scan correctly identifies PE in 86-92% of cases**

5- V/Q scans are especially useful in patients

Q3056. A 45-year-old man was diagnosed with new onset AF after visiting his GP complaining of palpitations. An ECG confirmed atrial fibrillation with a ventricular rate of 85/minute, and an ECHO did not reveal any significant structural heart disease. On advice of the hospital he was given low molecular weight heparin and stabilised on warfarin, with an INR of 2.5. You arrange for him to be cardioverted a few weeks later and the procedure is successful. For how long is it recommended to continue his warfarin therapy according to current guidelines?

1- For life

2- For 1 week

3- For 72 hours

**4- For four weeks**

5- For 6 months

Q3057. You review a 26-year-old woman who attends the cardiology clinic with her husband. They wish to start a family, but they have been referred by the GP as he is worried that she has a history of heart disease. Which of the following cardiovascular conditions is an absolute contra-indication to pregnancy?

1- Mitral valve prolapse

2- Previous repaired patent ductus arteriosus

3- Atrial septal defect

**4- Primary pulmonary hypertension**

5- Bicuspid aortic valve

Q3058. A 58-year-old man with multiple dental problems presents to the Emergency department. Apart from an abscess on his toe for which he has been receiving flucloxacillin he has been relatively well. On examination he has splinter haemorrhages and looks anaemic. You detect an aortic systolic murmur. Echocardiogram is suggestive of aortic valve endocarditis and blood cultures confirm Streptococcus viridans. In addition to IV benzylpenicillin which antibiotic would you prescribe?

1- Ceftriaxone

**2- Gentamicin**

3- Azithromycin

4- Vancomycin

5- Ciprofloxacin

Q3059. A 62-year-old woman is admitted having collapsed at her local supermarket complaining of palpitations. On examination she is very unwell with a BP of 90/50 mmHg and very rapid palpitations. Investigations; ECG - Ventricular tachycardia with moving axis - torsade de pointes Which of the following drugs is not associated with this arrhythmia?

1- Sotalol

**2- Verapamil**

3- Flecainide

4- Digoxin

5- Risperidone

Q3060. You review a 28-year-old woman with palpitations. On examination you suspect that there is splitting of the first heart sound. Her BP is 123/80 mmHg, P 70/min regular, and her chest is clear, there are no other cardiovascular findings. You arrange a 12 lead ECG Which part of the ECG is most closely associated with the first heart sound?

1- P Wave

2- T Wave

3- S Wave

**4- R Wave**

5- U wave

Q3061. A 70-year-old lady with a history of asthma presents with shortness of breath for some days. She is also treated with ramipril 10mg daily. On examination her blood pressure is 135/85 mmHg, pulse is 100/min (atrial fibrillation). She is not in cardiac failure. Examination of the respiratory system reveals wheeze consistent with asthma. Results; Hb 13.2 g/dl WCC 6.1 x 109 /L PLT 240 x 109 /L Na+ 138 mmol/l K+ 4.7 mmol/l Creatinine 125 μmol/l CXR Cardiomegaly consistent with longstanding hypertensive heart disease Which of the following is the most appropriate treatment for her atrial fibrillation?

1- Diltiazem

**2- Digoxin**

3- Amiodarone

4- Atenolol

5- Dysopyramide

Q3062. A 62-year-old man with two previous myocardial infarctions and a history of LVF controlled with ramipril and furosemide presents to his GP with palpitations. On examination his BP is 120/72 mmHg, pulse 85/min AF, with bibasal crackles consistent with heart failure. Investigations; Hb 12.1 g/dl WCC 5.4 x 109 /L PLT 234 x 109 /L Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 130 μmol/l ECG - Anterior Q waves, atrial fibrillation, rate 82 BPM ECHO - Dilated left atrium and left ventricle Which of the following would be the most appropriate agent to control his AF?

1- Diltiazem

2- Sotalol

3- Amiodarone

**4- Digoxin**

5- Verapamil

Q3063. A 54-year-old woman with a history of atrial fibrillation presents with left face and arm weakness consistent with a stroke. On examination her BP is 162/82 mmHg, with a pulse of 85/min, irregular. Investigations; Hb 12.1 g/dl WCC 5.4 x 109 /L PLT 175 x 109 /L Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 105 µmol/l ECG - Atrial fibrillation, evidence of previous inferior myocardial infarction CT head - No evidence of intracerebral haemorrhage 6hrs post stroke you are considering anticoagulation or anti-platelet therapy, which of the following would be most appropriate?

1- Full IV heparinisation

2- LMW heparin and commence warfarin treatment

3- Alteplase

**4- Aspirin**

5- Streptokinase

Q3064. A 30-year-old man is being investigated for hypertension. A combination of BPs estimated by colour flow Doppler and measured values are listed below. Observed BPs LV200/10 mmHg Ascending aorta200/70 mmHg Right arm190/70 mmHg Right femoral artery110/70 mmHg Which of the following is the most likely diagnosis?

**1- Coarctation of aorta**

2- Left subclavian artery stenosis

3- Aortic regurgitation

4- Aortic stenosis

5- HOCM

Q3065. A 53-year-old patient who has had chemotherapy for metastatic breast cancer 6 months earlier comes to the clinic complaining of shortness of breath on exertion. Her BP is 125/78 mmHg, her pulse is 94/min and her apex beat is displaced to the anterior axillary line. Investigations Hb 11.9 g/dl WCC 5.0 x 109 /L PLT 190 x 109 /L Na+ 140 mmol/l K+ 4.5 mmol/l Creatinine 160 μmol/l CXR – Cardiomegaly, increased shadowing consistent with mild pulmonary oedema at both bases Which chemotherapeutic agent is most likely to be responsible for this patient's symptoms?

**1- Doxorubicin**

2- Docetaxel

3- Cisplatin

4- Bleomycin

5- Carbiplatin

Q3066. A 22-year-old-woman presents to A&E with a 4-day history of chest pain. She has been unwell with an influenza-like illness for the last week. The ECG shows widespread ST elevation in the inferior, anterior and lateral leads. What ECG changes would you expect to see in the next week or two?

1- Development of deep Q waves in all leads

2- ST depression in inferior and lateral leads

**3- T-wave inversion in all leads**

4- Tall and peaked T waves in all leads

5- Loss of R waves in all leads

Q3067. An elderly man develops syncope. He is known to have ischaemic heart disease. Peripheral pulses are absent and ECG reveals wide-complex tachycardia. Immediate management consists of which of the following?

1- Programmed stimulation

2- Thrombolysis with TPA or streptokinase

3- A bolus dose of intravenous lidocaine

**4- Asynchronous cardioversion**

5- Intravenous phenylephrine and carotid

Q3068. A 23-year-old woman presents to the GP complaining of palpitations. She says these are rapid and when she gets them she feels light headed and sick. They tend to come on without warning, but have occurred when she has been out dancing with friends, and after a game of squash. On examination she looks well; her BMI is 21, pulse 70/min regular, BP 122/70 mmHg. Bloods; Hb 13.1 g/dl WCC 5.4 x 109 /L PLT 251 x 109 /L Na+ 139 mmol/l K+ 4.0 mmol/l Creatinine75 μmol/l Which of the following investigations is most likely to help with the diagnosis?

1- Tilt table test

**2- Continuous loop recorder**

3- 24hr holter monitor

4- 3 day holter monitor

5- 12 lead ECG

Q3069. A 72-year-old man presents for an extraction of three teeth under local anaesthesia. He has a past history of rheumatic heart disease. Mitral stenosis has been identified but the rotten teeth are being removed before valve replacement. He is allergic to penicillin. Which of the following would be the most appropriate antibiotic regime for him?

1- Amoxicillin 3 g po 1 hour before procedure

**2- No prophylaxis necessary**

3- Vancomycin 1 g po 1 hour before procedure

4- Ciprofloxacin 1 g po 1 hour before procedure

5- Augmentin 1 g po before procedure

Q3070. A 70-year-old man is referred by his GP for advice regarding optimisation of secondary prevention. He has a history of angina, with excellent control of symptoms on a combination of aspirin, dipyridamole MR, atenolol 50 mg od, simvastatin 40 mg od and isosorbide mononitrate 20 mg bd. His pulse rate is 70 bpm and blood pressure is 144/86 mmHg. The only other relevant past history includes an ischaemic stroke 2 years ago from which he made a complete recovery. What additional therapy would you consider adding?

1- Bendroflumethiazide

2- Diltiazem

3- Doxazosin

4- Nicorandil

**5- Perindopril**

Q3071. You review a 68-year-old woman who presents with a sudden episode of collapse while taking communion in church. This has been her third syncopal episode. Past medical history of note includes recently diagnosed severe hypertension, for which her GP has commenced enalapril therapy. On examination her blood pressure is 160/130 mmHg, she has left ventricular hypertrophy on clinical examination and a loud ejection systolic murmur. Auscultation of the chest reveals bibasilar crackles consistent with mild heart failure. Which of the following is the definitive investigation of choice for this patient?

1- Chest X-ray

2- Electrocardiogram (ECG)

3- Echocardiogram

**4- Cardiac catheterisation**

5- 24 h holter monitor

Q3072. You are called urgently to review a 54-year-old man who has developed acute onset pulmonary oedema some 36 h after his myocardial infarction. On arrival you note that his blood pressure is 95/50 mmHg with a pulse of 100/min regular and a pan-systolic murmur is noted. There are crackles on auscultation of the chest consistent with heart failure. Which of the following represents the next investigation of choice in this man?

1- Troponin I

2- Troponin T

3- Urgent chest X-ray

4- Referral for angiography

**5- Urgent echocardiogram**

Q3073. A 32-year-old woman who is known to be 17 weeks' pregnant presents for review. She has periods of paroxysmal supraventricular tachycardia (SVT) and on this occasion has a ventricular rate of 165/min and a blood pressure of 90/50 mmHg, feeling faint and unwell. Which of the following anti-arrhythmics would be the most appropriate prophylaxis for her?

**1- Flecainide**

2- Amiodarone

3- Digoxin

4- Phenytoin

5- Propafenone

Q3074. A 60-year-old man underwent a coronary angiogram for unstable angina. The next day whilst recovering in hospital he complains of severe pain in his right foot and partial loss of sight in the left eye. On examination the lower limb peripheral pulses are present and of good volume. There is gangrene of the lateral two toes on the right foot. Fundoscopy reveals cholesterol emboli in a branch of the central retinal artery in the left eye. Which one of the following is the most probable diagnosis in this case?

**1- Atheroembolic disease**

2- Polyarteritis nodosa

3- Buerger’s disease

4- Arterial thromboembolism

5- Disseminated intravascular coagulopathy

Q3075. You are asked to review a 19-year-old woman who presents with increasing shortness of breath on exercise. She is from a travelling family and has rarely encountered medical care. On examination she appears of short stature with extra skin folds around her neck, and appears to have failure of secondary sexual development. Her blood pressure is raised at 165/100 mmHg. She reports that her legs feel tired all the time and she has occasional chest pain on exercising. Which of the following cardiac diagnoses fits best with her clinical condition?

1- Pulmonary stenosis

2- Mitral regurgitation

**3- Coarctation of the aorta**

4- Aortic regurgitation

5- Hypertrophic obstructive cardiomyopathy

Q3076. A 78-year-old lady is admitted from home by ambulance. She was found lying on the floor by her home help after suffering a fall. She has a history of hypertension managed with ramipril 10mg PO daily. On examination her temperature is 30.0oC, her BP is 100/50 mmHg, with a pulse of 52/min. She has a fractured left neck of femur. Bloods; Hb 14.5 g/dl WCC 4.5 x 109 /L PLT 192 x 109 /L Na+ 143 mmol/l K+ 5.3 mmol/l Creatinine 195 μmol/l Which of the following ECG features is most characteristic of moderate to severe hypothermia?

1- Long QT interval

2- Short PR interval

3- 2nd degree heart block

4- Complete heart block

**5- J waves**

Q3077. A 20-year-old-man attends A&E with palpitations described as 'regular rapid beating of the heart'. An ECG shows a regular rhythm with a rate of 200 beats/minute and a QRS duration of 80 ms. The tachycardia spontaneously resolves. An ECG in sinus rhythm reveals a PR interval of 60 ms and a QRS duration of 120 ms with a positive delta in V1. Which of the following statements is true regarding this man's tachycardia?

1- Carotid sinus massage will be ineffective

2- Intravenous adenosine is of no use

3- Digoxin should be used as a prophylactic agent

**4- Verapamil is contraindicated**

5- Atrial fibrillation is well tolerated in such

Q3078. A 71-year-old lady with a history of one previous myocardial infarction presents to the Emergency department. She has sudden onset shortness of breath and palpitations which happened after her dinner a couple of hours earlier. A previous ECG from clinic a month earlier shows sinus rhythm. Medication includes ramipril 10mg daily, amlodipine 10mg daily and aspirin 75mg. On examination her blood pressure is 100/60 mmHg, pulse is 140/min irregular and she has evidence of LVF. Bloods Hb 14.0 g/dl WCC 6.7 x 109 /L PLT 190 x 10 9 /L Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 130 µmol/l ECG Fast atrial fibrillation, lateral ST depression Which of the following is the most appropriate medication to control her AF?

1- Digoxin

**2- Amiodarone**

3- Flecainide

4- Sotalol

5- Verapamil

Q3079. A 45-year-old man attends for review. He has been suffering increasing shortness of breath over the past few years. He is a non-smoker who drinks 20 units per week of alcohol and has no significant past cardiovascular history. Now he presents with what seems to have been a transient ischaemic attack (TIA), with weakness and co-ordination problems affecting his left side, which have resolved over the past 24 hours. On examination blood pressure is 142/95 mmHg and he is in sinus rhythm. There is no opening snap, but a diastolic murmur is heard which changes in character according to posture. Bloods are unremarkable, including C-reactive protein (CRP), which is in the normal range. Which of the following diagnoses fit best with this clinical picture?

1- Right atrial myxoma

**2- Left atrial myxoma**

3- Aortic stenosis

4- Mitral stenosis

5- Mitral regurgitation

Q3080. A 75-year-old man is referred for total hip replacement. He has a history of hypertension and angina and has suffered a myocardial infarction some 8 years earlier. Current medication includes atenolol 50 mg daily, ramipril 10 mg daily, aspirin 75 mg daily and isosorbide dinitrate 60 mg. Blood pressure at the preoperative assessment was 160/80 mmHg but he maintains that his readings with the general practitioner have been normal. He last had an exercise test some 3 years earlier and managed 8 min with no significant electrocardiogram (ECG) changes. Which one of the following investigations in addition to standard assessment would be most appropriate for the preoperative assessment of this patient?

1- Repeat exercise ECG test

**2- Routine echocardiogram**

3- 99Tcm MIBI SPECT scan

4- Stress ECG

5- Magnetic resonance angiography

Q3081. A 64-year-old woman suffers from frequent and painful urinary tract infections. After her third course of antibiotics in the past 6 months she is advised by the GP to take cranberry juice supplements. Significant past medical history of note includes hypertension for which she takes ramipril and bendroflumethiazide and hypercholesterolaemia for which she takes simvastatin. There is also a history of paroxysmal atrial fibrillation for which she takes warfarin and amiodarone. Which of her medications is most likely to interact with the cranberry juice?

1- Simvastatin

2- Amiodarone

3- Bendroflumethiazide

**4- Warfarin**

5- Ramipril

Q3082. A 63-year-old smoker is admitted with nausea, sweating and central crushing chest pain. A 12 lead ECG reveals ST elevation in leads II, III and aVF. Which coronary artery is most likely to have been affected in this case?

1- Circumflex artery

2- Left anterior descending artery

**3- Right coronary artery**

4- Obtuse marginal artery

5- Posterolateral artery

Q3083. A 25-year-old man was found by his family at home having suffered a cardiac arrest. He was previously well, apart from well controlled Type 1 diabetes controlled with a basal bolus insulin regime. His family followed the ambulance and ask if they can be in the resuscitation room. After 20 mins of repeated resuscitation cycles he has remained in asystole. Blood gases; pH 7.01 pO2 8.4 kPa pCO2 3.9 kPa Bicarb 10 mmol/l Which person is the most appropriate person to make the decision to discontinue resuscitation?

1- A&E consultant

2- On call medical consultant

3- Parents of the patient

4- Patient’s fianceé

**5- Resuscitation team leader**

Q3084. A 60-year-old woman with a long history of manic depressive psychosis managed with lithium therapy is sent to see you for review. She has a BP of 152/93 mmHg, and the GP is keen to commence antihypertensive therapy. Investigations Hb 12.3 g/dl WCC 5.4 x 109 /L PLT 195 x 109 /L Na+ 143 mmol/l K+ 4.0 mmol/l Creatinine 145 μmol/l Total cholesterol 5.9 mmol/l HDL 0.8 mmol/l Which antihypertensive would be most appropriate for her to start?

1- Ramipril

2- Valsartan

3- Indapamide

4- Amlodipine

**5- Atenolol**

Q3085. A 41-year-old man with a family history of sudden death presents to casualty with a second episode of collapse. On this occasion he is referred to the Cardiology Department for review. Echocardiography reveals asymmetrical septal hypertrophy, abnormal systolic motion of the anterior mitral valve leaflet and narrowing of the left ventricular outflow tract. The 24-h electrocardiogram (ECG) monitoring as an outpatient reveals several periods of non-sustained ventricular tachycardia. Which of the following would be most appropriate for the management of his arrhythmia?

1- Oral flecainide 100 mg daily

2- Oral amiodarone 200 mg tds

3- Oral amiodarone 200 mg daily

**4- Implantable cardioverter defibrillator**

5- Phenytoin 100 mg po daily

Q3086. Which of the following is a characteristic feature of troponin?

1- It is an integral component of pericardial cells

2- Levels rise immediately or even prior to the onset of chest pain due to myocardial infarction

3- About 30% of infarct patients show a rise in levels at 12 hours from the onset of symptoms

4- A level > 1 ng/ml indicates myocardial infarction

**5- Levels act as a prognostic factor following**

Q3087. A 32-year-old-woman was cross-country skiing when she fell down a water-filled gully and became trapped beneath an ice-sheet. Frantic efforts were made to extract her, but after 40 minutes all movements ceased. Which of the following statements is true?

1- Her pulseless state is, in all likelihood, due to ventricular fibrillation

2- Defibrillation at the scene is likely to succeed

3- Metabolic alkalosis will quickly set in

4- Aspirated seawater is more likely to produce pulmonary oedema than fresh water

**5- It is important to lift her out of water in the**

Q3088. A 68-year-old woman recently diagnosed with multiple myeloma presents to her GP with progressively increasing breathlessness, exercise intolerance and ankle swelling. On examination, there is bilateral pitting leg oedema to her thighs, ascites and raised JVP. The apical impulse is impalpable. An ECG shows diffusely diminished voltage. Chest X-ray is normal and the echocardiogram shows small thick ventricles and dilated atria with a thickened interatrial septum. The ventricular myocardium has a granular sparkling texture on echo, and minimal fluid in the pericardial space is noted. What is the most likely diagnosis?

1- Chronic pericardial effusion with tamponade

2- Chronic pericardial effusion without tamponade

3- Constrictive pericarditis

**4- Restrictive cardiomyopathy**

5- Congestive heart failure

Q3089. A 79 year-old-man known to have chronic congestive heart failure is readmitted with worsening heart failure. His furosemide (frusemide) dosage is increased to 200 mg/day to aid the relief of his symptoms. His other medications are bendrofluazide, ramipril and bisoprolol. Which of the following effects can be encountered?

1- Hyperkalaemia

2- Hypercalciuria

3- Hypermagnesaemia

**4- Hyperuricaemia**

5- Hypoalbuminaemia

Q3090. A 62-year-old-man with a blood pressure of 160/98 mmHg, total serum cholesterol of 6.5 mmol/l and HDL of 1.3 mmol/l is seen by his GP. On reviewing his records it appears the nurse has also documented hypertensive BPs at his last two well man checks. He is not diabetic and has never smoked. His family history is unknown as he was adopted. There is a history of exertional angina which is worse on hill climbing and walking his dog in cold weather. Apart from advice on lifestyle modification, which of the following combination of drugs should he receive under current guidelines?

1- Aspirin, antihypertensive treatment

2- Statin, aspirin

3- Clopidogrel, aspirin, statin

**4- Antihypertensive treatment, aspirin, statin**

5- Antihypertensive treatment, clopidogrel,

Q3091. A 50-year-old-professor of economics presents with a 6-week history of progressive breathlessness and bilateral ankle swelling. The ECG shows inverted p in V1 and partial LBBB. Echocardiography confirms dilated cardiomyopathy. Which of the following statements is true?

1- There is no relevance of history of alcohol abuse.

2- A family history of similar problem is unrelated

**3- Past cytotoxic drug therapy is relevant**

4- Viral illness in the past is unrelated

5- History of pulmonary tuberculosis in the

Q3092. A 24-year-old man from a travelling family who has shunned regular medical follow up comes to the clinic complaining of shortness of breath and chest pain. You review his catheterisation results. Pressure RV 110/0 mmHg Pressure LV 90/0 mmHg LV oxygen saturation 88% Given the likely clinical diagnosis, which of the following is the most likely finding on clinical examination?

1- A diastolic murmur

**2- Persistent hypoxia despite maximal oxygen therapy**

3- Tapping apex beat

4- Narrow tented P waves on ECG

5- Decreased pulmonary vasculature on CXR

Q3093. A 44-year-old man presents with a 2-hour history of severe central chest pain. ECG shows ST elevation in the anterior leads. He was recently discharged following a laparotomy for intestinal obstruction. What would be the best line of treatment for him?

1- Aspirin and clopidogrel

2- Streptokinase

**3- Coronary angioplasty**

4- Intravenous heparin

5- Alteplase

Q3094. A 54-year-old man with a history of smoking and hypertension presents to the Emergency room with central crushing chest pain, nausea and sweating. On examination his BP is 104/70 mmHg, his pulse 85/min regular and he looks pale, grey and sweaty. There are no murmurs on auscultation but he has crackles at both lung bases consistent with heart failure. Investigations; Hb 12.8 g/dl WCC 5.9 x 109 /L PLT 190 x 109 /L Na+ 141 mmol/l K+ 5.0 mmol/l Creatinine 110 µmol/l ECGST elevation V1-V4, ST depression II, III and aVL Which of the following is the most likely finding on angiography?

1- Hypothermia promotes pulmonary vasoconstriction

2- 70% stenosis of left anterior descending artery

**3- Total occlusion of left anterior descending artery**

4- 70% stenosis of left circumflex artery

5- Total occlusion of left circumflex artery

Q3095. A 36-year-old woman who is 8 weeks' pregnant presents with a swollen left leg. Doppler studies confirm a deep vein thrombosis. What would be the management in this case?

1- Commence intravenous heparin

**2- Start subcutaneous heparin throughout pregnancy and change to warfarin in the postpartum period**

3- Oral anticoagulation with warfarin daily throughout pregnancy and the postpartum period

4- Aspirin 300 mg daily throughout pregnancy and the postpartum period

5- Elastic band compress of her left leg,

Q3096. An 80-year-old woman suddenly complains of dyspnoea and palpitations. A pulmonary ventilation-perfusion scan shows a perfusion defect. Which investigation report would provide the most useful clue to the diagnosis?

**1- Increased platelet count**

2- Abnormal liver function tests

3- Increased neutrophil count

4- Abnormal lipid profile

5- Decreased serum albumin levels

Q3097. A 67-year-old diabetic is admitted with chest pain radiating to his left shoulder and jaw. He is a moderate smoker. Serum cholesterol and LDL levels are raised and the ECG shows ST depression in the inferolateral leads. What would be the most appropriate next management steps?

1- Transfer the following day for coronary angiography followed by angioplasty

2- Thrombolysis with streptokinase, clopidogrel and aspirin

3- Oral aspirin, clopidogrel and atenolol

**4- Glyceryl trinitrate, heparin, aspirin, clopidogrel and atorvastatin**

5- Tissue-type plasminogen activator, aspirin,

Q3098. A 67-year-old diabetic is admitted with chest pain radiating to his left shoulder and jaw. He is a moderate smoker. Serum cholesterol and LDL levels are raised and the ECG shows ST depression in the inferolateral leads. What would be the most appropriate next management steps?

1- Transfer the following day for coronary angiography followed by angioplasty

2- Thrombolysis with streptokinase, clopidogrel and aspirin

3- Oral aspirin, clopidogrel and atenolol

4- Glyceryl trinitrate, heparin, aspirin, clopidogrel and atorvastatin

**5- Tissue-type plasminogen activator, aspirin,**

Q3099. A young computer programmer suddenly develops dysphasia and right-sided weakness. Cardiac examination is normal and he is afebrile. Which investigation would confirm the underlying cardiological diagnosis?

1- Chest X-ray

2- 12-lead ECG

3- 2-D echocardiography

4- Carotid Doppler study

5- Transoesophageal echocardiogram

Q3100. A patient presents to the emergency department with severe chest pain, what are the indications for thrombolysis?

1- Q waves in any two leads

2- 1 mm ST depression in 1 chest lead

3- 1 mm ST depression in 2 limb leads

4- Ebstein's anomaly

**5- 1 mm ST elevation in 2 limb leads**

Q3101. A 68-year-old-man with atrial fibrillation (AF) is admitted electively for DC cardioversion, to be performed as a day-case procedure. However, the procedure is postponed to a later date. Which one of the following reasons could be responsible for the delay?

1- He had discontinued digoxin for the last 2 days

2- He was taking amiodarone

**3- His INR 3 weeks ago was 1.6**

4- His serum potassium level was 4.2 mEq/l

5- He had an episode of angina 2 days ago

Q3102. A 70-year-old man presents with severe tearing back and chest pain which came on very suddenly. He has a past medical history of hypertension for which he takes ramipril 10mg daily, amlodipine 5mg, and he smokes 30 cigarettes per day. On examination he is in severe pain, his BP is 155/85 mmHg, he has bilateral upgoing plantars and 4/5 weakness affecting left ankle dorsiflexion. He appears to have a pericardial rub. Which of the following features is most suggestive of dissecting aortic aneurysm?

**1- The pattern of pain described**

2- Hypertension

3- Bilateral upgoing plantars

4- Left lower limb signs

5- Pericardial rub

Q3103. A 42-year-old patient who has a history of paroxysmal AF has been treated with warfarin. The AF has now resolved after successful DC cardioversion. Investigations; Hb 13.1 g/dl WCC 4.9 x 109 /L PLT 294 x 109 /L Na+ 139 mmol/l K+ 4.8 mmol/l Creatinine 100 μmol/l TSH 2.1 U/l ECHO – Normal sized left atrium, no significant valvular disease For how long should the warfarin be continued?

**1- 4 weeks**

2- 6 months

3- 1 year

4- 3 years

5- Stop with immediate effect

Q3104. A 32-year-old man presents to the clinic with shortness of breath, which is particularly bad when he goes jogging. He has recently increased his exercise to try and reduce his weight. On a couple of occasions he has also noticed some chest discomfort which has caused him to stop exercising. On examination his BP is 150/88 mmHg, and he has a double apical impulse. On auscultation there is a harsh mid systolic murmur which is loudest between the apex and the left sternal border. Investigations; Hb 13.0 g/dl WCC 4.8 x 109 /L PLT 1 99 x 109 /L Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 100 μmol/l ECG LVH and widespread Q waves Which of the following is most directly correlated with increased risk of sudden death?

1- Increased left ventricular outflow tract gradient

2- Presence of mitral regurgitation

**3- Degree of left ventricular hypertrophy**

4- Asymmetrical septal hypertrophy

5- Systolic anterior motion

Q3105. A 42-year-old man with the features of congenital myotonic dystrophy comes to see you for review. He has suffered from mild intellectual impairment, frontal balding typical of the disease and increasing muscle weakness with increased muscle tone over the past few years. Most recently he has suffered from a number of episodes of syncope. On examination his BP is 129/70 mmHg, his pulse 55 BPM, there are no other significant findings on cardiovascular examination. What ECG findings might you most commonly expect to see in this case?

1- Short PR interval

**2- PR prolongation**

3- Long QT syndrome

4- Bifasicular block

5- Left bundle branch block

Q3106. You are looking at drawing up guidelines for appropriate use of IIb 3a inhibitors within your hospital. Looking at available evidence, what is the most appropriate indication for using these therapies?

1- In a patient presenting with chest pain without ECG changes

**2- A patient with chest pain, a positive troponin and awaiting angiography**

3- In conjunction with thrombolysis in an MI with ST segment elevation

4- In a thrombolysed patient suffering continuing chest pain

5- In a patient with T wave inversion who is

Q3107. You are working in the chemical pathology lab and receive a sample request for analysis of B-type natriuretic peptide (BNP). You don't have any clinical details on the form apart from "chest pain". You plan to ring the SHO who requested the test for further details. In which of the following situations is BNP most likely to be normal?

**1- Unstable angina**

2- Pericarditis

3- Pulmonary embolus

4- Acute myocardial infarction

5- Acute mitral valve rupture

Q3108. A 62-year-old woman suddenly deteriorates 2 days after receiving TPA for an acute myocardial infarction. She complained of severe shortness of breath during the course of the afternoon and when the nurses examined her, her O2 saturation was only 91% on oxygen delivered via re-breather. On examination her BP is 105/70 mmHg, with a pulse of 105/min regular. She has an apical systolic murmur and marked left ventricular failure. Which of the following is the most likely cause?

1- Acute VSD

2- Acute ASD

3- Pericardial tamponade

4- LV wall rupture

**5- Papillary muscle rupture**

Q3109. A 75-year-old-man presents to A&E with a history of sudden collapse. This occurred unexpectedly while he was walking his dog. There have been no similar episodes in the past. On examination there were no positive findings. An ECG performed with carotid sinus massage revealed a 5-second pause. Which of the following statements is true?

1- Carotid sinus hypersensitivity is due to atherosclerosis

**2- Carotid sinus massage is contraindicated in patients with carotid vascular disease**

3- A permanent pacemaker has no role in the management of these patients

4- Carotid sinus hypersensitivity is related to vertebrobasilar ischaemia

5- Carotid sinus massage is contraindicated in

Q3110. Which of the following statements is true of raised cardiac troponin levels in the blood?

1- Are commonly seen after DC cardioversion

2- Remain elevated for up to two days after myocardial damage

**3- Are seen in patients with NSTEMI**

4- Can be used to distinguish Non-Q from Q MI

5- Can be found in patients with hypertrophic

Q3111. A 50-year-old man presents to the cardiology clinic for review. His brother died suddenly of a cardiac arrest while playing Sunday league soccer, and was found on post-mortem to have an underlying diagnosis of hypertrophic obstructive cardiomyopathy (HOCM). Which of the following is the most appropriate way to screen the patient?

1- Exercise ECG

2- Electrocardiography studies

**3- Trans-oesophageal ECHO**

4- Trans-thoracic ECHO

5- Resting 12 lead ECG

Q3112. A 72-year-old man was admitted with an acute anterior myocardial infarction. He has chronic renal impairment, with a recent creatinine recorded at 148 μmol/l. Medication included ramipril, atorvastatin and indapamide for the treatment of hypertension. He was taken straight to the angiography suite where he received stenting of a left main stem stenosis. You are asked to see him about 30hrs after as the nurses feel he is deteriorating. On examination his BP is 149/84 mmHg, his pulse is 75/min and regular. His legs look dusky in colour, particularly his right big toe which looks blue in colour. He has splinter haemorrhages affecting toenails on both feet. There is a loud left femoral bruit. Investigations; Hb 13.2 g/dl WCC 5.0 x 109 /L PLT 190 x 109 /L Na+ 141 mmol/l K+ 5.9 mmol/l Creatinine 630 μmol/l Urine blood ++, protein + Which of the following is the most likely diagnosis?

1- Renal vein thrombosis

2- Acute tubular necrosis

3- Renal artery stenosis

**4- Cholesterol embolism**

5- Femoral artery embolism

Q3113. A 21-year-old woman presents to the clinic with symptoms of increased shortness of breath and decreased exercise tolerance. She used to be a keen hockey player when at school but is now virtually unable to even walk to the bus stop without becoming short of breath. On examination she looks tired and slightly short of breath at rest. Her BP is elevated at 145/92 mmHg. Investigations; Echocardiogram - increased right atrial size, elevated right arterial pressure by Doppler Cardiac catheterization; O2 saturation SVC 74% O2 saturation RA 82% O2 saturation RV 82% O2 saturation LA 91% O2 saturation LV 91% Which of the following is the most likely diagnosis?

1- Ostium primum atrial septal defect

**2- Secundum atrial septal defect**

3- Patent ductus arteriosus

4- Pulmonary stenosis

5- Tricuspid regurgitation

Q3114. A 52-year-old man is admitted to the intensive therapy unit with left ventricular failure post- myocardial infarction. Despite prompt activity including angioplasty within a few minutes of the onset of chest pain, his systolic BP on admission to the unit was only 80 mmHg, with a pulse of 105/min. Auscultation of the chest revealed crackles up to the mid zones on both sides consistent with cardiac failure. The team decide to insert an intra-aortic balloon pump timed to coincide with the dicrotic notch. What does the dicrotic notch refer to?

1- Aortic valve opening

**2- Aortic valve closure**

3- Mitral valve opening

4- Mitral valve closure

5- Pulmonary valve closure

Q3115. A 73-year-old woman is admitted for pacemaker insertion because of a number of syncopes and periods of complete heart block identified on 72hr ECG. She receives a DDDR pacemaker. What does the R stand for?

1- Rate limiting

**2- Rate modulated**

3- Repolarising

4- Rate enhancing

5- Rate reducing

Q3116. A 32-year-old woman is admitted in an unconscious state after an overdose of a large number of amitriptyline tablets. It is thought that she took them between 7 and 8pm and was not found by her partner until he returned from a bar some 3hrs later. When you get to see her she has already been intubated by the Emergency department consultant. Her BP is 100/70 mmHg and she has a sinus tachycardia of 100 BPM. While you are watching the monitor you can see she is suffering from short unsustained runs of ventricular tachycardia. Investigations; pH 7.29 pO2 8.1 kPa pCO2 4.9 kPa HCO3- 13 mmol/l Which of the following is the most appropriate way to initially manage the short runs of VT?

1- Normal saline infusion

2- Magnesium infusion

3- Amiodarone infusion

4- Adenosine bolus

**5- IV Sodium bicarbonate**

Q3117. Right ventricular myocardial infarction is characterised by which of the following?

**1- ST-segment elevation in leads II, III and aVF with Q waves and T-wave inversion in these leads**

2- Occlusion of the left coronary artery

3- Marked pulmonary vascular congestion

4- A rise in systolic blood pressure

5- Absent Kussmaul's sign

Q3118. A 70-year-old man presents with severe tearing back and chest pain which came on very suddenly. He has a past medical history of hypertension for which he takes ramipril 10mg daily, amlodipine 5mg, and he smokes 30 cigarettes per day. On examination he is in severe pain, his BP is 155/85 mmHg, he has bilateral upgoing plantars and 4/5 weakness affecting left ankle dorsiflexion. He appears to have a pericardial rub. Which of the following features is most suggestive of dissecting aortic aneurysm?

**1- The pattern of pain described**

2- Hypertension

3- Bilateral upgoing plantars

4- Left lower limb signs

5- Pericardial rub

Q3119. A 70-year-old man is brought into A&E. He is unwell with a cool periphery and blood pressure of 70/40 mmHg. ECG shows a regular broad-complex tachycardia with rate of 150 bpm. He is unable to provide a clear history, but a recent prescription in his wallet shows that he is taking aspirin, ramipril, frusemide and spironolactone. What is the likely arrhythmia?

1- Atrial fibrillation

2- Atrial flutter with a 2:1 block

3- SVT with aberrant conduction

**4- VT**

5- Wolff-Parkinson-White syndrome

Q3120. A 54-year-old man is referred with increased swelling of his ankles and abdomen, and a degree of shortness of breath on exertion. His jugular venous pressure is elevated with prominent x- and ydescents. Apex beat is normal. ECG shows atrial fibrillation with widespread non-specific ST-segment abnormalities. Echo reveals preserved left ventricular systolic function with biatrial enlargement and an estimated pulmonary artery systolic pressure of around 60 mmHg. Chest X-ray shows atrial enlargement but no other abnormalities. What is the most likely cardiac diagnosis?

1- Chronic pulmonary emboli

2- Dilated cardiomyopathy

**3- Restrictive cardiomyopathy**

4- Secundum ASD

5- Tricuspid regurgitation

Q3121. A 72-year-old Caucasian man is referred to out-patients with a 6-month history of progressive exertional dyspnoea. His ankles swell as the day progresses. There is no associated chest discomfort. He is an exsmoker of 3 years and drinks 12 pints of beer per week. He has not seen his GP in the previous 15 years. The only past history is that of mild asthma as a child. His father died of a myocardial infarct aged 65 years. Blood pressure is 150/86 mmHg. Results of investigations are as follows: renal function, normal; cholesterol, 6.8 mmol/l; ECG, sinus rhythm LBBB; echo, dilated and impaired left ventricular function with ejection fraction of 30%, mild to moderate mitral regurgitation, no LVH. What is the most likely underlying aetiology?

1- Alcohol

**2- Coronary artery disease**

3- Hypertension

4- Valvular heart disease

5- Viral myocarditis

Q3122. A 40-year-old woman presents with a 3-month history of fatigue, weight loss, night sweats and a degree of exertional dyspnoea. Her past history includes a prosthetic mitral valve replacement 2.5 years ago. She is pyrexial with evidence of mitral regurgitation and splinter haemorrhages. Echo confirms moderate paravalvular mitral regurgitation. Blood cultures are taken and a diagnosis of infective endocarditis made. What is the most likely infecting organism in this case?

1- Coxiella burnetii

2- Enterococcus spp

3- Staphylococcus aureus

4- Staphylococcus epidermidis

**5- Streptococcus viridans**

Q3123. A 50-year-old man with long-standing hypertension presents acutely with severe chest pain radiating through to his back. He looks unwell, with a resting tachycardia (110 bpm) and blood pressure of 150/96 mmHg. There are no murmurs and neurological examination is normal. An urgent CT scan of his chest confirms type-A aortic dissection. The local cardiothoracic centre is contacted and urgent transfer arranged. He has received appropriate opiate analgesia. What additional drug treatment should be instigated as part of his immediate treatment plan?

1- Intravenous GTN

**2- Intravenous labetalol**

3- Intravenous nitroprusside

4- Oral amlodipine

5- Oral enalapril

Q3124. A 40-year-old woman presents with a 1-year history of increasing exertional dyspnoea and swollen ankles. Her GP has performed an ECG, which shows evidence of right ventricular hypertrophy and right axis deviation. Examination in clinic reveals the following: body mass index of 30, sinus rhythm 90 bpm, blood pressure 110/60 mmHg, elevated jugular venous pressure, left parasternal heave, peripheral oedema and a loud P2. There is no prior medical or family history of note. She is a non-smoker and drinks little alcohol. Whilst she denies current drug use, she has in the past used stimulant drugs purchased over the Internet to help her lose weight (previous body mass index of 34). What is the likely diagnosis?

1- Isolated Cor pulmonale

2- Chronic pulmonary emboli

**3- Primary pulmonary hypertension**

4- Mitral stenosis

5- Tricuspid valve endocarditis

Q3125. Cardiac catheterisation is performed on a 25- year-old man with a systolic murmur but no symptoms. ECG and chest X-ray are normal. The findings are as follows (pressures mmHg): aorta, 125/70; left ventricle, 120/12; right atrium, mean 8; right ventricle, 40/8; pulmonary artery, 44/14; pulmonary capillary wedge, mean 13. Saturations (%): aorta, 97; superior vena cava, 68; right atrium, 70; right ventricle, 82; pulmonary artery, 85. What is the most likely cardiac diagnosis?

1- ASD - primum

2- ASD - secundum

3- Mitral stenosis

4- Primary pulmonary hypertension

**5- Ventricular septal defect**

Q3126. A 65-year-old man presents to casualty with severe chest pain. ECG shows anterior ST-segment elevation and he receives prompt thrombolysis with reteplase with good resolution of changes. He is commenced on aspirin, a β-blocker, an ACE inhibitor and a statin. His initial progress is complicated by further pain, worse with inspiration and movement and relieved by non-steroidal drugs. You are called to see him on day 5 postinfarct when he complains of shortness of breath on walking to the bathroom. He looks unwell with a cool periphery and resting tachycardia. Blood pressure is reduced at 90/50 mmHg. Jugular venous pressure is elevated to around 8 cm and rises with inspiration. His ECG shows preserved anterior R waves and anterolateral T-wave inversion together with sinus tachycardia. Chest X-ray shows an increase in the cardiothoracic ratio but clear lung fields. What is the most likely complication to have developed to account for this deterioration?

1- Cardiogenic shock

2- Mitral regurgitation

**3- Pericardial tamponade**

4- Pulmonary embolism

5- Ventricular septal defect

Q3127. A 25-year-old man presents to the emergency department wth a 1-week history of fever and myalgia. He had travelled to Chile 8 weeks ago. On examination there are no positive findings, although the patient recollects that his right eyelid was swollen for a few weeks after he left Chile. ECG reveals non-specific, T-wave changes in all leads. What is the most likely diagnosis?

1- Echinococcosis

2- Falciparum malaria

3- Schistosomiasis

4- Toxoplasmosis

**5- Trypanosomiasis**

Q3128. A 70-year-old woman is admitted to hospital with a swollen left leg 4 weeks after undergoing an elective total hip replacement. An above-knee DVT is diagnosed by ultrasound. She is in sinus rhythm at 60 bpm and her blood pressure is 160/80 mmHg. She is commenced on the appropriate dose of low molecular weight heparin and warfarin loading. The following day she becomes acutely short of breath. Examination reveals a resting tachycardia (110 bpm) with blood pressure of 100/60 mmHg. Her JVP is elevated at 7 cm above the sternal notch. Arterial blood gas measurement reveals her to be hypoxaemic with a pa(O2 ) of 7 mmHg. What would be the first-line therapy after administering high-flow oxygen?

1- Aspirin

2- Intravenous heparin

3- Surgical embolectomy

**4- Thrombolysis with reteplase**

5- Vena caval filter

Q3129. A 70-year-old woman with long-standing hypertension is referred to out-patients with a diagnosis of asymptomatic atrial fibrillation. Echocardiography demonstrates normal left ventricular function, mild LVH and normal mitral valve structure. The left atrium is slightly enlarged (4.2 cm). She is not keen on cardioversion and her rate is well controlled at 70 bpm. What would be the optimal strategy for longterm anticoagulation?

1- Aspirin

2- Clopidogrel

3- Dipyridamole

4- Low molecular weight heparin

**5- Warfarin**

Q3130. A 30-year-old woman is routinely seen by her GP 24 weeks into her first pregnancy. She is well without adverse symptoms. Her blood pressure is 150/96 mmHg. Her baseline blood pressure at booking was 136/84 mmHg. No other abnormalities are found. What drug therapy would you prescribe?

1- Bendrofluazide

2- Moxonidine

**3- Labetalol**

4- Losartan

5- Ramipril

Q3131. A 65-year-old man is referred to out-patients with resistant hypertension. He is already taking bendrofluazide 2.5 mg once daily, lisinopril 20 mg once daily and amlodipine 10 mg once daily. He is an ex-smoker with a past history of uncomplicated myocardial infarction. Blood pressure is 170/100 mmHg in both arms. The only other abnormality on examination is a left femoral bruit. Results of investigations are as follows: LVH on ECG; creatinine, 140 mmol/l; sodium, 138 mmol/l; potassium, 5.2 mmol/l; chest X-ray, normal; 24-hour blood pressure, sustained systolic and diastolic hypertension with no evidence of nocturnal dip. What is the most likely underlying aetiology for his hypertension?

1- Coarctation

2- Conn's syndrome

3- Cushing's syndrome

4- Polycystic kidney disease

**5- Renal artery stenosis**

Q3132. An 81-year-old woman is referred to cardiology out-patients with a history of dizzy episodes and one episode of syncope. She is known to have long-standing atrial fibrillation. A 24-hour tape confirms atrial fibrillation, with rates varying from 30 to 140 bpm. There are several daytime pauses of over 3 seconds. She is listed for a permanent pacemaker. Which of the following would be the most appropriate device?

1- DDD

2- DDI

3- VOO

**4- VVI**

5- VDD

Q3133. A 40-year-old woman is admitted with a stroke after a prolonged pyrexial illness. On examination she is in sinus rhythm, has splenomegaly and a pansystolic murmur at the apex. Blood cultures confirm an infective endocarditis. Which of the following is the most common causative organism?

**1- Streptococcus viridans**

2- Staphylococcus aureus

3- Streptococcus bovis

4- Gram-negative bacilli

5- Staphylococcus epidermidis

Q3134. A 63-year-old man with known chronic heart failure is admitted with symptoms at rest. Examination reveals pitting oedema to his knees, elevated jugular venous pressure and basal crepitations. He is in sinus rhythm at a rate of 80 bpm and his blood pressure is 100/60 mmHg. Current medication includes bisoprolol 10 mg once daily, frusemide 80 mg once daily and ramipril 2.5 mg twice daily. Blood tests reveal a sodium concentration of 133 mmol/l, potassium 4.9 mmol/l and creatinine of 169 mmol/l. The admitting doctor commences him on iv frusemide 80 mg twice daily and increases his ramipril to 5 mg twice daily. When you review him the following day what other drug would be most appropriate to add in?

1- Amiloride 5 mg od

2- Bendrofluazide 2.5 mg od

3- Bumetanide 2 mg bd

4- Metolazone 5 mg od

**5- Spironolactone 25 mg od**

Q3135. A 25-year-old man presents to the emergency department wth a 1-week history of fever and myalgia. He had travelled to Chile 8 weeks ago. On examination there are no positive findings, although the patient recollects that his right eyelid was swollen for a few weeks after he left Chile. ECG reveals non-specific, T-wave changes in all leads. What is the most likely diagnosis?

1- Echinococcosis

2- Falciparum malaria

3- Schistosomiasis

4- Toxoplasmosis

**5- Trypanosomiasis**

Q3136. Which of the following arrhythmias is unusual in digoxin toxicity?

1- Non-paroxysmal atrial tachycardia with varying block

2- First-degree heart block

**3- Type-II second-degree heart block**

4- Wenkebach phenomenon

5- Bidirectional ventricular tachycardia

Q3137. A 28-year-old woman who is known to have a cardiac murmur becomes pregnant. It is noted that the intensity of her murmur diminishes during her pregnancy. Which cardiac abnormality is she likely to have?

1- Aortic stenosis

**2- Aortic regurgitation**

3- Mitral stenosis

4- Pulmonic stenosis

5- Fallot's tetralogy

Q3138. A 25-year-old man presents to the emergency department wth a 1-week history of fever and myalgia. He had travelled to Chile 8 weeks ago. On examination there are no positive findings, although the patient recollects that his right eyelid was swollen for a few weeks after he left Chile. ECG reveals non-specific, T-wave changes in all leads. What is the most likely diagnosis?

1- Echinococcosis

2- Falciparum malaria

3- Schistosomiasis

4- Toxoplasmosis

**5- Trypanosomiasis**

Q3139. An 18-year-old young man presents to A&E having developed palpitations while playing football. ECG shows rapid atrial fibrillation with a ventricular rate of around 250 bpm. QRS duration is prolonged at around 130 ms. DC cardioversion is performed. Subsequent ECG in sinus rhythm demonstrates a PR interval of 100 ms, positive R wave in V1 and the presence of a delta wave. What further treatment would you recommend?

1- Atrial defibrillator implantation

2- Intravenous and then oral loading with amiodarone

**3- Radiofrequency ablation of the accessory pathway**

4- Radiofrequency ablation of the AV node

5- Surgical ablation of the accessory pathway

# Chapter 12 General revision

Q3140. Human prion disease comprises each of the following disorders EXCEPT?

1- Kuru

2- Creutzfeldt-Jakob disease

3- Gerstmann-Sträussler disease

4- Fatal familial insomnia

**5- Progressive multifocal**

Q3141. Which one of the following drug interactions is false?

1- Cyclosporin A and simvastatin causing rhabdomyolysis

**2- Mycophenolate mofetil and nifedipine causing tinnitus**

3- Azathioprine and allopurinol causing bone marrow suppression

4- Tacrolimus potentiated by erythromycin

5- Prednisolone antagonising frusemide

Q3142. Which one of the following features would NOT be suggestive of a renal aetiology in a hypertensive patient?

1- Red nodules on the face and mental retardation

**2- Wheezing, flushing and diarrhoea**

3- Nerve deafness

4- Asymmetrical pulses

5- Multiple cafè au lait spots and

Q3143. Which one of the following, when seen in a pregnant woman, is not likely to be physiological?

1- Glycosuria

**2- Haematuria**

3- Ketonuria

4- Plasma osmolality 277mOsmol/kg

5- Ureteral dilatation

Q3144. Which one of the following structures within the central nervous system (CNS) is LEAST pain sensitive?

**1- Pia mater**

2- Dura mater

3- Cranial nerve X

4- Parietal lobe veins

5- Middle cerebral artery

Q3145. Chorea is a recognised feature of each of the following disorders EXCEPT?

1- Wilson's disease

**2- Haemochromatosis**

3- Long term use of the oral contraceptive pill

4- Lupus erythematosus

5- Polycythaemia rubra vera

Q3146. When considering multiple sclerosis, which of the following is true?

1- Body temperature has no effect on symptoms

**2- Pregnancy has no ill effect on the course of the disease**

3- Bilateral facial nerve palsy occurs in 50% of cases

4- Brain stem symptoms at presentation carry better prognosis

5- Interferon-alpha reduces the relapse

Q3147. Crystal-induced acute renal failure can be caused by each of the following EXCEPT?

**1- Allopurinol**

2- Sulphonamide antibiotics

3- Acyclovir

4- Ethylene glycol

5- Vitamin C

Q3148. Elevated cerebrospinal fluid gamma globulin concentration has been described in each of the following conditions EXCEPT?

**1- Myasthenia gravis**

2- Subacute sclerosing panencephalitis

3- Cerebral lupus

4- Multiple sclerosis

5- Guillain-Barrè syndrome

Q3149. Which one of the following is NOT accurate about hyponatraemia?

1- In heart failure it indicates poor prognosis

2- In liver cirrhosis it is due to reduced free water excretion

3- With normal osmolality paraproteinaemia should be considered

4- In the presence of high urea and high serum potassium it is suggestive of Addison's disease

**5- Confusion and depressed conscious level**

Q3150. Which one of the following is NOT true regarding primary empty sella syndrome?

**1- The pituitary gland is congenitally absent**

2- Cerebrospinal fluid rhinorrhoea is a recognised presenting feature

3- More common in multiparous obese women

4- Associated with systemic hypertension

5- Complete pituitary evaluation may reveal

Q3151. Which one of the following is LEAST helpful in differentiating optic neuritis from papilloedema?

1- Pain behind the eye on presentation

**2- Swelling of the optic disc on ophthalmoscopic examination of the retina**

3- Central scotoma

4- Reduced visual acuity

5- History of recurrent transient arm

Q3152. With regard to benign intracranial hypertension (BIH) each of the following is true EXCEPT?

1- Loss of vision is the only serious complication

2- Papilloedema is almost always present

**3- The CSF pressure recording is within normal limit in 50% of cases**

4- Long term steroid therapy is a possible aetiological factor

5- Diplopia when manifest is usually a false

Q3153. Which one of the following statements concerning syringomyelia/syringobulbia is NOT accurate?

1- Frequently associated with congenital craniocervical malformations

**2- Loss of pain and position sense with preservation of touch and temperature**

3- Bilateral Babinski reflex

4- Dysphonia and tongue atrophy

5- Nystagmus

Q3154. Which one of the following is NOT true regarding indium leucocyte study (111Inlabelled leucocyte)?

1- The entire body can be checked for infectious disease sites

**2- Specifically used to detect splenic abscess**

3- Very useful in evaluating the activity of inflammatory bowel disease (IBD)

4- False-negative results might be obtained in leucopenic patient

5- False-positive diagnosis of an abscess of the

Q3155. When evaluating a patient with isolated enlarged inguinal lymph nodes, which one of the following areas is the LEAST likely site that warrants thorough examination?

1- Perineum

**2- Testes**

3- Uterus

4- External genitalia

5- Feet

Q3156. Acclimatisation to high altitude involves each of the following changes EXCEPT?

**1- Alveolar hypoventilation**

2- Reduced plasma volume

3- Raised haematocrit

4- Increased renal excretion of bicarbonate

5- Increased pulmonary perfusion

Q3157. Arthropod-borne diseases include each of the following EXCEPT?

1- Malaria

**2- Hydatid cyst**

3- Trypanosomiasis

4- Leishmaniasis

5- Lyme disease

Q3158. Each of the following statements is true regarding general urine examination EXCEPT?

1- Hyaline casts are seen in a normal individual

2- Green urine colour may be due to urinary tract infection (UTI) caused by Pseudomonas aeruginosa

3- Granular casts indicate renal parenchymal disease

4- Dysmorphic red blood cells indicate glomerular disease

**5- Fat globules on hyaline cast are often**

Q3159. A 54-year-old woman presents to her doctor with a painful rash that she first noticed the day before. On examination, a group of erythematous vesicles is noted over the right flank in the T10 dermatome distribution. Reasonable treatment options at this time include all of the following EXCEPT?

1- Famciclovir

2- Acyclovir

3- Steroids

**4- Carbamazepine**

5- Morphine

Q3160. The blood buffers include each of the following EXCEPT?

1- Bicarbonate

**2- Sulphate**

3- Protein

4- Haemoglobin

5- Phosphate

Q3161. Which one of the following statements with regard to Kaposi's sarcoma (KS) is true?

**1- The incidence of KS in AIDS has been in progressive decline since the early 90s**

2- There is a 400 times increased risk of KS among patients with congenital immune deficiency

3- Respiratory tract disease is regarded as the most common initial manifestation

4- In recent years the incidence of KS in AIDS in heterosexual men has exceeded that in homosexual and bisexual men

5- KS is rarely encountered in organ transplant

Q3162. Each of the following is true regarding AIDS EXCEPT?

1- Oral hairy leukoplakia is probably caused by Epstein-Barr virus (EBV)

2- Lymph node biopsy and a blood culture that grew Mycobacterium avium-intracellulare would confirm that HIV is the cause of the generalised lymphadenopathy

**3- Sputum culture is likely to provide diagnostic results for Pneumocystis carinii**

4- CMV infection is the most common cause of retinitis in AIDS

5- Kaposi's sarcoma is almost never

Q3163. Which one of the following types of glomerulonephritis is LEAST likely to be associated with low complement levels?

1- Shunt nephritis

2- Diffuse proliferative glomerulonephritis associated with systemic lupus erythematosus

3- Glomerulonephritis associated with subacute bacterial endocarditis

**4- Primary membranous glomerulonephritis**

5- Primary type 1 membranoproliferative

Q3164. Which one of the following is LEAST suggestive of Goodpasture's syndrome?

1- Presence of HLA-DR2

2- More common in young males

3- Linear deposit at the glomerular basement membrane on indirect immunofluorescent test

4- Pulmonary haemorrhage usually precedes renal involvement

**5- Vasculitic skin rash is often encountered**

Q3165. Which one of the following systemic disorders is LEAST associated with glomerulonephritis?

1- Malaria

2- Goodpasture's disease

**3- Sarcoidosis**

4- Wegener's granulomatosis

5- Henoch-Schönlein purpura

Q3166. In multiple drug resistant tuberculosis (MDRTB) which one of the following statements is NOT accurate?

**1- Usually caused by Mycobacterium aviumintracellulare (MAI)**

2- AIDS has increased the incidence of MDRTB

3- Sputum smear for acid-fast bacilli is often positive

4- Directly observed therapy or supervised therapy is recommended

5- Quinolones such as ciproxin have an anti-TB

Q3167. Which one of the following is LEAST characteristic of achondroplasia?

1- In most cases both parents are normal

2- Endochondral ossification is defective

**3- Affects lower limb bones but spares upper limb bones**

4- Patients are usually fertile

5- Hydrocephalus is a recognised feature

Q3168. Which one of the following is NOT considered to be an organic brain syndrome?

1- Dementia in Pick's disease

2- Multi-infarct dementia

3- Delirium

4- Post concussional syndrome

**5- Ganser's syndrome**

Q3169. Which one of the following statements BEST describes liver diseases during pregnancy?

1- Viral hepatitis runs a milder course

2- Acute fatty liver of pregnancy correlates with alcohol consumption prior to pregnancy

3- Asymptomatic rise of serum alkaline phosphatase warrants further investigations to exclude primary biliary cirrhosis

**4- Cholestasis of pregnancy may recur in subsequent pregnancy**

5- There is no evidence that hepatitis B virus

Q3170. Bilateral swelling of the parotid gland is rarely encountered in which one of the following conditions?

1- Lymphoma

2- Alcoholic liver disease

**3- Primary hypothyroidism**

4- Sarcoidosis

5- Sjögren's syndrome

Q3171. Hepatic encephalopathy can be precipitated by each of the following conditions EXCEPT?

1- Upper gastrointestinal bleeding

2- Hypokalaemia

3- Constipation

4- Diuretics

**5- High carbohydrate diet**

Q3172. Which one of the following hepatobiliary disorders is LEAST associated with jaundice during the course of the disease?

**1- Liver abscess**

2- Acute viral hepatitis

3- Carcinoma of the head of the pancreas

4- Primary biliary cirrhosis

5- Alcoholic cirrhosis

Q3173. Each of the following conditions is known to cause fatty liver EXCEPT?

1- Obesity

2- Corticosteroid therapy

3- Diabetes mellitus

**4- Hypercholesterolaemia**

5- Alcoholic liver disease

Q3174. Conditions that predispose to colorectal cancer include each of the following EXCEPT?

1- Ulcerative colitis

2- Crohn's disease

3- Uretero-sigmoid anastomosis

**4- Intestinal tuberculosis**

5- Familial adenomatous polyposis

Q3175. Which one of the following is true regarding liver function tests?

1- In human beings ALT (alanine aminotransferase) is exclusively released from liver hepatocytes

2- Hepatic synthesis of gamma globulin increases in chronic autoimmune liver disease

3- In the fasting state the esterification pathway is active to provide energy

4- Apositive antimitochondrial antibody test virtually excludes bile duct calculus as the cause of obstructive jaundice

**5- Ethanol induces hypoglycaemia by direct**

Q3176. Which one of the following is LEAST suggestive of Klinefelter's syndrome?

1- Karyotype 47,XXY

**2- Gynaecomastia**

3- The testes is firm on palpation

4- Normal intelligence

5- FSH and LH are elevated

Q3177. Each of the following diseases has an autosomal dominant inheritance EXCEPT?

1- Alloimmunisation against platelets

2- Adult polycystic kidney disease

3- Marfan's syndrome

**4- Haemochromatosis**

5- Neurofibromatosis

Q3178. Which one of the following statements is true about haemochromatosis?

1- The primary defect is poor utilisation of iron by the bone marrow

2- Hypogonadism is due to haemosiderin deposition in the gonads

3- Hepatoma is a rare complication

4- Clinically significant renal parenchymal disease occurs in half of the cases

**5- Diabetes mellitus is usually insulin**

Q3179. Which of the following statements regarding X-linked recessive disorders is true?

1- A heterozygous female will transmit the trait to all her sons

2- All sons born to an affected father and a normal mother will be carriers

3- Half of paternal uncles will be affected

**4- Half the daughters of a heterozygous mother will be carriers**

5- Heterozygous male does not exhibit

Q3180. Which one of the following blood transfusion adverse effects is LEAST likely to be mediated by the donor WBC?

1- Febrile non-haemolytic transfusion reactions (FNHTRs)

2- Transmission of HIV

**3- Transfusion related acute lung injury (TRALIs)**

4- Alloimmunisation against platelets

5- Transmission of cytomegalovirus (CMV)

Q3181. Plasma proteins that increase during the acute phase response include each of the following EXCEPT?

1- Haptoglobin

2- Ceruloplasmin

**3- Immunoglobulins**

4- Fibrinogen

5- Ferritin

Q3182. Which one of the following statements is NOT true regarding vasopressin?

**1- Synthesised in the posterior pituitary**

2- Makes distal convoluted tubules more permeable to hypotonic fluid

3- Increases circulating factor VIII and von Willebrand factor concentration

4- Stimulates ACTH release by the pituitary

5- Induces vasoconstriction in splanchnic

Q3183. Protein losing enteropathy is the LEAST likely manifestation of which one of the following disorders?

1- Coeliac disease

**2- Cholera**

3- Whipple's disease

4- Primary intestinal lymphangiectasia

5- Ménétrier's disease

Q3184. A 56-year-old woman known to have hypothyroidism and currently taking thyroxine 100 mcg/day, is admitted to the orthopaedic unit with a left hip fracture after a fall at home. A bone mineral density (BMD) on the opposite femur confirms the diagnosis of osteoporosis with a T-score of -2.8. She was given alendronate 70 mg weekly. Each of the following statements is true EXCEPT?

1- Excessive thyroxine is an additional risk factor for osteoporosis

2- Reduced bone density evident on plain radiography would only manifest when total bone density has decreased by 30– 50%

**3- The T-score compares a patient’s BMD with the mean value for persons of the same age and sex**

4- A low serum phosphate level may be suggestive of hyperparathyroidism

5- Bisphosphonates such as alendronate act

Q3185. Precocious puberty in boys is a feature of each of the following disorders EXCEPT?

1- Primary hypothyroidism

2- Craniopharyngiomas

3- Tuberous sclerosis

4- Hepatoblastoma

**5- Gigantism**

Q3186. Concerning dietary deficiency, which of the following statements is true?

1- Chromium deficiency causes acrodermatitis and altered taste

2- Zinc deficiency is associated with persistent nausea

3- Peripheral neuropathy and encephalopathy may result from manganese deficiency

**4- Copper deficiency causes hypochromic microcytic anaemia**

5- Selenium deficiency causes gout

Q3187. The following statements with regard to postpartum thyroiditis are true EXCEPT?

**1- Typically occurs in the first week after delivery**

2- Characterised by transient hyperthyroidism

3- Spontaneous recovery is expected in 90% of cases

4- Anti-microsomal antibodies might be elevated

5- Radioactive iodine uptake is reduced

Q3188. Blood levels of high density lipoprotein are increased by each of the following except:

1- Exercise

2- Alcohol

3- Oestrogen

4- Clofibrate therapy

**5- Diabetes mellitus**

Q3189. Intestinal pseudo-obstruction is a recognised manifestation of each of the following disorders EXCEPT?

1- Parkinson's disease

2- Scleroderma

**3- Hyperthyroidism**

4- Tricyclic antidepressant therapy

5- Idiopathic inherited as an autosomal

Q3190. Which one of the following statements regarding adenocarcinoma of the colon complicating ulcerative colitis is INCORRECT?

1- Carcino-embryonic antigen (CEA) is not a reliable screening test

**2- The risk of carcinoma is higher if the colitis is confined to the left colon**

3- Mucosal dysplasia on rectal biopsy is associated with the likelihood of carcinoma elsewhere in the bowel

4- It is multifocal in origin

5- The prognosis is worse than colonic

Q3191. Which one of the following cells is NOT a tissue macrophage?

1- Osteoclasts

2- Microglial cells (CNS)

3- Kupffer cells

4- Mesangial cells (kidney)

**5- Endothelial cells**

Q3192. Abnormal liver function with red cell haemolysis is LEAST likely to be encountered in which one of the following disorders?

**1- Diabetes mellitus**

2- Treatment with methyldopa

3- Alcoholic hepatitis

4- Mycoplasma pneumoniae

5- Haemochromatosis

Q3193. Which one of the following clinical findings is true regarding carcinoid tumour?

1- Most commonly found in the colon

**2- Carcinoid syndrome can manifest in the absence of liver metastases**

3- Aortic stenosis is the most frequent heart valve disease in advanced carcinoid tumour

4- Carcinoid flush is often associated with an instant rise in diastolic blood pressure

5- Banana ingestion can block 5-HIAA renal

Q3194. Each of the following factors stimulate the release of renin EXCEPT?

1- Assumption of the erect posture

2- Overactive sympathetic adrenergic neurones

3- Salt depletion

4- Prostaglandins

**5- Angiotensin II**

Q3195. Each of the following metabolic conditions is associated with increased incidence of primary hepatocellular carcinoma EXCEPT?

1- Haemochromatosis

2- Hereditary tyrosinosis

3- Homozygous α1-antitrypsin deficiency

**4- Wilson's disease**

5- Glycogen storage disease type 1

Q3196. A 60-year-old male civil servant who is known to have rheumatoid arthritis and is taking naproxen 500 mg/day is found to have three duodenal ulcers and a 2 cm antral ulcer on upper gastrointestinal endoscopy. Abdominal computed tomography showed a 4 cm mass in the head of the pancreas. The most probable diagnosis is?

1- H. pylori induced multiple peptic ulcers

2- Pancreatic lymphoma

3- Glucagonoma

4- NSAID-induced upper gastrointestinal ulcers

**5- Gastrinoma**

Q3197. Causes of acute pancreatitis include each of the following EXCEPT?

1- Alcoholism

2- Polyarteritis nodosa

3- Hyperlipidaemia

**4- Hypoparathyroidism**

5- Mumps

Q3198. Jejunal biopsy is least helpful in establishing the diagnosis of which one of the following malabsorption syndromes?

**1- Coeliac disease**

2- Whipple's disease

3- Eosinophilic gastroenteritis

4- Intestinal lymphoma

5- Giardia lamblia

Q3199. Which one of the following clinical findings is NOT characteristic of chronic lymphatic leukaemia?

1- Hypogammaglobulinaemia is often present at the time of the diagnosis

2- B-lymphocytes are the leukaemia cell line in the majority of cases

**3- Bone marrow examination is essential to confirm the diagnosis**

4- Coombs' test is positive in 10-20% of cases

5- It converts to lymphoma

Q3200. Each of the following infections/disorders are associated with the genus Chlamydia EXCEPT?

**1- Q fever**

2- Lymphogranuloma venereum (LGV)

3- Psittacosis ornithosis

4- Trachoma

5- Reiter's syndrome

Q3201. Major causes of metabolic acidosis include each of the following EXCEPT?

1- Chronic renal failure

2- Methanol ingestion

**3- Conn's syndrome**

4- Parenteral hyperalimentation

5- Prolonged therapy with amiloride

Q3202. In a patient with acute lymphoblastic leukaemia good prognostic signs include each of the following EXCEPT?

1- Low initial leucocytes count

2- Age < 15 years

**3- Mediastinal lymphadenopathy**

4- Pre-B phenotype

5- cALLA type

Q3203. Which one of the following is LEAST characteristic of idiopathic myelofibrosis?

1- Leucoerythroblastic picture

2- Extensive bone marrow sclerosis

3- Splenomegaly

4- Tear drop shaped red blood cells

**5- Terminal conversion to multiple myeloma**

Q3204. Thrombocytosis would occur in each of the following conditions EXCEPT?

1- Ulcerative colitis

**2- Haemolytic-uraemic syndrome**

3- Polycythaemia rubra vera

4- Iron deficiency anaemia

5- Sickle cell disease

Q3205. Compared with unfractionated heparin, lowmolecular-weight (LMW) heparins have all the following advantages EXCEPT?

**1- They do not bind antithrombin**

2- Their use is associated with low risk for heparin induced thrombocytopenia

3- They have a longer half-life, allowing daily or twice-daily dosing

4- Have low risk for bleeding

5- They are produced by depolymerisation of

Q3206. In transfusion haemosiderosis which one of the following statements is true?

1- Symptoms of iron overload usually develop when a total of 10 units of packed erythrocytes are transfused.

2- Conduction defect is a frequent early symptom of cardiac involvement

**3- Diagnosis is readily made by assessment of serum ferritin level and liver biopsy**

4- D-penicillamine orally as a chelating agent is the treatment of choice

5- Because of the associated chronic anaemia,

Q3207. Which one of the following tumours is LEAST likely to present with pyrexia of undetermined origin?

1- Hodgkin's lymphoma

2- Preleukaemia

**3- Bronchial carcinoma**

4- Atrial myxoma

5- Hypernephroma

Q3208. Which one of the following is LEAST characteristic of haemolytic uraemic syndrome (HUS)?

1- More common in children

2- Fragmented red blood cells on peripheral blood film examination

**3- Fever and transient cerebral disorders are frequently present**

4- E. coli is rarely isolated from the blood

5- Complete recovery is expected in most

Q3209. Which one of the following statements is NOT accurate regarding malaria?

1- In P. vivax fever and rigors usually manifest two weeks after an infected mosquito bite

2- In P. malariae a relapse can occur even two years after the patient has left an area prone to malaria

**3- Chloroquine is ineffective in the treatment of P. falciparum infection**

4- Sickle cell trait protects against malaria

5- Blood film smear examination is usually

Q3210. Which one of the following is NOT an accurate statement regarding hairy cell leukaemia?

**1- Female:male ratio of 10:2**

2- Pancytopenia and splenomegaly are the usual presenting features .

3- ‘Dry tap' marrow aspirate despite the presence of marrow hypercellularity

4- Tartrate-resistant acid phosphatase (TRAP) stain is positive

5- Vasculitic skin lesions occur in one-third of

Q3211. Which one of the following conditions is LEAST associated with aplastic anaemia?

1- Paroxysmal nocturnal haemoglobinuria

**2- Pneumococcal pneumonia**

3- Parvovirus infection

4- Pregnancy

5- Chloramphenicol therapy

Q3212. Which one of the following statements is TRUE with regard to immunoglobulins?

1- IgA immunoglobulins cross the placenta

2- IgG has the highest molecular weight in plasma

3- IgM has the highest concentration in plasma

4- All immunoglobulins except IgG are synthesised in the liver

**5- Levels are typically normal in Di George**

Q3213. Vasoconstriction in response to hypoxia readily occurs in each of the following vascular beds EXCEPT?

1- Bowel

2- Stomach

3- Cutaneous

4- Skeletal muscle

**5- Coronary**

Q3214. Each of the following is true regarding the diaphragm EXCEPT?

**1- Composed of smooth involuntary muscle and central tendon**

2- Innervated by the phrenic nerve

3- Normally the right hemi-diaphragm is higher than the left one

4- When paralysed it moves upward

5- Hiccough is due to spasmodic contraction of

Q3215. A 69-year-old man presents with acute confusion. He has lost 8 kilograms in weight in the last two months. Blood tests reveal serum calcium levels of 3 mmol/l and a significantly elevated parathyroid hormone-related hormone (PTH-rP) . The tumour cell type most probably responsible for this disorder is?

1- Neuroendocrine

**2- Squamous**

3- Large cell

4- Mesenchymal

5- Columnar

Q3216. Which one of the following is TRUE regarding the complement system?

1- IgA activates the classical complement pathway

2- Hereditary angioedema is associated with C1 complement deficiency

3- Hypocomplementaemia is often an early feature of scleroderma renal disease

**4- Homozygous C2 deficiency is associated with systemic lupus erythematosus**

5- Homozygous C7 deficiency is associated

Q3217. Paradoxical splitting of the second heart sound is not a feature in which one of the following conditions?

**1- Atrial septal defect (ASD)**

2- Aortic stenosis

3- Left bundle branch block (LBBB)

4- Type B Wolff-Parkinson-White syndrome (WPW)

5- Patent ductus arteriosus (PDA)

Q3218. In the evaluation of venous thromboembolism (VTE), which one of the following is true of plasma D-dimer testing?

1- It has high sensitivity, so a positive test establishes the diagnosis in most patients

2- It is usually negative when pulmonary embolism is confined to sub-segmental vessels

3- It is positive only in VTE

4- It can reliably distinguish between ruptured Baker's cyst and deep venous thrombosis

**5- It has high negative predictive values, so a**

Q3219. High potassium intake has all the following beneficial effects EXCEPT?

1- Lowers blood pressure in both hypertensive and normotensive individuals

2- Reduces the risk of stroke

3- Reduces urinary calcium excretion, which reduces the risk of kidney stones

4- Prevents bone demineralisation

**5- Lowers high blood cholesterol**

Q3220. Which one of the following statements concerning the distribution curve is accurate?

1- The median is the sum of all the scores divided by the number of scores

2- The mean is a good measure of central tendency in skewed distributions

3- The mean is lower than the median in positively skewed distributions

**4- When there is an even number of numbers, the median is the mean of the two middle numbers**

5- In any given distributions there is only one

Q3221. Cyclo-oxygenase-2 (COX-2) enzyme inhibition results in each of the following effects EXCEPT?

1- Anti-inflammatory

**2- Anti-platelet**

3- Analgesic

4- Sodium retention

5- Bronchospasm

Q3222. One of the following statements is true regarding subacute bacterial endocarditis (SBE)?

1- Absent cardiac murmur at presentation virtually excludes the diagnosis of SBE

2- The spleen is often enlarged and usually tender

**3- Glomerulonephritis is due to an immunologic mechanism**

4- Mycotic aneurysms most frequently affect medium sized renal arteries

5- Heart failure when present is usually mild

Q3223. Each of the following cellular pathophysiological processes occurs in the shock state EXCEPT?

1- Increase in sodium/potassium ATPase activity

2- Cellular swelling

3- Precipitation of calcium in the mitochondria

**4- Increase in insulin-mediated glucose uptake in muscle**

5- Depletion of ATP and cyclic AMP

Q3224. Prolonged QT interval is a recognised complication of each of the following EXCEPT?

1- Quinidine therapy

2- Hypokalaemia

3- Tricyclic antidepressant therapy

4- Amiodarone therapy

**5- Digoxin therapy**

Q3225. A 20-year-old drug addict admitted to the intensive care unit with fever, cloudy consciousness and increasing shortness of breath. The echocardiogram showed vegetation and the blood culture was positive from two bottles. Which of the following is true of acute bacterial endocarditis in the context of IV drug misuse?

**1- Staphylococcus aureus is the most frequent causative agent**

2- Echocardiogram is often normal since vegetations are often smaller than 0.2 cm in size

3- It almost never occurs in people with normal heart valves

4- Metastatic abscess is a feature more commonly seen in sub-acute than acute endocarditis

5- Cardiac conduction defect is often due to

Q3226. Which one of the following is NOT true about seminal fluid?

1- Semen is produced in the testes and stored in the seminal vesicle

2- In a human it takes approximately three months for complete maturation of a sperm

3- Normally up to 20% of the sperms in an ejaculate are abnormal

4- Sperm concentration may be temporarily suppressed by fever

**5- Sildenafil (Viagra) doubles the sperm count**

Q3227. Leptin is a hormone responsible for regulating fat mass in the body. Which one of the following statements regarding this hormone is TRUE?

1- It is secreted by the pancreas

2- It acts directly on adipocytes in the subcutaneous tissue and causes proliferation of fat cells

**3- The vast majority of obese individuals have markedly elevated plasma leptin concentrations**

4- It enhances appetite

5- It suppresses energy expenditure

Q3228. Which one of the following is LEAST characteristic about the laboratory findings in the antiphospholipid syndrome?

1- Positive Venereal Disease Research Laboratory test (VDRL)

2- Positive anticardiolipin antibodies

3- Prolonged activated partial thromboplastin time (APTT)

**4- Elevated low density lipoprotein (LDL)**

5- Thrombocytopenia

Q3229. Which one of the following features is LEAST suggestive of Guillain–Barré syndrome?

1- Proximal muscle weakness

2- Areflexia

3- Normal cerebrospinal fluid (CSF) cell count

**4- Acute retention of urine**

5- Segmental demyelination on nerve

Q3230. A 30-year-old male presents with a cough and expectoration of greenish sputum. He is known to have had recurrent chest infections with progressive shortness of breath since early childhood. A high resolution CT scan of the chest shows dilated airways in both lower lobes and in the lingula. When seen in cross section, the dilated airways have a ring-like appearance. One of his brothers had a similar problem. Each of the following disorders could be the underlying cause for this patient's symptoms EXCEPT?

1- Cystic fibrosis

2- Immotile cilia syndrome (Kartagener's syndrome)

3- Alpha-1-antitrypsin deficiency

4- IgM deficiency

**5- Glucose-6-phosphate dehydrogenase**

Q3231. Which one of the following immunological abnormalities is LEAST encountered in patients with acquired immune deficiency syndrome (AIDS)?

1- Hypergammaglobulinaemia

2- Depletion of T4 lymphocyte

3- Deficient T-lymphocyte response to antigenic and mitogenic stimulus

**4- Low absolute B-lymphocytes count**

5- Defective natural killer (NK) cell function

Q3232. Which one of the following statements with regard to bacille Calmette-Guérin (BCG) vaccine is NOT true?

**1- The vaccine contains live attenuated human Mycobacterium tuberculosis**

2- Provides up to 10 years immunity against tuberculosis

3- May cause regional lymphadenopathy

4- In areas where TB is endemic vaccination is usually offered to all neonates

5- Subsequent tuberculin tests give false

Q3233. Which one of the following statements regarding cerebrospinal fluid (CSF) is true?

1- It is absorbed by the choroid plexus

2- It circulates in the epidural space

**3- It has a lower glucose concentration than plasma**

4- It has a higher protein concentration than plasma

5- It diffuses along the nerves back into the

Q3234. Which one of the following is NOT true regarding inflammatory indicators?

1- The erythrocyte sedimentation rate (ESR) is increased in hypoalbuminaemia

2- The C-reactive protein (CRP) levels are elevated in acute myocardial infarction

**3- A rise in plasma viscosity (PV) is primarily due to an increase in haematocrit concentration**

4- The PV test is generally more specific and sensitive than the ESR test

5- The CRP results are basically not affected by

Q3235. The following statements are true about tumour necrosis factor (TNF) EXCEPT?

**1- It inhibits angiogenesis hence the prominent anti-tumour activity**

2- It increases vascular permeability and promotes inflammation

3- It recruits leucocytes to the site by inducing adhesion molecules

4- It is produced primarily by activated monocytes and macrophages

5- Anti-TNF-a therapies reduce inflammation

Q3236. Which one of the following is rarely observed in essential mixed cryoglobulinaemia (EMC)?

1- Positive rheumatoid factor

2- Palpable purpura

3- Glomerulonephritis

**4- Cold intolerance**

5- Hepatitis C infection

Q3237. Which of the following factors would NOT result in increased aldosterone secretion?

1- Angiotensin II

2- ACTH

**3- Hypernatraemia**

4- Hyperkalaemia

5- Renin

Q3238. Which one of the following clinical findings is LEAST characteristic of systemic sclerosis?

**1- Pulmonary hypertension is usually due to recurrent pulmonary embolism**

2- The ESR is usually within normal limits

3- Alveolar cell carcinoma of the lung is a recognised complication

4- Visceral disease without cutaneous involvement

5- Skin thickening is characteristically proximal

Q3239. Chondrocalcinosis is associated with each of the following disorders EXCEPT?

1- Hyperparathyroidism

**2- Addison's disease**

3- Haemochromatosis

4- Hypothyroidism

5- Gout

Q3240. Which one of the following statements regarding neuropathic (Charcot) joints is true?

**1- Diabetes mellitus is the most common cause**

2- In children it usually complicates poliomyelitis

3- The joint often looks normal on clinical examination

4- Syringomyelia predominantly affects the knees

5- Joint replacement is the treatment of

Q3241. Which one of the following disorders is LEAST associated with positive ANCA test?

1- Wegener's granulomatosis

**2- Polyarteritis nodosa**

3- Churg-Strauss syndrome

4- Microscopic polyangiitis

5- Idiopathic necrotising glomerulonephritis

Q3242. Which one of the following is LEAST associated with hyperuricaemia?

1- Thiazide diuretic therapy

**2- Vitamin B12 deficiency**

3- Polycythaemia rubra vera

4- Eclampsia of pregnancy

5- Psoriasis

Q3243. Which one of the following is true regarding subacute bacterial endocarditis (SBE)?

1- The risk of infection for mitral valve lesions is higher than for aortic valve lesions

2- Q fever is the most frequent cause of culture negative endocarditis

**3- If Streptococcus bovis endocarditis is diagnosed a thorough investigation of the colon is indicated**

4- In early prosthetic valve endocarditis Staphylococcus aureus is frequently isolated

5- Prophylaxis for endocarditis is probably not

Q3244. Which one of the following is true regarding the immune system?

1- Class II major histocompatibility complex (MHC) antigens are present on virtually all human cell types

**2- The liver clears IgM-sensitised erythrocytes**

3- IL-2 is produced exclusively by Tlymphocytes

4- The active complement component C5a stimulates the activation of the alternative complement pathway

5- Erythrocyte destruction in paroxysmal

Q3245. Which one of the following statements is true about Graves' disease and pregnancy?

1- Neonatal hyperthyroidism is unlikely if the maternal thyroxine level is strictly controlled during pregnancy

2- Carbimazole is absolutely contraindicated

**3- Surgery can be safely conducted in the second trimester**

4- The presence of persistent exophthalmos indicates poor control of the active disease

5- Anti-thyroid drugs do not enter breast milk

Q3246. Koebner phenomenon is encountered in each of the following EXCEPT?

1- Pemphigus vulgaris

2- Lichen planus

3- Vitiligo

4- Molluscum contagiosum

**5- Herpes simplex**

Q3247. Which one of the following statements is incorrect regarding phaeochromocytoma?

1- Bilateral in 10% of cases

2- Malignant in 10% of cases

3- Extra-adrenal in 10% of cases

**4- Extra-adrenal phaeochromocytomas secrete adrenaline**

5- Familial cases almost always arise from the

Q3248. In patients with hypertension, the presence of hypokalaemia should prompt investigations of each of the following disorders EXCEPT?

1- Renal artery stenosis

2- Liddle's syndrome

3- Conn's syndrome

4- Cushing's syndrome

**5- Bartter's syndrome**

Q3249. Which one of the following is LEAST associated with metabolic alkalosis?

1- Thiazide therapy

2- Frusemide therapy

3- Conn's syndrome

**4- Addison's disease**

5- Persistent vomiting

Q3250. Which one of the following is true about cytokines?

1- Cytokines are exclusively produced by immune system cells

2- Interleukin-6 (IL-6) enhances albumin synthesis by the liver

3- Interleukin-2 (IL-2) is derived from wandering macrophages

4- Th1 cells regulate allergic reaction and antibody production

**5- Transforming growth factor-beta (TGF-beta)**

Q3251. A 55-year-old Afro-American businessman attends the outpatient clinic with pain in his legs. On examination, his left arm blood pressure is 160/110 mmHg and the right arm is 130/80 mmHg. Regular blood pressure readings remain constant three months later. The peripheral pulses are unequal in the arms. Which of the following statements is NOT true?

1- This patient is hypertensive

2- The arm with the highest mean blood pressure reading should be used for BP measurement

3- A rise in diastolic pressure when the patient goes from the supine to the standing position is most compatible with essential hypertension

**4- Ambulatory blood pressure monitoring is necessary for further treatment monitoring**

5- Beta-blockers may not be effective in

Q3252. Which one of the following conditions is LEAST associated with hypoparathyroidism?

1- Addison's disease

2- Di George syndrome

3- Mucocutaneous candidiasis

**4- Medullary cell carcinoma**

5- Magnesium deficiency

Q3253. Which one of the following conditions is LEAST likely to be associated with pyoderma gangrenosum?

**1- Tuberculosis**

2- Rheumatoid arthritis

3- Chronic myeloid leukaemia

4- Ulcerative colitis

5- Lymphoma

Q3254. Which one of the following conditions is LEAST associated with the syndrome of inappropriate antidiuretic hormone secretion (SIADH)?

1- Pneumococcal pneumonia

2- Meningococcal meningitis

3- Porphyria

**4- Sickle cell trait**

5- Vincristine therapy

Q3255. Which of the following statements is true concerning gestational diabetes?

1- Rarely resolves spontaneously after delivery

2- Less than 20% will develop type 2 diabetes mellitus

3- Rarely recurs in subsequent pregnancy

4- Associated with increased risk of fetal microsomia

**5- The risk of congenital malformation is not**

Q3256. Hypophosphataemia is associated with each of the following potential complications EXCEPT?

1- Haemolysis of red blood cells

2- Rhabdomyolysis

3- Encephalopathy

**4- Metastatic calcification**

5- Osteomalacia

Q3257. Causes of hypokalaemia include each of the following EXCEPT?

1- Metabolic alkalosis

2- Renal tubular acidosis

3- Gentamycin therapy

**4- Addison's disease**

5- Bartter's syndrome

Q3258. Hypercalcaemia that usually responds to steroid therapy is a feature of each of the following disorders EXCEPT?

1- Sarcoidosis

**2- Primary hyperparathyroidism**

3- Hypervitaminosis D

4- Multiple myeloma

5- Malignancy with bone metastases

Q3259. Which one of the following features is LEAST associated with thyrotoxicosis?

1- Diffuse swelling of the hands and feet

2- Proximal myopathy

3- Familial periodic paralysis

4- Myasthenia gravis

**5- Peripheral neuropathy**

Q3260. Each of the following regarding cyclosporin A is true EXCEPT?

**1- It is an alkylating agent**

2- It acts primarily on T-helper lymphocyte

3- Ketoconazole inhibits its hepatic metabolism

4- Myelosuppression is not an adverse effect often encountered with cyclosporin therapy

5- Hirsutism is usually reversible after

Q3261. Regarding acute aortic regurgitation, which one of the following is true?

1- Rheumatic fever is the most frequent cause

2- The pulse pressure is wider than in chronic aortic regurgitation

3- The fourth heart sound S4 is often present

4- Left ventricular dilatation is a helpful early echocardiographic finding

**5- It is often regarded as a medical emergency**

Q3262. A 31-year-old pregnant woman, was found by her husband in the garage cyanosed and agitated. Apparently she left the car engine running while she was clearing the garage before driving to her maternity hospital appointment. She smokes heavily but has no previous medical problems. She was rushed to the accident and emergency department. On arrival it was thought that she had carbon monoxide (CO) poisoning. Which one of the following statements is NOT true?

1- The baseline CO may exceed 15% in smokers as compared with 1-3% in nonsmokers

2- The affinity of haemoglobin for CO is 200- 250 times as great as its affinity for oxygen

3- The final CO level in the fetus may significantly exceed the levels in the mother

4- Venous blood samples are adequate for measurements of CO in the blood

**5- CT scan of the brain identifies hypodense**

Q3263. A 20-year-old student is admitted with collapse. He was with friends and was upset about his final examination result. They mentioned that he had a lot to drink and probably took an overdose of an unknown substance. On examination, he smells of alcohol and is comatose. The pupils are small but there are no localising signs. The full blood count, glucose, urea and electrolyte, liver function test and INR are all within normal limits. He is intubated, and given naloxone intravenously. He becomes more alert but starts to experience abdominal cramps, nausea and vomiting. Regarding this patient, which one of the following statements is correct?

1- Naloxone has no pharmacological effect on the CNS toxicity of ethanol (alcohol)

2- The patient is unlikely to be an opioid addict

**3- Plasma paracetamol concentration should be measured urgently**

4- Naloxone is the only specific opioid antagonist which reverses the effect of all opioids

5- Naloxone is readily deactivated when

Q3264. Which one of the following antimicrobial drugs has the LEAST anti-anaerobic activity?

1- Clindamycin

2- Amoxycillin

**3- Norfloxacin**

4- Tetracycline

5- Chloramphenicol

Q3265. Each of the following is true about vancomycin EXCEPT?

**1- Inhibits bacterial DNA replication**

2- Has no significant effect on Gram-negative cocci

3- Poorly absorbed when given by mouth

4- Eliminated mainly by the kidney

5- Ototoxicity is the main side-effect

Q3266. Metformin therapy is associated with all of the following effects EXCEPT?

1- Reduces absorption of carbohydrates from the gut

**2- Stimulates the pancreas to release stored insulin**

3- Reduces hepatic gluconeogenesis

4- Clinical hypoglycaemia is rare

5- Increases the utilisation of glucose in

Q3267. Which one of the following disorders is LEAST associated with photosensitivity?

1- Quinidine therapy

2- Discoid lupus

**3- Acute intermittent porphyria**

4- Pellagra

5- Systemic lupus erythematosus

Q3268. Which one of the following statements is NOT accurate about drug-induced liver disease?

1- Isoniazid (INH) typically causes liver damage in fast acetylators

2- Halothane hepatitis usually becomes evident approximately seven to ten days after anaesthesia

**3- Erythromycin stearate can cause cholestasis**

4- Phenytoin characteristically produces liver granuloma

5- Aspirin in excess of 3 grams per day causes

Q3269. Vitiligo is associated with each of the following disorders EXCEPT?

**1- Nelson‘s syndrome**

2- Alopecia areata

3- Graves' disease

4- Addison‘s disease

5- Diabetes mellitus

Q3270. Which one of the following is true regarding amiodarone?

1- 5% of its weight is iodine

2- It causes shortening of the QT intervals

**3- It has calcium channel blocking properties**

4- It has no effect on potassium channels

5- It promotes renal excretion of digoxin when

Q3271. Abnormal apoptosis is least implicated in the pathogenesis of which one of the following conditions?

1- Systemic lupus erythematosus

2- Alzheimer's disease

**3- Ischaemic heart disease**

4- Lung cancer

5- Myelodysplastic syndrome

Q3272. Which one of the following is not a recognised treatment for acromegaly?

1- Somatostatin analogues

2- Bromocriptine

3- Octreotide

**4- Somatotropin**

5- Cabergoline

Q3273. With respect to inhaled intrapulmonary delivery of insulin, which one of the following is true?

1- Cigarette smoking has no effect on absorption of inhaled insulin

2- Abolishes the need for subcutaneous insulin injections in type I diabetes

**3- 10-30% of the inhaled dose of insulin is absorbed into the circulation**

4- When used alone offers adequate glycaemic control for Type I diabetes

5- Results in a deterioration in pulmonary

Q3274. In relation to acute interstitial nephritis, which one of the following statements is INCORRECT?

1- Bilaterally normal-sized kidneys are typically seen on ultrasound scan

2- The condition is immune mediated

3- Allopurinol is a known cause

4- Haematuria is a feature

**5- Renal function almost always remains**

Q3275. Each of the following features is characteristic of insulin resistance EXCEPT?

1- Acanthosis nigricans

2- Lipodystrophy

3- Amenorrhoea and hirsutism

**4- Peripheral neuropathy**

5- Hypertension

Q3276. Which one of the following statements is true about SSRIs when compared with tricyclic antidepressant?

1- More sedative effect

2- Weight gain is a recognised side-effect

**3- Less profound antimuscarinic effect**

4- Safely used in epilepsy

5- Drug free period is not necessary when

Q3277. Which one of the following statements is NOT true about dyspnoea?

1- In diaphragmatic paralysis it occurs immediately after lying down

2- When it improves during exercise, psychogenic hyperventilation may be the cause

3- In asthma it occurs shortly after cessation of exercise

**4- In pulmonary venous congestion it occurs immediately after sleep**

5- In hypersensitivity pneumonitis is worse in

Q3278. Each of the following is true about ventilation perfusion (V/Q) scan of the lung EXCEPT?

1- Previous pulmonary embolism gives false positive results many years after the initial incident

2- Excludes the diagnosis of pulmonary embolism when the result is normal

3- The findings are more informative if the chest X-ray is normal

**4- The diagnosis of pulmonary embolism is of higher probability when there is single subsegmental mismatch**

5- Pulmonary arterio-venous malformation

# Chapter 13 Nephrology

Q3279. A 56-year-old man presents with flank pain and haematuria. His plasma creatinine concentration is 368 m mol/l and renal ultrasound reveals bilateral 14-cm kidneys with multiple cysts. There are also cysts scattered through the liver. What is the cause of this condition?

1- Bilateral ureteric reflux from childhood

**2- Genetic defect in the gene encoding polycystin**

3- Genetic defect in the von Hippel-Landau gene

4- Genetic defect in the gene encoding type-IV collagen

5- Genetic defect in the gene encoding

Q3280. A 45-year-old woman with a long history of steroid-treated sarcoidosis presents with extreme thirst and nocturia five times per night. Her serum calcium concentration is 2.3 mmol/l, glucose is 4.6 mmol/l and potassium is 3.5 mmol/l. After an overnight fast, her serum Na+ is 149 mmol/l. What is the cause of her symptoms?

1- Chronic cystitis

**2- Cranial diabetes insipidus**

3- Hypokalaemia-induced polyuria

4- Iatrogenic adrenal insufficiency

5- Psychogenic polydipsia

Q3281. A 26-year-old woman with epilepsy and a low IQ presents with flank pain, hypotension and anaemia. A CT scan of her abdomen shows a large haemorrhage into a mass in her right kidney, which is composed primarily of fat. There are two similar lesions (without haemorrhage) in her left kidney. Renal function is normal. What is the underlying condition?

1- Adult polycystic kidney disease

2- Renal-cell carcinoma

**3- Tuberous sclerosis**

4- von Hippel-Lindau disease

5- Xanthogranulomatous pyelonephritis

Q3282. A 36-year-old man presents with a history of red urine. This has occurred intermittently over the previous 3 years but he is otherwise well. His blood pressure is 160/95 mmHg and urinalysis shows +3 blood and +3 protein, with red-cell casts evident on microscopy. He excretes 1.6 g of protein/24 hours in his urine. What would a renal biopsy most probably show?

1- Focal segmental glomerulosclerosis with IgA deposition

**2- Mesangioproliferative glomerulonephritis with IgA deposition**

3- Mesangioproliferative glomerulonephritis with IgM deposition

4- Proliferative glomerulonephritis with deposition of C3, IgG and IgM

5- Normal light microscopy with thin

Q3283. A 46-year-old Asian woman complains of dysuria and flank discomfort. Her blood pressure is 200/100 mmHg despite taking three medications. Urine microscopy shows leucocytes and red cells, but there is no significant bacterial growth. Renal ultrasound shows two 9-cm kidneys with medullary calcification and mild hydronephrosis on the left. What is the most likely cause of this presentation?

1- Acute pyelonephritis

2- Aristolochic acid nephropathy

3- Medullary cystic disease

**4- Renal tract tuberculosis**

5- Reflux nephropathy

Q3284. A 39-year-old man undergoes treatment for a large tumour-burden, non-Hodgkin's lymphoma with a regimen that includes cyclophosphamide, doxorubicin, vincristine and prednisolone. The treatment is complicated by Gram-negative sepsis, which is treated with gentamicin and ceftazidime. The day after completing the first course of treatment, he is found to be oligoanuric (urine output 250 ml/24 h). His blood pressure is 150/60 mmHg and he has +1 peripheral oedema. Urinalysis shows a pH of 5.6 and +1 protein, and urine microscopy reveals numerous reddish-brown, rosette-like crystals. Plasma creatinine concentration is 200 m mol/l, calcium is 1.76 mmol/l and phosphate is 2.7 mmol/l. What is the cause of the oliguria?

1- Ceftazidime-induced interstitial nephritis

2- Gentamicin nephrotoxicity

3- Lymphomatous infiltration of the kidney

**4- Tumour lysis syndrome**

5- Vincristine nephropathy

Q3285. An 80-year-old man with a long history of poor urinary stream and nocturia presented with malaise and vomiting. His plasma creatinine concentration was 1242 mmol/l and his urea 65 mmol/l. Renal ultrasound showed gross bilateral hydronephrosis with thin cortices. A urinary catheter was placed and he passed 7.6 litres of urine over the next 24 hours, during which time he received no supplemental iv fluid. His blood pressure is now 80/50 mmHg, he has no oedema and his neck veins are flat. His serum Na+ is 150 mmol/l and urine osmolality is 198 mOsm/l. Which of the following most accurately describes the hormonal milieu?

**1- High ADH, high aldosterone, high renin**

2- High ADH, high aldosterone, low renin

3- High ADH, low aldosterone, low renin

4- Low ADH, high aldosterone, high renin

5- Low ADH, low aldosterone, high renin

Q3286. A 63-year-old woman presents with malaise, ankle swelling and shortness of breath. Her blood pressure is 215/140 mmHg, she has +2 peripheral oedema and the skin over her fingers appears very tight. Fundoscopy discloses bilateral papilloedema. Plasma creatinine concentration is 370 mmol/l, potassium is 4.9 mmol/l, haemoglobin is 8.9 g/dl and her platelet count is 90 x 109 /ml. What is the pathological hallmark of this condition?

1- Aneurysm formation in the medium-sized arteries

2- Autoimmune destruction of red blood cells

3- Functioning adenoma of the adrenal cortex

**4- Mucoid intimal thickening of vascular endothelium**

5- Stenosis of one or both main renal arteries

Q3287. Which one of the following features is characteristic of Bartter's syndrome?

1- Hypokalaemia with hypertension

2- Reduced urinary excretion of potassium and chloride

3- Good response to ACE inhibitors

4- Low renin and aldosterone

**5- Hyperplasia of the juxtaglomerular**

Q3288. A 34-year-old woman with known SLE presents with ankle swelling. Her blood pressure is 170/100 mmHg and she has marked lower limb oedema. Urine dipstick discloses +3 protein with no haematuria. Plasma creatinine concentration is 101 mmol/l, albumin is 12 g/dl and urinary protein excretion rate is 6.9 g/24 h. What is the cause of this presentation?

1- Amyloidosis

2- Class II lupus nephritis

**3- Class V lupus nephritis**

4- Fibrillary glomerulonephritis

5- Pericardial effusion

Q3289. Which one of the following conditions is most commonly associated with large kidneys despite advanced renal failure?

**1- Amyloidosis**

2- Hypertensive nephrosclerosis

3- Membranous glomerulonephritis

4- Systemic sclerosis

5- Analgesic nephropathy

Q3290. A 30-year-old woman presents for a second opinion with severe, unrelenting, left flank pain with episodes of red urine. This has been present intermittently for 2 years. In addition, she complains of headache and a sensation of her own heartbeat. Urinalysis reveals +3 blood with no protein; urine microscopy discloses numerous dysmorphic red cells with some red cell casts. The urine is sterile on culture. Renal ultrasound shows normal kidneys and no calculi are visible on plain X-ray. Her plasma creatinine concentration is 65 m mol/l and her blood pressure is 90/60 mmHg. What is the probable diagnosis?

1- IgA nephropathy

**2- Loin pain-haematuria syndrome**

3- Recurrent pyelonephritis

4- Renal abscess

5- Renal-cell carcinoma

Q3291. A 23-year-old man presents to his GP with rapidly increasing shortness of breath and haemoptysis for the second time within 3 weeks. He is referred urgently to the medical on-call team. Apart from smoking 20 cigarettes per day and having mild asthma, he has no other significant past medical history. Urinalysis reveals microscopic haematuria and proteinuria. Chest X-ray reveals fluffy pulmonary infiltrates. Haemoglobin is 10.5 g/dl, serum creatinine is 345 m mol/l, serumANCA is negative. What diagnosis fits best with this clinical picture?

1- Bronchopneumonia

**2- Goodpasture's syndrome**

3- Wegener's granulomatosis

4- SLE

5- Sarcoidosis

Q3292. A 48-year-old nun presents to her GP with malaise, anorexia and weight loss. Screening blood samples reveals a urea of 50.1 mmol/l and a serum creatinine of 690 m mol/l. Her past history includes frequent headaches, but nil else of note. She has, however, failed to attend her routine 'well-woman' appointments. Ultrasound reveals bilateral hydronephrosis and a suspicion of a central pelvic mass. What diagnosis is most likely to be responsible for this woman's hydronephrosis?

1- Retroperitoneal fibrosis

2- Ovarian carcinoma

**3- Cervical carcinoma**

4- Analgesic nephropathy

5- Chronic urinary reflux

Q3293. An 82-year-old man presents to his GP with increasing oedema and ascites. He is hypertensive, for which he takes amlodipine. There is shortness of breath on exercise. His alcohol history is two cans of stout per day. ECG is normal, and CXR reveals normal heart size and no signs of cardiac failure. Serum albumin is 23 g/dl; urinary albumin excretion is 7 g/24 h, with no haematuria. He has mild anaemia with a normal MCV. Total cholesterol is elevated. What diagnosis fits best with this clinical picture?

1- Cardiac failure

2- Cirrhosis

3- Nephritic syndrome

**4- Nephrotic syndrome**

5- Polyarteritis nodosa

Q3294. A 32-year-old Afro-Caribbean man with a 5- year history of HIV infection presents with swollen ankles. He has been treated with highly active antiretroviral therapy (HAART) for 2 years, with partial response. His plasma creatinine concentration is 358 mmol/l, albumin is 12 g/dl, CD4 count is 35/m l and 24- hour urine protein excretion rate is 6.8 g. Renal ultrasound shows echogenic kidneys 13.5 cm in length. What would a renal biopsy show?

1- Focal necrotising crescentic nephritis

2- Kimmelstiel-Wilson lesions

3- Membranous nephropathy

**4- Microcystic tubular dilatation and collapsing FSGS**

5- Minimal-change disease

Q3295. A 19-year-old woman complains of stiff joints and a facial rash. Her blood pressure is 145/95 mmHg, she has +1 oedema, slightly swollen metacarpophalangeal joints and some ulceration of her buccal mucosa. Plasma creatinine is 92 m mol/l, Hb is 8.9 g/dl and platelet count is 92 x 1012/l. Urinalysis shows +3 blood and +3 protein. High titres of doublestranded DNA antibodies are detectable in her serum. What would histological examination of renal tissue demonstrate?

**1- Diffuse proliferative glomerulonephritis with deposits of IgG, IgM and C3**

2- Fibrillary glomerulonephritis

3- Focal segmental glomerulosclerosis

4- Pauci-immune diffuse proliferative glomerulonephritis

5- Pauci-immune focal necrotising crescentic

Q3296. A 65-year-old man, who has been on haemodialysis for 12 years, presents with gradually increasing bone pain. He underwent subtotal parathyroidectomy 4 years ago. Current medications include alfacalcidol 1 m g/day and calcium carbonate 500 mg three times daily. His serum calcium concentration is 2.97 mmol/l (2.2-2.6), phosphate is 2.7 mmol/l (0.8-1.4) and intact parathyroid hormone level is 90 pmol/l (0.9-5.4). What is the most probable cause of his symptoms?

1- Adynamic bone disease

2- Dialysis amyloid

**3- Hyperparathyroid bone disease**

4- Osteoporosis

5- Vitamin D-induced hypercalcaemia

Q3297. Calcium homeostasis is dependent on the fact that:

1- Most of the serum calcium exists as free calcium ions

2- Body calcium content is mainly regulated by kidneys

**3- 99% of filtered Ca is reabsorbed in the kidneys**

4- Calcitonin decreases renal calcium excretion

5- Decreased renal excretion leads to

Q3298. A 45-year-old man presents with mild jaundice, ankle swelling, nausea and anorexia. Serology reveals the presence of hepatitis B sAg and eAg. Blood pressure is 150/100 mmHg, urinalysis discloses 3+ protein without haematuria and he has +3 lower limb oedema. His plasma creatinine concentration is 110 mmol/l, albumin is 11 g/dl and he excretes 5.4 g of protein/24 hours in his urine. What is the cause of the proteinuria?

1- Focal segmental glomerulosclerosis

2- IgA nephropathy

**3- Membranous nephropathy**

4- Mesangiocapillary glomerulonephritis

5- Minimal-change disease

Q3299. During the course of a routine medical examination, a 26-year-old man is found to have 3+ haematuria. This is confirmed on microscopy and on a second urinalysis 9 months later. He remembers two episodes during the past year when his urine was red, both occurred in association with an upper respiratory tract infection. The family history is negative for renal disease. His blood pressure is 150/100 mmHg and he has no oedema. Plasma creatinine is 65 m mol/l. What would a renal biopsy most probably show?

1- Cast nephropathy

**2- IgA nephropathy**

3- Kimmelstiel-Wilson lesions

4- Minimal-change disease

5- Thin basement membranes

Q3300. An 18-year-old man is recovering from meningococcal septicaemia, treated with high-dose cefotaxime. He suffered gangrene in four toes, which necessitated amputation. Postoperatively, he complained of flank pain and is now becoming drowsy and lethargic. His blood pressure is 90/45 mmHg and his peripheries are cool. Plasma creatinine is 156 mmol/l, urea is 29.6 mmol/l, potassium is 6.7 mmol/l, sodium is 119 mmol/l and bicarbonate is 17 mmol/l. Spot urine Na+ is 136 mmol/l. What is the likely cause of his deterioration?

1- Acute tubular necrosis

2- Acute interstitial nephritis secondary to cefotaxime

**3- Adrenal insufficiency**

4- Septic shock

5- SIADH

Q3301. A 26-year-old woman presents to A&E with fever, myalgia and shock after returning from a holiday in Korea. Her blood pressure is 78/50 mmHg, respiratory rate is 40/min, she is cyanosed but not jaundiced and has bilateral conjunctival haemorrhage with epistaxis. She receives volume resuscitation but remains oliguric (5 ml/hour). Plasma creatinine is 460 m mol/l, urea is 182 mmol/l, Hb is 9.1 g/dl, platelet count is 34 x 1012/l and prothrombin time is 32 seconds. What is the diagnosis?

1- Acute interstitial nephritis

2- Haemolytic-uraemic syndrome

**3- Hantavirus infection**

4- Leptospirosis

5- Rhabdomyolysis

Q3302. You are asked to review an 82-year-old man on the orthopaedic ward, 1 week after surgery for a neck of femur repair. There is a history of heart failure, for which he has been prescribed furosemide, but no other significant past medical history. Postoperative recovery has been stormy, with iv antibiotic treatment given for a urinary infection. The surgeons notice that his serum creatinine is 350 m mol/l. Urinary sodium is 48 mmol/l and urinary osmolality is 320 mOsm/kg. What diagnosis fits best with this clinical picture?

1- Pre-renal failure

2- Chronic renal failure

3- Acute septicaemia

**4- Acute tubular necrosis**

5- Post-renal failure

Q3303. A 19-year-old woman complains of stiff joints and a facial rash. Her blood pressure is 145/95 mmHg, she has +1 oedema, slightly swollen metacarpophalangeal joints and some ulceration of her buccal mucosa. Plasma creatinine is 92 mmol/l, Hb is 8.9 g/dl and platelet count is 92 x 1012/l. Urinalysis shows +3 blood and +3 protein. High titres of doublestranded DNA antibodies are detectable in her serum . What pathogenic feature leads to the renal lesion?

1- Arteriolar vasculitis

2- Circulating antibodies directed against the glomerular basement membrane

3- Deposition of a linear dense deposit within the glomerular basement membrane

**4- Subendothelial deposition of immune complexes**

5- Subepithelial deposition of immune

Q3304. A 36-year-old man with a history of intravenous drug use is found to have dipstickpositive haematuria. His blood pressure is 170/90 mmHg, he appears clinically well and he has a trace of peripheral oedema. Plasma creatinine is 140 mmol/l, bilirubin is 65 mmol/l, AST is 78 IU/l and his 24-hour urinary protein excretion rate is 4.1 g/24 h. Microscopy of the spun urine sediment reveals the presence of red-cell casts. Complement C3 is 0.5 (0.7-1.3) and C4 is 0.09 (0.12-0.27). What is the aetiology of the renal abnormalities?

1- Hepatorenal syndrome

**2- Infection with hepatitis C**

3- Infection with HIV

4- Infectious endocarditis

5- Renal emboli

Q3305. A 32-year-old woman complains of weakness and lethargy. Clinical examination is normal with a blood pressure of 96/70 mmHg and no oedema. Her plasma creatinine concentration is 67 m mol/l and her potassium is 2.8 mmol/l. A blood test 3 years ago demonstrated a potassium concentration of 2.7 mmol/l. A urinary screen fails to reveal any diuretics. Renal ultrasound shows bilateral nephrocalcinosis. What is the probable tubular defect?

1- Abnormality of the aquaporin channels

2- Fanconi's syndrome

**3- Genetic defect of the Na+-K+-2Cl- cotransporter**

4- Inhibition of carbonic anhydrase

5- Pharmacological inhibition of the Na+-K+-

Q3306. A 64-year-old man with long-standing type-2 diabetes, who has recently started on peritoneal dialysis, is admitted with a fractured femoral neck. His serum calcium concentration is 2.9 mmol/l, phosphate is 2 mmol/l and PTH is 5.6 pg/ml (normal range 25-65). Medications include alfacalcidol 0.5 mg daily and calcium carbonate 500 mg three times daily. What would a bone biopsy show?

**1- Adynamic bone disease**

2- Aluminium deposition at the osteoid bone interface

3- An increase in plasma cells

4- Osteitis fibrosa cystica

5- Osteoporosis

Q3307. A 70-year-old man with type-2 diabetes is found to have an elevated plasma creatinine of 160 mmol/l. His blood pressure is 180/100 mmHg, and fundoscopy reveals mild hypertensive changes and background diabetic retinopathy. He has a neuroischaemic ulcer on his right foot and no palpable pedal pulses. Urine dipstick is negative and renal ultrasound shows a 9.2-cm left kidney and 7.0- cm right kidney, with reduced cortical thickness. What is the most likely cause of the renal impairment?

1- Cholesterol emboli syndrome

2- Diabetic glomerulosclerosis

3- Membranous nephropathy

4- Reflux nephropathy

**5- Atherosclerotic renal artery stenosis**

Q3308. A 24-year-old man presents complaining of passing red urine. This has also occurred on 4- 6 occasions over the previous few years. The current episode occurred after a game of football and was associated with weakness and cramping of his thigh muscles. His blood pressure is 120/76 mmHg and he has no oedema or muscle tenderness. Urinalysis shows 3+ blood, his plasma creatinine concentration is 146 mmol/l and his creatine kinase is 62,652 IU/l. What is the cause of this presentation?

**1- Carnitine palmitoyltransferase deficiency**

2- IgA nephropathy

3- Muscle trauma with myoglobin-induced tubular injury

4- Postinfectious glomerulonephritis

5- Renal-cell carcinoma

Q3309. A 52-year-old woman with a history of recurrent urinary tract infection presents with a 3-week history of increasing left flank pain, fever, anorexia and weight loss. On examination a left-sided abdominal mass is palpable. Her white cell count is 17.5 x 109 /L, Hb is 8.1 g/dl and plasma creatinine is 190 mmol/l. There is a significant growth of Klebsiella spp in her urine. What is the probable diagnosis?

1- Acute pyelonephritis

2- Renal abscess

3- Renal-cell carcinoma

4- Transitional-cell carcinoma

**5- Xanthogranulomatous pyelonephritis**

Q3310. A 62-year-old man who is undergoing peritoneal dialysis at home presents with abdominal pain, pyrexia and rigors. On examination there is obvious peritonism. Which organism is the most likely cause of this clinical picture?

1- Candida albicans

2- Mycobacterium tuberculosis

3- Staphylococcus aureus

4- Escherichia coli

**5- Staphylococcus epidermidis**

Q3311. A 22-year-old student commences chemotherapy for B-type acute lymphoblastic leukaemia. She suffers from vomiting, but 36 h later her condition worsens and her bloods reveal a corrected calcium of 2.0 mmol/l and serum potassium of 6.7 mmol/l. Which of the following options is the best way to avoid this problem from occurring?

1- Pretreatment with furosemide therapy

2- Adequate hydration pre-chemotherapy

3- Allopurinol pre-chemotherapy

**4- Hydration and allopurinol prechemotherapy**

5- Furosemide and allopurinol prechemotherapy

Q3312. You are asked by your orthopaedic colleagues to review a 28-year-old victim of blunt trauma after a motorcycle accident. He has suffered extensive lower limb damage and requires large amounts of analgesia. The orthopaedic surgeons are concerned about his blood results, his potassium some hours after the accident is 6.7 mmol/l, calcium is 2.05 mmol/l, urine is positive to dipstick testing for blood. What diagnosis fits best with this clinical picture?

1- Acute sepsis

2- Hypovolaemia leading to pre-renal failure

**3- Rhabdomyolysis**

4- Direct renal trauma with perinephric haematoma

5- Analgesic nephropathy

Q3313. You are asked to review a 36-year-old woman who has presented to the casualty department with renal colic. KUB X-ray has revealed the presence of multiple renal stones. Her past history of note includes extensive surgical resection for Crohn's disease. What is the most likely chemical composition of her renal stones?

1- Calcium phosphate

2- Uric acid

3- Magnesium ammonium phosphate

4- Cysteine

**5- Calcium oxalate**

Q3314. A 78-year-old retired textile worker is noted to have haematuria on routine urinary dipstick at her GP's practice. Her only past history of note is arthritis, for which she takes antiinflammatories. Plain abdominal X-ray reveals no evidence of renal stones. Routine bloods reveal increased plasma viscosity and mild anaemia, with a haemoglobin of 10.5 g/dl and a ferritin just below the normal range. What is the diagnosis that fits best with this clinical picture?

1- Chronic urinary tract infection

**2- Bladder cancer**

3- Interstitial cystitis

4- Analgesic nephropathy

5- Interstitial nephritis

Q3315. You are asked by a GP to review a 71-year-old man who has complained of chronic back pain for some time. Routine blood tests reveal a urea of 19.1 mmol/l, a creatinine of 285 m mol/l and a normochromic normocytic anaemia. Excretion urography reveals bilateral ureteric obstruction at the level of the pelvic brim. What diagnosis fits best with this clinical picture?

**1- Retroperitoneal fibrosis**

2- Bilateral transitional-cell carcinoma

3- Abdominal lymphoma

4- Ureteric compression from an expanding aneurysm

5- Chronic reflux disease

Q3316. A 49-year-old woman presents to her GP with symptoms of a urinary tract infection. There is a history of multiple attendances for various aches and pains, and a previous neurology referral for headache. BP is 165/95 mmHg. Urinalysis reveals haematuria and the GP commences her on a 2-week course of ciprofloxacin. She returns, still complaining of symptoms, at which point the presence of a normochromic normocytic anaemia is noted, along with a serum creatinine of 220 m mol/l. What diagnosis fits best with this clinical picture?

1- Acute nephritis

2- Renal failure secondary to sepsis

3- Hypertensive renal disease

**4- Analgesic nephropathy**

5- Reflux nephropathy

Q3317. A 73-year-old woman presents with confusion to Emergency complaining of anterior central chest pain. She has recently had a fistula created in preparation for haemodialysis. Bloods on admission show deteriorated renal function, with urea 37.5 mmol/l, creatinine 685 m mol/l. Examination reveals a pericardial rub and atrial fibrillation with a fast ventricular response rate of 110 bpm. What diagnosis fits best with this clinical picture?

1- Acute myocardial infarction with pericardial rupture

**2- Uraemic pericarditis**

3- Subacute bacterial endocarditis secondary to fistula surgery

4- Rheumatoid disease

5- Rheumatic fever

Q3318. A 58-year-old woman has been treated for 6 months for reflux disease by her GP. She also has a history of hypertension, Raynaud's syndrome and telangiectasia. Autoimmune screening reveals positive extractable nuclear antibody to SCL 70. Renal function testing reveals a creatinine of 215 m mol/l. What is the most likely cause of her renal dysfunction?

1- Wegener's granulomatosis

2- Membranous glomerulonephritis

**3- Systemic sclerosis**

4- Rheumatoid arthritis

5- Lupus

Q3319. A 71-year-old diabetic woman is in her 6th year of haemodialysis. She visits her GP with symptoms of pain, numbness and tingling in both hands during the early hours of the morning. She also complains of stiffness in her shoulders, hips and knees. What diagnosis fits best with this clinical picture?

1- Rheumatoid arthritis

**2- Dialysis amyloidosis**

3- Diabetic neuropathy

4- Seronegative arthritis

5- Uraemic neuropathy

Q3320. A 27-year-old woman is in end-stage renal disease. She has been started on regular haemodialysis. She complains of pain in her fingers. An X-ray shows digital subperiosteal erosions. What is the primary metabolic cause for her bony condition?

**1- Increased serum phosphate levels**

2- Increased parathyroid hormone levels

3- Increased renal 1a-hydroxylase enzyme levels

4- Increased serum calcium levels

5- Increased serum alkaline phosphatase

Q3321. A 25-year-old man presents with haematuria, haemoptysis, oedema and proteinuria. Which investigation would be most appropriate for arriving at a diagnosis?

1- Chest X-ray

2- Renal ultrasound

3- Antinuclear antibody estimation

**4- Renal biopsy**

5- Antistreptolysin-O titre

Q3322. A 30-year-old man with Marfan's syndrome presents with severe left-sided loin pain and haematuria. Blood tests reveal hypokalaemia and acidosis. The anion gap is 14 mmol/l. There is hypercalciuria. Abdominal radiographs show a left ureteric calculus. What is the most likely cause for this condition?

1- Uraemic acidosis

2- Diabetic ketoacidosis

**3- Renal tubular acidosis**

4- Lactic acidosis

5- Salicylate poisoning

Q3323. A 52-year-old diabetic patient on metformin complains of feeling unwell and is found to have a blood glucose of 4.2 mmol/l and an anion gap of 20 mmol/l. What is the most likely cause for his illness?

1- Hypoglycaemia

2- Diabetic ketoacidosis

**3- Lactic acidosis**

4- Diabetic nephropathy

5- Type-1 distal renal tubular acidosis

Q3324. A 21-year-old registered drug addict is brought in unconscious to the emergency department. It's not known how long he was on the floor of his apartment. Blood tests on admission revealed a bicarbonate of 19 mmol/l, creatinine of 280 m mol/l, urinary sodium of 60 mmol/l and a urine osmolality of 220 mOsmol/l. There is evidence of acute sepsis. What diagnosis fits best with this clinical picture?

1- Pre-renal failure due to a prolonged period of unconsciousness

2- Acute sepsis

**3- Acute tubular necrosis**

4- Glomerulonephritis

5- Renal artery embolus secondary to drug

Q3325. A 72-year-old man with type-2 diabetes and a creatinine level of 185 mmol/l presents to radiology for a contrast angiography. He has had a mild episode of gastroenteritis but is keen to go ahead with the investigation. He is discharged the following morning but presents to A&E 48 h later feeling acutely unwell. His serum creatinine level is now 285 m mol/l. What diagnosis fits best with this clinical picture?

1- Worsening of diabetic nephropathy

2- Haemolytic-uraemic syndrome

**3- Contrast nephropathy**

4- Renal artery occlusion

5- Nephritic syndrome

Q3326. A 55-year-old man presents with weakness, general malaise and ankle swelling. He has been unwell for 4 months, the ankle swelling having developed quite rapidly over the previous 3 weeks. On examination he has marked peripheral oedema and 3+ proteinuria without haematuria on dipstick urinalysis. His daily urine albumin excretion rate is measured at 6.9 g/24 hours, creatinine is 130 m mol/l, serum albumin is 12 g/dl and Hb is 8.9 g/dl. Further investigation reveals a paraprotein band in his serum with kappa light chains demonstrated on immunofixation. What is the probable cause of the proteinuria?

1- Cast nephropathy

2- IgA nephropathy

**3- Light-chain deposition disease**

4- Membranous nephropathy

5- Minimal-change disease

Q3327. A 32-year-old woman presents with bilateral flank pain. Her GP had diagnosed a urinary tract infection 2 weeks earlier on the basis of proteinuria, but she returned with further pain, tiredness and general malaise. He noted a raised serum creatinine of 285 m mol/l at this time. Repeat urinalysis revealed blood and protein, but no bacterial growth and no active urinary sediment. Her only past medical history is that she discontinued the oral contraceptive pill after a DVT. What diagnosis fits best with this clinical picture?

1- Nephrotic syndrome

2- Nephritic syndrome

3- Inadequately treated UTI with associated renal failure

4- Ciprofloxacin-associated nephritis

**5- Bilateral renal vein thrombosis**

Q3328. A 62-year-old woman has a history of chronic otitis media and mastoiditis over the past few months. There have been one or two episodes of haemoptysis. She smokes 30 cigarettes per day. Urinalysis reveals haematuria, proteinuria and red-cell casts. Chest X-ray reveals cavitating mass lesions and evidence of multiple nodules with diffuse alveolar changes. Urea and creatinine are both markedly raised. ESR and rheumatoid factor are elevated. What diagnosis fits best with this clinical picture?

1- Rheumatoid arthritis with typical lung changes

2- Tuberculosis

3- Bronchial carcinoma

**4- Wegener's granulomatosis**

5- Goodpasture's syndrome

Q3329. A 33-year-old woman attended her GP for new-patient screening and was found to be hypertensive, BP 155/90 mmHg. Early retinal changes consistent with hypertension are seen on fundoscopy. Following referral, an ultrasound scan reveals kidneys of broadly similar size within the normal range. Angiography reveals concentric narrowing of the left renal artery, with no evidence of atherosclerosis in the other areas of the vascular tree on imaging. Which of the following statements best fits the explanation, treatment and outcome for her condition?

1- Her renal artery narrowing is likely to be progressive

**2- Her renal artery narrowing is unlikely to progress**

3- Angioplasty is the treatment of choice for all patients with this clinical presentation

4- She is likely to have atherosclerotic disease elsewhere

5- Her hypertension is likely to be associated

Q3330. A 30-year-old man is found to have macroscopic haematuria, proteinuria of 1.5 g/24 hours and a serum creatinine level of 153 µmol/l. What is the most likely diagnosis?

1- Diabetic nephropathy

2- Membranous glomerulonephritis

3- Henoch-Schönlein purpura

4- Focal glomerulosclerosis

**5- IgA nephropathy**

Q3331. A 62-year-old woman visits the diabetes clinic for review. She has had type-2 diabetes for 9 years and is now on insulin therapy. She has diabetic nephropathy, as exemplified by hypertension and proteinuria (urinary PCR 155); a recent creatinine level was 205 m mol/l and eGFR 24 ml/min. Which of the following options best fits her prognosis or management?

**1- Treatment with ARB or ACE-I may slow further deterioration in renal function**

2- Intensive glucose control will not affect prognosis

3- Tight blood pressure control is unlikely to affect prognosis

4- Her systolic BP target should be 140 mmHg

5- Non-dihydropyridine calcium antagonists

Q3332. A 72-year-old woman presents to her GP for routine health screening. On blood testing, she is noted to have a corrected calcium of 3.15 mmol/l and a creatinine of 284 m mol/l. Serum protein electrophoresis is normal, haemoglobin is 10.1 g/dl, serum phosphate is elevated. Past history of note is chronic reflux nephropathy, hypertension and type-2 diabetes. Her hypertension is poorly controlled and she currently takes amlodipine 10 mg. Which of the following is the most likely cause of her hypercalcaemia?

1- Primary hyperparathyroidism

**2- Tertiary hyperparathyroidism**

3- Myeloma

4- Milk-alkali syndrome

5- Occult carcinoma

Q3333. A 68-year-old man has a new-patient screen carried out by his GP. He is noted to have microscopic haematuria. His GP also notes a raised ESR and a calcium concentration of 3.1 mmol/l. On examination he appears to have a varicocele. What diagnosis fits best with this clinical picture?

1- Transitional-cell carcinoma

2- Wilms' tumour

3- Retroperitoneal sarcoma

**4- Renal-cell adenocarcinoma**

5- Urinary tract infection

Q3334. A 15-year-old boy presents with dark discolouration of urine. There is a history of upper respiratory tract infection two weeks earlier. If untreated, he may go on to develop:

1- Nephrotic syndrome

2- Immune deficiency with normal complement (C3) levels

3- Acute renal failure

**4- Fits or a stroke**

5- Nephroblastoma

Q3335. A 72-year-old woman presents acutely unwell to casualty. She has been suffering from gastroenteritis for a few days. Past medical history of note includes furosemide and ramipril for mild heart failure and treatment for nose bleeds. A full blood count and film reveals evidence of red cell haemolysis and thrombocytopenia, serum creatinine is 290 m mol/l and urea is 17.0 mmol/l. What diagnosis fits best with this clinical picture?

1- Acute dehydration

**2- Haemolytic-uraemic syndrome (HUS)**

3- Wegener's granulomatosis

4- Furosemide toxicity

5- Renal artery stenosis

Q3336. A 75-year-old man visits his GP for a newpatient screen. His only previous complaints have been type-2 diabetes and mild longstanding back pain. Screening tests reveal an elevated serum creatinine of 215 m mol/l, and anaemia with Hb of 10.1 g/dl. A back X-ray shows collapse of the lumbar spine and there is a monoclonal band on serum protein electrophoresis. What is the most likely cause of his deteriorated renal function?

1- Diabetic nephropathy

2- Membranous glomerulonephritis

3- Metformin toxicity

**4- Amyloidosis**

5- Urinary tract infection

Q3337. A 68-year-old man visits his GP with symptoms of difficulty initiating urine flow. He also has to wake on a number of occasions each night to visit the toilet to pass urine. His PSA is normal and a prostatic biopsy does not indicate carcinoma. Which of the following treatment options is likely to bring most rapid symptom relief?

1- Finasteride

2- Dutasteride

3- Testosterone replacement

**4- Alpha-blockade**

5- Beta-blockade

Q3338. An 82-year-old man is admitted with confusion. There is no evidence of acute infection. On examination there is a mass in the lower abdomen above the symphysis pubis. Blood testing reveals a urea of 42.1 mmol/l, creatinine 540 mmol/l and a potassium concentration of 6.7 mmol/l. He is given intravenous calcium and insulin and dextrose. What is the next most appropriate treatment intervention?

**1- Urinary catheterisation**

2- Haemodialysis

3- Urgent renal ultrasound scan

4- Furosemide therapy

5- Intravenous rehydration

Q3339. A 28-year-old woman presents to casualty with flank pain and a 48-h history of dysuria. Her past medical history includes polycystic ovarian syndrome. She is not in a steady relationship at present. There is haematuria and proteinuria on urine dipstick testing. Examination reveals a pyrexia of 38.1°C and flank pain. What diagnosis fits best with this clinical picture?

1- Nephrolithiasis

2- Pelvic inflammatory disease

3- Ovarian cyst pain

**4- Pyelonephritis**

5- Acute glomerulonephritis

Q3340. A 54-year-old diabetic man presents for review. His annual review bloods reveal a raised creatinine of 165 mmol/l, potassium of 5.9 mmol/l and bicarbonate of 19 mmol/l. Urinary protein excretion is normal. What diagnosis fits best with this clinical picture?

**1- Renal tubular acidosis (RTA)-type 4**

2- Diabetic nephropathy

3- Renal tubular acidosis-type 2

4- Renal tubular acidosis-type 1

5- Diabetic ketoacidosis

Q3341. A 72-year-old psychiatric patient is admitted to casualty complaining of thirst. He has with him a large number of shopping bags and has spent a considerable amount of money on new clothes. Biochemical blood testing reveals a urea of 21.0 mmol/l, creatinine of 185 mmol/l and a sodium of 146 mmol/l. Urinary osmolality is low. What diagnosis fits best with this clinical picture?

1- Chronic reflux nephropathy

2- Cranial diabetes insipidus

**3- Nephrogenic diabetes insipidus**

4- Syndrome of inappropriate ADH secretion

5- Psychogenic polydipsia

Q3342. A 46-year-old woman is managed with longterm haemodialysis. The cause of her chronic renal failure is long-standing type 1 diabetes. She is treated with a steady dose of erythropoietin (EPO) yet on recent dialysis sessions you have noticed a decrease in her haemoglobin (Hb) from 11.1 g/dl post EPO to 8.4 g/dl at her last dialysis session. Which of the following would be the most appropriate investigation?

**1- Serum ferritin**

2- Upper gastrointestinal (GI) endoscopy

3- Lower GI endoscopy

4- Measurement of EPO antibodies

5- Bone marrow aspiration

Q3343. A woman with long-standing glaucoma and type-2 diabetes is admitted for an ophthalmological procedure. Her current medications include acetazolamide, metformin and atenolol. The operation is postponed because of an abnormal blood test, although she is asymptomatic. Plasma Na+ concentration is 137 mmol/l, K+ is 3.5 mmol/l, chloride is 115 mmol/l and bicarbonate is 15 mmol/l. Arterial pH is 7.26 and p(CO2) is 2.9 kPa. What is the probable pathophysiology responsible for the acid-base disturbance?

**1- Inhibition of carbonic anhydrase in the proximal tubule**

2- Ketoacidosis

3- Metformin-induced lactic acidosis

4- Stress-induced hyperventilation

5- Type-4 renal tubular acidosis

Q3344. A 56-year-old diabetic man came in for acute breathlessness in the middle of the night. There was no previous history of retinopathy. Chest X-ray revealed evidence of pulmonary oedema. His HbA1c is 8.4%, and his blood pressure (BP) was 180/112mmHg. Investigation: creatinine (Cr) 251 m mol/l, urine dipstick protein 1+, blood 1+. Which of the following would best explain the above findings?

**1- Chronic glomerulonephritis**

2- Renal artery stenosis

3- Nephrotic syndrome

4- Renal vein thrombosis

5- Acute urinary tract infection

Q3345. A 6-year-old boy has had recurrent renal calculi. His mother also had similar history. Infection screen is negative on this occasion. What is the most likely diagnosis?

1- Cystinosis

**2- Cystinuria**

3- Familial gouty nephropathy

4- Familial iminoglycinuria

5- Hartnup's disease

Q3346. A 75-year-old patient has a history of squamous cell carcinoma of the lung that was resected some years ago. He presents with pedal oedema. Urinary dipstick showed protein 2+. What is the most likely diagnosis?

**1- Membranous nephropathy**

2- Membranoproliferative glomerulonephritis

3- Minimal change nephropathy

4- IgA nephropathy

5- Focal segmental glomerulosclerosis

Q3347. An 86-year-old woman presented with her first episode of urinary tract infection. Urine examination confirmed blood and proteinuria, and E. coli was grown on culture. What is the next step in management after treating her with antibiotics?

1- Take no action

2- Cystoscopy

3- Retrograde pyelography

**4- Re-testing of urine with cytological examination after antibiotics**

5- Renal ultrasound scan

Q3348. A 62-year-old man with a long-standing history of hypertension is seen in the outpatient clinic. Investigations gave: Creatinine 280 mmol/l Urinalysis, blood++ Protein 1.8 g/l Ultrasound scan of kidneys showed left kidney 8.5 cm and right kidney 8.9 cm What is the best investigation to diagnose the cause of his renal impairment?

1- Intravenous urogram (IVU)

2- Isotope renogram

3- Renal angiogram

**4- Renal biopsy**

5- Retrograde pyelogram

Q3349. You are asked to see the relatives of a 68- year-old man who has undergone surgery for repair of a ruptured aortic aneurysm. Prior to surgery he was well, with a creatinine of 119 micromol/l at baseline. Although the operative procedure went well, the period of acute hypotension has resulted in an episode of acute tubular necrosis (ATN) and he has undergone renal dialysis on a number of occasions in the past week. Which of the following most accurately represents the chance of recovery of renal function to the level where dialysis is not required?

1- 0%

**2- 95%**

3- 5%

4- 50%

5- 25%

Q3350. A 45-year-old man had recurrent nephrolithiasis. Renal function tests and serum calcium measurements were normal. A 24 hour urine collection revealed (normal range in brackets): Volume 3 litres Calcium 15 mmol/24 hours (2.5-7.5) Oxalate 200 mmol/24 hours (90-450) Uric acid 3 mmol/24 hours (1.48-4.45) Citrate 2 mmol/24 hours(0.3-3.4) What is the most useful therapy to reduce stone formation?

1- Allopurinol

2- Dietary calcium restriction

3- Penicillamine

4- Potassium citrate

**5- Thiazide diuretic**

Q3351. A 47-year-old man attends the outpatient clinic complaining of swelling in the ankles and lethargy. On examination, his blood pressure is 160/90 and he is found to have pitting oedema in both legs. Laboratory investigations reveal: Hb 11.5 g/dl Urea 35 mmol/l Creatinine 275 mmol/l Hepatitis B antigen Positive Anti-nuclear antibodies negative What is the probable diagnosis?

**1- Membranous glomerulonephritis**

2- Hepatitis B infection

3- Acute interstitial nephritis

4- Renal tubular acidosis

5- Systemic lupus erythematosus

Q3352. You are called to a cardiac arrest in the Emergency Department where a patient who is known to the dialysis unit has been brought by ambulance. On reviewing her drugs you note that she is taking a statin, three antihypertensive agents, aspirin and has been receiving erythropoietin injections. Unfortunately resuscitation is unsuccessful. Which of the following is the commonest cause of death in renal dialysis patients?

1- Gastrointestinal haemorrhage

2- Occult malignancy

3- Pulmonary embolus

**4- Cardiovascular disease**

5- Overwhelming sepsis

Q3353. A 45-year-old woman with type 2 diabetes presents for review. She currently takes metformin and gliclazide and has an Hb A1c of 6.8%. Blood pressure is 142/82 mmHg on no antihypertensive medication. Total cholesterol is 5.2 mmol/l, but high-density lipoprotein (HDL) level is only 0.8 mmol/l; serum creatinine is 92 mmol/l. Urine microalbumin stix are positive. Which one of the following would be the most appropriate intervention in this case?

1- Stop metformin

2- Stop gliclazide

**3- Start atorvastatin 10 mg daily**

4- Transition to insulin therapy

5- Start bendroflumethiazide 2.5 mg

Q3354. A 32-year-old man is referred to the renal clinic by his GP after a second episode of gross haematuria. Past history of note includes coeliac disease. On both occasions the haematuria appears to have been closely associated with an upper respiratory tract infection. Blood pressure is 125/80 mmHg. Light microscopy of a renal biopsy specimen reveals diffuse mesangial proliferation and extracellular matrix expansion. IgA deposits are seen on immunofluorescence. Which of the following diagnoses fits best with this clinical picture?

1- Alport's syndrome

2- Lupus nephritis

**3- IgA nephropathy**

4- Goodpasture's syndrome

5- Wegener's granulomatosis

Q3355. A 32-year-old man is referred to the clinic with refractory hypertension and a slow deterioration in his creatinine. On further questioning it transpires that his brother now requires renal replacement therapy. He has an ultrasound scan of the abdomen which is highly suggestive of polycystic kidney disease (ADPKD). Which of the following proteins is associated with the development of the condition?

1- Type-1 collagen

2- Elastin

3- Matrix metalloproteinase

**4- Polycystin**

5- Anticystin

Q3356. A 26-year-old woman with Turner's syndrome is referred by a GP as he is concerned about her blood pressure. A recent 24hr blood pressure monitor has shown an average blood pressure of 148/88 mmHg. She is managed with ramipril 10mg daily. A recent creatinine was 105 micromol/l and potassium 4.9 mmol/l. You examine her and elicit no murmur and no evidence of radio-femoral delay. Which of the following is the most likely cause of her hypertension?

1- Coarctation of the aorta

2- Renal artery stenosis

**3- Single horse-shoe kidney**

4- Primary hyperaldosteronism

5- Essential hypertension

Q3357. A 32-year-old man attends the transplant clinic with his brother who has end-stage renal failure due to autosomal dominant polycystic kidney disease (ADPKD). He would like to donate a kidney to his brother if possible. Which of the following is the most appropriate modality for screening?

1- Intravenous urography

2- Computed tomography (CT) scan

**3- Genetic screening**

4- Micturating cystogram

5- Abdominal ultrasound scan

Q3358. A patient undergoes investigation for chronic upper urinary tract obstruction with intravenous urography. The patient should be informed about which severe complication?

**1- Contrast hypersensitivity**

2- Ureter damage

3- Skin reaction

4- Bleeding

5- Development of renal stones

Q3359. A patient with chronic renal failure presents with anaemia. What is the most likely cause?

**1- Erythropoietin deficiency**

2- Iron deficiency

3- Vitamin C deficiency

4- Vitamin K deficiency

5- Increased bleeding

Q3360. A 22-year-old pregnant woman presents with dysuria and increased frequency. A urinary tract infection is diagnosed. What is the most appropriate step?

1- No treatment

**2- Should always be treated in pregnancy**

3- Treatment if the c-reactive protein (CRP) is high

4- Treatment if the erythrocyte sedimentation rate (ESR) is high

5- Treatment if recurrence

Q3361. Two weeks after an episode of infective diarrhoea, a 10-year-old child presents with fever, hypertension and haematuria. A possible diagnosis could be:

1- Post-infectious glomerulonephritis

2- Membranoproliferative glomerulonephritis

3- Henoch-Schönlein purpura

4- Acute interstitial nephritis

**5- Haemolytic uraemic syndrome**

Q3362. A type-2 diabetic patient with chronic renal failure is started on metformin. What is the most likely serious complication?

1- Hypertension

2- Hyperglycaemia

**3- Lactic acidosis**

4- Atrial fibrillation

5- Infections

Q3363. A 33-year-old man presents with rapid progressive glomerulonephritis and nephrotic syndrome. A renal biopsy shows Wegener's granulomatosis. What is the most appropriate treatment?

1- Blood transfusion

**2- Cyclophosphamide and prednisolone**

3- Methotrexate

4- Antibiotics

5- Cyclosporin

Q3364. A woman who is 36 weeks pregnant presented with acute pyelonephritis. She has a history of recurrent urinary tract infection as a child. Her mother has a history of hypertension and was told that her kidneys were 'damaged'. Investigations reveal: creatinine (Cr) 58 (low normal). What is the most likely diagnosis?

1- Autosomal dominant polycystic kidney disease

**2- Reflux nephropathy**

3- Urinary stasis of pregnancy

4- Chronic interstitial nephritis

5- Glomerulonephritis

Q3365. Patients with sickle cell disease, especially those aged 40 or older, have a high risk of developing which complication?

1- Renal carcinoma

**2- Chronic renal failure**

3- Hepatic fibrosis

4- Lung cancer

5- Urinary tract infection

Q3366. A 21-year-old man presents with brown, blood stained urine after an upper respiratory tract infection. This is the third occurrence of post respiratory tract infection haematuria in the past 4 years. On examination he has a blood pressure of 145/88 mmHg. Investigations; Hb 12.9 g/dl WCC 5.6 x 109 /L PLT 245 x 109 /L ESR 54 mm/hr Na+ 140 mmol/l K+ 4.9 Creatinine 149 μmol/l IgA elevated Urine – Blood and protein positive Which of the following is the most likely finding on renal biopsy?

**1- Diffuse mesangial proliferation and extracellular matrix expansion**

2- C2 staining on immunofluorescence

3- Glomerulosclerosis

4- Glomerular microaneurysms

5- Linear deposits of IgG

Q3367. A patient has been diagnosed with renal carcinoma. His brother was diagnosed with the same condition three years ago. What is the most likely inherited condition?

1- Alport's syndrome

2- Gaucher's disease

**3- von Hippel-Lindau disease**

4- Tay-Sachs disease

5- Thrombotic thrombocytopenic purpura

Q3368. A 70-year-old man with Parkinson's disease is referred acutely by his GP having been found to have a creatinine of 746mmol/l. He was known to have normal renal function two years previously. On examination he has evidence of rigidity, resting tremor and postural instability. He appears to have bilateral small pupils. He has a postural BP drop from 160/72 mm/Hg when supine to 138/60 mmHg when standing. Ultrasound shows bilateral hydronephrosis and a full bladder. Which cause of obstructive renal failure should be considered most likely unless proven otherwise?

1- Benign prostatic hypertrophy

**2- Neurogenic bladder**

3- Papillary necrosis

4- Ureteric obstruction

5- Retroperitoneal fibrosis (RPF)

Q3369. A 73-year-old man is admitted hypothermic and unconscious, having been found collapsed on his kitchen floor. Biochemistry reveals a significant metabolic acidosis (bicarbonate 8 mmol/l), sodium 139 mmol/l, potassium 4.5 mmol/l, chloride 97 mmol/l and glucose 5.6 mmol/l. What is the likely biochemical diagnosis?

1- Alcohol intoxication

2- Diabetic ketoacidosis

**3- Lactic acidosis**

4- Renal tubular acidosis

5- Ureterosigmoidostomy

Q3370. A 20-year-old woman complaining of polyuria has a plasma osmolality of 306 mOsmol/kg and urinary osmolality of 320 kg/kg. DDAVP® increases the urine osmolality to 640 kg/kg. What is the likely diagnosis?

1- Diabetes mellitus

**2- Cranial diabetes insipidus (CDI)**

3- Nephrogenic diabetes insipidus (NDI)

4- Psychogenic polydipsia

5- Inappropriate secretion of antidiuretic

Q3371. A 24-year-old patient is admitted after falling asleep drunk in a toilet cubicle. On examination his BP 130/70, pulse 98 bpm and there is no pericardial rub. There is 'boggy' tenderness of his right calf and both thigh muscles. Biochemistry reveals urea 38 mmol/l, creatinine 410 mmol/l, bicarbonate 15 mmol/l, pH 7.1, potassium 7.8 mmol/l and creatine kinase 17 000 IU/l. What is the most appropriate form of treatment?

1- Continuous ambulatory peritoneal dialysis

2- Dopamine

3- Forced alkaline diuresis

**4- Haemodialysis**

5- High-dose diuretic therapy

Q3372. A 16-year-old boy is diagnosed with pulmonary tuberculosis and is started on treatment. A month later he presents with anorexia, malaise and fever. Laboratory investigations show: Hb 12.8 g/ dl WCC 12.0 x 109 /L Urea 27 mmol/l Creatinine 440 mmol/l Urinalysis shows numerous pus cells but is negative for AAFBs on staining. What could be the most likely cause?

1- Renal tuberculosis

**2- Acute interstitial nephritis**

3- Isoniazid (INH) toxicity

4- Urinary tract infection

5- Pulmonary-renal syndrome

Q3373. A 33-year-old man presents with rapid progressive glomerulonephritis and nephrotic syndrome. A renal biopsy shows granulomas. What is the most likely diagnosis?

1- Systemic lupus erythematosus

**2- Wegener's disease**

3- Rheumatoid arthritis

4- Hepatitis C infection

5- HIV

Q3374. A sales executive attends the nephrology clinic complaining of burning micturition and passage of blood in the urine. He says he was on a tour of North Africa a month earlier and the symptoms have occurred over the past week. If untreated, what is the most probable complication that this condition can cause?

1- Nephrotic syndrome

2- Acute renal failure

3- Acute interstitial nephritis

4- Acute tubular necrosis

**5- Hydronephrosis**

Q3375. A 44-year-old woman presents with the nephrotic syndrome. She has proteinuria (urinary protein creatinine ratio 386), hypoalbuminaemia (albumin 25g/l) and oedema. Her renal function is well preserved (creatinine 88 mmol/l). Which of the following is most likely to accompany the nephrotic syndrome?

1- Increased urinary sodium excretion

**2- Intravascular volume depletion**

3- Hypertension

4- Pleural effusion

5- Increased plasma antithrombin III

Q3376. A 27-year-old African male is admitted with fever, severe joint pain and diarrhoea. Investigations reveal a decreased urine osmolality. Which condition is most likely to give rise to this clinical feature?

1- Thalassaemia nephropathy

**2- Sickle cell nephropathy**

3- Polycystic kidney disease

4- Diabetes mellitus

5- Syndrome of inappropriate ADH secretion

Q3377. Chronic renal failure is an irreversible and usually long-standing loss of renal function. Of the following, which condition is most likely to cause chronic renal failure?

1- Leptospirosis

2- Haemolytic Uraemic syndrome

3- Vancomycin treatment

4- Myoglobinuria

**5- IgA nephropathy**

Q3378. The proximal convoluted tubule (PCT) is made up of a single layer of cells that interdigitate with one another and are united by apical tight junctions. It plays a major role in water and electrolyte metabolism. One of the most important functions of the PCT is:

1- Bicarbonate secretion

2- Glucose excretion

3- Ammonia secretion

4- Urine concentration

**5- Sodium reabsorption**

Q3379. A 28-year-old woman presents with muscle weakness and lethargy. Her plasma sodium is 138 mmol/l, potassium 2.1 mmol/l, bicarbonate 12 mmol/l and chloride 113 mmol/l. Creatinine is 62 mmol. She is diagnosed as having type I renal tubular acidosis (RTA). What is the most significant clinical presentation of distal renal tubular acidosis (type I) that differentiates it from proximal renal tubular acidosis (type II)?

1- There is failure to thrive

**2- Renal stone formation**

3- Urinary pH in Type I can be lowered below pH 5.3 after ammonium chloride administration

4- Metabolic acidosis is common

5- Potassium depletion occurs

Q3380. A 23-year-old man goes out for his birthday and drinks 10 pints of strong lager. He suffers from polyuria and passes large volumes of urine. His blood results are shown below Na+ 145 mmol/l K+ 4.4 mmol/l Urea 14.5 mmol/l Creatinine 195 μmol/l Which of the following is the most likely underlying process?

1- Increased renin levels

2- Reduced angiotensin levels

**3- Reduced expression of renal aquaporin channels**

4- Increased GFR

5- Increased vasopressin levels

Q3381. The pathogenesis of focal glomerulosclerosis (FSGS) is unknown. Increased glomerular permeability and injury to podocytes havae been postulated as possible aetiological factors. A characteristic feature of primary focal segmental glomerulosclerosis (FSGS) is that:

1- It causes segmental scars in some glomeruli and rarely leads to renal failure

**2- The histology may appear normal and may be confused with minimal change nephropathy**

3- It responds well to corticosteroid therapy

4- It may occur following HIV infection

5- It is a major cause of nephrotic syndrome in

Q3382. Which one of the following vasculitides is more often associated with renal involvement?

1- Churg-Strauss syndrome

2- Takayasu's arteritis

**3- Microscopic polyangiitis**

4- Cryoglobulinaemic vasculitis

5- Henoch-Schönlein purpura

Q3383. Which one of the following statements is true regarding retroperitoneal fibrosis?

**1- Low back pain is the most common presenting symptom**

2- Bilateral swelling of the legs is often due to inferior vena-caval obstruction

3- Pizotifen (migraine treatment) is implicated in causing similar disease

4- Renal failure is due to fibrous tissue infiltrating the kidneys

5- Hashimoto's thyroiditis is a recognised

Q3384. A 6-year-old boy is brought to the clinic with a history of fever with rigors, vomiting, abdominal pain and diarrhoea for the past two days. Urine examination shows the presence of pus cells. A significant feature of urinary tract infection (UTI) in children is that:

1- It is associated with anatomical abnormalities in more than half of the cases

2- Staphylococcus aureus is the most common organism isolated

3- Amoxycillin is the best antibiotic

**4- Diarrhoea is a presenting feature**

5- Is always due to ascending infection

Q3385. A 34-year-old woman presents with vomiting, malaise and weakness 5 weeks after delivering a healthy male infant. The pregnancy had been uncomplicated with no hypertension evident. Her blood pressure is now 210/110 mmHg, plasma creatinine is 650 mmol/l and potassium is 6.9 mmol/l. Haemoglobin is 7.6 g/dl, associated with a platelet count of 65 x 109 /l, reticulocytes of 7%, normal clotting indices and lactate dehydrogenase levels of 800 IU/l. Which of the following most accurately describes the pathological process?

1- Crescentic glomerulonephritis

2- Disseminated intravascular coagulation

3- Malignant hypertension

4- Pre-eclampsia

**5- Thrombotic microangiopathy**

Q3386. A 56-year-old woman presents with aching joints and weight loss of 3 months' duration. Her blood pressure is 180/100 mmHg, she has mild peripheral oedema and dipstick urinalysis shows evidence of blood and protein. Her plasma creatinine concentration is 367 m mol/l, whereas 6 months earlier it had been normal. Her family doctor had 1 week previously prescribed diclofenac sodium for her joint pain. Complement studies reveal C3 of 1.2 (0.7-1.3) and C4 of 0.19 (0.12-0.27). What is the most likely cause of the renal failure?

1- Acute tubulointerstitial nephritis

2- Lupus nephropathy

3- Membranous nephropathy

4- Mesangiocapillary glomerulonephritis

**5- Microscopic polyangiitis**

Q3387. A peritoneal dialysis patient presents with a 1- week history of abdominal pain. She has been on dialysis for 2 years and also has a history of coronary artery disease. Clinically, her abdomen is rigid and distended with absent bowel sounds, blood pressure is 85/50 mmHg, pulse rate is 120/min and the dialysate appears very cloudy. Culture of the dialysis fluid reveals a mixed growth of Escherichia coli, Bacteroides spp and Enterobacter spp. What is the most likely cause of this presentation?

1- Acute pancreatitis

**2- Diverticulitis**

3- Myocardial infarct

4- Primary peritoneal-dialysis peritonitis

5- Ulcerative colitis

Q3388. A 24-year-old man is found to have proteinuria on screening for medical insurance. On close questioning he complains of a burning sensation in his hands and feet. Blood pressure is 130/70 mmHg, he has several blanching red papules over his legs and buttocks and his daily urine protein excretion rate is 1.2 g. An ECG reveals left ventricular hypertrophy and first-degree heart block. Audiometry is normal and the family history is negative. What is the most likely cause of the proteinuria?

1- Alport's syndrome

2- Diabetic nephropathy

**3- Fabry's disease**

4- Mesangiocapillary glomerulonephritis

5- Minimal-change disease

Q3389. A 67-year-old man has been receiving dialysis for 6 years. His PTH is elevated at 345 pg/ml (NR 25-65), phosphate 2.13 mmol/l and corrected calcium 2.01 mmol/l. Of the following, which is the most likely to be responsible for renal osteodystrophy?

**1- Diminished activity of renal 1-a-hydroxylase**

2- Hypophosphataemia

3- Increased intestinal absorption of calcium

4- Hypoalbuminaemia

5- Increased levels of 1,25-dihydroxycholecalciferol

Q3390. A 44-year-old male patient has returned from running his bar in Spain to the UK to seek medical advice. He is worried as he has been suffering from joint pains, is up 2 or 3 times in the night to pass urine and thirsty all the time, and is unable to maintain his erection. He has a history of hypertension for which he takes ramipril 10mg daily. On examination he looks well and is very suntanned, has a BP of 145/88 mmHg and is obese with a BMI of 32. There is seems to be a slight reduction in secondary body hair. You also notice some spider naevi on close examination of the skin. Investigations Hb 14.1 g/dl WCC 4.5 x 109 /L PLT 245 x 109 /L Na+ 139 mmol/l K+ 5.0 mmol/l Creatinine 145 μmol/l ALT 90 U/l Alk P 185 U/l Which of the following would be the investigation of choice?

1- Blood glucose

2- Serum ferritin

**3- Transferrin saturation**

4- Caeruloplasmin

5- Urinary copper excretion

Q3391. A 16-year-old boy presents with a purpuric rash affecting his legs and buttocks. He also complains of joint pains, especially affecting his knees and ankles, abdominal pain and vomiting. You understand that he suffered an upper respiratory tract infection a few days before presenting to the GP. Investigations; Hb 12.1 g.dl WCC 5.6 x 109 /L PLT 234 x 109 /L ESR 35 mm/hr Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 120 µmol/l Urine blood+, protein+ Given the suspected diagnosis which of the following is the most likely finding on renal biopsy?

1- Glomerular IgG deposition

2- Microaneurysm formation

3- Necrotising granuloma formation

**4- Glomerular IgA deposition**

5- Glomerular sclerosis

Q3392. A 45-year-old woman presents with a history of recurrent sinusitis, cough productive of blood stained sputum and haematuria and proteinuria on routine urine testing. On examination she looks unwell, her BP is 159/92 mmHg. Further investigations Hb 10.9 g/dl WCC 8.0 x 109 /L PLT 490 x 109 /L Na+ 140 mmol/l K+ 5.4 mmol/l Creatinine 245 μmol/l ESR 65 mm/hr C-ANCA+ Which of the following is the most likely finding on renal biopsy?

**1- Segmental crescenteric necrotising glomerulonephritis**

2- Microaneurysm formation

3- Focal glomerulosclerosis

4- Non-caseating granuloma formation

5- Large artery vasculitis

Q3393. A 65-year-old man is diagnosed as having Parkinson's disease. A month later he has dysuria and is asked to collect a urine sample for investigation. He is worried that the urine is dark red in colour. What could be the possible cause?

1- Bromocriptine therapy

2- Haematuria

3- Acute interstitial nephritis

**4- L-Dopa treatment**

5- Wilson's disease

Q3394. A 38-year-old man presents with fever, increased symptoms of asthma, and hypertension. His GP has also noticed that a sample of faeces was positive for blood. On examination he looks pale, his BP Is 155/92 mmHg and he has a palpable purpuric rash. Auscultation of the chest reveals signs consistent with asthma. Investigations; Hb 10.5 g/dl WCC 8.2 x 109 /L (Elevated eosinophils) PLT 203 x 109 /L Na+ 140 mmol/l K+ 5.9 mmol/l Creatinine 234 μmol/l ESR 61 mm/hr pANCA+ Which of the following are the most likely findings on renal biopsy?

1- Glomerulosclerosis

**2- Focal segmental glomerulonephritis**

3- Minimal change disease

4- Membranous glomerulonephritis

5- Large vessel vasculitis

Q3395. A 32-year-old woman presents with pain and frequency of urination. This is her third attack over the course of the year, and she has additionally suffered one episode of left sided pyelonephritis. On examination she is pyrexial 38.0oC, her BP is 110/70 mmHg and she has a pulse of 92/min. Examination reveals left loin and suprapubic tenderness. Investigations : Hb 12.1 g/dl WCC 13.1 x 109 /L PLT 208 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 110 μmol/l CT Abdomen: Suspicion of staghorn calculi MSU: Proteus grown What are the calculi most likely to be composed of?

1- Calcium oxalate

2- Calcium phosphate

3- Urate

4- Cysteine

**5- Magnesium ammonium phosphate**

Q3396. A 73-year-old widow is undergoing haemodialysis for chronic renal failure. What is the most common problem that can arise in this case?

1- Vitamin D deficiency

2- Hypocalcaemia

3- Fluid and electrolyte imbalance

4- Viral hepatitis

**5- Protein-calorie malnutrition**

Q3397. A 32-year-old patient with a CMV positive renal transplant develops deteriorating renal function some 8-10 weeks after his transplant. He is also suffering from a flu-like illness. On examination he has a pyrexia of 37.8oC, and looks poorly; he has evidence of pharyngitis. Investigations Hb 11.8 g/dl WCC3.6 x 109 /L PLT 163 x 109 /L Na+ 139 mmol/l K+ 4.6 mmol/l Creatinine 194 μmol/l (152μmol/l 3 weeks earlier) Which of the following is the most appropriate treatment?

1- Aciclovir

**2- Ganciclovir**

3- Cyclosporin

4- Pentamidine

5- Co-trimoxazole

Q3398. A 39-year-old female is diagnosed as having chronic renal failure. When considering long-term dialysis for this patient, what is the most common complication that may occur?

1- Congestive heart failure

2- Squamous cell cancer of the skin

**3- Carpal tunnel syndrome**

4- Gastrointestinal malignancy

5- Non-Hodgkin's lymphoma

Q3399. A 60-year-old man who was previously thought to have essential hypertension is referred to the clinic. His blood pressure control has deteriorated, after previously having been well controlled on 3 agents, amlodipine 10mg, indapamide 1.5mg, and ramipril 5mg. On examination his BP is 150/98 mmHg. There is a left carotid bruit. Investigations Hb 11.9 g/dl WCC 5.4 x 109 /L PLT 201 x 109 /L Na+ 139 mmol/l K+ 5.2 mmol/l Creatinine 182 µmol/l (149 µmol/l some 6 months earlier) Urinalysis negative for both protein and blood Which of the following is the most likely cause?

1- Conn’s syndrome

**2- Renovascular disease**

3- Membranous nephropathy

4- IgA nephropathy

5- Coarctation

Q3400. A 19-year-old patient who is recently moved to the area is admitted to the Emergency ward with multiple epileptic seizures. His epilepsy settles and he is discharged, but you note some abnormal findings on examination including an elevated BP of 149/92 mmHg, some hypopigmented patches on his face, and periungual fibromas. You send him for some investigations Hb 12.4 g/dl WCC 4.9 x 109 /L PLT 302 x 109 /L Na+ 140 mmol/l K+ 4.5 mmol/l Creatinine 130 μmol/l Urine dipstick Blood + Renal ultrasound Bilateral renal cysts What is the most likely diagnosis?

1- Von Hippel Lindau disease

2- Neurofibromatosis

3- Polycystic kidney disease

**4- Tuberous sclerosis**

5- MEN 2

Q3401. A 60-year-old diabetes patient dies during haemodialysis. Apparently the nurses went to make him a piece of toast, and when they returned he had suffered a cardiac arrest. The said that he felt clammy and a little nauseous and had assumed that he was suffering from hypoglycaemia. Investigations (taken pre-dialysis) Hb 10.8 g/dl WCC 5.8 x 109 /L PLT 210 x 109 /L Na+ 139 mmol/l K+ 5.6 mmol/l Creatinine760 μmol/l Which of the following is the most likely cause of death?

1- Cardiomyopathy

**2- Coronary artery disease**

3- Hyperkalaemia

4- Cerebrovascular disease

5- Hypoglycaemia

Q3402. A 62-year-old man with nephrotic range proteinuria comes to the clinic for review. He has a history of hypertension and mild asthma. A renal biopsy demonstrated focal segmental glomerulosclerosis. Unfortunately his proteinuria was however unresponsive to systemic corticosteroids. Investigations; Hb 11.4 g/dl WCC 5.9 x 109 /L PLT 184 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 147 μmol/l Albumin 22 g/l Which of the following is the most appropriate management step to limit progression of his renal dysfunction?

1- Low sodium diet

2- Low protein diet

3- Long-term anticoagulation

**4- Ramipril**

5- Furosemide

Q3403. A 70-year-old woman presents with haemoptysis, increasing lethargy and nausea. Her only past medical history of note is hypertension, managed with indapamide 1.5mg daily. On examination her BP is elevated at 165/92 mmHg, she looks short of breath at rest. There are inspiratory crackles over both lung bases. Investigations; Hb 10.4 g/dl WCC 12.2 x 109 /L PLT 110 x 109 /L Na+ 141 mmol/l K+ 5.4 mmol/l Creatinine 201 μmol/l Urine protein ++, blood +++ Renal biopsy necrotising glomerulonephritis With which antibody is this clinical picture most likely to be associated?

1- Anticardiolipin

2- Anticentromere

3- Antimitochondrial

**4- Anti GBM**

5- Antineutrophil cytoplasmic

Q3404. A 17-year-old boy presents to the GP. Most recently he has suffered a respiratory tract infection and he is very distressed that on going to the bathroom he is urinating frank blood. The only history of note is microscopic haematuria diagnosed in childhood. Renal biopsy with histological staining is consistent with a diagnosis of Alport's syndrome. Which of the following other features is likely to be present?

1- Red-green colour blindness

2- Otosclerosis

**3- Sensorineural deafness**

4- Multiple lipomas

5- Cataracts

Q3405. A lady who is 12 weeks pregnant presents to the clinic with albuminuria. She is previously well with no past history of note, and this is her first pregnancy. Her mother has a history of renal disease. Her only past history of note is a few urinary tract infections as a child. Her BP is measured at 142/62 mmHg. Investigations Hb 11.5 g/dl WCC 5.6 x 109 /L PLT 230 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 128 μmol/l Urinary albumin 0.8g/24hrs What is most likely cause of the albuminuria?

1- UTI

**2- Reflux nephropathy**

3- Orthostatic proteinuria

4- Pre-eclampsia

5- Minimal change disease

Q3406. A patient is diagnosed with membranous nephropathy. With which other condition is this condition associated?

1- Asthma

**2- Malignancy**

3- Hepatic fibrosis

4- Liver cancer

5- Diabetes mellitus

Q3407. An 18-year-old man was admitted to the emergency department having collapsed with occipital headache. A scan revealed a massive subarachnoid haemorrhage. Further investigation during the following days revealed multiple bilateral renal cysts. A defect on which chromosome is likely to be responsible for this clinical syndrome?

**1- Chromosome 16**

2- Chromosome 4

3- Chromosome 12

4- Chromosome 5

5- Chromosome 3

Q3408. A 40-year-old man presents with night sweats, loin pain, haematuria and proteinuria. On examination a left-sided varicocele is noted. His serum calcium level is raised. What is the most probable diagnosis?

1- Renal tuberculosis

**2- Hypernephroma**

3- Renal vein thrombosis

4- Henoch-Schönlein purpura

5- Chronic pyelonephritis

Q3409. A 10-year-old boy is hospitalised because of a recent malaena and fever (38°C). The patient also complains of arthralgia involving the knees and the ankles. On examination he has a purpuric rash involving the legs. Urinalysis discloses proteinuria with microscopic haematuria. A biopsy of the purpuric lesion reveals leucocytoclastic vasculitis in the small vessels. Which one of the following statements is true about this boy's illness?

1- The purpuric skin rash is due to associated thrombocytopenia

**2- Active urinary sediment with RBC casts indicates glomerulonephritis**

3- Identification of anti-glomerular basement membrane antibodies is expected in half of the cases

4- pANCA is positive in two thirds of the cases

5- Renal granulomas are pathognomonic for

Q3410. A 30-year-old man presents with frank haematuria and haemoptysis. A blood test shows microcytic hypochromic anaemia. Chest X-ray reveals bilateral infiltrates in the lower zones. What is the most likely diagnosis?

1- Renal cell carcinoma

2- Renal calculus

3- Bronchial carcinoma

4- Renal tuberculosis

**5- Goodpasture's syndrome**

Q3411. A 15-year-old boy suffers recurrent episodes of haematuria following a flu-like illness. He is otherwise well. Physical examination is normal. Urinalysis reveals no proteinuria, blood ++, and 2-3 white blood cells/mm3 . What is the most probable diagnosis?

1- Post-streptococcal glomerulonephritis

2- Acute pyelonephritis

3- Henoch-Schönlein purpura

4- Goodpasture's syndrome

**5- IgA nephropathy**

Q3412. A 65-year-old man presents with haematuria, right loin pain and night sweats. Physical examination reveals a mass in the right flank. Blood tests show normocytic normochromic anaemia. What is the most likely diagnosis?

1- Renal tract calculi

2- Adult polycystic kidney disease

**3- Renal carcinoma**

4- Renal amyloidosis

5- Chronic pyelonephritis

Q3413. A 40-year-old man with hypertension presents with frank haematuria. He gives a history that his uncle recently underwent a renal transplant and that his father died of renal failure. On physical examination, a large mass is felt over the right lumbar area. A smaller mass is felt in the left flank. Blood urea and serum creatinine levels are raised. What is the most probable diagnosis?

1- Renal cell carcinoma

**2- Adult polycystic kidney disease**

3- Renal calculi

4- Prostatic carcinoma

5- Renal amyloidosis

Q3414. A 50-year-old woman develops haematuria with exquisite right loin pain. She is restless and is unable to find a comfortable position that would ease the pain. On examination, her abdomen is soft with tenderness over the right lumbar region. She is afebrile. What is the most probable diagnosis?

1- Acute pyelonephritis

2- Renal cell carcinoma

3- Polycystic kidney disease

**4- Renal calculi**

5- Acute nephritic syndrome

Q3415. A 30-year-old man complains of weakness in his upper limbs and has digital infarcts involving the middle and ring fingers of his right hand. On examination, his blood pressure is 160/140 mmHg. Investigations show Hb 10 g/dl; WCC 14 x 109 /L; platelets 450 x 109 /l; ESR 69 mm/1st h. Urinalysis shows proteinuria and microscopic haematuria with no casts. What is the most likely diagnosis?

**1- Polyarteritis nodosa**

2- Systemic lupus erythematosus

3- Wegener's granulomatosis

4- Polymyositis

5- Cryoglobulinaemic renal disease

Q3416. Which one of the following statements BEST describes the hepatorenal syndrome?

1- It is due to glomerulonephritis associated liver disease

**2- Almost all patients have ascites and are usually jaundiced**

3- Marked proteinuria is the hallmark of the disease

4- E. Coli are often associated on blood culture

5- Complete recovery is expected in the

Q3417. A 30-year-old businessman who has recently returned from a 3-month business trip to South Africa presents with fever, malaise, lymphadenopathy and acute nephritis. Which infection is the most probable cause for his condition?

1- Plasmodium malariae

2- Escherichia

**3- Treponema pallidum**

4- Mycoplasma

5- Hepatitis A

Q3418. A worker in a factory making torch batteries has developed swelling of his face and feet. Urinalysis shows proteinuria. What would be the most characteristic finding in a blood test in this patient?

1- Normal serum creatinine levels

2- Hyperalbuminaemia

3- Raised serum transferrin levels

4- Normal serum ceruloplasmin levels

**5- Low serum calcium and vitamin D levels**

Q3419. A 55-year-old man presents with pain in his right flank, nephrotic syndrome, azotaemia, collateral abdominal veins and gross haematuria. On examination, a mass is palpable in the right lumbar area. What is the most probable diagnosis?

1- Renal amyloidosis

2- Polyarteritis nodosa

3- Renal papillary necrosis

**4- Hypernephroma**

5- Polycystic kidneys

Q3420. A 14-year-old boy presents with proteinuria, haematuria and nephrotic syndrome. Blood testing shows the presence of circulating immune complexes. Which of the following disorders is he most likely to be suffering from?

1- Goodpasture's syndrome

2- Pernicious anaemia

3- Allergic rhinitis

4- Minimal-change glomerulonephritis

**5- Mesangiocapillary glomerulonephritis**

Q3421. A 7-year-old boy has clinical features of the nephrotic syndrome. However, a blood test shows that his serum cholesterol level is normal. Urine microscopy is normal. What is the most probable cause of nephrotic syndrome in this patient?

1- Lupus nephritis

**2- Minimal-change glomerulonephritis**

3- Membranous glomerulonephritis

4- Focal glomerulosclerosis

5- Drug-induced nephrotic syndrome

Q3422. A 6-year-old child is being investigated for nephrotic syndrome. Renal biopsy is suggestive of minimal-change nephropathy. Which of the following is most likely to be found in a blood test?

**1- Normal high-density lipoprotein cholesterol levels**

2- Low C3 complement concentration

3- Reduced a- and b-globulin fractions

4- Presence of a monoclonal band on protein electrophoresis

5- Raised antistreptolysin-O titre

Q3423. A 70-year-old man with a 6-month history of fatigue and low back pain is admitted to the A&E department with severe loin pain. Physical examination is unremarkable except for pallor. An X-ray of the lower abdomen shows a ureteric calculus and lytic lesions and osteoporosis in the lumbar vertebrae. Blood urea, serum creatinine and uric acid levels are raised. What is the most likely diagnosis?

1- Acute pyelonephritis

2- Chronic renal failure

3- Hyperparathyroidism

**4- Myeloma**

5- Chronic myeloid leukaemia

Q3424. A 45-year-old man is admitted with acute renal failure of undetermined aetiology. His creatinine is 1564 m mol/l and his urea is 76mmol/l. His blood pressure is 200/110mmHg, he is oliguric, and he has pulmonary oedema confirmed on chest radiography. A dual lumen dialysis line is inserted into his right subclavian vein, and the position confirmed by chest radiograph. He is urgently commenced on haemodialysis, in a recumbent position, with a target weight loss of 1.5kg. One hour into dialysis, he begins to complain of nausea, headache, and blurred vision. Shortly afterwards, he becomes confused and disorientated. His blood pressure is 180/100 mmHg. Which one of the following is the MOST likely explanation?

1- Air embolism

2- Reaction to hypotonic dialysate

**3- Dysequilibrium syndrome**

4- Pericardial tamponade

5- Intravascular volume contraction resulting

Q3425. A 55-year-old man complains of swollen feet and puffy eyelids. On examination, he is found to have a left-sided varicocele. His blood pressure is 160/120 mmHg. Which type of glomerular disease is most likely to have caused this problem?

1- Minimal-change nephropathy

**2- Membranous glomerulonephritis**

3- Diffuse proliferative glomerulonephritis

4- IgA nephropathy

5- Focal segmental glomerulosclerosis

Q3426. A 10-year-old boy has a history of tonsillitis followed by haematuria and hypertension. What would be the characteristic blood test finding in this condition?

1- Normal C3 level

**2- Depressed CH 50 level**

3- Low C4 level

4- Increased cryoglobulins

5- Elevated antinuclear antibody

Q3427. A 23-year-old woman presents with haematuria, proteinuria and hypertension. She has a past history of hepatitis B infection following intravenous drug usage. Blood tests show reduced C3 levels. What would be the most characteristic histological feature on renal biopsy in this case?

**1- Thickening and splitting of the capillary basement membrane**

2- Fusion of the foot processes of epithelial cells

3- Proliferation of mesangial cells

4- Normal histology

5- Mesangial hypercellularity with crescents in

Q3428. A young man presents with haematuria and recurrent haemoptysis. Renal biopsy shows the presence of antiglomerular basement membrane antibody. What is the most significant feature with regard to the immune system in this disease?

**1- Autoantibodies are directed against type-IV collagen**

2- C3 levels are reduced

3- Antiglomerular basement membrane antibodies occur in 50% of patients

4- Antibody deposition causes mesangial proliferation

5- Positive c-ANCA indicates pulmonary

Q3429. A young man presents with haematuria and recurrent haemoptysis. Renal biopsy shows the presence of antiglomerular basement membrane antibody. What is the most characteristic radiological finding on chest X-ray in this case?

1- Bilateral hilar lymphadenopathy

2- Lobar consolidation

3- Patchy shadows in apical zones

**4- Bilateral diffuse infiltrates in the lower zones**

5- Pleural effusion

Q3430. A young man presents with haematuria and recurrent haemoptysis. Renal biopsy shows the presence of antiglomerular basement membrane antibody. What would be the most characteristic finding in a lung biopsy of this patient?

1- Linear staining of IgG along the bronchiolar epithelium

2- Increased neutrophils and macrophages

3- Presence of non-caseating granulomas

4- Normal alveolar septa

**5- Haemosiderin-laden macrophages**

Q3431. A patient with liver failure underwent successful transplantation. He has now developed progressive renal failure. What is the most likely cause?

**1- Ciclosporin**

2- Prednisolone

3- Azathioprine

4- Mycophenolate mofetil

5- Anaesthesia

Q3432. A 60-year-old man is undergoing investigation for suspected nephrotic syndrome. What would the results of a blood test be most likely to show?

1- Increased antithrombin-III levels

2- Decreased fibrinogen levels

**3- Decreased thyroxine levels**

4- Raised folate levels

5- Raised blood glucose levels

Q3433. A young man presents with swelling of his face and feet, haematuria and proteinuria. He had measles 6 weeks earlier from which he had recovered uneventfully. Renal biopsy shows mesangial cell proliferation with electrondense, linear intramembranous deposits that stain for C3 only. What is the most probable diagnosis?

1- Focal glomerulonephritis

**2- Membranoproliferative glomerulonephritis**

3- Minimal-change nephropathy

4- Nodular sclerosis

5- Proliferative glomerulonephritis

Q3434. Membranous glomerulopathy is associated with:

1- Idiopathic nephrotic syndrome in children

**2- Adenocarcinoma of the stomach**

3- Elevated anti-nuclear antibody levels

4- Selective proteinuria

5- A progressive course ending in end-stage

Q3435. A 28-year-old woman suffers an acute onset of oliguria, gross haematuria, nausea and vomiting. On examination she is found to have pedal oedema and a blood pressure of 180/110 mmHg. Urinalysis shows proteinuria (+++), red blood cells and red cell casts. What is the most likely diagnosis?

1- Nephrotic syndrome

2- Lupus nephritis

3- Acute pyelonephritis

4- Acute tubular necrosis

**5- Acute nephritic syndrome**

Q3436. A 9-year-old boy complains of frequent headaches and the passage of dark-coloured urine. On examination, his blood pressure is 150/100 mmHg. Blood urea and serum creatinine levels are normal. Urine microscopy shows red cells and red cell casts. 24-hour urine protein is 2 g. What is the most likely diagnosis?

1- Polyarteritis nodosa

2- Reflux nephropathy

3- Polycystic kidneys

**4- Acute nephritic syndrome**

5- Hypernephroma

Q3437. A 12-year-old girl presents with an acute onset of oliguria and gross haematuria. On examination she is found to have pedal oedema and a blood pressure of 160/110 mmHg. Given the likely diagnosis, what would be the most characteristic finding on urine microscopy?

**1- Red blood cell casts**

2- Hyaline casts

3- 10-15 white blood cells/mm3

4- Granular casts

5- Tubular cell casts

Q3438. An 8-year-old boy complains of nausea and vomiting and fatigue. On examination, he is oedematous and his blood pressure is 160/100 mmHg. Blood urea and serum creatinine levels are normal. Urine microscopy shows oval fat bodies. 24-hour urine protein is 2 g. The doctor plans to start a course of corticosteroids, which he says will cure the condition. What is the most probable diagnosis?

1- Proliferative glomerulonephritis

2- Membranous glomerulonephritis

**3- Minimal-change disease**

4- Acute tubular necrosis

5- Amyloidosis of the kidneys

Q3439. A 49-year-old diabetic patient is found to have periorbital and pedal oedema and gross proteinuria. What would be the most characteristic finding in a blood test in this patient?

1- Raised plasma volume

2- Normal ESR level

3- Decreased fibrinogen levels

4- Increased serum calcium

**5- Increased serum cholesterol**

Q3440. A 35-year-old woman on treatment for rheumatoid arthritis presents with nephrotic syndrome. Which drug is most likely to have caused this problem?

**1- Penicillamine**

2- Sulfasalazine

3- Hydroxychloroquine

4- Cyclophosphamide

5- Methotrexate

Q3441. A 36-year-old man who has been suffering from gouty arthritis for the past 5 years now presents with features of nephrotic syndrome. Which medication is the most likely cause for his condition?

1- Methotrexate

2- Oral NSAIDs

3- Hydroxychloroquine

**4- d-Penicillamine**

5- Sulfasalazine

Q3442. A 44-year-old African man has frank nephrotic syndrome. He was recently in Ghana where he had received treatment for Plasmodium malariae infection. What is the most likely cause of nephrotic syndrome in this patient?

1- Focal glomerulonephritis

**2- Membranous glomerulonephritis**

3- Renal vein thrombosis

4- Renal amyloidosis

5- IgA nephropathy

Q3443. A 45-year-old woman with longstanding rheumatoid arthritis presents with fever, arthralgia, skin rashes and oliguria. She has been taking diclofenac on a regular basis for the past 2 years. Renal biopsy shows an intense interstitial infiltrate, often including eosinophils, with variable tubular necrosis. What is the most characteristic feature of this side-effect of diclofenac?

**1- It is reversible**

2- It is not dose-related

3- It is mediated by increased PGI2 synthesis

4- It results in acute tubular necrosis

5- It is counteracted by the use of ACE

Q3444. A 6-year-old boy presents with oedema of his face and ascites. The 24-hour urinary protein is 4.0 g, while the serum albumin concentration is 25 g/l. Hypertriglyceridaemia is present. What is the most likely cause of this condition?

1- Diffuse proliferative glomerulonephritis

2- Renal amyloidosis

3- Focal segmental glomerulonephritis

**4- Minimal-change nephropathy**

5- Berger's disease

Q3445. A 46-year-old man with end-stage renal disease complains of retrosternal pain. ECG shows concave ST segment elevation in all leads. How would you manage this case?

1- Thrombolysis with streptokinase

2- Aspirin, clopidogrel and glyceryl trinitrate

3- Coronary angiography and angioplasty

**4- Haemodialysis**

5- 2-D echocardiogram

Q3446. Which of the following is most pertinent to the countercurrent concentrating mechanism in the kidney?

1- The ascending limb of the loop of Henle is permeable to water and impermeable to sodium

2- Fine tuning of the salt and water balance is achieved in the proximal tubules under the influence of antidiuretic hormone

3- Occurs predominantly in the cortical nephrons

**4- Relies on the free movement of water and electrolytes across the walls of the vasa recta**

5- Depends on a low concentration of urea in

Q3447. Following a motorcycle accident, a 30-year-old man has suffered considerable blood loss and is oliguric. In a urine sample, what finding would best distinguish between acute tubular necrosis and pre-renal failure due to volume depletion?

1- Raised urinary chloride excretion

**2- Increased urinary sodium excretion**

3- Decreased urinary urea excretion

4- Decreased urinary osmolality

5- Decreased urine volume

Q3448. A 45-year-old man with hypertension presents with frank haematuria. On physical examination, large masses are felt over the right and left lumbar areas. His blood urea and serum creatinine levels are raised. Which investigation is contraindicated in this condition?

1- Intravenous urography

**2- Renal biopsy**

3- Renal scintigraphy

4- Static scintigraphy

5- Retrograde pyelography

Q3449. A 65-year-old man with a known history of lung cancer presents with anorexia, malaise and drowsiness. A CT scan shows metastatic lesions in the liver. Laboratory test results are as follows: Hb, 7.8 g/dl; WCC, 11.5 x 109 /L; Ferritin, 5.0 nmol/l; Urea, 27 mmol/l; Creatinine, 377 µmol/l; 24 hour urine protein, 3.8g. A renal biopsy shows focal subepithelial deposition of IgG and C3. A probable diagnosis is:

1- Focal segmental glomerulosclerosis

2- Nodular glomerulosclerosis

3- Microcytic hypochromic anaemia

4- Minimal change glomerulonephropathy

**5- Membranous glomerulonephropathy**

Q3450. A 15-year-old girl presents with red spots on her buttocks and legs, joint pains, oedema, hypertension and proteinuria. She had an upper respiratory tract infection 2-3 weeks ago. What is the most likely diagnosis?

1- Proliferative glomerulonephritis

2- Goodpasture's syndrome

3- Wegener's granulomatosis

**4- Henoch-Schönlein purpura**

5- Systemic lupus erythematosus

Q3451. A 57-year-old man with a long history of gout presents with loin pain. Other past history of note includes ileostomy after bowel surgery. There is no history of weight loss of malabsorption syndrome after his bowel surgery. Excretion urography reveals evidence of bilateral renal stones. What is the most likely composition of his renal stones?

1- Calcium oxalate

2- Calcium phosphate

**3- Uric acid stones**

4- Magnesium ammonium phosphate stones

5- Cysteine stones

Q3452. A 67-year-old man with type-2 diabetes had a serum creatinine concentration of 250 mmol/l (60-110) before admission for radiographic investigation including intravenous contrast medium visualisation. He is admitted to A&E 2 days after discharge home. His creatinine concentration is now 470 m mol/l and he has only passed 20 ml of urine since being catheterised some 3 h ago. You suspect contrast nephropathy. Which of the following best describes the incidence of contrast nephropathy in such a patient?

1- 5%

2- 70%

3- 8%

**4- 25%**

5- 50%

Q3453. A 57-year-old man with advanced cirrhosis is brought to the hospital by his wife as he has become confused, drowsy and unwell. Blood tests reveal that a haemoglobin of 10.5 g/dl (13.0-18.0) and 75 x 109 /L platelets (150-400 x 109 /L). He has a creatinine concentration of 385 mmol/l (60-110), urea is 8.1 mmol/l (2.5- 7.5). Catheterisation reveals a residual volume of 35 ml and he is anuric for the next 2 h. Urine sodium is low, at less than 10 mmol/l. An ultrasound scan reveals normal sized kidneys with no evidence of obstruction and an empty bladder. His blood pressure is 105/65 mmHg and his central venous pressure is 14 mmH2 O. What diagnosis fits best with this clinical picture?

1- Prerenal failure

**2- Hepatorenal syndrome**

3- Spontaneous bacterial peritonitis

4- Acute GI haemorrhage

5- Acute tubular necrosis secondary to sepsis

Q3454. You are reviewing a man in the renal clinic who has longstanding chronic renal failure. He is unfortunately suffering from metabolic bone disease and his GP has asked for an explanation of the causes and features of metabolic bone disease. Which of the following best describes the biochemical changes involved?

1- Levels of 1,25-OH vitamin D are increased

2- Parathyroid hormone levels are decreased

3- Phosphate excretion is increased

4- Phosphate excretion is increased, parathyroid hormone levels are increased and 1,25-OH vitamin D levels are increased

**5- Phosphate excretion is decreased,**

Q3455. A 62-year-old woman presents with painless haematuria. She is a heavy smoker and has a history of chronic obstructive pulmonary disease. She previously lived in Australia and has used substantial amounts of non-steroidal anti-inflammatory drugs for arthritis, particularly phenacetin some years ago. Renal function testing is unremarkable. She has a raised plasma viscosity and is anaemic with a haemoglobin of 10 g/dl (11.5-15.5). What is the most likely diagnosis to fit with this clinical picture?

**1- Transitional carcinoma of the bladder**

2- Adenocarcinoma of the kidney

3- Squamous-cell carcinoma of the kidney

4- Nephrolithiasis

5- Urinary tract infection

Q3456. A 28-year-old woman is reviewed by her GP. She had glycosuria identified on new patient screening. Her fasting blood glucose concentration was revealed to be 4.8 mmol/l (3.0-6.0). Body mass index (BMI) is 23 (18.5- 24.9). Serum lipid screen, liver function testing and full blood count were normal. What diagnosis fits best with this clinical picture?

1- Type-2 diabetes mellitus

2- Type-1 diabetes mellitus

**3- Renal glycosuria**

4- Impaired glucose tolerance

5- Impaired fasting glucose

Q3457. A 31-year-old woman presents to A&E with renal colic. She has recently moved to the area and reports having recurrent urinary tract infections in the past, but nil else of note. She has haematuria on urine testing but no evidence of acute infection. Excretion urography demonstrates small calculi in the papillary zones with an increase in radiodensity after contrast medium is injected. What diagnosis fits best with this clinical picture?

1- Medullary cystic disease

2- Adult polycystic kidney disease

3- Chronic reflux nephropathy

4- Nephrocalcinosis

**5- Medullary sponge kidney**

Q3458. A 21-year-old man presents to A&E for the third time with recurrent urinary stones. There appear to be no predisposing factors and he is otherwise well, urine culture is unremarkable. Slightly unusually, these stones turn out to be cystine stones. What is the most likely diagnosis in this case?

1- Cystinosis

**2- Cystinuria**

3- Familial iminoglycinuria

4- Fanconi's syndrome

5- Hartnup's disease

Q3459. A woman who is 32 weeks' pregnant attends for a routine check up. Routine urine dipstick reveals blood and protein, and urine culture is positive for Escherichia coli. She has no symptoms of urinary tract infection. What is the most appropriate course of action?

1- Do nothing and review at her next antenatal visit

2- Repeat urine sample and treat if positive

3- Treat with ciprofloxacin

4- Treat with trimethoprim

**5- Treat with amoxicillin**

Q3460. A 37-year-old woman has been reviewed in the hypertension clinic. Abdominal ultrasound scanning reveals that her left kidney is much smaller than her right kidney. You suspect renal artery stenosis, as her GP noticed a deteriorating serum creatinine concentration within 1 month of starting ACE inhibitor therapy. What is the most appropriate next investigation?

1- Doppler ultrasound scanning

**2- Magnetic resonance angiography**

3- CT scanning

4- Renal arteriography

5- Radionuclide studies

Q3461. An 18-year-old man presented to his GP having noticed a bloody discoloration of his urine over the past couple of days; he has also recently suffered a respiratory tract infection. Urine testing confirms haematuria and proteinuria. On two previous occasions after respiratory tract infection he was noted to have microscopic haematuria. He was referred for renal opinion. Biopsy reveals a focal proliferative glomerulonephritis. What underlying diagnosis fits best with this clinical picture?

1- Henoch-Schönlein syndrome

2- Goodpasture's syndrome

3- Minimal-change disease

**4- IgA nephropathy**

5- Membranous glomerulonephritis

Q3462. An 18-year-old student presents to her GP with a maculopapular rash which appeared initially on her forehead, spreading to her head and neck and then to the rest of her upper body. Her GP thinks he can see Koplik's spots on examination. Urine testing reveals proteinuria and haematuria with no bacterial growth on culture. What is a renal biopsy most likely to show?

1- Mesangiocapillary glomerulonephritis (MCGN)-type 1

**2- Mesangiocapillary glomerulonephritis (MCGN)-type 2**

3- Crescentic glomerulonephritis

4- Focal segmental glomerulonephritis

5- Diffuse proliferative glomerulonephritis

Q3463. A 74-year-old man has been seen previously in the vascular clinic for a fusiform aortic aneurysm, which, at present, is not being considered for surgical intervention. He is reviewed by the GP and found to be suffering from malaise, back pain and a normochromic normocytic anaemia. His ESR is raised, and he has a creatinine level of 285 mmol/l (60-110). CT scanning suggests that there may be a periaortic mass. What diagnosis fits best with this clinical picture?

1- Leaking aortic aneurysm

2- Renal artery stenosis

3- Lymphoma

**4- Retroperitoneal fibrosis**

5- Transitional-cell carcinoma

Q3464. A 68-year-old man with advanced chronic renal failure and type-2 diabetes, currently receiving peritoneal dialysis, is seen in the Cardiovascular Risk-reduction clinic. You are considering prescribing a statin. Which of the following best describes the lipid abnormalities most likely to be seen in this man?

1- The predominant abnormality is low HDL cholesterol

2- Isolated hypertriglyceridaemia

3- Isolated increased LDL levels

4- Mixed hyperlipidaemia with increased LDL and triglyceride levels

**5- A combination of hypertriglyceridaemia,**

Q3465. A 32-year-old man with previous chronic renal failure has undergone a successful renal transplantation. Which of the following symptoms is a recognised association of immunosuppression therapy?

1- Reduced incidence of new diabetes mellitus

2- Decreased hairiness

**3- Increased incidence of new diabetes mellitus**

4- Osteomalacia

5- Weight loss

Q3466. The presence of which one of the following features is MOST helpful in distinguishing chronic from acute renal failure?

1- Seizures

**2- Bilateral small kidneys**

3- Hypocalcaemia

4- Dilute urine with high urine sodium

5- Acute pulmonary oedema

Q3467. A characteristic of type I renal tubular acidosis is:

1- It is always due to a genetic disorder

2- It is caused by a failure of bicarbonate secretion

3- Osteomalacia is never seen

**4- It may occur as a result of amphotericin toxicity**

5- Hypovolaemia is a feature

Q3468. A 17-year-old young woman, who works in a crأ̈che, presents for review. She complains of joint pains, vomiting, diarrhoea and crampy abdominal pain. She also has a purpuric rash on her legs and over her belt line. She has microscopic haematuria, proteinuria and red blood cell casts on urine testing. What is the most likely underlying diagnosis in this case?

1- Idiopathic thrombocytopenic purpura

**2- Henoch-Schönlein purpura (HSP)**

3- Polyarteritis nodosa

4- Meningococcal septicaemia

5- Thrombotic thrombocytopenic purpura

Q3469. A 62-year-old Kashmiri immigrant presents for review with his interpreter. He is complaining of frequency and dysuria. Haematuria and pyuria are present on urine testing, but a 3- day urine culture reveals no growth. Excretion urography suggests the possibility of cavitating lesions within the left renal papillary area with calcification, and less marked changes affecting the right kidney. What diagnosis fits best with this clinical picture?

1- Staphylococcal renal sepsis with abscess formation

2- Sarcoidosis

3- Wegener's granulomatosis

**4- Tuberculosis of the renal tract**

5- malacoplakia

Q3470. A 45-year-old professional house developer presents with lethargy and intermittent abdominal discomfort accompanied by mild polyuria and nocturia over the past few weeks. Blood testing reveals basophilic stippling with a raised urea level. A 24-h urine collection reveals a urinary protein excretion of 0.8 g/24 h (< 0.2). Microscopic haematuria is also present. He has recently had a course of amoxicillin for a respiratory tract infection. Radiological examination reveals bilateral renal changes, with clubbed calyces. What is the most likely diagnosis?

**1- Lead poisoning**

2- Acute tubulointerstitial nephritis

3- Chronic reflux nephropathy

4- Analgesic nephropathy

5- Hyperuricaemic nephropathy

Q3471. An 80-year-old man presented to his GP with symptoms of nocturia and decreased urinary flow. Benign prostatic hypertrophy was diagnosed and he was prescribed an alphablocker. He now presents, 2 years later, with back pain. Prostatic carcinoma with metastases is diagnosed. Which of the following best describes the percentage of men aged 80 who have malignant foci within their prostate gland?

1- 30%

2- 40%

3- 50%

**4- 80%**

5- 45%

Q3472. You are asked to review a man who is being considered for peritoneal dialysis for chronic renal failure. He has a number of concerns before proceeding to surgery and placement of a Tenckhoff catheter. Regarding pitfalls and complications of peritoneal dialysis, which of the following is a key consideration?

**1- Diabetes treatment may need to be adjusted once dialysis is commenced**

2- Abdominal hernias do not need to be repaired before commencing dialysis

3- Stomas do rarely present a problem when considering catheter placement

4- Staphylococcus epidermidis is a rare cause of CAPD peritonitis

5- Fungal infections commonly cause CAPD

Q3473. You are reviewing a 46-year-old woman who is suffering from nephrotic syndrome secondary to the long-term use of penicillamine for rheumatoid arthritis. You note she has a raised erythrocyte sedimentation rate (ESR) and arrange for serum protein electrophoresis as part of a routine blood screen. Which of the following stems best fits the abnormalities that are typically seen on protein electrophoresis in patients with nephrotic syndrome?

1- Increased serum albumin concentration

2- Increased a1-globulin fraction

3- Increased a1- and a2-globulin fractions, increased serum albumin

4- Increased a1- and a2-globulin fractions, decreased serum albumin

**5- Increased a2-globulin fraction, decreased**

Q3474. You are reviewing a 79-year-old man who has been suffering from multiple myeloma for the past 3 years. He presents with lethargy, muscle aches and pain in his lower back. Arterial blood sampling reveals a metabolic acidosis. Serum potassium is 3.1 mmol/l (3.5- 4.9), and urine pH is 5.1 (> 5.3). What is the most likely diagnosis?

1- Renal tubular acidosis (RTA)-type IV

2- Renal tubular acidosis-type III

3- Renal tubular acidosis-type I

**4- Renal tubular acidosis-type II**

5- Urinary obstruction

Q3475. A 52-year-old woman has been visiting her GP for a while, complaining of recurrent nosebleeds. She has also consulted for cosmetic surgery advice about the shape of her nose as it seems to be dipping, and presents for examination under anaesthetic to a private surgeon. Preoperative blood testing reveals anaemia with Hb of 10.5 g/dl (11.5- 15.5), and urinalysis reveals haematuria, red blood cell casts and proteinuria. Her surgery is cancelled, and further testing reveals a serum creatinine concentration of 195 m mol/l (60- 110). What is the most likely diagnosis in this case?

1- Churg-Strauss syndrome

2- Sarcoidosis

3- Goodpasture's syndrome

4- Recurrent bacterial sinusitis

**5- Wegener's granulomatosis**

Q3476. You are reviewing a 78-year-old woman who has been admitted in a dehydrated and confused state to the Emergency department. Her bloods are markedly abnormal: potassium of 7.2 mmol/l (3.5-4.9), creatinine 450 m mol/l (60-110), urea 31.2 mmol/l (2.5-7.5). You repeat the serum potassium and it is still markedly raised. What is the most appropriate initial management in this case?

**1- Arrange continuous ECG monitoring and consider giving 10 ml of 10% calcium gluconate iv**

2- Arrange an urgent renal ultrasound scan

3- Give intravenous salbutamol therapy

4- Give 250 mg furosemide iv to reduce the potassium concentration

5- Consider a third blood sample to confirm

Q3477. A 28-year-old woman presents with painless lymphadenopathy in her neck region. She has had fevers and night sweats intermittently over the past few weeks, weight loss and generalised malaise. She has abandoned her Friday nights out after work due to abdominal pain after drinking alcohol. On examination there is neck lymphadenopathy, abdominal fullness (which may be ascites) and peripheral oedema. Routine initial bloods reveal a decreased serum albumin concentration, and a 24-h urine collection reveals a protein excretion of 4.5 g over a 24-h period (< 0.2 g/24 h). Initial renal biopsy shows no significant abnormality. What is the most likely cause underlying her renal pathology?

1- Membranous glomerulonephritis

2- Sarcoidosis

3- Polyarteritis nodosa

**4- Minimal-change disease**

5- Membranoproliferative glomerulonephritis

Q3478. A 55-year-old lady with known chronic renal failure presents with numbness and tingling in the lower limbs, which has been slowly becoming more problematic over a period of 6 weeks or so. She also complains of muscle cramps. In the past 2 days she has had 2 episodes of loss of consciousness, possibly epileptic in origin. On examination there is loss of sensation to pinpricks below both knees and she has absent knee and ankle deep tendon reflexes with mute planatar responses. Blood tests reveal a haemoglobin of 5.8 g/dl and a serum creatinine level of 540 mmol/l. Which is the most appropriate management step?

1- Urgent blood transfusion

2- Electroencephalography

3- Carbamazepine therapy

**4- Renal dialysis**

5- Sodium bicarbonate supplements

Q3479. A 27-year-old man, who has a history of hypertension and intermittent loin pain, presents to his new GP to register after moving house. Urine testing on registration has revealed evidence of haematuria. There is a family history of subarachnoid haemorrhage. What diagnosis fits best with this clinical picture?

**1- Autosomal-dominant polycystic kidney disease (ADPKD)**

2- Glomerulonephritis

3- Renal-cell carcinoma

4- Urinary tract infection

5- Nephrolithiasis

Q3480. A 38-year-old man with chronic renal failure is anaemic with a haemoglobin concentration of 8.5 g/dl (13.0-18.0). You are considering him for erythropoietin therapy. Which of the following best fits with the properties of erythropoietin when prescribed for renal anaemia in dialysis patients?

1- Quality of life scores remain unchanged after erythropoietin therapy

**2- Up to 30% of patients may experience a rise in blood pressure**

3- It has no effect on exercise tolerance

4- It has no effect on sexual function

5- It has no effect on cognitive function

Q3481. A patient undergoing cancer chemotherapy complains of increased urinary frequency and suprapubic pain. Investigations reveal that he has microcytic, hypochromic anaemia, leukopaenia, thrombocytopaenia and haematuria. What could be the possible cause for his symptoms?

1- Bladder metastases

2- Transitional cell carcinoma of bladder

**3- Cyclophosphamide therapy**

4- Urinary tract infection

5- Bleeding diathesis

Q3482. A 45-year-old woman has a 10-week history of oedema. Serum albumin is 22 g/l, creatinine 98 mmol/l and 24-hour urinary protein output 7.3 g. She also has microscopic haematuria. What is the most likely diagnosis?

1- Scleroderma

**2- IgA nephropathy**

3- Minimal change disease

4- Renal carcinoma

5- Renal vein thrombosis

Q3483. A patient with rheumatoid arthritis presents with nephrotic syndrome. Minimal change disease is diagnosed. Which drug is most likely be responsible?

1- Paracetamol

**2- Gold**

3- Presdnisolone

4- Methotrexate

5- Amlodipine

Q3484. A patient has been complaining of a facial rash and arthralgia for the last six months. She is hypertensive and has proteinuria. What is the most likely diagnosis?

1- IgA nephropathy

2- Minimal change disease

**3- Lupus nephritis**

4- Rapid progressive glomerulonephritis

5- Proliferative glomerulonephritis

Q3485. A 20-year-old female returns from travelling to South America including Brazil. She developed an itchy skin reaction and an illness with fever four weeks later. She now has nephrotic syndrome. What is the most likely pathogen causing this?

**1- Schistosoma mansoni**

2- Plasmodium malariae

3- Hantavirus

4- Mycobacterium tuberculosis

5- Mycobacterium lepta

Q3486. A 32-year-old woman complaining of painful hands is found to have hypertension, proteinuria and dipstick haematuria. Plasma creatinine is 147 mmol/l. Renal biopsy shows proliferative glomerulonephritis with occasional cellular crescents. Immunofluorescence shows diffuse granular staining for IgA, IgG, IgM, C3 and C4. What is the diagnosis?

1- Dialysis requiring acute renal failure

**2- Lupus nephritis**

3- Membranous nephropathy

4- Minimal change disease

5- Systemic vasculitis

Q3487. You are asked by your surgical colleagues to review a 70-year-old man with acute pancreatitis. He is clearly very unwell, and the surgeons have noticed deteriorating renal function. His current urine output is around 5 ml/h, with a raised urine sodium concentration of 55 mmol/l. The surgeons have been keeping him well filled, and a recent central venous pressure was measured at 16 mmH2O. The latest serum creatinine that you have is 320 mmol/l (60-110). What diagnosis fits best with this clinical picture?

**1- Acute tubular necrosis (ATN)**

2- Prerenal uraemia

3- Glomerulonephritis

4- Acute interstitial nephritis

5- Renal vein thrombosis

Q3488. A patient with chronic renal failure has a creatinine of 350 mmol/l. She has persistent proteinuria. Which drug is most likely of benefit to her renal prognosis?

**1- ACE inhibitors**

2- Aspirin

3- Clopidogrel

4- Doxazosin

5- Methotrexate

Q3489. A patient with end-stage renal failure is found to have a serum phosphate of 2.1 mmol/l. What is the most likely diagnosis?

**1- Renal osteodystrophy**

2- Bone metastases

3- Osteosarcoma

4- A ‘brown tumour' of bone

5- Osteomyelitis

Q3490. A 33-year-old man has hepatosplenomegaly, serum calcium 2.95 mmol/l, creatinine 60 mmol/l and normal sized, non-obstructed kidneys at ultrasound. He has a urine output of 1.5 l/day with 2.2 g proteinuria. Which of the following is the most likely diagnosis?

1- Non-Hodgkin's lymphoma

2- Weil's disease

3- Multiple myeloma

**4- Sarcoidosis**

5- Alport's syndrome

Q3491. A 68-year-old man has backache and hypercalcaemia, plasma globulins are elevated at 52 g/l and he has a normocytic anaemia. His 24- hour urinary protein excretion is 0.5 grams. He develops diarrhoea and vomiting and presents with acute renal failure. A renal biopsy is performed. What is the most likely diagnosis?

1- Acute tubular necrosis

2- Amyloidosis

3- Interstitial nephritis

4- Intraglomerular thrombi

**5- Light chain nephropathy related to**

Q3492. A patient with chronic pain relieved by phenacetin (a NSAID) presents with progressive renal failure due to analgesic nephropathy. What is the most significant complication?

**1- Urinary tract malignancy**

2- Bone tumours

3- Liver fibrosis

4- Pancreatitis

5- Diabetes mellitus

Q3493. A patient has been complaining of a facial rash and arthralgia for the last six months. She is hypertensive and has proteinuria. What is the most important investigation?

1- Renal ultrasound

**2- Renal biopsy**

3- 24 hours blood pressure monitoring

4- CT abdomen

5- Rheumatoid factor

Q3494. A patient presents with nephrotic syndrome. Renal amyloidosis is suspected. The histological material should be stained with which agent before viewing in polarised light?

1- Gram stain

**2- Congo red stain**

3- Giemsa stain

4- Mucin stain

5- India ink

Q3495. Which is the most appropriate first line management in a 17-year-old female presenting with recurrent lower urinary tract infection?

**1- Attention to lifestyle measures (eg fluid intake, pericoital hygiene)**

2- Cystoscopy

3- Long term low dose trimethoprim therapy

4- Micturating cystogram

5- Renal ultrasound scan

Q3496. A patient with diabetes mellitus has to undergo a radiographic contrast media investigation. What is the most important step to prevent contrast media nephropathy?

**1- Adequate hydration**

2- Reduced contrast media

3- Corticosteroids

4- Adenosine

5- Antibiotics

Q3497. A middle-aged man is brought to the hospital. He appears drowsy and has altered consciousness. His blood glucose is 5.2 mmol/l, chloride 116 mmol/l, bicarbonate 15 mmol/l, sodium 131 mmol/l, potassium 3.2 mmol/l, calcium 3.6 mmol/l, phosphate 0.4 mmol/l and anion gap 3 mmol/l. What is the most probable diagnosis?

1- Lactic acidosis

**2- Hyperparathyroidism**

3- Ethylene glycol poisoning

4- Alcohol intoxication

5- Salicylate poisoning

Q3498. You are asked to review a 26-year-old woman who has been diagnosed with essential hypertension by her GP, which is proving difficult to manage. She has a past history of three presentations with urinary tract infection as a child and two as a young adult. A urine screen by the GP has revealed asymptomatic bacteriuria, which he elected not to treat. Her current hypertension medication is amlodipine 10 mg po daily. Her blood pressure in the clinic is 145/85 mmHg. What would be the most appropriate next course of action?

1- Repeat her urine sample and give antibiotics if necessary

**2- Arrange excretion urography testing**

3- Add enalapril to her antihypertensive medication

4- Do not arrange further treatment

5- Prescribe trimethoprim, reassure and

Q3499. Wilms' tumour is most strongly associated with which one of the following aetiological factors?

1- Cadmium exposure

2- Smoking

3- Naphthylamine

**4- Deletion on short arm of chromosome 11**

5- Balkan nephropathy

Q3500. A 67-year-old patient with chronic renal failure complains of severe joint pains and excessive itching all over his body. What is the main cause for the pruritis?

1- Hypercalcaemia

2- Hyperphosphataemia

**3- Retention of nitrogenous waste products**

4- Iron deficiency

5- Elevated calcium — phosphate product

Q3501. A 22-year-old pregnant woman presents with glycosuria. What is the most likely mechanism?

**1- Reduced renal reabsorption**

2- Increased renal secretion

3- Reduced insulin secretion

4- Increased insulin secretion

5- Increased glucagon secretion

Q3502. A patient presents with metabolic acidosis but has a normal anion gap. What is the most likely diagnosis?

1- Alcohol excess

2- Lactic acidosis

**3- Diarrhoea**

4- Salicylate poisoning

5- Diabetic ketosis

Q3503. What is the most important therapeutic step in a normotensive type-2 diabetic patient without albuminuria to prevent diabetic nephropathy?

1- ACE inhibitor

2- Angiotensin-II receptor antagonist

**3- Optimal glycaemic control**

4- Early switch to insulin

5- Low protein diet

Q3504. A 62-year-old man develops oliguria 48 hours after a laparotomy for bowel obstruction. Which of the following would be most suggestive of acute tubular necrosis rather than prerenal uraemia?

1- Urinary sodium less than 10mmol/L

2- Blood pressure 95/60

3- Red cell casts are present in the urine

**4- Urinary osmolality of less than 350 mOsmol/kg**

5- Increased skin pigmentation

Q3505. A patient has been diagnosed with autosomal dominant polycystic kidney disease (ADPKD) Which organ will most likely have additional cysts?

**1- Liver**

2- Heart

3- Bone

4- Pancreas

5- Spleen

Q3506. A 14-year-old boy presents with hypertension and acute renal failure after an episode of diarrhoea. What is the most likely diagnosis?

**1- Haemolytic-uraemic syndrome**

2- IgA nephropathy

3- HIV

4- Legionellosis

5- Salmonellosis

Q3507. A patient presents with acute Wegener's granulomatosis. Which presentation has the poorest prognosis?

1- 100% active crescents on renal biopsy

2- c-ANCA positivity

3- Extrarenal vasculitis

4- Female sex

**5- Dialysis-requiring acute renal failure**

Q3508. A 45-year-old man is admitted with end-stage renal failure of undetermined aetiology. His creatinine is 1564 mmol/l and his urea is 76 mmol/l. His blood pressure is 200/110 mmHg, he is oliguric, and he has pulmonary oedema confirmed on chest radiography. A dual lumen dialysis line is inserted into his right subclavian vein, and the position confirmed by chest radiograph. He is urgently commenced on haemodialysis, in a recumbent position, with a target weight loss of 1.5 kg. One hour into dialysis, he begins to complain of nausea, headache, and blurred vision. Shortly afterwards, he becomes confused and disorientated. His blood pressure is 180/100 mmHg. What is the most likely explanation?

1- Air embolism

**2- Dysequilibrium syndrome**

3- Intravascular volume contraction resulting from rapid ultrafiltration

4- Pericardial tamponade

5- Reaction to hypotonic dialysate

Q3509. A 44-year-old man has a serum creatinine of 476 m mol/l and urea 38 mmol/l. Apart from tiredness he is fairly well. His blood pressure is 165/95 mmHg, haemoglobin 10.3 g/dl, PTH 92 pg/ml (NR 15-65) and he has a urinary PCR of 230. An ultrasound scan has revealed bilaterally smooth kidneys wth bipolar length of 7.8cm. Which of the following is most helpful in differentiating chronic from acute renal failure?

1- Anaemia

2- Hypertension

**3- Kidney size at ultrasound scan**

4- Significant proteinuria

5- Elevated parathyroid hormone

Q3510. Which one of he following is a risk factor for poor prognosis in a patient with acute Wegener's disease?

1- Female sex

2- cANCA positivity

3- 100% active crescents on renal biopsy

4- Extrarenal vasculitis

**5- Renal involvement**

Q3511. You are asked to review a 56-year-old man with myocardial infarction who is on the third day of his admission. There is a past history of arthritis for which he uses NSAIDs, but nil else of note. During his admission he had a short period of atrial fibrillation that reverted spontaneously. It has been noted that his urine output is tailing off. His serum creatinine level has risen from 156 mmol/l (60-110) on admission to 195 mmol/l now, and his urea is 12 mmol/l (2.5-7.5). His urine osmolality has been measured at 520 mOsmol/kg (350- 1000), with a low urine sodium at 15 mmol/l. What diagnosis do you suspect?

1- Acute tubular necrosis

**2- Prerenal uraemia**

3- Chronic interstitial nephritis

4- Acute interstitial nephritis

5- Renal artery embolus

Q3512. A 29-year-old woman presents with weakness and is found to have a serum potassium of 2.2 mmol/l and pH 7.1. Which of the following would be LEAST useful in differentiating between renal tubular acidosis Types 1 and 2?

1- Renal calculi

**2- Osteomalacia**

3- Serum bicarbonate 8 mmol/l

4- Urinary pH 6.5

5- History of Wilson's disease

Q3513. A 59-year-old man with renal cell carcinoma has a haemoglobin of 19 g/dl. Which investigation will conclusively prove that this patient has secondary polycythaemia?

1- Haematocrit

2- Reticulocyte count

3- Red cell count

**4- Erythropoietin level**

5- Serum transferrin level

Q3514. A 62-year-old woman is found unconscious. On examination, she is bradycardic and peripherally shut down. ECG confirms sinus bradycardia with changes consistent with inferior myocardial infarction. Blood tests reveal: sodium 136 mmol/l, potassium 5.3 mmol/l, bicarbonate 12 mmol/l, chloride 107 mmol/l and urea 7.2 mmol/l. What is the most probable cause for her condition?

1- Diabetic ketoacidosis

2- Hypoglycaemic coma

3- Cardiac syncope

**4- Lactic acidosis**

5- Stroke

Q3515. The plasma biochemistry of a patient presenting with severe right flank pain is as follows: sodium 135 mmol/l, potassium 2.5 mmol/l, urea 3.5 mmol/l, chloride 115 mmol/l, bicarbonate 15 mmol/l. The urinary pH is 6.5. What is the most probable diagnosis in this case?

**1- Type-1 renal tubular acidosis**

2- Type-2 renal tubular acidosis

3- Type-4 renal tubular acidosis

4- Chronic renal failure

5- Ureteric stone

Q3516. A 15-year-old boy complains of malaise and the inability to take part in sports, as he gets tired easily. His blood pressure is normal. Investigations reveal: sodium 145 mmol/l, potassium 2.8 mmol/l, bicarbonate 30 mmol/l, chloride 83 mmol/l (95-107), magnesium 0.5 mmol/l (0.75-1.05), glucose 5.0 mmol/l, renin 5.1 pmol/ml per h (3-4.3), aldosterone 975 pmol/l (330-830) and urea 5.2 mmol/l. What is the most probable diagnosis?

**1- Gitelman’s syndrome**

2- Chronic fatigue syndrome

3- Liddle’s syndrome

4- Hypokalaemic periodic paralysis

5- Bartter's syndrome

Q3517. A 35-year-old woman with a past medical history of peptic ulceration presents with a 3- day history of vomiting. Investigations reveal: haemoglobin 12.2 g/dl, sodium 130 mmol/l, potassium 3.0 mmol/l, urea 14 mmol/l, bicarbonate 34 mmol/l, chloride 85 mmol/l and pH 7.52. What treatment would be most appropriate in this condition?

1- IV 5% dextrose

**2- IV normal saline with potassium supplementation**

3- Acetazolamide

4- Sodium bicarbonate

5- Thiazide diuretics

Q3518. A 72-year-old man with acute myelogenous leukaemia on doxorubicin and cytarabine presents with severe left flank pain and oliguria. An abdominal radiograph shows no calculus, but a filling defect in the left ureter suggestive of a stone is visualised after contrast investigation. What is the most probable cause for this problem?

1- Doxorubicin toxicity

2- Exacerbation of AML

**3- Hyperuricaemia**

4- Hypercalcaemia

5- Hyperphosphataemia

Q3519. Following a road traffic accident, a man is brought to A&E. He is found to have oliguria and a diagnosis of acute renal tubular necrosis is made. What is the most common complication and cause of death in this condition?

**1- Infection**

2- Electrolyte abnormalities

3- Nephrotic syndrome

4- Congestive heart failure

5- Persistent hypertension

Q3520. A 52-year-old man has been diagnosed as having chronic lymphocytic leukaemia and is to be started on chemotherapy. What prophylactic treatment must be commenced prior to chemotherapy?

1- Colchicine

2- Corticosteroids

3- Probenecid

4- NSAIDs

**5- Sodium bicarbonate**

Q3521. A newborn is vomiting excessively due to pyloric stenosis. What significant finding would you expect in a blood test?

1- Increased serum chloride levels

2- Hypernatraemia

**3- Hypokalaemia**

4- Decreased serum bicarbonate level

5- Plasma pH > 8.0

Q3522. An asymptomatic 8-year-old boy during a routine medical examination is found to have bacteriuria > 105/ml. He has suffered a previous documented UTI 1 year earlier. What is the most appropriate initial management in this case?

**1- Antibiotic treatment**

2- No treatment

3- Prophylactic antibiotics for 3 months

4- Alkalinise the urine with sodium bicarbonate

5- Excretion urography

Q3523. Primary vesicoureteric reflux is most commonly found in which patient population?

1- Girls aged 3-10 years

2- Prepubertal boys

**3- Newborn girls**

4- Teenage girls

5- Boys over 15 years of age

Q3524. A 4 year old girl is suspected to have vesicoureteric reflux as she has had a number of urinary tract infections. Which investigation would be most useful in this case?

1- Plain X-ray of the abdomen

2- Excretion urography

3- Computed tomography

**4- Micturating cystourethrography**

5- Retrograde pyelography

Q3525. An 85-year-old woman complains of dysuria and increased frequency of micturition. Urinalysis shows microscopic haematuria and 2-3 white cells per high power field. The urine culture is sterile. What treatment would be most appropriate in her case?

1- Oral prednisolone

2- Topical corticosteroid cream

3- Alkalinisation of the urine

4- Broad-spectrum antibiotic therapy

**5- Topical oestrogen cream**

Q3526. A 27-year-old Asian man presents with frequency, dysuria, haematuria and night sweats. He has lost weight over the past few months and his girlfriend noticed that he has a chronic cough. Which investigation would be most helpful in reaching a diagnosis?

1- Plain X-ray chest

**2- Excretion urography**

3- Renal ultrasound

4- Computed tomography

5- Micturating cystourethrography

Q3527. A 60-year-old man presents with pain in his right flank and haematuria. A CT scan of the abdomen reveals a large 8 x 8-cm solid mass in the right kidney and a 3 x 3-cm solid mass occupying the upper pole of the left kidney. What is the most appropriate treatment for this patient?

1- Bilateral nephrectomy

2- Interleukin-2 and interferon-a

3- Right radical nephrectomy followed by interleukin-2

**4- Right radical nephrectomy and left partial nephrectomy**

5- Right radical nephrectomy and biopsy of

Q3528. Which factor is most likely to trigger renin stimulation?

1- Hypernatraemia

2- Adrenocorticotropic hormone

**3- Hypovolaemia**

4- ANP

5- Antidiuretic hormone

Q3529. A 45-year-old woman presents with increased frequency of micturition, dysuria and suprapubic pain 5 days after completing antibacterial treatment for an E. coli urinary tract infection. She is also using a barrier contraceptive. Urine microscopy shows the presence of E. coli. What is the most likely cause for her problem?

1- Atrophic vaginitis

2- Use of spermicidal jelly

**3- Renal stones**

4- Interstitial cystitis

5- Chlamydial urethritis

Q3530. A 65-year-old diabetic man presents with ascites and proteinuria. He is otherwise well. Full blood count shows mild iron deficiency anaemia but nil else of note, in particular his ESR is not particularly elevated. A renal biopsy shows mesangial deposits of kappa and lambda light chains. What is the most probable diagnosis?

1- Mesangioproliferative glomerulonephritis

2- Focal glomerulosclerosis

3- Kimmelstiel-Wilson disease

**4- Amyloidosis**

5- Multiple myeloma

Q3531. Of the following disorders, which one causes tubular damage?

1- Alport's syndrome

2- Adult Fanconi syndrome

3- Berger's disease

**4- Myoglobinuria**

5- Cystinosis

Q3532. A 57-year-old diabetic woman with a history of dysuria is admitted to A&E with severe loin pain, haematuria and oliguria. What is the most likely cause of this problem?

1- Renal infarction

**2- Renal papillary necrosis**

3- Diffuse glomerulosclerosis

4- Renal calculus

5- Acute tubular necrosis

Q3533. A 65-year-old woman with longstanding diabetes presents with proteinuria. Her serum creatinine level is normal. What would be the most common renal complication in this case?

1- Renal papillary necrosis

2- Renal infarction

3- Chronic pyelonephritis

**4- Glomerulosclerosis**

5- Obstructive uropathy

Q3534. A 3-year-old child is brought to the clinic with a history of lethargy, failure to thrive, excessive thirst and constant bed-wetting. A blood test shows hypokalaemia and metabolic alkalosis. There is hyperplasia of the juxtaglomerular apparatus seen on renal biopsy. What is the most probable diagnosis?

1- Cystinosis

**2- Bartter's syndrome**

3- Minimal-change nephropathy

4- Nephroblastoma

5- Medullary cystic disease

Q3535. A 35-year-old woman with primary biliary cirrhosis presents with osteomalacia and recurrent urinary tract infections. She has had renal calculi removed twice in the past year. There is hypokalaemia and hyperchloraemic acidosis. What is the most likely finding on urinalysis?

1- Increased urinary ammonium levels

**2- Decreased urinary citrate levels**

3- Decreased urinary calcium levels

4- Urine pH < 5.3

5- Decreased urinary potassium levels

Q3536. A 40-year-old patient with known chronic liver disease presents with exertional dyspnoea. On examination his blood pressure is 130/80 mmHg and his JVP is elevated at 8 cm. He has bilateral pleural effusions, ascites and marked pitting oedema. Investigations reveal: plasma sodium 136 mmol/l, potassium 3.5 mmol/l, bicarbonate 30 mmol/l and chloride 99 mmol/l. What is the most characteristic physiological activity that retains sodium in the face of salt and water overload?

**1- Arterial underfilling**

2- Activation of the parasympathetic system

3- Inhibition of ADH release

4- Decrease in pressure and volume receptors

5- Decreased atrial natriuretic peptide levels

Q3537. A 56-year-old woman with a 15-year history of rheumatoid arthritis has been regularly taking diclofenac for pain relief. She presents with mild chronic renal failure, hyperkalaemia and acidosis. Blood tests show decreased plasma renin and aldosterone. What is the most probable diagnosis?

1- Type-1 renal tubular acidosis

2- Type-2 renal tubular acidosis

**3- Type-4 renal tubular acidosis**

4- Uraemic acidosis

5- Acute tubulointerstitial nephritis

Q3538. Which renal disorder is most likely to occur in patients suffering from gouty arthritis?

1- Pyelonephritis

2- Glomerulonephritis

**3- Urolithiasis**

4- Vascular sclerosis

5- Renal failure

Q3539. A 30-year-old man complains of weakness in his upper limbs and has digital infarcts involving the middle and ring fingers of his right hand. On examination his blood pressure is 160/140 mmHg. Investigations show Hb 10.0 g/dl, WCC 14 x 109 /L, platelets 450 x 109 /L, ESR 69 mm/1st h. Urinalysis shows proteinuria and microscopic haematuria with no casts. What is the most likely diagnosis?

**1- Polyarteritis nodosa**

2- Systemic lupus erythematosus

3- Wegener's granulomatosis

4- Polymyositis

5- Cryoglobulinaemic renal disease

Q3540. A 70-year-old man with a 6-month history of malaise and back pain is admitted to A&E with severe loin pain. Physical examination is unremarkable except for pallor. An X-ray of the lower abdomen shows a ureteric calculus and lytic lesions and osteoporosis of the lumbar vertebrae. Blood urea, creatinine and uric acid levels are raised. What is the most likely diagnosis?

1- Chronic renal failure

2- Hyperparathyroidism

**3- Myeloma**

4- Acute pyelonephritis

5- Chronic myeloid leukaemia

Q3541. Water excretion in the kidneys is influenced by:

1- Proximal tubule

**2- Vasopressin**

3- Distal tubule

4- Ascending limb of loop of Henle

5- Integrity of collecting ducts

Q3542. A 65-year-old man with congestive heart failure who has received an excess amount of furosemide is now found to have hypochloraemic alkalosis. Which of the following investigative results would be most characteristic of this disorder?

1- Low serum bicarbonate level

2- Expanded extracellular fluid volume

3- Poor response to ammonium chloride

4- Fall in pa(CO2)

**5- Hypokalaemia**

Q3543. A 25-year-old man is admitted following a road traffic accident in which he sustained multiple injuries. Some 48 hours after admission, his urine flow is 0.4 ml/min. You suspect acute tubular necrosis (ATN). Which of the following investigative findings, if present on urine examination, would be most helpful in confirming ATN?

**1- Urine osmolality 300 mOsmol/kg**

2- Urine sodium 20 mmol/l

3- Macroscopic haematuria

4- Myoglobin casts

5- Red cell casts

Q3544. A 23-year-old man has had recurrent attacks of hepatitis. He now presents with bone pain, muscle weakness, polyuria and polydipsia. Slitlamp examination shows a greenish-brown discoloration at the corneoscleral junctions. What is the most common association with this condition?

1- Hyperkalaemia

2- Metabolic alkalosis

**3- Hypophosphataemia**

4- Increased serum bicarbonate

5- Hypercalcaemia

Q3545. A 35-year-old woman who has two children and has had one stillbirth and one miscarriage now presents with 8 weeks' amenorrhoea. There is a history of Raynaud's phenomenon and dysphagia. On examination, her blood pressure is 170/120 mmHg. Ulcers are noted in the index and middle fingers of both hands. The doctor advises her not to continue with the pregnancy. Which of the following conditions is she most likely to be suffering from?

1- Systemic lupus erythematosus

2- Autosomal-dominant polycystic kidney disease

**3- Diffuse systemic sclerosis**

4- Diabetic nephropathy

5- Antiphospholipid syndrome

Q3546. A 3-year-old boy presents with a history of poor urinary stream. What is the most probable cause?

1- Urethral stricture

2- Neurogenic bladder

3- Urethral calculus

**4- Posterior urethral valve**

5- Vesicoureteric reflux

Q3547. A 4-year-old boy complains of abdominal pain and inability to pass urine in a good stream. An ultrasound scan of the abdomen shows an enlarged, irregular, cystic kidney on the left side. A renal biopsy shows dysplasia. What is the most likely cause of this condition?

**1- Posterior urethral valve**

2- Bladder exstrophy

3- Anorectal malformation

4- Urinary tract infection

5- Vesicoureteric reflux

Q3548. A 2-week-old baby is having projectile vomiting and is unable to feed orally. What characteristic finding would you expect to find in a blood test?

1- Hyperchloraemia

2- Metabolic acidosis

3- Hyperkalaemia

**4- Increased serum bicarbonate**

5- Normal anion gap

Q3549. A 30-year-old woman has renal calculi. What would be an absolute contraindication to lithotripsy in her case?

1- Ureteric stricture

2- Stone in the calyceal diverticulum

**3- Coagulation disorder**

4- Urinary tract infection

5- Cardiac pacemaker

Q3550. A 27-year-old man is suspected of having a urethral stricture. Which radiological investigation would be most helpful in this case?

1- Magnetic resonance imaging

**2- Retrograde urethrography**

3- Micturating cystourethrography

4- Ultrasonography

5- Excretion urography

Q3551. A 64-year-old patient in end-stage renal disease wonders whether he is a suitable candidate for renal transplantation. He asks you, as his doctor, for advice. In which of the following conditions is renal transplantation advisable?

1- Generalised bronchiectasis

2- Primary oxalosis

3- Severe diabetes mellitus

4- Congestive heart failure

**5- Bilateral polycystic kidney disease**

Q3552. A 2-year-old boy has a phimosis. What is the most appropriate treatment for this patient?

**1- Wait and watch**

2- Circumcision

3- Dorsal slit

4- Release of preputial adhesions

5- Dilatation of urethral meatus

Q3553. A 6-month-old boy is found to have primary grade-V vesicoureteric reflux involving both kidneys. What would be the most appropriate management in this case?

**1- Antibiotic prophylaxis**

2- Ureteric implantation

3- Cystoscopy followed by subureteric injection of Teflon

4- Bilateral ureterostomies

5- Bilateral percutaneous nephrostomies

Q3554. A 45-year-old man on lithium for a bipolar disorder developed congestive heart failure 2 weeks ago. He now presents with drowsiness, nausea, vomiting, blurred vision and coarse tremors. Which of the following concurrent medications, if taken in combination with lithium, would be most likely to cause these symptoms?

1- Acetazolamide

**2- Hydrochlorothiazide**

3- Furosemide

4- Spironolactone

5- Triamterene

Q3555. A young man presents with dysuria and urethral discharge. Gram stain shows numerous pus cells but no microorganisms. The culture is negative on routine laboratory media. What is the most likely causative agent?

**1- Chlamydia trachomatis**

2- Haemophilus ducreyi

3- Treponema pallidum

4- Neisseria gonorrhoeae

5- Bacteroides species

Q3556. A 35-year-old man presents with cough, haemoptysis and glomerulonephritis. His cANCA levels are elevated. What is the most likely cause for these features?

1- Goodpasture's syndrome

2- Polyarteritis nodosa

**3- Wegener's granulomatosis**

4- Kawasaki's disease

5- Microscopic polyangiitis

Q3557. A 33-year-old woman presents with polydipsia and polyuria. These symptoms started soon after a road traffic accident 6 months ago. Her blood pressure is 120/80 mmHg with no postural drop. The daily urine output is 6-8 litres. Blood tests show: sodium 130 mmol/l, potassium 3.5 mmol/l, urea 5.5 mmol/l and glucose 4.4 mmol/l. The plasma osmolality is 268 mOsmol/l and urine osmolality is 45 mOsmol/l. What is the most likely diagnosis?

1- Central diabetes insipidus

2- Nephrogenic diabetes insipidus

3- Diuretic phase of acute tubular necrosis

**4- Primary polydipsia**

5- SIADH

Q3558. A 25-year-old woman presents with a renal calculus. She has recurrent episodes of headache and sweating. Physical examination reveals a thyroid nodule but no clinical sign of thyrotoxicosis. Which of the following investigations would be most useful in arriving at a diagnosis?

1- T3, T4 and TSH levels

2- Serum calcium level

3- Serum alkaline phosphatase

4- 24-hour urine collection for 5- hydroxyindoleacetic acid excretion

**5- 24-hour urine collection for metanephrines**

Q3559. A patient presents with acute tubular necrosis. What is the most likely finding?

1- Urinary sodium < 20 mmol/l

2- Haemoglobin 10.0 g/dl

**3- Urinary osmolality < 320 mOsmol/kg**

4- Proteinuria 3.2 g/day

5- Urine : plasma urea of 9:1

Q3560. A 60-year-old man presents with heart failure and pedal oedema. The oedema occurs due to:

1- Hypoalbuminaemia

**2- Increased release of renin**

3- Decreased filtration fraction

4- Increased proximal tubular sodium reabsorption

5- Left heart failure

Q3561. A 74-year-old patient with congestive heart failure is on spironolactone. What is the primary site of action of this drug?

1- Proximal tubular cells

2- Thick ascending limb of loop of Henle

**3- Distal tubules**

4- Juxtaglomerular apparatus

5- Proximal tubules

Q3562. Increased anion gap occurs in:

1- Addison's disease

**2- Aspirin therapy**

3- Renal tubular acidosis

4- Ureterosigmoidostomy

5- Diarrhoea

Q3563. A 68-year-old diabetic patient complains of feeling unwell. Investigations reveal that he has developed dilutional hyponatraemia. Which medication is most likely to cause this complication?

**1- Chlorpropamide**

2- Metformin

3- Acarbose

4- Rosiglitazone

5- Glimepiride

Q3564. A 40-year-old man underwent kidney transplantation for end-stage renal disease. Now, 2 months after the operation, he has developed fever and features suggestive of bilateral diffuse interstitial pneumonia. What is the most likely aetiological cause?

1- Herpes simplex virus

**2- Cytomegalovirus**

3- Epstein-Barr virus

4- Varicella zoster virus

5- Mycobacterium tuberculosis

Q3565. A 7-year-old boy presents with generalised oedema. Urinalysis shows marked albuminuria. Blood tests reveal hypoalbuminaemia and hyperlipidaemia. A renal biopsy appears normal on light microscopy. What would be the most characteristic finding on electron microscopy?

1- Deposition of electron-dense material on the capillary basement membrane

2- Splitting of the capillary basement membrane

**3- Fusion of foot processes of the glomerular epithelial cells**

4- Thinning of the capillary basement membrane

5- Fibrils of amyloid protein in the mesangium

Q3566. 10-month-old boy weighing 3 kg has polyuria, polydipsia and delayed motor milestones. His blood pressure is normal. Blood tests reveal: creatinine 80 mmol/l, sodium 128 mmol/l, chloride 90 mmol/l, potassium 3.0 mmol/l, calcium 2.7 mmol/l, bicarbonate 26 mmol/l and pH 7.46. Ultrasonography shows medullary nephrocalcinosis. What is the most likely diagnosis?

1- Renal tubular acidosis

2- Diabetes insipidus

**3- Bartter's syndrome**

4- Pseudohypoaldosteronism

5- Liddle's syndrome

Q3567. A 12-year-old boy is referred for evaluation of nocturnal enuresis and short stature. His blood pressure is normal. Blood urea is 14 mmol/l, serum creatinine 145 mmol/l, sodium 120 mmol/l, potassium 4.2 mmol/l, phosphate 2.5 mmol/l and alkaline phosphatase 400 U/l. Urinalysis shows trace proteinuria with hyaline casts. Ultrasound shows bilateral small kidneys. A micturating cystourethrogram is normal. What is the most likely diagnosis?

1- Alport's syndrome

2- Medullary sponge kidney

3- Chronic glomerulonephritis

**4- Nephronophthisis**

5- Cystinosis

Q3568. A 9-year-old child has steroid-dependent nephrotic syndrome. He has been on steroids for a number of years and has developed cushingoid features. His blood pressure is 120/90 mmHg and there are bilateral subcapsular cataracts. What is the best treatment for him now?

1- Levamisole

**2- Cyclophosphamide**

3- Ciclosporin

4- Azathioprine

5- 5-Fluorouracil

Q3569. While managing the serum potassium levels in a young man with acute renal failure following a road traffic accident, what is the most important biochemical factor that should be kept in mind?

1- Acidosis leads to the movement of potassium from the extracellular to the intracellular fluid compartment

**2- Tissue destruction or breakdown results in the release of intracellular potassium**

3- Potassium release from muscle cells leads to gluconeogenesis

4- Adrenaline inhibits the entry of potassium into cells, thus increasing the plasma potassium level

5- There is a direct relationship between

Q3570. A 1-year-old boy presents with a poor urinary stream since birth. Which of the following investigations would be most helpful in this case?

**1- Micturating cystourethrography**

2- Ultrasound of the bladder

3- Excretion urography

4- Uroflowmetry

5- Computed tomography

Q3571. A middle-aged man with chronic renal failure is diagnosed as having pulmonary tuberculosis. His creatinine clearance is 50 ml/min. Which of the following drugs can be administered with no change in the dosage?

1- Isoniazid

2- Streptomycin

**3- Rifampicin**

4- Ethambutol

5- Pyrazinamide

Q3572. A renal biopsy from a 56-year-old woman with progressive renal failure and 2.1 g/day of proteinuria shows glomerular and vascular deposition of a pink amorphous material. This shows apple-green birefringence under polarised light after Congo red staining. The deposits are positive for lambda light chains. What disease is she most likely to be suffering from?

1- Rheumatoid arthritis

2- Tuberculosis

3- Systemic lupus erythematosus

**4- Multiple myeloma**

5- Secondary amyloidosis

Q3573. A feature of acute interstitial nephritis caused by allopurinol is:

1- Oliguria

2- Eosinophilia

3- Effectiveness of steroid treatment

4- Progression to chronic interstitial nephritis

**5- Regression following withdrawal of the**

Q3574. A 69-year-old man, who was known to be suffering from primary amyloidosis, is found dead in his apartment. What is the most probable cause for his death?

1- Renal failure

**2- Cardiac involvement**

3- Bleeding diathesis

4- Respiratory failure

5- Septicaemia

Q3575. A 3-year-old boy is found to have bilateral renal calculi. His father and aunt have had repeated admissions for the removal of renal calculi. Metabolic evaluation confirms the presence of marked hypercalciuria with normal blood levels of calcium, magnesium, phosphate, uric acid and creatinine. A diagnosis of idiopathic hypercalciuria is made. What is the most appropriate management in this case?

1- Decrease water intake

2- Isotonic saline infusions

3- Decrease oral calcium intake

4- Increase meat products in diet

**5- Promote diuresis with thiazide diuretics**

Q3576. A 2-year-old boy has vitamin D-resistant rickets. Investigations show: serum calcium 2.6 mmol/l, phosphate 0.5 mmol/l and alkaline phosphatase 1040 U/l. Parathyroid hormone is low normal, and bicarbonate levels are normal. What is the most probable diagnosis?

1- Distal renal tubular acidosis

**2- Hypophosphataemic rickets**

3- Vitamin D-dependent rickets

4- Proximal renal tubular acidosis

5- Hyperparathyroidism

Q3577. A 2-year-old boy presents with recurrent urinary tract infections. What is the most common cause for this problem in a child of this age?

1- Posterior urethral valves

**2- Vesicoureteric reflux**

3- Neurogenic bladder

4- Renal calculi

5- Bilateral polycystic kidneys

# Chapter 14 Neurology

Q3578. A 32-year-old woman presents to A&E with headache and vomiting. She was decorating her ceiling this morning when the headache began, felt mainly at the occiput with neck pain. Some two hours later she felt nauseous and vomited and was unable to walk, she also noticed that her voice had altered. She takes no regular medication and has no significant past history. On examination, her acuity, fields and fundi are normal. She has upbeat nystagmus in all directions of gaze, with normal facial muscles and tongue movements. Her uvula is deviated to the right and her speech is slurred. Limb examination reveals left arm past-pointing and dysdiadochokinesis with reduced pinprick sensation in her right arm and leg. Although power is normal, she cannot walk, as she feels too unsteady. Where is the most likely site of her lesion?

1- Right medial medulla

2- Left medial pons

3- Left cerebellar hemisphere

4- Right lateral medulla

**5- Left lateral medulla**

Q3579. A 16-year-old man presents with difficulty in walking and foot drop. There is weakness of dorsiflexion and eversion of the right foot, with a small area of sensory loss over the dorsum of that foot. What is the most likely diagnosis?

1- Posterior tibial nerve lesion

2- Sciatic nerve lesion

3- L5 root lesion

**4- Common peroneal nerve lesion**

5- Deep peroneal nerve lesion

Q3580. A 32-year-old woman, who works as a croupier and is normally fit and well, had woken 3 weeks before with weakness in her left hand. She had noted numbness at the base of the thumb on the dorsum of the hand. She is on the oral contraceptive pill. She drinks alcohol in binges, one of which had occurred the night before her symptoms started, and smokes 15 cigarettes per day. She has a normal general examination, normal cranial nerves, and normal muscle tone, but mild weakness of the left brachioradialis and moderate weakness of wrist and finger extension. She has full power in her other arm muscles including elbow extension. Reflexes are normal. What is the most likely site of the lesion?

1- C7 nerve root lesion

2- Right cerebral cortex

3- Ulnar nerve

4- Posterior interosseus nerve

**5- Radial nerve at the spiral groove**

Q3581. A 31-year-old man has been referred following a 'blackout'. This had occurred the previous morning. He recalls waking from sleep, standing up, feeling lightheaded and nauseated, lying back on the bed and losing consciousness. He had recovered on the floor. He had not bitten his tongue but his head was badly bruised. His wife had been awoken by him falling to the ground and describes him as being pale and sweaty before giving a loud moan followed by 'spasms' of his arms and legs lasting about 20 seconds. He was rousable after a minute. What is the most likely diagnosis?

1- Cardiac arrhythmia

2- Epileptic seizure

3- Hypoglycaemia

4- Pseudoseizure

**5- Vasovagal syncope**

Q3582. A 62-year-old retired postman awoke with 'darkened', impaired vision in the upper half of the visual field of his left eye 3 days prior to evaluation. He described the onset of symptoms as 'like a shade being pulled down' over the visual picture. He did not complain of eye pain. He had noted headache for 6 weeks beforehand, and had consulted his GP on three occasions about this. He was told that he was suffering from tension headache, and was prescribed simple analgesics. When questioned specifically he reports having pain at each side of his jaw when he eats, especially towards the end of the meal. He is hypertensive and on treatment with a β-blocker. He has never smoked. Which of the following diagnoses is likely?

1- Central retinal artery occlusion

2- Non-arteritic ischaemic optic neuropathy

3- Migraine

**4- Arteritic ischaemic optic neuropathy**

5- Optic neuritis

Q3583. A 67-year-old woman presents with confusion and memory loss that has progressed over a 4-week period. On examination she has a Mini-Mental State Examination score of 16/30. She confabulates and has particular difficulty with short-term memory. She also appears to have poor balance and has mild finger-nose ataxia. She also has occasional jerks of her upper limbs. There is no prior medical history and no relevant family history. Routine blood tests including FBC, U&E, ESR and LFTs are normal. MRI brain scan shows minimal global atrophy and no focal changes. CSF protein, cell count and glucose are normal. What diagnosis is suggested?

1- Korsakoff's psychosis

2- Dementia of Alzheimer's type

3- Dementia with Lewy bodies

**4- Sporadic Creutzfeldt-Jakob disease (CJD)**

5- Cerebral vasculitis

Q3584. An 80-year-old woman with hypercholesterolaemia, ischaemic heart disease and hypertension complains of tingling and numbness in both feet that has been worsening over 6 months. Examination shows her to have altered pinprick sensation over both feet and absent ankle reflexes. Urea and electrolytes are normal, blood glucose is normal and there is no history of alcohol ingestion. She is, however, taking a number of medications for the secondary prevention of vascular problems. Which of the medications listed below is most likely to have caused her symptoms?

1- Bendrofluazide

2- Clopidrogrel

3- Ramipril

**4- Simvastatin**

5- Spironolactone

Q3585. A 45-year old man complains of numbness of his left thigh. He feels his balance may be poorer than usual but is not sure of this. He has put on 6.25 kg (1 stone) in weight over the past 6 months. He has mild, chronic, low back pain. There is a family history of a neurological condition, in that his father's brother is said to have multiple sclerosis. On examination he is overweight. He has some reduction of pinprick sensation over the anterior part of his thigh on the left, with no motor signs. Tendon reflexes are normal. There are no cerebellar signs. What is the most likely diagnosis?

1- Sporadic multiple sclerosis (MS)

2- Familial multiple sclerosis

3- Lumbar canal stenosis with nerve root entrapment

**4- Meralgia paraesthetica**

5- Inflammatory disease of the lumbosacral

Q3586. A patient is admitted after a head injury. He is drowsy but has no focal signs. He opens his eyes to command, has confused speech and localises a painful stimulus. A CT scan shows a haematoma in the right frontal lobe. You are contacting the on-call neurosurgical team. How would you grade his level of responsiveness according to the Glasgow Coma Scale?

1- E-3, V-5, M-6

2- E-4, V-4, M-6

3- E-3, V-3, M-5

4- E-3, V-4, M-4

**5- E-3, V-4, M-5**

Q3587. A 48-year-old diabetic man is admitted after he suddenly collapsed at home. He had been speaking normally to his wife just before. He is unconscious with a Glasgow Coma Score of 3. He has bilateral extensor plantar responses. The eyes are dysconjugate with his right eye being deviated laterally. The right pupil is larger than the left and is unresponsive to light. What is the most likely cause of his coma?

**1- Temporal lobe haematoma with brain swelling**

2- Pontine infarction

3- Pontine haemorrhage

4- Hypoglycaemic coma

5- Diabetic ketoacidosis

Q3588. A 74-year-old woman has a history of idiopathic Parkinson's disease, first diagnosed 2 years ago. Although she was initially symptomatically well controlled on a low dose of a levodopa preparation, she is now complaining of increasing rigidity and tremor. She currently takes a preparation of levodopa combined with the peripheral dopadecarboxylase inhibitor carbidopa (Sinemet), 1 tablet three times per day. She feels that the effect of the medication wears off after a couple of hours, and now has frequent fairly prolonged 'off' periods. What would be the most appropriate initial change to her medication regime?

1- Apomorphine injections as required for ‘off' periods

2- Addition of amantidine

3- Addition of entacapone (a catechol-Omethyltransferase (COMT) inhibitor)

**4- Addition of ropinirole (a dopamine agonist)**

5- Give the same total amount of l-dopa in 5

Q3589. A 70-year-old man presents with a 2-3-month history of slurred speech as well as difficulty in chewing and swallowing, to the point where he is no longer eating solid food. On examination he has weakness of jaw closure and difficulty in protruding his tongue. There is some wasting and fasciculation involving both sides of the tongue. He has lost a few kilos in weight over this time. Apart from a generally thin appearance, the rest of the neurological and general examination appears to be normal. In particular, the tendon reflexes are all within physiological limits. What is the most likely diagnosis?

1- Myasthenia gravis

2- X-linked spinobulbar atrophy

3- Lower cranial nerve palsies secondary to skull base metastases

**4- Motor neurone disease (MND)**

5- Syringobulbia

Q3590. A 19-year-old college student is noted to seem confused by her flatmate. She has been complaining of a diffuse headache and general malaise for the past 24 hours. On examination she has a temperature of 38°C. She is restless and mildly dysphasic. The remainder of the general and neurological examination is normal. CT brain scan shows hypodensity in both temporal lobes. Cerebrospinal fluid (CSF) examination shows a white cell count of 16/ mm3 (lymphocytes), a slightly raised protein concentration of 0.75 g/l and a normal CSF/blood glucose ratio. Which would be the most appropriate early management pending further diagnostic information?

1- Intravenous fluids, broad-spectrum antibiotics and prophylactic anticonvulsants pending further CSF analysis

2- Intravenous fluids, aciclovir and prophylactic anticonvulsants

3- Intravenous fluids, aciclovir and broadspectrum antibiotics

4- Intravenous fluids, aciclovir and corticosteroids

**5- Intravenous fluids and iv aciclovir**

Q3591. A 30-year-old pregnant woman presents with a weak grip and tingling of her right hand. She complains of a dull aching pain in her forearm, which is made worse by carrying a shopping bag. On examination you find weakness of the right abductor pollicis brevis and mild weakness of thumb flexion. Finger abduction and adduction appear to be within normal limits. There is sensory loss to pinprick mainly affecting the right thumb and index finger. Phalen's sign is positive. The lefthand sensorimotor examination is normal. The deep tendon reflexes are symmetrical. What is the most likely cause of her symptoms?

1- Compression of the right ulnar nerve at the elbow

2- Right C8 nerve root irritation

3- Right brachial plexopathy

4- Compression of the right median nerve in the forearm

**5- Compression of the right median nerve in**

Q3592. A 29-year-old woman with temporal lobe epilepsy wishes to have a baby. She is currently taking phenytoin 300 mg per day and lamotrigine 50 mg per day in combination. Her partial seizures have been controlled for 10 months. She has no history of generalised tonico-clonic seizures. She is already taking a multivitamin tablet containing folic acid as she has read that this is advised in early pregnancy. She is anxious about the risk of fetal malformations. What would be the most appropriate advice to suggest regarding her management?

1- Once she is pregnant, start high-dose folic acid (5 mg per day)

2- Start high-dose folic acid now

**3- Start high-dose folic acid now and try to withdraw one of her antiepileptic drugs (AED)**

4- Try to reduce the dose of each AED and continue taking a multivitamin tablet

5- Try to reduce the dose of each AED and

Q3593. A 27-year-old man presents with a 2-day history of drooling when he tries to eat, difficulty closing his eyes and inability to smile. On examination he has weakness of eye closure, which is worse on the left, and weakness of other muscles of facial expression. Facial sensation is normal, as are eye movements, hearing and bulbar function. The remainder of both the neurological and general examination is likewise normal. There is a family history of stroke. His previous health has been good with no recent illness. What is the most likely diagnosis?

1- Basilar artery territory stroke

2- Myasthenia gravis

3- Sarcoidosis

4- Lyme disease

**5- Bilateral Bell's palsy**

Q3594. A 56-year-old woman has a history of headaches occurring on average 4-8 times per month, sometimes in clusters. They are left-sided and associated with nausea and photophobia. Sometimes she has associated tingling and clumsiness of her right hand for a few hours. They are increasingly disabling, to the extent that she has had to phone in sick to work on the last six occasions. She tends to take paracetamol and metoclopramide in combination, and in fact takes this up to 10 times a week when she is going through a 'bad spell'. She previously tried sumatriptan but found that this made her feel dizzy. She has a past history of asthma and is on hormone replacement therapy. Which treatment would be most appropriate to recommend at this stage?

1- Acute treatment with a different triptan, eg naratriptan

2- Acute treatment with codeine and domperidone

**3- Prophylactic treatment with amitriptyline**

4- Prophylactic treatment with a propanolol

5- Prophylactic treatment with methysergide

Q3595. A 46-year-old woman has, over the course of three days, developed weakness and numbness in her legs. She has no previous medical history of note, apart from treated hypertension. She smokes cigarettes 'occasionally'. Her mother died of a 'heart problem' in her early forties. On examination, the cranial nerves and upper limbs are normal to examination. There is increased tone in her legs bilaterally, with brisk reflexes and upgoing plantars. Power is reduced to 3/5 in all modalities below the hips. Pain and light touch sensation are lost to the waist. Vibration and joint-position sense are normal. What is the most likely diagnosis?

1- Friedreich's ataxia

2- Motor neuron disease

3- Subacute combined degeneration of the spinal cord

4- A lesion at the cornus medullaris

**5- Anterior spinal artery thrombosis**

Q3596. An 87-year-old man has had a dementing illness for the past 7 years. He is looked after at home by his daughter, and requires help with all his activities of daily living (ADL). His last CT scan showed severe, diffuse, cerebral atrophy. On his previous assessment at the neurology clinic the cause of his dementia was felt to be Alzheimer's disease. His Mini-Mental State Examination (MMSE) score is 8/30. He has a previous history of renal stones and hypertension. His daughter has read about the 'new drug treatment for dementia' and wishes to know if he is eligible for this. What is the main reason for his not being suitable for an acetylcholinesterase inhibitor?

1- His age

2- The duration of his illness

**3- His MMSE score**

4- His past history of renal stones

5- His past history of hypertension

Q3597. A 45-year-old woman has longstanding multiple sclerosis (MS). She comes to the clinic complaining of urinary frequency, urgency and occasional urge incontinence, present for the past 6 months. She has signs of a chronic spastic paraparesis and mild cerebellar ataxia. What would be the most appropriate approach to her initial management?

1- Low-dose trimethoprim as a long-term prophylaxis

2- Teach intermittent self-catheterisation

**3- Exclude infection and measure postmicturition residual volume**

4- Treat with oxbutynin (anticholinergic)

5- Intradetrusor injections with botulinum

Q3598. A 58-year-old farmer from Northern Ireland presents with a progressive neurological illness over 3 weeks. He complains of double vision and has some slurring of speech and unsteadiness on his feet, as well as malaise and tiredness. He also admits to having lost 6.25 kg (1 stone) in weight over a 6-week period. On examination he has a bilateral VIth nerve palsy, facial asymmetry and marked dysarthria. The deep tendon reflexes are sluggish throughout and the plantar responses equivocal. He has lymphadenopathy of the axilla and groins, and a temperature of 37.6°C. Chest X-ray is normal. MRI of the brain shows diffuse meningeal enhancement. Lumbar puncture shows an elevated protein of 1.2 g/l, an elevated white cell count of 87/ mm3 (mostly lymphocytes) and a low CSF/blood glucose ratio (CSF glucose 1.2 mmol/l, blood glucose 6.7 mmol/l). Which cause for his symptoms should be considered most likely pending further investigations?

1- Brucellosis

2- Sarcoidosis

3- Malignant meningitis

**4- Tuberculous (TB) meningitis**

5- Lyme disease

Q3599. Which one of the following is MOST suggestive of a lesion of the sciatic nerve?

1- Absent knee tendon jerk

**2- Foot drop**

3- Inability to flex the hip

4- Decreased sensation on anterior thigh and medial leg

5- Intervertebral disc prolapse at L2/L3 levels

Q3600. A 52-year-old woman is sent to see you with an unsteady gait. She reports that this has been coming on over about 9 months. She specifically has trouble on stairs, coming down as well as going up, but is not too bad on the flat. There are no symptoms in her arms or head/face. On examination she has a broad-based gait, with impaired heeltoe walking. Tone power and reflexes are normal. There are no upper limb abnormalities. The only abnormality on testing the cranial nerves is that there is evidence of downbeat nystagmus. What is the most likely cause?

1- Brainstem lacunar stroke

2- Foramen magnum meningioma

**3- Arnold-Chiari malformation**

4- Adult-onset cerebellar ataxia

5- Paraneoplastic cerebellar ataxia

Q3601. A 56-year-old man presents with falls. On further questioning he complains of difficulty walking up stairs. His falls, he feels, have been precipitated by weak legs, rather than blackouts. He has never had an episode of loss of consciousness. He is hypertensive, and has suffered chronic back pain for many years. He has smoked for many years and has a chronic 'smokers cough'. On examination he has weakness of hip flexion, and particularly of knee extension. He is unable to keep his fingers flexed against force, the right being weaker than the left. There are no sensory abnormalities and reflexes are preserved. What is the most likely diagnosis?

1- Motor neurone disease

2- Polymyositis

3- Cervical cord compression

4- Limb-girdle muscular dystrophy

**5- Inclusion body myositis**

Q3602. In a patient with diplopia which one of the following findings is MOST suggestive of myasthenia gravis?

1- Loss of pin prick sensation around the chin area

2- Preserved pupillary light reflex with absent accommodation reflex

**3- Thymoma on computed tomography scan (CT scan) of the chest**

4- Elevated creatinine phosphokinase (CPK)

5- Proptosis

Q3603. Which one of the following features is MOST typical of cavernous sinus thrombosis?

**1- Double vision on looking upward**

2- Papilloedema is an early feature

3- Ipsilateral lower motor facial nerve palsy

4- Loss of pin prick sensation around the chin area

5- Difficulty in swallowing

Q3604. Which one of the following statements is MOST accurate about chronic subdural haematoma?

**1- The trauma to the head is usually minor and often forgotten by the patient**

2- Neck stiffness is an early feature

3- Headache is often absent

4- Lumbar puncture and CSF analysis should be done immediately on patient arrival

5- Injury to the middle meningeal artery is the

Q3605. A 69-year-old man has diabetes, ischaemic heart disease and hypertension. He has smoked 20 cigarettes a day for the last 43 years. One morning his son contacts you because he is concerned about him. During a telephone conversation, he reports that his father 'wasn't making sense'. You see the father in your clinic. He is orientated and alert, with normal power, tone and reflexes throughout. Assessment of his speech reveals some difficulty with word identification and repetition. He has difficulty naming examples within a category, e.g. types of animals. He can follow instructions, however. An MRI scan of the brain shows a small localised infarct. Where is this likely to be?

1- Posterior, superior temporal lobe (Wernicke's area)

2- Angular gyrus

**3- Inferior frontal lobe (Broca's area)**

4- Arcuate fasciculus

5- Medial superior temporal lobe

Q3606. Which one of the following neurological findings is MOST helpful in differentiating subacute combined degeneration of the cord from multiple sclerosis?

1- Bilateral Babinski's sign

**2- Absent ankle jerk**

3- Optic atrophy

4- ‘Barber's chair' sign

5- Ataxia

Q3607. A 69-year-old man with recently diagnosed coeliac disease presents with paraesthesias in the feet and gait disturbance. On lower limb examination he has increased tone and weakness predominantly affecting the flexor muscle groups. Knee jerks are brisk and ankle jerks are absent. Both plantar responses are absent. He has loss of vibration sense to the costal margins and impaired joint-position sense at the toes, although pinprick and temperature sensations are normal. He has a macrocytic anaemia and his Vitamin B12 level is confirmed to be very low. What imaging abnormalities are likely to be seen on spinal MRI?

1- Diffuse patchy white-matter lesions on T2- weighted imaging

2- Evidence of microhaemorrhages in the pyramidal tracts

3- Evidence of microhaemorrhages in the posterior columns

4- Increased T1-weighted signal in the pyramidal tracts

**5- Increased T2-weighted signal in the**

Q3608. Which one of the following pathological abnormalities is characteristically found in patients with Parkinson's disease?

1- Mallory bodies

**2- Lewy bodies**

3- Neurofibrillary tangles

4- Pick bodies

5- Negri bodies

Q3609. Autonomic neuropathy is LEAST likely to occur in which one of the following conditions?

1- Shy-Drager syndrome

2- Guillain-Barrè syndrome

3- Amyloidosis

4- Chronic alcoholism

**5- Myasthenia gravis**

Q3610. A 32-year-old woman is referred with a two-week history of blurred vision, unsteady gait and numbness in the right hand. She has experienced similar short lived attacks in the past. One year ago, she abruptly lost function in the left hand which returned to normal after five days. On examination she has bilateral horizontal nystagmus and generalised hyperreflexia. There is reduced vibration sense in the limbs and central scotoma. The brain MRI scan showed multiple lesions in the white matter with no surrounding oedema at the periventricular area and cerebellum. The MOST probable diagnosis is?

1- Thrombophilia with multiple cerebral infarct

2- Syringomyelia

3- Metastatic tumour to brain

**4- Multiple sclerosis**

5- Amyotrophic lateral sclerosis

Q3611. A 40-year-old banker came to the emergency room complaining of intense headache of two hours duration. The pain is localised around the right eye and is associated with tearing and redness of the eye. The patient reported he has had similar episodes over the last year. He also admits that these episodes occurred every day for a few weeks with one to three attacks a day which last for one to two hours, frequently at night. After six weeks, the attacks stopped. He lost his job six months ago and has noticed an increase in the intensity of the pain since. Examination reveals drooping of the eyelid and small pupil on the right side. Which one of the following is the MOST probable diagnosis?

1- Migraine

2- Tension-type headache

3- Iritis associated headache

4- Cerebral tumour

**5- Cluster headache**

Q3612. A 70-year-old-man arrives at the accident and emergency department an hour after he felt light headed and collapsed to the ground. He told the two paramedics who accompanied him that he has double vision whenever he looks to the right. On examination he is conscious and alert. There is diplopia, ptosis and dilated pupil on the left. He also has right hemiplegia. Occlusion of which one of the following arteries is responsible for the above neurological deficit in this patient?

**1- Branch of the basilar artery**

2- Posterior cerebral artery

3- Anterior cerebral artery

4- Middle cerebral artery

5- Vertebral artery

Q3613. A 33-year-old-female teacher presents with sudden onset of weakness, numbness and paraesthesia in the right leg. She has light headedness and an electric shock like feeling from the neck down the spine whenever she bends her head forward. She denies any history of fits but her brother who is sixteen years old suffers with epilepsy. On examination there is evidence of profound weakness and reduced pin prick sensation in the right leg. Horizontal nystagmus on looking to the right is evident. The most appropriate test at this stage is?

1- Nerve conduction study

**2- Visual evoked potentials**

3- Electromyography

4- Polysomnography

5- Electroencephalograph

Q3614. A 27-year-old scriptwriter is referred because of worsening disorientation and confusion over the last five months. Initially, her work colleagues noticed she was neglecting deadlines. She has been found in a supermarket with no idea of where she was or how she got there. Her mood has been variable, with crying episodes occurring without provocation. She has been given leave from her job because of problems with recognising colleagues and managing simple information. Generally, her partner feels her condition is rapidly worsening. Physical examination shows her to be withdrawn and poorly communicative. Her Mini-Mental Test score is no better than 6/10. There are no cranial nerve abnormalities. Tone is increased globally, and there are recurrent, asymmetrical, jerks in all four limbs. Her partner tells you she had a miscarriage two months ago. Tests for HIV and syphilis serology were performed as part of prenatal screening: they were normal. There is no family history of neurological disease. Which of the following investigations is likely to be LEAST useful in reaching a diagnosis?

1- Lumbar puncture

**2- Serum autoantibody screen**

3- Tonsillar biopsy

4- MRI of the brain

5- EEG

Q3615. A wheelchair-bound 19-year-old woman complains that she has difficulty reading. She describes the words jumping as she tries to follow the text. She is known to have an Arnold-Chiari malformation. What findings are you most likely to find on oculomotor examination?

1- Upbeat nystagmus

**2- Downbeat nystagmus**

3- Pendular nystagmus

4- Convergence-retraction nystagmus

5- Bruns' nystagmus

Q3616. A 40-year-old woman with a history of Graves' disease presents with a six-month history of progressive tingling and weakness of her legs. On examination of the lower limbs, there is bilateral pyramidal weakness, depressed deep tendon reflexes and flexor plantar responses. There is reduced joint position sense and vibration sensation in her lower limbs but no other sensory abnormalities. What is the most likely cause?

1- Anterior spinal artery thrombosis

2- Epidural abscess

3- HTLV-1 infection

4- Taboparesis

**5- Vitamin B12 deficiency**

Q3617. A 32-year-old unemployed labourer is found, on Sunday morning, asleep in the street. He is drowsy, but rousable, opening his eyes spontaneously, and occasionally shouting profanities. He smells strongly of alcohol, and looks unkempt. He appears to have been sick in the last 24 hours, as well as being incontinent of urine. Further examination reveals he has no abnormalities in his respiratory or cardiac systems. A smooth, tender, liver edge is palpable 3 cm below his ribcage. Four spider naevi are visible on his abdomen. There is no clubbing, jaundice or flap. Neurological examination is normal apart from his eye movements. There is bilateral paralysis of eye abduction, with normal adduction. No nystagmus is present, although his pursuit movements are jerky. What is the most appropriate treatment?

1- Administer intravenous normal saline

2- Administer Vitamin B12 im

3- Prescribe oral vitamin supplements

**4- Administer thiamine iv**

5- Administer haloperidol

Q3618. A 78-year-old woman presents with a two-day history of severe left earache with a burning sensation in the ear, vertigo and loss of taste. There is left-sided weakness of both the upper and the lower facial muscles. Facial sensation is normal. What is the most likely diagnosis?

1- Acoustic neuroma

2- Bell's palsy

**3- Ramsay Hunt syndrome**

4- Otitis media

5- Lateral medullary syndrome

Q3619. A 67-year-old woman presents with severe stabbing pain in the left cheek lasting a few seconds, occurring several times a day, and precipitated by washing her face. There are no abnormalities on physical examination. What is the most appropriate initial treatment?

**1- Carbamazepine**

2- Baclofen

3- Gabapentin

4- Diazepam

5- Prednisolone

Q3620. A 54-year-old man presents with slowly progressive facial weakness and loss of taste. He has also noticed that he is more sensitive to loud sounds than usual. On examination there is weakness of the facial muscles on the right (including the forehead), a small patch of altered sensation on the right cheek, and decreased taste sensation. Where is the most likely location of this lesion?

**1- Cerebellopontine angle**

2- Parotid gland

3- Internal auditory canal

4- Petrous temporal bone

5- Stylomastoid foramen

Q3621. A 72-year-old man had a diagnosis of motor neurone disease made 4 months ago. He has dysphagia due to bulbar weakness, and is having increasing difficulty in swallowing. His videofluoroscopy showed evidence of aspiration. He has lost 3 kg in weight and has some biochemical evidence of undernutrition. In addition, he tends to get breathless on very minimal exertion (eg standing up) and has a vital capacity (VC) of 46%. Which means of nutritional supplementation would be most appropriate to consider at this stage?

1- High-protein drinks of a thickened consistency

2- Total parenteral nutrition

3- Nasogastric feeding

4- Percutaneous endoscopic gastrostomy feeding

**5- Radiologically inserted gastrostomy**

Q3622. A 45-year-old insulin-dependent diabetic presents with a 72-hour history of horizontal diplopia. The images separate wider on rightward gaze. Covering his right eye on right gaze results in the disappearance of the outer image. Dysfunction of which cranial nerve is most likely to be causing these problems?

1- Right oculomotor

2- Left abducens

**3- Right abducens**

4- Left trochlear

5- Right trochlear

Q3623. A 50-year-old woman presents with a brief episode of dysphasia associated with mild right arm weakness. The symptoms resolved spontaneously after 4 hours. She has no previous history of note, and no identifiable stroke risk factors. After being seen at the TIA clinic, she undergoes MRI with carotid angiography. This shows a tiny infarct in the right middle-cerebral artery territory. In addition, there is an abnormal appearance of the middle portion of the internal carotid arteries, described as being like a 'string of beads', with areas of concentric stenosis. Which cause of her vascular disease is most likely?

1- Atherosclerosis

2- Spontaneous internal carotid artery dissection

**3- Fibromuscular hyperplasia**

4- Underlying previously undiagnosed autoimmune collagen disease

5- Vasculitis

Q3624. Lesions to which structure are most likely to be associated with a left superior homonymous quadrantanopia?

1- Left occipital cortex

2- Left parietal lobe

**3- Right temporal lobe**

4- Optic chiasm

5- Right optic tract

Q3625. A 35-year-old migraineur presents to the Accident & Emergency Department with a 48-hour history of headache and leftsided visual disturbance. On examination you find a left inferior homonymous quadrantanopia. There is abnormal optokinetic response when the target is moved towards the right. What is the most likely site of his lesion?

1- Right occipital lobe

2- Left optic tract

3- Left parietal lobe

4- Optic chiasm

**5- Right parietal lobe**

Q3626. A 55-year-old woman with breast cancer presents with symptoms suggestive of brain metastasis. Which neuropsychological finding is most likely to suggest a right parietal lesion?

**1- Visual inattention**

2- Finger agnosia

3- Reduced digit span

4- Receptive aphasia

5- Acalculia

Q3627. A 50-year-old man complains of a sharp pain over his left shoulder and upper trunk, exacerbated by coughing. He has noticed that when he places his left hand in the bath he is unable to feel the temperature accurately. What is the most likely diagnosis?

1- Atlantoaxial subluxation

2- Guillain-Barrè syndrome

**3- Syringomyelia**

4- T1 root lesion secondary to Pancoast's tumour

5- Vitamin B12 deficiency

Q3628. A 47-year-old, previously well, male dentist presents with a four-month history of numbness and paraesthesia in both legs distally. He also complains of mild unsteadiness on walking. He has no urinary symptoms. Examination reveals: mild weakness of the lower limbs; brisk knee and ankle jerks; and upgoing plantars. Pinprick sensation is reduced to mid-shin bilaterally, and vibration sense is impaired to the iliac crests. MRI of the brain and spine, cerebrospinal fluid examination, Vitamin B12 and folate levels, HTLV-1, HIV and syphilis serology are all normal. What is the most likely diagnosis?

1- Amyotrophic lateral sclerosis

2- Friedreich's ataxia

3- Guillain-Barrè syndrome

4- Multiple sclerosis

**5- Nitrous oxide toxicity**

Q3629. A patient complaining of diplopia has nystagmus of the right eye on rightward gaze. The left eye fails to adduct. Where is the most likely location of the lesion?

1- Left frontal eye field

**2- Left medial longitudinal fasciculus**

3- Right cerebellum

4- Right frontal eye field

5- Right medial longitudinal fasciculus

Q3630. A 26-year-old man presents with a first generalised tonic-clonic seizure (GTCS). He has been complaining about headaches for the preceding 2 weeks, although has been able to carry on his job as a baker as normal. On examination he has mild left hemiparesis and bilateral extensor plantar responses. General examination is otherwise unremarkable. An urgent CT brain scan shows a 5-cm multicentric mass lesion in the right frontal lobe with surrounding vasogenic oedema and some hemisphere shift. What is the most likely underlying pathology?

1- Metastatic melanoma

2- Meningioma

3- Oligodendroglioma

**4- Glioblastoma**

5- Ependymoma

Q3631. An 83-year-old man is admitted complaining of a rapidly progressive weakness in both legs. He has also had low back pain for the previous 2 months. On the day of admission he has developed urinary urgency. On examination he is cachectic and pale. Blood pressure is 110/60 mmHg, pulse 66 and regular. He is apyrexial. Cranial nerve examination is normal. Tone and power in his arms appear normal. His biceps and supinator jerks are present with reinforcement, but the triceps jerks are brisk. His hip and knee flexors are moderately weak. He has a sensory level between the umbilicus and sternum. His lower limb reflexes are brisk with extensor plantar reflexes. Rectal tone is normal, but he has an enlarged prostate. Which of the following would be the most useful investigation?

1- Radiograph thoracolumbar spine

2- MRI thoracic spine

3- MRI head

4- Bone scintigram

**5- MRI cervical spine**

Q3632. A 19-year-old man has had a tendency to complex tics since childhood. He repeatedly squats down on the ground and also has another repetitive action of rubbing his nose. He is prone to loud vocalisations, sometimes swear-words. A diagnosis of Gilles de la Tourette syndrome has been made. How might this be best treated?

1- Cognitive-behavioural therapy

2- Amitriptyline

3- Chlorpromazine

**4- Haloperidol**

5- Risperidone

Q3633. An 85-year-old woman is referred for neurology review. In the course of an admission to the geriatric unit for investigation of anaemia, a full neurological examination has been carried out by the registrar. Several signs have been found and he is unsure which of these are significant. She has small pupils that react sluggishly to light; impaired upward gaze and poor convergence. She has reduced hearing in both ears, left more than the right, with a sensorineural pattern. The knee and the ankle jerks are absent. She has thinness of both anterior tibial muscle groups and of the extensor digitorum brevis bilaterally. There is a mildly positive palmomental reflex. Vibration sense is diminished to the knees. Her posture is stooped and she has an 'unsteady' gait. Which of these signs is most likely to make you suggest that further investigation is indicated?

1- Impaired upgaze

2- Positive palmomental reflex

3- Impaired vibration sense

**4- Absent lower limb reflexes**

5- Lower limb muscle wasting

Q3634. A 34-year-old woman presents with ascending paralysis of her lower and then upper limbs, which evolved over a 4-day period. She also has paraesthesias of her legs and hands. On examination she has normal cranial nerve examination. She has grade 3/5 weakness of both legs as well as weakness of grip, and is areflexic throughout. After admission to the neurology unit she undergoes nerve conduction studies (NCS), which show a reduced conduction velocity, conduction block and small compound motor and sensory potentials. The report states that this 'would be in keeping with the clinical suspicion of Guillain–Barré syndrome (GBS)'. What is the likely underlying pattern of peripheral nerve pathology giving rise to these neurophysiological changes?

1- Wallerian degeneration

2- Axonal degeneration

3- Medullary-axonic degeneration

**4- Segmental demyelination**

5- Global demyelination

Q3635. A 54-year-old man presents with progressive cognitive impairment and personality change. He gives a history of a stroke 2 years before, which has left him with mild left hemiparesis, and prior to that had had several 'mini-strokes'. His brother has a similar history, in that he too had several strokes between the ages of 40 and 55. Their mother died at 60 of 'dementia' and his father's medical history is unknown. He has four children in their late twenties. His daughter suffers from migraine and had what seemed to be a transient ischaemic episode during her first pregnancy. Another son also has frequent headaches, sometimes with associated transient weakness of one side of his body. On examination, the patient has signs of left hemiparesis, generally brisk reflexes and upgoing plantars. He has an apraxic gait. His Mini-Mental State Examination score is 24/30 with slow responses. What possible unifying diagnosis should be considered when investigating his cognitive problem?

1- Mitochondrial encephalopathy with leucoencephalopathy and stroke-like features (MELAS)

**2- Cerebral autosomal-dominant arteriopathy with subcortical infarcts and leucoencephalopathy (CADASIL)**

3- Familial hemiplegic migraine

4- Autosomal-dominant form of cerebral amyloid angiopathy

5- Hyperhomocysteinaemia

Q3636. A 30-year-old woman presents with cerebellar ataxia. Her MRI shows a large leftsided cerebellar cyst with nodular enhancement in one wall. The radiologist suggests the possible diagnosis of von HippelLindau disease. What serious pathology might she have most increased risk for in other organ systems?

1- Retinoblastoma

2- Pancreatic carcinoma

**3- Renal-cell carcinoma**

4- Cutaneous neurofibroma

5- Pulmonary fibrosis

Q3637. A 54-year-old woman has developed difficulty walking over the last two months. Tone and power are normal in the lower limbs. Knee jerks are absent and plantar responses extensor. What is the most likely cause of her problems?

1- Syringomyelia

2- Parasagittal meningioma

3- Beriberi

**4- Conus medullaris lesion**

5- Cervical spondylosis

Q3638. A 9-year-old boy has a one-year history of progressive weakness, finding it more difficult to stand from a sitting position at home, and climb stairs at school. He had chickenpox when he was four years of age, and received all his childhood vaccinations as normal. Apparently, his maternal grandfather suffered from a similar condition, but died in a motorboat accident at the age of 32. On examination the boy is of normal height and appearance. Cranial nerves and higher mental function are normal. He has normal tone and reflexes in his limbs with weakness proximally in his arms and legs. On repeated stimulation, there is no change. Cranial nerve and sensory examinations are entirely normal. What is the most likely diagnosis?

1- Limb-girdle muscular dystrophy

2- Duchenne's muscular dystrophy

**3- Becker's muscular dystrophy**

4- Facioscapulohumeral dystrophy

5- Myasthenia gravis

Q3639. A 69-year-old man with known cerebrovascular risk factors presents with a brainstem stroke. As well as ataxia, dysarthria and bilateral pyramidal tract signs, he is noted to have impaired upward and downwards gaze, with preservation of horizontal eye movements, as well as of the doll's eye reflexes. Convergence is impaired. Pupils are dilated and sluggishly reactive. Infarction of which part of the brainstem is most likely to have produced his eye signs?

1- Lateral medulla

2- Ventral pons

3- Dorsal pons

4- Ventral midbrain

**5- Dorsal midbrain**

Q3640. A 60-year-old man presents with progressively worsening painless double vision over several weeks. He has also noticed some numbness over the left side of his face. On examination he appears to have almost complete ophthalmoplegia of his left eye, with a left ptosis and dilated poorly reactive left pupil. There is reduced pinprick over the left forehead. His right eye movements are normal, as is the remainder of the neurological examination. His ESR is 80 mm and he has a normochromic normocytic anaemia. Given the cranial nerves involved, which potential localisation would be the first to consider when planning investigations?

1- Left orbital apex

2- Left retro-orbital space

**3- Left cavernous sinus**

4- Left lateral pons

5- Left midbrain-pontine junction

Q3641. A 67-year-old man has a history of chronic neck pain. However, on this occasion he presents acutely to his doctor with pain over his left shoulder blade and axillary region, which radiates down his arm involving the arm and ending in the fingers, especially the index and middle finger. He also has tingling in these fingertips. He has some tenderness in the triceps region, and a reduced range of neck movements (which is painful). There is mild weakness of the forearm extensors and wrist extension. There is slight loss of pinprick sensation over the index and middle finger. The biceps and brachioradialis reflexes are equal and symmetrical, and the triceps reflex is diminished on the left compared to the right. Otherwise examination is unremarkable. His doctor thinks that a cervical disc prolapse is the most likely cause. Which cervical level would be most likely, given his symptoms and signs?

1- C.4,5

2- C.5,6

**3- 6,7**

4- C.7,8

5- C.8, T.1

Q3642. A previously well, 70-year-old woman develops episodes of severe, lancinating facial pain affecting the left side of her face. These typically affect the upper part of her face, are very sudden and last a few seconds or so. These can occur in clusters over several hours. Her GP has already prescribed carbamazepine, which has helped to some degree. There are no specific activities or movements that can bring on the pain, although it is perhaps a little worse in the cold. On examination she has reduced pinprick sensation over the left side of her face (all III divisions of the Vth nerve) and a reduced corneal reflex on that side. The remainder of examination appears to be within normal limits. Which possible diagnosis would you consider as the most likely at this stage?

1- Hemifacial spasm

2- Paroxysmal hemicrania

3- Idiopathic trigeminal neuralgia

4- Herpes zoster of the trigeminal nerve

**5- Local tumour compressing the trigeminal**

Q3643. A 50-year-old man is known to have a chronic polyneuropathy. On his most recent clinic visit, he mentions that he has started having diarrhoea, especially at night. He has also noticed that he feels dizzy when he stands up and indeed collapsed while standing at a bus stop a few days ago. On further questioning he admits to having had erectile problems for quite some time. His blood pressure is 160/88 mmHg lying, and 136/60 standing. His signs of reduced knee jerks, absent ankle jerks and reduced pinprick and vibration sense to the knees are unchanged from his last clinic visit. Given the development of these recent symptoms, what underlying cause is most likely for his neuropathy?

1- Paraneoplastic neuropathy

2- Vitamin B12 deficiency

3- Vitamin E deficiency

**4- Diabetes**

5- Charcot-Marie-Tooth disease

Q3644. A 34-year-old alcoholic man has been admitted to the intensive care unit after having been found collapsed in the street. Initial CT brain scan excluded any intracranial lesion. On admission he had signs of a left basal pneumonia, confirmed on chest X-ray, and low sodium concentration of 118 mmol/l. You are asked to see him as, although he is now conscious, extubated and able to communicate by blinking, he appears to be unable to move or speak. On examination he has a quadriparesis and bilateral extensor plantar responses. His eye movements appear normal, as is facial sensation, but he has no gag reflex and is unable to swallow or speak. What diagnosis do you consider most likely when planning how best to investigate his problem?

1- Guillain-Barrè syndrome

2- Miller-Fisher syndrome

3- Basilar artery thrombosis

4- Basilar artery dissection

**5- Central pontine myelinolysis**

Q3645. A 59-year-old woman has intermittent spasms affecting her neck. Her head has a tendency to turn involuntarily towards the left when this happens. The episodes can last for up to 15 minutes at a time. She has no other symptoms and neurological examination between episodes is normal. At the time of these spasms the right sternocleidomastoid and trapezius muscles are hard and contracted. A diagnosis of cervical dystonia (spasmodic torticollis) is made at the neurology clinic. What treatment is likely to be proposed?

1- Baclofen orally

2- Local baclofen injection to the affected muscles

**3- Local botulinum injection to the affected muscles**

4- Amitriptyline

5- Gabapentin

Q3646. A 50-year-old man presents with a gradually worsening difficulty in walking up stairs, light-headedness on standing and a dry mouth. He tends to feel better at the end of the day. He has a mild ptosis, normal tone in his limbs but proximal weakness in his lower limbs and global hyporeflexia. What is the most likely diagnosis?

1- Oculopharyngeal muscular dystrophy

**2- Lambert-Eaton syndrome**

3- Myasthenia gravis

4- Polymyositis

5- Poliomyelitis

Q3647. A 28-year-old woman has a disabling headache syndrome consisting of recurrent, severe, unilateral (either right or left) headaches twice a week lasting for 8 hours each. The pain is constant and associated with nausea and phonophobia. It has not responded to ibuprofen or paracetamol. The headaches are more common after physical exercise. She has identified no dietary triggers, and there is no family history of migraine. She is very worried about her increasing weight. Which of the following is a sensible treatment course?

1- Pizotifen (for prophylaxis) and ergotamine (for the acute attacks)

**2- Amitriptyline (for prophylaxis) and a triptan (for the acute attacks)**

3- Methysergide (for prophylaxis) and a nonsteroidal anti-inflammatory drug (NSAID) (for the acute attacks)

4- Regular daily co-proxamol (for prophylaxis), increased during the acute attacks

5- Regular daily non-steroidal antiinflammatory drug (NSAID) (for

Q3648. A 72-year-old man with a history of untreated hypertension and diet-controlled diabetes presents with acute, painless, binocular horizontal diplopia worse on looking to the left. On examination, his blood pressure is 190/96 mmHg and his random blood glucose level is 13.4 mmol/l. The left eye is slightly adducted when looking straight ahead. On testing eye movements, he is unable to abduct the left eye, and sees two images side by side when asked to look to the left. The outer, more faint image disappears when the left eye is occluded. The remainder of the cranial nerve tests, ophthalmological and general examination is normal. CT scan is normal. What course of action would you recommend?

1- Cerebral angiogram

**2- Aspirin, gliclazide and an ACE inhibitor, with review at 4 weeks**

3- Dipyridamole and a β-blocker

4- MRI scan of the cavernous sinus

5- MRI scan of the brainstem

Q3649. Which of the following features supports the diagnosis of progressive supranuclear palsy (rather than idiopathic Parkinson's disease) in a patient with parkinsonian features?

1- Response to levodopa

2- Unilateral onset

3- Internuclear ophthalmoplegia

**4- Marked postural instability**

5- Marked tremor

Q3650. If a patient in generalised status epilepticus does not respond to lorazepam and adequate doses of intravenous phenytoin, what is the next step in their management?

**1- Transfer to an intensive care unit**

2- Intravenous benzodiazepine infusion on the ward

3- Intravenous phenobarbital infusion on the ward

4- Intravenous valproate on the ward

5- Rectal carbamazepine on the ward

Q3651. A 73-year-old man presents to his GP complaining of a headache and blurring of vision in his right eye lasting for 5 minutes. Two days later he developed sudden-onset, left-sided weakness affecting both upper and lower limbs and lasting for 30 minutes. His past medical history includes mild hypertension. He is a non-smoker. There are no neurological abnormalities. His blood pressure is 160/90 mmHg, heart rate 88 bpm. There are no audible carotid bruits. Which of the following is the most likely diagnosis?

1- Migraine equivalent

**2- Transient ischaemic attack secondary to carotid artery disease**

3- Transient ischaemic attack secondary to cardioembolism

4- Transient ischaemic attack secondary to small-vessel disease

5- Transient ischaemic attack secondary to

Q3652. A previously well, 40-year-old patient presents with a 2-day history of initial headache, altered consciousness, aphasia, fever and a generalised seizure. Routine blood tests, including inflammatory markers, are normal. Unenhanced CT scan shows hypodense areas in both temporal lobes. Lumbar puncture reveals a protein level of 1.0 g/l with a mild lymphocytosis. CSF glucose is normal in comparison to serum. What treatment should be initiated in the medical receiving ward?

1- Oral aciclovir (to cover herpes encephalitis), and broad-spectrum iv antibiotics

2- Intravenous steroids (to cover vasculitis) and oral aciclovir (to cover herpes encephalitis)

**3- Intravenous aciclovir (to cover herpes encephalitis)**

4- Intravenous phenytoin and iv antibiotics

5- Nothing, pending PCR results on the CSF

Q3653. A 62-year-old builder is admitted with a history of collapsing while lifting heavy building blocks. In the A&E department he is unable to give a clear history, but his wife says he was previously well. He has smoked all his life and regularly drinks 8-10 pints of beer on a Friday or Saturday night. On examination in casualty, he was noted to be talking incomprehensibly and have to have moderate weakness of his right side. On arrival on the ward, 3 hours later, he appears awake but is no longer talking at all and responds only to some, but not all, commands. His head and eyes look towards the left. He moves his left arm and leg spontaneously, but even pinching the skin elicits no movement of his right arm or leg. There is no obvious difference in the tone or reflexes in his limbs, but the right plantar response is extensor. On general physical examination, you note he is overweight and his blood pressure is 220/120 mmHg. The remainder of your examination is normal. What is the most likely diagnosis?

**1- Left hemisphere intracranial haemorrhage**

2- Left internal carotid artery occlusion and cerebral infarction

3- Posterior fossa haemorrhage with rapidonset hydrocephalus

4- Left hemisphere infarction with subsequent seizures

5- Continuing emboli from internal carotid

Q3654. Which of the following is a good first-choice oral treatment for primary generalised epilepsy in a 20-year-old man?

1- Topiramate

**2- Valproate**

3- Carbamazepine

4- Phenytoin

5- Phenobarbital

Q3655. A 36-year-old patient was transferred directly to the intensive care unit. She was found to be pyrexial (39°C), tachycardic (140/min) and hypertensive (220/126 mmHg), with a respiratory rate of 40/min. She was drowsy but rousable, soaked in sweat and had a raised white cell count (15 x 109 /L) and elevated creatinine kinase (10,000 U/l). On examination her limbs were rigid and she appeared tremulous, but there were no lateralising neurological signs. There was no neck stiffness. She had a history of schizophrenia, but no drug history was available. Renal function and CT brain scan on admission were normal. What do you think is the most credible explanation for her clinical features?

1- Herpes simplex encephalitis

**2- Neuroleptic malignant syndrome**

3- Bacterial meningitis

4- Status epilepticus

5- Septicaemia

Q3656. A 57-year-old man presents to A&E complaining of a clumsy right hand and difficulty speaking. His symptoms came on that morning, and were still present 8 hours later. His past medical history includes hypertension and migraines as a young man. He smokes 10 cigarettes per day. On examination he was found to have some weakness of the intrinsic hand muscles on his right only. Visual fields, speech and sensation were normal. Blood pressure was 180/100 mmHg. Which of the following is the most likely diagnosis?

1- Migraine equivalent

2- Left pontine microhaemorrhage

3- Neck-tongue syndrome

4- Left, middle cerebral artery territory, cardioembolic stroke

**5- Left hemisphere lacunar stroke**

Q3657. A 51-year-old man underwent aortic valve replacement, which was uncomplicated. Despite his history of alcohol abuse, he was anticoagulated with warfarin. After discharge it was noted that he had missed clinic appointments. Some 4 months later he was admitted to A&E with a dense right hemiparesis and moderately severe global dysphasia, unkempt and smelling of alcohol. His INR was 1.4. There was a soft diastolic murmur at the left sternal edge and during his admission he developed a fever. Which of the following is the most likely diagnosis?

1- Left-sided intracerebral haemorrhage

2- Thromboembolic stroke secondary to bacterial endocarditis

3- Left-sided subdural haematoma

**4- Left, middle cerebral territory, infarction secondary to cardioembolism**

5- Left hemisphere lacunar stroke

Q3658. A 45-year-old man presents with difficulty using his left arm following typhoid immunisation, which was associated with a painful left shoulder for 48 hours. There is wasting over the left deltoid, reduced power on left shoulder abduction and flexion and left elbow flexion. The left biceps and supinator reflexes were absent. A lumbar puncture showed: CSF Opening pressure15 cm Protein0.6 g/l Glucose4 mmol/l Microscopy10 lymphocytes, 2 erythrocytes What is the most likely diagnosis?

1- Cervical rib

2- Lyme disease

**3- Neuralgic amyotrophy**

4- Multiple sclerosis

5- Syringomyelia

Q3659. A 23-year-old woman is sent to A&E urgently. She is 36 weeks' pregnant. She describes the sudden onset of right-sided numbness and dysphasia. She initially developed tingling in the right side of her face that spread over a matter of minutes to the right hand. Some 10 minutes later she noticed she was having word-finding difficulty and that her right arm felt clumsy. The whole attack resolved completely within 20-30 minutes. By the time she arrived in A&E her neurological examination was normal. Which of the following is the most likely diagnosis?

1- Spontaneous dissection of the right internal carotid artery

2- Transient ischaemic attack secondary to left hemisphere small-vessel disease

**3- Migraine equivalent**

4- Partial epileptic seizure

5- Cerebral venous thrombosis

Q3660. A 72-year-old man is referred to the general medical clinic with a history of about 15 attacks of pins and needles in his left arm and leg over a period of 6 weeks. His GP is concerned that this patient will soon have a completed stroke despite already being on aspirin. Typical attacks lasted for about 5 minutes and there were no additional symptoms. On closer enquiry he said that the sensation started in his left foot and then, over a period of about 1 minute, spread 'like water running up my leg' to involve his whole leg and arm. Each attack was identical. His past medical history includes hypertension and ischaemic heart disease, for which he already takes aspirin. There are no abnormalities on neurological examination, but his blood pressure is 190/110 mmHg. Which of the following is the most likely diagnosis?

1- Transient ischaemic attacks affecting the right hemisphere

2- Recurrent deep white-matter microhaemorrhages

3- Migraine equivalent

4- Cerebral venous thrombosis

**5- Partial epileptic seizure affecting the right**

Q3661. A 45-year-old man presents with episodic pain in the right side of his face, which has been going on for 2 months. In addition, he complains of a buzzing sound in his right ear and right-sided hearing loss. Two weeks earlier he also complained of numbness in his face, but the GP was unable to find any abnormal signs. When you see him, he is in pain. He does appear to have hearing loss and a reduced corneal reflex on the right, but nothing else. What is the most likely diagnosis?

**1- Acoustic neurinoma**

2- Trigeminal neuralgia

3- Multiple sclerosis with brainstem plaque

4- Viral labyrinthitis

5- Ménétrier's disease

Q3662. Which of the following are common early features of Alzheimer's disease?

1- Personality change and myoclonus

2- Personality change and extrapyramidal signs

3- Progressive memory impairment and pyramidal signs

4- Progressive memory impairment and seizures

**5- Progressive memory impairment, apraxia**

Q3663. A 44-year-old man with an unremarkable past medical history developed episodes of dizziness, tinnitus and mild leftsided hearing loss. The symptoms presented over several months and were slowly progressive. The initial evaluation by his GP was unremarkable with a normal neurological examination and normal otoscopy. Audiometry revealed a mild degree of sensorineural hearing loss on the left side. What would be your next course of action?

1- Repeat audiometry at 6 months

2- Prescribe a hearing aid

3- Prescribe a vestibular sedative

**4- MRI scan**

5- CT scan with contrast

Q3664. A 36-year-old man presents with a 1-day history of left-sided neck pain and right-sided sensorimotor disturbance. Shortly after the neck pain had begun, he had noted that his left eyelid was 'drooping', and that he had developed weakness and altered sensation in his right arm and leg. He had recently visited a chiropractor for neck pain after a road traffic accident. Examination reveals a left Horner's syndrome and weakness and sensory disturbance on the right-hand side with an extensor right plantar. What is the most likely clinical diagnosis?

**1- Carotid artery dissection**

2- Lateral medullary infarction

3- Posterior fossa space-occupying lesion

4- Subarachnoid haemorrhage

5- Venous sinus thrombosis

Q3665. A 40-year-old man describes intermittent unilateral pain above and behind his left eye, which has woken him from sleep every night for the previous 7 days. The pain is described as severe and stabbing, lasting about 30 minutes and making him restless and agitated. It is associated with tearing from his left eye and nasal stuffiness. When he looked in the mirror during attacks he had noted his left eyelid drooping. He remembers he had experienced similar symptoms for about a month last year, but that they had resolved spontaneously and he had not sought medical attention. Physical examination is normal. He is a lifelong smoker. What is the diagnosis?

1- Migraine

**2- Cluster headache**

3- Temporal arteritis

4- Paroxysmal hemicrania

5- Trigeminal neuralgia

Q3666. A patient with acute inflammatory demyelinating neuropathy (Guillain–Barré syndrome), who was admitted with only mild sensory symptoms, is deteriorating in hospital. He has become progressively weaker over the last 12 hours, and is feeling it harder to breathe. Which of the following treatments would you recommend?

1- Intravenous methylprednisolone

2- Plasmapheresis

**3- Intravenous immunoglobulin**

4- Intravenous methylprednisolone and intravenous immunoglobulin

5- Oral prednisolone

Q3667. A patient with atrial fibrillation, hypertension and hypercholesterolaemia presents with sudden-onset right-sided weakness, hemianopia and aphasia. This occurred an hour previously while he was eating his breakfast. He is taking aspirin, simvastatin, ramipril and digoxin. What action would you recommend?

1- CT within the next 4 hours, and transfer to an acute stroke unit

**2- Immediate CT with a view to iv thrombolysis**

3- Immediate oral aspirin, then CT as soon as possible

4- Immediate CT with a view to heparinisation

5- Admission to a stroke unit, with CT in the

Q3668. A 50-year-old hypertensive man presents with difficulty in using his right arm, slow walking and occasional loss of balance. He has a broad-based gait with cogwheel rigidity and intention tremor of his right arm. His blood pressure is 140/80 mmHg sitting and 100/60 mmHg standing. What is the most likely diagnosis?

1- Idiopathic Parkinson's disease

**2- Multiple system atrophy**

3- Progressive supranuclear palsy

4- Corticobasal degeneration

5- Drug-induced parkinsonism

Q3669. A 70-year-old woman presents after collapsing at home. She has diplopia on right gaze, right-sided facial weakness and left flaccid hemiparesis. What is the most likely site for her lesion?

1- Left mid-brain

2- Right mid-brain

3- Left pons

**4- Right pons**

5- Right cerebral hemisphere

Q3670. A 28-year-old woman began to stumble when walking. Her right leg was slightly stiff and weak, especially after exercise and hot showers. These symptoms developed over 3 days and gradually disappeared over 4 weeks. She was on the college swimming team before these symptoms arose. There, she developed a unique and extreme type of fatigue that was different from the usual fatigue she experienced when swimming. This disappeared after several weeks, but had reappeared again 6 months before her current presentation. Which of the following diagnoses is most likely?

1- Myalgic encephalomyelitis (chronic fatigue syndrome)

2- Acute disseminated encephalomyelitis

**3- Multiple sclerosis**

4- Guillain-Barrè syndrome

5- Diabetic sensorimotor neuropathy

Q3671. A patient with a history of left optic neuritis 1 year ago, and transient spastic paraplegia (lasting 6 weeks) 6 months ago is seen in clinic. His T2 -weighted MRI scan shows multiple periventricular hyperintensities and three similar lesions in the posterior fossa, with one lesion in the corpus callosum. Lumbar puncture shows oligoclonal bands. Only a relative afferent pupillary defect on the left is evident on examination. So far, he has not been treated for his problems. Which of the following is most appropriate?

1- Plasmapheresis

2- Intravenous methylprednisolone

3- Oral prednisolone

**4- β-interferon**

5- Azathioprine

Q3672. A 13-year-old boy presents to A&E one morning after an episode of unconsciousness, a convincing history of which was obtained from his mother. She had witnessed his eyes rolling upwards, a fall to the floor, jerking of all four limbs and his lips going blue. He had been incontinent. He had been assessed in a general medical clinic 3 years earlier complaining of sudden brief bilateral 'jerks' occurring largely in the morning after waking. Neurological examination is normal. What is the most likely diagnosis?

1- Complex partial epilepsy

**2- Juvenile myoclonic epilepsy**

3- Hypoxic myoclonus

4- Wilson's disease

5- Pseudoseizures

Q3673. A 72-year-old hypertensive male with a history of coronary artery bypass developed slurring of speech and mild dysphagia over a period of 2 weeks. He was diagnosed with an upper respiratory infection and treated with antibiotic therapy without further diagnostic testing. He gradually improved a little over the next 1-2 months, but his symptoms returned subacutely after 4 months. In addition to dysarthria and dysphagia, he then experienced diplopia and mild ptosis for the first time. Examination reveals bilateral ptosis and a slurred voice towards the end of the consultation, but is otherwise normal. Which of the following is the most likely diagnosis?

1- Small-vessel posterior circulation ischaemia

2- Bulbar neuropathy

**3- Myasthenia gravis**

4- Lambert-Eaton myasthenic syndrome

5- Motor neurone disease

Q3674. A 69-year-old patient with no previous medical history has been diagnosed with a right-sided lacunar stroke. You are now seeing him in the follow-up clinic at 6 weeks, and his hemiplegia is improving. His total cholesterol is 5.5 mmol/l and his blood pressure is 136/78 mmHg. His blood glucose level is normal. He is treated with perindopril for hypertension and aspirin but is on no other medication. What secondary preventive regime should he be taking, on the basis of current randomised evidence?

1- Aspirin

2- Aspirin, statin, and diuretic

3- Aspirin and statin

4- Aspirin and ACE inhibitor

**5- Aspirin, dipyridamole and statin**

Q3675. A 30-year-old woman with no relevant past medical history has presented with acute, binocular horizontal diplopia and severe headache. On examination there is a partial ptosis on the left and a dilated and unreactive left pupil. The left eye is abducted when looking straight ahead. Eye movement testing reveals moderate underaction of adduction, elevation and depression of the left eye. The right eye moves normally. There is intorsion of the left eye in downgaze. The rest of the neurological examination, including fundal examination, is normal. Blood pressure and blood glucose testing were normal in the casualty department. What is your major diagnostic concern?

1- Myasthenia gravis

2- Pontine haemorrhage

3- Ischaemic oculomotor palsy

4- Cavernous sinus thrombosis

**5- Expanding posterior communicating artery**

Q3676. A 67-year-old teacher suddenly lost her memory after walking her dog. Her husband noted that she still knew the names of close friends, but she was disorientated in time and place, and seemed perplexed. She could follow complex commands, but was unable to recall something she had been told 5 minutes before. The episode resolved after 10 hours, although she did not remember the event. She has a history of migraine, but the episode of memory loss was not associated with headache. CT brain imaging, Doppler ultrasound of the extracranial cervical vessels and electroencephalography are normal. What is your clinical diagnosis?

1- Complex partial seizure and postictal phase

2- TIA

3- Migraine aura without headache

**4- Transient global amnesia**

5- Global hypoxia after arrhythmia

Q3677. A 23-year-old homeless man is admitted with a history of becoming unwell after sleeping rough for the last week. A few days previously he had complained of feeling rather dizzy and slightly nauseated. The following day he developed double vision and slurred speech. His gait became unsteady and he was found collapsed by police officers. He is brought to A&E. When asked, he complains of mild pain situated in the back of his neck. He is drowsy and his speech is very slurred, but comprehensible. On examination of his eye movements, the left eye moves fully but the right eye does not abduct. He has rightsided facial weakness involving both the upper and lower halves of his face. In the limbs, he is mildly weak in the left arm and leg. The reflexes in all four limbs are all very brisk and both plantar responses are extensor. Tests of co-ordination are reasonably well performed on the bed, but when you get him out of bed, his gait is very unsteady and he needs to be supported. His chest is clear and he is apyrexial. The rest of the examination is normal. What is the most likely diagnosis?

**1- Vertebral artery dissection**

2- Drug-induced cerebral arteritis

3- Wernicke's encephalopathy

4- Tuberculous meningitis

5- Right subdural haematoma

Q3678. A 38-year-old woman was assessed for new-onset facial weakness. She had been in excellent health until the summer when, after a walking holiday, she noted an expanding erythematous rash on her abdomen, ultimately about 8 inches in diameter, and lasting about 3 weeks. This improved following treatment with an oral cephalosporin, but she developed 6 weeks of diffuse arthralgias and headaches. She has developed acute right facial paralysis, evolving over 24 hours, with retroauricular pain, hyperacusis and a decreased sense of taste. Past medical history is otherwise unremarkable, and examination is notable only for a complete, right lower motor neurone, seventh nerve palsy. What is the diagnosis?

1- Multiple sclerosis

2- Ramsay Hunt syndrome

3- Bell's palsy

4- Sarcoidosis

**5- Lyme disease**

Q3679. A 25-year-old woman visits her GP with a 6-month history of intermittent headaches. These last for 2 hours and are associated with visual blurring and nausea. The GP feels that this is migraine, but examination reveals that her left pupil is smaller than the right and her reflexes are all diminished. Her eye movements are normal and there is no ptosis. What is the most likely diagnosis?

1- Physiological anisocoria

2- Left-sided Horner's syndrome

**3- Holmes-Adie pupil on the right**

4- Argyll Robertson pupil on the left

5- Right third cranial nerve palsy caused by a

Q3680. An 82-year-old man is admitted following a fall. He cannot remember falling, but describes feeling off balance for at least a few months. Otherwise he has no specific complaints. On examination he has a mild resting tremor in his arms and legs. There is a slight stiffness and slowness of movement in his arms only. He is hypertensive, BP 180/110 mmHg. What is the most likely diagnosis?

1- Cervical myelopathy

2- Ischaemic small-vessel disease

**3- Idiopathic Parkinson's disease**

4- Benign essential tremor

5- Hyperthyroidism

Q3681. A 33-year-old man presents with a 10-year history of arm tremor, which he has had for many years. However, it has become worse recently, such that he now finds it embarrassing at work and is worried about losing his job. His father had a similar problem, although this was mild and always put down to benign tremulous Parkinson's disease. On examination he has a fine postural tremor, but normal tone. Fine finger movements are normal, as is his gait. What is the most likely diagnosis?

1- Wilson’s disease

2- Familial cerebellar degeneration

3- Familial Parkinson’s disease

4- Severe anxiety

**5- Benign essential tremor**

Q3682. A 28-year-old man presents to the A&E department complaining of a suddenonset occipital headache associated with vomiting. His symptoms started 2 hours previously and are continuing. He has a previous history of infrequent migraine without aura, which also causes nausea but not vomiting. His current headache is much more severe than his usual migraine, which has not previously started suddenly. Examination is unremarkable. In particular there is no neck stiffness or photophobia. Which of the following management options would be the most appropriate?

1- A diagnosis of migraine and suggestion that he be referred to a neurologist for a further opinion

2- Immediate lumbar puncture, to exclude meningitis and subarachnoid haemorrhage

3- CT brain scan, followed by discharge if normal

**4- CT brain scan, followed by lumbar puncture if CT normal**

5- CT brain scan, followed by angiography

Q3683. A 78-year-old female is referred by her GP with intermittent confusion over the last 2 weeks. She has a history of hypertension for which she takes bendrofluazide. Four weeks ago she suffered a fall that was complicated by a Colles' fracture and minor head injury. She was treated in A&E at the time, and a skull X-ray was normal. On this occasion, examination is normal, including mental state assessment. The night following admission she is noted to be slightly confused. Routine bloods, resting ECG and chest radiograph are all normal. Which of the following conditions must be excluded?

1- Alzheimer's disease

2- Intercurrent urinary tract infection

3- Subarachnoid haemorrhage

**4- Subdural haematoma**

5- Transient ischaemic attack

Q3684. A 60-year-old woman is referred with a single fall. She has been well all her life and has rarely had to see her doctor. She smokes 10 cigarettes a week. Examination is unremarkable other than a right-sided ptosis and some slight thinning of the muscles of her right hand, which she thinks might be long-standing. What is the most likely cause of her ptosis?

**1- Horner's syndrome**

2- Myasthenia gravis

3- Levator disinsertion

4- Third nerve palsy

5- Ocular dystrophy

Q3685. A 72-year-old woman attends her optician complaining that her vision has deteriorated over the past few days and that she needs new glasses. The optician gives her a new prescription. Whilst driving home she has a minor accident in which she scrapes the nearside of her car against a wall. She bruises her chest against the steering wheel and a passer-by calls for an ambulance. At the hospital she appears to be well but mentions her vision. On examination you find that she is unable to see objects in the left-hand side of the visual fields of both the left and the right eyes. The remainder of the examination is normal, apart from minor bruising to her ribs and an irregular pulse. Which of the following is the most likely diagnosis?

1- Right branch middle cerebral artery occlusion

**2- Right distal posterior cerebral artery occlusion**

3- Cerebral venous thrombosis with right hemisphere venous infarction

4- Right hemisphere lacunar stroke

5- Right subdural haematoma

Q3686. A 37-year-old woman is referred to your clinic with two episodes of sudden-onset limb paralysis at night-time over the last 4 months. She describes waking shortly after falling asleep and being aware of an inability to move her limbs or to speak, associated with a feeling of suffocation lasting for about a minute. Her father recently died from an intracerebral haemorrhage during sleep. She has no other symptoms other than daytime sleepiness, which she puts down to looking after her two young children. There are no abnormalities on examination. What is the most likely diagnosis?

1- Depression and anxiety

2- Nocturnal seizures

3- Brainstem transient ischaemic attack

**4- Narcolepsy**

5- Cervical disc prolapse

Q3687. A 39-year-old keen camper presents with a 2-week history of headaches, a 'droopy face', joint pains and a low-grade temperature. He had returned from a camping holiday 1 month earlier. The only abnormality on neurological examination is left facial weakness. A lumbar puncture was carried out and the results of the CSF analysis are as follows: 250 cells/ml, over 90% lymphocytes, protein 2.1 g/l, glucose 4.0 mmol/l (serum glucose 8.0 mmol/l). What is the most likely diagnosis?

**1- Borrelia burgdorferi meningitis**

2- Bell's palsy

3- Sarcoidosis

4- Guillain-Barrè syndrome

5- Tuberculous meningitis

Q3688. A 34-year-old woman attends your clinic and gives a description of recurrent early morning attacks of severe throbbing unilateral orbital pain over the last 2 months. Each attack lasts 60-90 minutes, but leaves a dull ache around the eye lasting for hours. These have not occurred previously. She feels that her lifestyle is severely compromised and is becoming depressed. There are no abnormalities on examination. Blood pressure is 140/80 mmHg. What is the most likely diagnosis?

1- Migraine without aura

2- Parotid tumour

**3- Cluster headaches**

4- Paroxysmal hemicrania

5- Analgesic overuse headaches

Q3689. A 43 -year-old man complains of something wrong with his right arm and hand, although he finds it difficult to be clear exactly what. He is left-handed and so is not unduly bothered by his symptoms. On examination he has a variable reduction in light-touch sensation in his right hand extending to above his elbow. Joint position sense appears intact. He has difficulty distinguishing his cigarette lighter from a pen when using his right hand (with his eyes closed), but has no problems with the left. His two-point discrimination on the right is 11 mm compared to 2 mm on the left. Which of the following investigations would be most useful in helping to make the diagnosis?

**1- CT head**

2- Electromyogram (EMG) and nerve conduction studies

3- MRI cervical spine

4- Chest radiograph

5- Vitamin B12 levels

Q3690. A 16-year-old man presents with acute central abdominal pain and vomiting. On examination, his abdomen was tender but there was no guarding, and bowel sounds were normal. Power was reduced distally in his lower limbs and ankle and knee reflexes were absent. An older sister presented with a similar condition. Blood tests showed: Hb 11 g/dl; Mean corpuscular volume (MCV) 72 fl ; Platelets 170; Blood film Basophilic stippling; Urinary d- ALA (delta-aminolevulinic acid) 100 mmol/24 hrs (normal range 8-53). What is the most likely diagnosis?

1- Arsenic poisoning

**2- Lead poisoning**

3- Acute intermittent porphyria (AIP)

4- Guillain-Barré syndrome (GBS)

5- Diabetic ketoacidosis (DKA)

Q3691. A 78-year-old woman attends A&E with a sudden loss of vision in her left eye. She mentions that she has been suffering from headaches and arthralgias for about 2 months. These symptoms have been partly relieved by non-steroidal anti-inflammatory drugs. One month ago she tripped while out and banged her head on a park bench. She did not see a doctor on that occasion. There is no past medical history of note. What is the most likely diagnosis?

1- Demyelinating optic neuritis

2- Scleritis

3- Retinal detachment

4- Migraine

**5- Ischaemic optic neuritis**

Q3692. A 28-year-old woman reports to her GP that her vision has become blurred in her right eye over the course of a few days. She has been rubbing the eye a lot, and now she also mentions that there is a dull ache in the eye. She has previously been fit and well. Her only medication is the oral contraceptive pill, which she has been taking for 8 years. What is the most likely diagnosis?

1- Occipital lobe infarction

**2- Demyelinating optic neuritis**

3- Optic nerve compression

4- Ischaemic optic neuritis

5- Glaucoma

Q3693. A 68-year-old man was referred as an emergency by his GP because of left-sided foot drop. The foot drop had come on 3 weeks earlier. He had noted slight tingling on the dorsum of his foot. He had tripped a few times, and on one occasion turned his ankle, which had become slightly swollen. The foot drop had substantially improved over the last 10 days. Recently his knee had been bandaged for support after a fall had led to recurrent knee pain on walking. He has mild weakness of his left ankle dorsiflexors and evertors, and moderate weakness of the extensor hallucis and extensor digitorum; other movements, including ankle inversion and hip abduction, are normal. Reflexes are normal. There is sensory loss on the dorsum of the foot from the base of the hallux to the ankle. What is the most likely diagnosis?

**1- Common peroneal palsy**

2- L5 radiculopathy

3- Motor neurone disease

4- Ischaemic stroke

5- Sciatic nerve palsy

Q3694. A 36-year-old man presents with a headache over his left eye spreading across his forehead. During the headache he develops difficulty speaking. Three minutes later he has developed clumsiness in his right hand, and 2 minutes after that he describes his right leg as 'feeling heavy'. His speech and limb symptoms have disappeared after 20 minutes, but his headache persists for 6 hours. He suffered from migraine as a teenager but has not had an attack in over 15 years. He smokes 25 cigarettes a day. On examination he has a mild left ptosis and a small reactive left pupil, but nothing else is found. What is the most likely diagnosis?

1- Basilar artery aneurysm

2- Internal carotid artery dissection

**3- Migraine**

4- Subarachnoid haemorrhage

5- Vertebral artery dissection

Q3695. A 59-year-old man is referred to the stroke clinic after an episode of confusion. He had just got out of the shower when he started to behave in a manner that worried his wife. When she questioned him about what was the matter, he appeared not know where he was, what day it was or indeed who his wife was. He did however know who he himself was. His wife mentioned that he also complained of having had a headache, so she suggested he go to bed to sleep off the attack. He went to bed and slept for the rest of the day and night. On waking he felt well but was unable to recall exactly what had happened the previous day. He is a nonsmoker. On examination there are no abnormalities other than an elevated blood pressure of 170/90 mmHg. What is the most likely diagnosis?

1- Subarachnoid haemorrhage

2- Right caudate haemorrhage

3- Cerebral venous thrombosis

4- Right hemisphere transient ischaemic attack

**5- Transient global amnesia**

Q3696. A 69-year-old woman was taken to hospital with a sudden-onset, mild, right hemiparesis and an inability to speak. CT scan showed evidence of a recent left hemisphere infarction. She was found to be in atrial fibrillation and was anticoagulated. While in hospital she had a right-sided focal seizure and was treated with phenytoin. She made a good recovery over the next 6 weeks and was discharged home. Phenytoin 300 mg at night was continued, as was warfarin. When she was seen in the follow-up clinic 3 months later atrial fibrillation was still present and anticoagulation was continued, but the phenytoin was tailed off to zero. Now, 2 months later, she has been re-admitted having developed a mild right hemiparesis and drowsiness over the previous 10 days. On further questioning her husband remembers that she tripped over the rug in the lounge about 10 days earlier. Her INR is 5.1. What is the most likely cause of her deterioration?

1- Further cardioembolic stroke

2- Concurrent lobar pneumonia

3- Left hemisphere intracerebral haemorrhage

**4- Left subdural haematoma**

5- Recurrent seizures

Q3697. A 70-year-old man is referred for increasing unsteadiness of gait. He has not fallen, but has taken to using a walking stick. In addition, he is finding his fingers to be increasingly stiff. His wife adds that she thinks he is also forgetful, something he denies. Over the last 10 years, he has had some problems with urinary urgency and hesitancy, but his urinary symptoms have worsened over the past 3 months and he has had urinary incontinence on a number of occasions. He smokes 40 cigarettes a day and has been a heavy drinker in the past. On examination of his gait, short shuffling steps and trouble turning are noted. The gait is not particularly wide-based. His writing is a little small and he does have slowness of fine finger movement, but the muscle tone is normal. The Mini-Mental Test examination is 16/20, which he puts down to rushing to get to the hospital on time and still feeling flustered. What is most likely diagnosis?

**1- Normal-pressure hydrocephalus**

2- Alzheimer's disease

3- Multi-infarct dementia

4- Frontotemporal dementia

5- Idiopathic Parkinson's disease

Q3698. A 74-year-old man attends with a 6- month history of heaviness and discomfort in his upper legs, which is only present after walking for 5 minutes. He has always been a keen walker, being a member of the local Ramblers' Association, but he is now unable to participate as he would like. He is, however, still able to cycle to his part-time job as a librarian. He has been previously fit and well, although was recently started on antihypertensive medication. He is an ex-smoker, having given up 5 years ago when his wife died. On examination his blood pressure is 160/90 mmHg. His pulse was 56 and regular. His peripheral pulses are all palpable, but the capillary return in his toes is slow. Neurological examination of his arms and legs is normal, apart from diminished ankle jerks, and reduced vibration sense distally. What is the most likely diagnosis?

1- Metabolic muscle disease

2- Idiopathic Parkinson's disease

3- Hypothyroid muscle disease

**4- Lumbar canal stenosis**

5- Abdominal aortic stenosis

Q3699. A 60-year-old schoolteacher is referred with progressive gait disturbance and fluctuating confusion. His symptoms began about 2 years ago when he noticed heaviness in his legs on walking to work. Since then his handwriting has become more untidy. His wife reports that he has become increasingly forgetful at home, although he denies this. Over the last 2 months he has become restless at night, and has reported seeing unidentified objects moving on the walls and in the room. On examination his Mini-Mental score was 24/30. He is symmetrically rigid and slow with a postural tremor in all limbs. Cranial nerve examination is normal except for a mild restriction of conjugate upgaze. His gait is shuffling with mildly impaired postural reflexes. What is the most likely diagnosis?

1- Idiopathic Parkinson's disease

2- Alzheimer's disease

3- Vascular dementia

4- Multi-systems atrophy

**5- Dementia with Lewy bodies**

Q3700. A teenager is referred with episodes of collapse which usually occur first thing in the morning. His mother has seen him in one of the attacks, and describes a sudden stiffening of all four limbs, fall to the ground, followed by small-amplitude shaking of all limbs. The attack lasted 1-2 minutes, and thereafter he was confused and disorientated for 30 min. In between attacks he is well, although he has unexpectedly dropped a cup of tea on two occasions. There is nothing to find on examination. What would you be most likely to treat him with?

1- Clonazepam

2- Carbamazepine

3- Clobazam

**4- Sodium valproate**

5- Phenytoin

Q3701. A 19-year-old man is being treated for tuberculosis and complains of numb feet. Nerve conduction studies (NCS) show: Sural sensory action potential8 mV (> 15 mV) Median sensory action potential9 mV (> 20 mV) Common peroneal nerve action potential50 m/s (> 45 m/s) What drug is most likely to have caused this problem?

1- Rifampicin

**2- Isoniazid**

3- Pyrazinamide

4- Ethambutol

5- Paracetamol

Q3702. A 35-year-old Indian woman presents with a small, hard, palpable nodule over her left thigh. While awaiting surgical referral she has an epileptic seizure. What is the most likely diagnosis?

1- Neurofibromatosis

2- Toxoplasmosis

**3- Cysticercosis**

4- Hydatid disease

5- Idiopathic epilepsy

Q3703. A 76-year-old man presents with a 1-month history of lower back pain. More recently he has developed weakness of and paraesthesias in his legs. On the day of admission, he was unable to stand, and developed difficulty in initiating micturition. He is a long-standing, insulin-dependent diabetic and his diabetic control poor. His most recent Hb A1c is 8.6%. On examination he is mildly febrile. He has increased tone and pyramidal distribution weakness in his lower limbs. Lower limb reflexes are brisk with extensor plantars. Sensory examination is variable. Straight-leg raising produces pain. What is the most likely diagnosis?

**1- Spinal epidural abscess**

2- Anterior spinal artery thrombosis

3- Spinal arteriovenous malformation

4- Tuberculous meningitis

5- Prolapsed L3/4 intervertebral disc

Q3704. A 26-year-old woman presents to her GP with mood swings and depression. She is prescribed Prozac, but returns a few months later with pains and numbness in both legs. Her antidepressant is changed but her mood worsens and she starts to have problems with her memory and motivation. She is referred to your clinic where, in addition to mild cognitive impairment, you notice slight increased tone in her limbs and occasional myoclonic jerks. Her MRI scan reveals thalamic hyperintensity on T2- weighted images, but her EEG is normal. What is the most likely diagnosis?

1- Corticobasal degeneration

2- Progressive severe depression

3- Juvenile myoclonic epilepsy

**4- New-variant Creutzfeldt-Jakob disease**

5- Wilson's disease

Q3705. A 53-year-old hospital porter is referred to you with aching and fatigue in his legs. His symptoms started 2 months ago with difficulty walking up stairs. On direct questioning, he says it takes him increased effort to get dressed. He also complains of a dry mouth, but there are no speech or swallowing difficulties. On systematic questioning, he has a long history of mild breathlessness on exertion and a chronic cough that he attributes to his heavy smoking. However, over the last 2 weeks he has noticed blood streaks in his sputum. On examination he has a predominantly proximal weakness, more so on the left. Deep tendon reflexes are depressed but improve with repeated muscle contraction. There are no sensory changes or extraocular muscle abnormalities. What is the most likely diagnosis?

1- Paraneoplastic neuropathy

2- Vasculitic neuropathy

3- Metabolic myopathy

4- Tuberculous myeloradiculopathy

**5- Lambert-Eaton syndrome**

Q3706. A 33-year-old woman presents with a 48-hour history of pain behind her right ear followed by drooping of the right side of her face. She also describes having an 'odd taste' in her mouth and soreness on swallowing. She had previously been fit and well. On examination there is right-sided facial weakness affecting both the upper and lower parts of her face and impaired taste sensation over the right anterior part of her tongue. You notice a vesicular rash on the pinna. There is no sensory loss over her face. What is the most likely diagnosis in this case?

1- Left hemisphere lacunar stroke

2- Bell's palsy

**3- Ramsay Hunt syndrome**

4- Glomus tumour

5- Parotid tumour

Q3707. A 19-year-old student presents with pain in his shoulders and upper arms, particularly on the left. He works part time as a supermarket stacker and has noticed difficulty placing items on high shelves. He has no gait disturbance. On examination there is slight wasting around the shoulder, with weakness as well as elbow flexion on the left. The biceps and supinator reflexes are absent, but the triceps reflex is present. There is subjective reduction of sensation over the lateral aspect of the arms extending down to the thumbs and index fingers bilaterally. Examination of the legs is normal. What is the most likely diagnosis?

**1- Bilateral idiopathic brachial plexopathy**

2- Polymyositis

3- Prolapsed C5/6 intervertebral disc

4- Bilateral cervical ribs

5- Cervical syrinx

Q3708. You are referred a 57-year-old woman with a marked change in personality over the last 5 years. She has become increasingly sexually flirtatious with inappropriate behaviour in social situations. Impairment of abstract thinking, memory and planning has become increasingly obvious. However, the ability to perform arithmetic tasks is relatively preserved. Speech output is diminished. There is no motor impairment. Physical examination is unremarkable except for the presence of grasp reflexes. What is the most likely diagnosis?

1- Normal-pressure hydrocephalus

**2- Frontotemporal dementia**

3- Alzheimer's disease

4- Frontal lobe meningioma

5- Multiple sclerosis

Q3709. A 76-year-old woman presents to her GP with dyspepsia. During the consultation she admits to having intermittent pins and needles in her hands and feet. The GP prescribes her an antacid and asks to review her. Some months later her dyspepsia is improved but her mood has become very low. She is reluctant to leave the house because of perceived unsteadiness. On examination she has weakness in her legs involving the hip flexors, knee flexors and dorsiflexors of the ankles, reduced sensation distally, impaired proprioception to her knee joints, absent ankle jerks and equivocal planters. Her doctor asks you to see her urgently. What is the most likely diagnosis?

1- Spinal cord compression secondary to metastases

2- Motor neurone disease

3- Metastatic involvement of conus and cauda equina

**4- Subacute combined degeneration of the cord**

5- Taboparesis

Q3710. A 56-year-old man is referred to you with a 2-year history of ascending lower limb numbness and, more recently, foot drop. In the last 6 months he has also developed numbness in his fingers. He has a distal reduction to pinprick, relatively preserved muscle power, except for ankle dorsiflexion and hyporeflexia in his legs. The GP has already organised nerve conduction studies and the report is sent along with the patient. Which of the following is suggestive of an axonal neuropathy?

1- Reduced conduction velocity

2- Abnormally slow F-response

3- Delayed P100 latency

**4- Reduced compound muscle actionpotential amplitude**

5- Conduction block

Q3711. A 64-year-old librarian is referred to you, complaining of a burning sensation on the anterolateral aspect of her right thigh. She is diabetic and has not attended the diabetic follow-up clinic for a year. Some 7 months ago she had a mild stroke affecting her right side and was found to be in atrial fibrillation, for which she was prescribed warfarin. In addition, her GP recently prescribed her an antibiotic for a chest infection. Examination reveals normal muscle power. Tone is slightly increased on the right, with the right-sided reflexes a little brisker than those on the left. Pinprick was reduced over the anterolateral aspect of her right thigh. What is the most likely diagnosis?

1- Diabetic femoral amyotrophy

2- Thalamic pain secondary to previous stroke

3- Iliopsoas haematoma from warfarin causing a femoral neuropathy

**4- Compression of the lateral cutaneous nerve of the thigh**

5- Femoral hernia

Q3712. A 64-year-old smoker presents to the Emergency Department with a 12-hour history of weakness in his legs and inability to pass urine. Physical examination reveals that he is hypertensive with pyramidal weakness of the lower limbs. Pain and temperature sensation are impaired to T7 but vibration and joint position sense are unaffected in the lower limbs. What is the most likely diagnosis?

1- Acute transverse myelitis

**2- Anterior spinal artery occlusion**

3- Cervical spondylosis with acute decompensation

4- Spinal tumour

5- Syringomyelia

Q3713. A 24-year-old male, injecting heroin addict presented with rapidly progressive mild generalised limb weakness, dysarthria, dysphagia and a dry mouth. Some 12 hours after admission he suddenly deteriorated resulting in a respiratory arrest, following which he required ventilation. On examination in intensive care he was alert and orientated. He had bilateral ptosis, dilated unreactive pupils, diplopia on both horizontal and vertical gaze with restriction of eye movements in all directions and profound bilateral facial weakness. He now has marked weakness in all four limbs with depressed reflexes. Both plantar responses are flexor. Sensory testing is normal. He had recently been prescribed antibiotics by his GP for an infected injection site in his groin. What is the most likely diagnosis?

1- Posterior circulation stroke

2- Lambert-Eaton myasthenic syndrome

3- Guillain-Barrè syndrome

4- Myasthenia gravis

**5- Botulism**

Q3714. A 26-year-old develops foot-drop after a motorcycle accident. You find weakness of foot dorsiflexion and eversion. Which structure is most likely to have been damaged?

**1- Common peroneal nerve**

2- Tibial nerve

3- Sciatic nerve

4- Lumbosacral plexus

5- Lumbar nerve roots

Q3715. A 31-year-old man presents with weakness of his right leg. Examination reveals decreased proprioceptive sensation in the right leg and absent pinprick sensation in the left leg. What is the most likely diagnosis?

1- Guillain-Barrè syndrome

2- Intramedullary spinal cord glioma

**3- Brown-Sèquard syndrome**

4- Anterior spinal artery occlusion

5- Lumbosacral disc herniation

Q3716. A 42-year-old man has been in the intensive care unit for 6 weeks following a road traffic accident in which he had crashed his car after drinking heavily. You are called to see him as the staff has noticed that he appears to have developed some distal limb weakness over the past 7-10 days. On examination a symmetrical distal weakness is confirmed and he appears to have absent ankle and knee reflexes. There is some wasting of the intrinsic hand muscles bilaterally, worse on the right. He has possible patchy sensory loss in a 'glove and stocking' distribution, although this is inconsistent on testing. Which of the following is the most likely diagnosis?

1- Guillain-Barrè syndrome

**2- Critical illness polyneuropathy**

3- Critical illness myopathy

4- Nutritional polyneuropathy

5- Alcoholic polyneuropathy

Q3717. A 35-year-old man complains of paroxysmal stereotyped episodes consisting of a rising epigastric sensory feeling, and fear. The episodes last up to a minute and are followed by confusion lasting up to an hour. During the episodes his wife has seen him performing lip-smacking, chewing and swallowing movements. What is the most likely diagnosis?

1- Frontal lobe epilepsy

2- Idiopathic generalised epilepsy

3- Occipital lobe epilepsy

4- Parietal lobe epilepsy

**5- Temporal lobe epilepsy**

Q3718. A 62-year-old woman complains of unsteadiness when walking. On examination she has pyramidal weakness of her left lower limb, and reduced pinprick sensation of her right leg and right side of her trunk up to the level of the umbilicus. Joint position sense is impaired at her left great toe but is normal elsewhere. She has a definite left extensor plantar response, and the right plantar response is equivocal. Where is the most likely site of the lesion?

1- Left cervical cord

2- Midline mid-thoracic cord

3- Right mid-thoracic cord

**4- Left mid-thoracic cord**

5- Left lumbosacral plexus

Q3719. You are called to the Accident and Emergency Department to see a 25-year-old man who experienced a sudden-onset, severe posterior headache 2 hours previously. He has vomited once and has minimal neck stiffness. He is apyrexial and the neurological examination is entirely normal. There is a family history of a 'burst blood vessel'. An emergency plain CT scan (at 3آ 1/2hours after the onset of symptoms) is normal. Which of the following is likely to be the most helpful next step in reaching a conclusive diagnosis?

1- CSF examination for xanthochromia within the next 2 hours

**2- CSF examination with spectrophotometry for haemoglobin breakdown products in 10 hours' time**

3- Computed venography followed by CSF examination for xanthochromia

4- Cranial MRI with gadolinium contrast enhancement

5- 4-Vessel intracerebral angiography

Q3720. A 57-year-old man notices he has had difficulty in walking for a number of months, and slight drooping of his eyelids. On examination he has mild bilateral ptosis, mild weakness of the proximal upper limb muscles with some winging of the scapulas and bilateral foot drop with distal wasting and pes cavus. The reflexes are generally difficult to elicit, and the ankle jerks are definitely absent. Which of the following is the most likely diagnosis?

1- Myasthenia gravis

2- Miller-Fisher syndrome

**3- Fascioscapulohumeral muscular dystrophy**

4- Duchenne's muscular dystrophy

5- Paraneoplastic polymyositis

Q3721. A 32-year old woman develops sudden-onset weakness and numbness of her left arm and leg while taking part in an exercise class. She is on the oral contraceptive pill. There are no other risk factors for stroke identified. On examination she has a mild pyramidal weakness of her left face, arm and leg, left-sided hemisensory loss, a left homonymous hemianopia and leftsided inattention. Brain CT and diffusionweighted MRI both show a recent single infarction in the territory of the right middle cerebral artery. Which of the following mechanisms should be suspected to be the most likely cause pending further investigation?

1- Cardioembolic from atrial septal defect

2- Thromboembolic secondary to carotid atherosclerosis

3- Dissection of basilar artery

**4- Dissection of right carotid artery**

5- Inherited thromboembolic disorder

Q3722. A 20-year-old patient is referred to the tertiary neurology clinic because of a possible diagnosis of Juvenile Parkinson's disease. His symptoms began predominantly with dystonia affecting the lower limbs, but he now has more classical signs of older onset Parkinson's including tremor, bradykinesia and rigidity. You map out his family tree and understand that his sister developed Parkinson's at the age of 16 but that his parents do not have signs of Parkinson's. Which of the following is the most likely mode of inheritance?

1- Autosomal dominant

2- Autosomal dominant with incomplete penetrance

3- Autosomal dominant with genetic anticipation

**4- Autosomal recessive**

5- X-linked

Q3723. A 52-year-old woman on hormone replacement therapy complains of severe headaches associated with photophobia, nausea and occasional vomiting. They typically affect the left side of her head, sometimes with temporary blurring of vision. They persist for up to 12 hours and occur on average once every 6-8 weeks. Which of the following would be the most appropriate first-line medical treatment?

**1- Paracetamol with metoclopramide**

2- Naratriptan tablets

3- Sumatriptan injection

4- Amitriptyline

5- Gabapentin

Q3724. A 62-year-old woman comes to see you. She is suffering from terrible paroxysms of stabbing and burning pain which feel like someone stabbing a hot knife into her cheek, each time they occur lasting for 1-2 minutes. The attacks always occur on the left, can come at any time without warning and when they occur they tend to recur over the course of a couple of the day. Occasionally they can be triggered by a cold wind or by washing the face. Neurological examination is completely normal. Investigations Hb 12.0 g/dl WCC 5.1 x 109 /L PLT 191 x 109 /L ESR 12 mm/hr Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 105 μmol/l Which of the following is the best prophylaxis against further attacks?

**1- Carbamazepine**

2- Amitryptiline

3- Baclofen

4- Diazepam

5- Sertraline

Q3725. Interferon is a licensed treatment in the United Kingdom for which of the following neurological conditions?

1- First episode of optic neuritis

**2- Relapsing remitting multiple sclerosis**

3- Primary progressive multiple sclerosis

4- Motor neurone disease

5- Guillain-Barrè syndrome

Q3726. A 62-year-old man presents with a sudden onset of poor balance and vertigo. On examination he has left-sided cerebellar ataxia. Sensory testing reveals a loss of pinprick and temperature sensation over his right hemitrunk and right arm and leg. He appears to have some numbness over the left side of his face.There is a left-sided ptosis and the left pupil is smaller than the right. Cranial MRI reveals an ischaemic lesion in one of the locations shown below; which would best explain his symptoms and signs?

**1- Left lateral medulla**

2- Right lateral medulla

3- Left medial medulla

4- Left cerebellar hemisphere

5- Left mid-brain at the level of the IIIrd

Q3727. A 48-year-old man, with a history of chronic intravenous drug abuse, presents with a severe subacute neuropathy. Nerve conduction studies show evidence of a multifocal axonal neuropathy. He is also noted to have nailfold infarcts in his hands and feet and hepatomegaly. Which of the following diagnoses is the most likely?

1- Cytomegalovirus polyradiculoneuropathy

2- Systemic toxoplasmosis

3- Hepatitis B-related Guillain-Barrè syndrome

4- Hepatitis C-related Guillain-Barrè syndrome

**5- Hepatitis C-related cryoglobulinaemia**

Q3728. A 45-year-old migraineur presents having had an episode of severe headache of sudden onset associated with nausea and vomiting. He is afebrile with no neck stiffness or photophobia, and the neurological examination is normal. CT of his head performed 12 hours after the onset of symptoms is normal. What is the best course of action?

1- Discharge with analgesia

2- Urgent neurology out-patient appointment

3- MRI (brain)

**4- Lumbar puncture**

5- Monitor for 24 hours

Q3729. A 28-year-old man presents with a drop foot following a sports injury. On examination there is weakness of ankle dorsiflexion and eversion, and weakness of extension of the big toe. He has some sensory loss restricted to the dorsum of his foot surrounding the base of his big toe. Other examination is within normal limits. Where is the most likely site of the lesion?

1- Sciatic nerve at the sciatic notch

2- Tibial nerve at the popliteal fossa

3- Tibial nerve at the ankle

**4- Common peroneal nerve at the head of the fibula**

5- Common peroneal nerve at the ankle

Q3730. A 70-year old man presents with a subacute history of intermittent difficulty in walking, dry mouth and variable slurring of speech. When the latter is severe he also has difficulty in swallowing. He has lost 3 kg in weight in the last 2 months. On examination he has bilateral mild ptosis, dysarthria, and proximal weakness of the upper and lower limbs and is areflexic. The degree of weakness is variable. Nerve conduction studies confirm the clinical suspicion of a neuromuscular junction disorder. Which of the following autoantibodies is likely to be the underlying cause of his neurological symptoms?

1- Anti-Hu paraneoplastic antibody

**2- Anti-voltage-gated, calcium-channel antibody**

3- Anticholinesterase antibody

4- Antiganglioside antibody GQ1B

5- Antiganglioside antibody GM1

Q3731. A 16-year-old girl presents to the Accident and Emergency department with what sounds like a first generalised tonicclonic seizure. This occurred at 0600 h after she had been at an all-night party. Her father is said to have epilepsy and she has a cousin who has 'blank spells' of some kind. Neurological examination is normal. What is the most likely diagnosis?

1- Psychogenic non-epileptic seizure

2- Alcohol-induced seizure

3- Drug-induced seizure

**4- Juvenile myoclonic epilepsy**

5- Mesial temporal lobe epilepsy with

Q3732. A 45-year-old man with epilepsy who is on carbamazepine has a history of mild and stable hepatic impairment. His seizure control is poor and he requires the addition of a second-line agent. Which of the following would be the most appropriate?

**1- Topiramate**

2- Phenytoin

3- Sodium valproate

4- Oxcarbazepine

5- Lamotrigine

Q3733. A 24-year-old man with a family history of congenital myotonic dystrophy visits you for advice about starting a family. He has the typical features of frontal male pattern balding and is beginning to develop features of muscle weakness. He has read on the internet about a phenomenon called "anticipation" which is associated with the condition. What does anticipation mean in this setting?

1- Symptoms develop which prevents fathering children

**2- Symptoms begin at an earlier stage in successive generations**

3- Symptoms are less severe in successive generations

4- Warning signs appear which can pre-date the main symptoms associated with the condition

5- Patients can anticipate the severity of their

Q3734. A 45-year-old woman presents with blurred vision when she goes out in bright light. She has no past medical history of note and drinks 2 glasses of wine per week. On examination her left pupil is markedly more dilated than the right, it is slow to accommodate and you cannot elicit a direct reflex. Investigations; Hb 12.7 g/dl WCC 5.4 x 109 /L PLT 198 x 109 /L Na+ 140 mmol/l K+ 4.9 mmol/l Creatinine 100 µmol/l Glucose 5.1 mmol/l Which of the following additional features might you expect to find on examination?

1- Lack of sweating

**2- Excessive sweating**

3- Nystagmus

4- Ataxia

5- Intention tremor

Q3735. A 40-years-old man has been complaining for the last 2 months of progressive unsteady gait, he also reported attack of blurring of vision 2 years ago which lasted for 3 weeks. He is known to drink fifty units of alcohol weekly. On this most recent visit to the GP he is complaining of more unsteadiness. Examination reveals bilateral weak/ absent reflexes in the lower limbs and spastic weakness. There is loss of pin-prick, light touch and temperature sensation in both feet. Examination of eye movements and visual fields appears normal. Which of the following is the initial investigation most likely to provide a pointer the underlying diagnosis?

1- CT brain

2- MRI brain

3- Nerve conduction studies

**4- Serum cobalamin**

5- Thyroid function testing

Q3736. A 48-year-old pub manager is brought to the Emergency department by his wife. She found him wondering around the bar area at 1am and when challenged he fabricated a story about going to change the beer barrels. On further questioning it appears he has been fabricating other stories to cover for gaps in his memory. On examination in the Emergency room he appears confused and a little angry when you try to test his memory. Neurological examination reveals nystagmus with no other significant neurological findings. He has signs of chronic liver disease with jaundiced sclerae, spider naevi and ascites. Bloods; Hb 11.0 g/dl WCC 5.4 x 109 /L PLT 165 x 109 /L Na+ 136 mmol/l K+ 3.6 mmol/l Creatinine 100 μmol/l Glucose 5.4 mmol/l Which of the following is the most likely diagnosis?

**1- Wernicke’s encephalopathy**

2- Spontaneous bacterial peritonitis

3- Delerium tremens

4- Cerebellar infarct

5- Subacute combined degeneration of the

Q3737. A 28-year-old female artist presents to the neurology clinic. She has suffered two partial epileptic seizures over the past 4 months and it is recommended that she start medication. Investigations; Hb 13.4 g/dl WCC 5.0 x 109 /L PLT 230 x 109 /L Na+ 140 mmol/l K+ 4.8 mmol/l Creatinine 100 μmol/l MRI No focal abnormality identified She is concerned about tremor as a possible drug side effect. Which of the following medications is likely to be least appropriate for her?

**1- Sodium valproate**

2- Phenytoin

3- Primidone

4- Lamotrigine

5- Clonazepam

Q3738. A 16-year-old woman presents to the A&E department complaining of weakness and heaviness of her arms and legs, which has been developing over an hour. She has generalised weakness of all muscle groups in her upper and lower limbs, together with hyporeflexia. Blood tests show: Na 143; K 2.8; Urea 6.2; Creatinine 80; Glucose 4.0; Urine dipstick negative. What is the most likely diagnosis?

1- Myasthenia gravis

2- Ecstasy overdose

3- Paramyotonia congenita

**4- Periodic paralysis**

5- Cocaine overdose

Q3739. A 28-year-old woman presents with transient weakness of her right arm, the right side of her face and disturbance of speech, this resolved over a period of 6hrs. She is 5 months pregnant. Past history of note includes a deep vein thrombosis during her first successful pregnancy and two previous miscarriages. Neurological examination now is unremarkable, BP is 142/80 mmHg. Investigations; Hb 11.2 g/dl WCC 5.4 x 109 /L PLT 221 x 109 /L Na+ 140 mmol/l K+ 4.9 mmol/l Creatinine 90 μmol/l APPT 45.2s PT1 4.6s Which of the following is the most likely cause of her neurological symptoms?

**1- Transient ischaemic attack**

2- Ischaemic stroke

3- Atypical migraine

4- Functional disorder

5- Haemorrhagic stroke

Q3740. A 20-year-old medical student presents with a 6-day history of blurred vision in her right eye and pain on eye movement. On examination she has a reduced acuity of 6/36, impaired colour vision, a relative afferent pupillary defect and a swollen pale optic disc. A diagnosis of optic neuritis is made. She has heard about an association between optic neuritis and multiple sclerosis and asks whether further tests could help to determine her chances of developing this. Which of the following is correct?

1- The presence of unpaired oligoclonal bands in the cerebrospinal fluid does not help to predict the risk of subsequently developing multiple sclerosis

2- Cranial MRI findings do not help to predict the risk of subsequently developing multiple sclerosis

**3- If a cranial MRI shows more than three white-matter lesions, the 5-year risk of subsequently developing multiple sclerosis is around 50%**

4- If a cranial MRI shows more than three white-matter lesions, the 5-year risk of subsequently developing multiple sclerosis is around 95%

5- If a cranial MRI is normal, the 5-year risk of

Q3741. A patient presents with eye pain and diplopia of 2 days' duration. On examination there is no proptosis, but a left sided VIth nerve palsy, a partial left IIIrd nerve palsy, and left Vth nerve sensory changes over the maxilla are present. What is the most likely site of the lesion?

**1- Cavernous sinus**

2- Orbital artery

3- Vertebral artery

4- Anterior cerebral artery

5- Middle cerebral artery

Q3742. A 25-year-old man explains that he has experienced episodes where he is unable to move just before onset of sleep, and just after waking. Each time it occurs it leaves him feeling frightened and anxious. It is sometimes associated with visual disturbances. What is the most likely diagnosis?

1- Panic disorder

**2- Sleep paralysis**

3- Periodic paralysis

4- Night terrors

5- Frontal lobe epilepsy

Q3743. A 64-year-old woman presents with sudden right sided weakness and dysphagia, dysarthria and diplopia. She has a history of hypertension managed with ramipril 10mg daily, and diabetes mellitus managed with metformin 1g BD. Her BP is 165/90 mmHg. A recent HbA1c was 8.2%. Where is the most likely site of her lesion?

1- Right pons

**2- Left pons**

3- Left internal capsule

4- Left hemisphere

5- Right cerebellum

Q3744. A 32-year-old woman comes to the neurology clinic for review with a diagnosis of complex partial seizures. She has had intolerable side effects previously with carbamazepine and sodium valproate and may wish to start a family with her new partner. Which of the following would be the most appropriate next option for her?

**1- Lamotrigine**

2- Levatiracetam

3- Phenobarbitone

4- Topiramate

5- Gabapentin

Q3745. A 59-year-old patient who is a known hypertensive presents with confusion, blurred vision, vomiting and a severe headache. You understand from his wife that he fell in the shower at the weekend and knocked his head. On examination he is conscious although confused, there are no focal cranial nerve deficits and no peripheral sensory or motor deficits. His BP is markedly elevated at 175/115 mmHg. He looks short of breath and there are bibasal crackles consistent with heart failure on auscultation of the chest. Investigations Hb 13.5 g/dl WCC 5.0 x 109 /L PLT 190 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 185 μmol/l Fundoscopy – Severe hypertensive retinopathy with haemorrhages and papilloedema What is the most likely cause of his symptoms?

1- Viral encephalopathy

2- Subdural haematoma

3- Subarachnoid haemorrhage

4- Diabetic retinopathy

**5- Hypertensive encephalopathy**

Q3746. A right handed 70-year-old male patient presents with sudden weakness in the right arm and right leg with right hemisensory loss and aphasia. He has a history of hypertension for which he takes ramipril 10mg and he smokes 20 cigarettes per day. What is the most likely site of the lesion?

1- Posterior cerebral artery

2- Anterior cerebral artery

**3- Middle cerebral artery**

4- Posterior inferior cerebral artery

5- Vertebral artery

Q3747. A 56-year-old woman presents with severe stabbing pain over the left maxillary region of the face over the past few months, no obvious illness preceded the onset of the problem. The pain occurs several times per day and lasts anything from a few seconds to 1-2 minutes, it can be brought on simply by touching the area. Sometimes the pain is accompanied by brief muscle spasms. Neurological examination is entirely normal. Which of the following is the most likely diagnosis?

1- Cluster headache

2- Atypical migraine

3- Temperomandibular joint dysfunction

**4- Trigeminal neuralgia**

5- Post-herpetic neuralgia

Q3748. A 75-year-old woman presents with two episodes of right, painless, transient, monocular visual loss lasting up to a minute: each episode was like a curtain descending from the upper visual field to affect the whole vision of her right eye. Neurological examination is normal. Her blood pressure is 120/80 mmHg. ESR, glucose and lipids are all within the normal ranges. Resting ECG shows sinus rhythm and a 24hr tape reveals no arrhythmias. CT brain is normal. Doppler of the carotid arteries shows a 40% stenosis of the right internal carotid artery. What is the treatment of choice?

**1- Aspirin**

2- Prednisolone

3- Right carotid artery angioplasty

4- Right carotid artery endarterectomy

5- Warfarin

Q3749. A 37-year-old woman presents with a one-year history of increasing deafness and tinnitus in her right ear. Her right corneal reflex is absent, there is hearing loss in her right ear with air conduction greater than bone conduction, and Weber's test lateralises to the left. What is the most likely diagnosis?

**1- Acoustic neuroma**

2- Basilar artery aneurysm

3- Multiple sclerosis

4- Meningioma

5- Ménétrier's disease

Q3750. A 30-year-old man is brought to the emergency department with severe confusion and ataxia. On examination he has bilateral VIth nerve palsies and gait ataxia. He is disoriented in time and place. A full blood count shows an MCV of 110 fl. CT brain and EEG are both normal. What immediate treatment should be administered?

1- Intravenous aciclovir

2- Intravenous cefuroxime

3- Intravenous dexamethasone

4- Intravenous diazepam

**5- Intravenous thiamine**

Q3751. A 65-year-old man presents with sudden-onset visual disturbance. He denies any other symptoms. He is known to be a heavy smoker and hypertensive. On examination he has a right incongruous homonymous hemianopia. Where is the most likely site of the lesion?

1- Left occipital lobe

2- Left optic nerve

**3- Left optic tract**

4- Left temporal lobe

5- Optic chiasma

Q3752. A 45-year-old man presents with weakness of his right upper limb. On examination, there is weakness of the right triceps, brachioradialis and extensor digitorum profundus. Sensation is normal. The right triceps jerk is absent. There is some wasting of the dorsum of the forearm. Where is the most likely site of the lesion?

1- C6 radiculopathy

2- C7 radiculopathy

3- Right brachial plexus

4- Right posterior interosseous nerve

**5- Right radial nerve**

Q3753. A 17-year-old girl was admitted to the accident and emergency department after suffering a generalised tonic-clonic seizure at 0700 h. She admits she went to a nightclub the night before and only went to bed at 0100 h. A detailed history reveals that her upper limbs twitch daily in the early morning, but only for a few seconds. Neurological examination is normal. CT brain is normal. An out-patient EEG is requested. What is the most likely diagnosis?

1- Diagnosis cannot be made with the above information

2- Frontal lobe epilepsy

**3- Juvenile myoclonic epilepsy**

4- Symptomatic epilepsy

5- Temporal lobe epilepsy

Q3754. A 40-year-old man has developed progressive weakness and wasting of both upper limbs over the last 5 months. He has noticed that his grip is poor, being worse on the right, and some muscles have become thinner. He has also noticed some 'flickering' of the muscles, particularly over the right thenar eminence and the left forearm. There are no sensory symptoms. On examination the asymmetrical weakness and wasting is confirmed, as well as intermittent fasciculation. The upper limb deep tendon reflexes are all present with reinforcement. Neurological examination is otherwise normal. He undergoes nerve conduction studies and electromyography, which show evidence of demyelination and conduction block in his upper limbs, and normal sensory conduction. Which is the most likely diagnosis?

1- Bilateral brachial neuritis

2- Paraneoplastic brachial plexopathy

3- Chronic inflammatory demyelinating polyneuropathy

**4- Multifocal motor neuropathy**

5- Motor neurone disease

Q3755. A 40-year-old man presents with a 5-year history of weakness of his right hand and left foot. There has been a slow progression over the last 2 years. On examination he has a right wrist drop and a left foot drop. Nerve conduction studies and EMG show evidence of motor neuropathy of the right radial nerve and left common peroneal nerve with conduction block. Sensory action potentials are normal. MRI of the whole spine is normal. What is the treatment of choice?

1- Azathioprine

2- Beta-interferon

**3- Immunoglobulins**

4- Prednisolone

5- Riluzole

Q3756. A 35-year-old man presented with a 2-day history of diplopia, dysarthria and dysphagia. During the next 24 hours he developed a dry mouth, breathlessness and progressive weakness of his upper and lower limbs initially affecting the proximal muscles. On examination, he has fixed dilated pupils, generalised ophthalmoplegia, dysarthria and bilateral pharyngeal weakness. His cough is weak. He has a global weakness of his upper and lower limbs. Tone is normal, reflexes depressed and plantar responses flexor. Sensation is normal. General medical examination is normal. What is the most likely diagnosis?

**1- Botulism**

2- Guillain-Barrè syndrome

3- Myasthenia gravis

4- Motor neurone disease

5- Poliomyelitis

Q3757. A 35-year-old man presents with paroxysmal episodes of severe right periocular pain lasting 15-40 minutes associated with redness of the right eye, lacrimation and nasal congestion. The episodes seem to be very stereotyped and occur around 01:00 h. The attacks occur over a period of 6-8 weeks and then seem to remit, only to occur again after 6-8 months. What is the prophylactic treatment of choice?

1- Amitriptyline

2- Aspirin

**3- Lithium**

4- Propranolol

5- Sumatriptan

Q3758. A 40-year-old woman was brought unconscious to the accident and emergency department. On recovery she is found to have impaired visual acuity (RVA 6/24, LVA 6/36). Her blood pressure is 90/60 mmHg. Her electrolytes are abnormal, with a sodium level of 130.0 mmol/l and a potassium level of 6.5 mmol/l. Her previous medical history includes amenorrhoea for the last 5 years. What treatment should be administered urgently?

1- Intravenous aciclovir

2- Intravenous cefuroxime

**3- Intravenous hydrocortisone**

4- Intravenous phenytoin

5- Intravenous thiamine

Q3759. A 30-year-old woman presents with paroxysmal episodes of vertigo, vomiting and impaired hearing on the right side lasting for 1-4 hours. She has experienced eight such episodes over the last 12 months. Neurological examination shows evidence of right sensorineural deafness. An audiogram confirms the presence of right low-frequency sensorineural deafness. CT brain is normal. What is the most likely diagnosis?

1- Acoustic neuroma

2- Benign paroxysmal positional vertigo

**3- Ménétrier's disease**

4- Labyrinthitis

5- Vertebrobasilar insufficiency

Q3760. A teacher presents with a two-week history of increasing malaise, tingling in her hands and feet and difficulty in walking. There is symmetrical distal weakness that is worse in her legs, absent lower limb reflexes, reduced sensation to pinprick and light touch to the knee bilaterally. Lumbar puncture shows an acellular CSF with a raised protein level. Which of the following factors confers the worst prognosis for this illness?

1- Female sex

2- Gradual onset

**3- Previous history of diarrhoeal illness**

4- Level of protein greater than 1.5 g/l in CSF

5- Age less than 40 years

Q3761. A 50-year-old man presents with symptoms of oscillopsia. On examination he is found to have a nystagmus in which the direction of the fast and slow component alternates every 2 minutes. Where is the most likely site of the lesion?

**1- Cerebellum**

2- Medulla

3- Mid-brain

4- Optic chiasma

5- Pons

Q3762. A 60-year-old man with chronic atrial fibrillation is on warfarin. He has had two unprovoked tonic-clonic seizures that were witnessed by his wife. CT brain shows only some diffuse ischaemic changes in the white matter. The GP wants to start him on an antiepileptic drug. Which of the following antiepileptic drugs does not have important drug interactions with warfarin?

1- Carbamazepine

**2- Lamotrigine**

3- Phenytoin

4- Phenobarbital

5- Primidone

Q3763. A 75-year-old man is noted by his family to be increasingly confused. His mental state fluctuates considerably and he appears to be hallucinating at times. His daughter commented that his gait has become abnormal over the preceding months, and that his GP had tried a tablet for the nocturnal confusion that apparently made him much worse. On examination he has a Mini-Mental score of 20/30, has generally increased tone and difficulty in performing rapidly alternating movements. His tendon reflexes are slightly brisk but the plantar responses are normal and no primitive reflexes are detected. Which of the following is the most likely explanation of this clinical scenario?

1- Vascular dementia

2- Senile dementia of Alzheimer's type

3- Creutzfeldt-Jakob disease

4- Temporal variant of frontotemporal dementia

**5- Dementia with Lewy bodies**

Q3764. A 32-year-old nurse presents to the Emergency Department for review. She has a history of increasing shortness of breath particularly when she lays flat in bed and weakness affecting her legs over the past few days. She remembers a diarrhoeal illness a few days earlier that she attributes to off milk. On examination oxygen saturations are 90% on air and she has absent lower limb reflexes bilaterally. You arrange a lumbar puncture which shows raised protein in the CSF but no organisms. Which of the following is the most appropriate acute treatment for her underlying condition?

1- Edrophonium

2- Physiotherapy

3- IV corticosteroids

**4- Plasma exchange therapy**

5- Non-steroidal anti-inflammatory agent

Q3765. A 50-year-old man presents with a 6-day history of poor balance, worsening double vision and slurred speech. The symptoms began after a flu-like illness. On examination he has impaired eye movements in all directions of gaze, mild dysarthria and bilateral ataxia. None of his tendon reflexes can be elicited and the plantar responses are flexor. Which of the following is the most likely diagnosis?

1- Guillain-Barrè syndrome

**2- Miller-Fisher syndrome**

3- Paraneoplastic neuropathy

4- Cytomegalovirus polyradiculoneuropathy

5- Lambert-Eaton myasthenic syndrome

Q3766. A 56-year-old man has a right hemisphere stroke due to thromboembolic occlusion of the right middle cerebral artery. He does not have a visual field deficit on confrontation testing, and makes a good neurological recovery within 5 days, being able to walk unaided. He is left with a mild degree of left-sided sensory loss and minimal weakness of left hand grip (4+/5), but feels very well and has resumed all other activities including gardening. What advice is he likely to be given by the Driving and Vehicle Licensing Authority (DVLA)?

1- No driving restriction necessary

**2- Must not drive for 1 month**

3- Must not drive for 3 months

4- Must not drive until neurological signs fully resolved

5- Must not drive a Group 2 vehicle (eg heavy

Q3767. After undergoing a right temporal lobectomy for intractable epilepsy, a 30-yearold man is found to have a visual field defect postoperatively. Which of the following is most likely to be found?

1- Left homonymous hemianopia

2- Right superior quadrantanopia

**3- Left superior quadrantanopia**

4- Right inferior quadrantanopia

5- Left inferior quadrantanopia

Q3768. A 56-year-old man has an ischaemic stroke following right carotid artery thrombotic occlusion, and has clinical signs of a right total anterior artery stroke. As well as left hemiparesis and left homonymous hemianopia, which clinical sign of parietal lobe dysfunction might you expect to find?

1- Receptive dysphasia

2- Acalculia

**3- Inability to copy a drawing of a clock-face**

4- Right-left confusion

5- Agraphia

Q3769. After a traumatic injury to her left upper limb, a 36-year-old woman presents with acute weakness and numbness of her left arm. On examination she has a wrist drop with weakness of the extensor digitorum longus, brachioradialis and triceps muscles. There is sensory loss over the posterior forearm and a small area of numbness over the dorsum of her hand. The triceps reflex is diminished but other reflexes are intact. Where is the likely anatomical location of the nerve injury?

1- Lateral cord of the brachial plexus

2- Medial cord of the brachial plexus

3- Proximal median nerve in the axilla

**4- Radial nerve in the spiral groove of the humerus**

5- Ulnar nerve in the ulnar groove

Q3770. A 70-year-old man presents with a 12-month history of intermittent confusion and visual hallucinations. On examination he has bilateral rigidity and bradykinesia with normal power, reflexes and sensation. Plantar responses are flexor. General medical examination is normal. CT brain scan is normal. What is the most likely diagnosis?

1- Alzheimer's disease

**2- Diffuse Lewy body disease**

3- Idiopathic Parkinson's disease

4- Normal-pressure hydrocephalus

5- Prion disease

Q3771. A 20-year-old woman presents with a 6-day history of progressive ascending numbness and weakness of her lower and, subsequently, upper limbs. The day after admission to the general medical unit she is noted to have developed bilateral facial weakness. She is areflexic. The neurology registrar on call has advised performing a lumbar puncture pending transfer to the neurology unit that day. Which of the following cerebrospinal fluid findings would be most likely?

1- Elevated lymphocyte count with a low CSF:serum glucose ratio

2- Elevated polymorph count and high protein

**3- Normal cell count, high protein and normal glucose ratio**

4- Normal cell count, high protein and positive oligoclonal bands

5- Normal cell count, normal protein and

Q3772. A 75-year-old woman had a left total hip replacement yesterday. Today she has developed weakness and numbness of her left foot. On examination there is weakness of all ankle movements (dorsiflexion, plantarflexion, eversion and inversion) and numbness over the dorsum of her foot and lateral aspect of her leg. The left ankle jerk is absent. Where is the most likely site of the lesion?

1- Left common peroneal nerve

2- Left femoral nerve

3- Left obturator nerve

**4- Left sciatic nerve**

5- Left tibial nerve

Q3773. A 22-year-old man develops a depressive illness that fails to respond to drug treatment. He complains of pins and needles over the left-hand side of his body. Within 5 months his gait has become unsteady and he has difficulty in performing fine-motor tasks. On examination he has a depressed affect with mild short-term memory impairment and difficulty in copying a clock-face diagram. There are bilateral cerebellar signs and the reflexes are all pathologically brisk with equivocal plantar responses. He has occasional writhing movements of his left upper limb. A clinical diagnosis of variant Creutzfeldt-Jakob disease is suspected. A cranial MRI is performed. Which of the following MRI findings would be supportive of this diagnosis?

1- Normal scan

2- Diffuse white-matter disease on T2- weighted imaging

3- Increased signal in the caudate nucleus

**4- Increased signal in the pulvinar of the thalamus**

5- Increased signal in the pineal body

Q3774. A 59-year-old man has shown a change in his mood and personality over a 9- month period. He has subsequently developed difficulty with memory and concentration, and then progressive 'fidgety' movements of his limbs and facial musculature. By the time of medical assessment he has frank choreiform movements and a Mini-Mental State Examination of 21/30. Other examination is normal. He was adopted and therefore no information on his family history is available. He has three adult children (aged 27, 30 and 33 years) who are asymptomatic. Based on the likely clinical diagnosis, which of the following genetic patterns of this condition is most likely?

**1- Autosomal-dominant inheritance with anticipation**

2- Autosomal-dominant with variable penetrance

3- Autosomal-recessive inheritance

4- X-linked inheritance

5- Mitochondrial disorder

Q3775. A 55-year-old woman presents with a tremor. This mainly affects her hands but she has also noticed that her head has a tendency to nod, especially when she is under stress or embarrassed. The hand tremor is worse when she is carrying things such as a cup and saucer. She has noticed that the symptoms are improved when she drinks alcohol. Her mother had a similar tremor. Examination reveals a 4-6 Hz tremor, most marked when her arms are outstretched, and titubation. She has difficulty in neatly copying a spiral diagram. Other neurological examination is normal. Thyroid function is normal. Based on the likely clinical diagnosis, which of the following treatments would be the most appropriate first-line therapy?

1- An L-dopa preparation

2- A dopa-decarboxylase inhibitor

3- Clonazepam

4- Gabapentin

**5- Propanolol**

Q3776. A 30-year-old woman presents with an intermittent attack disorder. She describes that she has a 'funny feeling' in her head at the onset of an attack but is unable to give any more history. The description from her partner is that she looks pale and distressed, and then collapses to the floor. She occasionally has some shaking or twitching movements of her arms and legs, but more often lies still for the duration of the attack. During them she is unresponsive. The attacks last from 15 to 30 minutes. Afterwards she may appear 'dazed' and doesn't know what has happened but always recognises her family. Occasionally she seems upset and cries after the attack. The attacks occur on average once a fortnight and they are all similar. Clinical examination, including lying and standing blood pressure, routine blood tests and 12-lead ECG, is normal. Which of the following would be the most appropriate next investigation to try and reach a definitive diagnosis?

1- Ambulatory blood pressure monitoring

2- 24-hour ambulatory ECG

3- Cardiac memo prolonged ECG recording

4- 48-hour ambulatory EEG with ECG

**5- Video-EEG recording**

Q3777. A 39-year-old man notices that he sustained a burn to his right hand while cooking, without being aware of it. On further questioning he admits that his grip on the same side has become gradually weaker over several months. On examination he has wasting and weakness of the right intrinsic hand muscles, with occasional fasciculation seen in the abductor pollicis brevis. There is sensory loss to pinprick and temperature over his right arm and trunk in a hemicape distribution. He has a right Horner's syndrome. His lower limbs have normal power but slightly increased tone, brisk reflexes and extensor plantar responses. The remainder of the examination is normal. Which of the following is the most likely explanation for his symptoms and signs?

**1- Syringomyelia**

2- Meningioma of the cervical cord

3- Neurofibromas in the cervical cord and brachial plexus

4- Primary progressive multiple sclerosis

5- Motor neurone disease

Q3778. A 30-year-old pregnant woman presents with malaise, headache, diarrhoea and neck stiffness. On examination she has a temperature of 38.2°C and mild meningism. Her general practitioner had prescribed oral antibiotics earlier that day. After a CT brain scan, which was normal, CSF examination shows a slightly elevated protein of 0.6 g/dl, a white cell count of 200/ mm3 (mostly lymphocytes), CSF glucose level of 3.3 mmol/l and blood glucose of 4 mmol/l. Which of the following is the most likely diagnosis?

**1- Viral meningitis due to echovirus**

2- Partially treated streptococcal meningitis

3- Listeria meningitis

4- Cryptococcal meningitis

5- Tuberculous meningitis

Q3779. A 50-year-old woman presents following a fall. She reports pain and weakness in her hands for several months, stiff legs and swallowing difficulties and has bilateral wasting of the small muscles of her hands. Reflexes in the upper limbs are absent. Tongue fasciculations are present and both legs show increased tone, pyramidal weakness and hyperreflexia with extensor plantars. Pain and temperature sensation is impaired in the upper limbs. What is the most likely diagnosis?

1- Multiple sclerosis

2- Motor neurone disease

**3- Syringobulbia**

4- Syringomyelia

5- Cervical spondylosis

Q3780. A 35-year-old man presents to Accident and Emergency complaining of severe pain in his lower back after lifting a heavy box at work. The pain radiates to his right buttock and thigh. He has had no urinary symptoms. On examination he can straightleg raise to 90 degrees on the left side, but only to 30 degrees on the right. Sciatic stretch test is positive. He has difficulty plantar flexing his right ankle and has abnormal sensation on the plantar aspect of the foot. His right ankle reflex is absent, but all other reflexes are normal. There is no other sensory disturbance. The MOST likely diagnosis is?

1- Cauda equina syndrome

2- L3/L4 disc prolapse

3- L4/L5 disc prolapse

**4- L5/S1 disc prolapse**

5- Old Scheuermann's disease

Q3781. Which of the following findings best supports a diagnosis of multiple sclerosis?

1- CSF protein of > 1.2 g/dl

**2- Intrathecal synthesis of IgG**

3- Low CSF : serum glucose ratio

4- Multiple grey matter lesions on MRI

5- Normal visual evoked potentials

Q3782. A 32-year-old intravenous drug abuser is admitted with a one-day history of double vision, droopy eyelids and a dry throat. Over the next 24 hours, her symptoms worsen and she begins to notice limb weakness and breathing difficulties. Examination reveals poorly reactive pupils, decreased deep-tendon reflexes and symmetrical upper and lower limb weakness, but sensation is normal. Cerebrospinal fluid examination is normal. The edrophonium test is positive. Electromyography shows no postactivation exhaustion. What is the most likely diagnosis?

**1- Botulism**

2- Lambert-Eaton syndrome

3- Miller-Fisher variant of the Guillain-Barrè syndrome

4- Myasthenia gravis

5- Poliomyelitis

Q3783. A 24-year-old woman presents with weight loss and is found to be biochemically hyperthyroid. She is started on carbimazole but after two weeks describes progressive visual blurring. Her corrected visual acuities are 6/12 bilaterally and she has impairment of colour vision bilaterally. There is no proptosis and pupillary reactions are normal. What are her symptoms most likely to be due to?

1- Adverse drug reaction

2- Optic atrophy

**3- Optic nerve compression**

4- Infiltration of the optic nerve

5- Embolic phenomena

Q3784. A 25-year-old woman weighing 90 kg and 162 cm tall presents with visual loss and headaches. On examination she has a sixth nerve palsy and papilloedema. MRI of the brain is normal. What is the most likely diagnosis?

**1- Benign intracranial hypertension**

2- Venous sinus thrombosis

3- Paraneoplastic syndrome

4- Normal pressure hydrocephalus

5- Hypoparathyroidism

Q3785. A 40-year-old woman presents to the Emergency Department with a 12 hour history of vomiting and headache. She has recently received a prescription from her GP for sinusitis. Examination of her cerebrospinal fluid demonstrates a lymphocytic pleocytosis, mildly elevated protein, normal glucose and negative Gram stain. What is the most likely diagnosis?

1- Cryptococcal meningitis

2- Meningeal carcinomatosis

**3- Partially treated bacterial meningitis**

4- Syphilitic meningitis

5- Tuberculous meningitis

Q3786. A 78-year-old man attends for review; his relatives are concerned that he is becoming mentally 'slow' and rather forgetful. Which of the following features would suggest Lewy body dementia?

1- Paucity of extrapyramidal signs

2- Disinhibition

3- Emotional lability

4- Good response to dopaminergic therapy

**5- Detailed visual hallucinations**

Q3787. A 60-year-old hypertensive man who is a non-smoker presents to the Emergency Department with a sudden onset of headache, vomiting and vertigo. On neurological examination he has marked ataxia on the left-hand side of his body. Two hours later his pupils have become small and symmetrical, his breathing has become irregular and he cannot move one side of his body. What is the next step in his management?

**1- CT of the head**

2- Electroencephalogram

3- Intravenous naloxone

4- Lumbar puncture

5- MRI of the brainstem

Q3788. A 48-year-old man presents with a five year history of progressive weakness, worse on the right and affecting the arms more than the legs. In addition, he describes intermittent cramps and muscle twitching. On examination you find distal weakness with wasting and fasciculations, predominantly affecting the right arm. There are no other neurological abnormalities. Electromyography/nerve conduction study reveals features of demyelination and conduction block limited to motor neurones. What is the most appropriate next investigation to perform?

**1- Anti-GM1 antibodies**

2- CSF for anti-Hu antibodies

3- MRI of cervical cord

4- Anti-GQ1b antibodies

5- Sural nerve biopsy

Q3789. A 55-year-old man presents with a resting tremor of his right arm and a diagnosis of idiopathic Parkinson's disease is made. Which one of the following drugs is most likely to help his tremor?

1- Amantadine

**2- Benzhexol**

3- Cabergoline

4- Co-careldopa

5- Selegiline

Q3790. A 60-year-old man presents with an episode of memory loss. Three days earlier he had become confused. His wife led him into the house - he apparently sat down at her request, and had a cup of tea. He then wandered around the house, confused, but remained conscious and able to have some conversation with his wife, though continuing to ask similar questions repeatedly. After three hours, he abruptly returned to normal and had no recollection of the events. What is the most likely diagnosis?

1- Alcohol-related amnesia

2- Chronic subdural haematoma

3- Complex partial status epilepticus

4- Hysterical fugue state

**5- Transient global amnesia**

Q3791. A teenage girl presents with Guillain–Barré syndrome. Her weakness continues to worsen after admission to hospital. Which of the following should be used to monitor her?

1- Arterial blood gases

2- Chest expansion size

3- Forced expiratory volume 1/forced vital capacity (FEV1/FVC) ratio

4- Peak expiratory flow rate (PEFR)

**5- Vital capacity**

Q3792. A woman came with collapse and vomiting preceded by occipital headache of acute onset. After 8 hours, she was conscious, alert with photophobia but no neck stiffness. computed tomography (CT) brain scan was carried out and was normal. Which of the following investigations would yield the diagnosis?

1- Computed tomography (CT) scan of the brain with contrast

2- Magnetic resonance imaging (MRI) brain

**3- Cerebrospinal fluid (CSF) examination after 12 hours has elapsed**

4- Cerebral angiography

5- Repeat CT scan of the brain in 24 hours

Q3793. A 60-year-old engineer who was previously well was found collapsed on the floor. When he was admitted, examination revealed weakness of the right side of his body, with his arm and face more severely affected than his leg, and severe aphasia. What is the most likely diagnosis?

1- A tumour of the left cerebral hemisphere

2- A tumour of the left thalamus

3- An occlusion of the left anterior cerebral artery

**4- An occlusion of the left middle cerebral artery**

5- An occlusion of the right anterior cerebral

Q3794. A 67-year-old man with a history of Type 2 diabetes and hypertension attends the general practitioner with his wife. She is concerned about a sudden deterioration in his speech. Whilst he appears to be understanding what his wife says to him, she is concerned that his responses have become halting and non-fluent, and he appears to be expending great effort when he talks. He can however repeat phrases when asked. You suspect that he has transcortical motor aphasia. He is right handed. Which of the following areas of the brain is most likely to have been affected?

1- Orbito-frontal region

**2- Inferior frontal gyrus**

3- Parietal lobe

4- Occipital lobe

5- Temporal lobe

Q3795. A 21-year-old man describes episodes of drowsiness during the day that can come on suddenly and at any time. He also tells you that, on a number of occasions, he has awoken early in the morning with the feeling that he cannot move his arms and legs, which he finds very frightening. On examination there are no neurological abnormalities. Which investigation would be most useful in arriving at a diagnosis?

1- MRI of the brain

2- Single photon emission CT (SPECT)

**3- Multiple sleep latency EEG**

4- EEG with photic stimulation

5- HLA typing

Q3796. A 16-year-old girl presents with a resting tremor of both arms. She is dysarthric and ataxic with some grimacing of facial musculature. What is the most likely diagnosis?

1- Alzheimer's disease

2- Functional illness

3- Huntington's chorea

4- Neuroacanthocytosis

**5- Wilson's disease**

Q3797. A 73-year-old man presents with wasting of both thenar and hypothenar eminences, with weakness of thumb abduction, thumb flexion, and finger abduction and adduction. Sensory loss to pinprick is present over the ulnar border of the hand and forearm. The remainder of the neurological examination is normal. What is the most likely site of the lesion?

1- T1 nerve root

2- Median nerve at the wrist

3- Ulnar nerve at the elbow

**4- Lower cord of the brachial plexus**

5- Anterior interosseous nerve

Q3798. A 56-year-old man develops arm weakness after an injury to his elbow. He has weakness of the long flexors of the right thumb and index finger, and is unable to pronate his forearm on that side. Which nerve is most likely to be damaged?

1- Radial nerve

2- Median nerve

**3- Anterior interosseous nerve**

4- Posterior interosseous nerve

5- Ulnar nerve

Q3799. An 83-year-old woman is brought to clinic by her son. She lives independently, but her son has noticed that she has become increasingly forgetful over the last six months. There are no neurological abnormalities on examination. Which of the following features would most support a diagnosis of early Alzheimer's disease?

1- Mutism

2- Disorientation in space and time

3- Disinhibition

4- Drowsiness

**5- Word-finding difficulties**

Q3800. A patient with Parkinson's disease on treatment with l-dopa and a dopadecarboxylase inhibitor is experiencing troublesome tremor. Which drug would be most suitable to add to the treatment regimen?

1- Amantadine

**2- Benzhexol**

3- Selegiline

4- Propranolol

5- Ropinirole

Q3801. A 55-year-old woman presents with a four year history of memory loss and difficulty speaking. She has also been noted to be abulic and apathetic. On examination she has difficulty in naming some common objects and is also noted to have some positive grasp and palmomental reflexes. What is the most likely diagnosis?

**1- Pick's disease**

2- Corticobasal degeneration

3- Alzheimer's disease

4- Wilson's disease

5- Creutzfeldt-Jakob disease

Q3802. A 20-year-old man with known epilepsy presents in status epilepticus. He has not responded to 10mg rectal diazepam and has been having a seizure for 10 minutes. Blood glucose is normal. What is the most appropriate next treatment?

1- Diazepam 10 mg intravenously

2- Fosphenytoin 1500 mg intravenously

**3- IV lorazepam 0.1 mg/kg**

4- Phenobarbital 700 mg intravenously

5- Propofol infusion

Q3803. A 42-year-old woman presents with a three-month history of progressive difficulty with speech and swallowing. On examination she is dysarthric, with a brisk gag reflex. Tone is increased in all four limbs, with a pyramidal distribution of weakness. Sensation is normal. What is the most likely diagnosis?

1- Brainstem glioma

2- Cervical myelopathy

3- Guillain-Barrè syndrome

**4- Motor neurone disease**

5- Multiple sclerosis

Q3804. A 19-year-old female presents with a four-week history of severe progressive incapacitating headaches. She spends most of her time lying flat, as in this position she is headache-free. She has no other complaints. She is using up to eight aspirin tablets a day. She suffered from migraine until the age of 13 years. Examination is unremarkable. What is the most likely diagnosis?

1- Chronic daily headache secondary to analgesic overuse

2- Idiopathic intracranial hypertension

3- Migraine

**4- Spontaneous intracranial hypotension**

5- Tension headache

Q3805. A 32-year-old man has a four day history of progressive weakness in his extremities. He has been healthy except for an upper respiratory tract infection 10 days ago. His temperature is 37.8°C, blood pressure is 130/80 mmHg, pulse 94/min and respiratory rate 42/min. He has symmetrical weakness of both sides of the face and of the proximal and distal muscles of the extremities. Sensation is intact. No tendon reflexes can be elicited and the plantar responses are flexor. Which of the following is the most likely diagnosis?

1- Acute disseminated encephalomyelitis

**2- Guillain-Barrè syndrome**

3- Myasthenia gravis

4- Poliomyelitis

5- Polymyositis

Q3806. A 38-year-old man presents to the Emergency Department with an explosive headache, vomiting and photophobia. On initial assessment, there is marked neck stiffness. Cranial nerve examination reveal a dilated right pupil, unreactive to light and accommodation. Eye movements are painful and he is unable to adduct, elevate or depress his right eye on conjugate gaze. There are no other neurological findings. What is the most likely diagnosis?

1- Cerebral glioma with raised intracranial pressure

2- Diabetes mellitus

3- Intracerebral haemorrhage

4- Ruptured anterior communicating artery aneurysm

**5- Ruptured posterior communicating artery**

Q3807. A 28-year-old woman presents two hours after the sudden onset of an intense frontal headache. An urgent CT scan of the head is normal. What is the most appropriate next step in her management?

1- Urgent MRI of the brain

**2- Lumbar puncture**

3- Cerebral angiography

4- Discharge with analgesia

5- Oral nimodipine

Q3808. A 78-year-old man presents with sudden onset of the loss of sensation of pain and temperature over his left face and right side of the body. In addition to these sensory abnormalities, there is a left-sided Horner's syndrome. Which blood vessel is most likely to be involved?

1- Basilar artery

2- Left anterior cerebral artery

3- Left middle cerebral artery

4- Left posterior cerebral artery

**5- Left posterior inferior cerebellar artery**

Q3809. You are called to see a 23-year-old woman who, after delivery, developed severe diarrhoea and vomiting over 24 hours. Despite intravenous fluid replacement she has become confused, had a generalised tonic-clonic seizure and developed a left hemiparesis. What is the most likely cause?

1- Amniotic fluid embolism

2- Eclampsia

3- Severe hyponatremia

**4- Sagittal sinus thrombosis**

5- Vertebral artery dissection

Q3810. A 45-year-old woman has developed gradually increasing breathlessness on minimal exertion over two months. Her vital capacity is 3 litres when sitting and 1.4 litres when lying. Physical examination reveals a mild bilateral ptosis. There are no other abnormal neurological findings. What is the most likely diagnosis?

1- Guillain-Barrè syndrome

2- Motor neurone disease

**3- Myasthenia gravis**

4- Myotonic dystrophy

5- Polymyositis

Q3811. An alcoholic man presented to the Emergency Room with confusion for 4 days. He is known to be a heavy drinker. Clinically, he was alert but confused. He had a mild leftsided hemiparesis. Blood investigation: haemoglobin (Hb) 10.1g/dl, White cell count (WCC) 12.0 x 109 /L, platelet 125 x 109 /L . Which of the following is the most likely diagnosis?

1- Cerebral abscess

2- Wernicke-Korsakoff syndrome

**3- Chronic subdural haematoma**

4- Sub-arachnoid haemorrhage

5- Encephalitis

Q3812. A 38-year-old woman presents with a no-no head tremor and tremor of the right hand. There are no other neurological abnormalities. What is the most appropriate initial treatment?

1- Botulinum toxin

**2- Propranolol**

3- Selegiline

4- l-Dopa

5- Amantadine

Q3813. A 72-year-old woman was referred to the neurology clinic with a history of mental deterioration. Her GP had noticed rigidity with bradykinesia but initial response to levodopa therapy has been poor. Most recently she has had a number of falls and has become incontinent of urine. On examination she is hypotensive with a postural drop of 35 mmHg. She is confused with a Mini-Mental State Score of 11/18. There is bradykinesia, tremor and rigidity. Additional cerebellar signs are noted. Which of the following diagnoses fits best with this clinical picture?

1- Parkinson's disease

**2- Multi-system atrophy**

3- Pick's disease

4- Progressive supra-nuclear palsy

5- Amyotrophic lateral sclerosis

Q3814. A 67-year-old woman with Alzheimer's disease currently on lorazepam and haloperidol presents with increasing immobility associated with falls. What is the most likely diagnosis?

1- Deteriorating Alzheimer's disease

**2- Drug-induced parkinsonism**

3- Subdural haematoma

4- Vascular infarct

5- Brain tumour

Q3815. A 23-year-old woman complains of double vision. On horizontal eye movement examination, she has nystagmus of the left eye and impaired adduction of the right eye when she tries to look to the left. Her other eye movements are normal. What is the likely anatomical location of the pathology?

1- Left cerebellar peduncle

2- Left lateral medulla

3- Left medial longitudinal fasciculus

**4- Right medial longitudinal fasciculus**

5- Right IIIrd cranial nerve nucleus

Q3816. A patient with HIV presents with progressive memory loss. His Computed tomography (CT) scan shows brain atrophy. What is the most likely diagnosis?

1- Toxoplasmosis

2- Cytomegalovirus infection

3- Lymphoma

4- Progressive diffuse leucoencephalopathy

**5- HIV-dementia**

Q3817. A 35-year-old man has been suffering from evening headaches starting from his neck and reaching over the occipital area for the last 4 weeks. What is the most likely diagnosis?

1- Cluster headache

**2- Tension headache**

3- Normal pressure hydrocephalus

4- Migraine

5- Fibromyalgia

Q3818. A 27-year-old female who delivered a healthy baby 36 h ago under epidural anaesthesia complains of worsening headaches. Shortly afterwards she has two fits. She has a fever of 38.1 o C. Neurological examination shows a left hemiplegia and bilateral positive plantar reflexes. What is the most likely diagnosis?

1- Viral encephalitis

2- Toxic eclampsia

**3- Bacterial meningitis**

4- Subarachnoid haemorrhage

5- Cortical thrombophlebitis

Q3819. A 22-year-old woman was noted by her boyfriend to have multiple episodes of collapse. It occurred six times in a 1-week period, always when the patient was standing. Each time the patient would look pale and collapse abruptly with her eyes closed. After 2 minutes or so, the patient would wake up and would feel weak, remembering a dizzy feeling and a sensation of "vision going black" before collapsing. There was no confusion after the attack and the patient was well between attacks. What is the most likely diagnosis?

1- Atonic epileptic seizure

2- Cardiogenic syncope

**3- Vasovagal syncope**

4- Pseudoseizure

5- Complex partial seizure

Q3820. A 48-year-old man presents to the Emergency Department after moving a number of heavy boxes at home. On examination there is pain on straight leg raising and movement of the lower limbs is limited by pain. There is weakness of ankle dorsiflexion and weakness of big toe extension. Ankle jerk reflexes are diminished. This suggests an L5/S1 nerve root lesion. Which of the following represents the management of choice in this case?

1- Immobilisation and complete bed rest

2- Referral for open discectomy

**3- Gentle mobilisation**

4- Referral for microdiscectomy

5- Local corticosteroid injection

Q3821. A 67-year-old male who drinks 8 units of alcohol per day presents to the emergency department with poor memory and, a wide-based stamping gait. He has had some urinary incontinence recently and has been given a course of trimethoprim. On examination in the A and E department he is confused with a MMS of 16/20 and appears to have a gaze-evoked nystagmus as well as impaired vertical gaze. What is the most likely diagnosis?

1- HIV encephalitis

2- Meningovascular syphilis

3- Normal pressure hydrocephalus

4- Syringomyelia

**5- Wernicke–Korsakoff syndrome**

Q3822. A 48-year-old woman presents to the Emergency Department with increasing weakness. She has no past medical history of note apart from a recent diarrhoeal illness, which she puts down to an undercooked chicken meal. Her husband says that she has been unable to get up out of a chair for the past day. On examination there is obvious bilateral limb weakness more marked in the lower limbs and areflexia. You notice that if she lies flatter in the bed her oxygen saturations fall by around 2% on the pulse oximeter and she is unable to perform spirometry. Which of the following represents the most appropriate immediate management of choice in this patient?

1- Plasma exchange

2- High dose iv corticosteroids

3- Ciprofloxacin 500 mg po bd

**4- ITU review for consideration of ventilation**

5- Lumbar puncture

Q3823. A 78-year-old man presents with transient left arm weakness and collapse. He recovers within a period of 24 h and has a carotid ultrasound scan. This reveals a 49% stenosis affecting the right internal carotid artery and a 90% stenosis affecting the left internal carotid artery. Other risk factors of note include smoking of 30 cigarettes per day, which he refuses to stop and hypertension. Blood pressure in the clinic is 145/80 mmHg, he is in sinus rhythm and cholesterol is 5.1 mmol/l. Which of the following is the most appropriate management to reduce risk of a further stroke affecting the same territory?

1- Aspirin therapy

**2- Aspirin and dipyridamole MR therapy**

3- Right carotid endarterectomy

4- Left carotid endarterectomy

5- Start statin therapy

Q3824. A 72-year-old man is brought to the Emergency Department by his wife. She has noticed that his walking has deteriorated over the past few months. He has also become incontinent of urine and she feels he may be confused. A history of shingles one month ago is noted. They admit to his drinking two glasses of wine per day. On examination he has a broad based shuffling gait and memory loss. Which of the following diagnoses fits best with this clinical history?

1- Benign intracranial hypertension

2- Intracerebral neoplasm

3- Alcoholic dementia

4- Multi-infarct dementia

**5- Normal pressure hydrocephalus**

Q3825. A 58-year-old man with a history of chronic back pain presents for review. He is aware of a dragging feeling affecting his left foot when he tries to walk. This has developed since a minor injury to his left knee. On examination he has weakness of dorsiflexion and eversion of the foot. The right is unaffected and plantar flexion and inversion are normal on the left. MRI of the spinal cord shows degenerative disc changes at multiple levels but no evidence of cord or nerve root impingement. Nerve conduction studies and EMG are awaited. What sensory loss would you expect to find in association with this motor defect?

1- No associated sensory loss

2- Sensory loss affecting the big toe only

3- Sensory loss over the entire foot to the level of the ankle

4- Sensory loss over the plantar aspect of the foot

**5- Sensory loss over the dorsum of the foot**

Q3826. A 30-year-old woman with a body mass index of 30 has been taking the oral contraceptive pill. She is admitted with a 10- day history of worsening headaches, which are worse on stooping or coughing, and double vision. On examination she has bilateral sixth nerve palsies and bilateral papilloedema; the examination is otherwise normal. Initial plain computed tomography (CT) of the brain and orbits is normal. Later the same day, she develops sudden-onset right hemiparesis and speech disturbance. Repeat CT performed as an emergency shows a cortical low-density area with a haemorrhagic component in the left posterior temporal lobe. Which of the following investigations would be the most appropriate next step?

1- Gradient echo MRI

2- Diffusion-weighted MRI

**3- Cranial magnetic resonance venography**

4- CT angiography

5- 4-Vessel cerebral angiography

Q3827. A 52-year-old man with a long history of alcohol abuse and diabetes was admitted with a subacute illness, comprising headache, fever, neck stiffness and photophobia. On examination, he was also observed to be ataxic, dysarthric, dysphagic and to have gaze-evoked nystagmus. MRI brain demonstrated a high-signal abnormality of the brainstem. CSF analysis showed 15 polymorphs/mm3 , glucose concentration of 2 mmol/l (serum 6 mmol/l) and a protein concentration of 0.9 g/l. The patient has failed to improve after 3 days of intravenous cefuroxime treatment. What is the most likely cause for the meningitis?

1- Haemophilus influenzae

**2- Listeria monocytogenes**

3- Mycobacterium tuberculosis

4- Nocardia asteroides

5- Streptococcus pneumoniae

Q3828. A 45-year-old lady has been complaining of unsteady gait, tinnitus and nausea. After investigation vestibular schwannoma acoustic neuroma was diagnosed. What additional sign would you be most likely to find on examination?

**1- Loss of corneal sensation**

2- Ophthalmoplegia

3- Dysphagia

4- Ptosis

5- Muscle atrophy

Q3829. A 74-year-old woman is noted to have poor self-care with symptoms of early morning wakening and decreased appetite. She has poor concentration, and is easily agitated. There is a history of recent death in the family. She also recently lost her job as a volunteer. She has difficulty in answering short-term recall questions. What is the diagnosis?

1- Pathological grief

**2- Depressive pseudodementia**

3- Dementia

4- Personality disorder

5- Delirium

Q3830. A 10-year-old boy presented with recurrent convulsions. The convulsions usually occur at night and are confirmed by an eyewitness. Clinically examination revealed 3 café-au-lait spots (5mm diameter) on the lower limbs and 4 on his back. Which of the following would be most helpful in confirming the suspected underlying diagnosis?

1- Computed tomography (CT) brain

2- Genetic testing with protein truncation assay

**3- Slit lamp examination of the eye**

4- EEG

5- Cutaneous biopsy of buttock lesion

Q3831. A pregnant woman started to notice lumps on her skin as well as freckles in her armpit. One of her relatives had similar problems. What is most likely cause of her problem?

**1- Neurofibromatosis**

2- Underlying malignancy

3- Tuberous sclerosis

4- Multiple melanoma

5- Ataxia telangiectasia

Q3832. A patient presented with acute onset of mild right hemiparesis affecting the body. He also has evidence of sensory loss on the right hand side. There is evidence of Horner's syndrome and sensory loss on the face on the left hand side. Which of the following structures in involved?

1- Occipital lobe

2- Parietal lobe

3- Medial temporal lobe

4- Frontal lobe

**5- Brain stem**

Q3833. A gentleman presented with leftsided hemiparesis of more than 8 hours' duration. His investigation: computed tomography (CT) brain scan: acute infarct involving the right middle cerebral artery; carotid ultrasound scan: 80% stenosis of the right carotid artery, 50% stenosis of the left carotid artery. He suffered a previous TIA last year. What is the most appropriate treatment for long-term stroke prevention?

1- Aspirin

**2- Aspirin and dypridamole**

3- Clopidogrel

4- Warfarin

5- Dipyridamole

Q3834. A 21-year-old obese woman presents to her GP complaining of worsening headaches. Only medication of note is the combined oral contraceptive pill. She also reports blurring of vision and says that her headaches are worse on bending forward. On examination of the fundi, the GP is concerned that there may be papilloedema. What diagnosis fits best with this clinical picture?

1- Microprolactinoma

2- Macroprolactinoma

3- Normal pressure hydrocephalus

**4- Benign intracranial hypertension**

5- Sagittal sinus thrombosis

Q3835. A 42-year-old male suffers a road traffic accident. Magnetic resonance imaging (MRI) reveals that he may have hemisection of cord; which of following findings is most likely to occur?

1- Ipsilateral loss of pain and temperature sensation

2- Contralateral segmental anaesthesia at the level of the lesion

3- Contralateral paralysis

4- Contralateral loss of position sense

**5- Ipsilateral hyperreflexia**

Q3836. What is the most important intervention at population level to reduce stroke incidence?

1- Stop smoking

**2- Blood pressure control**

3- Diabetes treatment

4- Prophylactic aspirin

5- Regular exercise

Q3837. A 35-year-old man presents with a several-month history of increasing limb weakness, muscle cramps and some slurring of speech. He has no visual or urinary symptoms. He has a sister who is well, and so are both parents. His past medical history includes diabetes mellitus, and he is being investigated for infertility. On examination, he is noticed to have gynaecomastia, atrophy of the tongue, muscle fasciculations, including perioral fasciculations, mild predominantly proximal weakness of the limbs and decreased deep-tendon reflexes. What is the most likely diagnosis?

1- Amyotrophic lateral sclerosis

**2- Kennedy's disease**

3- Limb-girdle muscular dystrophy

4- Multiple sclerosis

5- Myotonic dystrophy

Q3838. Which of these diseases has a polygenic inheritance?

1- Friedreich's ataxia

2- Fragile X syndrome

3- Huntington's chorea

**4- Manic depressive psychosis**

5- Cystic fibrosis

Q3839. A 42-year-old man presented with headache and blurred vision for a few weeks. Investigation showed serum prolactin of 21 500mU/l. On further questioning he admitted loss of interest in sexual intercourse over the past few months and general feelings of lethargy. Computerised tomography (CT) brain scan showed a large pituitary mass encroaching on the optic chiasm with evidence of midline shift. What is the next appropriate treatment?

1- Hypophysectomy

2- Pituitary irradiation

3- Dopamine agonist

4- Somatostatin

**5- Adenomectomy**

Q3840. A 58-year-old man with a history of multiple sclerosis presents with horizontal diplopia. Clinically, the diplopia is most apparent while looking to the left. On alternate eye closure, the outer image disappears when the right eye is occluded. On examination he has weakness of adduction of the right eye and nystagmus on attempted lateral gaze to either side, worse on looking to the right. What is the most likely explanation of these clinical signs?

1- Sixth nerve palsy

2- Third nerve palsy

3- Fourth nerve palsy

**4- Internuclear ophthalmoplegia**

5- Parinaud's syndrome

Q3841. A 78-year-old patient presented with headache for 3 months. He noticed a progressive loss of vision. Clinically there was a superior arcuate visual loss of the left eye. Fundoscopy showed blurring of the lower cup of the disc of the left eye. What the next investigation that would yield the diagnosis?

1- Echocardiogram

2- Erythrocyte sedimentation rate (ESR)

3- Fluorescein retinal arteriography

**4- Intraocular pressures**

5- Carotid ultrasound

Q3842. An elderly man presented with progressive lower limb weakness, particularly with hip flexion, arreflexia of bilateral knees and ankles with bilateral extensor plantars. He had a history of prostate carcinoma. Investigations : raised alkaline phosphatase (ALP), hypercalcaemia, normal parathyroid hormone (PTH). What is the next most appropriate investigation?

**1- Magnetic resonance imaging (MRI) of the spine**

2- Computerised tomography (CT) of spine

3- Bone density scan

4- Myelogram

5- Plain films of the spine

Q3843. The paralysis associated with myasthenia gravis is thought to result from the influence of autoimmune antibodies that bind to the ligand-gated ion channel known as:

1- A Na+-dependent glucose transporter

2- A Chloride-bicarbonate transporter

3- A Voltage-regulated Na+ ion channel

**4- An acetylcholine receptor**

5- Na+/K+ ATPase

Q3844. A 46-year-old woman with a history of Type 1 diabetes presents to the clinic complaining of pain, pins and needles and loss of sensation in her feet. Her diabetes has been poorly controlled over a number of years, with her HbA1c averaging around 8.8% on a basal bolus insulin regime. You suspect she might have diabetic neuropathy. What would be the expected findings on nerve conduction study?

1- Increased nerve conduction velocity on peripheral nerve testing

2- Increased peripheral nerve action potentials

**3- Decreased nerve conduction velocity on peripheral nerve testing**

4- More marked loss of motor nerve conduction velocity

5- Improvement in function after short term

Q3845. You are asked to review a 25-yearold man who complains of pain in his upper limbs exacerbated by coughing. You suspect he may have syringomyelia. Which of the following is a typical early finding associated with a cervical syrinx?

1- Flacid paraparesis

2- Loss of lower limb reflexes

3- Loss of light touch

**4- Loss of pain and temperature sensation**

5- Muscle wasting in the small muscles of the

Q3846. A 60-year-old woman presents complaining of a 3-month history of diplopia and blurred vision in her left eye. She denies having any pain or other neurological symptoms. Her previous medical history is unremarkable. She smokes 20 cigarettes per day and drinks alcohol in moderation. Her general medical examination is normal. Her visual acuity on the right is 6/6 and on the left 6/36. There is left partial ptosis and mild proptosis with conjunctival injection. The left pupil is smaller than the right but reacts normally to light. There is some limitation of abduction of the left eye. Fundoscopy shows a pale left optic disk. The left corneal reflex is reduced. The rest of the neurological examination is normal. Where is the most likely site for the cause of her symptoms?

1- Brainstem

2- Cavernous sinus

3- Optic chiasm

**4- Orbital apex**

5- Superior orbital fissure

Q3847. An 18-year-old girl presented at the age of 3 years with progressive ataxia. She is now wheelchair-bound. On examination, she is now dysarthric, with bilateral optic atrophy. There is ataxia in both upper limbs. Reflexes in her lower limbs are absent with bilateral extensor plantar response. She has absent vibration and impaired joint position in both feet. Bilateral pes cavus is apparent. ECG shows inverted T waves. Echocardiogram reveals left ventricular hypertrophy. What is the most likely diagnosis?

1- Charcot-Marie-Tooth disease

**2- Friedreich's ataxia**

3- Huntington's disease

4- Multiple sclerosis

5- Vitamin B12 deficiency

Q3848. A 25-year-old obese woman presents with headaches and vomiting. A CT of her head is normal. A lumbar puncture is performed and shows an opening pressure of 30 cm. What is the most likely abnormality seen on examination of the visual fields?

1- Left homonymous hemianopia

2- Right homonymous hemianopia

3- Central visual field defect

**4- Enlarged blind spot**

5- Altitudinal field defect

Q3849. A 75-year-old woman with a long history of hypertension and diabetes presents with a sudden onset of involuntary movements of her right arm and leg. On examination she has right hemiballistic involuntary movements. Which structure has most likely been damaged?

1- Caudate nucleus

2- Dentate nucleus

3- Hippocampus

4- Red nucleus

**5- Subthalamic nucleus**

Q3850. A 26-year-old man presents with a 2-year history of involuntary neck movements. There is no history of trauma. He is on no drugs. There is no relevant family history. On examination he has an episodic right torticollis. The rest of his neurological examination is normal. MRI of his cervical spine is normal. The neurologist in the Movement Disorders Clinic has diagnosed cervical dystonia. Which of the following treatments will be most beneficial?

1- Baclofen

**2- Botulinum toxin**

3- Haloperidol

4- L-Dopa

5- Propranolol

Q3851. A 40-year-old man presents with rapidly progressive dementia, generalised myoclonus and paroxysmal sensory symptoms of 4 months' duration. A diagnosis of new-variant CJD needs to be excluded. Which of the following investigations would be the most appropriate?

1- CT brain

2- EEG

3- Lumbar puncture

**4- MRI brain**

5- SPECT scan

Q3852. A 60-year-old man presents with a 6-month history of personality changes, disinhibition and altered dietary habits with a preference for sweet foods. He lost his job as an accountant because of inappropriate social behaviour. There is no memory deficit. The neurological examination is normal. What is the most likely diagnosis?

1- Alzheimer's disease

2- Diffuse Lewy body disease

**3- Frontotemporal dementia**

4- Multiple sclerosis

5- Vascular dementia

Q3853. A 45-year-old woman had a right mastectomy 2 years ago for breast cancer. She has now presented with a 2-month history of progressive ataxia and dysarthria. On examination, there is gaze-evoked nystagmus, dysarthria, upper limb ataxia and gait ataxia. Power, tone, reflexes and sensation are normal. Plantar response is flexor bilaterally. CT and MRI brain and CSF analysis are normal. What is the most likely cause of her ataxia?

1- Cerebellum metastasis

2- Malignant meningitis

3- Multiple sclerosis

**4- Paraneoplastic cerebellum syndrome**

5- Wernicke's encephalopathy

Q3854. A 69-year-old woman presents with a sudden onset of weakness of her right arm and leg. She is known to be hypertensive. There has been no headache, loss of consciousness, visual, speech or sensory symptoms. On examination, her blood pressure is 180/90 mmHg, pulse 100 and regular. Heart sounds are normal. There is no carotid bruit. Higher mental function tests are normal. There is no apraxia or neglect. Speech, swallowing and sensation are all normal. There is no visual field defect. There is a mild facial weakness sparing the forehead. The right arm and leg are flaccid and weak. Reflexes and tone are normal. There is a right extensor plantar response. What is the most likely cause of this patient's symptoms?

1- Cardioembolic stroke

**2- Lacunar stroke**

3- Right internal carotid artery atheroembolic stroke

4- Right internal carotid artery dissection

5- Right vertebral artery atheroembolic stroke

Q3855. A 30-year-old patient presents with sudden monocular visual loss on the right associated with pain behind the eye and alteration of colour vision. Examination the following day reveals a relative afferent pupillary defect in the right eye. Which of the following diagnoses is most likely?

1- Cerebral infarction

**2- Optic neuritis**

3- Optic nerve glioma

4- Migraine

5- Temporal arteritis

Q3856. A 23-year-old woman presents with pressure type headache and transient visual change on standing. Which of the following features is most supportive of the diagnosis of idiopathic intracranial hypertension?

1- Past history of deep venous thrombosis

2- Reduced visual acuity

**3- An enlarged blind spot and constriction of the visual field**

4- Lateralised motor weakness

5- Raised ESR

Q3857. A previously well 58-year-old female bank clerk was referred by her general practitioner (GP) to the hospital complaining of recurrent attacks of dizziness. She complains of recurring attacks of the room spinning around her in a horizontal plane, which is happening on multiple occasions every day. Each attack lasts about 10 seconds and seems to occur whenever she turns in bed, lies down or sits up from the supine position. There are no other associated symptoms. She is taking no medication. Standard neurological examination is normal. Which of the following diagnoses is most likely?

1- Posterior circulation ischaemia

**2- Benign positional paroxysmal vertigo**

3- Postural hypotension

4- Labyrinthitis

5- Migraine

Q3858. A 60-year-old man presents complaining of slowly progressive weakness of his legs, which he says has occurred over the last 10 years. He also experiences difficulty with fine tasks involving his hands, including difficulty holding a cup. Over the last 2 years he has also noticed occasional difficulty in swallowing. He denies any sensory symptoms or bladder disturbances. He is on no drugs. He does not smoke or drink alcohol excessively. There is no relevant family history. On examination there is marked wasting of the quadriceps and forearm muscles. There is finger flexion and knee extension weakness. Sensation and reflexes are normal. Plantar response is flexor bilaterally. Cranial nerves are intact. EMG shows increased insertional and spontaneous activity; and small-amplitude, short-duration polyphasic units of both the quadriceps and forearm flexor muscles. What is the most likely diagnosis?

1- Dermatomyositis

**2- Inclusion body myositis**

3- Limb-girdle muscular atrophy

4- Motor neurone disease

5- Polymyositis

Q3859. A 30-year-old man with known epilepsy presents in the accident and emergency department complaining of severe loin pain. Ultrasound scan of the renal tract shows bilateral renal stones. He also admits to having lost 6.4 kg (1 stone) over the last 3 months despite a good appetite. He was started on a new antiepileptic drug 6 months ago. Which antiepileptic drug is most likely to have caused these side-effects?

1- Carbamazepine

2- Lamotrigine

3- Phenytoin

4- Sodium valproate

**5- Topiramate**

Q3860. A 45-year-old keen walker in previously good health presents with headache, photophobia, bilateral facial weakness and fever some 2 months after a holiday in Germany. The headache was of acute onset. He remembers that he developed a skin rash over his right arm and generalised arthralgia 2 weeks before the onset of these symptoms. CT brain is normal. CSF analysis reveals 150 cells/mm3 , over 90% lymphocytes, with a protein level of 1.0 g/l and a glucose level just less than two-thirds that of serum glucose. What is the most likely cause for this meningitis?

**1- Borrelia burgdorferi**

2- Carcinomatous meningitis

3- Mycobacterium tuberculosis

4- Sarcoidosis

5- Streptococcus pneumoniae

Q3861. A 25-year-old woman is brought to the accident and emergency department after suffering a blackout. She was waiting for the bus when she felt nauseated, dizzy and sweaty. She lost consciousness for 1 minute. A friend says she was pale, had some jerking of her limbs for 10 s, but did not bite her tongue and there was no history of urinary incontinence. She recovered immediately with no confusion or disorientation. Examination is normal. ECG is normal. What further investigations are required to made a diagnosis?

1- CT brain

2- Doppler of carotids

3- EEG

4- MRI brain

**5- No investigations**

Q3862. An 18-year-old female presents with a 3-day history of progressive weakness and numbness of her legs, urinary retention and back pain some 2 weeks following an upper respiratory infection. On examination there is spastic paraparesis, sensory level up to T5, extensor plantars. Examination of her cranial nerves and upper limbs is normal. MRI of the spine is normal. CSF analysis reveals 50 cells/mm3 , over 90% lymphocytes with normal protein and glucose levels and negative oligoclonal bands. What is the most likely diagnosis?

1- Anterior spinal artery occlusion

2- Guillain-Barrè syndrome

3- Multiple sclerosis

**4- Postinfectious transverse myelitis**

5- Thoracic disc prolapse

Q3863. A 30-year-old man presents with a sudden onset of severe occipital headache, vomiting and neck stiffness. He says it was the worst headache he has ever had. Neurological examination is normal. CT brain is normal. A lumbar puncture is going to be performed. How many hours after the onset of headache should the lumbar puncture be performed?

1- 1 hour

2- 2 hours

3- 6 hours

4- 8 hours

**5- 12 hours**

Q3864. A 68-year-old woman complains of a 6-month history of dysphagia and nasal regurgitation, which is worse during the evening. She also reports intermittent drooping of her left eyelid and diplopia when she gets tired. She has lost 3 kg over the last 3 months. Neurological examination reveals a partial left ptosis, diplopia but no ophthalmoplegia. She has a weak cough. What is the most appropriate investigation?

**1- Acetylcholine-receptor antibodies**

2- Barium swallow

3- CT brain

4- Gastroscopy

5- Tumour markers

Q3865. A 20-year-old female presents with right unilateral ocular pain, which is worse on eye movement, and blurred vision in the same eye. Her visual acuity is RVA 6/24, LVA 6/6. Colour vision is impaired on the right and there is a right, relative, afferent papillary defect. Visual field examination shows a right central scotoma. The patient has read about multiple sclerosis and wishes to know what her risk is of developing this condition. MRI brain is performed and shows 3-4 areas of high signal within the white matter. What are the approximate chances of the patient developing multiple sclerosis in the next 10 years?

1- 2%

2- 10%

**3- 50%**

4- 80%

5- 100%

Q3866. A 55-year-old man presents with progressive weakness of his upper and lower limbs. He had abruptly developed pain in his right calf and foot drop 4 weeks ago. One week later he noticed numbness of his right thumb, index and middle finger. Numbness of his left little finger subsequently became apparent. Just 2 days ago he developed a painful left foot drop and numbness over the dorsum of his left foot. He also developed a skin rash over both feet. He has lost 6.4 kg (1 stone) over the last 4 weeks. Routine haematological investigations reveal a normochromic, normocytic anaemia and ESR of 110. What will be the most useful diagnostic test?

1- Bone marrow aspiration

2- MRI spine

3- Lumbar puncture

**4- Nerve biopsy**

5- Tumour markers

Q3867. A 25-year-old man presents with a 3-day history of diplopia and unsteadiness. He had had an upper respiratory infection 3 weeks ago. On examination there is bilateral partial ptosis, complete ophthalmoplegia, areflexia and gait ataxia. Sensory examination is normal, and plantar response flexor bilaterally. Given the likeliest clinical diagnosis, what is the most appropriate treatment?

1- Azathioprine

**2- Immunoglobulins**

3- Prednisolone

4- Pyridostigmine

5- Thiamine

Q3868. A 30-year-old man has been admitted to the hospital for investigation of worsening muscle weakness in his upper and lower limbs over the last 10 years. The patient says he had never been keen to participate in sports at school and that his father had problems with his gait for years. On examination, cognition, bulbar function and cranial nerves are all normal. Examination of the limbs shows distal symmetrical wasting and weakness in his arms and legs. There is areflexia. Tone is normal. There are no visible fasciculations. Vibration, pain and temperature are impaired in both hands and feet. There is kyphoscoliosis and bilateral pes cavus. What is the most likely diagnosis?

**1- Charcot-Marie-Tooth disease**

2- Acquired chronic inflammatory demyelinating polyneuropathy (CIDP)

3- Friedreich's ataxia

4- Spinal muscular atrophy

5- Vitamin B12 deficiency

Q3869. A 28-year-old woman was diagnosed 3 months ago with schizophrenia. Her psychiatrist started her on haloperidol. She has now presented to A&E with confusion and drowsiness. On examination she is pyrexial (39.5°C), disoriented and her blood pressure is 200/100 mmHg. She has severe bilateral rigidity. What treatment should be administered?

1- Aciclovir

2- Cefuroxime

**3- Dantrolene**

4- Nifedipine

5- Propranolol

Q3870. A 49-year-old woman was placed on warfarin therapy because of pulmonary embolism. While she has been on therapy, she has developed pain, numbness and paraesthesias from her left anterior thigh extending to her medial leg, plus weakness of knee extension and hip flexion. The left knee jerk is absent. What is the most likely site of the lesion?

1- Left common peroneal nerve

**2- Left femoral nerve**

3- Left obturator nerve

4- Left sciatic nerve

5- Left superior gluteal nerve

Q3871. A 43-year-old woman who fractured the head of her right radius 6 weeks ago presents with weakness of extension of her right wrist and fingers. She has experienced no sensory loss. On examination there is weakness of finger and thumb extension at the metacarpophalangeal joints. Although able to extend her wrist, she performs this action with radial deviation. Other motor and sensory functions are intact. Reflexes are all present and symmetrical. Plantar responses are flexor. Where is the most likely site of the lesion?

1- Right anterior interosseous nerve

2- Right axillary nerve

3- Right brachial plexopathy

**4- Right posterior interosseous nerve**

5- Right ulnar neuropathy

Q3872. A 26-year-old woman is referred for an evaluation of dysphagia. On examination she has bilateral ptosis, facial weakness and atrophy of the temporalis. She says she has difficulties relaxing her grip especially in cold weather and that her father had similar problems. What is the most likely diagnosis?

1- Motor neurone disease

2- Multiple sclerosis

3- Myasthenia gravis

**4- Myotonia dystrophica**

5- Polymyositis

Q3873. A 69-year-old woman has become progressively weaker over a 3-month period. Her symptoms fluctuate diurnally, being worse when she awakes. Although her greatest difficulty is climbing stairs, she also has difficulty raising her arms. The patient denies the presence of pain, numbness, diplopia, difficulty swallowing and bladder abnormalities, but has noted dryness of her mouth. She has been a heavy smoker for years. On examination there are no abnormalities of the cranial nerve, cerebellar or sensory function. Her weakness is diffuse and mild, with strength increasing with exertion. Reflexes are absent but are obtainable after exertion. Plantar responses are flexor. What is the most likely diagnosis?

**1- Lambert-Eaton myasthenic syndrome**

2- Motor neurone disease

3- Multiple sclerosis

4- Myasthenia gravis

5- Polymyositis

Q3874. A 25-year-old man presents with right-sided facial weakness and swelling. There is a right LMN facial nerve palsy but no other abnormalities on examination. Lumbar puncture findings are: Opening pressure18cm CSF Protein 0.9 g/l Glucose 3.5 mmol/l Microscopy 85 lymphocytes What is the most likely diagnosis?

1- Lyme disease

2- Multiple sclerosis (MS)

3- Guillain–Barré syndrome (GBS)

**4- Neurosarcoidosis**

5- Ramsay Hunt syndrome

# Chapter 15 Psychiatry

Q3875. A man of 50 years presents following the death of his wife; which of the following is going to heighten your suspicion of an abnormal grief reaction.

1- A brief episode of seeing the dead person

**2- Delayed or absent grief**

3- Poor concentration

4- Poor memory

5- Searching for the deceased

Q3876. A patient in his mid-thirties is admitted to hospital with feelings of being followed by others and the belief that he is the subject of a conspiracy. He believes he is under the direct control of an external alien. Which ICD-10 subtype of schizophrenia best describes this man's symptoms?

1- Hebephrenic schizophrenia

**2- Paranoid schizophrenia**

3- Catatonic schizophrenia

4- Simple schizophrenia

5- Residual schizophrenia

Q3877. A 45-year-old woman is referred to outpatient clinic. She is convinced that she has a serious medical illness. After eating she 'bloats up like a balloon', and has mild central abdominal pain which is relieved by opening her bowels. She has not lost weight and her stools are normal. At times she also experiences the room 'spinning around really quickly', and feels light-headed but has never lost consciousness. She also gets an intermittent retrosternal aching that is worse on coughing and at rest. Until recently she was also being investigated for dysmenorrhoea. Finally she has difficulties swallowing solids and chews her food a lot. She has been extensively investigated by multiple physicians and the only diagnosis reached has been of mild irritable bowel syndrome. She is highly dismissive of her previous doctors and insists on being reinvestigated or 'taken seriously'. What is the most appropriate way of managing her case?

1- Arrange for her care to be immediately and completely taken over by a psychiatrist

**2- Establish regular and infrequent follow-up visits, keeping investigations to a minimum and aim for referral to a psychiatrist**

3- Prescribe antidepressants

4- Refuse all further investigations and discharge her from the clinic

5- Start to investigate her physical symptoms,

Q3878. A 78-year-old woman presents to A&E following an overdose of paracetamol and amitriptyline. Following successful medical management, you assess her prior to discharge. Which one of the following features, present on assessment, is most likely to indicate a risk of completed suicide after discharge?

1- Her age

2- One previous episode of deliberate selfharm (DSH) by attempted hanging last year

**3- Delusions of poverty**

4- Living alone

5- Presence of obsessional symptoms

Q3879. In a 54-year-old man presenting with acute pancreatitis, which of the following features most strongly suggests a diagnosis of alcohol dependence syndrome?

**1- Continued drinking despite persistent abdominal pain**

2- Denying recent alcohol use despite evidence to the contrary

3- Multiple old rib fractures

4- Pathological jealousy

5- Two previous convictions for driving while

Q3880. A 58-year-old publican attends the clinic with confusion, you suspect alcoholrelated problems. Which of the following pathological changes is a characteristic feature of the WernickeKorsakoff syndrome?

1- Cerebellar atrophy

2- Dilatation of the III ventricle

**3- Neuronal loss in the mammillary bodies**

4- Demyelination in the pons and medulla

5- Microvascular lesions in the cortex

Q3881. In a 15-year-old girl with severe weight loss, which of the following would be a common finding in association with anorexia nervosa?

1- Buccal pigmentation

**2- Increased, excessive physical activity**

3- Low plasma cortisol levels

4- Raised gonadotrophin levels

5- Hyperkalaemia

Q3882. Which of the following is more characteristic of major depression in a 70- year-old woman than in a 50-year-old?

1- Successful treatment with electroconvulsive therapy (ECT)

2- Successful treatment with antidepressants

**3- Presents with physical symptoms**

4- Results in lack of motivation

5- Shows diurnal variation in mood

Q3883. A 25-year-old woman presents with problems of excessive worry about almost everything in her life, including her future plans. She has severe difficulty in concentrating, feelings of depression and sleep disturbances. Her job performance is affected because of this worry and restlessness. She also has problems developing social relationships. How would you best describe her condition?

**1- Generalised anxiety disorder**

2- Phobic anxiety disorder

3- Acute stress reaction

4- Social phobia

5- Panic disorder

Q3884. A 52-year-old man with a history of bipolar mood disorder presents to the emergency department with agitation, insomnia and bizarre ideas. Which of the following symptoms would lead you to seriously doubt a diagnosis of a manic episode?

1- Distractibility

2- Thought broadcast

3- Tearfulness

**4- Visual hallucinations**

5- Paranoid ideas

Q3885. You review a 78-year-old woman who is deeply withdrawn due to severe depression. You are considering electroconvulsive therapy (ECT). Which of the following factors absolutely precludes the use of ECT?

1- An indwelling cardiac pacemaker

**2- Raised intracranial pressure**

3- Patient's age >60 years

4- Pregnancy

5- Hypochondriasis in younger age groups

Q3886. A 70-year-old man is brought to the outpatient clinic by his son. The son complains that his father's personality has changed completely over the past year. Even at best he is forgetful and 'switched off'; at worst he is drowsy and unresponsive. He is particularly concerned that his father has been claiming to 'see things that aren't really there'. Over the past few weeks he has also been tripping a lot on the carpet, and is no longer safe on the stairs going to his bedroom unaccompanied. The general practitioner (GP) gave the patient a small dose of a neuroleptic which 'made things a million times worse'. On examination he has an inexpressive face, with a mild resting tremor and some axial rigidity. There is no other focal neurology. On mini mental state examination he scores 20/30. What is the most likely primary brain pathology?

**1- Lewy bodies**

2- Multiple infarct in the grey matte

3- Neurofibrillary tangles

4- Normal brain

5- Pick bodies

Q3887. You are referred a 48-year-old man who has been arrested by the police on suspicion of commiting a number of aggravated robberies in the past few weeks. He is acting rather strangely and the police feel he may be psychotic. Which of the following is a feature of Ganser's syndrome?

1- Delirium

2- Areas of demyelination

**3- Pseudohallucination**

4- Frontal lobe atrophy

5- Amyloid deposition

Q3888. Which of the following symptoms in a 63-year-old man with progressive cognitive impairment would favour a diagnosis of vascular dementia over Alzheimer's disease?

1- Social disinhibition and irritability

**2- Frequent seizures**

3- Slow, insidious onset

4- Early loss of insight

5- Disrupted sleep-wake cycle

Q3889. A 33-year-old primiparous woman is two days' postpartum, having delivered a normal baby boy. She has become increasingly anxious and has told the midwife she thinks the baby is 'a changeling'. Careful evaluation fails to identify other bizarre beliefs, and she is continuing to care for the baby. Which of the features below is most likely to reassure you that the patient is not psychotic?

1- Absence of auditory hallucinations

**2- The patient says the thoughts are stupid and tries not to think them**

3- The patient does not believe the thoughts to be hers

4- The phenomenon is intermittent

5- The patient has symptoms of anxiety

Q3890. A publican with a long history of alcohol abuse is referred to the psychiatric clinic for assessment by his general practitioner (GP). Which of the following psychiatric disorders is most likely to occur secondary to alcohol abuse?

**1- Pathological jealousy**

2- Bulimia nervosa

3- Opiate dependence

4- Major depressive disorder

5- Social anxiety disorder

Q3891. A 44-year-old woman is referred to the department of gastroenterology for a 'further opinion' having developed constant periumbilical pain radiating to both legs. Over the past five years she has been seen by colleagues in neurology, cardiology, rheumatology and endocrinology with a variety of symptoms, including fatigue, back pain, chest pain and joint pain. Despite intensive investigations, no cause for her symptoms has been identified. What is the most likely diagnosis?

1- Conversion disorder

2- Hypochondriasis

**3- Somatisation disorder**

4- Undifferentiated somatoform disorder

5- Depression

Q3892. A woman tells you she has developed fears of getting lost in the crowd and has become very anxious about going to open public places. She also says that she had experienced panic attacks previously when she went to a crowded shopping mall. She is physically healthy and so far has no history of mental illness. What is the most likely diagnosis?

1- Social phobia

**2- Agoraphobia**

3- Acrophobia

4- Simple phobia

5- Dissociative disorder

Q3893. A 52-year-old man is admitted to hospital with chronic alcohol abuse and symptoms of cognitive decline. He is unable to remember previous events, although he can remember his name, certain dates and his recent meals. He also suffers from shortterm memory loss, for example after reading a newspaper he could not recall any of the reported major events, but did appear to confabulate. How would you best describe his memory impairment?

1- Wernicke's encephalopathy

2- Anterograde amnesia

3- Retrograde amnesia

**4- Korsakoff's syndrome**

5- Asperger's syndrome

Q3894. A 10-year-old boy has a tendency to walk in his sleep, occasionally leading to him to suffer injuries; however, when he is awake he cannot remember how he obtained the injuries. This occurs almost each week and his family is worried as he needs constant attention at night while he is sleeping. According to his medical history, he is not suffering from any physical or mental illnesses. What is the most likely diagnosis?

**1- Somnambulism**

2- Night terrors

3- Periodic limb movements

4- REM sleep disorder

5- Nocturnal frontal lobe seizures

Q3895. A 30-year-old woman comes to see you after experiencing long-standing fears of contamination. She says she is intensely uncomfortable with the sight of dirt, and spends most of her time washing up and cleaning the house. She is now washing her hands at least eight or nine times, taking showers at least four or five times and thoroughly cleaning her house at least three or four times a day meticulously. This tendency for cleanliness has restricted her life so much that she remains isolated from society and is unable to maintain any relationships. How would you best describe this behaviour?

1- Psychomotor agitation

**2- Compulsions**

3- Phobic anxiety

4- Obsessions

5- Phobia

Q3896. You review a 22-year-old woman who attends the clinic with her mother. They are keen to discuss the prognosis in relation to her anorexia. Which of the following factors are associated with an improved prognosis in anorexia nervosa?

1- There is a pattern of binge / vomiting behaviour

2- Weight loss started after 20 years of age

**3- Social adjustment in childhood was good**

4- Weight loss has been severe

5- Anxiety is marked when sufferer is eating

Q3897. A 39-year-old woman is admitted for observation after she fell and sustained a head injury. She was brought into A&E with a reduced level of consciousness and bruising over the occiput. A CT brain scan was normal and she improved spontaneously. Blood testing showed mild elevation of gamma GT and a mild macrocytic anaemia. She admitted to drinking heavily earlier in the evening and suddenly decided to end her life by jumping out of a window. She has no history of documented depression or previous selfharm but lives a rather isolated lifestyle at present. She lives alone after her divorce and has a son who lives with her ex-husband. Which of the following factors is most associated with increased risk of suicide in her case?

1- Previous head injury

2- Family situation

3- Age

4- Female sex

**5- Pattern of alcohol use**

Q3898. In the rheumatology clinic, a 52- year-old woman with chronic arthritis tells you she cannot cope with her condition and that she wishes she were dead. Which of the following would alert you to a high risk of her successfully completing suicide?

1- Female sex

2- She has been treated previously for depression

3- She has numerous bottles of painkillers at home

**4- She tried to hang herself five years ago**

5- She has a history of binge drinking

Q3899. A 13-year-old boy is referred to you with signs of physical and mental problems. On examination you notice that his face has a flat appearance; in addition, he has a low bridge to his nose, high cheek-bones and upward and outward slanting eyes with profoundly folded eyelids. He also has poor muscle coordination, impaired speech, memory and reasoning abilities. What is the most likely diagnosis?

1- Fragile X syndrome

2- Angelman syndrome

**3- Down's syndrome**

4- Klinefelter's syndrome

5- Phenylketonuria

Q3900. A 35-year-old man has developed an involuntary jerky movement with poor motor coordination and degenerated mental skills. He did not have these symptoms before; his past history reveals no past physical or mental illnesses. What is the most likely diagnosis?

1- Lewy body disease

**2- Huntington's chorea**

3- General paralysis of the insane (GPI)

4- HIV dementia

5- Normal-pressure hydrocephalus

Q3901. A 25-year-old woman presented complaining of various physical ailments. No physical disorder was found after a full medical examination. Nor is she suffering from any mental illnesses. How would you best describe her condition?

1- Personality disorder

**2- Somatisation disorder**

3- Hypochondriacal disorder

4- Dissociative disorder

5- Depersonalisation

Q3902. A 30-year-old man presents complaining about becoming blind. He has no other past medical history other than episodes of breathlessness when he was a teenager. He has recently been made redundant from his job and it appears that he is also in the midst of a custody dispute for his children. Medical and neurological examination is normal. He has no obvious evidence of mental illness. What psychiatric diagnosis is most likely in view of his current symptoms?

**1- Conversion disorder**

2- Somatisation disorder

3- Hypochondriacal disorder

4- Depersonalisation

5- Delusion

Q3903. A 35-year-old man was brought to hospital by the police. When asked by the police he was unable to recall his address, occupation or family details. He appeared calm and was not distressed. After several days his memory has improved completely, and he now tells you that his wife left him several days before he was picked up. He is suffering from no physical illness, injury or mental illness. Which of the following best describes his memory impairment?

**1- Dissociative amnesia**

2- Dissociative fugue

3- Anterograde amnesia

4- Dementia

5- Epilepsy

Q3904. A 25-year-old woman presents with problems of depression, sleep disturbances and a craving for carbohydrates during winter. She says her symptoms are worse during the winter compared to the summer. Her medical history reveals no other mental illnesses or physical complaints. What is the most likely diagnosis?

1- Reactive depression

2- Bipolar affective disorder

**3- Seasonal affective disorder**

4- Dysthymia

5- Double depression

Q3905. A newborn baby boy has facial deformities and a small-misproportioned head. He is irritable, hypotonic and has severe tremors. What diagnosis, related to antenatal care, would best account for these symptoms?

**1- Fetal alcohol syndrome**

2- AIDS

3- Down's syndrome

4- Microcephalus

5- Hydrocephalus

Q3906. A 24-year-old female patient brought to see you by her husband as she is pre-occupied and refuses to go outside for the last 6 weeks, stating that she is afraid of catching avian flu, saying that she knows that is likely because of all of the migrating birds outside her house. It is her husband's socks on the washing line that can save her/have alerted her to this(!), as the order they are arranged in determines a signal which is transmitted to scare the birds away. Her past medical history is unremarkable; she drinks only 4 glasses of wine per week, and is a nonsmoker. She admits to marijuana use during her teenage years. Investigations Hb 13.0 g/dl WCC 5.7 x 109 /L PLT 191 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 100 μmol/l ALT 35 U/l TSH 1.2 U/l What is the most likely diagnosis?

**1- Acute paranoid schizophrenia**

2- Phobic disorder

3- Manic depression

4- Alcoholism

5- Delirium

Q3907. A 25-year-old sergeant from the army attends the clinic at the request of his camp doctor. Some months ago he returned from a tour of duty in Iraq. While there he was known to have taken part in a bayonet charge in which a number of the enemy were killed. He is haunted by recurrent dreams about the event and is losing interest in his job with the army. His wife reports that he has increased his life-insurance investments and sees no future for himself and has told her to prepare for the worst. He seems devoid of enjoyment or upset at life events and is disinterested in his job. Which of the following diagnoses fits best with this clinical picture?

1- Endogenous depression

2- Reactive depression

3- Hypomania

4- Personality disorder

**5- Posttraumatic stress disorder (PTSD)**

Q3908. A lady loses her husband in a traumatic RTA. Three months afterwards she says she regularly hears his voice when alone at home. She is not eating very well and has lost 2 kilos of weight in this time. She says she often feels his presence around her and sometimes sees him when she goes outside; she is reassured by these feelings. What diagnosis should be suspected?

1- Adjustment disorder

**2- Psychotic depression**

3- Post-traumatic stress disorder

4- Hypomania

5- Bereavement reaction

Q3909. A 27-year-old unemployed man is referred by his GP for investigation of haematemesis. He describes a history of fluctuating mood dating back to his late teens, chronic feelings of emptiness and repeated deliberate self-harm by cutting. He occasionally uses cocaine and cannabis and admits to occasionally drinking up to 10 pints in a day. He confides he has recently been arrested for hitting his most recent girlfriend after she threatened to leave him. He is angry for having had to wait 20 minutes before seeing you in out-patients, and storms off when asked to wait for blood tests. Which is the most likely diagnosis?

1- Alcohol-dependence syndrome

2- Cyclothymia

3- Dissocial personality disorder

**4- Borderline personality disorder**

5- Dysthymia

Q3910. Which of the following would suggest a poor prognosis in a woman of 24 years suffering her first episode of schizophrenia?

1- A family history of bipolar affective disorder

2- A major emotional stress prior to onset of symptoms

3- A stable and consistent history of employment and close relationships

4- The presence of marked depressive symptoms during the episode

**5- Borderline learning disability**

Q3911. A 42-year-old man patient who had previous spinal decompression surgery for back pain presented a few years later with recurrent symptoms. Magnetic resonance imaging (MRI) of the spine showed normal spine with evidence of previous surgery. What is the best psychological therapy?

**1- Cognitive behavioural therapy**

2- Biofeedback therapy

3- Reassurance that no significant disease is present

4- Encouragement to believe in power of analgesia

5- Graded exercise therapy

Q3912. You are asked to see an elderly man who has wandered into the emergency department and does not appear to know why he is there. He cannot tell you his name and he is carrying no identifying documentation. The nursing staff tell you that he is afebrile, his blood pressure is 150/95 mmHg and pulse 86 beats per minute, and regular. Which of the following clinical features would favour an acute organic reaction (delirium) over a chronic brain syndrome (dementia)?

1- Apathy

2- Disorientation in time

3- Emotional flatness

**4- Fluctuating level of consciousness**

5- Impaired registration

Q3913. A man with hypertension presents with 6 month history of memory loss, aggression and social disinhibition. He has also been incontinent of urine on occasions. His hypertension was diagnosed many years earlier and he is managed with a combination of ramipril, amlodipine and indapamide. On examination his BP is 155/95 mmHg. Investigations Hb 12.1 g/dl WCC 5.1 x 109 /L PLT 180 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 130 μmol/l TSH 2.0 U/l Glucose 7.0 mmol/l MRI Increased T2 signal in the frontal lobe white matter SPECT decreased metabolism in the frontal region Which of the following is the most likely diagnosis?

1- Dementia of Alzheimer's type

2- Cerebrovascular incident

3- Lewy body dementia

4- Normal pressure hydrocephalus

**5- Pick’s disease**

Q3914. A 22-year-old patient with schizophrenia was started on risperidone. Which symptom is unlikely to improve?

1- Delusional perception

2- Social withdrawal

3- Auditory halluciniations

**4- Hyperkinesis**

5- Visual hallucinations

Q3915. A 32-year-old fireman presents with insomnia, recurrent bad dreams and depressive symptoms after witnessing the death of a colleague during an incident they attended. You understand that he was distressed at the time as he was unable to help his friend and had to be withdrawn from the building. He admits to drinking a glass of wine each evening to help him sleep. This happened over 2 years ago, yet he is still suffering symptoms now and has missed a significant amount of time off work. What is the most likely diagnosis?

**1- Post traumatic stress disorder (PTSD)**

2- Adjustment disorder

3- Alcoholism

4- Reactive depression

5- Obsessive compulsive disorder

Q3916. An 18-year-old woman took an overdose of ten 500-mg paracetamol tablets 24 hours ago and only presented on the insistence of her partner after he found a suicide note. She lives alone, is dependent on alcohol and has made one previous suicide attempt. Blood paracetamol levels are not detectable. What is the best immediate management?

1- Discharge with GP follow-up

2- Admit for 24 hours and monitor paracetamol levels and INR

3- Admit, treat with N--acetylcysteine (NAC) and repeat the blood tests

4- Discharge with routine outpatient psychiatric follow-up

**5- Inpatient psychiatry assessment**

Q3917. An 89-year-old woman presents with disorientation and restlessness. She lives independently and is usually mentally alert, but has been increasingly unwell for the past week. She has long-standing hypertension, atrial fibrillation, osteoarthritis and a hiatus hernia. Physical examination and blood tests are unremarkable. What is the most likely diagnosis?

1- Chest infection

2- Alcohol withdrawal

3- Alzheimer's disease

**4- Polypharmacy**

5- Accidental poisoning

Q3918. A 56-year-old man presents with depressed mood, decreased concentration, low libido and reduced interest in his usual hobbies of six weeks' duration. He has recently been started on atenolol for hypertension. What is the most likely diagnosis?

1- Depression

2- Dysthymia

3- Bipolar disorder

**4- Drug-induced mood disorder**

5- Personality disorder

Q3919. A 26-year-old woman returns home from hospital after the birth of her first child. Over the next week she becomes increasingly irritable, feels low in mood and is very anxious that she is not taking good care of her baby. What is the most likely diagnosis?

1- Major depression

2- Postpartum depression

3- Postpartum psychosis

**4- Postpartum blues**

5- Anxiety disorder

Q3920. A 32-year-old woman attends with her mother. She has always lived at home and never worked. Over the past few weeks she has become increasingly anxious and begs her mother not to leave her on her own at home. Her mother reveals that her daughter has always needed a lot of reassurance and has never liked being left alone. What is the most likely diagnosis?

1- Histrionic personality disorder

2- Depression

3- Conversion disorder

4- Borderline personality disorder

**5- Dependent personality disorder**

Q3921. Which one of the following is not a common side-effect of lithium?

1- Hypothyroidism

2- Diabetes insipidus

3- Weight gain

4- Fine Tremor

**5- Secretion of antidiuretic hormone (SIADH)**

Q3922. A 54-year-old divorced teacher who lives alone is seen six weeks after his second myocardial infarction. He has a history of hypercholesterolaemia and diabetes. Current medication includes simvastatin, omeprazole, amlodipine, digoxin, warfarin and glibenclamide. He is currently awaiting further coronary angiography. On examination, he has a pulse of 92, which is irregular, and evidence of biventricular failure. An ECG shows atrial fibrillation. He is depressed with sustained low mood, anhedonia, early morning wakening, poor appetite and weight loss. He says the future is bleak, and after your assessment you feel he needs an antidepressant. Which of the following would be most appropriate?

1- Amitriptyline

**2- Citalopram**

3- Dosulepin (dothiepin)

4- Fluoxetine

5- Venlafaxine

Q3923. A 40-year-old man with a history of anxiety disorder says he saw a long snake in his garden. Other people, who were present at the time, did not see it, but they did say there was a hose-pipe in the garden. How would this symptom best be described?

**1- Illusion**

2- Visual agnosia

3- Delusion

4- L'illusion des sosies

5- Visual hallucination

Q3924. A 20-year-old hairdresser is referred in the emergency department. Her mother found her in a drowsy state in her flat 6 hours ago, apparently having taken paracetamol tablets with alcohol. Serum paracetamol level is high and Parvolex has been started. Her mother is able to give you a detailed history. Which piece of information would most strongly indicate a high risk of suicide?

1- The daughter had injected heroin in the past and has been taking methadone for the past 6 months

**2- The daughter had locked up her flat and told her mother that she was going away for the weekend**

3- The daughter had recently been discharged from a psychiatric hospital where she had been receiving treatment for an eating problem

4- The daughter had taken three previous overdoses in the past year

5- The daughter suffered a serious sexual

Q3925. A 71-year-old woman on an orthopaedic ward becomes unwell 72 hours after elective surgery. She is agitated, sleepless and exquisitely sensitive to noise. She has a history of anxiety and depression. Her temperature and vital signs are unremarkable, paO2 is 9.1. What diagnosis fits best with this clinical picture?

1- Urinary tract infection

2- Pulmonary embolus

3- Paroxetine withdrawl

**4- Benzodiazepine withdrawal**

5- Transient ischaemic attack

Q3926. A 34-year-old man with a long history of a major depressive disorder phones casualty asking for advice. Recently his mood has been lower than usual and his psychiatrist has changed his antidepressant from sertraline to low-dose imipramine. He freely admits that when he is low in mood he tends to develop physical symptoms, but he's particularly worried about a pain in his right eye. This started rapidly about 2 hours ago and is becoming more intense. What is the management plan?

1- Advise him to increase the dose of imipramine to a treatment level

2- Advise on simple analgesia

3- Reassurance about the pain and to think of the pain in psychological terms

**4- Urgent review by the ophthalmologists**

5- Urgent psychiatric review

Q3927. A 40-year-old woman attends the clinic with her husband. She has obsessive behaviour and is cleaning her hands up to ten times after going to the toilet. She also regularly bleaches the kitchen surfaces up to three times per day as she is concerned about the spread of 'germs'. Regarding obsessive compulsive disorder, which of the following stems fits best with the condition?

1- Treatment with antidepressants is seldom effective

2- Resistance to the compulsions or ruminations is always present

3- The patient regards his ideas or compulsions as rational and sensible

4- The majority of patients have a poor prognosis

**5- Psychosurgery is a useful treatment option**

Q3928. A 28-year-old man presents to outpatients complaining of a 6-year history of severe tiredness. This has rendered him essentially bed-bound for the past year. He has been extensively investigated by colleagues in infectious diseases, rheumatology and neurology, with no clear diagnosis. You decide after taking a history, examining the patient and reviewing the notes that he suffers from chronic fatigue syndrome. The patient asks you which treatments have been shown to work for his condition. On the basis of current evidence which of the following treatments is most suitable?

1- Analytical psychotherapy to explore the unconscious motivations underlying his symptoms

2- Antidepressants due to the high rate of cooccurrence of depression and chronic fatigue

3- Complete bed rest with passive physiotherapy

4- Family therapy to explore how his symptoms relate to familial dynamics

**5- Therapy focusing on graded increments in**

Q3929. A 22-year-old medical student is admitted in an acutely confused state to the Emergency Department. He believes that he has been sent by God as a disciple of Jesus to prepare for the second coming of Christ. You suspect that he either has a primary psychiatric disorder or has been using cannabis. Which of the following features, if present, would be most likely to be associated with cannabis abuse rather than schizophrenia?

1- Long history of psychotic symptoms

2- A predominantly negative symptom picture

**3- A short history of onset of psychosis**

4- A depressive symptomatology

5- A history of poor university performance

Q3930. You review a 17-year-old man who is brought to casualty by the police. He has been arrested for assault and claims that he 'was told to do it'. Which of the following clinical features in the psychiatric history is most strongly associated with schizophrenia?

**1- Lack of insight**

2- Restlessness

3- Withdrawal from social contacts

4- Onset insomnia

5- Panic attacks in buses and shops

Q3931. A 34-year-old patient known with motor neurone disease was admitted with type 2 respiratory failure. He has chosen to die from respiratory insufficiency and does not want any intervention, having stated this in writing on two previous admissions. His breathing deteriorates and he becomes confused. What is the most appropriate next step?

1- Relatives to sign informed consent for ventilation

**2- Relieve any respiratory distress with opiates or other respiratory suppressants**

3- Ventilation without the patient's permission

4- Antibiotics but no ventilation

5- Hydrocortisone but no ventilation

Q3932. A 40-year-old woman is referred by the community midwife to her GP with symptoms of mood change 1 week after the birth of her baby. She is very tearful and crying, does not want the child and tells the GP that it is dying. She has some auditory and visual hallucinations, with the auditory hallucinations instructing her to harm herself Which of the following is the most likely diagnosis?

1- Postnatal depression

**2- Postpartum psychosis**

3- Adjustment disorder

4- Postnatal blues

5- Anxiety disorder

Q3933. A 26-year-old woman is admitted from her place of work 10 days after returning from a holiday with her boyfriend to sub-Saharan Africa. She had been drinking heavily on holiday but she has no significant medical history. It is believed that she has occasionally smoked cannabis in the past. Sufferers of multi-resistant P. falciparum have been identified in the area, so she is taking mefloquine as prophylaxis. Her colleagues are very worried as she has been accusing her secretary of trying to poison her coffee and her boss of bugging her phone. Her colleagues tell you that she broke up with her boyfriend after accusing him of cheating on her 3 days ago. Clinical examination is unremarkable. Investigations; Hb 12.9 g/dl WCC 5.0 x 109 /L PLT 295 x 109 /L Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 110 μmol/l Which of the following is the most likely diagnosis in this case?

1- Acute schizophrenia

2- Manic depressive psychosis

**3- Mefloquine related psychosis**

4- Acute alcohol withdrawal

5- Illicit drug use

Q3934. You see a girl who tells you she has felt empty and low in mood for a long time. She tells you that she has no friends, prefers to stay at home but hates being alone, uses cannabis, has a history of alcohol use and history of self-harm with threatening suicide. On examination of her casualty records it transpires she has self harmed on around 6 occasions over the past year. She denies early morning wakening or lack of appetite. What is the most likely diagnosis?

**1- Borderline personality disorder**

2- Depressive disorder

3- Schizoid personality disorder

4- Histrionic personality disorder

5- Narcissistic personality disorder

Q3935. An 85-year-old female with advanced Alzheimer's disease has inhaled a foreign body. Who should consent for the bronchoscopy?

1- Psychogeriatrician

2- No consent needed

3- Relative

4- If mini mental score (MMS) is greater than 20 - patient

**5- Doctor takes responsibility**

Q3936. A 75-year-old lady admitted with confusion and urinary tract infection is commenced on appropriate antibiotics. You are called to see her during the night because of severe agitation. What treatment would you prescribe?

1- Diazepam

2- Temazepam

**3- Haloperidol**

4- Trazodone

5- Tramadol

Q3937. In a 68-year-old woman presenting with forgetfulness and lack of motivation, which of the following would lead you to strongly consider a diagnosis of depressive pseudodementia?

1- Agitated behaviour during the evening

**2- Distress during cognitive testing**

3- A confabulated history

4- A slowly progressive course

5- Urinary incontinence

Q3938. A 34-year-old presents to the emergency department complaining that he has had an electrical chip inserted in his head which is giving him 'great power' and sending him 'messages that I am the one'. He also claims that his legs are 'moved by the great force'. These experiences began about 9 months ago but only became troubling in the past few days. He appears slightly perplexed and concerned. However he is settled and sits quietly in casualty while awaiting further assessment. What is the most likely underlying diagnosis?

1- Bipolar affective disorder

2- Cotard's syndrome

3- Drug-induced psychosis

4- Organic psychotic disorder

**5- Paranoid schizophrenia**

Q3939. You are asked for advice in the management of an 84-year-old woman who is currently an in-patient on the old age psychiatry ward. A few days after her admission, for the treatment of depression, she has become drowsy, confused and has had a seizure. None of these symptoms were present on her admission. What would be the most important blood test to carry out?

**1- Electrolytes**

2- Kidney function

3- Liver function

4- Blood count

5- Thyroid function

Q3940. A 6-year-old boy is referred following concerns at school. He plays around in class, is restless, acts impulsively and disrupts others. There is no physical illness or diagnosed mental health problems. His parents report that his behaviour is similar at home. He scores highly on a Conners' questionnaire. How would you best describe his condition?

1- Conduct disorder

2- Autism

3- Learning disability

4- Asperger's syndrome

**5- Attention-deficit hyperactivity disorder**

Q3941. A 19-year-old man presents with his first episode of psychosis. He has been given a diagnosis of schizophrenia. What medication would you choose for treatment of his psychotic symptoms?

1- Clozapine

2- An oral typical antipsychotic

3- A depot typical antipsychotic

**4- An oral atypical antipsychotic**

5- A mood stabiliser

Q3942. A 45-year-old woman has a 20-year history of schizophrenia. She has had many relapses requiring admission under the Mental Health Act as she regularly 'forgets' to take her medication. What psychological treatment may help in your management of her?

1- Psychoanalytical psychotherapy

2- Family therapy

3- Interpersonal therapy

**4- Compliance therapy**

5- Exposure therapy

Q3943. A 30-year-old man with schizophrenia has had many admissions to hospital under the Mental Health Act when he stops taking his medication. What medication would you want to encourage him to take?

1- Clozapine

2- An oral typical antipsychotic

**3- A depot typical antipsychotic**

4- An atypical antipsychotic

5- A mood stabiliser

Q3944. A 35-year-old man remains psychotic despite treatment with two different antipsychotic medications, from two different classes, both given for an adequate amount of time at an adequate dose. What would be the next medication you would prescribe for him?

**1- Clozapine**

2- An oral typical antipsychotic

3- A depot typical antipsychotic

4- An atypical antipsychotic

5- A mood stabiliser

Q3945. What is the preferred choice of medication to treat a patient with depressive disorder who has expressed some ideas and thoughts about suicide?

1- Tricyclic antidepressant (TCA)

2- Monoamine oxidase inhibitor (MAOI)

**3- Selective serotonin-reuptake inhibitor (SSRI)**

4- Lithium

5- Olanzapine

Q3946. In psychotherapy, what is the term applied to the therapist's own feelings, emotions and attitudes to his/her patient?

1- Transference

**2- Countertransference**

3- Resistance

4- Transitional object

5- Acting out

Q3947. What would be the preferred choice of medication to treat depressive disorder in an 85-year-old woman?

1- Tricyclic antidepressant

2- Monoamine oxidase inhibitor (MAOI)

**3- Selective serotonin antidepressant**

4- Lithium

5- Venlafaxine

Q3948. Buspirone is an anxiolytic licensed for short-term use in the treatment of anxiety. What receptor does it act on?

**1- Serotonin**

2- Noradrenaline

3- GABA

4- Acetylcholine

5- Dopamine

Q3949. What are the two main current classification systems used for classifying mental illness?

1- ICD-8 and DSM-III

2- ICD-9 and DSM-III-R

3- ICD-10 and DSM-III-R

**4- ICD-10 and DSM-IV**

5- ICD-9 and DSM-IV

Q3950. A 62-year-old man has a greatly impaired longer term memory, but an intact immediate memory. He is disorientated in time and place. Although his generalised intellectual functioning is unimpaired, he is noticed to confabulate. What is the most likely diagnosis?

1- Alzheimer's dementia

2- Vascular dementia

3- Wernicke's encephalopathy

**4- Korsakoff's syndrome**

5- Huntington's disease

Q3951. A 78-year-old man is brought to his GP by his wife. She reports an 18-month history of progressive memory impairment (especially for recent events), worsening apathy and occasional disorientation in previously familiar environments. He scores 21/30 on the Mini-Mental State Examination. His BP is 150/90, and pulse 80 and regular. What is the most likely diagnosis?

**1- Alzheimer's disease**

2- Depression

3- Mild cognitive impairment

4- Lewy-body dementia

5- Vascular dementia

Q3952. What is the composition of the abnormal trinucleotide repeat in Huntington's disease?

**1- CAG**

2- CAC

3- GAG

4- AAG

5- CGC

Q3953. How many repeats of the abnormal triplet sequence would be found in a patient with Huntington's disease?

1- 1-7

2- 7-11

3- 12-33

4- 34-37

**5- > 37**

Q3954. When seen in the out-patient clinic a 35-year-old woman tells you she is currently taking St John's wort which she buys from her local health food shop. For which condition is this remedy taken?

1- Premenstrual syndrome

2- Joint pain

3- Blocked sinuses

4- Headaches

**5- Depression**

Q3955. A patient in your clinic has undergone IQ testing by a psychologist and has been told he has a 'mild learning disability'. What range would his IQ score fall into?

1- 0-19

2- 20-34

3- 35-49

**4- 50-69**

5- 70-99

Q3956. A 34-year-old presents to casualty complaining that he has had an electrical chip inserted in his head which is giving him 'great power' and sending him 'messages that I am the one'. He also claims that his legs are 'moved by the great force.' These experiences began about 9 months ago but only became troubling in the past few days. He appears slightly perplexed and concerned. However he is settled and sits quietly in casualty while awaiting further assessment. Which one of the following is the MOST likely underlying diagnosis?

1- Bipolar affective disorder

**2- Schizophrenia**

3- Drug induced psychosis

4- Cotard's syndrome

5- Organic psychotic disorder

Q3957. A 70-year-old man is brought to outpatient clinic by his son. The son complains that his father's personality has changed completely over the past year. Even at best he is forgetful and 'switched off', at worst he is drowsy and unresponsive. He is particularly concerned that his father has claimed to 'see things that aren't really there'. Over the past few weeks he has also been tripping a lot on the carpet and is no longer safe on the stairs going to his bedroom unaccompanied. The GP gave the patient a small dose of a neuroleptic which 'made things a million times worse'. On examination he has an inexpressive face, with a mild resting tremor and some axial rigidity. There is no other focal neurology. On mini mental state examination he scores 20/30. Which one of the following is the MOST likely primary brain pathology?

1- Neurofibrillary tangles

2- Normal brain

3- Multiple infarct in the grey matter

**4- Lewy bodies**

5- Pick bodies

Q3958. A 25-year-old man is started on chlorpromazine having been diagnosed as suffering from paranoid schizophrenia. Two months later he is seen in clinic as an emergency due to concerns from his friends over an apparent deterioration in his mental state. The patient complains of an extremely distressing sense of restlessness and a complete inability to remain still. On examination he shifts constantly in his chair and fidgets with his coat. There is a slight increase in tone on the right side and a detectable resting tremor in the hands. He describes some vague feelings of 'being watched' but there are no other psychotic symptoms elicited. Which one of the following is the MOST likely diagnosis?

1- Acute dystonic reaction due to chlorpromazine

2- Breakthrough of his psychotic symptoms

**3- Akathisia**

4- Tardive dyskinesia

5- Tardive dystonia

Q3959. A 45-year-old man is admitted to hospital following an episode of pancreatitis. When he is being clerked in he admits to drinking 50 units of alcohol per week, and that he knows that his drinking may be a cause of his medical problems. Upon further questioning he also admits that when he doesn't have any alcohol he feels quite shaky and tremulous and has had a fit in the past when he hasn't had a drink for a while. He has tried to stop drinking before but wasn't successful and quickly went back to drinking. How many symptoms of alcohol dependence syndrome does he have?

1- 2

**2- 3**

3- 4

4- 5

5- 6

Q3960. A 35-year-old man is attending the gastroenterology clinic for irritable bowel syndrome. While in the clinic he mentions he is having problems attaining an adequate erection with his new partner. Morning erections are still spontaneously occurring. What would be the most appropriate first-line treatment?

1- Intracavernosal prostaglandin injections before intercourse

2- Intraurethral prostaglandin inserted before intercourse

**3- Sensate focus therapy**

4- Sildenafil

5- Selective serotonin-reuptake inhibitors

Q3961. A 17-year-old woman is reviewed in the psychiatric clinic. Her expected weight is 55 kg and since follow-up began her lowest weight has been 49.5 kg. She goes through episodes of binge-eating and vomiting and also reports prolonged fasts. She is scared of putting on weight and has missed her last two periods. What is the likely diagnosis?

1- Anorexia nervosa - purging type

2- Anorexia nervosa - with binge-eating

**3- Bulimia nervosa**

4- Personality disorder

5- Depression

Q3962. A 23-year-old man with no known psychiatric history becomes acutely disturbed in A&E and is behaving in a way that is putting him and others at risk. You and the staff have attempted to talk him down and have offered support and reassurance. You have also alerted the security team and have mobilised enough staff to make the situation safer. You now have to proceed to drug treatment. He is refusing oral medication. What drug would you give?

1- Diazepam im

2- Haloperidol im

3- Chlorpromazine im

**4- Lorazepam im**

5- Quetiapine im

Q3963. Which diagnosis is associated with the highest mortality of all psychiatric conditions?

1- Schizophrenia

2- Depressive disorder

3- Generalised anxiety disorder

**4- Anorexia nervosa**

5- Panic disorder

Q3964. A 44-year-old man with a moderate learning disability lives with his elderly mother who has recently suffered a stroke. His mother reports that, since her stroke, her son has stopped going to his local day centre, has lost weight and has taken to his bed, refusing to talk to her. What is the most likely diagnosis?

1- Dementia

**2- Depression**

3- Anxiety

4- Psychosis

5- Mania

Q3965. A 76-year-old man has had severe depression with psychotic ideas. He has been an in-patient on a psychiatric ward for 3 months. Despite having received two different antidepressants, both at adequate doses for an adequate period, his mood had continued to deteriorate. He is now refusing to eat, as he says his food is poisoned, and is drinking only minimal fluids. He is becoming dehydrated. What would be the next treatment step?

1- Prescription of a third, different antidepressant

2- Prescription of two antidepressants simultaneously

3- Prescription of an antipsychotic agent

4- Lithium augmentation therapy

**5- Electroconvulsive therapy (ECT)**

Q3966. A mother tells you that she has noticed that her 8-year-old son has quite a few (five or six) motor tics. He also has been observed, both at home and school, to make a barking noise. What is his diagnosis?

1- Learning disability

2- ADHD

**3- Tourette's syndrome**

4- Autism

5- Conduct disorder

Q3967. A woman with a long history of schizophrenia tells you 'I am a puppet. I see my arms and legs moving but it is not me moving them. I am just a plaything for them to use. I have no control'. What is this symptom?

1- Made feelings

2- Made impulses

**3- Made actions**

4- Delusional perception

5- Somatic passivity

Q3968. A 19-year-old woman reported hearing a voice that would repeat all her thoughts. For example, she would think 'I will make a cup of tea', and almost immediately afterwards she would hear the voice repeating' I will make a cup of tea'. What is this symptom?

**1- Thought echo**

2- Thought insertion

3- Thought withdrawal

4- Thought broadcasting

5- Made impulses

Q3969. A woman has an intense fear of snakes. What treatment would you suggest?

1- Benzodiazepines

2- Antidepressants

3- Psychoanalytical psychotherapy

**4- Graded exposure**

5- Flooding

Q3970. A 50-year-old man is seen in the psychiatry out-patients department. He has been drinking alcohol heavily for over 20 years but now needs to drink more to feel drunk as well as to avoid being irritable. He works as a bank manager and gave up driving 10 years ago at the insistence of his wife. There is no evidence of chronic liver disease on physical examination. Assessment of his mental state reveals episodes of low mood. He no longer goes out with friends. How is his behaviour best categorised?

1- Alcohol abuse

2- Alcohol withdrawal

**3- Alcohol dependence**

4- Social withdrawal

5- Depression

Q3971. A 25-year-old woman shows signs of extreme distress, sweating and palpitations as soon as she enters her former workplace. After consulting her past records, you find that she was seriously abused there. What would be the best description of a person's reaction to a particular situation, in this case her former workplace?

1- Depression

2- Obsessive-compulsive disorder

**3- Conditioned response**

4- Hypertension

5- Ischaemia

Q3972. An 8-month-old infant is undergoing speech development testing to trace any irregularities at an early stage. She can only make certain sounds, which she always repeats. Following the normal speech development stages, which one of the following terms would best describe her present state of speech development?

**1- Babbling**

2- Echolalia

3- Rhythm speech

4- Irregular speech

5- Telegraphic speech

Q3973. A 2-year-old young girl uses only one word - 'Daddy' - to everyone she encounters. You are asked to diagnose if she has any delay in language development or any other psychological factor causing this behaviour. It does not appear to be a form of stammering or stuttering. She has normal psychomotor development and the examination is otherwise entirely normal. How would you best describe her present state of language?

**1- Over-extension**

2- Under-extension

3- Telegraphic word

4- Holophrases

5- Grammatical morphemes

Q3974. A 5-year-old boy is showing an unusual withdrawal tendency with a loss of appetite and resigned helplessness. There is no previous history of any physical or mental disorder. He was orphaned at 6 months of age and is being raised in an orphanage. What is the most likely psychiatric diagnosis?

1- Manic depression

**2- Anaclitic depression**

3- Anxiety depression

4- Apathy

5- Schizophrenia

Q3975. A 15-year-old youth has made several suicidal attempts and is now referred to you for a diagnosis of his condition including possible medical intervention. The boy appears physically healthy and has no significant medical history although at present he suffers from depression and remains isolated from his friends and relatives. Which one of the following situations is usually the strongest driver for suicidal behaviour?

**1- Parental divorce**

2- Domestic violence

3- Sibling rivalry

4- Poverty

5- Failure in school

Q3976. A 52-year-old man is reported to have serious problems in developing social relationships. He is self-centred, arrogant, aggressively violent at times, exaggerates his abilities and fantasises that he is superior to others. His wife has suffered several mental breakdowns related to his selfishness and lack of empathy and remorse. From his medical history, you have ascertained that he is not suffering from any physical illnesses, although his mental health status remains to be investigated. What is the most likely psychiatric diagnosis?

1- Antisocial personality disorder

2- Histrionic personality disorder

3- Schizoid personality disorder

4- Psychopathic personality disorder

**5- Narcissistic personality disorder**

Q3977. What proportion of women have 'baby blues' following childbirth?

1- <5%

2- 5-10%

3- 30-40%

**4- 50-70%**

5- 90-95%

Q3978. After watching a violent film, a 5- year-old boy has exhibited extremely violent behaviour involving punching, kicking and throwing things. He showed no such aggression before watching the film. No physical or psychiatric problems have been diagnosed. He repeats his behaviour and becomes uncontrollable. How would you describe his behaviour under these two conditions?

**1- Social learning**

2- Imprinting

3- Operant conditioning

4- Instrumental learning

5- Maturation

Q3979. What autosomal-dominant disorder, which is associated with severe mental retardation in 50% of those affected, leads to the development of benign growths in various body tissues?

1- Down's syndrome

**2- Tuberose sclerosis**

3- Prader-Willi syndrome

4- Lesch-Nyhan syndrome

5- Fragile-X syndrome

Q3980. A mildly depressed patient refuses to eat if there is no provision for a stroll in the garden afterwards. Which learning principle would you apply to explain this patient's behaviour?

1- Classical conditioning

2- Extinction

3- Operant conditioning

**4- Premack principle**

5- Incidental learning

Q3981. A 15-year-old girl, with no previous history of mental illness, suffers an emotional breakdown with partial speech loss. She deliberately avoids talking about the death of her grandfather. When confronted with similar situations she cannot control her emotion and shows avoidance behaviour. How would her emotional reaction best be described?

1- Catharsis

**2- Repression**

3- Retrogression

4- Depression

5- Amnesia

Q3982. Following a severe stroke, a 52-yearold man complains of difficulty in remembering events, people's names and daily activities. He can remember events that occurred prior to his stroke, but appears unable to form new long-term memories. On neuropsychological testing, he is able to perform tasks such as solving puzzles, visual discriminations and skilled eye-hand coordination movements. However, he is unable to consolidate any new information for immediate explicit recall. What would be the most appropriate description of his present condition?

1- Retrograde amnesia

2- Simple amnesia

3- Reverse amnesia

**4- Anterograde amnesia**

5- Brain amnesia

Q3983. A 22-year-old man is found in the street by the police and brought to A&E. He is semi-naked and has been approaching passers-by in an agitated fashion. Which of the following statements by the patient most strongly suggests the presence of schizophrenia?

1- ‘All the police in this town have been spying on me'

**2- ‘They control me; they made me take my clothes off'**

3- ‘I have been given special powers by God to eliminate the anti-Christ'

4- ‘If you don't let me go I'll kill myself'

5- ‘The salaam transputer has degenerated

Q3984. A 30-year-old woman who is being reviewed in the psychiatry clinic frequently mentions the influence of 'spirits' in causing her actions. She complains that it was her friends' fault that she recently failed a swimming test. After successfully completing an IT course, she interpreted this as purely good luck on her part. How would you best describe the basis for her symptoms?

**1- External locus of control**

2- Internal locus of control

3- Paranoia

4- Obsession

5- Schizophrenia

Q3985. A 10-year-old boy fails to read and write properly at his appropriate age level. Up until now, he was within the normal ability range for his age group. He has been referred to you for diagnosis and treatment. Although he has no evidence of physical illness or mental health problems, he is extremely quiet and doesn't want to take part in reading activities with other children. What is the most likely diagnosis?

1- Autism

**2- Developmental dyslexia**

3- Cataplexy

4- Aphasia

5- Catharsis

Q3986. A 3-year-old girl shows an unusual withdrawal reaction at the sight of a cereal bowl. Otherwise, she is a healthy eater and does not react negatively at the sight of other plates, fruit bowls, etc. No physical/mental illnesses or developmental irregularities have been diagnosed. What would be the best description of this symptom?

**1- Garcia effect**

2- Bulimia

3- Anorexia nervosa

4- Anxiety disorder

5- Bingeing

Q3987. Acamprosate is useful in the treatment of what?

1- Alcohol dependence

2- Alcohol withdrawal

**3- Maintenance of abstinence from alcohol**

4- Smoking cessation (cigarettes)

5- Opioid withdrawal

Q3988. A 35-year-old man presents with low mood. He has felt depressed all his life and never feels good for more than a week, but has never had suicidal or psychotic episodes and has been able to continue work despite his depression. What is the most likely diagnosis?

1- Major depression

2- Avoidant personality disorder

3- Cyclothymia

**4- Dysthymia**

5- Bipolar disorder

Q3989. A 25-year-old woman tells you that she does not like leaving the house as she feels that other people are looking at her and commenting on her. She fears that she will do something to embarrass herself and hence has avoided situations involving social contact, she is only comfortable leaving the house at night when she is unlikely to see other people. She is aware that these ideas are excessive and is keen for help. What is her diagnosis?

1- Agoraphobia

**2- Social phobia**

3- Schizophrenia

4- Delusional disorder

5- Generalised anxiety disorder

Q3990. Some 3 months after suffering a serious assault, a 45-year-old man complains of having vivid dreams of the incident. He has noticed he is more 'jumpy' than before and avoids going out at night as it makes him anxious and reminds him of the attack. What is the most likely diagnosis?

1- Generalised anxiety disorder

**2- Post-traumatic stress disorder**

3- Social phobia

4- Agoraphobia

5- Acute stress reaction

Q3991. A patient tells you that her 9-yearold son has recently been prescribed a drug for treatment of his 'hyperactivity'. What is it likely to be?

**1- Methylphenidate**

2- Modafinil

3- Sildenafil

4- Diazepam

5- Fluoxetine

Q3992. A 35-year-old woman patient tells you that her father and her older brother have Huntington's disease. What is her chance of developing Huntington's disease?

1- 0%

2- 25%

**3- 50%**

4- 75%

5- 100%

Q3993. Disulfiram (Antabuse) is used in the treatment of what?

**1- Alcohol dependence**

2- Opioid dependence

3- Cannabis use

4- Cocaine use

5- Smoking cessation (cigarettes)

Q3994. A 19-year-old man is taken to his GP by his mother, who reports a six-month history of weight loss, apathy and poor selfcare. He dropped out of university soon after starting his course, and now spends most of his time alone in his room playing music. He has recently accused his mother of trying to poison him. At interview he is suspicious and reluctant to talk to you. What is the most likely reason for this presentation?

1- Amphetamine misuse

2- Depression

3- Normal teenage behaviour

4- Personality disorder

**5- Schizophrenia**

Q3995. What has NICE recommended the use of bupropion for?

1- Alcohol withdrawal

2- Opioid withdrawal

3- Cannabis cessation

4- Cocaine cessation

**5- Smoking cessation (cigarettes)**

Q3996. A 3-year-old child is undergoing neuropsychological assessment. She is asked to sit in a certain place and a doll is placed at different positions from her. She is asked to describe what the doll might perceive from different perspectives when placed at the different sites. Following Piaget's criteria, which stage of cognitive development would you expect her to have?

1- Sensory-motor

**2- Preoperational**

3- Concrete operational

4- Formal operational

5- Preconceptual

Q3997. Naltrexone can be used to help prevent relapse in the treatment of which drug dependency?

1- Hallucinogens

**2- Opioids**

3- Cocaine

4- Cannabis

5- Nicotine

Q3998. What genetic syndrome that causes learning disability is linked to Alzheimer's dementia?

**1- Down's syndrome**

2- Tuberose sclerosis

3- Prader-Willi syndrome

4- Lesch-Nyhan syndrome

5- Fragile-X syndrome

Q3999. What is the commonest inherited cause of mental retardation?

1- Down's syndrome

2- Tuberose sclerosis

3- Prader-Willi syndrome

4- Lesch-Nyhan syndrome

**5- Fragile-X syndrome**

Q4000. What X-linked recessive condition has the characteristic problem of selfinjurious behaviour?

1- Down's syndrome

2- Tuberose sclerosis

3- Prader-Willi syndrome

**4- Lesch-Nyhan syndrome**

5- Fragile-X syndrome

Q4001. What syndrome that causes mental retardation is characterised by hypogonadism, short stature, hyperphagia and obesity?

1- Down's syndrome

2- Tuberose sclerosis

**3- Prader-Willi syndrome**

4- Lesch-Nyhan syndrome

5- Fragile-X syndrome

Q4002. What proportion of cases of anorexia nervosa occur in males?

1- < 1%

2- 1-2%

**3- 5-10%**

4- 25%

5- 50%

Q4003. A 91-year-old widow has been in the observation ward of the A&E department for 24 hours following a fall. During the night she suddenly becomes confused and agitated, accusing the nurses of being 'Nazis'. She has hit a porter with her walking stick. She scores 3/10 on the Abbreviated Mental Test Score. Physical examination is unremarkable, except for a pyrexia of 38.5°C and right basal crepitations. Her blood gases are normal. A chest X-ray shows right lower lobe shadowing. What is the most important initial management action in terms of improving her confusional state?

1- Blood cultures

2- Intravenous antibiotics

**3- Move the patient to a well-lit single room**

4- Lorazepam 500 mg im

5- Risperidone 1 mg orally

Q4004. A 22-year-old man is being treated on the ward for a deep vein thrombosis in his left leg, which occurred after he had been injecting drugs of abuse into his femoral vein. He had been stable on a methadone programme at quite a high dose for 6 months, but he dropped out of this 10 days prior to his admission. The nurses ask you to see him at night because he has abdominal pain and diarrhoea. The only clinical findings on examination are of a swollen left leg and a non-discharging sinus over the femoral vein, the abdomen is soft and rectal examination is normal. What is the most appropriate prescription?

1- Usual dose methadone

2- Low-dose diamorphine

3- Low-dose methadone

**4- Loperamide**

5- Diazepam

Q4005. A teenage girl complains that her mother interferes in every aspect of her life and tries to control her. The girl no longer speaks to her parents or eats meals with them. The mother has increased her efforts to maintain control. What condition could arise from this situation?

**1- Anorexia nervosa**

2- Dissociative identity disorder

3- Narcissistic personality disorder

4- Schizophrenia

5- Separation anxiety disorder

Q4006. A 25-year-old woman with no prior history of psychiatric problems presents with a 3-week episode of insomnia, increased psychomotor activity and impulsivity. There is no history of substance abuse, general medical problems, emotional stresses or depressive episodes. Laboratory tests for liver and thyroid functions are normal. Mental status examination reveals a well-oriented female with pressured speech and mood lability, but no psychotic symptoms. What is the most likely diagnosis?

1- Antisocial traits

2- Anxiety

**3- Mania**

4- Psychosis

5- Depression

Q4007. A 25-year-old woman with no prior history of psychiatric problems presents with a 3-week episode of insomnia, increased psychomotor activity and impulsivity. There is no history of substance abuse, general medical problems, emotional stresses or depressive episodes. Laboratory tests for liver and thyroid functions are normal. Mental status examination reveals a well-oriented female with pressured speech and mood lability, but no psychotic symptoms. A diagnosis of mania is made. What is the possibility that she may experience a similar episode later on in life?

1- 10%

2- 25%

3- < 50%

4- < 75%

**5- 90%**

Q4008. A 23-year-old woman requests reduction mammoplasty because she is convinced her breasts are grossly large and misshapen. She dresses in elaborate clothing to hide her shape and, although she swims well, has stopped going to the pool. Physical examination reveals breasts well within the normal range of size and shape. What is the most likely diagnosis?

**1- Body dysmorphic disorder**

2- Delusional disorder, somatic type

3- Hypochondriasis

4- Major depressive disorder, single episode

5- Somatisation disorder

Q4009. A middle-aged man with a 10-year history of alcoholism successfully completes an inpatient drug rehabilitation programme. What advice will you give him to maintain sobriety?

1- Take disulfiram before going to parties where alcohol is served

2- Take naltrexone before attending parties, as even one drink will make him nauseous

3- Limit consumption to socially appropriate amounts

**4- Join a local Alcoholics Anonymous group**

5- Before attending a party, plan a definite

Q4010. A 20-year-old female with cocainedependence intoxication comes to A&E with extreme agitation, persecutory ideation, hypertension and tachycardia. She is admitted to a medical psychiatric unit for observation and treatment. What would be a characteristic finding in this case?

1- Amfetamines will facilitate detoxification from cocaine

2- Psychological effects from withdrawal will most probably be of short duration

**3- She is likely to have additional serious psychiatric pathology**

4- Simultaneous withdrawal symptoms from alcohol are rarely seen

5- Use of antipsychotic medication is likely to

Q4011. A girl is repeatedly sexually molested from the age of 8 by her father. He warns her not to tell anyone or she will be killed. What condition could occur as a sequel to this situation?

1- Dependent personality disorder

2- Autistic disorder

**3- Dissociative identity disorder**

4- Hypochondriasis

5- Major depressive disorder

Q4012. A woman is continually worried that she may be contaminated with industrial chemicals in her workplace. She showers longer and longer every night to remove the chemicals. Which neurotransmitter system has a role to play in such symptoms?

1- Acetylcholine

2- Gamma-aminobutyric acid

**3- Serotonin**

4- Dopamine

5- Noradrenaline

Q4013. A 4-year-old girl fails to develop intelligible speech and simply repeats bits of sentences that she has heard. She spends hours sitting alone, facing a wall and rocking back and forth. She shows little affection for others and sometimes bangs her head against the floor. What is the most likely aetiology for her symptoms?

1- Childhood sexual abuse

2- Emotionally distant parents

3- Childhood exposure to lead

**4- Intrauterine rubella**

5- Maternal cocaine abuse during pregnancy

Q4014. A 40 year-old woman has become apathetic after a series of setbacks in her life. She now spends 12-14 hours in bed each day. There is moderate psychomotor retardation and difficulty in concentration. What is the most probable behavioural explanation for her symptoms?

1- Double-blind communication

2- Faulty cognitive framework

3- Inadequate exposure to light

**4- Learned helplessness**

5- Object loss

Q4015. Which Section of the Mental Health Act allows an informal in-patient who is thought to be a danger to themselves or to others to be held in hospital for 72 hours for further assessment?

1- Section 136

2- Section 2

3- Section 3

4- Section 4

**5- Section 5(2)**

Q4016. For how long should a single episode of depression be treated after recovery?

1- Stop when patient recovers

2- 1 month

3- 6 weeks

4- 3 months

**5- 6 months**

Q4017. Donepezil (Aricept) belongs to which class of drugs?

1- Anticonvulsant

**2- Acetylcholinesterase inhibitor**

3- Antidepressant

4- Antipsychotic

5- Mood stabiliser

Q4018. What BMI is diagnostic of anorexia?

1- < 13.0

2- < 15.5

**3- < 17.5**

4- < 19.5

5- < 22.0

Q4019. You are taking a history from a 19- year-old man. He says he has trouble sleeping at night because he is concerned about abusing his special powers. He says he is able to read other people's thoughts and sometimes feels able to control their hand movements. He knows this to be true because a passage in the Bible can be translated with a special code and the translation dictates his powers. He also says he hears voices talking about him. How is his delusion best categorised?

1- Delusion of control

2- Paranoid delusion

**3- Delusion of reference**

4- Delusion of replacement

5- Delusion of guilt

Q4020. For how long should a person's cognitive abilities have been declining to qualify for a diagnosis of dementia?

1- 1 week

2- 1 month

3- 2 months

**4- 6 months**

5- 2 years

Q4021. A 73-year-old man with advanced Parkinson's disease is being treated on the ward for a urinary tract infection. His regular medication includes co-careldopa, entacapone, cabergoline, and prn subcutaneous apomorphine injections. His wife tells you that for the last month his behaviour has changed and he has become agitated, disinhibited and he keeps asking her for money. His dyskinesia has also become more pronounced over this period. On examination, he is distractable. He denies having hallucinations and, after probing questioning, you can find no evidence of delusional thought. Mood assessment shows him to be cheerful and there are no cognitive or biological features of depression. What is the likely physiological cause of the behavioural change?

1- Reduced breakdown of dopamine

2- Change in sensitivity to dopamine

3- Confusional state due to urosepsis

**4- Direct dopamine agonism**

5- Coexisting dementia

Q4022. The stop-start technique (Seman's technique) is used for the treatment of which of the following?

1- Panic disorder

2- Obsessive-compulsive disorder

3- Anxiety

**4- Premature ejaculation**

5- Vaginismus

Q4023. To what class of drugs does clozapine belong?

1- Tricyclic antidepressant

2- Phenothiazine

3- Thioxanthene

**4- Atypical antipsychotic**

5- SSRI

Q4024. A recently bereaved man reports hearing the voice of his dead wife as he drops off to sleep. What is this symptom called?

1- Haptic hallucination

2- Hypnopompic hallucination

**3- Hypnogogic hallucination**

4- Thought broadcast

5- Audible thoughts

Q4025. A woman who has recently used cocaine presents to A&E saying she can feel insects crawling under her skin. What is this symptom known as?

1- Illusion

**2- Haptic hallucination**

3- Visual hallucination

4- Delusion of infestation

5- Auditory hallucination

Q4026. A woman withdrawing from alcohol says she can make out the form of an animal on the wall. The only thing you see on the wall is a retaining bracket. What is this symptom called?

**1- Illusion**

2- Visual hallucination

3- Hypnopompic hallucination

4- Hypnogogic hallucination

5- Haptic hallucination

Q4027. A man with schizophrenia reports that thoughts are leaking out of his head and being read by others around him. What is this symptom?

**1- Thought broadcast**

2- Thought withdrawal

3- Thought blocking

4- Thought echo

5- Auditory hallucination

Q4028. A 50-year-old man presents to the out-patients clinic with a history of cognitive decline. On examination he has myoclonic jerks. His EEG shows triphasic sharp-wave complexes, superimposed on a pattern of cortical activity suppression. What is the likely diagnosis?

1- Alzheimer's dementia

2- Vascular dementia

**3- Creutzfeldt-Jakob disease (CJD)**

4- Huntington's disease

5- Epilepsy

Q4029. A 70-year-old accountant has difficulty in concentrating on tasks and remembering recent events. Clinical examination and laboratory tests are normal. Mental status examination shows emotional lability, difficulty in naming common objects and a recall of only one out of three objects after 5 minutes. What could be the cause of his symptoms?

1- Alcoholic dementia

**2- Alzheimer's dementia**

3- Cerebrovascular disease

4- Depression

5- Normal ageing

Q4030. What is the formula for calculating body mass index (BMI)?

**1- kg/m squared**

2- kg squared/m

3- kg/m

4- m squared/kg

5- m/kg squared

Q4031. Which group of drugs commonly cause patients to suffer from extrapyramidal side-effects?

1- Atypical antipsychotics

2- Tricyclic antidepressants

3- Selective serotonin-reuptake inhibitors

**4- Conventional antipsychotics**

5- Lithium

Q4032. Which one of the following statements best fits with a diagnosis of tardive dyskinesia?

1- Fixed contortions of the muscles of the head, neck and upper limbs

2- Occurring within a few days of administration of an antipsychotic

**3- Abnormal involuntary movements, typically choreoathetoid and usually complex, rapid and stereotyped**

4- Muscular rigidity, tremor and bradykinesia

5- It is always reversible

Q4033. An 18-year-old woman has a history of panic attacks. She notices that during her attacks she feels disconnected from the external world, as if it is unreal. What is the best description of this symptom?

1- Hallucination

2- Illusion

3- Depersonalisation

**4- Derealisation**

5- Retardation of thought

Q4034. A 60-year-old man is admitted because his wife can no longer cope with him at home. He was fit and well until three months ago, but now has severe cognitive impairment and is bed-bound. What is the most likely diagnosis?

1- Wilson's disease

2- Alzheimer's disease

3- Pseudodementia

4- Gerstmann-Straussler-Scheinker syndrome

**5- Creutzfeldt-Jakob disease**

Q4035. A 27-year-old woman complains of 'feeling down' for the last four weeks. Previously she had been feeling well, with high energy levels and little need for sleep. This pattern has been occurring over the last few years, although the episodes have never been severe enough for her to stop work. What is the most likely diagnosis?

1- Seasonal affective disorder

2- Bipolar disorder

**3- Cyclothymia**

4- Borderline personality disorder

5- Dysthymia

Q4036. In the assessment of a 21-year-old male who has taken an overdose of paracetamol, which of the following would alert you to an ongoing immediate risk of suicide?

1- He was intoxicated at the time of the overdose

2- He has a positive family history of completed suicide

3- He has had more than three life events in the preceding 6 months

4- The absolute number of tablets taken

**5- The fact that he took precautions to avoid**

Q4037. A 28-year-old woman who has recently given birth to a healthy child presents with symptoms of emotional lability. Which of the following would make you most suspicious that she has a postnatal depressive disorder?

**1- Presence of guilty thoughts**

2- Onset of symptoms at 4 days postdelivery

3- A low score on the Edinburgh Post-Natal Depression Scale

4- Anxiety about the baby

5- Inability to sleep

Q4038. After initiating lithium therapy when should the plasma level be checked?

1- 12 hours

2- 12-24 hours

3- 24-48 hours

4- 3-5 days

**5- 5-7 days**

Q4039. A 32-year-old woman is referred by her GP as she has lost 10kg in weight: her previous weight was 55 kg, she now weighs 45 kg. She has a fear of gaining weight, but no further symptoms are elicited. What is your preferred diagnosis?

1- Depression

2- Schizophrenia

3- Bulimia nervosa

**4- Anorexia nervosa**

5- Generalised anxiety disorder

Q4040. Which antipsychotic has most risk of causing neutropenia and agranulocytosis and therefore must be monitored with regular full blood counts?

**1- Clozapine**

2- Risperidone

3- Olanzapine

4- Chlorpromazine

5- Quetiapine

Q4041. A 53-year-old man is admitted for investigation of his confusion. He is intermittently coherent and aggressive and says the people in the flat next door to him are plotting to kill him. He denies auditory hallucinations but admits to seeing animals run across the floor. On examination, he is agitated and sweating but afebrile, there is no meningism and he has normal fundi. Pulse is 90 bpm and BP 170/95. Routine investigations show: Hb 10 g/dl; MCV 99 fl; WCC 4 x 103 /mm3 ; platelets 100 x 103 /mm3 ; Na 130 mmol/l; K 3 mmol/l; urea 2.8 mmol/l; creatinine 119 mmol/l. What is the most likely diagnosis?

1- Neuropsychiatric complication of Vitamin B12 deficiency

2- Hyponatraemic encephalopathy

3- Acute presentation of schizophrenia

4- Bacterial meningitis

**5- Delirium tremens**

Q4042. Toxicity with which psychotropic medication could cause drowsiness, ataxia, coarse tremor, nausea and diarrhoea?

1- Haloperidol

2- Chlorpromazine

**3- Lithium**

4- Amitriptyline

5- Fluoxetine

Q4043. A 22-year-old man with a history of schizophrenia presents to A&E with an oculogyric crisis. What medication should he be given?

**1- Anticholinergics**

2- Dopamine agonists

3- Dopamine antagonists

4- Increased dose of antipsychotics

5- Decreased dose of antipsychotics

Q4044. A patient on haloperidol complains of a feeling of restlessness and an inability to sit still since starting his medication. What is this side-effect called?

1- Dystonic reaction

**2- Akathisia**

3- Tardive dyskinesia

4- Neuroleptic malignant syndrome

5- Parkinsonism

Q4045. A young man recently started on haloperidol is transferred from the local psychiatric unit with pyrexia, fluctuating consciousness, muscular rigidity and autonomic instability. What is your working diagnosis?

1- Meningitis

2- Acute dystonia

**3- Neuroleptic malignant syndrome**

4- Cerebral event

5- Tardive dyskinesia

Q4046. A 30-year-old woman has recurrent, persistent, intrusive, distressing thoughts and images of her family coming to harm. She tells you that these thoughts seem to come from her own mind, but she views them as senseless. What symptom is she describing?

1- Delusions

**2- Obsessions**

3- Compulsions

4- Hallucinations

5- Thought interference

Q4047. A man with a known history of schizophrenia is admitted to a medical ward. Whilst an in-patient on the ward he states he can hear two voices talking to each other about his thoughts and actions. The nurses tell him there is actually no one there. This symptom is best described as which of the following?

1- A persecutory delusion

2- Thought echo

**3- An auditory commentary hallucination**

4- An illusion

5- A second-person auditory hallucination

Q4048. A 70-year-old woman with a 25-year history of treatment with antipsychotic medications for schizophrenia complains of the onset of writhing tongue and finger movements. What is the probable cause?

1- Akathisia

2- Parkinsonism

**3- Tardive dyskinesia**

4- Huntington's disease

5- Wilson's disease

Q4049. For the first month after losing his job, a sales manager spent his time moping around the house. Since then he has gradually been forced to do most of the housework, especially as his wife has had to take on a full-time job. He tells his family and friends that he is happy that he now has more time with his family. However, he spends most of his spare time actively searching for employment. What defence is being employed here?

1- Sublimation

2- Intellectualisation

3- Displacement

**4- Rationalisation**

5- Projection

Q4050. A 37-year-old man presents to A&E with a sudden onset of weakness in his right hand. He was recently accused of wife abuse. Mental status examination reveals a peculiar calmness and lack of concern about his weakness. What is the most likely diagnosis?

**1- Conversion disorder**

2- Specific phobia

3- Obsessive-compulsive disorder

4- Hypochondriasis

5- Melancholic depression

Q4051. A middle-aged woman has a morbid fear of snakes. Although there are no snakes in her neighbourhood, she is afraid to go out on walks. Which is the most common defence mechanism in such a situation?

1- Dissociation

2- Projection

**3- Displacement**

4- Conversion

5- Resistance

Q4052. An 83-year-old man is undergoing cognitive assessment in a psychogeriatric clinic. He was referred because of a change in his behaviour, and his wife has noticed a few aggressive outbursts over the past months. His Mini-Mental test score is 18. Which patterns of cognitive deficit would favour a dementia of subcortical origin?

1- Poor visuospatial performance

2- Preserved verbal fluency

3- Severe memory disturbance

4- Constructional apraxia

**5- Reduced verbal output**

Q4053. An anxious 20-year-old man complains of severe right lower quadrant pain. On examination there is rebound tenderness. Blood testing shows a leucocytosis. A provisional diagnosis of acute appendicitis is made. However, his pain decreases dramatically after the administration of intravenous normal saline. What is the condition here?

1- Hypovolaemia

2- Psychogenic pain

3- Histrionic personality disorder

4- Factitious disorder

**5- Placebo response**

Q4054. An 87-year-old woman has symptoms of severe depression. She states that she is about to die and has no money. What type of delusions are these?

1- Delusions of guilt

2- Delusions of reference

3- Persecutory delusions

**4- Nihilistic delusions**

5- Grandiose delusions

Q4055. A 23-year-old woman complains that her mother is selfish, stupid and cunning. At the same time, she praises another relative whom she describes as kind, wise and helpful. Which defence mechanism is suggested by this behaviour?

1- Conversion

2- Idealisation

3- Symbolisation

**4- Splitting**

5- Projection

Q4056. The Mini-Mental State Examination (MMSE) is a screening questionnaire for which condition?

1- Depression

**2- Cognitive impairment**

3- Alzheimer's dementia

4- Mental illnesses as a whole

5- Vascular dementia

Q4057. A 24-year-old woman finds it difficult to have close friends as she fears rejection. She has a low self-esteem and often becomes anxious in the presence of others. What could be a probable cause for this condition?

1- Innate cause

2- Environmental pressure

3- Perinatal insult

**4- Childhood problems**

5- Leaving the family home

Q4058. Which of the following is a characteristic finding in the pathophysiology of bipolar disorder?

1- Detection of chromosomal abnormalities

2- Blocking of central dopamine receptors by mood-stabilising medications

3- The aetiological lesion is not heritable

**4- Increased neurotransmitter levels during manic episodes**

5- Abnormalities in cellular membrane

Q4059. A 30-year-old lawyer complains of increasing anxiety over the past 2 years. She feels inadequate in social situations and worries about her career. She also complains of insomnia, problems with concentration, tenseness and irritability. There is no other medical problem, and no substance abuse, hallucinations, delusions or psychomotor retardation. She is well dressed, does not feel frustrated and has no suicidal intent. What is the probable diagnosis?

1- Adjustment disorder with anxious mood

2- Social phobia

**3- Generalised anxiety disorder**

4- Obsessive-compulsive neurosis

5- Major depressive disorder

Q4060. A 30-year-old lawyer complains of increasing anxiety over the past 2 years. She feels inadequate in social situations and worries about her career. She also complains of insomnia, problems with concentration, tenseness and irritability. There is no other medical problem, and no substance abuse, hallucinations, delusions or psychomotor retardation. She is well dressed, does not feel frustrated and has no suicidal intent. A diagnosis of generalised anxiety disorder is made. Which one of the following drugs would be most suitable for this woman?

1- Fluphenazine

**2- Buspirone**

3- Thioridazine

4- Alprazolam

5- Triazolam

Q4061. A 20-year-old man presents with a history of delayed developmental milestones, problems with impulse control and an IQ of 65. He was in special education classes during his schooling. What could be the probable cause?

1- Genetic or chromosomal abnormalities

2- Perinatal insults

3- Sociocultural deprivation

4- Maternal substance abuse

**5- Mild mental retardation**

Q4062. A 43-year-old woman presents complaining of fever over the last week. She has multiple scars over both wrists, and scars are also noted on her abdomen. She is apyrexial during her brief stay in the ward. She soon leaves the hospital against medical advice. She has a large set of medical records with previous admissions on at least 6 occasions over the past 2 years for abdominal pain and is also known to other local hospitals. What is the most likely diagnosis?

1- Munchausen's syndrome by proxy

2- Borderline personality disorder

3- Conversion disorder

**4- Factitious disorder**

5- Malingering

Q4063. An elderly man complains of increasing sadness and an inability to find pleasure in anything. He has recently been forced to retire from his job and has several chronic medical problems. Which of the following symptoms increases his risk for suicide?

1- Bouts of crying

**2- Feelings of hopelessness**

3- Insomnia

4- Lassitude

5- Anorexia

Q4064. In what type of dementia are both neurofibrillary tangles (NFTs) and senile plaques seen pathologically?

**1- Alzheimer's dementia**

2- Pick's disease

3- Punch-drunk syndrome

4- Lewy body dementia

5- Huntington's disease

Q4065. What feature is characteristically seen on a multiple sleep-latency test (MSLT) EEG in narcolepsy?

1- Prolonged stage I sleep

2- Prolonged stage II sleep

3- Prolonged stage III sleep

**4- Rapid onset of REM sleep**

5- Late onset of REM sleep

Q4066. What symptoms compose the 'Narcoleptic tetrad'?

**1- Hypersomnia, cataplexy, sleep paralysis and hypnogogic or hypnopompic hallucinations**

2- Hypersomnia, cataplexy, sleep paralysis and nightmares

3- Hypersomnia, cataplexy, sleep paralysis and sleepwalking

4- Hypersomnia, cataplexy, nightmares and sleepwalking

5- Hypnogogic or hypnopompic

Q4067. During which sleep stage do nightmares occur?

1- I

2- II

3- III

4- IV

**5- REM**

Q4068. During which sleep stage do night terrors and sleepwalking occur?

1- I

2- II

3- III

**4- IV**

5- REM

Q4069. What is the 'gold standard' for distinguishing epileptic seizures from nonepileptic attack disorder (NEAD)?

1- Serum prolactin

**2- Video telemetry**

3- A history of no injuries sustained during attacks

4- Presence of incontinence

5- A history of attacks only occurring after an

Q4070. What is the frequency of alpha waves on EEG?

1- < 4 Hz

2- 4-7 Hz

**3- 8-13 Hz**

4- > 14 Hz

5- > 20 Hz

Q4071. A young man presents with bizarre delusions, a blunted affect and tangential thought processes. Which one of the following characteristics would indicate an unfavourable prognosis?

**1- A prolonged premorbid history of social withdrawal**

2- A schizophrenic second-degree relative

3- Rapid onset of illness

4- A normal MRI brain scan

5- Catatonia

Q4072. A 75-year-old woman has cognitive decline and symptoms of parkinsonism. What is the diagnosis?

1- Frontal lobe dementia

2- Alzheimer's dementia

**3- Lewy body dementia**

4- Huntington's disease

5- Creutzfeldt-Jakob disease

Q4073. A previously convicted criminal now spends time working in a local nursing home and has recently joined the fire-fighting service. What defence mechanism is most strongly suggested by this behaviour?

1- Dissociation

2- Compensation

3- Rationalisation

4- Denial

**5- Undoing**

Q4074. A 24-year-old man is admitted to the psychiatric ward from home, where he lives alone. His neighbours have been increasingly concerned about rubbish piling up inside his flat and sometimes he isn't seen for days. His family tell you that over the last year he has become very odd and isolated. On examination, he is withdrawn and quiet and you find it difficult to understand his answers as he frequently wanders off the point, as if he is answering a different question. Although spontaneous movements are reduced, there are no neurological signs and he is not on any medication, prescribed or illicit. His mother and two older brothers have both had episodes of major depression. Are there any features that suggest a favourable outcome from this episode?

1- Young age

2- Insidious onset

3- No favourable features

4- Quiet speech

**5- Family history of depression**

Q4075. Which antidepressants have the 'cheese effect' (a hypertensive reaction) as a side-effect?

1- Selective serotonin-reuptake inhibitors (SSRIs)

2- Tricyclic antidepressants (TCAs)

**3- Monoamine oxidase inhibitors (MAOIs)**

4- Serotonin- and noradrenaline-reuptake inhibitors, eg venlafaxine

5- Presynaptic a 2-antagonists, eg mirtazapine

Q4076. The CAGE questionnaire is a screening questionnaire for which disorder?

1- Dementia

2- Depression

3- OCD

**4- Alcohol dependence**

5- Eating disorders

Q4077. Wernicke's encephalopathy is due to a deficiency of which vitamin?

**1- Thiamine**

2- Nicotinic acid

3- Vitamin B12

4- Folic acid

5- Vitamin D

Q4078. A 37-year-old woman states she has special powers that allow her to know what other people are thinking. She also believes she is related to the Royal family. She has been overactive, elated in mood and not sleeping. How would you describe her thoughts?

1- Delusions of guilt

2- Delusions of reference

3- Persecutory delusions

4- Nihilistic delusions

**5- Grandiose delusions**

Q4079. A 31-year-old woman is seen at home by her GP 12 weeks after a successful first pregnancy. She is tearful, has lost her appetite and thinks she no longer has her uterus. There are no features of delirium. She has a history of illicit drug use and her older brother has depression. There are no features to suggest infection and there are no focal neurological signs. What is the likely diagnosis?

1- Maternity blues

**2- Postpartum depression**

3- Drug-induced psychosis

4- Schizophrenia

5- Postpartum psychosis

Q4080. What is the genetic mode of inheritance of Huntington's disease?

**1- Autosomal-dominant**

2- Autosomal-recessive

3- X-linked dominant

4- Polygenic inheritance

5- No genetic inheritance identified

Q4081. A 45-year-old man with a history of paranoid schizophrenia is brought to casualty by the police as he has been 'behaving bizarrely'. There are no psychiatric beds available and he is admitted to the medical short stay unit with continual monitoring from a psychiatric nurse. After a night's sleep he appeared settled and co-operative but the next day he became extremely agitated. He screams that he can see 'people crawling all over the walls'. He looks terrified and highly distractible and gazes intermittently at the walls. At times he appears drowsy and at others hyper-alert. He is disoriented in time and place but not person. A full physical examination was impossible but he looks tremulous and is sweating profusely and staggers across the cubicle with an ataxic gait. Which one of the following is the MOST likely diagnosis?

1- Exacerbation of his psychotic illness

**2- Delirium due to drug withdrawal**

3- Drug induced psychosis

4- Head injury

5- Neuroleptic malignant syndrome

Q4082. A 23-year-old woman is admitted after she took a paracetamol overdose. She is given a treatment dose of N-acetylcysteine and her baseline and repeat biochemical and haematological indices are normal. She doesn't enjoy her work as a secretary, and she has a regular partner but they have been arguing recently. She didn't intend to kill herself. She denies regularly using alcohol and illicit drugs. Her only past history is of an aspirin 'overdose', but you note that at the time the blood level was very low and she was not admitted. There is no other significant past medical history. Her parents are divorced and she lives with her mother. What factor in the history makes her more likely to repeat this behaviour?

1- Parental divorce

2- Arguing with partner

3- Dissatisfaction with work

4- Her age

**5- Aspirin ‘overdose'**

Q4083. A 49-year-old woman is an inpatient on a psychiatric ward under Section with a major depressive episode. She refuses food and drink. What is the most appropriate treatment?

1- Fluoxetine via a nasogastric (NG) tube

2- Monoamine oxidase inhibitor (MAOI) via an NG tube

**3- Electroconvulsive therapy (ECT)**

4- Sedation and iv fluids

5- Antipsychotic medication via an NG tube

Q4084. A young boy resists going to school because he wants to stay with his mother. He becomes terrified whenever his parents leave the house. During the day he worries that his family may never come back home. What disorder in adulthood is most closely associated with these symptoms?

1- Dysthymic disorder

2- Obsessive-compulsive disorder

**3- Panic disorder**

4- Schizophrenia

5- Pain disorder

Q4085. A teenager presents with a 2-day history of anxiety, tremulousness and diaphoresis. He admits to the recent cessation of a drug, but will not reveal which drug he used. He has a generalised tonicclonic seizure in the A&E department. Withdrawal of which drug is the most likely cause?

**1- Benzodiazepine**

2- Cocaine

3- Heroin

4- Lysergic acid diethylamide (LSD)

5- Cannabis

Q4086. A young man seeks counselling because he is extremely angry with his coworkers. He believes they laugh at his lack of skill and experience. During therapy, he fantasises about taking a gun to work and shooting everyone in the office. Which associated finding may indicate that he would do this?

1- The presence of persecutory delusions

**2- A history of violence towards others**

3- A history of alcohol abuse

4- A lack of anxiety associated with his statements

5- The presence of temporal lobe epilepsy

Q4087. A young man being evaluated for social withdrawal, says that he has no friends, is not interested in other people and does not feel lonely. A mental status examination reveals no abnormality. What is the most probable personality diagnosis?

1- Schizotypal personality disorder

2- Paranoid personality disorder

3- Narcissistic personality disorder

4- Avoidant personality disorder

**5- Schizoid personality disorder**

Q4088. Which one of the following features is MOST helpful in distinguishing dementia from severe depression?

1- Persistent headache

2- Weight loss

3- Poor attention spans

**4- Grasp reflex**

5- Social withdrawal

Q4089. Which of the following is a sideeffect of lithium therapy?

1- Abnormal liver function

2- Fever

**3- Hypothyroidism**

4- Leucopenia

5- Cystitis

Q4090. A 7-year-old boy is referred from school because of his poor speaking and reading ability, failure to follow directions and classroom disruptiveness. He appears to be alert and affectionate with others. He also appears to be preoccupied with internal stimuli. IQ testing results are in the normal range. What could be a probable cause of his symptoms?

1- Autistic disorder

2- Food allergies

**3- Hearing impairment**

4- Schizophrenia

5- Seizure disorder

Q4091. After an automobile accident that kills her child but leaves her with only minor injuries, a mother appears very calm and says that she has no emotion. What mechanism is she using?

1- Derealisation

**2- Isolation**

3- Depersonalisation

4- Disorientation

5- Intellectualisation

Q4092. An elderly man is hospitalised after experiencing racing thoughts, insomnia, increasing impulsivity and grandiosity for a month. A 1-month trial of lithium with a blood level of 1.5 mEq/l fails to ameliorate his symptoms. Assuming no contraindications, what would be the most appropriate next step in the management of this patient?

1- A trial of imipramine

**2- A trial of valproate**

3- An increase in the dose of lithium

4- The addition of haloperidol

5- A trial of thioridazine

Q4093. Which of the following features is common to both delirium and schizophrenia?

1- Social withdrawal

2- Memory impairment

**3- Hallucinations**

4- A family history of psychopathology

5- Waxing and waning of symptoms over

Q4094. An elderly woman feels that some people are trying to kill her. She believes she can see them hiding as she walks to her apartment. Mental status examination reveals severe anxiety and markedly impaired recent memory. Which of the following symptoms may suggest a cognitive disorder?

1- Visual hallucinations

2- Severe anxiety

**3- Significant memory loss**

4- Olfactory hallucinations

5- Elaborate delusions

Q4095. Of which of the following would a 4- year-old girl be scared?

1- Death

**2- Monsters**

3- Heights

4- Loud noises

5- Strangers

Q4096. A young man is arrested after robbing an off-licence. Mental status examination reveals an angry and belligerent individual without evidence of psychosis or cognitive impairment. Which factor in the history of this patient would suggest a diagnosis of an antisocial personality disorder?

1- A belief that other people are unimportant, coupled with idealisation of past tyrants like Hitler

2- A childhood history of enuresis, arson and cruelty to animals

3- A history of abuse during childhood and imprisonment for drug-related crimes

**4- A long and pervasive pattern of disregard for and violation of the basic rights of others**

5- Membership in cults with destructive

Q4097. The risk of suicide is higher in which one of the following individuals?

1- A 45-year-old woman with a history of suicide attempts

2- A married man with two children

**3- A 50-year-old man with prior suicide attempts**

4- A 30-year-old man recently diagnosed with a positive HIV test

5- A 25-year-old woman with a history of drug

Q4098. Which one of the following statements is accurate about obsessivecompulsive disorders (OCD)?

1- Feeling of guilt is the core abnormal behaviour that drives the compulsions

2- Thought insertion and compulsive acts are the essential features

3- The patient gets pleasure from the experience

**4- The disorder may be a sequel of group A βhaemolytic streptococcal pharyngitis**

5- Major tranquillizers are the mainstay of

Q4099. A 28-year-old crystal healer who lives alone says she does not have a best friend and thinks that people judge her unfairly. She says that the power of crystals will cure leukaemia and sometimes feels that her life story appears in magazine stories. What is the best description of her personality?

1- Paranoid

2- Schizoid

**3- Schizotypal**

4- Borderline

5- Hysterical

Q4100. A 28-year-old-female is admitted with recurrent epileptic fits. She is known to have epilepsy and has been taking phenytoin for five years, but her fits are not controlled. During her stay the resident doctor was able to make the patient respond to verbal commands during the fit and he thought that the fits he witnessed were probably psychogenic non-epileptic seizures (pseudoseizures). In this patient the presence of which one of the following features would be MOST helpful in establishing the diagnosis of genuine epileptic fits?

1- Urinary incontinence

**2- Tongue biting**

3- Pelvic thrusting

4- History of two previous admissions with status epilepticus

5- Family history of epilepsy (sister)

Q4101. An 18-year-old man is seen in outpatients with his mother who complains that he is slow off the mark, has problems interacting with others and has difficulty concentrating. When you examine him you discover a high arched palate, mitral valve prolapse, joint laxity, strabismus and large ears. Which one of the following investigations would be MOST useful in reaching a diagnosis?

**1- Chromosomal analysis**

2- Karyotyping

3- CT scan of his head

4- Urinary homocystine

5- Urinary excretion of hydroxyproline

Q4102. Which of the following statements relates to buspirone?

1- Is a cyclopyrrolone compound

2- Side-effects include sedation

**3- Can cause hyperprolactinaemia**

4- Can be administered to patients with epilepsy

5- Is useful in the treatment of panic disorder

Q4103. A middle-aged woman with a single episode of major depressive disorder has responded well to imipramine after 1 month of treatment. What is the next step in the management of this case?

**1- Continue the imipramine for 6 months**

2- Continue imipramine indefinitely

3- Decrease imipramine gradually until she is medication-free, unless depression occurs

4- Stop imipramine immediately

5- Switch to fluoxetine

Q4104. A teenage girl has experienced disturbing auditory hallucinations for the past year, in which voices utter derogatory statements to her. Initially the voices were occasional, but they have now become more frequent. She has withdrawn from social contact. Which of the following is a feature of this condition?

1- There is no genetic predisposition

2- Family psychodynamics play a major role in its onset

3- There is a progressive downhill course

**4- The early use of antipsychotic medication will alter the course of the illness**

5- There is no benefit from social

Q4105. An elderly woman presents with an episode of dysphoria, sleep difficulty, psychomotor agitation and worry about mistakes she has made in her life. She has delusions of guilt about indirectly causing the deaths of many people. She has a history of two previous episodes with similar symptoms but no history of manic episodes. She is asymptomatic between episodes. What is the most likely diagnosis?

1- Bipolar disorder, depressed phase

2- Dysthymic disorder

**3- Recurrent major depressive disorder**

4- Schizoaffective disorder, depressive type

5- Schizophrenia

Q4106. A political figure is engaged in a television debate with an opponent. As his anxiety mounts he loses his calm, interrupts his opponent and attacks his character. He finally throws down his papers and walks away angrily. What is the defence mechanism associated with this reaction?

1- Blocking

2- Dissociation

3- Reaction formation

**4- Regression**

5- Undoing

Q4107. A man with a dubious record of compliance with the Inland Revenue regulations faces a tax audit. He begins to speak about Welfare-benefit cheats and people who do not pay their share of costs to society. What defence mechanism is being utilised here?

1- Altruism

**2- Projection**

3- Intellectualisation

4- Sublimation

5- Denial

Q4108. A 22-year-old man is admitted for assessment after being found wandering the streets saying that he is being controlled by radio waves from a mobile phone tower. He hears voices being critical about him. After talking to his family it is clear he has had these symptoms for six weeks. Which treatment is most appropriate to prevent a relapse in the future?

**1- Risperidone**

2- Haloperidol

3- Cognitive behavioural therapy

4- Chlorpromazine

5- Fluoxetine

Q4109. A 45-year-old woman attends her GP surgery complaining of poor sleep. On closer questioning she says she avoids leaving the house because she is scared of people looking at her, and 2 weeks ago at a restaurant she had an episode of tachycardia and breathlessness with intense fear. What is the likely diagnosis?

1- Agoraphobia

**2- Social phobia**

3- Panic disorder

4- Generalised anxiety disorder

5- Depression

Q4110. A middle-aged man is obsessed with dressing in women's undergarments. He often wears such apparel beneath his office clothes. He says he feels more comfortable in the presence of female colleagues. What condition is he suffering from?

1- Transvestic fetishism

2- Voyeurism

**3- Gender identity disorder**

4- Exhibitionism

5- Frotteurism

Q4111. A man complains that he has become terrified of flying in private planes since an acquaintance of his was killed in one. He has, however, to fly as part of his job. What would indicate a specific phobia in this case?

**1- He believes his fear is irrational**

2- He has a history of separation anxiety from childhood

3- He has no detectable unconscious symbolism behind his fear

4- He is able to fly when absolutely necessary

5- His fears are well grounded in reality

Q4112. A 27-year-old woman presents with a history of two episodes of agitation, pressured speech, grandiose delusions and disorganised behaviour. One episode occurred 4 years ago and lasted several weeks. The current episode has lasted 4 weeks. Between episodes the woman is friendly, outgoing and emotionally stable. Mental status examination reveals increased psychomotor activity and impaired judgement. What is the most likely diagnosis?

**1- Bipolar disorder, manic phase**

2- Brief psychotic disorder

3- Delusional disorder, erotomanic type

4- Major depressive disorder with moodcongruent psychosis

5- Schizophrenia

Q4113. A medical student is concerned that the lump he has discovered in his neck may be due to Hodgkin's disease. A routine workup is completely negative, but he continues to worry about it. What is the probable condition here?

1- Conversion disorder

**2- Hypochondriasis**

3- Delusional disorder, somatic type

4- Somatisation disorder

5- Factitious disorder

Q4114. A 9-year-old boy constantly disobeys his parents and teachers. He gets along well with his peers and completes projects that he likes. His developmental milestones are normal and he has no history of fighting, theft or destruction of property. Mental status examination reveals an assertive child who tells the examiner that he does not wish to discuss his problems. What is the most likely diagnosis?

**1- Oppositional defiant disorder**

2- Mental retardation

3- Conduct disorder

4- Childhood disintegrative disorder

5- Attention-deficit hyperactivity disorder

Q4115. A middle-aged man seeks treatment for depression. He feels hopelessness and despair with lethargy. He denies suicide plans, stating there is no point in suicide. At which time is the patient most likely to commit suicide?

1- When he admits his feelings of guilt

2- When he completes a course of ECT

3- At the start of his treatment

4- When he develops antidepressant sideeffects

**5- When he begins to respond to**

Q4116. A 35-year-old man complains of chest pain. When the doctor asks questions he replies, 'You are the doctor, you tell me'. He is also unhappy with the doctor's attitude and states that if he is not treated properly he will sue the hospital. What is this patient's personality trait?

1- Antisocial

**2- Passive-aggressive**

3- Passive-dependent

4- Avoidant

5- Narcissistic

Q4117. A well-dressed man walks into a lawyer's office asking for the lawyer. When asked whether he has an appointment, the man replies there is a note at Reception saying that the lawyer wishes to see him. Which of the following best describes his symptom?

**1- Reference delusion**

2- Grandiose delusion

3- Bizarre delusion

4- Somatic delusion

5- Auditory hallucination

Q4118. A middle-aged librarian seeks therapy as he is lonely and unhappy. He describes a solitary life cataloguing books all day and then remaining alone all night and on weekends. He declines invitations for dinners, as he feels anxious when other people are around. What could be the probable diagnosis?

1- Generalised anxiety disorder

2- Panic disorder

**3- Social phobia**

4- Separation anxiety disorder

5- Conduct disorder

Q4119. A 50-year-old man presents following the death of his wife, which one of the following is going to heighten your suspicion of an abnormal grief reaction?

1- A brief episode of seeing the dead person

2- Poor concentration

3- Poor memory

**4- Delayed or absent grief**

5- Searching for the deceased

# Chapter 16 Ophthalmology

Q4120. A 70-year-old man became wheezy while walking uphill, and tripped hitting his left eye. He now complains of pain in this eye; the cornea is hazy, the globe feels very firm to palpation and there is a hyphaema obscuring most of the iris. Which of the following is the most appropriate treatment?

1- Examination under anaesthesia

2- Topical β-blockers

**3- Intravenous carbonic anhydrase inhibitors**

4- Topical anticholinergics

5- Anterior chamber paracentesis

Q4121. A 48-year-old Caucasian man presents to his optician with a one-month history of blurred vision in his left eye. Visual acuity is 6/12 in the affected eye (6/6 in the other eye). Fundal examination reveals some mottled pigmentary changes at the left macular associated with some macular oedema. On closer inspection, both fundi revealed reddish-brown bands deep to the retina radiating in a spoke-like pattern from the optic disc. The optician referred the patient to the general practitioner, who noted loose skin folds with yellow striations and puckering in the neck and flexor aspects of the joints. What is the most likely diagnosis?

1- Ehlers-Danlos syndrome

2- Paget's disease

3- Marfan's syndrome

4- Sickle cell disease

**5- Pseudoxanthoma elasticum**

Q4122. A 60-year-old diabetic complains of floaters of 24 hours' duration, followed by a sudden painless loss of vision in his right eye. His corrected visual acuities are 6/60 (right eye) and 6/12 (left eye). His right retina cannot be visualised, and the left retina contains scattered pigmented spots in the periphery. What is the most appropriate management plan?

1- Stop daily aspirin

2- Admit for laser treatment within 48 hours

**3- Observe and review in ophthalmology outpatients**

4- Prescribe oral acetazolamide

5- Admit for retinal reattachment surgery

Q4123. What is the typical opthalmological finding in patients with subacute bacterial endocarditis?

1- Cherry red macula

2- Janeway lesion

3- Macular star

4- Retinal artery aneurysms

**5- Roth's spots**

Q4124. A 70-year-old woman with a history of rheumatoid arthritis comes to the Emergency room with sudden painful loss of vision in her left eye. There is also a history of hypertension which is managed with ramipril 10mg daily and amlodipine 5mg, and Type 2 diabetes controlled with metformin. She is taking prednisolone and hydroxychloroquine for her rheumatoid. Additionally she takes amitriptyline for depression. On examination her BP is 152/92 mmHg, there is increased intraocular pressure, more marked in the left eye than the right, and bilateral optic disc cupping on fundoscopy. Both pupils look partially dilated. Which of the following drugs is the most likely cause?

1- Hydroxychloroquine

2- Metformin

3- Prednisolone

4- Ramipril

**5- Amitriptyline**

Q4125. A 72-year-old woman presents to Accident & Emergency with a one-week history of double vision when looking to the right. Apart from a mildheadache at the onset of her symptoms, she otherwise feels well. Past medical history includes controlled hypertension and hypercholesterolaemia. She is a non-smoker. Ocular movements demonstrate a failure of the right eye to abduct beyond the midline and confirm symptomatic diplopia when looking to the right. All other movements appear normal and a full neurological examination reveals no further abnormality. Pupil reactions are normal. There is no ptosis. Visual acuities are normal. Cardiovascular examination is normal with a blood pressure of 124/86. Which of the following is the most likely diagnosis?

1- Duane's syndrome

2- Myasthenia gravis

**3- Isolated right sixth nerve palsy**

4- Thyroid eye disease

5- Cerebral infarct

Q4126. A teenager is referred from his optician with a diagnosis of Lisch nodules of the iris. What is the most likely sign to observe on examination?

1- Ash-leaf spots on the trunk

**2- Axillary freckles**

3- Ectopia lentis

4- Haemangioblastoma of the spinal cord

5- Haemorrhagic telangiectasia of the skin

Q4127. A 68-year-old man presents to his GP with a one-week history of blurred vision affecting his left eye. On examination, his visual acuities are 6/6 right eye and 6/18 left eye. No papillary defect is noted. Dilated fundal examination reveals evidence of widespread retinal haemorrhages in all quadrants of the left retina associated with dilated tortuous retinal veins. The right fundus appears entirely normal. The patient has not seen his GP within the last ten years. He describes himself as fit and well and on no regular medication. However, a subsequent examination reveals a blood pressure of 185/100 and a random blood sugar of 12 mmol/L. Which of the following is the most likely ocular diagnosis?

1- Branch retinal vein occlusion

**2- Central retinal vein occlusion**

3- Hypertensive retinopathy

4- Diabetic retinopathy

5- Ocular ischaemic syndrome

Q4128. A 25-year-old woman presents with loss of weight, gritty eyes and double vision on looking up. Which of the following is the most important investigation?

1- CT brain

2- Exophthalmometry

**3- Formal perimetry**

4- Hess chart

5- Schirmer's test

Q4129. A 71-year-old male patient presents with deteriorating vision. He complains of blurred central vision when looking through both eyes, although the left eye is slightly worse than the right. Fluoroscein angiography indicates choroidal neovascularisation with leakage in the area of the maculae bilaterally. When assessing possible risk factors for his condition, which of the following is the most important?

**1- Smoking**

2- Alcohol

3- Hypertension

4- Diabetes

5- Cataract surgery

Q4130. A 20-year-old woman presents with gradually reducing vision in her left eye of two weeks' duration. Visual acuity is 6/4 (right eye) and 6/36 (left eye). The left pupil reacts sluggishly and the consensual pupillary reaction in the right eye is also sluggish. Optic discs are normal. What is the most likely diagnosis?

1- Cerebral tumour

2- Holmes-Adie pupil

3- Factitious visual loss

4- Parinaud's syndrome

**5- Retrobulbar neuritis**

Q4131. A 25-year-old man develops cirrhosis of the liver and is referred from the gastroenterology clinic to the ophthalmology clinic for evidence of Wilson's disease. What should the gastroenterologist ask the ophthalmologist to look for?

1- Corneal arcus

2- Hudson-Stahli lines

**3- Kayser-Fleischer rings**

4- Cornea verticillata

5- Band keratopathy

Q4132. A 45-year-old woman is found by her optometrist to have band keratopathy and is referred to the eye clinic. Which of the following investigations is likely to be helpful in determining an underlying cause?

1- Cholesterol

2- Ferritin

3- U&E

4- Gamma GT

**5- Serum calcium**

Q4133. A 35-year-old woman is found to have aortic regurgitation. She is wearing aphakic spectacles. Which of the following diagnoses in the eye clinic sheds light on the cause of her valvular disease?

1- Cataract

2- Glaucoma

3- Kayser-Fleischer rings

**4- Ectopia lentis**

5- Iritis

Q4134. A patient with diabetic retinopathy is treated with panretinal photocoagulation in the eye clinic and followed up in the diabetic clinic. Which of the following features found 6 months after treatment is an indication for further laser treatment?

1- Visual field constriction

**2- Vitreous haemorrhage**

3- Retinal burns

4- Optic atrophy

5- Tractional retinal detachment

Q4135. A 26-year-old man with aortic regurgitation is referred from cardiology to the eye clinic to look for features of Marfan's syndrome. Which of the following ocular features suggests the diagnosis?

1- High hyperopia

2- Band keratopathy

**3- Dislocated lenses**

4- Raised intraocular pressure

5- Retinitis pigmentosa

Q4136. A 32-year-old woman presents to her GP with a one-week history of decreased vision and pain in her right eye. She was previously fit and well, and has no significant previous ocular or medical history. Examination reveals a visual acuity of 6/60 in the affected eye with a relative afferent pupil defect. Ocular movements are full but painful. There is red colour desaturation. Fundal examination is normal. The remainder of the neurological examination is normal. Which of the following is the most likely diagnosis?

1- Orbital tumour

**2- Retrobulbar optic neuritis**

3- Papillary optic neuritis

4- Toxic optic neuropathy

5- Ischaemic optic neuropathy

Q4137. A 36-year-old man presents with a systemic vasculitis and renal failure. Which of the following features makes Wegener's granulomatosis more likely than polyarteritis nodosa?

1- Skin lesions

**2- Epistaxis**

3- Retinopathy

4- Pyrexia

5- Peripheral neuropathy

Q4138. Altitudinal hemianopia is a cardinal feature in a patient who?

1- Denies the fact he is blind

2- Is 72 years old with macular degeneration

3- Is 70 years old with headache, vomiting and swelling of the optic disc

**4- Is a 74-year-old man with multiple cholesterol emboli on fundoscopy**

5- Has coarse facial features, large lips and

Q4139. A sixty-year-old man presents with a week's history of painless diplopia first noticed when reading. The images are constantly horizontally and vertically separated, although he comments that the degree of separation varies. On examination the visual acuities are 6/6 in either eye. There is no pupil abnormality. There is a left ptosis, partially covering the pupil and reduced abduction and depression of the left eye, both in abduction and adduction, with other ocular movements appearing normal. There is no other abnormality on examination. Which one of the following is the MOST likely diagnosis?

1- Orbital apex syndrome

2- Sixth nerve palsy

3- Third nerve palsy

4- Fourth nerve palsy

**5- Ocular myaesthenia gravis**

Q4140. A 22-year-old man with ulcerative colitis and chronic lower back pain complains of a red painful eye. Which one of the following is likely to be present on examination?

1- Purulent discharge

**2- Photophobia on ophthalmoscopy**

3- A dilated pupil

4- Profound visual loss

5- Retinal haemorrhages

Q4141. A 32-year-old woman presents as an emergency with sudden, painless loss of vision in her right eye. She has been a type-1 diabetic for the past 16 years. On examination, her vision is reduced to hand movements in the right eye. Pupil reactions are normal. Dilated fundal examination reveals an irregular red reflex with evidence of a vitreous haemorrhage. Which of the following would be the most likely causative retinal abnormality?

1- Microaneurysm

2- Cotton wool spot

3- Hard exudates

**4- Neovascularisation at the optic disc**

5- Venous beading

Q4142. An 82-year-old woman presents with sudden loss of vision in her left eye. On further questioning, she complains of a left-sided headache over the past few weeks, associated with tenderness of her head when she brushes her hair. On examination, her vision is reduced to counting fingers in the left eye. A left relative afferent pupillary defect is present. Fundoscopy reveals a pale, swollen left optic disc with some flameshaped haemorrhages. The right eye is entirely normal. An urgent erythrocyte sedimentation rate (ESR) is elevated at 72 mm/hr (< 30). Which of the following management options should be carried out first?

1- Temporal artery biopsy

2- Ophthalmic outpatient review

**3- Administration of high-dose systemic steroids**

4- Automated visual field assessment

5- Computed tomography (CT) scan of brain

Q4143. A 28-year-old Afro-Caribbean man presents with a three-week history of painful, red eyes associated with floaters and light sensitivity. He also complains of pain in several of his joints. Ocular examination reveals evidence of bilateral posterior uveitis, while on systemic examination tender nodules can be palpated over both shins. Which of the following is the most likely diagnosis?

1- Tuberculosis (TB)

2- Idiopathic pars planitis

3- Sickle cell disease

4- Syphilis

**5- Sarcoidosis**

Q4144. A patient presents to the medical clinic with diplopia. Which of the following suggests that the trochlear nerve is involved?

1- The diplopia is horizontal

2- The diplopia is episodic

3- The diplopia is worse at night

**4- The diplopia is torsional**

5- The diplopia is worse for distance- than

Q4145. A 26-year-old man presents with suddenonset headache and double vision. The A&E doctor diagnoses IIIrd (oculomotor) nerve palsy. Which of the following is the most likely cause?

**1- Posterior communicating artery aneurysm**

2- Acoustic neuroma

3- Diabetes mellitus

4- Extradural haematoma

5- Ophthalmoplegic migraine

Q4146. A 70-year-old man presents with a gradually worsening, droopy, right upper eyelid. There is a right ptosis and anisocoria, greater when the room lights are off than in light conditions. Which of the following is the best investigation?

1- Anti-acetylcholine receptor antibodies

2- Blood glucose

**3- Chest X-ray**

4- Dilute pilocarpine eye-drop test

5- Intraocular pressure

Q4147. A 70-year-old man presents with a gradually worsening, droopy, right upper eyelid. There is a right ptosis and anisocoria, greater when the room lights are off than in light conditions. Which of the following is the best investigation?

1- Anti-acetylcholine receptor antibodies

2- Blood glucose

**3- Chest X-ray**

4- Dilute pilocarpine eye-drop test

5- Intraocular pressure

Q4148. An 80-year-old man is referred to the psychogeriatrician with features of dementia. The neurology SpR is called because the SHO has noted an abnormality of eye movements. The patient is not on any medication. The SpR confirms that the eye movements are limited in upward gaze on pursuit movements, but that the eyes move upwards normally when he flexes the patient's neck. Which of the following conclusions is valid?

1- The patient has an abnormal vestibuloocular response

**2- The patient has a supranuclear gaze palsy**

3- The patient has tardive dyskinesia

4- The patient has an oculogyric crisis

5- The patient has Korsakoff's syndrome

Q4149. During a routine insurance medical examination, a GP notices that a 30-year-old female patient has absent ankle jerks and unequal pupils. Which of the following is the most likely diagnosis?

**1- Holmes-Adie syndrome**

2- Horner's syndrome

3- Third nerve palsy

4- Mescaline ingestion

5- Argyle Robertson pupils

Q4150. A 19-year-old student presents with a complaint of visual loss. Which of the following suggests a conversion reaction?

1- The pupils are unequal in size

**2- There is a spiralling visual field loss**

3- Optokinetic nystagmus (OKN) cannot be elicited

4- The discs show temporal pallor

5- The patient does not react to confrontation

Q4151. A patient is examined in the diabetic clinic and found to have circinate hard exudates in both fundi, with reduced visual acuity. What is the most likely diagnosis?

1- Normal fundi

2- Background retinopathy

**3- Maculopathy**

4- Preproliferative retinopathy

5- Proliferative retinopathy

Q4152. An optician refers a 20-year-old asymptomatic man with bilateral retinal lesions. There are seven oval, pigmented, flatlooking areas, each approximately the size of the optic disc and each with a white fishtail, in each retina. What is the most appropriate investigation?

**1- Colonoscopy**

2- Fluorescein angiography

3- Genetic counselling for retinitis pigmentosa

4- Blood glucose

5- Toxoplasmosis antibody levels

Q4153. A 70-year-old woman presents with a sudden loss of vision in one eye. Which of the following clinical findings suggests a diagnosis of giant-cell arteritis?

1- Central retinal artery occlusion (CRAO)

**2- Pale disc swelling**

3- Isolated central scotoma

4- Abnormal consensual light response

5- Raised intraocular pressure (IOP)

Q4154. A 70-year-old woman presents with a sudden loss of vision in one eye. Which of the following investigations most strongly supports a diagnosis of temporal arteritis?

1- An ESR of 40 mm/hour

2- Abnormal CRP

**3- Giant-cell infiltrate in a temporal artery biopsy**

4- Homonymous hemianopia on visual field

5- Positive TPHA

Q4155. A patient with controlled ocular myasthenia gravis develops an acute infection. Which of the following antibiotics is contraindicated?

**1- Aminoglycosides**

2- Metronidazole

3- Macrolides

4- Quinolones

5- Penicillins

Q4156. A 40-year-old man presents to his GP with unequal pupils. The GP considers that IIIrd (oculomotor) nerve palsy is the likely diagnosis. Which of the following statements is true?

1- The pupil on the affected side is smaller

2- The pupil on the affected side reacts normally to light

**3- The pupil on the contralateral side reacts normally to light**

4- The pupil on the affected side reacts normally to accommodation

5- The pupil size difference is equal in bright

Q4157. A diabetic patient with diplopia is found to have a third nerve palsy. Which of the following clinical features would most point to a compressive cause?

1- Ptosis

2- Impaired adduction

**3- Pupil involvement**

4- Impaired elevation

5- Nystagmoid jerks

Q4158. A patient is seen with features of proliferative retinopathy in one eye and background diabetic retinopathy in the other. Which of the following tests is most likely to provide an explanation?

1- Chest X-ray

2- Electrocardiography

3- Coagulation screen

**4- Carotid Doppler**

5- 24-hour urinary protein

Q4159. Which of the following statements is true in the epidemiology of toxoplasmosis?

1- Adult cats are the major host

**2- Sheep act as an intermediate host**

3- Humans cannot pass the disease to one another

4- Ophthalmological involvement is rare in humans

5- Primary infection is common in HIV-related

Q4160. Which of the following is a cause of secondorder neurone Horner's syndrome?

1- Syringomyelia

2- Cavernous sinus thrombosis

**3- Pancoast's tumour**

4- Internal carotid artery aneurysm

5- Craniopharyngioma

Q4161. A 23-year-old woman presents to the dermatology department with a 6-month history of unilateral dermatitis of the eyelids. There are no other symptoms of allergy. Her serum IgE is normal. Which of the following is the patient most likely to be allergic to?

1- Egg white

**2- Nail varnish**

3- Dermatophagoides

4- Peanut

5- Mascara

Q4162. A 25-year-old patient presents with massive eyelid swelling and stridor. After she is managed in A&E, she is found to have intermittent urticaria. Which of the following is true of her management?

**1- She should be instructed in the use of emergency adrenaline**

2- She should be commenced on long-term, high-dose steroids

3- She should undergo regular plasmapheresis

4- She should be started on long-term antihistamine eye drops

5- She should be instructed in

Q4163. A 40-year-old woman with rheumatoid arthritis takes oral steroids. She presents with watering of both eyes associated with intermittent blurred vision when using a computer. What is the most likely diagnosis?

1- Cataract

2- Diabetic retinopathy

**3- Dry eyes**

4- Glaucoma

5- Transient ischaemic attack

Q4164. A patient with multiple sclerosis is found to have horizontal nystagmus, which is worse in the abducting eye. Where is the lesion responsible likely to be?

1- Cerebellar peduncle

**2- Medial longitudinal bundle**

3- Oculomotor nucleus

4- Optic chiasm

5- Hypothalamus

Q4165. A patient is referred to the dermatology clinic with facial flushing and early rhinophyma. The dermatologist seeks an ophthalmic opinion. Which of the following findings supports a diagnosis of acne rosacea?

1- Iritis

2- Cataract

3- Central retinal vein occlusion

**4- Keratitis**

5- Raised intraocular pressure

Q4166. A 60-year-old man presents with episodic total loss of vision in one eye. What is the most appropriate investigation?

1- Chest X-ray

2- Fluorescein angiography

3- Electrocardiography

4- MRI brain

**5- Carotid Doppler**

Q4167. A 60-year-old man presents with episodic loss of vision in his right eye due to carotid stenosis. He is quite clear that during these episodes, the vision in his left eye is normal as he has tested this by closing in each eye in turn. What is the most likely pattern of visual field loss?

1- Bitemporal hemianopia

**2- Uniocular altitudinal loss**

3- Homonymous hemianopia

4- Enlarged physiological blind spot

5- Bilateral central scotoma

Q4168. A 45-year-old man with syncopal episodes is found to have a heart block and is referred to the eye clinic because the SHO found limited eye movements. On further questioning he admits to decreased night vision, such that he doesn't drive at night anymore. Which of the following retinal findings may be related to the cardiac problem?

1- Myopic degeneration

2- Papilloedema

3- Old chorioretinitis

**4- Retinitis pigmentosa**

5- Macular degeneration

Q4169. A 26-year-old man with AIDS is responding well to his initial course of triple therapy when he complains to his GU physician of reduced vision and slight discomfort in his eyes. His CD4 count has recently improved from less than 50 to 800. Which of the following is the most likely diagnosis?

1- Toxoplasmosis

2- Cytomegalovirus retinitis

3- Optic neuritis

**4- Immune reconstitution uveitis**

5- Herpes zoster retinitis

Q4170. The medical SHO telephones the consultant to say she has diagnosed a patient as having Behçet's disease. The patient presented to A&E with reduction in vision in one eye. Which of the following features supports her diagnosis?

1- The patient is of Celtic extraction

2- There is a strong family history of blindness

3- The patient has a small-joint polyarthropathy

**4- The patient has active oral ulceration**

5- The patient's visual loss is due to retinal

Q4171. A patient presents with the first episode of a painful reduction in visual acuity in one eye. The acuity is 6/60, ocular movements produce pain and the optic disc is normal. Which of the following investigations supports the diagnosis of optic neuritis?

**1- Abnormal visual evoked potentials (VEP)**

2- Abnormal electroretinogram (ERG)

3- Abnormal electro-oculogram (EOG)

4- Abnormal electroencephalogram (EEG)

5- Abnormal electronystagmogram (ENG)

Q4172. A patient is examined in the diabetic clinic and found to have dark cluster haemorrhages in both fundi. What is the most likely diagnosis?

1- Normal fundi

2- Background retinopathy

3- Maculopathy

**4- Pre-proliferative retinopathy**

5- Proliferative retinopathy

Q4173. A 30-year-old man, under investigation for abdominal cramps and passing blood rectally, presents with an acutely painful, red and photophobic eye. What is the most likely sign on ocular examination?

1- Conjunctival purulent discharge

2- White corneal stromal infiltrate

3- Mydriasis of the affected eye

**4- Hypopyon**

5- Swollen optic disc

Q4174. A patient is examined in the diabetic clinic and found to have a vitreous haemorrhage precluding a view of his fundi. He is admitted for bed rest. After 3 days the fundi can be visualised. What is the most likely diagnosis?

1- Normal fundi

2- Background retinopathy

3- Maculopathy

4- Preproliferative retinopathy

**5- Proliferative retinopathy**

Q4175. A 40-old woman with AIDS presents to the GU clinic with a shadow in her vision in one eye. Which of the following supports a diagnosis of cytomegalovirus retinitis?

1- Conjunctival injection

2- Mydriasis on the affected side

3- Disc swelling

4- Macular oedema

**5- Retinal haemorrhages**

Q4176. A 50-year-old man presents to his GP with multiple white umbilicated lumps on his eyelids. He is HIV-positive. Which of the following is the most likely diagnosis?

1- Multiple basal-cell carcinoma

2- Lentigo maligna melanoma

**3- Molluscum contagiosum**

4- Kaposi's sarcoma

5- Seborrhoeic keratosis

Q4177. A physician suspects that his diabetic patient may be at risk of preproliferative retinopathy. Which of the following features on fundoscopy most strongly confirms his fears?

**1- Cotton-wool spots**

2- Macular ischaemia

3- Retinal microaneurysms

4- Hard exudates

5- Blot haemorrhages

Q4178. A diabetic 46-year-old man is found in the diabetic clinic to have reduced visual acuity. During a telephone referral to the eye clinic, the ophthalmologist asks if the patient has any risk factors for macular oedema. Which of the following should the referring physician bring to his attention?

1- Background diabetic retinopathy

2- Low glycosylated haemoglobin

3- Hypercholesterolaemia

**4- Proteinuria**

5- Peripheral vascular disease

Q4179. A patient is being referred to the eye clinic with suspected early diabetic retinopathy. Which of the following tests, if abnormal, most strongly supports the diagnosis?

1- Electroretinography (ERG)

**2- Fluorescein angiography**

3- Ocular ultrasound

4- Visual evoked potentials (VEP)

5- Pupillometry

Q4180. A 30-year-old man is referred to the dermatology clinic and found to have caféau-lait spots. Which of the following features subsequently found in the eye clinic suggests a diagnosis of neurofibromatosis?

1- Busacca nodules

**2- Lisch nodules**

3- Brushfield spots

4- Koeppe nodules

5- Heterochromia iridis

Q4181. A patient presents with a fourth episode of painful reduction in visual acuity in one eye. The acuity is 6/60, ocular movements produce pain and the optic disc is pale. Which of the following investigations suggests that her optic neuritis is due to multiple sclerosis?

**1- Abnormal visual evoked potentials (VEP) in the contralateral eye**

2- Abnormal nerve conduction studies

3- Xanthochromia in the CSF

4- Normal MRI brain scan

5- Bilateral spike and wave activity on the

Q4182. A 32-year-old woman with rheumatoid arthritis presents to the rheumatology clinic with a complaint of severe pain and reduced vision in one of her eyes. The medical SpR notes that one eye is dusky red in colour and that the vision in this eye is reduced to 6/36. What is the appropriate management?

1- The patient should be booked for an urgent CT scan

2- The patient should be started on artificial tears

3- The patient should be started immediately on immunosuppressant therapy

**4- The patient should be referred urgently to the ophthalmology clinic**

5- The patient should be investigated urgently

# Chapter 17 Exam

Q4183. Water excretion in the kidneys is influenced by:

1- Proximal tubule

**2- Vasopressin**

3- Distal tubule

4- Ascending limb of loop of Henle

5- Integrity of collecting ducts

Q4184. A 20-year-old woman presents with hypothyroidism. On further questioning it transpires she has primary amenorrhoea. She is also of relatively short stature compared to her sisters. What is the most likely diagnosis?

**1- Turner's syndrome**

2- Down's syndrome

3- Noonan's syndrome

4- XXX syndrome

5- Achondroplasia

Q4185. You are reviewing a 54-year-old man with a phaeochromocytoma. Which of the following is a suitable aadrenoreceptor antagonist for the presurgical management of his hypertension?

**1- Phenoxybenzamine**

2- Atenolol

3- Propanolol

4- Nebivolol

5- Salbutamol

Q4186. A 52-year-old black woman comes to you for another opinion regarding a history of anaemia that has been unresponsive to oral iron supplementation. She sought your opinion because her other physician was recommending iron supplementation iv. She has been on nearly continuous iron supplementation therapy ever since her second child was born 23 years ago. Over the years she says her doctors have prescribed her to take anywhere from one to three pills daily, sometimes with vitamin C concomitantly. Although she has never needed a transfusion, she says she has been told that her RBC count has never completely normalized. She is otherwise healthy and has no unusual dietary habits. Her menstrual history reveals relatively normal menstrual periods until about 3 years ago, when she attained menopause. The patient believes that her mother was also iron deficient. Your physical exam is normal. Laboratory values show a haemoglobin of 10.6 g/dl; haematocrit, 33%; MCV, 70 fl; normal white blood cell (WBC) with differential; normal platelet count; serum iron, 70 mg/l; iron-binding capacity, 255 mg/dl; and ferritin, 158 m g/l. Which is the most likely diagnosis?

1- Sickle cell disease

2- Haemoglobin C disease

3- Beta-thalassaemia major

**4- Homozygous alpha-thalassaemia**

5- Acquired alpha-thalassaemia

Q4187. Which of the following antiarrhythmic agents works primarily by its action on SA and AV nodes?

1- Amiodarone

2- Atenolol

3- Flecainide

4- Sotalol

**5- Verapamil**

Q4188. A 57-year old woman who has just had a renal transplant is being given azathioprine. Which of the following statements best describes the main mechanism of action of this drug?

1- It blocks antibody formation

2- It reduces the production of cytokines

**3- It suppresses lymphocyte numbers and function**

4- It interferes with T cell-macrophage cooperation

5- It interferes with T-cell activation

Q4189. A nurse has a needlestick injury after taking blood from a patient known to be HIV positive. What is the most appropriate immediate management after hand washing for 10 minutes?

1- Continue hand washing for a further 20 minutes

**2- Antiretroviral therapy**

3- Test for hepatitis B and C

4- Blood cultures

5- Broad spectrum antibiotics

Q4190. A 72-year-old man is admitted unconscious. He has a history of type-2 diabetes and is taking 10 mg of glibenclamide. Blood testing reveals a serum creatinine level of 195 mmol/l and a blood glucose of 1.5 mmol/l. Which treatment regime would be a suitable alternative therapy for his diabetes?

1- Metformin

2- Chlorpropamide

**3- Pioglitazone**

4- Metformin and insulin combination therapy

5- Pioglitazone and insulin combination

Q4191. A 25-year-old woman presents to a reproductive endocrinology clinic with a history of being unable to conceive after 2 years of using no contraception. It is thought she may have polycystic ovarian syndrome. Which of the following is most likely to be associated with this condition?

1- A 28 day menstrual cycle

**2- Elevated LH/FSH ratio**

3- Normal free-androgen index

4- Low levels of circulating insulin

5- Normal BMI (body mass index)

Q4192. A 70-year-old-man reverts to atrial fibrillation after several attempts at cardioversion, but remains symptomatic despite rate control with digoxin and metoprolol. He developed pulmonary fibrosis with amiodarone. Which of the following will be the next step in the management of this patient?

1- Switch metoprolol to amlodipine

2- Double the dose of digoxin

**3- Radiofrequency pulmonary vein isolation with ablation**

4- Make another attempt at cardioversion

5- Implant a cardiovertor defibrillator

Q4193. A 30-year-old man presents with frank haematuria and haemoptysis. A blood test shows microcytic hypochromic anaemia. Chest X-ray reveals bilateral infiltrates in the lower zones. What is the most likely diagnosis?

1- Renal cell carcinoma

2- Renal calculus

3- Bronchial carcinoma

4- Renal tuberculosis

**5- Goodpasture's syndrome**

Q4194. A 27-year-old woman known to suffer from epilepsy has been admitted with a history of dizzy spells and a swollen left calf. Her blood pressure recordings confirm a postural drop in her systolic reading of over 20 mmHg. Her biochemistry shows a sodium concentration of 126 mmol/l and a potassium concentration of 6.1 mmol/l. Her blood count is normal apart from a low platelet count. She has no past history of any surgical procedure but has a history of three spontaneous miscarriages. The nurse has noticed that at times she makes jerky explosive movements of her limbs. What is the underlying diagnosis?

1- Uncontrolled epilepsy

2- Idiopathic thrombocytopenic purpura

**3- Antiphospholipid syndrome**

4- Syndrome of inappropriate ADH (SIADH) secretion

5- Dehydration

Q4195. On admission examination, a 60- year-old man is noted to have reduced facial expression, rigidity and bradykinesia. He has been taking a long-term medication and a diagnosis of early drug-induced Parkinsonism is suspected. Which of the following treatments would be the most likely cause?

**1- Droperidol**

2- Orphenadrine

3- Domperidone

4- Imipramine

5- Selegiline

Q4196. A 29-year-old woman returns from a trip to the jungles of northern Thailand with bodyache, severe myalgia and a rash which began on her limbs and has now spread to involve the trunk. She has fevers and night sweats which appear to return every 2 days. Malaria films are negative. What diagnosis fits best with this clinical picture?

**1- Dengue fever**

2- Malaria

3- Hepatitis A

4- Influenza

5- Yellow fever

Q4197. A 72-year-old woman presents with worsening back pain. She also feels generally weak. An X-ray of her back shows multiple vertebral collapses and lytic lesions. What is the most likely diagnosis?

1- Osteoporosis

2- Osteosarcoma

3- Bone metastases

**4- Multiple myeloma**

5- Chronic myeloblastic leukaemia

Q4198. A 56-year-old patient on gliclazide for his type-2 diabetes presents with an acute, central, crushing chest pain. He is diagnosed with myocardial infarction. Which of the following best fits the outcome or management of myocardial infarction associated with type-2 diabetes?

1- The mortality rate from myocardial infarction in patients with type-2 diabetes is the same as that for non-diabetics

2- Intravenous insulin followed by sc insulin after MI reduces mortality by 11% at 3.5 years compared to controls

3- Use of ACE inhibition after MI improves the

6-week mortality rate by 50%

**4- Statins should always be started unless they are contra-indicated**

5- Blood pressure target should be 150/80

Q4199. A 56-year-old, highly insulin resistant, type-2 diabetes sufferer has been taking 200 units total daily dose of sc insulin per day. His weight is increasing and his control worsening, with an Hb A1C of 9.1%. You add in pioglitazone 30 mg to his insulin. Some 4 weeks later he presents to the emergency department in heart failure. Which of the following statements best describes glitazone therapy?

1- Glitazones cause heart failure by exerting a directly toxic effect on the myocardium

2- Glitazones have no more peripheral insulinsensitising effects than metformin

3- There is evidence that all three agents in the glitazone class (troglitazone, pioglitazone and rosiglitazone) have similar profiles of hepatotoxicity

**4- Heart failure may be precipitated in some patients taking glitazones due to fluid retention**

5- Glitazones act at the site of the PPAR-a

Q4200. An 82-year-old man is reviewed in a medical clinic for weight loss and headaches. He has had trouble reading and there are no other neurological symptoms. He is an exsmoker and has cardiac failure controlled with furosemide (frusemide) and captopril. On examination, he has axillary lymphadenopathy and splenomegaly. FBC shows Hb 10.1 g/dl, WCC 6.2 x 103 /mm3 , platelets 118 x 103 /mm3 , ESR 98, and his renal and bone profiles are normal. What is the likely diagnosis?

1- Multiple myeloma

2- Temporal arteritis

3- Hodgkin's lymphoma

**4- Lymphoplasmacytoid lymphoma**

5- Systemic lupus erythematosus (SLE)

Q4201. A 70-year-old woman is admitted to hospital with a swollen left leg 4 weeks after undergoing an elective total hip replacement. An above-knee DVT is diagnosed by ultrasound. She is in sinus rhythm at 60 bpm and her blood pressure is 160/80 mmHg. She is commenced on the appropriate dose of low molecular weight heparin and warfarin loading. The following day she becomes acutely short of breath. Examination reveals a resting tachycardia (110 bpm) with blood pressure of 100/60 mmHg. Her JVP is elevated at 7 cm above the sternal notch. Arterial blood gas measurement reveals her to be hypoxaemic with a pa(O2 ) of 7 mmHg. What would be the first-line therapy after administering high-flow oxygen?

1- Aspirin

2- Intravenous heparin

3- Surgical embolectomy

**4- Thrombolysis with reteplase**

5- Vena caval filter

Q4202. A 45-year-old woman who works in a pharmacy presents with episodes of tiredness and lethargy. Her blood pressure is 115/75 mmHg. Her bloods reveal hypokalaemia and a raised serum bicarbonate level. Urine collection reveals hypercalciuria. Otherwise the findings are unremarkable. What is the likely diagnosis?

1- Bartter's syndrome

2- Gitelman's syndrome

**3- Frusemide abuse**

4- Conn's syndrome

5- Liddle's syndrome

Q4203. A 35-year-old man has developed an itchy rash on his back and buttocks over the last 4 weeks. Examination shows erythematous plaques with crusts and marks of excoriation over his elbows, buttocks and back. Apart from well-controlled asthma, this patient has no other medical history. Which of the following investigations, if performed, would be most likely to be diagnostic?

1- Autoimmune screen

2- Trial of steroids

**3- Small-bowel biopsy**

4- A detailed drug history

5- Skin scrapings

Q4204. A 56-year-old man complains of diarrhoea, abdominal pain, weight loss and joint pains, with 2 or 3 pale, bulky stools daily. A jejunal biopsy shows stunted villi, and electron microscopy shows bacilli within the macrophages. What is the best treatment?

1- Gluten-free diet

2- Anti-TB treatment

**3- Amoxicillin**

4- Low-fat diet

5- Metronidazole

Q4205. Degranulation of eosinophils allows which of the following cellular processes?

**1- Fusion of the lysosomal membrane with the plasma membrane**

2- Chemotaxis

3- Ingestion within a phagosome

4- Intracellular enzymatic degradation

5- Endocytosis

Q4206. Which one of the following intrinsic hand muscles is supplied by the median nerve?

1- Lateral two interossei

**2- Abductor pollicis brevis**

3- Medial two lumbricales

4- Flexor pollicis longus

5- Extensor pollicis

Q4207. An 82-year-old woman with atrial fibrillation develops a sudden arterial occlusion of her right arm due to a brachial embolism. Which statement pertaining to the arterial system of the upper limb best accords with usual clinical findings?

**1- The brachial artery bifurcates into the ulnar and radial arteries at the level of the head of the radius**

2- The brachial artery is crossed by the median nerve immediately above the elbow

3- A large single brachial vein accompanies the artery on its medial side

4- Profunda brachii arises from the brachial artery a hand's breadth above the elbow

5- A brachial artery embolus is especially

Q4208. A 25-year-old man is admitted to the A&E having consumed 20 tablets of propranolol. An infusion of glucagon is prescribed. What is the main mechanism of action of glucagon in this case?

**1- Promotes the formation of cyclic AMP**

2- Stimulates lipolysis

3- Increases glycogenolysis

4- Promotes gluconeogenesis

5- Alters protein kinase A activity

Q4209. A patient is scheduled for an elective splenectomy. At least how long before the operation should pneumovax be given?

1- 1 day

2- 1 week

**3- 2 weeks**

4- 2 months

5- 3 months

Q4210. Cough as a side-effect of ACE inhibitors occurs because of which of the following?

1- ACE inhibitors cause dysgeusia

2- They cause bronchoconstriction

**3- They affect the breakdown of bradykinin within the lungs**

4- ACE inhibitors increase bronchial mucous secretion

5- They cause vasodilatation, which may result

Q4211. A patient with diabetic retinopathy is treated with panretinal photocoagulation in the eye clinic and followed up in the diabetic clinic. Which of the following features found 6 months after treatment is an indication for further laser treatment?

1- Visual field constriction

**2- Vitreous haemorrhage**

3- Retinal burns

4- Optic atrophy

5- Tractional retinal detachment

Q4212. A 16-year-old woman with Addison's disease is intolerant of her hydrocortisone treatment, which she takes at a dose of 20 mg in the morning and 5 mg in the evening. Which of the following doses of prednisolone would provide an equivalent daily dose to her hydrocortisone?

1- 1 mg

**2- 7.5 mg**

3- 10 mg

4- 12.5 mg

5- 15 mg

Q4213. You review a 72-year-old woman who is complaining of severe nausea and lethargy. She has chronic atrial fibrillation for which she takes digoxin 125m/day. Her GP has recently added a thiazide diuretic to her antihypertensive regime. Serum potassium level is 3.0 mmol/l (3.5-4.9). Her pulse is 42 bpm, with a BP of 122/70 mmHg. What is the best course of action in this case?

1- Permanently stop her digoxin therapy

2- Administer FAB fragment antidigoxin antibodies

**3- Stop her thiazide diuretic and substitute another antihypertensive agent**

4- Introduce a small dose of spironolactone

5- Start potassium supplements but continue

Q4214. A 17-year-old adolescent complains of intermittent face swelling. It varies in severity but sometimes he has difficulty breathing. His brother has similar symptoms. What protein is most likely to be responsible for his condition?

1- Interleukin-1

2- Interferon-gamma

3- Complement C3

**4- C1 esterase inhibitor**

5- Interleukin-6

Q4215. A 72-year-old woman is admitted with a sudden-onset, left-sided pleuritic chest pain with shortness of breath. She is being treated for asthma, which has been well controlled on a low dose of inhaled corticosteroids and long-acting B-agonist. She underwent left hemiarthroplasty 12 days ago, and was discharged as she was doing well. Her chest is clear on auscultation. She is tachycardic (132 beats/min) and an ECG shows sinus tachycardia. Her peak expiratory flow (PEF) rate is 300 l/min (best 400 l/min). Arterial blood gases are as follows: pH 7.34, pa(O2) 7.6 kPa, pa(CO2) 3.5 kPa. She is started on oxygen. A chest radiograph is normal. What would be the most appropriate immediate action taken by you as a medical SHO?

1- Start nebulised bronchodilators and monitor PEF rate

2- Request D-dimers urgently

3- Start low molecular weight heparin suspecting PE, and request a V/Q scan

**4- Start low molecular weight heparin suspecting PE, and request CT pulmonary angiography**

5- Request a chest radiograph in expiration

Q4216. A 27-year-old woman is in end-stage renal disease. She has been started on regular haemodialysis. She complains of pain in her fingers. An X-ray shows digital subperiosteal erosions. What is the primary metabolic cause for her bony condition?

**1- Increased serum phosphate levels**

2- Increased parathyroid hormone levels

3- Increased renal 1a-hydroxylase enzyme levels

4- Increased serum calcium levels

5- Increased serum alkaline phosphatase

Q4217. There is an outbreak of diarrhoea and vomiting on an acute surgical ward, initially affecting patients, but then rapidly also staff. What is the most likely agent?

1- Salmonella enteritidis

2- Clostridium difficile

**3- Norovirus**

4- Enterovirus

5- E. coli 0157:H7

Q4218. A 69-year-old man has diabetes, ischaemic heart disease and hypertension. He has smoked 20 cigarettes a day for the last 43 years. One morning his son contacts you because he is concerned about him. During a telephone conversation, he reports that his father 'wasn't making sense'. You see the father in your clinic. He is orientated and alert, with normal power, tone and reflexes throughout. Assessment of his speech reveals some difficulty with word identification and repetition. He has difficulty naming examples within a category, e.g. types of animals. He can follow instructions, however. An MRI scan of the brain shows a small localised infarct. Where is this likely to be?

1- Posterior, superior temporal lobe (Wernicke's area)

2- Angular gyrus

**3- Inferior frontal lobe (Broca's area)**

4- Arcuate fasciculus

5- Medial superior temporal lobe

Q4219. A 38-year-old woman presents with painful swelling of her left arm. Venography shows occlusion of her left subclavian vein. Her only previous medical history is of three spontaneous miscarriages. Her haematological investigations before treatment were as follows:Hb 13.2 g/dl, WCC 7.4 x 109 /L, with a normal differential, platelets 123 x 109 /L, PT 16 s (normal range 12-17), APTT 44 s (normal range 24-38), TT 17 s (normal range 14-22) and fibrinogen 2.4 g/l (normal range 2-5). What is the most likely cause of her thrombotic problem?

1- Factor V Leiden mutation

2- von Willebrand's disease

3- Primary thrombocythaemia

**4- Antiphospholipid syndrome**

5- Autoimmune thrombocytopenia

Q4220. A 23-year-old man who lives with his male partner consults you for an opinion. He has suffered anal discharge and pruritis for the past 3 days. There are also some symptoms of dysuria. A urethral smear reveals intracellular diplococci. What is the most likely infective agent to fit with this clinical picture?

**1- Neisseria gonorrhoeae**

2- Chlamydia trachomatis

3- Treponema pallidum

4- Herpes simplex-type 1

5- Herpes simplex-type 2

Q4221. You are asked to see a 25-year-old White man who experienced marked weakness and dyspnea 4 days after being admitted for a compound arm fracture after falling from a tree. Estimated blood loss from the initial fracture episode was 600 ml and the patient was transfused with one unit of packed erythrocytes. The initial crossmatch was reported as compatible by the transfusion service. The patient has never been transfused before this incident and has no other serious medical illnesses. The patient's arm fracture was treated with surgical pinning and prophylactic antibiotics consisting of a cephalosporin iv every 12 h. On examination, the patient is febrile and mildly tachycardic, with no evidence of wound infection or compartment syndrome. Laboratory data show a haematocrit of 15%, a raised reticulocyte count and total bilirubin of 70 mol/l with a conjugated bilirubin of 9 moll/l. The peripheral smear shows many spherocytes. No haemoglobinaemia or haemoglobinuria is seen on visual inspection of the plasma and urine. The transfusion service reports that the direct Coombs' test is now strongly positive using anti-IgG and only weakly positive with anti-C3d antisera. They further report that routine compatibility tests show no new erythrocyte antibodies in the patient's serum and that, when they attempted to elute antibody from the patient's RBCs and test against normal RBCs, the results were negative. What is the most likely diagnosis?

1- Haemolytic transfusion reaction caused by an ABO incompatibility

2- Delayed haemolytic transfusion reaction

3- Autoimmune haemolytic anaemia of warm antibody type

4- Autoimmune haemolytic anaemia of cold antibody type

**5- Drug-induced immune haemolytic anaemia**

Q4222. A 45-year-old woman has been on amiodarone for the past 3 years. She now complains of lethargy, weight gain and depression. Which investigation would be most useful in this case?

1- Blood urea and electrolytes

2- Liver function tests

3- Full blood count

**4- T3, T4 and TSH levels**

5- ECG

Q4223. A 46-year-old man on haemodialysis for 12 years complains of insidious onset of painful nocturnal dysesthesias involving the thumb and three fingers, relieved by shaking the hand. Physical examination of the hand reveals thenar wasting and numbness over the fingers. Which of the following statements fits best with this clinical picture?

1- Deposition of amyloid of the AL (associated with light chains) type would be likely

**2- Carpal tunnel syndrome would explain these findings**

3- Deposits of b2-microglobulin-associated amyloid are extremely unlikely to be a contributory cause

4- These findings are most likely to be associated with generalised peripheral neuropathy

5- These symptoms suggest compression of

Q4224. A 40-year-old woman was brought unconscious to the accident and emergency department. On recovery she is found to have impaired visual acuity (RVA 6/24, LVA 6/36). Her blood pressure is 90/60 mmHg. Her electrolytes are abnormal, with a sodium level of 130.0 mmol/l and a potassium level of 6.5 mmol/l. Her previous medical history includes amenorrhoea for the last 5 years. What treatment should be administered urgently?

1- Intravenous aciclovir

2- Intravenous cefuroxime

**3- Intravenous hydrocortisone**

4- Intravenous phenytoin

5- Intravenous thiamine

Q4225. Which one of the following antiplatelet agents acts by inhibiting the phosphodiesterase enzyme and increasing the cellular concentration of cyclic adenosine monophosphate (cAMP)?

1- Abciximab

2- Ticlopidine

3- Aspirin

4- Clopidogrel

**5- Dipyridamole**

Q4226. A 20-year-old student presents with a 5-day history of fever and sore throat. His GP started him on penicillin, but there was no improvement. On examination his temperature is 38.8°C, he has grey plaques on his tonsils, cervical lymphadenopathy and splenomegaly. What is the most likely diagnosis?

1- Streptococcus infection

2- Borrellia vincenti infection

3- Diphtheria

**4- Infectious mononucleosis**

5- Toxoplasmosis

Q4227. You review a 44-year-old woman in an out-patient clinic following an urgent referral from her GP. She had recently been started on hydralazine for blood pressure management. Since then she has developed symptoms and signs suggestive of druginduced lupus. Which of the following statements is true concerning drug-induced lupus disease?

**1- It is more common in Caucasians than AfroCaribbeans**

2- HLA-DR4 is not associated with it

3- Rapid acetylator status is a risk factor

4- dsDNA antibodies are positive

5- Antihistone antibody is negative

Q4228. A 48-year-old man is referred with impotence. He has a history of angina, hypertension, and type-2 diabetes. Which one of the following drugs that he takes presents a contraindication to him being able to receive sildenafil?

1- Aspirin

2- Bendroflumethazide

**3- Isosorbide mononitrate**

4- Lisinopril

5- Metformin

Q4229. A 39-year-old woman complains of swelling, stiffness and pain in her fingers. She also tells her doctor that in winter her fingers often turn dark in colour. Her autoimmune screen shows the presence of anticentromere antibody. Which of the following is she most likely to have?

1- Rheumatoid arthritis

2- Systemic lupus erythematosus

3- Pseudogout

4- Polyarteritis nodosa

**5- CREST variant of scleroderma**

Q4230. A 39-year-old man notices that he sustained a burn to his right hand while cooking, without being aware of it. On further questioning he admits that his grip on the same side has become gradually weaker over several months. On examination he has wasting and weakness of the right intrinsic hand muscles, with occasional fasciculation seen in the abductor pollicis brevis. There is sensory loss to pinprick and temperature over his right arm and trunk in a hemicape distribution. He has a right Horner's syndrome. His lower limbs have normal power but slightly increased tone, brisk reflexes and extensor plantar responses. The remainder of the examination is normal. Which of the following is the most likely explanation for his symptoms and signs?

**1- Syringomyelia**

2- Meningioma of the cervical cord

3- Neurofibromas in the cervical cord and brachial plexus

4- Primary progressive multiple sclerosis

5- Motor neurone disease

Q4231. A 52-year-old Caucasian woman presents to her GP complaining of tiredness and itching. She has no history of alcohol abuse and takes no medication. She has xanthelasma. Her GP notices that her alkaline phosphatase level is raised, and refers her for a gastroenterological opinion. What would be the best investigation to confirm a diagnosis of primary biliary cirrhosis?

1- Hepatic ultrasound scan

2- Bone scan

3- Alkaline phosphatase origin estimation (bone or liver)

**4- Anti-mitochondrial antibodies**

5- GGT (gamma glutamyl transferase) testing

Q4232. A 25-year-old man is admitted to the A&E having consumed 20 tablets of propranolol. An infusion of glucagon is prescribed. What is the main mechanism of action of glucagon in this case?

**1- Promotes the formation of cyclic AMP**

2- Stimulates lipolysis

3- Increases glycogenolysis

4- Promotes gluconeogenesis

5- Alters protein kinase A activity

Q4233. A 37-year-old woman presents to the endocrine clinic with a history of hirsutism, acne and oligomenorrhoea. She is having difficulty losing weight and has searched the Internet and thinks she may have polycystic ovarian syndrome. She wants to discuss the implications of this. Which of the following is the most important issue to discuss with her at this stage of her life?

1- Exercise regimens

**2- Does she want to have children**

3- Her blood glucose level

4- Treatment for her hirsutism

5- Weight-reduction diets

Q4234. A 67-year-old woman is admitted with iron-deficiency anaemia. She has an ejection systolic murmur radiating to both carotids. An upper GI endoscopy and colonoscopy is normal. Which of the following is the most appropriate next investigation?

1- Repeat upper GI endoscopy

2- Bone marrow examination

3- Repeat colonoscopy

**4- Angiography**

5- Barium enema

Q4235. A 65-year-old man presents with haematuria, right loin pain and night sweats. Physical examination reveals a mass in the right flank. Blood tests show normocytic normochromic anaemia. What is the most likely diagnosis?

1- Renal tract calculi

2- Adult polycystic kidney disease

**3- Renal carcinoma**

4- Renal amyloidosis

5- Chronic pyelonephritis

Q4236. A 70-year-old man is admitted with pruritus, jaundice, and a 2 kg weight loss of duration two weeks. He had not drunk any alcohol for at least eight years. One month previously, he had completed a course of coamoxiclav, which had been prescribed by his general practitioner for sinusitis, and was also taking ibuprofen for hip osteoarthritis. Investigations reveal (normal range in brackets): Albumin 38 g/l (37-49) Bilirubin 200 m mol/l (1-22) Aspartate transaminase (AST) 150 IU/l (5-35) Alkaline phosphatase 200 IU/l (50-110) Abdominal ultrasound reveals gallstones, but no biliary duct dilatation What is the most likely cause of his jaundice?

1- Co-trimoxazole

**2- Co-amoxiclav**

3- Hepatitis B infection

4- Hepatitis C infection

5- Ibuprofen

Q4237. You are asked to assess the cardiovascular risk status of a man with the insulin-resistance syndrome. Which of the following pathophysiological changes are most strongly associated with increased insulin resistance?

1- Hypotension

**2- Increased levels of Plasminogen activator inhibitor-1 PAI-1**

3- Decreased platelet aggregation

4- Improved endothelial function

5- Increased HDL levels

Q4238. A 62-year-old retired postman awoke with 'darkened', impaired vision in the upper half of the visual field of his left eye 3 days prior to evaluation. He described the onset of symptoms as 'like a shade being pulled down' over the visual picture. He did not complain of eye pain. He had noted headache for 6 weeks beforehand, and had consulted his GP on three occasions about this. He was told that he was suffering from tension headache, and was prescribed simple analgesics. When questioned specifically he reports having pain at each side of his jaw when he eats, especially towards the end of the meal. He is hypertensive and on treatment with a Β-blocker. He has never smoked. Which of the following diagnoses is likely?

1- Central retinal artery occlusion

2- Non-arteritic ischaemic optic neuropathy

3- Migraine

**4- Arteritic ischaemic optic neuropathy**

5- Optic neuritis

Q4239. A 44-year-old patient was referred to the hospital because of a 3-day history of general malaise associated with nausea, diarrhoea and headache. On examination the patient looks well but red/bluish petechiae can be seen on the extensor surfaces of both legs. What is the most likely diagnosis?

1- Hepatitis C infection

2- Legionella infection

**3- Neisseria meningitidis infection**

4- Pneumocystis jiroveci infection

5- Active tuberculosis

Q4240. What is the genetic mode of inheritance of Huntington's disease?

**1- Autosomal-dominant**

2- Autosomal-recessive

3- X-linked dominant

4- Polygenic inheritance

5- No genetic inheritance identified

Q4241. A 70-year-old woman is investigated for recurrent chest infections and bleeding. Routine investigations show a WCC 32 x 103 /mm3 , Hb 9.1 g/dl, platelets 37 x 103 /mm3 , with a blood film showing cells of the myeloid series at various stages of maturation. What further investigation will be most helpful in terms of diagnosis?

1- Cytogenetic analysis

2- Neutrophil LAP score

**3- Bone marrow trephine**

4- Immunophenotyping

5- Bone marrow aspirate

Q4242. A 73-year-old man with chronic lymphocytic leukaemia (CLL) is followed up in clinic. He has become increasingly breathless over the last three months but has no other symptoms and is on no medication. On examination, he is pale and has bilateral cervical and inguinal lymphadenopathy and a firm 5-cm splenomegaly. FBC shows:Hb 7.4 g/dl; WCC 25 x 103 /mm3 ; platelets 117 x 103 /mm3 ; urea 15 mmol/l; creatinine 203 mmol/l; bilirubin 49 mmol/l. Which investigation is most appropriate to demonstrate the likely cause of anaemia?

1- Bone marrow aspirate

2- Autoantibody profile

3- Erythropoietin level

**4- Antiglobulin test**

5- Urinary haemosiderin

Q4243. A 75-year-old man with a history of atrial fibrillation and peripheral vascular disease presents to the emergency department. His abdomen is distended and tender. A plain abdominal film shows thumbprinting at the site of the splenic flexure. Blood testing reveals evidence of mild dehydration, and a full blood count shows a mildly raised neutrophil count. Which diagnosis fits best with this clinical picture?

**1- Ischaemic colitis**

2- Diverticulitis

3- Colonic carcinoma

4- Ulcerative colitis

5- Diverticular abscess

Q4244. A 73-year-old man with advanced Parkinson's disease is being treated on the ward for a urinary tract infection. His regular medication includes co-careldopa, entacapone, cabergoline, and prn subcutaneous apomorphine injections. His wife tells you that for the last month his behaviour has changed and he has become agitated, disinhibited and he keeps asking her for money. His dyskinesia has also become more pronounced over this period. On examination, he is distractable. He denies having hallucinations and, after probing questioning, you can find no evidence of delusional thought. Mood assessment shows him to be cheerful and there are no cognitive or biological features of depression. What is the likely physiological cause of the behavioural change?

1- Reduced breakdown of dopamine

2- Change in sensitivity to dopamine

3- Confusional state due to urosepsis

**4- Direct dopamine agonism**

5- Coexisting dementia

Q4245. You are asked by your orthopaedic colleagues to review a 28-year-old victim of blunt trauma after a motorcycle accident. He has suffered extensive lower limb damage and requires large amounts of analgesia. The orthopaedic surgeons are concerned about his blood results, his potassium some hours after the accident is 6.7 mmol/l, calcium is 2.05 mmol/l, urine is positive to dipstick testing for blood. What diagnosis fits best with this clinical picture?

1- Acute sepsis

2- Hypovolaemia leading to pre-renal failure

**3- Rhabdomyolysis**

4- Direct renal trauma with perinephric haematoma

5- Analgesic nephropathy

Q4246. What is the mechanism of action of carbimazole?

1- Destruction of functioning thyroid cells

2- Inhibition of 5'-deiodinase

**3- Inhibition of the iodination of tyrosine**

4- Inhibition of thyroglobulin proteolysis

5- Conversion to methimazole, which blocks

Q4247. A patient has been diagnosed with chlamydia pneumonia. What is the most appropriate antibiotic therapy?

1- Ampicillin

**2- Erythromycin**

3- Imipenem

4- Cefuroxime

5- Amikacin

Q4248. A 49-year-old woman has been admitted with haemoptysis and epistaxis, the chest X-ray shows multiple rounded lesions with alveolar shadowing. Laboratory parameters show a leucocytosis without eosinophilia but with microhaematuria, proteinuria as well as antineutrophil cytoplasmic antibodies (c-ANCA). Which drug treatment is the most appropriate?

1- Erythromycin

2- Ampicillin

**3- Cyclophosphamide in combination with corticosteroids**

4- Ciclosporin

5- Aciclovir

Q4249. Which of the following statements is true concerning kinins?

1- They are lipids

2- They promote vasoconstriction

3- They decrease the permeability of blood vessels

**4- They are proteins that attract phagocytes**

5- They perforate invading bacteria

Q4250. A 22-year-old man with ulcerative colitis and chronic lower back pain complains of a red painful eye. Which one of the following is likely to be present on examination?

1- Purulent discharge

**2- Photophobia on ophthalmoscopy**

3- A dilated pupil

4- Profound visual loss

5- Retinal haemorrhages

Q4251. A patient complains of tenderness of the patella while walking. Which of the following signs or investigations may be most useful in initial diagnosis of prepatellar bursitis?

**1- Crepitation of the knee**

2- Wasting of the quadriceps muscle

3- Absent patella reflex

4- X-ray

5- Magnetic resonance imaging (MRI) scan

Q4252. An anxious 22-year-old woman presented with mild shortness of breath on exertion that had come on gradually over months. Her symptoms are intermittent, but worse in the evening, and her speech becomes slurred during the episodes. She has recently started on treatment for anxiety. On examination she looked depressed but there were no other positive clinical findings. Other than an ESR of 26, her routine blood results were normal. Chest X-ray, lung function tests and ECG were all normal. What is the most likely diagnosis?

1- Unstable angina

2- Eaton-Lambert syndrome

**3- Myasthenia gravis**

4- Somatisation disorder

5- TIA

Q4253. A 54-year old woman is seen for the first time in the diabetes clinic. She is obese, plethoric and has marked bruising on her limbs and fresh striae over her abdomen. She has a dorsal kyphosis following a vertebral collapse earlier in the year. Which of the following results will help to pinpoint the diagnosis if you suspect Cushing's syndrome secondary to adrenal adenoma?

1- Normal 0900-h serum cortisol level

2- Serum potassium of 2.2 mmol/l

3- 0900-h serum cortisol of 200 nmol/l after overnight dexamethasone test

4- Raised urine cortisol/creatine ratio

**5- Undetectable serum ACTH level**

Q4254. A 30-year-old man from Somalia attends your clinic with a productive cough. Sputum is smear-positive for tuberculosis. What does this mean?

1- He needs treatment for tuberculosis and his close contacts need screening, but he is not infectious to casual contacts

**2- He needs treatment for tuberculosis, his close contacts need screening and he needs to be isolated from casual contacts**

3- He needs treatment for tuberculosis, but he is not infectious to close or casual contacts

4- He has multidrug-resistant tuberculosis

5- He has HIV-associated tuberculosis

Q4255. A patient presents with hypocalcaemic tetany. He has abnormal ears, hypertelorism and an absent thymus. What is the most likely diagnosis?

**1- DiGeorge syndrome**

2- Wiskott-Aldrich syndrome

3- Gaucher's disease

4- Tay-Sachs disease

5- Ataxia-teleangiectasia

Q4256. Which of the following statements concerning hyperacute rejection after renal transplantation is correct?

1- Occurs at least three days after surgery

2- Is successfully treated with ciclosporin A

3- Is caused by ciclosporin A

**4- Is mediated by preformed circulating antibodies**

5- Is largely a B-cell-mediated response

Q4257. A 62-year-old heavy smoker with a long history of self-neglect presents to his GP with severe leg pain. On examination there are multiple, small punched-out ulcers situated on the lower third of both legs. Both dorsalis paedis and posterior tibial pulses appear absent. What diagnosis fits best with this clinical picture?

1- Flea infestation

2- Multiple venous ulcers

3- Vasculitis

**4- Multiple arterial ulcers**

5- Traumatic skin damage

Q4258. Which one of the following neurological findings is MOST helpful in differentiating subacute combined degeneration of the cord from multiple sclerosis?

1- Bilateral Babinski's sign

**2- Absent ankle jerk**

3- Optic atrophy

4- 'Barber's chair' sign

5- Ataxia

Q4259. A 30-year-old lawyer complains of increasing anxiety over the past 2 years. She feels inadequate in social situations and worries about her career. She also complains of insomnia, problems with concentration, tenseness and irritability. There is no other medical problem, and no substance abuse, hallucinations, delusions or psychomotor retardation. She is well dressed, does not feel frustrated and has no suicidal intent. What is the probable diagnosis?

1- Adjustment disorder with anxious mood

2- Social phobia

**3- Generalised anxiety disorder**

4- Obsessive-compulsive neurosis

5- Major depressive disorder

Q4260. Sickle-cell anaemia is characterised by which of the following?

1- Occurrence due to the substitution of alanine for valine on position 6 of the bglobin gene

2- Presence of 70-90% HbS, 5-10% HbA and 2- 20% HbF on electrophoresis

3- Resistance to falciparum malaria

4- Absent reticulocytosis

**5- Vaso-occlusive crises**

Q4261. A woman who is 36 weeks pregnant presented with acute pyelonephritis. She has a history of recurrent urinary tract infection as a child. Her mother has a history of hypertension and was told that her kidneys were 'damaged'. Investigations reveal: creatinine (Cr) 58 (low normal). What is the most likely diagnosis?

1- Autosomal dominant polycystic kidney disease

**2- Reflux nephropathy**

3- Urinary stasis of pregnancy

4- Chronic interstitial nephritis

5- Glomerulonephritis

Q4262. A 69-year-old former coal-miner is referred to you by the on-call team. There is a smoking history and he has been managed by his GP for COPD. He has been admitted with dyspnoea that is now so bad that he is unable to manage at home and cannot walk from the chair to the bathroom. There is a cough productive of black sputum. Lung function tests show a mixed restrictive and obstructive picture. A chest X-ray shows marked changes with massive fibrotic masses predominantly in the upper lobes. There are also changes consistent with lung destruction and emphysema. His rheumatoid factor is positive. Which diagnosis fits best with this clinical picture?

**1- Progressive Massive Fibrosis (PMF)**

2- Chronic obstructive pulmonary disease

3- Tuberculosis

4- Asthma

5- Category 1 pneumoconiosis

Q4263. A 16-year-old young man with sicklecell anaemia is admitted with recent breathlessness. He is febrile and has a clear chest with saturations of 98% on air. From his out-patient notes his usual Hb is 9 g/dl. FBC taken in A&E shows WCC 8.6 x 103 /mm3 , Hb 4.7 g/dl, platelets 573 x 103 /mm3 with a bilirubin 25 m mol/l. Which investigation is the most useful to perform next?

1- Serum haptoglobin

2- Urinary haemosiderin

3- Parvovirus serology

**4- Reticulocyte count**

5- Chest X-ray

Q4264. Which one of the following is the MOST common cause of aplastic crisis in a patient with sickle cell disease?

1- Dehydration

2- Respiratory syncytial virus infection

**3- Human parvovirus B19 infection**

4- Repeated blood transfusion

5- Haemophilus influenzae septicaemia

Q4265. A homeless male presents with multiple lustreless nails. There is no other skin lesion. What is the most appropriate investigation?

**1- Wood light examination**

2- Nail clippings for mycology

3- C-reactive protein

4- Blood cultures

5- Erythrocyte sedimentation rate

Q4266. A 22-year-old student with ankylosing spondylitis has increasing back pain and early morning stiffness. What treatment would you advise?

1- Paracetamol

2- Colchicine

3- Laminectomy and spinal fusion

4- Oral prednisolone

**5- Oral NSAIDs**

Q4267. Which one of the following conditions is LEAST associated with the syndrome of inappropriate antidiuretic hormone secretion (SIADH)?

1- Pneumococcal pneumonia

2- Meningococcal meningitis

3- Porphyria

**4- Sickle cell trait**

5- Vincristine therapy

Q4268. A 28-year-old man presents to casualty with a sudden loss of vision in his right eye. His only past history of note is a previous cerebellar haemorrhage. On examination he has evidence of bilateral retinal angiomas, and a partial retinal detachment in his right eye. What is the most likely diagnosis?

1- Simple traumatic retinal detachment

2- Clotting disorder

3- Bleeding due to hypertension

**4- von Hippel-Lindau disease**

5- McCune-Albright syndrome

Q4269. A 74-year-old man, who is a retired builder of railway carriages, presents to his GP. Over the past year or so he has noticed gradually increasing shortness of breath on exertion. He has a frequent dry and nonproductive cough. On examination the GP notices that he has digital clubbing, peripheral oedema and a raised JVP, with fine endinspiratory crackles heard at the bases on auscultation. Chest X-ray reveals irregular shadows in the lower lung zones and thickened pleural plaques affecting the lower zones. What diagnosis would fit best with this clinical history and these findings on examination and investigation?

1- Asthma

2- Bronchial carcinoma

3- Cryptogenic fibrosing alveolitis

**4- Asbestosis**

5- Silicosis

Q4270. A patient with systemic lupus erythematosus has uncontrolled hypertension during her pregnancy. She is in week 32 and has blood pressure of 152/84. What is the most appropriate therapy?

1- Warfarin

2- Heparin

3- Ramipril

**4- Labetolol**

5- Cyclophosphamide

Q4271. A 54-year-old woman has been experiencing increased pain and stiffness in her hands, wrists, upper arms, shoulders and calves for two years. She describes transient swelling at the wrists. She is frequently roused from sleep by pain and complains of marked fatigue with little stiffness sometimes associated with tingling in the hands, arms and feet. Review of systems reveal increasing urinary urgency and recurrent attacks of headaches. On examination there is no significant abnormality apart from multiple tender spots over the spine and limbs. Blood tests reveal a white blood cell count of 4 x 109 /L and a platelet count of 167 x 109 /L. The erythrocyte sedimentation rate is 20 mm/h. The rheumatoid factor is negative and the ANA test comes back positive at 1:40. The creatine kinase and thyroid function test are within normal limits. Which one of the following is the MOST probable diagnosis?

1- Systemic lupus erythematosus

**2- Fibromyalgia syndrome**

3- Chronic fatigue syndrome

4- Hypothyroidism

5- Depression

Q4272. A 23-year-old woman with a lifelong history of atopy, hay fever and mild asthma attends her GP. Over the last 3 months she has been waking in the early morning coughing and wheezing, and it is slowly getting worse. She is taking inhaled salbutamol seven times a day and is also using inhaled steroids 400 mg twice a day. Her predicted peak flow rate is 500 l/min and it is now 350 l/min. What would you advise her GP to do?

1- Call an ambulance and admit her to hospital

2- Start an oral leukotriene-receptor antagonist, such as montelukast

3- Start her on oral theophylline

**4- Start an inhaled long-acting b 2-agonist**

5- Lend her a nebuliser to use at home

Q4273. A motor cyclist involved in a road traffic accident sustained an injury to the brachial plexus on the right side. He is found to have weakness of right shoulder abduction and forearm flexion, as well as some sensory loss over the lateral aspect of his upper arm. The right biceps and brachioradialis reflexes are absent. What is the likely level of maximal plexus injury?

1- C4,5 root

**2- C5,6 root**

3- C6,7 root

4- C7,8 root

5- C8, T1 root

Q4274. A 47-year-old woman complains of exertional dyspnoea associated with a dry cough and bloody discharge from her nose. Her ankles, fingers and toes are swollen. Blood tests for antibodies are positive for c-ANCA. What is the most likely diagnosis?

1- Churg-Strauss syndrome

2- Systemic lupus erythematosus

**3- Wegener's granulomatosis**

4- Rheumatoid arthritis with fibrosing alveolitis

5- Goodpasture's syndrome

Q4275. A 45-year-old woman with longstanding rheumatoid arthritis presents with fever, arthralgia, skin rashes and oliguria. She has been taking diclofenac on a regular basis for the past 2 years. Renal biopsy shows an intense interstitial infiltrate, often including eosinophils, with variable tubular necrosis. What is the most characteristic feature of this side-effect of diclofenac?

**1- It is reversible**

2- It is not dose-related

3- It is mediated by increased PGI2 synthesis

4- It results in acute tubular necrosis

5- It is counteracted by the use of ACE

Q4276. A 36-year-old woman who is 8 weeks' pregnant presents with a swollen left leg. Doppler studies confirm a deep vein thrombosis. What would be the management in this case?

1- Commence intravenous heparin

**2- Start subcutaneous heparin throughout pregnancy and change to warfarin in the postpartum period**

3- Oral anticoagulation with warfarin daily throughout pregnancy and the postpartum period

4- Aspirin 300 mg daily throughout pregnancy and the postpartum period

5- Elastic band compress of her left leg,

Q4277. There are some important differences between the life-cycles of Plasmodium vivax and that of Plasmodium falciparum. From the list below, which one life-cycle stage occurs with P. vivax but not with P. falciparum infection?

1- Gametocytes

**2- Hypnozoites**

3- Schizonts

4- Sporozoites

5- Trophozoites

Q4278. A 62-year-old man presents for review some 3 months after first being diagnosed with type-2 diabetes. His BMI is 30. Despite having lost about 7 kg in weight, his morning blood sugars are still around 9 mmol/l; an Hb A1C check was 8.9%. He is hypertensive and taking ramipril, his triglycerides are raised and his HDL cholesterol is low. Which therapy for his diabetes would be the best initial choice for his hyperglycaemia?

1- Glibenclamide

2- Gliclazide

3- Rosiglitazone

**4- Metformin**

5- Acarbose

Q4279. A 40-year-old bank clerk on phenelzine has shown little improvement and her GP has therefore prescribed an additional drug. Now, 2 days later, she is brought to A&E in an agitated state with high fever, tremors and restlessness. What is the additional drug that was prescribed?

1- Imipramine

2- Amitriptyline

3- Tranylcypromine

4- Lithium

**5- Fluoxetine**

Q4280. A 24-year-old, previously fit and well woman, presents to A+E with a swollen painful left calf. There is no past medical history. On examination she has mottled looking legs bilaterally and a swollen left calf. Investigations reveal WCC 5.4, (lymphocytes 1.5, neutrophils 3.3), platelets 86, activated partial thromboplastin ratio (APTR) 1.7, ESR 18 mm in the first hour and CRP 2. What is the most likely diagnosis?

**1- Primary antiphospholipid syndrome**

2- Secondary antiphospholipid syndrome

3- Homocystinuria

4- SLE

5- Factor V Leiden deficiency

Q4281. Right ventricular myocardial infarction is characterised by which of the following?

**1- ST-segment elevation in leads II, III and aVF with Q waves and T-wave inversion in these leads**

2- Occlusion of the left coronary artery

3- Marked pulmonary vascular congestion

4- A rise in systolic blood pressure

5- Absent Kussmaul's sign

# Chapter 18 Mock Exam

Q4282. A 21-year-old man is alarmed to find that his urine has become unusually dark 2 days before he is to leave on a backpacking holiday in South-East Asia . He consults his GP, who observes that he is slightly jaundiced. Deficiency of which of the following enzymes could best explain these clinical features?

1- Bilirubin glucuronyltransferase

**2- Glucose 6-phosphate dehydrogenase**

3- Glucose 6-phosphatase

4- Hydroxymethylbilane synthase

5- Pyruvate kinase

Q4283. A 58-year-old male patient has suffered from a recent acute myocardial infarction 3 days ago. He becomes acutely unwell with a hypotensive episode. There is a pansystolic murmur which is accentuated by inspiration, along the lower left sternal border. A SwanGanz catheter was inserted and the following was noted: right atrial pressure was 12 (very high); calculated left atrial pressure was 2 (low normal). What is the likely cause?

1- Right heart failure

2- Left heart failure

3- Mitral regurgitation

**4- Tricuspid regurgitation**

5- Aortic regurgitation

Q4284. Which one of the following is not a common side-effect of lithium?

1- Hypothyroidism

2- Diabetes insipidus

3- Weight gain

4- Fine Tremor

**5- Secretion of antidiuretic hormone (SIADH)**

Q4285. A 69-year-old man has diabetes, ischaemic heart disease and hypertension. He has smoked 20 cigarettes a day for the last 43 years. One morning his son contacts you because he is concerned about him. During a telephone conversation, he reports that his father 'wasn't making sense'. You see the father in your clinic. He is orientated and alert, with normal power, tone and reflexes throughout. Assessment of his speech reveals some difficulty with word identification and repetition. He has difficulty naming examples within a category, e.g. types of animals. He can follow instructions, however. An MRI scan of the brain shows a small localised infarct. Where is this likely to be?

1- Posterior, superior temporal lobe (Wernicke's area)

2- Angular gyrus

**3- Inferior frontal lobe (Broca's area)**

4- Arcuate fasciculus

5- Medial superior temporal lobe

Q4286. You are reviewing a 45-year-old man who has type-2 diabetes. He works a varying shift pattern as a taxi driver and has not tolerated metformin therapy due to gastrointestinal side-effects. You decide that the postprandial glucose regulator nateglinide is the most appropriate therapy choice. Which of the following best describes the mode of action of nateglinide?

1- It acts by reducing hepatic glucose output

2- It acts by reducing peripheral insulin resistance

3- It acts by closure of b -cell calcium channels

**4- It acts by closure of the b-cell K-ATP channel**

5- It prevents the gastrointestinal absorption

Q4287. Which of the following statements best characterises low-density lipoproteins (LDL)?

1- 50% of their fat content is triglyceride

2- Their concentration is highly correlated with dietary cholesterol content

3- They are involved in reverse cholesterol transport

4- They are synthesised de novo in the liver

**5- They contain apolipoprotein B-100**

Q4288. A 24-year-old theatre nurse presents for review. She has red scaling plaques that are worse on her hands but are also present on the flexor surfaces of her arms and legs. Her past history of note includes coeliac disease. There is a mildly raised blood eosinophil count. What diagnosis fits best with this clinical picture?

1- Psoriasis

**2- Atopic eczema**

3- Photosensitivity

4- Dermatitis herpetiformis

5- Histiocytosis-X

Q4289. A 70-year-old man presents with a 2-3-month history of slurred speech as well as difficulty in chewing and swallowing, to the point where he is no longer eating solid food. On examination he has weakness of jaw closure and difficulty in protruding his tongue. There is some wasting and fasciculation involving both sides of the tongue. He has lost a few kilos in weight over this time. Apart from a generally thin appearance, the rest of the neurological and general examination appears to be normal. In particular, the tendon reflexes are all within physiological limits. What is the most likely diagnosis?

1- Myasthenia gravis

2- X-linked spinobulbar atrophy

3- Lower cranial nerve palsies secondary to skull base metastases

**4- Motor neurone disease (MND)**

5- Syringobulbia

Q4290. A 65-year-old man with chronic renal failure has a serum potassium level of 7.1 mmol/l (normal 3.5-5.5 mmol/l). What would be the most characteristic finding on ECG?

**1- Reduced P waves**

2- Prolonged QT intervals

3- Prominent U waves

4- Narrow QRS complexes

5- T-wave inversion

Q4291. A native of Ghana has been diagnosed as having epidemic typhus. By which vector is he most likely to have become infected?

1- Hard tick

**2- Human body louse**

3- Trombiculid mite

4- Aedes aegypti mosquito

5- Rat flea

Q4292. You are asked to see a 25-year-old White man who experienced marked weakness and dyspnea 4 days after being admitted for a compound arm fracture after falling from a tree. Estimated blood loss from the initial fracture episode was 600 ml and the patient was transfused with one unit of packed erythrocytes. The initial crossmatch was reported as compatible by the transfusion service. The patient has never been transfused before this incident and has no other serious medical illnesses. The patient's arm fracture was treated with surgical pinning and prophylactic antibiotics consisting of a cephalosporin iv every 12 h. On examination, the patient is febrile and mildly tachycardic, with no evidence of wound infection or compartment syndrome. Laboratory data show a haematocrit of 15%, a raised reticulocyte count and total bilirubin of 70 mol/l with a conjugated bilirubin of 9 moll/l. The peripheral smear shows many spherocytes. No haemoglobinaemia or haemoglobinuria is seen on visual inspection of the plasma and urine. The transfusion service reports that the direct Coombs' test is now strongly positive using anti-IgG and only weakly positive with anti-C3d antisera. They further report that routine compatibility tests show no new erythrocyte antibodies in the patient's serum and that, when they attempted to elute antibody from the patient's RBCs and test against normal RBCs, the results were negative. What is the most likely diagnosis?

1- Haemolytic transfusion reaction caused by an ABO incompatibility

2- Delayed haemolytic transfusion reaction

3- Autoimmune haemolytic anaemia of warm antibody type

4- Autoimmune haemolytic anaemia of cold antibody type

**5- Drug-induced immune haemolytic anaemia**

Q4293. A pregnant woman started to notice lumps on her skin as well as freckles in her armpit. One of her relatives had similar problems. What is most likely cause of her problem?

**1- Neurofibromatosis**

2- Underlying malignancy

3- Tuberous sclerosis

4- Multiple melanoma

5- Ataxia telangiectasia

Q4294. Which one of the following statements BEST describes a feature of irritable bowel syndrome (IBS)?

1- Characterised by nocturnal diarrhoea

2- If there is nausea and vomiting the diagnosis should be reconsidered

3- Weight loss becomes more evident as the disease runs a chronic course

4- Sigmoidoscopy findings are often diagnostic

**5- A diet high in soluble fibre is often**

Q4295. A 50-year-old lady is concerned about osteoporosis because her mother had it. She had a premature menopause at the age of 40 but no other risk factors in her history. You decide to perform a bone mineral density (BMD) test. This comes back showing a Zscore of 0 and T-score of -0.5 SD. How do you interpret these results?

1- Patient has osteoporosis

2- Patient has osteopenia

**3- Patient has normal BMD for her age**

4- Patient is at risk of fracture and should receive treatment

5- Patient has lower than expected BMD for

Q4296. A 22-year-old primigravida in the third trimester develops pruritus. On examination, she has a few blisters on her abdomen, including around her umbilicus and upper thighs. Which of the following is the most likely diagnosis?

**1- Herpes gestationis**

2- Polymorphic eruption of pregnancy

3- Pregnancy prurigo

4- Pruritus of pregnancy

5- Scabies

Q4297. A newly diagnosed human immunodeficiency virus (HIV) patient is generally unwell with fever and malaise, and has a CD4 count of 100/mm3 . In addition to antiviral therapy he should receive prophylaxis against which pathogen?

1- Tuberculosis

2- Hepatitis B

**3- Pneumocystis jiroveci**

4- Epstein-Barr virus

5- Herpes simplex virus

Q4298. A 68-year-old man with bronchiectasis is found to have acid-fast bacilli in his sputum. The microbiology report suggests this may be an opportunistic or atypical mycobacterium. Which of the following is the least likely infectious agent?

1- Mycobacterium kansasii

2- Mycobacterium malmoense

3- Mycobacterium xenopi

**4- Mycobacterium leprae**

5- Mycobacterium avium intracellulare

Q4299. A 32-year-old lawyer presents with nonspecific symptoms of tiredness. She is dissatisfied with her GP and arranges a private MRI scan of her pituitary. Blood testing by her private physician reveals normal thyroid function, cortisol, growth hormone and gonadotrophins. Her pituitary scan reveals a 0.8cm microadenoma. Which of the following represents the most appropriate course of action?

1- Treatment with dopamine agonist therapy

2- Somatostatin therapy

3- Bilateral sterotactic pituitary irradiation

**4- Observation and reassurance**

5- Trans-sphenoidal resection of pituitary

Q4300. To what class of drugs does clozapine belong?

1- Tricyclic antidepressant

2- Phenothiazine

3- Thioxanthene

**4- Atypical antipsychotic**

5- SSRI

Q4301. Which of the following is the most appropriate management step in a ward outbreak of MRSA?

1- Close ward until infection clear

2- Treat all positive members of ward with iv antibiotics

**3- Improve hand washing hygiene among staff**

4- Exclude staff with positive MRSA tests

5- Clean rooms and walls with alcohol

Q4302. You review a 44-year-old woman in an outpatient clinic following an urgent referral from her GP. She had recently been started on hydralazine for blood pressure management. Since then she has developed symptoms and signs suggestive of drug-induced lupus. Which of the following statements is true concerning drug-induced lupus disease?

**1- It is more common in Caucasians than AfroCaribbeans**

2- HLA-DR4 is not associated with it

3- Rapid acetylator status is a risk factor

4- dsDNA antibodies are positive

5- Antihistone antibody is negative

Q4303. Anti-Ro antibodies in isolation (negative ANA) occur in which of the following conditions?

1- Sjögren's syndrome

2- Sicca syndrome

**3- Systemic lupus erythematosus (SLE)**

4- Scleroderma

5- Polymyositis

Q4304. A 34-year-old alcoholic man has been admitted to the intensive care unit after having been found collapsed in the street. Initial CT brain scan excluded any intracranial lesion. On admission he had signs of a left basal pneumonia, confirmed on chest X-ray, and low sodium concentration of 118 mmol/l. You are asked to see him as, although he is now conscious, extubated and able to communicate by blinking, he appears to be unable to move or speak. On examination he has a quadriparesis and bilateral extensor plantar responses. His eye movements appear normal, as is facial sensation, but he has no gag reflex and is unable to swallow or speak. What diagnosis do you consider most likely when planning how best to investigate his problem?

1- Guillain-Barrè syndrome

2- Miller-Fisher syndrome

3- Basilar artery thrombosis

4- Basilar artery dissection

**5- Central pontine myelinolysis**

Q4305. A 34-year-old man, originally from Pakistan, was admitted with ascites and weight loss. The protein level on ascitic tap was 9 g/l. Which of the following is the most likely cause of the ascites?

1- Intra-abdominal malignancy

**2- Hepatic cirrhosis**

3- Liver metastases

4- Peritoneal lymphoma

5- Tuberculous peritonitis

Q4306. A 12-year-old girl presents with short stature, webbed neck and primary amenorrhoea. Given the likely clinical diagnosis, which hormone would be most appropriate to treat this condition?

1- Growth hormone

2- Progesterone

**3- Oestrogen**

4- Pulsatile GnRH

5- Luteinising hormone

Q4307. A 28-year-old man presents with a 2-year history of increasing dyspnoea with strenuous exertion. Hypertrophic cardiomyopathy is diagnosed. Which is the most appropriate screening method for his brother?

1- Computed tomography (CT) scan

2- Exercise tolerance test

3- Ventilation-perfusion scan

**4- Echocardiography**

5- Genetic screening

Q4308. A 21-year-old woman is admitted to the hospital with a 1-hour history of sudden onset breathlessness. This was accompanied by abdominal pain. She also has an erythematous rash, which developed 24 hours earlier. In the casualty department she is mildly distressed and has an audible wheeze. There is no past medical history of significance. Her family history is unavailable as she was adopted when she was 2 years old. As she has deteriorated, the intensivists decide to intubate and ventilate her. Which of the following investigations is most likely to help reach a diagnosis?

1- CT thorax

2- Cold agglutinins

3- Arterial blood gases

4- Mycoplasma serology

**5- C1 esterase inhibitor level**

Q4309. A 27-year-old woman who had previously undergone a terminal ileal and limited rightcolon resection for Crohn's disease was seen in clinic. She reported increased diarrhoea but was otherwise well. Investigations showed: CRP < 5 mg/dl; Hb 13.2 g/dl; WCC 8.6 x 109 /L; platelets 244 x 109 /L. Repeat colonoscopy was normal to the neoterminal ileum; a barium follow-through showed a normal mucosa; and a lactose hydrogen breath test was normal. What is the most likely cause of her diarrhoea?

**1- Bile-salt malabsorption**

2- Collagenous colitis

3- Mesalasine

4- Primary sclerosing cholangitis

5- Small-bowel bacterial overgrowth

Q4310. A 40-year-old man is noted to have palmar crease xanthomas. Which form of lipid disorder is most likely?

1- Familial hypercholesterolaemia

2- Familial mixed hypercholesterolaemia

3- Hyperchylomicronaemia

4- Familial hypertriglyceridaemia

**5- Broad b disease**

Q4311. A 40-year-old Afro-Caribbean woman presents to clinic following an insurance medical examination, where she was found to have bilateral hilar lymphadenopathy on her chest radiograph. Her CT scan confirms hilar lymphadenopathy and comments on nodularity in the lung fields. What would you do next?

1- Arrange a trans-bronchial, lymph node needle aspiration

2- Arrange a lung biopsy

3- Commence oral prednisolone

4- Send sputum samples to microbiology

**5- Observe and repeat her chest X-ray in 3**

Q4312. A 23-year-old woman presents to the dermatology department with a 6-month history of unilateral dermatitis of the eyelids. There are no other symptoms of allergy. Her serum IgE is normal. Which of the following is the patient most likely to be allergic to?

1- Egg white

**2- Nail varnish**

3- Dermatophagoides

4- Peanut

5- Mascara

Q4313. Which of the following relates to exacerbation of chronic bronchitis in patients with COPD?

**1- Moraxella catarrhalis is commonly isolated on culture**

2- Clinical symptoms are usually severe

3- An elevated white cell count indicates exacerbation

4- Trimethoprim-sulfamethoxazole combinations are effective in the treatment of M. catarrhalis infection

5- Gram's stain is inconclusive and blood

Q4314. A 10-year-old boy has been complaining of pain in his right leg for 3 weeks. His mother describes him as 'being off colour'. There is nothing to find on examination. Investigation reveals a Hb of 11.5 g/dl (13-18), WCC 2.2 x 109 /L (4-11 x 109 ) with neutrophils 0.5 x 109 /L (1.5-7.0 x 109 ), lymphocytes 1.4 x 109 /L (1.5- 4.0 x 109 ) and platelets 160 x 109 /L (150-400 x 109 ), ESR is 50 mm in the first hour (0-15); urea and electrolytes are normal. Further investigation shows diffuse uptake in both femurs on MRI scan, suggestive of tumour infiltration. What is the most likely diagnosis?

1- Ewing's sarcoma

2- Juvenile arthritis

3- HIV infection

**4- Acute lymphoblastic leukaemia**

5- Acute myeloid leukaemia

Q4315. Which one of the following types of arthritis is the MOST common type of psoriatic arthropathy at presentation?

1- Distal interphalangeal (DIP) joint disease

2- Arthritis mutilans

3- Peripheral symmetric polyarthropathy

**4- Peripheral asymmetric oligoarthropathy**

5- Psoriatic spondylitis

Q4316. In Duchenne's muscular dystrophy, which of the following statements applies?

1- Serum creatinine kinase is elevated in 30% of cases

**2- Exon deletion or duplication in the dystrophin gene occurs in 60% of patients**

3- Prenatal diagnosis involves analysis of restriction fragment length polymorphisms (RFLPs)

4- The genetic defect affects mainly skeletal muscle

5- The majority of cases are due to new

Q4317. A 62-year-old man presents to his general practitioner (GP) for review. He has severe pain affecting the right shoulder which is worst during the middle range of abduction, he is unable to initiate abduction of his shoulder via active movement, although passive elevation is less painful. There are no other abnormal physical signs. What diagnosis fits best with this clinical picture?

1- Torn rotator cuff

2- Subacromial bursitis

**3- Supraspinatus tendonitis**

4- Adhesive capsulitis

5- Acromio-clavicular joint disruption

Q4318. A 40-year-old man who is normally entirely fit and well attends A&E with a sudden history of severe pain in his right thigh. His only medication is ibuprofen, which he has been taking after 'overdoing it in the gym'. His right lower limb is exquisitely tender and his thigh is slightly swollen. His temperature is 39°C and his blood tests reveal a white cell count of 25 x 109 /L, with a neutrophilia, and a CRP of 350 mg/l. His urea and creatinine are mildly elevated. What is the most appropriate management plan?

1- Doppler ultrasound of his right lower limb

2- MRI of his right lower limb

3- Blood cultures, start iv co-amoxiclav and admit to the ward for observation

**4- Phone the plastic surgeons**

5- CT chest, abdomen and pelvis

Q4319. An 18-month-old boy is suspected of having Hirschsprung's disease. Which of the following investigations would provide a definitive diagnosis?

1- Barium enema

2- Rectal manometry

3- Colonoscopy

**4- Rectal biopsy**

5- Proctoscopy

Q4320. An 18-year-old student is admitted to the Emergency room after a collapse in a night club. He has no recollection of the incident, was assisted by his friends and had begun to regain consciousness by the time the ambulance had arrived. On direct questioning in the Emergency room he admits to 2 previous syncopal episodes. He denies elicit drug use. On examination his BP is 123/72 mmHg, his pulse is 72 regular. Investigations; Hb 13.2 g/dl WCC 5.3 x 109 /L PLT 199 x 109 /L Na 142 mmol/l K 4.6 mmol/l Creatinine 90 μmol/l ECG Sinus rhythm, QT interval 0.52s A defect in which ion channel is the most likely cause of his symptoms?

1- Magnesium

2- Sodium

**3- Potassium**

4- Chloride

5- Calcium

Q4321. What would be the preferred choice of medication to treat depressive disorder in an 85-year-old woman?

1- Tricyclic antidepressant

2- Monoamine oxidase inhibitor (MAOI)

**3- Selective serotonin antidepressant**

4- Lithium

5- Venlafaxine

Q4322. A 23-year-old woman was referred with abnormal liver biochemistry in the third trimester of pregnancy. Which of the following would suggest pregnancy-related cholestasis as a cause?

**1- Elevated serum bile salts**

2- Elevated urate

3- Hypoalbuminaemia

4- Macrocytosis

5- Thrombocytopenia

Q4323. A 14-year-old boy has been given cefuroxime for a respiratory tract infection. Which of the following characteristics is most likely to increase its efficacy in this condition?

1- It is more effective than cefadroxil against Gram-positive organisms

2- It is active against Pseudomonas aeruginosa

3- It is the first-line treatment for infection with Gram-negative organisms

**4- It is useful in mixed aerobic-anaerobic infections**

5- It is available only in parenteral form

Q4324. A 20-year-old female returns from travelling to South America including Brazil. She developed an itchy skin reaction and an illness with fever four weeks later. She now has nephrotic syndrome. What is the most likely pathogen causing this?

**1- Schistosoma mansoni**

2- Plasmodium malariae

3- Hantavirus

4- Mycobacterium tuberculosis

5- Mycobacterium lepta

Q4325. A patient undergoes a radical parotidectomy for a malignant parotid tumour, at which time it is found necessary to perform a total division of the left facial (VII) nerve. Postoperatively, which is the most likely sequel?

1- Preservation of left sided frown in all cases

2- Numbness over the cheek on the left side

3- Ptosis of the upper eyelid on the left side

4- Loss of taste sensation over the anterior two-thirds of the tongue on the left side

**5- Tendency for food and fluids to collect in**

Q4326. A 35-year-old woman with recently diagnosed primary pulmonary hypertension asks you some questions regarding treatment options. She is awaiting transfer to a specialist centre for right heart catheterisation. Which of the following are true?

**1- She will benefit from taking long-term anticoagulation with warfarin**

2- She will benefit from taking verapamil

3- She will benefit from taking lisinopril

4- She will benefit from taking the oral contraceptive pill

5- She will be able to have children, as long as

Q4327. A 34-year-old man returns from India with abdominal pain, a fever, nausea and sweats. Examination reveals an enlarged tender liver. Several abscesses are visualised on ultrasound. Which of the following is the most likely cause?

1- Clostridium perfringens

2- Klebsiella histiolytica

3- Pseudomonas aeruginosa

**4- Staphylococcus aureus**

5- Streptococcus pneumoniae

Q4328. A 60-year-old diabetic woman with chronic arthritis has a swollen, red-hot and painful right knee following an intra-articular injection of steroid for pain relief 4 days earlier. What test would confirm the diagnosis?

1- Urgent blood sugar estimation

2- Blood culture

**3- Joint aspiration and culture**

4- Joint aspiration and microscopy under polarised light

5- Serum rheumatoid factor estimation

Q4329. By which process are particles moved along a concentration gradient across a selectively permeable membrane?

1- Endocytosis

**2- Diffusion**

3- Exocytosis

4- Osmosis

5- Phagocytosis

Q4330. You are asked to review a 36-year-old woman who has presented to the casualty department with renal colic. KUB X-ray has revealed the presence of multiple renal stones. Her past history of note includes extensive surgical resection for Crohn's disease. What is the most likely chemical composition of her renal stones?

1- Calcium phosphate

2- Uric acid

3- Magnesium ammonium phosphate

4- Cysteine

**5- Calcium oxalate**

Q4331. An 80-year-old man with a history of intermittent atrial fibrillation presents with syncope. ECG documents a type II, seconddegree AV block. Which of the following types of pacemaker is best indicated for him?

1- DDD

2- DDDR

3- VOO

4- VVI

**5- VVIR**

Q4332. A 55-year-old man known to suffer from alcohol-induced liver disease gives a history of a blistering rash on his hands after a holiday in Greece. Examination shows established blisters as well as scar marks. He says he developed a similar rash last year following a holiday in Majorca, which healed with the formation of scars. He also has patches of scarring alopecia. Which of the following investigations might best establish the diagnosis?

1- Liver biopsy

**2- Plasma and urinary uroporphyrins**

3- CT scan of the liver

4- Liver function tests

5- Skin biopsy

Q4333. You review a 17-year-old man who is brought to casualty by the police. He has been arrested for assault and claims that he 'was told to do it'. Which of the following clinical features in the psychiatric history is most strongly associated with schizophrenia?

**1- Lack of insight**

2- Restlessness

3- Withdrawal from social contacts

4- Onset insomnia

5- Panic attacks in buses and shops

Q4334. The parents (both cystic fibrosis gene carriers) of a child with cystic fibrosis (CF) come to see you for advice after reading about CF on the Internet. Which of the following bits of information from their Internet printout is correct?

1- The gene defect is a mutation on chromosome 6

2- There is evidence of pulmonary disease at birth

3- <50% of patients survive to adulthood

**4- Burkholderia cepacia is a significant pathogen**

5- Probability of a further child being affected

Q4335. A teenager presents with a 2-day history of anxiety, tremulousness and diaphoresis. He admits to the recent cessation of a drug, but will not reveal which drug he used. He has a generalised tonic-clonic seizure in the A&E department. Withdrawal of which drug is the most likely cause?

**1- Benzodiazepine**

2- Cocaine

3- Heroin

4- Lysergic acid diethylamide (LSD)

5- Cannabis

Q4336. A 55-year-old man goes to the Kruger National Park in South Africa on a 3-week safari. He was fully vaccinated before his trip and took regular mefloquine malaria prophylaxis. He drank bottled water and ate only cooked food. He reported having seen lions and gazelles and being bitten by mosquitoes and tsetse flies. Two days following his return to the UK he has developed a fever and notices a black spot on his thigh. He has a faint macular rash. On arrival to hospital he has a fever of 37.7°C. What is the most likely diagnosis?

1- Malaria

2- African trypanosomiasis

**3- African tick typhus**

4- Leptospirosis

5- Anthrax

Q4337. A 55-year-old man goes to the Kruger National Park in South Africa on a 3-week safari. He was fully vaccinated before his trip and took regular mefloquine malaria prophylaxis. He drank bottled water and ate only cooked food. He reported having seen lions and gazelles and being bitten by mosquitoes and tsetse flies. Two days following his return to the UK he has developed a fever and notices a black spot on his thigh. He has a faint macular rash. On arrival to hospital he has a fever of 37.7°C. What is the most likely diagnosis?

1- Malaria

2- African trypanosomiasis

**3- African tick typhus**

4- Leptospirosis

5- Anthrax

Q4338. What is the most likely sequela of anaplastic thyroid carcinoma?

1- Brain metastasis

2- Hypercalcaemia

3- Liver metastasis

4- Lung metatstasis

**5- Upper airway obstruction**

Q4339. A 25-year-old soldier presents to A&E with a high fever, diarrhoea and vomiting. He returned from his recent posting to rural Sierra Leone 10 days ago and has become unwell over the last 24 hours. On admission he looks unwell and has a temperature of 39°C. He has a pulse rate of 110 bpm. Examination is otherwise unremarkable. What is the most appropriate next step?

1- Send samples for FBC, clotting, U&Es, LFTs and a malaria film to the lab

**2- Send samples for a malaria film to the lab**

3- Send the patient direct to Newcastle or the Royal Free hospital, London

4- Send samples for FBC, clotting, U&Es, LFTs, a malaria film and blood cultures to the lab

5- Send the patient home

Q4340. A 15-year-old boy who is 155 cm tall is worried that he may have stopped growing. Which hormone is chiefly responsible for epiphyseal fusion and cessation of growth?

1- Growth hormone

2- Testosterone

3- Somatostatin

**4- Oestrogen**

5- Thyroxine

Q4341. A 46-year-old woman with a history of Type 1 diabetes presents to the clinic complaining of pain, pins and needles and loss of sensation in her feet. Her diabetes has been poorly controlled over a number of years, with her HbA1c averaging around 8.8% on a basal bolus insulin regime. You suspect she might have diabetic neuropathy. What would be the expected findings on nerve conduction study?

1- Increased nerve conduction velocity on peripheral nerve testing

2- Increased peripheral nerve action potentials

**3- Decreased nerve conduction velocity on peripheral nerve testing**

4- More marked loss of motor nerve conduction velocity

5- Improvement in function after short term

Q4342. Altitudinal hemianopia is a cardinal feature in a patient who?

1- Denies the fact he is blind

2- Is 72 years old with macular degeneration

3- Is 70 years old with headache, vomiting and swelling of the optic disc

**4- Is a 74-year-old man with multiple cholesterol emboli on fundoscopy**

5- Has coarse facial features, large lips and

Q4343. A 51-year-old woman presents to her GP with polyuria, tiredness and a random plasma glucose level of 13.0 mmol/l. According to the ADA criteria what should happen next?

1- She should be reassured that the result is normal

**2- She may have diabetes mellitus and requires a fasting blood test the following day to confirm the diagnosis**

3- She probably has impaired glucose tolerance and should undergo a 2-h glucose tolerance test

4- A 2-h glucose tolerance test plasma glucose level of 10.5 mmol/l would confirm diabetes mellitus

5- A fasting plasma glucose of 7.2 mmol/l the

Q4344. A 52-year-old man is referred to the haematology clinic after a routine FBC showed a WCC of 6 x 103 /mm3 , Hb 18.4 g/dl and platelets 142 x 103 /mm3 . He smokes and has hypertension that is controlled by atenolol. He was admitted two years ago with a pulmonary embolism after a trans-Atlantic flight, at which time his blood gases showed p(O2) of 6.6 kPa, p(CO2) 3.2 mmHg, pH 7.53, O2 saturation 98%. His FBC results at the time were WCC 9.9 x 103 /mm3 , Hb 17.9 g/dl, platelets 198 x 103 /mm3 . Clinical examination reveals a normal cardiovascular and respiratory system, with a respiratory rate 12/min and BP 121/74 mm Hg. What is the most likely cause of his polycythaemia?

1- Polycythaemia rubra vera (PRV)

2- Chronic pulmonary vascular disease

3- 'Stress' polycythaemia

**4- Increased-affinity haemoglobin**

5- Chronic obstructive airways disease

Q4345. A 48-year-old man with long-standing human immunodeficiency virus (HIV) attends the clinic with a three-week history of rapidly enlarging lymphadenopathy in the left cervical region measuring 8x10 cm. There has been a recent increase in viral load and current CD4 count is 120 x 106 per litre; haemoglobin is 10.4 g/dl, white blood cell count 3.4 x 109 per litre, and platelets 115 x 109 per litre; thyroidstimulating hormone (TSH) is normal and lactate dehydrogenase (LDH) is 1140. What is the most likely diagnosis?

1- Atypical tuberculosis

2- Kaposi's sarcoma

3- Thyroid carcinoma

4- Cytomegalovirus infection

**5- High-grade non-Hodgkin's lymphoma**

Q4346. A 57-year-old obese woman presents with numbness, tingling and burning on the anterolateral aspect of the thigh. On examination there is dysaesthesia (increased sensitivity to light touch) in the affected area. An X-ray of the hip joint is normal. What is the most likely possible cause for her symptoms?

**1- Meralgia paraesthetica**

2- Trochanteric bursitis

3- Fracture of the femoral neck

4- Avascular necrosis of the femoral head

5- Polymyalgia rheumatica

Q4347. A 50-year-old hospital porter is an inpatient on the surgical ward after a routine cholecystectomy. He normally smokes 30 cigarettes a day. Two days after the operation he begins to spike fevers and expectorate green phlegm. A CXR shows lobar consolidation in his right lung. He has O2 saturations of 85% on air. The surgical consultant asks you to assess him and start him on some antibiotics. Which one of the following treatments would you choose?

1- Penicillin + Macrolide

2- Cephalosporin alone

3- Quinolone alone

**4- Cephalosporin + aminoglycoside**

5- Penicillin + Flucloxacillin + Macrolide

Q4348. A 20-year-old student is admitted to A&E with pyrexia and sweating after an overdose of a painkiller. Which drug is most likely to cause these symptoms?

1- Paracetamol

2- Ibuprofen

**3- Aspirin**

4- Diclofenac

5- Co-proxamol

Q4349. A 32-year-old man was referred with gastrooesophageal reflux disease and commenced on a proton-pump inhibitor. Which of the following is true of the gastric K+/H+-ATPase proton pump?

1- It is made up of alpha-, beta- and gammasubunits

2- It is an acute antigen in pernicious anaemia

**3- Omeprazole binds irreversibly**

4- Is situated in chief cells

5- It also occurs in other tissues

Q4350. A 76-year-old man has had severe depression with psychotic ideas. He has been an inpatient on a psychiatric ward for 3 months. Despite having received two different antidepressants, both at adequate doses for an adequate period, his mood had continued to deteriorate. He is now refusing to eat, as he says his food is poisoned, and is drinking only minimal fluids. He is becoming dehydrated. What would be the next treatment step?

1- Prescription of a third, different antidepressant

2- Prescription of two antidepressants simultaneously

3- Prescription of an antipsychotic agent

4- Lithium augmentation therapy

**5- Electroconvulsive therapy (ECT)**

Q4351. A 45-year-old woman with long-standing rheumatoid arthritis develops pain in her left knee. What is the earliest radiological evidence of rheumatoid arthritis of the knee?

1- Erosion of cartilage and bone

2- Loss of joint space

3- Varus/valgus deformity

**4- Effusion into the joint space**

5- Osteophyte formation

Q4352. A 60-year-old man presents to the emergency team with dramatic swelling of his tongue and lips. He has hypertension and type-2 diabetes mellitus. His drug therapy has been unchanged for 5 years and comprises lisinopril, low-dose aspirin and metformin. Which of the following diagnoses is most likely?

1- Acquired angioedema related to a paraprotein

2- Idiopathic angioedema

3- Hereditary angioedema

**4- ACE inhibitor-associated angioedema**

5- Salicylate-induced angioedema

Q4353. A 91-year-old widow has been in the observation ward of the A&E department for 24 hours following a fall. During the night she suddenly becomes confused and agitated, accusing the nurses of being 'Nazis'. She has hit a porter with her walking stick. She scores 3/10 on the Abbreviated Mental Test Score. Physical examination is unremarkable, except for a pyrexia of 38.5°C and right basal crepitations. Her blood gases are normal. A chest X-ray shows right lower lobe shadowing. What is the most important initial management action in terms of improving her confusional state?

1- Blood cultures

2- Intravenous antibiotics

**3- Move the patient to a well-lit single room**

4- Lorazepam 500 mg im

5- Risperidone 1 mg orally

Q4354. Which one of the following clinical findings is MOST suggestive of pulmonary embolism (PE)?

1- Spiking temperature of 39°C lasting more than one week

2- Haemoptysis of more than 5 ml with negative chest X-ray

**3- Chest pain worse on deep breathing and respiratory rate of 26/min**

4- Recurrent chest pain in the same location

5- Chest pain on lying flat

Q4355. You are asked to see a 45-year-old man who is haemodynamically compromised and plan to insert a right subclavian line. He has a body mass index (BMI) of 38, where is the correct position for central venous cannulation?

1- 1 cm under the mid-point of the clavicle and 0.5 cm laterally

**2- 2 cm under the mid-point of the clavicle and 1 cm laterally**

3- 2.5 cm under the mid-point of the clavicle and 2 cm laterally

4- 0.5 cm under the mid-point of the clavicle and 1 cm laterally

5- 1 cm under the mid-point of the clavicle

Q4356. You review a 58-year-old man who has been admitted with pneumonia. He is a heavy smoker, and chest X-ray confirms that he has an obstructing tumour, revealed on bronchoscopy to be a squamous cell carcinoma of the bronchus. Which of the following features would be a contraindication to surgery?

1- FEV1 1.8 litres

2- Paraneoplastic neuropathy

3- Hypercalcaemia

**4- Spread to involve the C8, T1 and T2 nerve roots**

5- Gas transfer reduced by 33%

Q4357. A 25-year-old man is admitted to hospital with persistent vomiting. He is clinically dehydrated and hypotensive. His serum sodium concentration is 124 mmol/l, potassium 4.9 mmol/l, urea 9.8 mmol/l, creatinine 96 m mol/l. Urine sodium concentration in a specimen passed on admission is 62 mmol/l. Which of the following is the most likely cause of the hyponatraemia?

**1- Adrenal failure**

2- Cerebral salt wasting

3- Gastrointestinal fluid loss

4- Low sodium intake

5- Syndrome of inappropriate antidiuresis

Q4358. A 50-year-old, mildly hypertensive businessman, on low-dose aspirin, is a regular at parties where he scouts for more business. He is a diabetic and is taking metformin and gliclazide. Recently, he was prescribed erythromycin and paracetamol for an ear infection. He presents with lactic acidosis at A&E. Which drug is most likely to interact with metformin to cause this complication?

1- Erythromycin

2- Paracetamol

3- Gliclazide

4- Aspirin

**5- Alcohol**

Q4359. A patient with type I diabetes mellitus has been complaining of a 3-month history of right shoulder pain. She describes this as a frozen shoulder, and says it hurts to move her shoulder at all. What is the most likely diagnosis?

1- Rheumatoid arthritis

2- Osteoarthritis

**3- Adhesive capsulitis**

4- Pseudogout

5- Calcific tendonitis

Q4360. In which part of the cell cycle are cells most resistant to chemotherapeutic drugs?

1- S phase

2- M phase

**3- G0 phase**

4- G1 phase

5- G2 phase

Q4361. A 43-year-old woman presents with weight loss, palpitations, diarrhoea and a cessation of periods. She has been treated by her GP for anxiety. Examination reveals a single nodule on the left of her thyroid, about 1.5 cm in diameter. Thyroid scanning with technetium shows increased uptake within the nodule with reduced activity throughout the rest of the gland. Thyroid function tests showed a free thyroxine of 30 pmol/l (9-25 pmol/l), TSH < 0.05 mU/l (0.5-5). Based upon these findings, what would be the definitive treatment?

**1- Radioactive iodine therapy**

2- Carbimazole

3- Surgical excision

4- Propanolol therapy

5- High-dose carbimazole therapy with

Q4362. A 79-year-old woman who drinks 30 units of alcohol per week presents with a red, hot swollen ankle. Which investigation may yield a definitive diagnosis?

1- Blood culture

**2- Joint aspiration and microscopy**

3- Joint aspiration and culture

4- X-ray of the ankle

5- Serum uric acid levels

Q4363. A 23-year-old woman presents with haematuria, proteinuria and hypertension. She has a past history of hepatitis B infection following intravenous drug usage. Blood tests show reduced C3 levels. What would be the most characteristic histological feature on renal biopsy in this case?

**1- Thickening and splitting of the capillary basement membrane**

2- Fusion of the foot processes of epithelial cells

3- Proliferation of mesangial cells

4- Normal histology

5- Mesangial hypercellularity with crescents in

Q4364. A 40-year-old woman presents with a 3- month history of fatigue, weight loss, night sweats and a degree of exertional dyspnoea. Her past history includes a prosthetic mitral valve replacement 2.5 years ago. She is pyrexial with evidence of mitral regurgitation and splinter haemorrhages. Echo confirms moderate paravalvular mitral regurgitation. Blood cultures are taken and a diagnosis of infective endocarditis made. What is the most likely infecting organism in this case?

1- Coxiella burnetii

2- Enterococcus spp

3- Staphylococcus aureus

4- Staphylococcus epidermidis

**5- Streptococcus viridans**

Q4365. A 35-year-old sailor presents with a painless swelling on the sole of his foot that has progressively increased in size. There is an area of ulceration with yellowish-white grains on the surface. Gram staining of a smear from the ulcer shows Gram-positive branching organisms. What is the most probable causative agent?

1- Madurella mycetomi

2- Cladosporium spp

**3- Nocardia asteroides**

4- Sporothrix schenckii

5- Blastomyces dermatitidis

Q4366. A 50-year-old man presents with a history of panic attacks, palpitations, sweating, headache and flushing. On examination his pulse rate is 120 bpm, BP 190/110 mmHg. A blood test shows high levels of noradrenaline. Which of the following tests would be most useful in establishing the diagnosis?

1- Ultrasound scan

2- CT scan

3- MRI scan

4- Renal arteriography

**5- [**

Q4367. You are designing a new drug for hypertension and have a number of compounds under investigation. The lead compounds have different modes of clearance. Which of the following compounds, according to its mode of clearance, is most likely to show stable pharmacokinetic properties when tested between patients?

1- Compound A is predominantly cleared via the kidneys

2- Compound B is predominantly cleared via the CYP2D6 route

**3- Compound C is one-third cleared by the kidneys and two-thirds by two different P450 isoforms, neither are CYP2D6**

4- Compound D is 50% cleared by CYP2D6, 50% by another P450 isoform

5- Compound E is predominantly cleared via

Q4368. A 40-year-old man with polycystic kidney disease is under follow-up from the renal clinic for deteriorating creatinine. His general practitioner (GP) asks for advice regarding drug prescribing, given his renal failure. Which of the following factors is the most important when considering dosage alteration in his case?

1- Age

2- The blood urea levels

3- The molecular weight of the drug

**4- The patient's glomerular filtration rate**

5- Weight

Q4369. A 56-year-old lady has a known ventricular septal defect. Which of the following clinical signs would most indicate the presence of established pulmonary hypertension?

1- Loud systolic murmur

**2- Raised jugular venous pressure (JVP)**

3- Single loud second heart sound

4- Systolic thrill

5- Displaced apex beat

Q4370. A 30-year-old woman, back from a trip to Thailand, presents with sunburn on her back. What is the main type of damage caused by excessive ultraviolet radiation on cells?

1- Inhibition of DNA synthesis

**2- Formation of pyrimidine dimers**

3- Ionisation

4- DNA fragmentation

5- Inhibition of synthesis of DNA polymerase

Q4371. At what CD4 count should anti-retroviral treatment commence in asymptomatic HIV patients?

1- Below 600/mm3

2- Below 400/mm3

**3- Below 250/mm3**

4- Below 100/mm3

5- Below 50/mm3

Q4372. In a 15-year-old girl with severe weight loss, which of the following would be a common finding in association with anorexia nervosa?

1- Buccal pigmentation

**2- Increased, excessive physical activity**

3- Low plasma cortisol levels

4- Raised gonadotrophin levels

5- Hyperkalaemia

Q4373. Side-effects of acetazolamide include which of the following?

1- Metabolic alkalosis

2- Hyponatraemia

3- Membranous nephropathy

**4- Acute interstitial nephritis**

5- Macrocytic hypochromic anaemia

Q4374. In an adult patient with cirrhosis, which of the following findings is the most reliably diagnostic of hereditary haemochromatosis as the cause?

**1- Liver biopsy**

2- Serum ferritin concentration

3- Serum iron concentration

4- Serum total iron-binding capacity

5- Transferrin saturation

Q4375. While managing the serum potassium levels in a young man with acute renal failure following a road traffic accident, what is the most important biochemical factor that should be kept in mind?

1- Acidosis leads to the movement of potassium from the extracellular to the intracellular fluid compartment

**2- Tissue destruction or breakdown results in the release of intracellular potassium**

3- Potassium release from muscle cells leads to gluconeogenesis

4- Adrenaline inhibits the entry of potassium into cells, thus increasing the plasma potassium level

5- There is a direct relationship between

Q4376. A man who has autosomal recessively inherited common variable immunodeficiency would like to start a family. His partner does not have the disease. What is the percentage that his children will inherit his disease?

1- 100%

**2- <5%**

3- 25%

4- 50%

5- 0%

Q4377. A 60-year-old pipe lagger is referred to you with a 6-month history of increasing shortness of breath and weight loss. He is a lifelong nonsmoker and has always led a fit, healthy life. Clinical examination indicates a left pleural effusion, which is confirmed on the chest Xray. Which malignant cause is most likely?

**1- Mesothelioma**

2- Small-cell lung cancer

3- Squamous-cell lung cancer

4- Bronchial carcinoid

5- Alveolar-cell carcinoma

Q4378. You are contacted by the cardiothoracic registrar for advice about a surgical patient. A 65-year-old man had an aortic valve replacement and coronary artery bypass grafting earlier in the day. The operation was uneventful but the patient has continued to ooze from his wounds and is bleeding considerable amounts into drains. You are told that his haematology is as follows:Hb 10.7 g/dl, WCC 14.2 x 109 /L, with a normal differential, platelets 136 x 109 /L, PT 18 s (normal range 12-17), APTT 72 s (normal range 24-38), TT 32 s (normal range 14-22) and fibrinogen 2.1 g/l (normal range 2-5). The reptilase time was 16 s (normal range 15-18), FDP 10 mg/ml (normal range < 10). What is the cause of his coagulation abnormality?

**1- Heparin in the sample**

2- Acquired haemophilia

3- Disseminated intravascular coagulation

4- Coagulation factor deficiency due to dilution

5- 'Surgical bleeding'

Q4379. You are drawing up guidelines for the management of oral blood glucose lowering agents in patients post myocardial infarction. Looking at a synthesis of the available evidence, which of the following pieces of advice would you give?

1- Pioglitazone should be started in patients post myocardial infarction

2- Metformin should be stopped in all patients post myocardial infarction

3- All patients should be transitioned to permanent insulin therapy

**4- Metformin should be stopped in patients in those patients who have an unstable circulation post infarct**

5- Insulin should be given IV for the first 48hrs

Q4380. You are asked by the hospital formulary to review a pharmaceutical company's application for a new drug to be added to the list. The drug is a combination product made up of two long-standing drugs and the firm claims bioequivalence. What is the best definition of bioequivalence?

1- The two drugs compared contain the same ingredients and have the same pharmacokinetics

2- The two drugs compared contain the same ingredients and have the same pharmacodynamics

3- The two drugs compared have similar bioavailability

**4- The two drugs compared have the same biological effect**

5- The two drugs compared contain the same

Q4381. A patient with AIDS has been prescribed a non-nucleoside reverse transcriptase inhibitor. Which of the following drugs has most probably been prescribed?

1- Nelfinavir

2- Abacavir

3- Lopinavir R

**4- Nevirapine**

5- Stavudine

Q4382. A 78-year-old woman presents with a two-day history of severe left earache with a burning sensation in the ear, vertigo and loss of taste. There is left-sided weakness of both the upper and the lower facial muscles. Facial sensation is normal. What is the most likely diagnosis?

1- Acoustic neuroma

2- Bell's palsy

**3- Ramsay Hunt syndrome**

4- Otitis media

5- Lateral medullary syndrome

# Chapter 19 2006 January

Q4383. You review a 28-year-old man with a family history of early thyroid carcinoma and phaeochromocytoma. Your patient has been searching on the internet and has found information about the RET proto-oncogene. The proto-oncogene RET causes which thyroid cancer?

1- Papillary

**2- Medullary**

3- Follicular

4- Anaplastic

5- Lymphoma

Q4384. A 28-year-old woman who is known to have a cardiac murmur becomes pregnant. It is noted that the intensity of her murmur diminishes during her pregnancy. Which cardiac abnormality is she likely to have?

1- Aortic stenosis

2- Aortic regurgitation

3- Mitral stenosis

4- Pulmonic stenosis

5- Fallot's tetralogy

Q4385. A previously well, 40-year-old patient presents with a 2-day history of initial headache, altered consciousness, aphasia, fever and a generalised seizure. Routine blood tests, including inflammatory markers, are normal. Unenhanced CT scan shows hypodense areas in both temporal lobes. Lumbar puncture reveals a protein level of 1.0 g/l with a mild lymphocytosis. CSF glucose is normal in comparison to serum. What treatment should be initiated in the medical receiving ward?

1- Oral aciclovir (to cover herpes encephalitis), and broad-spectrum iv antibiotics

2- Intravenous steroids (to cover vasculitis) and oral aciclovir (to cover herpes encephalitis)

**3- Intravenous aciclovir (to cover herpes encephalitis)**

4- Intravenous phenytoin and iv antibiotics

5- Nothing, pending PCR results on the CSF

Q4386. A 60-year-old woman attends the clinic complaining of shortness of breath over the preceding 2 months. She has also had problems with nasal irritation, discharge and sinus pain. She is known to have asthma, which has recently been poorly controlled, despite inhaled steroids. Her full blood count has shown an eosinophilia of 13% and her chest X-ray shows peripheral pulmonary shadows. What is the most likely diagnosis?

1- Severe asthma

2- Allergic bronchopulmonary aspergillosis (ABPA)

3- Churg-Strauss syndrome

4- Wegener's granulomatosis

5- Cryptogenic organising pneumonia (COP)

Q4387. Which treatment improves the long-term prognosis in patients with chronic obstructive pulmonary disease (COPD)?

1- Inhaled steroids

2- Oral steroids

3- Inhaled b2-agonists

**4- Long-term domiciliary oxygen therapy**

5- Theophylline

Q4388. You review a 28-year-old man with a family history of early thyroid carcinoma and phaeochromocytoma. Your patient has been searching on the internet and has found information about the RET proto-oncogene. The proto-oncogene RET causes which thyroid cancer?

1- Papillary

2- Medullary

3- Follicular

4- Anaplastic

**5- Lymphoma**

Q4389. An 18-year-old boy is brought by ambulance to the Emergency Department. He has had a row with his father who found him in his bedroom some 2 h later in an unrousable state. It is known that his father takes tablets for blood pressure. On examination the patient has a pulse of 42/min and a blood pressure of 74/40 mmHg. Which of the following is the most appropriate treatment for this patient?

1- Arrange fitting of a temporary pacing wire

2- Fit an external pacing system

3- Give repeated small doses of adrenalin

4- Start an isoprenaline infusion

5- Treat with iv glucagon

Q4390. You review a 28-year-old man with a family history of early thyroid carcinoma and phaeochromocytoma. Your patient has been searching on the internet and has found information about the RET proto-oncogene. The proto-oncogene RET causes which thyroid cancer?

1- Papillary

2- Medullary

3- Follicular

4- Anaplastic

5- Lymphoma

Q4391. A 38-year-old woman is sent as an emergency to you with an acute-onset headache and deteriorating conscious level. Her husband mentions that her brother has recently had a kidney transplant, although he is not sure why. What condition may be running in the family?

1- von Hippel-Lindau disease

2- Hereditary haemorrhagic telangiectasia

3- Polycystic kidney disease

4- Alport's syndrome

5- Tuberous sclerosis

Q4392. You review a young man with hypocalcaemia and notice on review of his hands that he has a shortened fourth and fifth digit on each hand. You wonder if he may have pseudohypoparathyroidism, caused by a Gprotein abnormality. Which of the following best describes the location of G-proteins?

1- In the nucleus

2- In the nuclear membrane

3- In the nucleolus

4- In the cytoplasm

5- In the cell membrane

Q4393. A 40-year-old man presents with a 2-month history of cough and breathlessness. He has also noticed haemoptysis, which he says has gradually worsened. On examination he has bilateral basal crepitations. His chest X-ray shows diffuse shadowing. He has moderate renal failure. Which investigation would be most useful in obtaining the diagnosis?

1- CT thorax

2- Ventilation-perfusion scan

3- Bronchoscopy

4- Renal biopsy

5- Sputum sample

Q4394. A 30-year-old man presents with malaise, fever, backache and joint pains of 1-week duration. On examination, arthritis is present asymmetrically in the lower limbs involving the knees, ankle, metatarsophalangeal and toe joints. An eye examination reveals conjunctival congestion, and there is a vesicular crusting lesion on his left sole. Investigations reveal an ESR 60 mm/h and CRP 50 U/l. RA factor is negative and HLA B27 is positive. Which of the following is the most likely diagnosis?

1- Rheumatoid arthritis

2- Gout

3- Reactive arthritis

4- Psoriatic arthritis

5- Ankylosing spondylitis

Q4395. A 72-year-old man is admitted via the on-call team with an acute respiratory tract infection. He has a 40 pack-year smoking history and continues to smoke 15 cigarettes per day. After recovery from his initial infection, lung function testing indicates that his FEV1 (forced expiratory volume in 1 second) is less than 50% of predicted, and chronic obstructive pulmonary disease (COPD) is diagnosed. This is his third exacerbation this year so far, which have necessitated hospital admission. What is the best pharmacological intervention for him?

1- Salbutamol prn for symptom relief

2- Low-dose beclometasone inhaled-steroid therapy as prophylaxis

3- High-dose inhaled steroid therapy as prophylaxis

4- Inhaled anticholinergics for symptom relief

5- Combination therapy with a high-dose

Q4396. A 32-year-old man presents with epigastric tenderness and fever. He is known to be on treatment for epilepsy. On examination he has a blood pressure of 100/60 mmHg, pulse of 110/min and regular and severe pain on palpation of the epigastrium. Blood tests reveal hypocalcaemia, metabolic acidosis and a markedly elevated serum amylase. He cannot remember what he takes for his epilepsy. Which of the following antiepileptic agents is most likely to have caused his acute pancreatitis?

1- Lamotrigine

2- Phenytoin

3- Valproate

4- Carbamazepine

5- Topiramate

Q4397. A patient with type 1 diabetes presents to clinic for review and says he has read about cloning as a cure for diabetes mellitus. He asks you about the mechanism. Which of the following best describes the mechanism currently used for cloning?

1- An enucleated adult cell is fused with the nucleus from a donor cell

2- An enucleated oocyte is fused with the nucleus from a donor cell

3- An enucleated adult cell is fused with the nucleus from an oocyte

4- Genes are transfected into a donor oocyte using a retrovirus

5- Oocytes are harvested from the donor and

Q4398. You review a 36-year-old man with a history of premature cardiovascular disease in the family who has fasting cholesterol of 8.2 mmol/l with a high-density lipoprotein (HDL) of 1.4 mmol/l. You elect to commence him on atorvastatin 20 mg po daily. Which of the following fits best with the mechanism of action of the statin class of agents?

1- They stimulate lipoprotein lipase

2- They inhibit lipoprotein lipase

3- They stimulate fatty acid synthetase

4- They stimulate 3-hydroxy-3-methylglutaryl coenzyme A (HMG CoA) reductase

5- They inhibit HMG CoA reductase

Q4399. A 58-year-old man presents with progressively worsening indigestion and weight loss. His GP can feel an epigastric mass and arranges upper gastrointestinal (GI) endoscopy. Biopsy of a suspicious lesion in the stomach reveals numerous signet ring cells. Which of the following is the most likely underlying diagnosis?

1- Gastric lymphoma

2- Oesophageal carcinoma

3- Gastric adenocarcinoma

4- Gastric leiomyoma

5- Gastrinoma

Q4400. An 18-year-old woman has a history of panic attacks. She notices that during her attacks she feels disconnected from the external world, as if it is unreal. What is the best description of this symptom?

1- Hallucination

2- Illusion

3- Depersonalisation

4- Derealisation

5- Retardation of thought

Q4401. A 25-year-old woman presents with an intensely painful rapidly spreading facial rash. She describes flu like symptoms with a fever and chills, which began a couple of days before the rash appeared. On examination she is pyrexial at 37.8°C and claims that the rash has worsened even in the past few hours. She has a severe superficial skin infection over the left hand side of the face with induration, erythraemia and a sharply demarcated border. Which one of the following organisms is the most likely cause?

1- Group A Streptococcus

2- Staphylococcus aureus

3- Staphylococcus epidermidis

4- Herpes zoster infection

5- Group G Streptococcus

Q4402. A 25-year-old man presents complaining of a 10-day history of low back pain and stiffness that is worse in the morning and relieved by exercise. Which of the following investigative findings would be most likely to be found on an X-ray of the lower spine?

1- Blurring of the upper and/or lower vertebral rims at the thoracolumbar junction

2- Sclerosis of the sacroiliac joints

3- Presence of syndesmophytes

4- Fusion of spinal facet joints

5- Calcification of intervertebral ligaments

Q4403. A 25-year-old man presents complaining of a 10-day history of low back pain and stiffness that is worse in the morning and relieved by exercise. Which of the following investigative findings would be most likely to be found on an X-ray of the lower spine?

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3- Presence of syndesmophytes

4- Fusion of spinal facet joints

5- Calcification of intervertebral ligaments

Q4404. An 18-year-old young man presents to his GP with thirst and polyuria. Some 6 months previously he had a significant head injury as the result of a road traffic accident. He is referred to the local endocrine clinic. Which of the following results would be the most useful in confirming a diagnosis of diabetes insipidus after a water deprivation test?

1- Plasma sodium of 126 mmol/l

2- Plasma sodium of 150 mmol/l

3- Plasma osmolality of 335 mOsm/kg and urine osmolality of 700 mOsm/kg

4- Plasma osmolality of 280 mOsm/kg and urine osmolality of 700 mOsm/kg

5- Plasma osmolality of 335 mOsm/kg and

Q4405. A type-2 diabetic patient presents with a blood pressure of 155/90 mmHg and microalbuminuria. Which would be the most appropriate choice of antihypertensive drug for this patient?

1- Diuretic

2- Alpha-blocker

**3- ACE inhibitor**

4- Beta-blocker

5- Calcium-channel blocker

Q4406. A 75-year-old man with congestive cardiac failure presents with atrial fibrillation. He is haemodynamically stable with a ventricular rate of 72. He has a good functional state, although ECHO cardiography revealed a dilated left atrium and mild mitral regurgitation. Which drug option would be most beneficial for this patient?

1- Aspirin

2- Digoxin

3- Frusemide

4- Lidocaine

**5- Warfarin**

Q4407. An 18-year-old woman has acne vulgaris. Which of the following statements is false?

1- Arthralgia can complicate acne

2- Isotretinoin is teratogenic

**3- Corynebacterium parvum, a commensal bacteria, has been implicated in development of acne**

4- Lithium and anticonvulsants can induce an acneform rash

5- Acne vulgaris is a feature of Cushing's

Q4408. You are on call and are contacted by the gynaecology registrar. A 23-year-old woman has a ruptured ovarian cyst and needs to go to theatre soon. She has mild von Willebrand's disease and has had previous operative procedures carried out without requiring blood products. Currently her Hb is 12.5 g/dl (11.5-16.5), WCC 5.2 x 109 /L (4-11 x 109 ), platelets 190 x 109 /L (150-400 x 109 ), PT 15s (12-17), APPT 40 s (24-38), TT 17 s (14-22), fibrinogen 3.1 g/l (2-5). What would be the most appropriate management of the surgery?

1- Transfusion of Haemate P

2- Transfusion of fresh-frozen plasma

3- DDAVP and tranexamic acid

4- Blood transfusion

5- Transfusion of platelets

Q4409. A 19-year-old man visits his GP with a severe rash, which is identified as chickenpox. He wishes to fly to the United States on a skiing holiday and wants to know when he will be safe to fly. Which represents the best advice?

1- He is no longer infective 3 days after the first spot has appeared

2- He is no longer infective 1 week after the first spot has appeared

3- He is no longer infective 2 days after the last spot has appeared

4- He is no longer infective after 1 week

5- He is no longer infective when all lesions

Q4410. A 48-year-old woman presents to the Emergency Department with increasing weakness. She has no past medical history of note apart from a recent diarrhoeal illness, which she puts down to an undercooked chicken meal. Her husband says that she has been unable to get up out of a chair for the past day. On examination there is obvious bilateral limb weakness more marked in the lower limbs and areflexia. You notice that if she lies flatter in the bed her oxygen saturations fall by around 2% on the pulse oximeter and she is unable to perform spirometry. Which of the following represents the most appropriate immediate management of choice in this patient?

1- Plasma exchange

2- High dose iv corticosteroids

3- Ciprofloxacin 500 mg po bd

4- ITU review for consideration of ventilation

5- Lumbar puncture

Q4411. A 65-year-old man with severe rheumatoid arthritis (RA) is admitted with a right pleural effusion. He has been complaining of dyspnoea on exertion for the last three months. He has never smoked and has not worked for over 20 years when he was diagnosed to be suffering from rheumatoid arthritis. Which of the following is true?

1- Pleural effusions with rheumatoid arthritis occur in over 50% of patients

2- A glucose level in pleural fluid of < 1.6 mmol/l is characteristic of a rheumatoid pleural effusion

3- Pleural effusions associated with RA have low levels of cholesterol

4- The most appropriate treatment is chemical pleurodesis

5- Bilateral pleural effusions do not occur in

Q4412. An Australian backpacker returned to the UK 2 months ago following an extended trip to east and southern Africa. He now presents with fever, giant urticaria, a headache and bloody diarrhoea. Blood tests show an eosinophil count of 7 x 109 /l. What is the most likely infectious agent causing his illness?

1- Ascaris lumbricoides

2- Strongyloides stercoralis

3- Entamoeba histolytica

4- Giardia lamblia

5- Schistosoma mansoni

Q4413. A 70-year-old obese man is admitted with a 6- hour history of chest pain. An ECG reveals an inferior wall myocardial infarction. Measurement of which of the following would best confirm the diagnosis?

1- Creatine kinase

2- Creatine kinase MB

3- Cardiac-specific troponin T

4- Aspartate aminotransferase

5- Lactate dehydrogenase

Q4414. A 24-year-old woman is referred by her GP. She is 10 weeks' pregnant and complaining of anxiety and an inability to sleep total thyroxine (T4) is noted to be 160 nmol/l (normal 70-140) Free T4 is noted to be 27 pmol/l (normal 9-25) thyroid-stimulating hormone (TSH) 0.4 mU/l. Which of the following is the management of choice in this patient?

1- Commence low-dose carbimazole therapy

2- Commence propylthiouracil therapy

3- Observe and repeat thyroid function tests in 1 month

4- Start high dose carbimazole and thyroxine concomitantly

5- Measure antithyroid antibody levels

Q4415. A 9-year-old girl presents with pain and swelling of the fingers of both hands and wrists. X-ray of the hands is normal. A blood test is positive for rheumatoid factor. What is the most likely diagnosis?

1- Still's disease

2- Persistent oligoarthritis

3- Juvenile spondyloarthropathy

4- Polyarticular juvenile idiopathic arthritis

5- Psoriatic arthritis

Q4416. A 28-year-old woman was diagnosed 3 months ago with schizophrenia. Her psychiatrist started her on haloperidol. She has now presented to A&E with confusion and drowsiness. On examination she is pyrexial (39.5°C), disoriented and her blood pressure is 200/100 mmHg. She has severe bilateral rigidity. What treatment should be administered?

1- Aciclovir

2- Cefuroxime

3- Dantrolene

4- Nifedipine

5- Propranolol

Q4417. In the selection of an optimum agent to prevent rejection postrenal transplantation, which of the following cell biological principles is correct?

1- Daclizumab blocks the de novo pathway of purine synthesis

2- Mycophenolate mofetil is a monoclonal antibody against IL-2

3- Basiliximab inhibits inosine monophosphate dehydrogenase

4- Tacrolimus is a calcineurin inhibitor

5- Sirolimus is a calcineurin inhibitor

Q4418. What is the mechanism of action of carbimazole?

1- Destruction of functioning thyroid cells

2- Inhibition of 5'-deiodinase

3- Inhibition of the iodination of tyrosine

4- Inhibition of thyroglobulin proteolysis

5- Conversion to methimazole, which blocks

Q4419. You are asked to review a 54-year-old psychiatric patient by his GP. This patient has been diagnosed with impaired glucose tolerance. He also has a history of hypertension, for which he takes ramipril. Which of the following drug classes is most well known as a cause of impaired glucose tolerance?

1- Thiazolidinediones

2- ACE inhibitors

3- Atypical antipsychotics

4- Biguanides

5- Sulphonylureas

Q4420. Which of the following antiarrhythmics have the highest risk of producing torsades de pointes?

1- Flecainide

2- Lidocaine

3- Phenytoin

4- Propafenone

5- Sotalol

Q4421. A 47-year-old man presents to hospital with acute breathlessness. His arterial blood gases show a pa(O2) of 8.5 kPa (65 mmHg) and a pa(CO2) of 5.6 kPa (42.5 mmHg) whilst breathing room air. Which of the following is the least likely explanation for this abnormality?

1- Ventilation/perfusion (VQ) mismatch

2- Right-to-left shunting

3- Hypoventilation

4- Diffusion abnormality

5- Anaemia

Q4422. An 82-year-old woman, who is not on drug therapy, presents with a bullous skin rash on her arms. Which of the following tests is most likely to supply the definitive diagnosis?

1- Search for anti-skin antibodies in blood

**2- Complement studies**

3- Antineutrophil cytoplasmic antibodies (ANCA)

4- Skin biopsy for examination by immunofluorescence

5- Immunoglobulins

Q4423. Which pulmonary function test may be altered to a similar degree in both restrictive lung disease and obstructive lung disease?

1- Residual volume

2- Tidal volume

3- Total lung capacity

4- Forced expiratory volume in 1 second/forced vital capacity (FEV1/FVC) ratio

5- Forced expiratory volume in 1 second (FEV1)

Q4424. A 42-year-old woman presents to the Emergency Clinic with palpitations and shortness of breath. Recent thyroid function tests on the hospital computer reveal thyroidstimulating hormone (TSH) of <0.05 mU/l and a markedly elevated T4. You arrange blood gas testing. Which of the following findings would be most consistent with Grave's disease?

1- Respiratory acidosis

2- Decreased pa(O2)

3- Increased pa(CO2)

4- Decreased pa(CO2)

5- Decreased pH

Q4425. In a randomised controlled trial to compare two drugs (A and B) for the secondary prevention of myocardial infarction, in the first year there were five deaths in 100 patients treated with drug A and ten deaths in 100 patients treated with drug B. The results are reported as X2 = 1.15, P = 0.28. Which of the following statements is most appropriate?

1- There is a 28% probability that the death rate with drug A is lower at one year than the death rate with drug B

2- There is a 72% probability that the null hypothesis of equal drug effects is true

3- The null hypothesis of equal drug effects has not been disproved

4- The two drugs may be considered equivalent

5- A larger trial would have given statistically

Q4426. A 30-year-old woman with no relevant past medical history has presented with acute, binocular horizontal diplopia and severe headache. On examination there is a partial ptosis on the left and a dilated and unreactive left pupil. The left eye is abducted when looking straight ahead. Eye movement testing reveals moderate underaction of adduction, elevation and depression of the left eye. The right eye moves normally. There is intorsion of the left eye in downgaze. The rest of the neurological examination, including fundal examination, is normal. Blood pressure and blood glucose testing were normal in the casualty department. What is your major diagnostic concern?

1- Myasthenia gravis

2- Pontine haemorrhage

3- Ischaemic oculomotor palsy

4- Cavernous sinus thrombosis

5- Expanding posterior communicating artery

Q4427. Following a rock-climbing accident in which a foothold gave way, leaving him suspended by one arm, a young man develops weakness of his right hand. He can manoeuvre his arm into any position but cannot use the hand effectively. What structure is most likely to have been damaged in this accident?

1- The C6 nerve root

2- The C7 nerve root

3- The T1 nerve root

4- The ulnar nerve

5- The radial nerve

Q4428. A 22-year-old man has returned from a period travelling, during which he visited central/subSaharan Africa. He presents to the GP complaining of urinary frequency, perineal itching and inflammation and also of painless haematuria. What diagnosis fits best with this clinical picture?

1- Infection with Schistosoma mansoni

2- Infection with Schistosoma japonicum

3- Infection with Schistosoma haematobium

4- Syphilis

5- Gonorrhoea

Q4429. A 28-year-old woman attends the diabetes clinic with her two children. This is her third pregnancy and although not normally diabetic she was diagnosed with gestational diabetes mellitus. Recent fasting plasma glucose levels have been in the range of 5-6 mmol/l and she is taking bd mixed insulins. Later that evening she collapses while shopping and is brought to the Emergency Department with blood glucose of 2.4 mmol/l. Which of the following represents the most appropriate management in this patient?

1- Reduce her dose of bd mixed insulin by 50%

2- Reduce her dose of bd mixed insulin by 20%

3- Check a random cortisol to rule out Addison's disease

4- Change her to a basal bolus regime

5- Advise her to increase the size and

Q4430. In multiple drug resistant tuberculosis (MDRTB) which one of the following statements is NOT accurate?

1- Usually caused by Mycobacterium aviumintracellulare (MAI)

2- AIDS has increased the incidence of MDRTB

3- Sputum smear for acid-fast bacilli is often positive

4- Directly observed therapy or supervised therapy is recommended

5- Quinolones such as ciproxin have an anti-TB

Q4431. Which is not a poor prognostic factor for outcome in patients with malignant melanoma?

1- Breslow thickness > 3 mm

2- Clarke's level IV

3- Diameter of melanoma > 6 mm

4- Microsatellite metastasis

5- Surface ulceration

Q4432. A 29-year-old breathless Afro-Caribbean woman is referred by the ophthalmologists with anterior uveitis and a suspected diagnosis of sarcoidosis. Which of the following clinical features is most strongly associated with sarcoidosis?

1- Obstructive defect on spirometry

2- A slowly worsening picture of breathlessness with no periods of improvement

3- Bronchoalveolar lavage shows an eosinophilia

4- Positive Mantoux test

5- Decreased gas transfer factor (TLCO) with

Q4433. A woman is continually worried that she may be contaminated with industrial chemicals in her workplace. She showers longer and longer every night to remove the chemicals, timing her showers and always using a special towel afterwards. In fact she works with cleaning products but has a normal level of contact with these, using them to clean floors.Given the likely psychiatric diagnosis, which neurotransmitter system has a role to play in such symptoms?

1- Acetylcholine

2- Gamma-aminobutyric acid

3- Serotonin

4- Dopamine

5- Noradrenaline

Q4434. In a trial of a new antihistamine drug, an extra 1 in every 5 patients treated (95% confidence interval: 1 in 3.3 to 1 in 10) were found to have reduced symptoms two weeks after commencing the drug, compared to placebo. The most correct interpretation of the results of this study is:

1- 5% of patients did not have reduced symptoms after 2 weeks on the new drug

2- The effect of the new drug is not significantly different from placebo

3- We can be 95% certain that between 10% and 30% of patients will benefit from the new drug

4- The 'number needed to treat' (NNT) statistic presented is inappropriate for this type of study

5- The statistical significance of this result

Q4435. A 46-year-old woman has, over the course of three days, developed weakness and numbness in her legs. She has no previous medical history of note, apart from treated hypertension. She smokes cigarettes 'occasionally'. Her mother died of a 'heart problem' in her early forties. On examination, the cranial nerves and upper limbs are normal to examination. There is increased tone in her legs bilaterally, with brisk reflexes and upgoing plantars. Power is reduced to 3/5 in all modalities below the hips. Pain and light touch sensation are lost to the waist. Vibration and joint-position sense are normal. What is the most likely diagnosis?

1- Friedreich's ataxia

2- Motor neuron disease

3- Subacute combined degeneration of the spinal cord

4- A lesion at the cornus medullaris

5- Anterior spinal artery thrombosis

Q4436. You are called to see a 50-year-old woman who is having difficulty breathing following a laparoscopic cholecystectomy. She is making a lot of noisy inspiratory effort with stridor. You notice she is taking warfarin long term for thromboembolic disease, salbutamol and inhaled steroids for asthma and penicillamine for severe rheumatoid arthritis. Which test might be the most helpful in diagnosing her current problem?

1- Peak flow

2- Spirometry with transfer factor measurement

3- Spirometry with flow volume loops

4- Chest X-ray

5- CT chest

Q4437. You review a 17-year-old girl who has taken 20 g of acetaminophen (paracetamol). Acetaminophen is an important cause of acute hepatic failure. Which of the following statements concerning paracetamol overdose is correct?

1- Significant liver injury rarely occurs with doses of less than 20 g

2- Alcoholics are less susceptible to liver injury even with a low dose

3- N-acetylcysteine is most effective when administered within 10 h of ingestion

4- Haemodialysis is effective in the management of hepatotoxicity

5- Survivors of acetaminophen-induced

Q4438. A 25-year-old patient attends suffering from bloody diarrhoea and pain in his right abdomen. He just returned from a holiday in the tropics. Entamoeba histolytica is detected in a stool sample. What is the most appropriate therapy?

1- Erythromycin

2- Mebendazole

3- Mefloquine

4- Metronidazole

5- Vancomycin

Q4439. A 51-year-old man presents to A&E with altered consciousness, his blood pressure is 80/50 mmHg, his skin is pigmented and he has a past history of Hashimoto's thyroiditis. His family say he has been tired for several months and has been losing weight and complaining of abdominal pain. Which of the following results is most likely to be found on investigation?

1- Laboratory glucose level of 12.3 mmol/l

2- Serum sodium level of 116 mmol/l

3- Peaked T-waves on ECG

4- Serum potassium level of 2.4 mmol/l

5- Serum urea level of 3.2 mmol/l

Q4440. In an adult patient with cirrhosis, which of the following findings is the most reliably diagnostic of hereditary haemochromatosis as the cause?

1- Liver biopsy

2- Serum ferritin concentration

3- Serum iron concentration

4- Serum total iron-binding capacity

5- Transferrin saturation

Q4441. You are trialing a new antihypertensive agent, 'Wonderone'. As part of the drugdevelopment programme you must assess the half-life of Wonderone. Some results are sent to you for calculation of the half-life: 15 mins after iv injection - Wonderone level 150 2 h 15 mins after iv injection - Wonderone level 37.5 4 h 15 mins after iv injection - Wonderone level 9.4. Which of the following stems fits best with the half-life of this agent?

1- 90 min

2- 15 min

3- 1 h

4- 2 h

5- 3 h

Q4442. Which of the following neoplasms responds to the specific tyrosine kinase inhibitor, imatinib?

1- Gastrointestinal stromal tumours

2- Acute myeloid leukaemia

3- Philadelphia -ve chronic lymphoid leukaemia

4- Acute lymphoid leukaemia

5- Multiple myeloma

Q4443. A 22-year-old medical student is admitted in an acutely confused state to the Emergency Department. He believes that he has been sent by God as a disciple of Jesus to prepare for the second coming of Christ. You suspect that he either has a primary psychiatric disorder or has been using cannabis. Which of the following features, if present, would be most likely to be associated with cannabis abuse rather than schizophrenia?

1- Long history of psychotic symptoms

2- A predominantly negative symptom picture

3- A short history of onset of psychosis

4- A depressive symptomatology

5- A history of poor university performance

Q4444. A 53-year-old parrot expert presents for review. For some months he has suffered increasing tiredness, high fevers at night, cough and muscle ache. Chest X-ray reveals a diffuse pneumonic picture. His white blood cell count is normal, transaminases are just above the normal range. Two sets of blood cultures prove negative. What diagnosis fits best with this clinical picture?

1- Streptococcal Pneumonia

2- Tuberculosis

3- Chlamydia psittaci pneumonia

4- Chlamydia pneumoniae pneumonia

5- Mycoplasma pneumonia

Q4445. A 78-year-old man presents with an acute onset of severe pain and swelling of the left wrist, which had developed after he had a chest infection two weeks previously. On examination, he had a temperature of 38°C and the left wrist was red, swollen, and painful. What is the most appropriate initial investigation?

1- Erythrocyte sedimentation rate

2- Full blood count

3- Joint aspiration

4- Serum urate concentration

5- Radiography of the joint

Q4446. The gene for which of the following disorders is correctly paired with the stated chromosome?

1- Duchenne muscular dystrophy: X chromosome

2- Haemophilia A: Chromosome 11

3- Variegate porphyria: X chromosome

4- Cystic fibrosis: Chromosome 1

5- Hereditary haemochromatosis :

Q4447. A 25-year-old soldier presents to A&E with a high fever, diarrhoea and vomiting. He returned from his recent posting to rural Sierra Leone 10 days ago and has become unwell over the last 24 hours. On admission he looks unwell and has a temperature of 39°C. He has a pulse rate of 110 bpm. Examination is otherwise unremarkable. What is the most appropriate next step?

1- Send samples for FBC, clotting, U&Es, LFTs and a malaria film to the lab

2- Send samples for a malaria film to the lab

3- Send the patient direct to Newcastle or the Royal Free hospital, London

4- Send samples for FBC, clotting, U&Es, LFTs, a malaria film and blood cultures to the lab

5- Send the patient home

Q4448. Which one of the following features is MOST typical of cavernous sinus thrombosis?

1- Double vision on looking upward

2- Papilloedema is an early feature

3- Ipsilateral lower motor facial nerve palsy

4- Loss of pin prick sensation around the chin area

5- Difficulty in swallowing

Q4449. A 26-year-old man returns from a holiday in Spain. He is concerned that he has two patches of depigmentation on his upper chest where he has failed to gain an adequate suntan. On examination these patches consist of well-demarcated scaly white skin, with a marked absence of pigmentation compared to the tanned areas. Which of the following is the most appropriate treatment in this case?

1- Fusidic acid ointment

2- Clotrimazole ointment

3- 1% hydrocortisone cream

4- Fluconazole tablets

5- Ketoconazole tablets

Q4450. A 72-year-old man with minimal change disease and nephrotic syndrome presents to the Emergency Department with acutely worsening shortness of breath. On examination his blood pressure (BP) is 100/60 mmHg, pulse 100/min regular. His respiratory rate is 38/min and auscultation of the chest reveals no signs of pulmonary oedema. He has gross swelling of his lower limbs consistent with his underlying renal disease.Arterial blood gas measurement (air): pa(O2) 6.6 kPa pa(CO2) 3.8 kPa Which underlying clotting disorder is most likely to be the cause of his presentation on this occasion?

1- Protein C deficiency

2- Protein S deficiency

3- Factor V Leiden mutation

4- Antiphospholipid antibody syndrome

5- Occult pelvic malignancy

Q4451. Which one of the following conditions is expected to be associated with normal urinary D-xylose test findings?

1- Coeliac disease

2- Chronic pancreatitis

3- Blind loop syndrome

4- Chronic renal failure

5- Liver cirrhosis with ascites

Q4452. A 36-year-old man with a history of intravenous drug use is found to have dipstickpositive haematuria. His blood pressure is 170/90 mmHg, he appears clinically well and he has a trace of peripheral oedema. Plasma creatinine is 140 mmol/l, bilirubin is 65 mmol/l, AST is 78 IU/l and his 24-hour urinary protein excretion rate is 4.1 g/24 h. Microscopy of the spun urine sediment reveals the presence of red-cell casts. Complement C3 is 0.5 (0.7-1.3) and C4 is 0.09 (0.12-0.27). What is the aetiology of the renal abnormalities?

1- Hepatorenal syndrome

2- Infection with hepatitis C

3- Infection with HIV

4- Infectious endocarditis

5- Renal emboli

Q4453. A 47-year-old man with chest pain of 1-hour duration is diagnosed as having acute myocardial infarction. Which of the following features, if present, would most contraindicate thrombolytic therapy?

1- Blood pressure 160/110 mmHg

2- History of likely ischaemic stroke within the past month

3- ST-segment elevation in ECG

4- Previous aspirin therapy

5- Elevated serum cholesterol

Q4454. A 45-year-old man presents to his GP with headaches. His BP is 166/94 mmHg. Routine investigations reveal sodium 142 mmol/l, potassium 2.6 mmol/l, chloride 101 mmol/l and normal urea and creatinine levels. Plasma renin is undetectable and aldosterone levels are raised. What is the most likely cause for his hypertension?

1- Cushing's syndrome

2- Primary hyperaldosteronism

3- Phaeochromocytoma

4- Renal artery stenosis

5- Acromegaly

Q4455. A 72-year-old woman was referred to the neurology clinic with a history of mental deterioration. Her GP had noticed rigidity with bradykinesia but initial response to levodopa therapy has been poor. Most recently she has had a number of falls and has become incontinent of urine. On examination she is hypotensive with a postural drop of 35 mmHg. She is confused with a Mini-Mental State Score of 11/18. There is bradykinesia, tremor and rigidity. Additional cerebellar signs are noted. Which of the following diagnoses fits best with this clinical picture?

1- Parkinson's disease

2- Multi-system atrophy

3- Pick's disease

4- Progressive supra-nuclear palsy

5- Amyotrophic lateral sclerosis

Q4456. A 26-year-old woman has been recently diagnosed with type-1 diabetes. She has read a great deal about the prognosis of renal disease in type-1 diabetes and has a number of questions to ask. Which of the following statements best describes the renal disease in patients with type-1 diabetes?

1- Microalbuminuria usually occurs within 2 years of the diagnosis of type-1 diabetes

2- Peak incidence of frank albuminuria is 17 years after the diagnosis of type-1 diabetes

3- After the serum creatinine level reaches 200 mmol/l, a fall in GFR of 0.5 ml/min per month might be expected

4- End-stage renal failure usually occurs within 5 years of the onset of albuminuria

5- Nephropaths have a 10 times higher

Q4457. A 54-year-old woman who works outdoors as a building surveyor has noticed an increasingly troublesome, red scaly rash affecting her face, scalp, neck and hands. It presents as a series of red scaly areas. She is concerned that the areas affecting her scalp are causing bald patches in her hair. Antinuclear antibodies are negative. Some earlier lesions are now scarring, and showing change in pigmentation. What is the diagnosis that fits best with this clinical picture?

1- Chronic discoid lupus erythematosus (CDLE)

2- Systemic lupus erythematosus

3- Psoriasis

4- Ringworm

5- Eczema

Q4458. A new screening test is to be applied in a population. The test has a sensitivity of 99% and a specificity of 90%. If the prevalence of the disease is 10 per 1000 population, on average what proportion of those that test positive will truly have the disease?

1- 1/11

2- 1/10

3- 1/2

4- 9/10

5- 99/109

Q4459. A 56-year-old man referred with abnormal blood biochemistry was found to be hepatitis C antibody-positive. Which is the best marker for active infection and a better response to treatment?

1- ALT 134 U/l

2- α-Fetoprotein 120 (normal < 3)

3- Bilirubin 78 mmol/l

4- Genotype 3a on PCR

5- Positive HCV DNA

Q4460. You are asked to review a nursing-home resident who has generalised inflammation of his oropharynx, and is finding it difficult to eat. His past history of note includes the use of a steroid inhaler for COPD. On examination there are areas of erythema and a number of white plaques accompanied by some white curd-like material. Which diagnosis fits best with this clinical picture?

1- Oropharyngeal candidiasis

2- HIV infection

3- Hairy leucoplakia

4- Darier's disease

5- Leucoedema

Q4461. A 16-year-old young man with sickle-cell anaemia is admitted with recent breathlessness. He is febrile and has a clear chest with saturations of 98% on air. From his out-patient notes his usual Hb is 9 g/dl. FBC taken in A&E shows WCC 8.6 x 103 /mm3 , Hb 4.7 g/dl, platelets 573 x 103 / mm3 with a bilirubin 25 m mol/l. Which investigation is the most useful to perform next?

1- Serum haptoglobin

2- Urinary haemosiderin

3- Parvovirus serology

4- Reticulocyte count

5- Chest X-ray

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Q4463. You review a 24-year-old woman who is noted to be markedly underweight. You suspect that she may have a protein malabsorption syndrome and contemplate trying the patient on an elemental diet.When thinking about dietary protein, which of the following best describes the site of polypeptide absorption?

1- The proximal stomach

2- The distal stomach

3- The small intestine

4- The ascending colon

5- The descending colon

Q4464. A 20-year-old woman complains of an immediate intense itching in her throat when eating apples, but says that she can eat cooked ones. She mentions that she has allergic rhinitis but the current symptoms occur in April and May and not the typical June/July period associated with grass pollen. What is the most likely diagnosis?

1- Birch-associated oral allergy syndrome

2- Food intolerance

3- Allergy to the wax coating on apples

4- Latex allergy

5- Salicylate sensitivity

Q4465. You review a 48-year-old woman who presents complaining of joint pains has suffered recurrent infections over the past few months, she has a positive rheumatoid factor on blood testing and a low WCC. Given the likely diagnosis, which of the following features is most likely to found in her case?

1- Splenic atrophy

2- Splenomegaly

3- Distal interphalangeal joint involvement

4- Flexural surface rheumatoid nodules

5- HLA-DR2 tissue type

Q4466. A 72-year-old man is brought to the Emergency Department by his wife. She has noticed that his walking has deteriorated over the past few months. He has also become incontinent of urine and she feels he may be confused. A history of shingles one month ago is noted. They admit to his drinking two glasses of wine per day. On examination he has a broad based shuffling gait and memory loss. Which of the following diagnoses fits best with this clinical history?

1- Benign intracranial hypertension

2- Intracerebral neoplasm

3- Alcoholic dementia

4- Multi-infarct dementia

5- Normal pressure hydrocephalus

Q4467. You are asked by a local general practitioner to review a 72-year-old man who complains of lethargy and tiredness. Recent haemoglobin was low at 10.1 g/dl and he had a macrocytosis. Further investigation reveals no evidence of haematological malignancy, but screening does reveal folic acid deficiency. Which of the following foods contains the largest proportion of folic acid?

1- 150 g of liver

2- 1 banana

3- 1 papaya

4- 1 cup of baked beans

5- 1 cup of raw spinach

Q4468. A 32-year-old woman presents with left inguinal and groin pain of 1-week duration that is worse with weight bearing and ambulation. Physical examination reveals full range of motion of the left hip. She walks with a limp. She had previously been treated with aggressive chemotherapy for Hodgkin's disease. An anteroposterior film of the pelvis demonstrates no osseous abnormality. Which of the following tests would be most useful in making the diagnosis?

1- Serum rheumatoid factor

2- Erythrocyte sedimentation rate

3- Magnetic resonance imaging (MRI) of the left hip

4- Arthrogram of the left hip

5- Blood alcohol level

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Q4470. A 52-year-old woman on hormone replacement therapy complains of severe headaches associated with photophobia, nausea and occasional vomiting. They typically affect the left side of her head, sometimes with temporary blurring of vision. They persist for up to 12 hours and occur on average once every 6-8 weeks. Which of the following would be the most appropriate first-line medical treatment?

1- Paracetamol with metoclopramide

2- Naratriptan tablets

3- Sumatriptan injection

4- Amitriptyline

5- Gabapentin

Q4471. Which one of the following is LEAST characteristic of idiopathic myelofibrosis?

1- Leucoerythroblastic picture

2- Extensive bone marrow sclerosis

3- Splenomegaly

4- Tear drop shaped red blood cells

5- Terminal conversion to multiple myeloma

Q4472. A 36-year-old primary schoolteacher from the East End of London presents with increasing shortness of breath accompanied by suddenonset, right-sided pleuritic chest pain. She gives a history of influenza for a few days before this acute presentation and also says she suffered a pulmonary embolus 2 years ago while taking the contraceptive pill and describes her pain as identical to that occasion. On further questioning it transpires that her mother had suffered from recurrent deep vein thrombosis. Arterial blood gases reveal a p(O2) of 7.2 kPa on a re-breather mask, with a p(CO2) of 3.2 kPa. Her chest X-ray reveals a wedge-shaped area of consolidation affecting her right middle and lower lobes. The white blood cell count is normal. Which diagnosis fits best with this clinical picture?

1- Recurrent pulmonary embolism

2- Staphlyoccal pneumonia

3- Pneumothorax

4- Tuberculosis

5- Bronchial carcinoma

Q4473. A 54-year-old man presents to the general practitioner with altered bowel habit. For the past few weeks he has noticed intermittent bouts of mucous, diarrhoea and occasionally this has been blood stained. Faecal occult blood testing by his GP has confirmed the presence of blood in the stool. He undergoes colonoscopy, a suspicious polyp in the descending colon is removed and this is removed and classified as a Dukes' A tumour. Which of the following best describes appropriate time intervals for follow up colonoscopy in this patient?

1- 3 monthly intervals

2- 6 monthly intervals

3- 2 yearly intervals

4- 1 yearly intervals

5- 3 yearly intervals

Q4474. A young adult was referred because of cough and shortness of breath. An extrinsic allergic alveolitis was diagnosed. Beside reduction of exposure to the allergen, which other therapy is most likely to be successful?

1- Antibiotics

2- Non-steroidal anti-inflammatory drugs

3- Immunoglobulins

4- Corticosteroids

5- Desensitisation

Q4475. You review a 32-year-old woman who is morbidly obese. You are advising her about the calorie content of commonly used foods. Which of the following foods contains the greatest number of calories?

1- 1 scone (70 g)

2- 1 bowl of cornflakes (not including milk) (45 g)

3- 300 g of chicken korma

4- A sausage and egg triple sandwich pack (256 g)

5- 50 g of salted peanuts

Q4476. A gardener is admitted with difficulty moving his jaw after receiving a hand wound 1 week earlier. He starts to develop respiratory failure and is admitted to ITU. Which of the following treatments should be avoided?

1- Early physiotherapy

2- Early ventilation and sedation

3- Penicillin

4- Tetanus toxoid

5- Wound debridement

Q4477. A 72-year-old man is reviewed in the Emergency Department. He has been feeling tired and unwell. There is a past history of glaucoma, chronic obstructive pulmonary disease and congestive heart failure. He also has anaemia and type 2 diabetes. Blood tests are unremarkable apart from a normal anion gap metabolic acidosis. Which of the following drugs is most likely to be responsible for the acid-base disturbance?

1- Ramipril

2- Aspirin

3- Metformin

4- Acetazolamide

5- Iron sulphate

Q4478. A 78-year-old man presents with transient left arm weakness and collapse. He recovers within a period of 24 h and has a carotid ultrasound scan. This reveals a 49% stenosis affecting the right internal carotid artery and a 90% stenosis affecting the left internal carotid artery. Other risk factors of note include smoking of 30 cigarettes per day, which he refuses to stop and hypertension. Blood pressure in the clinic is 145/80 mmHg, he is in sinus rhythm and cholesterol is 5.1 mmol/l. Which of the following is the most appropriate management to reduce risk of a further stroke affecting the same territory?

1- Aspirin therapy

2- Aspirin and dipyridamole MR therapy

3- Right carotid endarterectomy

4- Left carotid endarterectomy

5- Start statin therapy

Q4479. Right ventricular myocardial infarction is characterised by which of the following?

1- ST-segment elevation in leads II, III and aVF with Q waves and T-wave inversion in these leads

2- Occlusion of the left coronary artery

3- Marked pulmonary vascular congestion

4- A rise in systolic blood pressure

5- Absent Kussmaul's sign

Q4480. In a cohort study of 1000 non-smokers and 1000 smokers, 450 of the smokers and 50 of the non-smokers developed COPD. What is the relative risk of smoking for COPD?

1- 9

2- 1/9

3- 8

4- 1/8

5- 7

Q4481. A 23-year-old woman who is 34 weeks' pregnant is admitted to the emergency department with shortness of breath, cough and wheeze. She is known to have moderate asthma and normally takes fluticasone 750 mg salmeterol twice a day and salbutamol as needed. Her peak flow is usually 450. She has been deteriorating over the past 3 days despite increasing her fluticasone and starting 40 mg oral prednisolone daily. She is now unable to speak in sentences, her peak flow is less than 150 l/min and her pulse rate is 130/minute. Saturations are 96% and you hear a widespread wheeze on examination. Her p(O2) is 15 kPa and p(CO2) 4.5 kPa. She has been given high-flow oxygen, repeated nebulised salbutamol and Atrovent. Which of the following would you consider to be appropriate next?

1- Liase with the obstetricians regarding emergency section

2- Intravenous aminophylline

3- Intravenous hydrocortisone

4- Non-invasive ventilation

5- Intubation and ventilation

Q4482. A 70-year-old man is brought to the outpatient clinic by his son. The son complains that his father's personality has changed completely over the past year. Even at best he is forgetful and 'switched off'; at worst he is drowsy and unresponsive. He is particularly concerned that his father has been claiming to 'see things that aren't really there'. Over the past few weeks he has also been tripping a lot on the carpet, and is no longer safe on the stairs going to his bedroom unaccompanied. The general practitioner (GP) gave the patient a small dose of a neuroleptic which 'made things a million times worse'. On examination he has an inexpressive face, with a mild resting tremor and some axial rigidity. There is no other focal neurology. On mini mental state examination he scores 20/30. What is the most likely primary brain pathology?

1- Lewy bodies

2- Multiple infarct in the grey matte

3- Neurofibrillary tangles

4- Normal brain

5- Pick bodies

Q4483. A 27-year-old woman presents with global weakness, lethargy and numbness of her extremities, which has worsened over the past 6 weeks. She admits to intermittent diarrhoea. On examination in the Emergency Department she is markedly underweight with a body mass index (BMI) of only 19. Blood testing reveals hypokalaemia, raised chloride levels, low serum bicarbonate and pH of 7.31. Which of the following diagnoses seems most likely in this case?

1- Bartter's syndrome

2- Liddle's syndrome

3- Gitelman's syndrome

4- Laxative abuse

5- Diuretic abuse

Q4484. A 70-year-old woman is admitted with chest pain and breathlessness of 12 hours duration. On examination, her heart rate is 170 beats/min, her BP is 125/72 mmHg. ECG shows atrial fibrillation. What is the next step in her management?

1- Administration of propranolol

2- Administration of verapamil

3- Asynchronous cardioversion

4- Administration of warfarin

5- Immediate heparinisation

Q4485. A 29-year-old woman on antiepileptic medication presents with ankle swelling, tremor, weight gain and thinning of hair. Which medication is most likely to cause these symptoms?

1- Phenytoin

2- Sodium valproate

3- Phenobarbital

4- Vigabatrin

5- Carbamazepine

Q4486. Which one of the following clinical findings is NOT characteristic of chronic lymphatic leukaemia?

1- Hypogammaglobulinaemia is often present at the time of the diagnosis

2- B-lymphocytes are the leukaemia cell line in the majority of cases

**3- Bone marrow examination is essential to confirm the diagnosis**

4- Coombs' test is positive in 10-20% of cases

5- It converts to lymphoma

Q4487. A 32-year-old man attends the transplant clinic with his brother who has end-stage renal failure due to autosomal dominant polycystic kidney disease (ADPKD). He would like to donate a kidney to his brother if possible. Which of the following is the most appropriate modality for screening?

1- Intravenous urography

2- Computed tomography (CT) scan

**3- Genetic screening**

4- Micturating cystogram

5- Abdominal ultrasound scan

Q4488. A 38-year-old woman has been diagnosed as having rheumatoid arthritis of her knees, hands and feet. Evidence of which complication would most likely to be found on clinical examination in her case?

1- Telescopic fingers

**2- Baker's cysts**

3- Onycholysis

4- Mallet finger

5- Heberden's nodes

Q4489. A 40-year-old woman is brought unconscious to A&E. She apparently has swallowed a large number of pills belonging to her friend who is being treated for a psychiatric ailment. On examination, she is apyrexial, her pulse is 130 bpm and her blood pressure is 90/60 mmHg. Her pupils are dilated. ECG shows sinus tachycardia and occasional ventricular ectopics. Which drug is she most likely to have taken?

**1- Imipramine**

2- Chlordiazepoxide

3- Lithium

4- Chlorpromazine

5- Fluoxetine

Q4490. A 44-year-old woman is referred to the department of gastroenterology for a 'further opinion' having developed constant periumbilical pain radiating to both legs. Over the past five years she has been seen by colleagues in neurology, cardiology, rheumatology and endocrinology with a variety of symptoms, including fatigue, back pain, chest pain and joint pain. Despite intensive investigations, no cause for her symptoms has been identified. What is the most likely diagnosis?

1- Conversion disorder

2- Hypochondriasis

**3- Somatisation disorder**

4- Undifferentiated somatoform disorder

5- Depression

Q4491. A 33-year-old man presents with a 10-year history of arm tremor, which he has had for many years. However, it has become worse recently, such that he now finds it embarrassing at work and is worried about losing his job. His father had a similar problem, although this was mild and always put down to benign tremulous Parkinson’s disease. On examination he has a fine postural tremor, but normal tone. Fine finger movements are normal, as is his gait. What is the most likely diagnosis?

1- Wilson’s disease

2- Familial cerebellar degeneration

3- Familial Parkinson’s disease

4- Severe anxiety

**5- Benign essential tremor**

Q4492. A 38-year-old woman presents with painful swelling of her left arm. Venography shows occlusion of her left subclavian vein. Her only previous medical history is of three spontaneous miscarriages. Her haematological investigations before treatment were as follows:Hb 13.2 g/dl, WCC 7.4 x 109 /L, with a normal differential, platelets 123 x 109 /L, PT 16 s (normal range 12-17), APTT 44 s (normal range 24-38), TT 17 s (normal range 14-22) and fibrinogen 2.4 g/l (normal range 2-5). What is the most likely cause of her thrombotic problem?

1- Factor V Leiden mutation

2- von Willebrand's disease

3- Primary thrombocythaemia

**4- Antiphospholipid syndrome**

5- Autoimmune thrombocytopenia

Q4493. A 34-year-old man presents to the diabetes clinic with a history of thirst, polyuria and a recent 3.2 kg (7 lb) weight loss. His urine contains a small amount of ketones. Which of the following would suggest he is most likely to have type-2 rather than type-1 diabetes?

1- A BMI of 23

**2- High circulating insulin level**

3- HLA type DR-3

4- Positive islet-cell antibodies

5- Plasma bicarbonate level of 8 mmol/l

Q4494. An elderly man presented with a lump on his temple that is shiny and is gradually increasing in size. What is the most likely diagnosis?

**1- Basal cell carcinoma**

2- Squamous cell carcinoma

3- Seborrhoeic wart

4- Lentigo maligna

5- Amelanotic melanoma

Q4495. A 16-year-old girl presents to the Emergency Department with a collapse and palpitations after attending her end-of-term school disco. Only medication history of note includes a recent antibiotic prescription for an infected toe. Past medical history includes allergy to penicillin. Family history reveals that her mother died suddenly at the age of 34 when the daughter was 3 years old. One aunt and one uncle have also passed away suddenly. Electrocardiogram (ECG) reveals sinus rhythm in the Emergency Department but the QT interval is prolonged at 550 ms (corrected). Which of the following conditions is most likely to be related to her collapse?

1- Wolff-Parkinson-White type A

2- Wolff-Parkinson-White type B

**3- Congenital long QT syndrome**

4- Lown-Ganong-Levine syndrome

5- Ebstein's anomaly

Q4496. A 42-year-old salesman was admitted with a diagnosis of pneumonia. He is allergic to erythromycin. X-ray shows a hazy opacity in the right lower and mid-zone. Blood investigations show hyponatraemia and slight rise in the level of liver aminotransferase. After starting the medication on the fifth day he became acutely jaundiced and his liver aminotransferase level became very high. He also complained of discoloration of his urine, which did not show haematuria on dipstick testing. Which of the following drugs probably caused the jaundice?

1- Ciprofloxacin

2- Clarithromycin

3- Amoxicillin

**4- Rifampicin**

5- Flucloxacillin

Q4497. A 56-year-old woman with known metastatic breast cancer presents to A&E with a calcium concentration of 3.22 mmol/l. Which of the following is the most appropriate initial management?

1- Intravenous hydrocortisone

**2- Intravenous infusion of 0.9% sodium chloride ('normal saline')**

3- Intravenous infusion of sodium phosphate

4- Oral bisphosphonate

5- Oral thiazide diuretic

Q4498. A young man being evaluated for social withdrawal, says that he has no friends, is not interested in other people and does not feel lonely. A mental status examination reveals no abnormality. What is the most probable personality diagnosis?

1- Schizotypal personality disorder

2- Paranoid personality disorder

3- Narcissistic personality disorder

4- Avoidant personality disorder

**5- Schizoid personality disorder**

Q4499. 10-month-old boy weighing 3 kg has polyuria, polydipsia and delayed motor milestones. His blood pressure is normal. Blood tests reveal: creatinine 80 mmol/l, sodium 128 mmol/l, chloride 90 mmol/l, potassium 3.0 mmol/l, calcium 2.7 mmol/l, bicarbonate 26 mmol/l and pH 7.46. Ultrasonography shows medullary nephrocalcinosis. What is the most likely diagnosis?

1- Renal tubular acidosis

2- Diabetes insipidus

**3- Bartter's syndrome**

4- Pseudohypoaldosteronism

5- Liddle's syndrome

Q4500. A 37-year-old woman has been reviewed in the hypertension clinic. Abdominal ultrasound scanning reveals that her left kidney is much smaller than her right kidney. You suspect renal artery stenosis, as her GP noticed a deteriorating serum creatinine concentration within 1 month of starting ACE inhibitor therapy. What is the most appropriate next investigation?

1- Doppler ultrasound scanning

**2- Magnetic resonance angiography**

3- CT scanning

4- Renal arteriography

5- Radionuclide studies

Q4501. You are asked to see the relatives of a 68- year-old man who has undergone surgery for repair of a ruptured aortic aneurysm. Prior to surgery he was well, with a creatinine of 119 micromol/l at baseline. Although the operative procedure went well, the period of acute hypotension has resulted in an episode of acute tubular necrosis (ATN) and he has undergone renal dialysis on a number of occasions in the past week. Which of the following most accurately represents the chance of recovery of renal function to the level where dialysis is not required?

1- 0%

**2- 95%**

3- 5%

4- 50%

5- 25%

Q4502. A 34-year-old woman presents with ascending paralysis of her lower and then upper limbs, which evolved over a 4-day period. She also has paraesthesias of her legs and hands. On examination she has normal cranial nerve examination. She has grade 3/5 weakness of both legs as well as weakness of grip, and is areflexic throughout. After admission to the neurology unit she undergoes nerve conduction studies (NCS), which show a reduced conduction velocity, conduction block and small compound motor and sensory potentials. The report states that this 'would be in keeping with the clinical suspicion of Guillain-Barre syndrome (GBS)'. What is the likely underlying pattern of peripheral nerve pathology giving rise to these neurophysiological changes?

1- Wallerian degeneration

2- Axonal degeneration

3- Medullary-axonic degeneration

**4- Segmental demyelination**

5- Global demyelination

Q4503. A 54-year-old man, newly diagnosed with type-2 diabetes mellitus, presents to the clinic for his first assessment. He is found to have changes in his eyes on fundoscopy. Which of the following is most likely to need immediate referral to the ophthalmologist?

1- A few dot and blot haemorrhages

2- Some hard exudates > 1 disc diameter from the fovea

3- Cataract

**4- New vessels on the disc**

5- Two soft exudates in the temporal field

Q4504. A 45-year-old man on lithium for a bipolar disorder developed congestive heart failure 2 weeks ago. He now presents with drowsiness, nausea, vomiting, blurred vision and coarse tremors. Which of the following concurrent medications, if taken in combination with lithium, would be most likely to cause these symptoms?

1- Acetazolamide

**2- Hydrochlorothiazide**

3- Furosemide

4- Spironolactone

5- Triamterene

Q4505. A 30-year-old-man presents to the outpatient clinic with a 2-month history of progressive effort intolerance. Some three weeks ago he experienced an episode of shortness of breath at rest, suggestive of paroxysmal nocturnal dyspnoea. Examination reveals a JVP raised up to his earlobes, a soft tender hepatomegaly and a bilateral pitting oedema up to his knees. Chest examination reveals bibasal crepitations, and an audible S3 on auscultation of the heart. The chest X-ray shows cardiomegaly with interstitial infiltrates. Echocardiography shows global left ventricular hypokinesia with an ejection fraction of 25-30%. Which of the following is the LEAST likely aetiological factor?

1- Alcohol abuse

2- Genetic factor

3- Adenovirus

**4- Eosinophilic states**

5- HIV infection

Q4506. You are called urgently to review a 54-year-old man who has developed acute onset pulmonary oedema some 36 h after his myocardial infarction. On arrival you note that his blood pressure is 95/50 mmHg with a pulse of 100/min regular and a pan-systolic murmur is noted. There are crackles on auscultation of the chest consistent with heart failure. Which of the following represents the next investigation of choice in this man?

1- Troponin I

2- Troponin T

3- Urgent chest X-ray

4- Referral for angiography

**5- Urgent echocardiogram**

Q4507. A 62-year-old man presents to his general practitioner (GP) for review. He has severe pain affecting the right shoulder which is worst during the middle range of abduction, he is unable to initiate abduction of his shoulder via active movement, although passive elevation is less painful. There are no other abnormal physical signs. What diagnosis fits best with this clinical picture?

1- Torn rotator cuff

2- Subacromial bursitis

**3- Supraspinatus tendonitis**

4- Adhesive capsulitis

5- Acromio-clavicular joint disruption

Q4508. A 46-year-old woman is managed with longterm haemodialysis. The cause of her chronic renal failure is long-standing type 1 diabetes. She is treated with a steady dose of erythropoietin (EPO) yet on recent dialysis sessions you have noticed a decrease in her haemoglobin (Hb) from 11.1 g/dl post EPO to 8.4 g/dl at her last dialysis session. Which of the following would be the most appropriate investigation?

**1- Serum ferritin**

2- Upper gastrointestinal (GI) endoscopy

3- Lower GI endoscopy

4- Measurement of EPO antibodies

5- Bone marrow aspiration

Q4509. A 25-year-old woman is admitted to hospital having become acutely unwell with malaise, fever, profuse vomiting and mild diarrhoea over a 36-hour period. There is no history of foreign travel and her food history is unremarkable. On admission her pulse is 126/min, blood pressure 84/62 and temperature 38.9°C. She is confused, but has no focal neurology. She has a faint, erythematous rash, particularly noticeable on her extremities. Her tongue and buccal mucosa are noted to be somewhat red and hyperaemic. What is the most likely diagnosis?

1- E. coli 0157 infection

2- Meningococcal septicaemia

3- Salmonella gastroenteritis

**4- Toxic shock syndrome**

5- Typhoid fever

Q4510. A patient is examined in the diabetic clinic and found to have circinate hard exudates in both fundi, with reduced visual acuity. What is the most likely diagnosis?

1- Normal fundi

2- Background retinopathy

**3- Maculopathy**

4- Preproliferative retinopathy

5- Proliferative retinopathy

Q4511. A 16-year-old man presents with difficulty in walking and foot drop. There is weakness of dorsiflexion and eversion of the right foot, with a small area of sensory loss over the dorsum of that foot. What is the most likely diagnosis?

1- Posterior tibial nerve lesion

2- Sciatic nerve lesion

3- L5 root lesion

**4- Common peroneal nerve lesion**

5- Deep peroneal nerve lesion

Q4512. A 62-year-old man presents with bony pain that has been present for some months, particularly affecting his left femur, pelvis and lower back. Blood testing reveals a normal serum calcium level, but a raised alkaline phosphatase. X-rays of the femur and pelvis reveal mixed lytic and sclerotic change, with accentuated trabecular markings. Chest X-ray is normal. What is the likely diagnosis?

1- Secondary carcinoma

**2- Multiple myeloma**

3- Hyperparathyroidism

4- Hypoparathyroidism

5- Paget's disease

Q4513. A 74-year-old woman is noted to have poor self-care with symptoms of early morning wakening and decreased appetite. She has poor concentration, and is easily agitated. There is a history of recent death in the family. She also recently lost her job as a volunteer. She has difficulty in answering short-term recall questions. What is the diagnosis?

1- Pathological grief

2- Depressive pseudodementia

3- Dementia

4- Personality disorder

5- Delirium

Q4514. A 55-year-old man presents for review. He attended for an insurance medical and the reviewer noticed there was lymphadenopathy on palpation of the neck, axillas and groins. Chest X-ray confirmed the presence of hilar lymphadenopathy. Bone marrow biopsy revealed multinucleated giant cells (ReedSternberg cells).Given the likely diagnosis, which of the following features would be most consistent with a good prognosis in this condition?

**1- Young age**

2- Presence of pain on consumption of alcohol

3- Lymphocyte-depleted picture on histology

4- Mixed cellularity picture on histology

5- Presence of night sweats, indicating active

Q4515. A 20-year-old female returns from travelling to South America including Brazil. She developed an itchy skin reaction and an illness with fever four weeks later. She now has nephrotic syndrome. What is the most likely pathogen causing this?

**1- Schistosoma mansoni**

2- Plasmodium malariae

3- Hantavirus

4- Mycobacterium tuberculosis

5- Mycobacterium lepta

Q4516. A 68-year-old man who has a long history of smoking presents to the Emergency Department with worsening shortness of breath. His general health has deteriorated over the past few months and recently he has been prescribed a salbutamol inhaler by his GP for cough and wheezing, particularly on exercise and at night. On examination in the Emergency Department he is lip pursing and has considerable wheeze on auscultation of the chest. He is pyrexial at 37.8°C and has purulent sputum. He can only manage a peak flow of 150 l/min. Arterial blood gas sampling reveals a pa(O2) of 7.2 kPa. Which of the following would be the most appropriate choice for antibiotic therapy in this man?

**1- Clarithromycin 500 mg po bd**

2- Penicillin V 500 mg po qds

3- Metronidazole 500 mg po tds

4- Cefotaxime 1 g iv tds

5- Ciprofloxacin 500 mg po bd

Q4517. A 17-year-old young woman presents to the emergency department with a blood glucose of 29 mmol/l. She is known to have type-1 diabetes. Her pH is 7.12 with a serum bicarbonate of 11 mmol/l. There is ketonuria. Which of the following statements best fits the predisposing factors involved in DKA?

1- Myocardial infarction may be the precipitating factor in up to 5% of cases of DKA

2- Infection may be the precipitating cause in 60% of cases of DKA

3- The patient is not previously known to have diabetes in 30% of DKA cases

**4- Non-compliance with treatment is the cause in 25% of DKA cases**

5- Inappropriate alterations to insulin are the

Q4518. Each of the following infections/disorders are associated with the genus Chlamydia EXCEPT?

**1- Q fever**

2- Lymphogranuloma venereum (LGV)

3- Psittacosis ornithosis

4- Trachoma

5- Reiter's syndrome

Q4519. An epidemic of diarrhoea and vomiting has broken out on the elderly care wards. Your catering suppliers assure you that their food is unlikely to be responsible as they follow the strictest hygiene procedures. A total of 15 patients on the ward have become unwell with a sudden onset of diarrhoea and vomiting. Patients infected earlier have recovered with rehydration therapy after about 48 h. Examination of faeces by electron microscopy has revealed circular virus particles with radiating spokes. Which virus is most likely to be responsible for this outbreak?

1- Enteric adenovirus

2- Small, round-structured virus

3- Norwalk virus

4- Astrovirus

**5- Rotavirus**

Q4520. A young computer programmer suddenly develops dysphasia and right-sided weakness. Cardiac examination is normal and he is afebrile. Which investigation would confirm the underlying cardiological diagnosis?

1- Chest X-ray

2- 12-lead ECG

3- 2-D echocardiography

4- Carotid Doppler study

**5- Transoesophageal echocardiogram**

Q4521. A patient diagnosed with carcinoma of the colon underwent a hemicolectomy. Staging is T3, N1, M0 . Based on large clinical trails which treatment increases the survival?

1- Postoperative radiotherapy

2- Postoperative radiotherapy and chemotherapy with doxorubicin

**3- Chemotherapy with 5-fluorouracil and folinic acid**

4- Low-fat diet

5- High-dose multivitamins

Q4522. A 49-year-old woman presents to her GP with symptoms of a urinary tract infection. There is a history of multiple attendances for various aches and pains, and a previous neurology referral for headache. BP is 165/95 mmHg. Urinalysis reveals haematuria and the GP commences her on a 2-week course of ciprofloxacin. She returns, still complaining of symptoms, at which point the presence of a normochromic normocytic anaemia is noted, along with a serum creatinine of 220 m mol/l. What diagnosis fits best with this clinical picture?

1- Acute nephritis

2- Renal failure secondary to sepsis

3- Hypertensive renal disease

**4- Analgesic nephropathy**

5- Reflux nephropathy

Q4523. Which one of the following represents the recommended daily dietary intake of calcium and vitamin D in the treatment of established osteoporosis?

1- 800 mg/day of calcium, 100 units/day of vitamin D

**2- 1500 mg/day of calcium, 400-800 units/day of vitamin D**

3- 1200 mg/day of calcium, 200-400 units/day of vitamin D

4- 900 mg/day of calcium, 200 units/day of vitamin D

5- 1800 mg/day of calcium, 800-1000

Q4524. A 17-year-old youth is brought to the GP by his mother. He was previously seen 2 weeks earlier suffering from acute pharyngitis. His teeth are in generally poor condition, but otherwise there is no previous medical history. On examination he is febrile with a temperature of 38.2°C, and has a polyarthritis affecting his knees, ankles, wrists and elbows. He also appears to have subcutaneous nodules over his elbows, and mitral regurgitation on cardiovascular examination. What diagnosis fits best with this clinical picture?

1- Bacterial endocarditis

2- Juvenile rheumatoid arthritis

3- Scarlet fever

**4- Rheumatic fever**

5- Congenital valvular heart disease

Q4525. A 58-year-old man develops generalised oedema. He has heavy proteinuria and his serum albumin concentration is 24 g/l (35-50). Which of the following additional findings would most suggest a specific cause for this condition?

**1- Bence Jones protein in urine**

2- Decreased plasma antithrombin III concentration

3- Elevated serum cholesterol concentration

4- Increased beta-globulin band on serum protein electrophoresis

5- Low serum 25-hydroxycholecalciferol

Q4526. An 18-year-old girl presents via her GP who is concerned that she may have an underlying endocrine problem. She is a good student and has just won a place at university. She weighs only 38 kg (6 stone) and is 1.78 m (5ft 10 inches) tall. She is emaciated, her skin is dry and she has excessive growth of lanugo hair. She has been amenorrhoeic for 9 months. Her cortisol level is elevated, her Free T4 is normal. She has an anaemia and associated reduced white cell and platelet count. Which of the following diagnoses is most likely to fit with this clinical picture?

1- Addison's disease

2- HIV

3- Occult carcinoma

4- Hypothyroidism

**5- Anorexia nervosa**

Q4527. An 82-year-old man is reviewed in a medical clinic for weight loss and headaches. He has had trouble reading and there are no other neurological symptoms. He is an ex-smoker and has cardiac failure controlled with furosemide (frusemide) and captopril. On examination, he has axillary lymphadenopathy and splenomegaly. FBC shows Hb 10.1 g/dl, WCC 6.2 x 103 /mm3 , platelets 118 x 103 /mm3 , ESR 98, and his renal and bone profiles are normal. What is the likely diagnosis?

1- Multiple myeloma

2- Temporal arteritis

3- Hodgkin's lymphoma

**4- Lymphoplasmacytoid lymphoma**

5- Systemic lupus erythematosus (SLE)

Q4528. A 58-year-old woman has been treated for 6 months for reflux disease by her GP. She also has a history of hypertension, Raynaud's syndrome and telangiectasia. Autoimmune screening reveals positive extractable nuclear antibody to SCL 70. Renal function testing reveals a creatinine of 215 m mol/l. What is the most likely cause of her renal dysfunction?

1- Wegener's granulomatosis

2- Membranous glomerulonephritis

**3- Systemic sclerosis**

4- Rheumatoid arthritis

5- Lupus

Q4529. A 25-year-old patient who has been suffering from cluster headaches presents with an acute attack. What is the drug treatment of choice?

1- Atenolol

2- Aspirin

**3- Sumatriptan**

4- Paracetamol

5- Levocabastine

Q4530. A 29-year-old woman on antiepileptic medication presents with ankle swelling, tremor, weight gain and thinning of hair. Which medication is most likely to cause these symptoms?

1- Phenytoin

**2- Sodium valproate**

3- Phenobarbital

4- Vigabatrin

5- Carbamazepine

Q4531. A 27-year-old woman was admitted 2 days ago through the emergency room for seizures. She has a history of moderate alcohol use. Two weeks ago she received benzathine penicillin for secondary syphilis. She is complaining of muscle cramps, weakness and headache. She received 1 g of phenytoin on the day of admission and is now taking 100 mg three times a day. She is also taking paracetamol, multi-vitamins and tapering doses of chlordiazepoxide. There is a history of seizures in her family. She is 152 cm tall and weighs 55kg. Her blood pressure is 130/80 mm Hg; pulse is 90 beats/minute. The rest of the physical exam is normal except for a round face, a short neck, short fourth and fifth metacarpals and bilateral cataracts. Abnormal labs include calcium of 1.5 mmol/l (normal range, 2.2-2.6 mmol/l), phosphorus of 1.7 mmol/l (normal range, 0.8-1.4 mmol/l) and an intact parathyroid hormone (PTH) of 200 pg/ml (normal range, 15-65). Which of the following is most likely?

1- Hypothyroidism

**2- Pseudohypoparathyroidism**

3- Hypoparathyroidism

4- Pseudo-pseudohypoparathyroidism

5- Hyperparathyroidism

Q4532. A 60-year-old man develops a small pneumothorax after a computerised tomography (CT)-guided biopsy of a left upper lobe mass. He is asymptomatic. The most appropriate management of his pneumothorax should be:

1- Aspiration

**2- Conservative only**

3- Intercostal tube drainage

4- Intercostal tube drainage and high-pressure suction

5- Surgical pleurodesis

Q4533. A 72-year-old man presents with acute onset lumbar spine pain. There is no significant neurology. He has a history of chronic obstructive pulmonary disease and rheumatoid arthritis. He takes high dose seretide for his COPD, and low dose prednisolone (5mg) for his rheumatoid. X-ray reveals an osteoporotic fracture of L4. Which of the following would be the most appropriate short term pain relief in this case?

1- Paracetamol 1 g po qds

2- Diclofenac 50 mg po tds

**3- Diclofenac 50 mg po tds, tramadol 100 mg qds and paracetamol 1 g qds**

4- Tramadol 100 mg qds

5- Tramadol 100 mg qds and paracetamol 1 g

Q4534. A 35-year-old woman on treatment for rheumatoid arthritis presents with nephrotic syndrome. Which drug is most likely to have caused this problem?

**1- Penicillamine**

2- Sulfasalazine

3- Hydroxychloroquine

4- Cyclophosphamide

5- Methotrexate

Q4535. You are asked to see a 32-year-old immigrant who complains of chronic cough and weight loss over the past few months. Examination of sputum reveals acid and alcohol fast bacilli (AAFBs) and tuberculosis is confirmed. You elect to begin treatment with isoniazid, rifampicin, ethambutol and pyrazinamide as he is from an area where high levels of drug resistance are present. Which of the following blood tests is most desirable before starting therapy?

**1- Liver function testing**

2- Serum calcium

3- Platelet count

4- Clotting

5- Haemoglobin

Q4536. A 67-year-old man consults his doctor complaining of a painful mouth and increasing difficulty eating. He has a past history of smoking and has chronic pulmonary disease (COPD). Medication history includes use of fluticasone/salmeterol combination inhaler and omeprazole for indigestion. On examination he has a body mass index (BMI) of 29 and looks well. There is extensive stomatitis and pharyngitis on examination of the oropharynx, with white plaques on examination of the tongue. Full blood count, U&E, liver function test (LFT) and viscosity are normal. Which of the following would be the most appropriate management in this case?

1- Arrange urgent upper gastrointestinal (GI) endoscopy

2- Arrange urgent barium swallow

3- Stop his inhaled steroids

**4- Advise him to rinse the mouth each time he uses his inhaler and use a spacer device and review him in a month**

5- Increase his dose of omeprazole

Q4537. What laboratory test is most useful for screening and therapy control in patients with carcinoma of the prostate?

1- Lactate dehydrogenase

2- Alpha-fetoprotein

**3- Prostate-specific antigen**

4- Alkaline phosphatase

5- Carcinoembryonic antigen

Q4538. A 48-year-old man presents to the Emergency Department after moving a number of heavy boxes at home. On examination there is pain on straight leg raising and movement of the lower limbs is limited by pain. There is weakness of ankle dorsiflexion and weakness of big toe extension. Ankle jerk reflexes are diminished. This suggests an L5/S1 nerve root lesion. Which of the following represents the management of choice in this case?

1- Immobilisation and complete bed rest

2- Referral for open discectomy

**3- Gentle mobilisation**

4- Referral for microdiscectomy

5- Local corticosteroid injection

Q4539. In an RCT, 1000 patients were randomised to receive either an active drug or a placebo. Of the 500 randomised to placebo, 20 received the active drug. Of the 500 randomised to the active drug, 10 did not receive the treatment. The results are to be analysed on an 'intention to treat' basis. What is the final sample size in each arm in the analysis?

1- 510 treatment, 490 placebo

2- 510 treatment, 480 placebo

**3- 500 treatment, 500 placebo**

4- 490 treatment, 500 placebo

5- 490 treatment, 480 placebo

Q4540. You review a 21-year-old man with albinism. He is from Central/ South America and you believe that he has Hermansky-Pudlak syndrome (HPS). You believe that this is due to a defect in the transport of glycoproteins from the Golgi body. Which of the following best fits the position of the Golgi body within the cell?

1- In the nucleus

**2- Adjacent to the endoplasmic reticulum**

3- Moves within the cytoplasm

4- Sits across the cell membrane

5- Just inside the cell membrane

Q4541. A 26-year-old woman presents to her GP complaining of intermittent abdominal distension and bloating, which changes with her menstrual cycle, and interspersed with bouts of loose motions. She works as a trader in a busy office and finds work stressful: she has previously taken a course of Prozac for depression/anxiety. Examination, bloods and sigmoidoscopy were all normal. What is the best-fit diagnosis?

1- Chronic pancreatitis

2- Ulcerative colitis

3- Peptic ulcer disease

4- Diverticulitis

**5- Irritable bowel syndrome**

Q4542. A 31-year-old woman presents for review. She complains of severe pain and restriction of movement affecting her right elbow, particularly bad on the outside of the arm. There is no past medical history of note and she is a keen gardener. The pain is reproduced on resisted wrist extension when the examiner fixes the right elbow. Which of the following diagnoses fits best with this clinical history?

1- Medial epicondylitis

**2- Lateral epicondylitis**

3- Cervical radiculopathy

4- Osteoarthritis of the elbow

5- Medial collateral ligament instability

Q4543. A 34-year-old immigrant of African origin is prescribed ciprofloxacin for an infection. He suffers problems with acute haemolysis. You suspect G6PD deficiency. Given this, what is the likely underlying cause of haemolysis?

1- Increased levels of NADPH

2- Decreased levels of NADP

3- A defect on chromosome 29

4- Reduced levels of ATP

**5- Reduced levels of NADPH**

Q4544. Two weeks after an episode of infective diarrhoea, a 10-year-old child presents with fever, hypertension and haematuria. A possible diagnosis could be:

1- Post-infectious glomerulonephritis

2- Membranoproliferative glomerulonephritis

3- Henoch-Schönlein purpura

4- Acute interstitial nephritis

**5- Haemolytic uraemic syndrome**

Q4545. A 50-year-old woman presents with a 1-year history of recurrent episodes of right upper abdominal pain. She has now had jaundice and fever for the past 4 days. On examination, she appears toxic. Her blood pressure is 90/60 mmHg. Abdominal ultrasonography demonstrates stones in the common bile duct. What is the best treatment option for her once stabilised?

**1- Endoscopic bile duct stone extraction**

2- Laparoscopic cholecystectomy

3- Laparotomy and stone extraction

4- Lithotripsy

5- Open cholecystectomy

Q4546. What is the average lifespan of an erythrocyte once it has entered the bloodstream?

1- 1 day

2- 10 days

**3- 120 days**

4- 200 days

5- 360 days

Q4547. A 27-year-old woman attends for review. She has a past history of perianal abscess but nothing else of note. During the past few months she has twice presented to A&E complaining of grumbling abdominal pain. In addition, she has suffered intermittent episodes of bloody diarrhoea. Microcytic anaemia is found on blood testing and she has mild hypokalaemia. Albumin is reduced but other liver function tests are unremarkable. Barium imaging reveals a small bowel stricture with evidence of mucosal ulceration extending into the colon, interspersed with normal looking mucosa 'skipping'. Given this clinical picture, which is the most likely diagnosis?

1- Ulcerative colitis

2- Small bowel lymphoma

3- Coeliac disease

4- Tropical sprue

**5- Crohn's disease**

Q4548. A 21-year-old man presents with fever, headache, myalgia and increasing breathlessness. A chest X-ray shows bilateral alveolar shadowing and he is commenced on a broad-spectrum antibiotic, cefotaxime. He remains pyrexial and develops a rash with erythematous papules and central pallor. He becomes anaemic and thrombocytopenic but his white cell count is normal. Cold agglutinins are present. What is the most likely causative agent?

1- Borrelia burgdorferi

2- Legionella pneumophila

**3- Mycoplasma**

4- Q fever

5- Viral meningitis

Q4549. A 68-year-old woman complained of pain at the base of her right thumb. There is no history of recent injury, or of any particular activities involving repeated movement of the joint. There was tenderness and swelling of the right first carpometacarpal joint. What is the most likely diagnosis?

1- Avascular necrosis of the scaphoid

2- De Quervain's tenosynovitis

**3- Osteoarthritis**

4- Psoriatic arthritis

5- Rheumatoid arthritis

Q4550. A 45-year-old business traveller noticed some moderate diarrhoea 3 days after he arrived in Korea. The diarrhoea lasted for 4 days. What is the most likely cause for his diarrhoea?

1- Legionella

2- Staphylococcus

**3- Enterotoxic Escherichia coli**

4- Giardia lamblia

5- Entamoeba histolytica

Q4551. A 25-year-old woman presents with problems of depression, sleep disturbances and a craving for carbohydrates during winter. She says her symptoms are worse during the winter compared to the summer. Her medical history reveals no other mental illnesses or physical complaints. What is the most likely diagnosis?

1- Reactive depression

2- Bipolar affective disorder

**3- Seasonal affective disorder**

4- Dysthymia

5- Double depression

Q4552. A patient has been complaining of a facial rash and arthralgia for the last six months. She is hypertensive and has proteinuria. What is the most important investigation?

1- Renal ultrasound

**2- Renal biopsy**

3- 24 hours blood pressure monitoring

4- CT abdomen

5- Rheumatoid factor

Q4553. A 30-year-old man, under investigation for abdominal cramps and passing blood rectally, presents with an acutely painful, red and photophobic eye. What is the most likely sign on ocular examination?

1- Conjunctival purulent discharge

2- White corneal stromal infiltrate

3- Mydriasis of the affected eye

**4- Hypopyon**

5- Swollen optic disc

Q4554. A 34-year-old with AIDS on a combination antiretroviral therapy was brought into casualty because he had a fit lasting approximately 15 minutes at home. The day before he had complained of headaches and fever. On examination he is confused but has no localising neurological signs. A CT scan of his brain shows ring-enhancing masses with surrounding oedema. What is the most likely diagnosis?

1- Tuberculosis

**2- Toxoplasma gondii cysts**

3- Cerebrovascular accident

4- Pneumocystis jiroveci infection

5- Cryptococcus infection

Q4555. You review a 22-year-old woman who attends the clinic with her mother. They are keen to discuss the prognosis in relation to her anorexia. Which of the following factors are associated with an improved prognosis in anorexia nervosa?

1- There is a pattern of binge / vomiting behaviour

2- Weight loss started after 20 years of age

**3- Social adjustment in childhood was good**

4- Weight loss has been severe

5- Anxiety is marked when sufferer is eating in

Q4556. An elderly woman is admitted with a 4-week history of fevers. She feels generally unwell, tired and prone to headaches. On examination she has a pansystolic murmur of mitral regurgitation but no signs of cardiac failure or peripheral stigmata of endocarditis. She has raised inflammatory markers with a white cell count of 15 x 109 /ml (neutrophilia), a CRP of 80 mg/l and an ESR of 110 mm/h; three sets of blood cultures are negative and a transthoracic echocardiogram shows moderate mitral regurgitation, but no vegetations are seen. Given the likeliest differential diagnosis, which of the following tests is most important?

1- An indium-labelled white cell scan

2- Bone scintigram

3- Isolator blood cultures

**4- Temporal artery biopsy**

5- Transoesophageal echocardiogram

Q4557. A 45-year-old man had recurrent nephrolithiasis. Renal function tests and serum calcium measurements were normal. A 24 hour urine collection revealed (normal range in brackets): Volume 3 litres Calcium 15 mmol/24 hours (2.5-7.5) Oxalate 200 mmol/24 hours (90-450) Uric acid 3 mmol/24 hours (1.48-4.45) Citrate 2 mmol/24 hours(0.3-3.4) What is the most useful therapy to reduce stone formation?

1- Allopurinol

2- Dietary calcium restriction

3- Penicillamine

4- Potassium citrate

**5- Thiazide diuretic**

Q4558. A 50-year-old man had a mechanical aorticvalve replacement for severe aortic stenosis, and was discharged home 10 days later. Two weeks later, he started feeling unwell and had lethargy, nausea and pyrexia of 38.3°C. Echocardiography showed vegetations on the aortic valve. Which of the following is the most likely causative organism?

1- Enterococci

2- Group D streptococci

3- Haemophilus influenzae

**4- Staphylococcus epidermidis**

5- Streptococcus viridans

Q4559. Hypercalcaemia in malignant disease secondary to the secretion of parathyroid hormone-related peptide by the tumour is most frequently associated with which one of the following?

1- Carcinoid tumours

2- Lymphoma

3- Multiple myeloma

4- Small-cell carcinoma of the bronchus

**5- Squamous-cell carcinoma of the bronchus**

Q4560. During the course of a routine medical examination, a 26-year-old man is found to have 3+ haematuria. This is confirmed on microscopy and on a second urinalysis 9 months later. He remembers two episodes during the past year when his urine was red, both occurred in association with an upper respiratory tract infection. The family history is negative for renal disease. His blood pressure is 150/100 mmHg and he has no oedema. Plasma creatinine is 65 m mol/l. What would a renal biopsy most probably show?

1- Cast nephropathy

**2- IgA nephropathy**

3- Kimmelstiel-Wilson lesions

4- Minimal-change disease

5- Thin basement membranes

Q4561. A 74-year-old woman is noted to have poor self-care with symptoms of early morning wakening and decreased appetite. She has poor concentration, and is easily agitated. There is a history of recent death in the family. She also recently lost her job as a volunteer. She has difficulty in answering short-term recall questions. What is the diagnosis?

1- Pathological grief

2- Depressive pseudodementia

3- Dementia

4- Personality disorder

5- Delirium

Q4562. A 24-year-old woman is admitted with dysarthria, tremor and parkinsonian symptoms. On examination you notice yellow brown rings on examination of the eyes, seen at the limbus of the corneae.Given the most likely diagnosis, which part of the brain is predominantly affected by her underlying condition?

1- Cerebral cortex

2- Frontal lobes

**3- Basal ganglia**

4- Brainstem

5- Cerebellum

Q4563. A 75-year-old man is given a routine health check by his family doctor. He has no s pecific complaints and is not on any regular medication. Biochemical tests reveal a serum alkaline phosphatase activity of 550 U/l (upper limit of normal (ULN) 150 U/l); serum creatinine concentration is 132 µmol/l, calcium 2.42 mmol/l, phosphate 1.21 mmo l/l, albumin 41 g/l. Which of the following is the most likely cause of the high alkaline phosphatase?

1- Osteomalacia

2- Osteoporosis

**3- Paget's disease of bone**

4- Primary hyperparathyroidism

5- Renal osteodystrophy

Q4564. You review a 68-year-old woman who presents with a sudden episode of collapse while taking communion in church. This has been her third syncopal episode. Past medical history of note includes recently diagnosed severe hypertension, for which her GP has commenced enalapril therapy. On examination her blood pressure is 160/130 mmHg, she has left ventricular hypertrophy on clinical examination and a loud ejection systolic murmur. Auscultation of the chest reveals bibasilar crackles consistent with mild heart failure. Which of the following is the definitive investigation of choice for this patient?

1- Chest X-ray

2- Electrocardiogram (ECG)

3- Echocardiogram

**4- Cardiac catheterisation**

5- 24 h holter monitor

Q4565. A 29-year-old homosexual man has been complaining of anal warts for the last 6 months. They have gradually increased in size and he has also noticed some fresh blood when opening his bowels. On examination there are grey lesions, approximately 5 mm in size, around his anus. What is the most likely cause for these lesions?

**1- Human papillomavirus**

2- Neisseria gonorrhoea

3- Candida albicans

4- Human immunodeficiency virus

5- Chlamydia trachomatis

Q4566. A 62-year-old woman complains of diarrhoea, weight loss and abdominal pain with malaise and fever. She has oral ulcers, red itchy eyes and tender nodules on her shins. She has tenderness in the right iliac fossa and a vague right iliac fossa mass. What is the most likely diagnosis?

1- Ileocaecal tuberculosis

**2- Crohn's disease**

3- Appendicular abscess

4- Ovarian mass

5- Ulcerative colitis

Q4567. Which of the following features most reliably suggests that a patient presenting with diabetes has type 1?

1- Family history of diabetes

2- Hypertriglyceridaemia

**3- History of recent weight loss**

4- Onset below 20 years of age

5- Retinopathy

Q4568. A 52-year-old man presents with an acutely painful and red, right big toe. His uric acid level is 0.6 mmol/l (0.23-0.46). What is the most common cause of hyperuricaemia in gout?

1- Increased production of uric acid

2- Inborn error of metabolism

3- Decreased removal of uric acid by the liver

**4- Impaired renal excretion of uric acid**

5- Decreased faecal excretion of uric acid

Q4569. A diabetic patient with diplopia is found to have a third nerve palsy. Which of the following clinical features would most point to a compressive cause?

1- Ptosis

2- Impaired adduction

**3- Pupil involvement**

4- Impaired elevation

5- Nystagmoid jerks

Q4570. A 32-year-old woman presents with a history of 8-kg weight loss, frothy stools and general malaise. Her haemoglobin is 10.2 g/dl with an MCV of 98 fl. Which of the following best supports a diagnosis of coeliac disease?

1- Negative family history

**2- Dermatitis herpetiformis**

3- Neutrophil infiltration of a rectal mucosal biopsy

4- Remission following metronidazole therapy

5- Reduced hydrogen excretion on hydrogen

Q4571. A 45-year-old woman with known metastatic breast cancer presents with fatigue, nausea and constipation. Routine blood tests reveal a calcium level of 3.2 mmol/l (2.2-2.6) with a normal albumin level. How would she be most appropriately treated?

1- Intravenous hydration with normal saline

2- Corticosteroids, intravenous hydration with normal saline and furosemide

**3- Intravenous hydration with normal saline followed by intravenous bisphosphonate if the calcium remains elevated**

4- Intravenous hydration with normal saline and oral bisphosphonate

5- Intravenous hydration with normal saline

Q4572. A 14-year-old boy presents with poor development of secondary sex characteristics, colour blindness and a decreased sense of smell. On examination, his testes are located in the scrotum and are small and soft. What is the most probable diagnosis?

1- Klinefelter's syndrome

**2- Kallmann's syndrome**

3- Mumps orchitis

4- Hyperprolactinaemia

5- Cryptorchidism

Q4573. A 35-year-old man was referred with suddenonset dysphagia, initially to liquids and then, 2 months later, to solids. His weight has been stable. In the last week he has woken up coughing during the night. An upper gastrointestinal endoscopy performed at the onset of his symptoms was reported as being normal. What is the most useful diagnostic test?

1- 24-hour oesophageal pH study

2- Barium follow-through

3- [13C]urea breath test

**4- Oesophageal pull-through manometry**

5- Repeat upper gastrointestinal endoscopy

Q4574. You are called to a cardiac arrest in the Emergency Department where a patient who is known to the dialysis unit has been brought by ambulance. On reviewing her drugs you note that she is taking a statin, three antihypertensive agents, aspirin and has been receiving erythropoietin injections. Unfortunately resuscitation is unsuccessful. Which of the following is the commonest cause of death in renal dialysis patients?

1- Gastrointestinal haemorrhage

2- Occult malignancy

3- Pulmonary embolus

**4- Cardiovascular disease**

5- Overwhelming sepsis

Q4575. A 54-year-old man presents with an irregular tachycardia with a ventricular rate of around 130 bpm. He played in a cricket match the previous day and consumed 28 units of alcohol on the evening of the match. On examination his blood pressure is 95/50 mmHg. What is the most likely diagnosis?

1- Ventricular tachycardia

2- Sick-sinus syndrome

**3- Paroxysmal atrial fibrillation**

4- Atrial flutter

5- Sinus tachycardia

Q4576. A 32-year-old man is seen in the casualty department complaining of breathlessness, which has gradually worsened over the last weeks following an emergency appendicectomy. He received no blood products at the time of operation. He has not noticed any frank blood loss. Currently, he is taking prn diclofenac for postoperative pain relief. This man has a past history of recurrent deep vein thromboses, the last of which was complicated by a pulmonary embolism two years ago. He declined long-term anticoagulation. A full blood count shows: Hb 8.8 g/dl; MCV 89 fl; platelets 105 x 103 /mm3 ; WCC 6.3 x 103 / mm3 and urinalysis shows the presence of haemosiderin. Which investigation is most reliably diagnostic?

1- Bone marrow trephine

**2- Blood immunophenotyping**

3- Coombs' test

4- Acid lysis test

5- Serum haptoglobin

Q4577. A 30-year-old woman with systemic lupus erythematosus is eager to find out if she has any predisposing factors for the disease. Which of the following carries the highest risk?

1- Dizygotic twin

2- First-degree relative

**3- Monozygotic twin**

4- Positive HLA-B8

5- Positive HLA-DR2

Q4578. A 39-year-old lady is noted to have a serum sodium concentration of 127 mmol/l (137- 144), as well as a high urine osmality. A diagnosis of syndrome of inappropriate antidiuretic hormone (ADH) secretion (SIADH) is made, and a drug-related cause is suspected. Which of the following drugs is most likely to be responsible?

**1- Carbamazepine**

2- Rifampicin

3- Lithium

4- Chlorpropamide

5- Demeclocycline

Q4579. A patient with coronary heart disease and high LDL-cholesterol was started on simvastatin 6 months ago. His GP recently started him on another medication and now, 2 weeks later, is complaining of muscle pain and weakness. Tests reveal an elevated creatine kinase (CK) greater 10 times the upper limit of normal. Which additional drug is he most likely to have taken?

1- Atenolol

2- Amlodipine

**3- Erythromycin**

4- Aspirin

5- Rifampicin

Q4580. Absent immune deposits on immunohistochemical analysis of renal tissue is characteristic of which one of the following renal disorders?

1- Systemic lupus erythematosus

2- Henoch-Schönlein nephritis

3- Goodpasture's disease

**4- Wegener's granulomatosis**

5- Berger's disease

Q4581. A 67-year-old woman presents with severe stabbing pain in the left cheek lasting a few seconds, occurring several times a day, and precipitated by washing her face. There are no abnormalities on physical examination. What is the most appropriate initial treatment?

**1- Carbamazepine**

2- Baclofen

3- Gabapentin

4- Diazepam

5- Prednisolone

Q4582. A 74-year-old man is noted to have purplishdiscoloured right third and fourth toes 4 days after coronary angiography and a creatinine level of 240 (creatinine level was normal on admission). He has a history of adult-onset diabetes mellitus, hypertension and 50 packyears of smoking. Cholesterol crystal atheromatous embolisation is suspected. Which of the following features are associated with cholesterol embolisation?

1- Anticoagulants reduce the risk of cholesterol embolisation

**2- Diabetes mellitus**

3- Abnormal creatinine on admission does not increase risk

4- Thrombolysis is of proven benefit

5- Diuretics are the mainstay of treatment

Q4583. A 45-year-old, petrol-station attendant complains of tingling and numbness in his hands and feet, breathlessness, lethargy, weight gain and fatigue. He is on treatment for an irregular heartbeat and for a bipolar disorder. On examination, a greyish-blue discoloration is noted on his face with slowing of peripheral reflexes. What chemical is most probably responsible for his condition?

1- Lead

2- Mercury

**3- Amiodarone**

4- Lithium

5- Prednisolone

Q4584. A 32-year-old woman was referred for endoscopy and found to have a duodenal ulcer and a positive urease test. She was given lansoprazole, amoxicillin and clarithromycin for 7 days. Which of the following is the most appropriate way of determining the successful eradication of H. pylori?

**1- [13C]urea breath test**

2- Blood serology testing

3- Endoscopy and antral histology

4- Endoscopy and CLO test

5- Faecal antigen testing

Q4585. A 54-year old woman is seen for the first time in the diabetes clinic. She is obese, plethoric and has marked bruising on her limbs and fresh striae over her abdomen. She has a dorsal kyphosis following a vertebral collapse earlier in the year. Which of the following results will help to pinpoint the diagnosis if you suspect Cushing's syndrome secondary to adrenal adenoma?

1- Normal 0900-h serum cortisol level

2- Serum potassium of 2.2 mmol/l

3- 0900-h serum cortisol of 200 nmol/l after overnight dexamethasone test

4- Raised urine cortisol/creatine ratio

**5- Undetectable serum ACTH level**

Q4586. A 55-year-old man has a squamous-cell carcinoma of his lower lip. Which of the following is most likely to be a feature of this type of carcinoma?

1- It commonly spreads to distant sites by venous channels

2- Prognosis is good

3- It is unrelated to sun exposure

4- It is commonly seen in patients under 45 years of age

**5- It is capable of metastasising via the**

Q4587. Cardiomyopathy as a dose-dependent sideeffect is most likely due to which cytotoxic agent?

1- Cytarabine

2- Bleomycin

3- Mercaptopurine

4- Vincristine

**5- Doxorubicin**

Q4588. A healthcare worker receives a needlestick injury from a patient who is not known to be a carrier of blood-borne viral infections. Which of the following courses of action is essential?

1- Commence prophylactic antiretroviral therapy

**2- Check immune status to hepatitis B and give hepatitis B vaccine booster if required**

3- Give hepatitis B immune globulin

4- Take serum from the donor for HIV, hepatitis B and hepatitis C antibody testing

5- Take serum from the recipient for HIV,

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Q4589. A 34-year-old woman presents with vomiting, malaise and weakness 5 weeks after delivering a healthy male infant. The pregnancy had been uncomplicated with no hypertension evident. Her blood pressure is now 210/110 mmHg, plasma creatinine is 650 mmol/l and potassium is 6.9 mmol/l. Haemoglobin is 7.6 g/dl, associated with a platelet count of 65 x 109 /l, reticulocytes of 7%, normal clotting indices and lactate dehydrogenase levels of 800 IU/l. Which of the following most accurately describes the pathological process?

1- Crescentic glomerulonephritis

2- Disseminated intravascular coagulation

3- Malignant hypertension

4- Pre-eclampsia

**5- Thrombotic microangiopathy**

Q4590. A 55-year-old solicitor with known stomach cancer is admitted with intractable nausea and vomiting. He tells you he is participating in a phase-II trial for a new chemotherapeutic agent. What is the purpose of such a trial?

1- To compare a new drug with the best conventional therapy

2- To determine the long-term toxicity of a drug

**3- To establish the antitumour activity of a drug**

4- To establish the human toxicity of a drug

5- To study the pharmacokinetics of a drug

Q4591. A 29-year-old Sri Lankan man is admitted to hospital with a rash and high fevers. He gives a long history of pains in his hands and feet. On examination, he has an erythematous rash over his nose and cheeks. ANA testing and dsDNA are strongly positive. As part of his screening for PUO, an HIV antibody test is carried out, which proves positive. His blood results are as follows: Na, 136 mmol/l; K, 3.7 mmol/l; Urea, 3.5 mmol/l; Creatine, 67 U/l; LFTs, normal; Hb, 12.9 g/dl; WCC, 2.4 x 109 /L (lymphocytes 0.8 x 109 /L); Platelets, 200 x 106 /l; ANA, positive; dsDNA, positive; CD4, 80 cells/mm3 ; HIV antibody, positive; Blood cultures, negative; Syphilis serology, negative. What is the most appropriate treatment?

1- Combivir, efavirenz, co-trimoxazole

2- Prednisolone

3- Combivir, efavirenz, co-trimoxazole, prednisolone

**4- Prednisolone, co-trimoxazole**

5- Combivir, efavirenz

Q4592. A 70-year-old woman presents after collapsing at home. She has diplopia on right gaze, right-sided facial weakness and left flaccid hemiparesis. What is the most likely site for her lesion?

1- Left mid-brain

2- Right mid-brain

3- Left pons

**4- Right pons**

5- Right cerebral hemisphere

Q4593. Cardiomyopathy as a dosedependent side-effect is most likely due to which cytotoxic agent?

1- Cytarabine

2- Bleomycin

3- Mercaptopurine

4- Vincristine

**5- Doxorubicin**

Q4594. A 75-year-old man is referred for total hip replacement. He has a history of hypertension and angina and has suffered a myocardial infarction some 8 years earlier. Current medication includes atenolol 50 mg daily, ramipril 10 mg daily, aspirin 75 mg daily and isosorbide dinitrate 60 mg. Blood pressure at the preoperative assessment was 160/80 mmHg but he maintains that his readings with the general practitioner have been normal. He last had an exercise test some 3 years earlier and managed 8 min with no significant electrocardiogram (ECG) changes. Which one of the following investigations in addition to standard assessment would be most appropriate for the preoperative assessment of this patient?

1- Repeat exercise ECG test

**2- Routine echocardiogram**

3- 99Tcm MIBI SPECT scan

4- Stress ECG

5- Magnetic resonance angiography

Q4595. A 16-year-old Italian girl presents with anaemia. Serum haemoglobin is 70 g/l (120-160 g/l). Her blood film shows marked hypochromia and variation in cell shape and size. Nucleated red cells are also found. What is the most likely diagnosis?

1- Aplastic anaemia

**2- Thalassaemia**

3- Sickle-cell anaemia

4- Acute myeloblastic leukaemia

5- Chronic myeloid leukaemia

Q4596. A 60-year-old is taking warfarin longterm for recurrent pulmonary emboli. The patient presents to A&E complaining of vomiting a large amount of bright red blood. On examination he is pale, hypotensive with a blood pressure of 90/60 mmHg and has epigastric tenderness. Initial blood tests show:Hb 6.5 g/dl, with a normochromic normocytic anaemia; WCC 12.3 x 109 /L; platelets 375 x 109 /L and INR 9.2. How should his coagulation be corrected immediately?

1- Transfusion of fresh blood

2- Transfusion of packed red cells

3- Transfusion of 20 units cryoprecipitate and 20 mg iv vitamin K

4- Transfusion of 2000 U factor VIII concentrate

**5- Transfusion of 4 units fresh-frozen plasma**

Q4597. A 19-year-old woman complains of stiff joints and a facial rash. Her blood pressure is 145/95 mmHg, she has +1 oedema, slightly swollen metacarpophalangeal joints and some ulceration of her buccal mucosa. Plasma creatinine is 92 mmol/l, Hb is 8.9 g/dl and platelet count is 92 x 1012/l. Urinalysis shows +3 blood and +3 protein. High titres of double-stranded DNA antibodies are detectable in her serum . What pathogenic feature leads to the renal lesion?

1- Arteriolar vasculitis

2- Circulating antibodies directed against the glomerular basement membrane

3- Deposition of a linear dense deposit within the glomerular basement membrane

**4- Subendothelial deposition of immune complexes**

5- Subepithelial deposition of immune

Q4598. A 23-year-old army cadet is admitted to hospital with cough, headaches and malaise. He has a temperature of 38°C. His blood count, renal and liver functions are normal. Cold agglutinins are positive. A chest X-ray shows bi-basal shadowing. What is the most likely diagnosis?

1- Legionella pneumonia

2- Viral pneumonia

3- Q fever

4- Klebsiella pneumonia

**5- Mycoplasma pneumonia**

Q4599. A 70-year-old woman with longstanding hypertension is referred to outpatients with a diagnosis of asymptomatic atrial fibrillation. Echocardiography demonstrates normal left ventricular function, mild LVH and normal mitral valve structure. The left atrium is slightly enlarged (4.2 cm). She is not keen on cardioversion and her rate is well controlled at 70 bpm. What would be the optimal strategy for longterm anticoagulation?

1- Aspirin

2- Clopidogrel

3- Dipyridamole

4- Low molecular weight heparin

**5- Warfarin**

Q4600. A 60-year-old man presents with episodic loss of vision in his right eye due to carotid stenosis. He is quite clear that during these episodes, the vision in his left eye is normal as he has tested this by closing in each eye in turn. What is the most likely pattern of visual field loss?

1- Bitemporal hemianopia

**2- Uniocular altitudinal loss**

3- Homonymous hemianopia

4- Enlarged physiological blind spot

5- Bilateral central scotoma

Q4601. You are asked to see a 57-year-old smoker, who complains of shortness of breath some 7 days after a total hip replacement. On examination he is obese and has a swollen left leg, and he is visibly short of breath. There appears to be increased prominence of vascular markings at the right hilum on chest X-ray. His calculated alveolar-arterial (A-a) gradient is 4.5 kPa. Which of the following fits best with his diagnosis?

1- Postoperative pneumonia

**2- Pulmonary embolus**

3- Hyperventilation syndrome

4- Atelectasis

5- Pneumothorax

Q4602. A 78-year-old woman was referred with abnormal liver biochemistry. Investigations showed: bilirubin 54 mmol/l; ALT 43 U/l; alkaline phosphatase 323 U/l; g-GT 299 U/l. Which of the following is most likely to be responsible?

1- Digoxin

**2- Erythromycin**

3- Furosemide

4- Paracetamol

5- Nifedipine

Q4603. You are asked to see a 25-year-old White man who experienced marked weakness and dyspnea 4 days after being admitted for a compound arm fracture after falling from a tree. Estimated blood loss from the initial fracture episode was 600 ml and the patient was transfused with one unit of packed erythrocytes. The initial crossmatch was reported as compatible by the transfusion service. The patient has never been transfused before this incident and has no other serious medical illnesses. The patient's arm fracture was treated with surgical pinning and prophylactic antibiotics consisting of a cephalosporin iv every 12 h. On examination, the patient is febrile and mildly tachycardic, with no evidence of wound infection or compartment syndrome. Laboratory data show a haematocrit of 15%, a raised reticulocyte count and total bilirubin of 70 mol/l with a conjugated bilirubin of 9 moll/l. The peripheral smear shows many spherocytes. No haemoglobinaemia or haemoglobinuria is seen on visual inspection of the plasma and urine. The transfusion service reports that the direct Coombs' test is now strongly positive using anti-IgG and only weakly positive with anti-C3d antisera. They further report that routine compatibility tests show no new erythrocyte antibodies in the patient's serum and that, when they attempted to elute antibody from the patient's RBCs and test against normal RBCs, the results were negative. What is the most likely diagnosis?

1- Haemolytic transfusion reaction caused by an ABO incompatibility

2- Delayed haemolytic transfusion reaction

3- Autoimmune haemolytic anaemia of warm antibody type

4- Autoimmune haemolytic anaemia of cold antibody type

**5- Drug-induced immune haemolytic anaemia**

Q4604. A 42-year-old man is put on a proton-pump inhibitor to suppress symptoms of oesophagitis. The cell and membrane biology of the gastric acid pump has which of the following features?

1- Histamine-stimulated acid production is independent of the proton pump

2- The proton is exchanged with magnesium ions

3- Acetylcholine-stimulated acid production is independent of the proton pump

**4- The proton pump spans the apical membrane of the gastric parietal cell**

5- The proton pump spans the basolateral

Q4605. A 58-year-old publican presented with a history of haematemesis and malaena. He was transfused. Gastroscopy showed small oesophageal varices that were not bleeding as well as haemorrhagic gastropathy. What is the next appropriate management?

1- Variceal banding

2- Adrenaline injection

3- Intravenous ethanolamine

**4- Oral propranolol**

5- Intravenous octreotide

Q4606. A 76-year-old man with primary biliary cirrhosis was reviewed in the clinic. Which of the following is a common feature of primary biliary cirrhosis?

**1- Back pain**

2- Increased level of serum IgA

3- Pyoderma gangrenosum

4- Psoriatic arthritis

5- Mesangiocapilliary glomerulonephritis

Q4607. A 75-year-old woman is admitted in an unconscious state. Her daughter found her on the floor. On examination in casualty she is found to have a core temperature of 33°C and also to be in left ventricular failure. Her blood glucose level is 5.7 mmol/l, random cortisol is elevated. By chance you also catch the twice weekly run of thyroid function testing and her Free T4 is 4.4 pmol/l. A CT scan of her brain reveals no focal lesion and a cursory assessment reveals no gross focal neurology. Which diagnosis fits best with this woman's clinical picture?

1- Hypoglycaemia

2- Addison's disease

**3- Profound hypothyroidism**

4- Massive stroke

5- Alcohol excess

Q4608. A 60-year-old woman is sent by A&E for endocrine review. During the past 18 months she has suffered two Colle's fractures and a fractured neck of her left femur. Results of thyroid function testing, serum protein electrophoresis and serum parathyroid hormone estimation are all normal. Bone densitometry of the lumbar spine and femoral neck on the non-replaced side reveal a bone density within the osteoporotic range. Which of the following interventions would be most appropriate for her?

1- Observe and repeat the densitometry in 12 months

**2- Initiate bisphosphonate therapy**

3- Initiate calcium and vitamin D therapy

4- Initiate HRT

5- Initiate calcium supplementation

Q4609. Which one of the following vasculitides is more often associated with renal involvement?

1- Churg-Strauss syndrome

2- Takayasu's arteritis

**3- Microscopic polyangiitis**

4- Cryoglobulinaemic vasculitis

5- Henoch-Schönlein purpura

Q4610. A 50-year-old man with a longstanding history of alcohol abuse was admitted to hospital because he was difficult to rouse. On examination he is confused and ataxic. Examination of the eyes reveals nystagmus and ophthalmoplegia. Deficiency of which vitamin is most likely to have caused his symptoms?

1- Vitamin A

**2- Vitamin B1**

3- Vitamin B6

4- Vitamin B12

5- Folic acid

Q4611. Which one of the following statements is true about folic acid deficiency?

1- Because of the high folate body stores, it will take more than two years for megaloblastic anaemia to develop after complete cessation of folic acid intake

2- Methotrexate induced folic acid deficiency is corrected by concomitant folic acid therapy

3- Intestinal bacterial overgrowth is regarded as one of the common causes

4- Causes abnormal neurological findings indistinguishable from that associated with B12 deficiency

**5- Responsible for neural tube defect in the**

Q4612. A 78 year old patient with COPD was admitted to a medical ward and received appropriate pharmacological treatment according to BTS guidelines (systemic steroids, nebulised bronchodilators, controlled oxygen therapy). He is severely disabled and would not be considered for the intensive care unitand he has previously failed a trial of noninvasive ventilation due to inability to tolerate the mask. The night following his admission his condition worsened. Arterial blood gases were measured and demonstrated: pH 7.29, pa(O2) 5.85 kPa, pa(CO2) 9.33 kPa on 28% oxygen delivered by Venturi mask. What is your next management decision based on published studies?

1- Start aminophylline infusion

**2- Start doxapram infusion**

3- Increase oxygen

4- Give iv antibiotics

5- Start salbutamol infusion

Q4613. You are asked to review a 19-yearold woman who presents with increasing shortness of breath on exercise. She is from a travelling family and has rarely encountered medical care. On examination she appears of short stature with extra skin folds around her neck, and appears to have failure of secondary sexual development. Her blood pressure is raised at 165/100 mmHg. She reports that her legs feel tired all the time and she has occasional chest pain on exercising. Which of the following cardiac diagnoses fits best with her clinical condition?

1- Pulmonary stenosis

2- Mitral regurgitation

**3- Coarctation of the aorta**

4- Aortic regurgitation

5- Hypertrophic obstructive cardiomyopathy

Q4614. A 55-year-old man complains of muscle weakness and finds it difficult to get up from a chair. His wife mentions that over the last few months he has developed dyspnoea on exertion. He has lost some weight over the previous 3 months and also complains of a scaling rash over his elbows and a purplish rash of the eyelids. He is an exsmoker and used to work as a car salesman. He drinks 20 units of alcohol a week. What is the most likely diagnosis?

1- Motor neurone disease

**2- Dermatomyositis**

3- Bronchogenic carcinoma

4- Cushing's syndrome

5- Alcohol-induced myopathy

Q4615. A 26-year-old man being treated for chlamydial urethritis complains of pain and swelling in his left ankle, pain in the soles of his feet, gritty red eyes and a rash on the palms of both hands. What could be the diagnosis?

1- Behçet's syndrome

**2- Reiter's syndrome**

3- Felty's syndrome

4- Psoriatic arthropathy

5- Gonococcal arthritis

Q4616. A 45-year-old man with a 20-year history of ulcerative colitis, who was lost to follow-up, was reviewed and found to have had a change in his bowel habit for 4 months, with increasing diarrhoea. What is the most important management step?

1- Plain abdominal X-ray

2- Oral mesalazine

3- Oral prednisolone

4- Stool microscopy and culture

**5- Urgent colonoscopy**

Q4617. Which of the following diseases is correctly matched to the immunodeficiency?

1- Ataxia-telangiectasia - absent NBT (neutrophil nitroblue tetrazolium) reduction

2- Bruton's disease - impaired phagocytosis

3- Chronic granulomatous disease (CGD) - hypogammaglobulinaemia

4- Chèdiak-Higashi - reduced IgA levels

**5- DiGeorge syndrome - absent T-cell function**

Q4618. A 30-year-old woman has recurrent, persistent, intrusive, distressing thoughts and images of her family coming to harm. She tells you that these thoughts seem to come from her own mind, but she views them as senseless. What symptom is she describing?

1- Delusions

**2- Obsessions**

3- Compulsions

4- Hallucinations

5- Thought interference

Q4619. A 20-year-old female presents with right unilateral ocular pain, which is worse on eye movement, and blurred vision in the same eye. Her visual acuity is RVA 6/24, LVA 6/6. Colour vision is impaired on the right and there is a right, relative, afferent papillary defect. Visual field examination shows a right central scotoma. The patient has read about multiple sclerosis and wishes to know what her risk is of developing this condition. MRI brain is performed and shows 3-4 areas of high signal within the white matter. What are the approximate chances of the patient developing multiple sclerosis in the next 10 years?

1- 2%

2- 10%

**3- 50%**

4- 80%

5- 100%

Q4620. A 40-old woman with AIDS presents to the GU clinic with a shadow in her vision in one eye. Which of the following supports a diagnosis of cytomegalovirus retinitis?

1- Conjunctival injection

2- Mydriasis on the affected side

3- Disc swelling

4- Macular oedema

**5- Retinal haemorrhages**

Q4621. A 30-year-old man is admitted with a 1-week history of fevers and breathlessness. He is an intravenous drug user. On examination he is hypotensive, his JVP is raised with giant cv waves and there is a pansystolic murmur. He had received 2 days of oral amoxicillin for a chest infection prior to admission. Blood cultures are taken and empirical antibiotics started. What is the most likely organism?

1- Candida spp

2- Enterococcus spp

3- HACEK group

**4- Staphylococcus aureus**

5- Viridans group streptococci

Q4622. A 41-year-old bird-watcher goes on a beach holiday in The Gambia. She takes no malaria prophylaxis. On return to the UK she develops high fevers and self-medicates at home with LemsipآR. On presentation to hospital, she had a fever of 40°C and looked markedly unwell, with a pulse of 130 bpm and BP 90/50 mmHg. She was commenced on iv ceftriaxone and quinine in casualty. Despite this, she deteriorated rapidly, and after 2 hours is found to have a GCS of 3. Her blood film is reported as showing trophozoites and schizonts of Plasmodium falciparum with a parasitaemia of 20%. Which of the following is most important as the next step in the management of this patient, once her airway, breathing and circulation have been stabilised?

1- Urgent CT brain scan

**2- Blood glucose testing**

3- U&E laboratory testing

4- Commence a phenytoin infusion

5- Start chloroquine

Q4623. A 62-year-old woman is sent to you for review. There is a history of long-standing rheumatoid arthritis for which she takes NSAIDs and Salazopyrin. Examination reveals changes consistent with rheumatoid arthritis and a palpable spleen. Her blood picture reveals mild anaemia, neutropenia and a platelet count of 74 x 109 (150-400). Bone marrow biopsy reveals an excess of immature granulocyte precursors. Autoimmune screen reveals a raised ESR, positive rheumatoid factor, positive ANA and antihistone antibody. What diagnosis fits best with this clinical picture?

1- Portal hypertension with splenomegaly

2- Lymphoma

3- Amyloidosis

**4- Felty's syndrome**

5- Myelofibrosis

Q4624. A 23-year-old man who lives with his male partner consults you for an opinion. He has suffered anal discharge and pruritis for the past 3 days. There are also some symptoms of dysuria. A urethral smear reveals intracellular diplococci. What is the most likely infective agent to fit with this clinical picture?

**1- Neisseria gonorrhoeae**

2- Chlamydia trachomatis

3- Treponema pallidum

4- Herpes simplex-type 1

5- Herpes simplex-type 2

Q4625. If the prevalence of Rett syndrome is 1 per 10,000 and a genetic screening test applied in infancy has a sensitivity of 90% and a specificity of 99.99%, then

**1- The positive predictive value is less than 50% and the negative predictive value is greater than 99.99%**

2- The positive predictive value is less than 50% and the negative predictive value is less than 99.99%

3- The positive predictive value is greater than 50% and the negative predictive value is greater than 99.99%

4- The positive predictive value is greater than 50% and the negative predictive value is less than 99.99%

5- The positive predictive value and the

Q4626. A 67-year-old man with a history of atrial fibrillation and cardiovascular disease is brought in by his relatives with acute abdominal pain and vomiting. On examination he is drowsy and looks unwell. His blood pressure is 105/60 mmHg, pulse is 110 bpm and he is in atrial fibrillation. His abdomen is generally tender. Initial blood tests reveal an amylase of 500 IU/l (25-170), neutrophilia and renal failure with a creatinine concentration of 350 mmol/l (60-110) and a urea of 12.5 mmol/l (2.5-7.5). Further questioning reveals that he has complained of intermittent abdominal pain after dinner over the past few months. What diagnosis fits best with this clinical picture?

1- Acute pancreatitis

2- Chronic pancreatitis

3- Chronic mesenteric ischaemia

**4- Acute-on-chronic mesenteric ischaemia**

5- Mesenteric vasculitis

Q4627. At therapeutic doses, which of the following are side-effects of aminophylline?

1- Hypotension

**2- Jitteriness**

3- Diarrhoea

4- Arrhythmias

5- Hyperkalaemia

Q4628. A 25-year-old pregnant woman complains she has had painful nodules on her shins for over 2 weeks. She suffers from asthma, which is well controlled and is 32 weeks' pregnant. Examination shows painful nodules over her shins. What is the most likely diagnosis?

1- Erythema multiforme

**2- Erythema nodosum**

3- Cellulitis

4- Granuloma annulare

5- Drug eruption

Q4629. Which one of the following is the MOST common cause of aplastic crisis in a patient with sickle cell disease?

1- Dehydration

2- Respiratory syncytial virus infection

**3- Human parvovirus B19 infection**

4- Repeated blood transfusion

5- Haemophilus influenzae septicaemia

Q4630. A 72-year-old man presents for an extraction of three teeth under local anaesthesia. He has a past history of rheumatic heart disease. Mitral stenosis has been identified but the rotten teeth are being removed before valve replacement. He is allergic to penicillin. Which of the following would be the most appropriate antibiotic regime for him?

1- Amoxicillin 3 g po 1 hour before procedure

**2- No prophylaxis necessary**

3- Vancomycin 1 g po 1 hour before procedure

4- Ciprofloxacin 1 g po 1 hour before procedure

5- Augmentin 1 g po before procedure

Q4631. A 44-year-old woman presents with the nephrotic syndrome. She has proteinuria (urinary protein creatinine ratio 386), hypoalbuminaemia (albumin 25g/l) and oedema. Her renal function is well preserved (creatinine 88 mmol/l). Which of the following is most likely to accompany the nephrotic syndrome?

1- Increased urinary sodium excretion

**2- Intravascular volume depletion**

3- Hypertension

4- Pleural effusion

5- Increased plasma antithrombin III

Q4632. Elevated cerebrospinal fluid gamma globulin concentration has been described in each of the following conditions EXCEPT?

**1- Myasthenia gravis**

2- Subacute sclerosing panencephalitis

3- Cerebral lupus

4- Multiple sclerosis

5- Guillain-Barrè syndrome

Q4633. A 55-year-old woman is diagnosed with type 2 diabetes mellitus. Her weight is 76 kg, body mass index 34 kg/m2 . After 3 months' trial of dietary modification, she has lost 2 kg in weight, but her Hb A1c, which was 10.2% at diagnosis, is 9.6%. The most appropriate treatment would now be which of the following?

1- Acarbose

2- A sulphonylurea

3- A thiazolidinedione

4- Insulin

**5- Metformin**

Q4634. In a patient with nickel-associated contact dermatitis which of the following statements is true?

1- Mediated by mast cells

2- Mediated by IgE

3- Skinprick testing is the best way to establish the sensitising antigen

4- Systemic cytokine release induces skin inflammation

**5- Elimination of the responsible agent is the**

Q4635. Which of the following is not typically a cause of hypercalcaemia?

1- Hyperparathyroidism

**2- Hypothyroidism**

3- Milk-alkali syndrome

4- Sarcoid

5- Squamous-cell carcinoma

Q4636. A 32-year-old Afro-Caribbean man with a 5-year history of HIV infection presents with swollen ankles. He has been treated with highly active antiretroviral therapy (HAART) for 2 years, with partial response. His plasma creatinine concentration is 358 mmol/l, albumin is 12 g/dl, CD4 count is 35/m l and 24- hour urine protein excretion rate is 6.8 g. Renal ultrasound shows echogenic kidneys 13.5 cm in length. What would a renal biopsy show?

1- Focal necrotising crescentic nephritis

2- Kimmelstiel-Wilson lesions

3- Membranous nephropathy

**4- Microcystic tubular dilatation and collapsing FSGS**

5- Minimal-change disease

Q4637. A 22-year-old man develops a depressive illness that fails to respond to drug treatment. He complains of pins and needles over the left-hand side of his body. Within 5 months his gait has become unsteady and he has difficulty in performing fine-motor tasks. On examination he has a depressed affect with mild short-term memory impairment and difficulty in copying a clock-face diagram. There are bilateral cerebellar signs and the reflexes are all pathologically brisk with equivocal plantar responses. He has occasional writhing movements of his left upper limb. A clinical diagnosis of variant Creutzfeldt-Jakob disease is suspected. A cranial MRI is performed. Which of the following MRI findings would be supportive of this diagnosis?

1- Normal scan

2- Diffuse white-matter disease on T2- weighted imaging

3- Increased signal in the caudate nucleus

**4- Increased signal in the pulvinar of the thalamus**

5- Increased signal in the pineal body

Q4638. A 48-year-old man undergoes flexible colonoscopy for iron deficiency anaemia. Unfortunately three dysplastic polyps are identified and removed, the sizes of which are 0.9 cm, 1.4 cm and 1.8 cm. Which of the following represents the most appropriate time period before follow-up colonoscopy?

1- 6 months

2- 1 year

**3- 3 years**

4- 4 years

5- 5 years

Q4639. Which one of the following treatments is effective in severe lithium toxicity?

1- Activated charcoal

2- Methionine

**3- Haemodialysis**

4- Forced diuresis with sodium chloride

5- Methylprednisolone

Q4640. Which of the following statements regarding the eukaryotic cell cycle is correct?

1- M phase signifies meiosis

2- DNA is made in the G1 phase

**3- DNA is made in the S phase**

4- G2 phase commences as G1 finishes

5- G2 determines variability in the length of

Q4641. A 70-year-old man with type-2 diabetes is found to have an elevated plasma creatinine of 160 mmol/l. His blood pressure is 180/100 mmHg, and fundoscopy reveals mild hypertensive changes and background diabetic retinopathy. He has a neuroischaemic ulcer on his right foot and no palpable pedal pulses. Urine dipstick is negative and renal ultrasound shows a 9.2-cm left kidney and 7.0- cm right kidney, with reduced cortical thickness. What is the most likely cause of the renal impairment?

1- Cholesterol emboli syndrome

2- Diabetic glomerulosclerosis

3- Membranous nephropathy

4- Reflux nephropathy

**5- Atherosclerotic renal artery stenosis**

Q4642. A 50-year-old man with longstanding hypertension presents acutely with severe chest pain radiating through to his back. He looks unwell, with a resting tachycardia (110 bpm) and blood pressure of 150/96 mmHg. There are no murmurs and neurological examination is normal. An urgent CT scan of his chest confirms type-A aortic dissection. The local cardiothoracic centre is contacted and urgent transfer arranged. He has received appropriate opiate analgesia. What additional drug treatment should be instigated as part of his immediate treatment plan?

1- Intravenous GTN

**2- Intravenous labetalol**

3- Intravenous nitroprusside

4- Oral amlodipine

5- Oral enalapril

Q4643. A 30-year-old man and his wife present to a reproductive endocrinology clinic because of infertility. The man is tall with bilateral gynaecomastia. Examination of the testes reveals bilateral, small, firm testes. Which of the following investigations is most likely to be abnormal in someone with Klinefelter's syndrome?

1- CT scan of the pituitary gland

**2- Chromosomal analysis**

3- Measurement of serum gonadotrophins

4- Measurement of serum testosterone

5- Semen analysis

Q4644. A 46-year-old man on haemodialysis for 12 years complains of insidious onset of painful nocturnal dysesthesias involving the thumb and three fingers, relieved by shaking the hand. Physical examination of the hand reveals thenar wasting and numbness over the fingers. Which of the following statements fits best with this clinical picture?

1- Deposition of amyloid of the AL (associated with light chains) type would be likely

**2- Carpal tunnel syndrome would explain these findings**

3- Deposits of b2-microglobulin-associated amyloid are extremely unlikely to be a contributory cause

4- These findings are most likely to be associated with generalised peripheral neuropathy

5- These symptoms suggest compression of

Q4645. A 40-year-old man is being evaluated for recurrent mild haemoptysis. He gives a history of recurrent sinusitis in the past. Physical examination is unrevealing. Blood investigations show: Hb 12.8 g/dl; WBC 8.9 x 109 /L; ESR 68 mm/h; urea 10 mmol/l; creatinine 180 mmol/l and active sediments in the urine. c-ANCA is positive and the chest X-ray shows multiple cavities in both lung fields. Which of the following statements is correct regarding his condition?

1- Upper respiratory tract biopsy is likely to show vasculitic changes

2- Granulomas are usually seen in a renal biopsy

**3- Lung biopsy has a high diagnostic yield**

4- c-ANCA is highly specific in active disease, but is not sensitive

5- c-ANCA is a useful marker for monitoring

Q4646. After a traumatic injury to her left upper limb, a 36-year-old woman presents with acute weakness and numbness of her left arm. On examination she has a wrist drop with weakness of the extensor digitorum longus, brachioradialis and triceps muscles. There is sensory loss over the posterior forearm and a small area of numbness over the dorsum of her hand. The triceps reflex is diminished but other reflexes are intact. Where is the likely anatomical location of the nerve injury?

1- Lateral cord of the brachial plexus

2- Medial cord of the brachial plexus

3- Proximal median nerve in the axilla

**4- Radial nerve in the spiral groove of the humerus**

5- Ulnar nerve in the ulnar groove

Q4647. A 25-year-old man gives a 2-week history of painful joints affecting his lower limbs. He returned from a holiday in SE Asia 3 weeks ago. During this holiday he had developed loose bowel motions followed by eye irritation, for which he had consulted a local doctor. He has a psoriasiform rash on his lower limbs and soles. What is the most likely diagnosis?

1- Lichen planus

2- Guttate psoriasis

**3- Reiter's disease**

4- Mastocytosis

5- Porphyria

Q4648. A 32-year-old woman presents with bilateral flank pain. Her GP had diagnosed a urinary tract infection 2 weeks earlier on the basis of proteinuria, but she returned with further pain, tiredness and general malaise. He noted a raised serum creatinine of 285 m mol/l at this time. Repeat urinalysis revealed blood and protein, but no bacterial growth and no active urinary sediment. Her only past medical history is that she discontinued the oral contraceptive pill after a DVT. What diagnosis fits best with this clinical picture?

1- Nephrotic syndrome

2- Nephritic syndrome

3- Inadequately treated UTI with associated renal failure

4- Ciprofloxacin-associated nephritis

**5- Bilateral renal vein thrombosis**

Q4649. A 25-year-old woman is diagnosed as having Grave's disease and is prescribed carbimazole. What is the most serious adverse effect of carbimazole?

**1- Reversible agranulocytosis**

2- Cholestatic jaundice

3- Immunosuppression

4- Hepatitis

5- Hypoprothrombinaemia

Q4650. You are called to see a 56-year-old man 2 h after a cardiac catheterisation. He is actively bleeding from his catheter site and his dressings and bedclothes are soaked with blood. Which of the following statements is true?

1- Grade I shock applies with up to a 20% loss of circulating blood volume

2- Loss of 2 litres of blood is consistent with normal systolic blood pressure

**3- The pulse can remain normal in patients with grade I shock**

4- Anuria is pathognomonic of grade III shock

5- Grade IV shock is seen with a 30% loss of

Q4651. A 65-year-old man with longstanding, insulin-dependent diabetes mellitus was referred with nausea and recurrent vomiting. At endoscopy, a large gastric food residue was noted despite a 6-hour fast. What is the most useful diagnostic test?

1- Barium meal and follow-through

**2- Gamma scintigraphy, gastric-emptying study**

3- Lactose hydrogen breath test

4- Lying and standing blood pressure

5- Oesophageal manometry

Q4652. A 30-year-old man, under investigation for abdominal cramps and passing blood rectally, presents with an acutely painful, red and photophobic eye. What is the most likely sign on ocular examination?

1- Conjunctival purulent discharge

2- White corneal stromal infiltrate

3- Mydriasis of the affected eye

**4- Hypopyon**

5- Swollen optic disc

Q4653. A 17-year-old youth presents with a purpuric rash on his buttocks and legs. There is joint pain and one vomit containing coffee grounds. Blood testing reveals mild eosinophilia and a small rise in IgA levels. Urine testing reveals microscopic haematuria. What diagnosis fits best with this clinical picture?

1- Traumatic injury

2- Thrombotic thrombocytopenic purpura

3- Idiopathic thrombocytopenic purpura

4- Polyarteritis nodosa

**5- Henoch-Schönlein purpura**

Q4654. A teenager presents with excess hair and amenorrhoea. She is normotensive. Her prolactin levels are normal but she has a raised 17a-hydroxyprogesterone level. What is her diagnosis?

1- Complete 21-hydroxylase deficiency

2- Complete 11b-hydroxylase deficiency

**3- Partial 21-hydroxylase deficiency**

4- Partial 11b -hydroxylase deficiency

5- None of the above

Q4655. A 72-year-old heavy smoker presents with shortness of breath and haemoptysis. On examination you notice some facial swelling. You suspect a bronchial neoplasm. What other clinical sign would it be particularly important to look for if you were suspecting SVC obstruction?

**1- Venous dilatation over the anterior chest wall**

2- Supraclavicular or cervical lymphadenopathy

3- Finger clubbing

4- Cranial nerve palsy

5- Central cyanosis

Q4656. A 26-year-old man is admitted with a 1-week history of worsening headaches and visual disturbance. Some 6 months ago he completed a course of intensive chemotherapy for widespread advanced testicular cancer. On examination there are visual field abnormalities and papilloedema. What is the most likely cause of his symptoms and signs?

1- Cerebral abcess

2- Late chemotherapy toxicity

3- Side-effect of cranial irradiation

**4- Relapse with brain secondaries**

5- Paraneoplastic phenomenon

Q4657. A 32-year-old woman, who works as a croupier and is normally fit and well, had woken 3 weeks before with weakness in her left hand. She had noted numbness at the base of the thumb on the dorsum of the hand. She is on the oral contraceptive pill. She drinks alcohol in binges, one of which had occurred the night before her symptoms started, and smokes 15 cigarettes per day. She has a normal general examination, normal cranial nerves, and normal muscle tone, but mild weakness of the left brachioradialis and moderate weakness of wrist and finger extension. She has full power in her other arm muscles including elbow extension. Reflexes are normal. What is the most likely site of the lesion?

1- C7 nerve root lesion

2- Right cerebral cortex

3- Ulnar nerve

4- Posterior interosseus nerve

**5- Radial nerve at the spiral groove**

Q4658. A 7-year-old boy attends the clinic with a history of tonic-clonic seizures 2 days earlier. EEG shows a 3-s spike and wave. Cerebral imaging is normal. What would be the drug of choice for this patient?

**1- Sodium valproate**

2- Lamotrigine

3- Topiramate

4- Phenytoin

5- Phenobarbital

Q4659. An 11-year-old Asian girl presents with a 2-week history of fever, joint pains, malaise and loss of appetite. Swelling, redness and pain occurred in the left knee that lasted for 3 days and then settled. This was followed by swelling, redness and pain in her left elbow for 4 days, followed by similar symptoms in her right knee. At present she has a swollen tender right ankle. No other abnormality is found on clinical examination. What is the most likely diagnosis?

1- Still's disease

**2- Rheumatic fever**

3- Polyarticular juvenile idiopathic arthritis

4- Childhood dermatomyositis

5- Familial Mediterranean fever

Q4660. A 78-year-old man had poliomyelitis as a child, which left him with total paralysis of the left deltoid muscle. Which feature is most likely to be present on clinical examination?

1- Anaesthesia over the 'epaulette' region of the left shoulder

2- The acromion process of the scapula forms the most lateral bony landmark of the left shoulder

3- Drooping of the left shoulder compared to the right side

**4- Detectable weakness in drawing the arm forward and internally rotating the shoulder when this is compared with the right side**

5- Abduction of the shoulder to 60o is likely to

Q4661. Cytochrome P450 interactions with which of the following drugs possessing a narrow therapeutic index leads to toxicity?

1- Lithium

**2- Ciclosporin**

3- Paracetamol

4- Salicylate

5- Penicillin

Q4662. A 50-year-old man presents with a gradually worsening difficulty in walking up stairs, light-headedness on standing and a dry mouth. He tends to feel better at the end of the day. He has a mild ptosis, normal tone in his limbs but proximal weakness in his lower limbs and global hyporeflexia. What is the most likely diagnosis?

1- Oculopharyngeal muscular dystrophy

**2- Lambert-Eaton syndrome**

3- Myasthenia gravis

4- Polymyositis

5- Poliomyelitis

Q4663. A 73-year-old widow is undergoing haemodialysis for chronic renal failure. What is the most common problem that can arise in this case?

1- Vitamin D deficiency

2- Hypocalcaemia

3- Fluid and electrolyte imbalance

4- Viral hepatitis

**5- Protein-calorie malnutrition**

Q4664. An 84-year-old man had his left sciatic nerve completely transected just inferior to the buttock crease by a piece of shrapnel during the D-day landings in 1944. Which sign is likely to be present on current neurological examination?

1- Complete anaesthesia below the knee

2- Spastic paralysis of the lower limb, with increased ankle jerk

3- Plantar flexed and everted foot

4- Paralysed quadriceps femoris

**5- Unimpaired hip abduction**

Q4665. A 24-year-old man with HIV and a CD4+ lymphocyte count of 150 m/l has been complaining of gradually worsening dyspnoea associated with a non-productive cough and fever for the last 2 weeks. A chest X-ray shows bilateral diffuse ground-glass opacities. What is the diagnosis?

1- Tuberculosis

2- Legionellosis

**3- Pneumocystis jiroveci pneumonia**

4- Infectious mononucleosis

5- Toxoplasmosis

Q4666. A 26-year-old man is admitted to the Casualty Department from the airport, having just returned on a flight from Bangladesh. Around 1 hour before landing he collapsed after severe vomiting and diarrhoea on the plane. His travelling partner reports that he became ill 1 day before leaving Bangladesh with high volume, painless watery diarrhoea. Blood pressure is 95/60 mmHg and his pulse is 100/min and regular. Dark-field microscopy of a fresh stool specimen reveals Gram-negative bacilli. Given the likeliest diagnosis, which one of the following antibiotic choices would be most appropriate in the treatment of this patient?

**1- Ciprofloxacin**

2- Metronidazole

3- Amoxicillin

4- Co-trimoxazole

5- Co-amoxiclav

Q4667. An aid worker in West Africa for the past 5 years sees his local doctor with a fever. Blood films for malaria parasites are negative but an eosinophilia is noted. Blood films at night demonstrate microfilariae. What is the likely aetiological agent?

1- Brugia malaya

2- Loa loa

3- Onchocerca volvulus

4- Schistosoma haematobium

**5- Wuchereria bancrofti**

Q4668. A 32-year-old man is referred to the renal clinic by his GP after a second episode of gross haematuria. Past history of note includes coeliac disease. On both occasions the haematuria appears to have been closely associated with an upper respiratory tract infection. Blood pressure is 125/80 mmHg. Light microscopy of a renal biopsy specimen reveals diffuse mesangial proliferation and extracellular matrix expansion. IgA deposits are seen on immunofluorescence. Which of the following diagnoses fits best with this clinical picture?

1- Alport's syndrome

2- Lupus nephritis

**3- IgA nephropathy**

4- Goodpasture's syndrome

5- Wegener's granulomatosis

Q4669. An obstetric SHO stops you in the corridor to ask for some advice about prescribing and the pharmacological unwanted effects of drugs in pregnancy. Which of the following list of potential pharmacological risks of drugs in pregnancy is true?

1- Beta-blockers : Fetal hyperglycaemia

2- ACE-inhibitors : Polyhydramnios

**3- Aspirin : Kernicterus**

4- Thiazide diuretics : Anaemia

5- NSAIDs : Maintains patency of ductus

Q4670. A 45-year-old man has been referred. His father died at the age of 56 from a sigmoid colon adenocarcinoma, and his uncle underwent a colectomy at the age of 61 for a caecal carcinoma. What is his lifetime risk of colorectal carcinoma?

1- 1 in 2

**2- 1 in 12**

3- 1 in 25

4- 1 in 50

5- 1 in 200

Q4671. A 52-year-old woman with COPD is assessed for long-term oxygen therapy (LTOT). She is found to be suitable for LTOT; but, as a minimum, how many hours per day would you advise her to use the oxygen?

1- 3

2- 5

3- 10

**4- 15**

5- 20

Q4672. A 32-year-old intravenous drug abuser is admitted with a one-day history of double vision, droopy eyelids and a dry throat. Over the next 24 hours, her symptoms worsen and she begins to notice limb weakness and breathing difficulties. Examination reveals poorly reactive pupils, decreased deep-tendon reflexes and symmetrical upper and lower limb weakness, but sensation is normal. Cerebrospinal fluid examination is normal. The edrophonium test is positive. Electromyography shows no postactivation exhaustion. What is the most likely diagnosis?

**1- Botulism**

2- Lambert-Eaton syndrome

3- Miller-Fisher variant of the Guillain-Barrè syndrome

4- Myasthenia gravis

5- Poliomyelitis

Q4673. A 23-year-old woman complains of intermittent diarrhoea containing blood and mucus, tiredness and anorexia. Cultures of stool samples are negative. Examination is unremarkable. What is the most appropriate investigation?

1- Upper GI endoscopy with jejunal biopsy

2- Barium enema

3- Hydrogen breath test

**4- Colonoscopy and biopsies**

5- Plain X-ray of the abdomen

Q4674. A 24-year-old woman presents with 13 months of amenorrhoea. For the past few months she has been experiencing hot flushes, night sweats, mood changes and pain on intercourse. FSH has been > 40 mIU/l on two separate occasions, and her serum estradiol level is low. TSH is normal. Fasting blood glucose is normal. Pregnancy test is negative. What is the most likely diagnosis?

**1- Premature ovarian failure**

2- Polycystic ovarian syndrome (PCOS)

3- Androgen-secreting adrenal tumour

4- Pituitary failure

5- Thyrotoxicosis

Q4675. A 54-year-old woman who works outdoors as a building surveyor has noticed an increasingly troublesome, red scaly rash affecting her face, scalp, neck and hands. It presents as a series of red scaly areas. She is concerned that the areas affecting her scalp are causing bald patches in her hair. Antinuclear antibodies are negative. Some earlier lesions are now scarring, and showing change in pigmentation. What is the diagnosis that fits best with this clinical picture?

**1- Chronic discoid lupus erythematosus (CDLE)**

2- Systemic lupus erythematosus

3- Psoriasis

4- Ringworm

5- Eczema

Q4676. A 27-year-old woman has psoriatic arthritis. Which of the following hand conditions is most commonly associated with this disease?

1- Cutaneous lesions

2- Tenosynovitis

**3- Nail dystrophy**

4- Proximal interphalangeal arthritis

5- Arthritis mutilans

Q4677. A patient has been diagnosed with severe haemophilia B (factor IX level <1%). What is the mode of inheritance?

1- Autosomal dominant

2- Autosomal recessive

3- X-linked dominant

4- Y-linked

**5- X-linked recessive**

Q4678. A 45-year-old woman is found by her optometrist to have band keratopathy and is referred to the eye clinic. Which of the following investigations is likely to be helpful in determining an underlying cause?

1- Cholesterol

2- Ferritin

3- U&E

4- Gamma GT

**5- Serum calcium**

Q4679. A patient undergoes excision of the left submandibular salivary gland for sialectasia. Unfortunately, his hypoglossal (XII) nerve on that side is damaged. What is the most likely outcome?

1- There is numbness of the posterior onethird of the tongue

2- On protruding the tongue, it deviates towards the right

3- The uvula deviates towards the left

**4- All the intrinsic muscles of the left side of the tongue are paralysed**

5- The genioglossus muscle is spared

Q4680. A 31-year-old man is referred to the local hypertension clinic because of recently discovered hypertension that is labile and difficult to control. Which of the following features is most likely to suggest a genetic/familial syndrome is the cause for his hypertension?

1- Serum potassium level of 3.9 mmol/l

2- Random blood glucose level of 9 mmol/l

3- A serum calcium level of 1.5 mmol/l

**4- A family history of unexplained death in childbirth**

5- A family history of papillary thyroid

Q4681. In Duchenne's muscular dystrophy, which of the following statements applies?

1- Serum creatinine kinase is elevated in 30% of cases

**2- Exon deletion or duplication in the dystrophin gene occurs in 60% of patients**

3- Prenatal diagnosis involves analysis of restriction fragment length polymorphisms (RFLPs)

4- The genetic defect affects mainly skeletal muscle

5- The majority of cases are due to new

Q4682. Donepezil (Aricept) belongs to which class of drugs?

1- Anticonvulsant

**2- Acetylcholinesterase inhibitor**

3- Antidepressant

4- Antipsychotic

5- Mood stabiliser

Q4683. A 35-year-old woman with a bipolar disorder has been prescribed lithium. Which of the following pharmacological features should best be kept in mind when prescribing this drug?

1- Serum lithium level should not exceed 2 mmol/l

2- Amiloride is a specific antidote for lithium toxicity

**3- Lithium may cause nephrogenic diabetes insipidus**

4- Hyperkalaemia may occur

5- Thyroid antibodies may be increased

Q4684. A 50-year-old man presents to the out-patients clinic with a history of cognitive decline. On examination he has myoclonic jerks. His EEG shows triphasic sharp-wave complexes, superimposed on a pattern of cortical activity suppression. What is the likely diagnosis?

1- Alzheimer's dementia

2- Vascular dementia

**3- Creutzfeldt-Jakob disease (CJD)**

4- Huntington's disease

5- Epilepsy

Q4685. A 30 -year-old sales executive is admitted for an operative procedure requiring general anaesthesia. He drinks over 60 units of alcohol per week. It is necessary that he does not suffer from withdrawal symptoms postoperatively. Which drug would be most appropriate in alleviating this problem?

**1- Chlordiazepoxide**

2- Temazepam

3- Lorazepam

4- Clomethiazole

5- Chlorpromazine

Q4686. A 34-year-old patient who is 28 weeks' pregnant with her first baby is referred to you as an emergency with newly diagnosed symptomatic hyperthyroidism. Which of the following statements is true concerning the management of maternal thyrotoxicosis in pregnancy with carbimazole or propylthiouracil?

1- Carbimazole does not cross the placenta

2- Neonatal goitre occurs in 75% of babies following maternal treatment with carbimazole

**3- Propylthiouracil does cross the placenta**

4- 'Block and replace' therapy with carbimazole and thyroxine is appropriate maternal management

5- The neonatal goitre is permanent if it

Q4687. You review a 42-year-old woman with type 1 diabetes who has undergone a renal transplant. She is taking azathioprine and tacrolimus for immunosuppression. Which of the following fits best with the characteristics of the given immunosuppressive agent?

1- Sirolimus is a calcineurin inhibitor

**2- Tacrolimus is a calcineurin inhibitor**

3- Azathioprine inhibits pyrimidine synthesis

4- Azathioprine has a half-life of 2.5 hours

5- Tacrolimus has a half-life of around 5 hours

Q4688. In a patient with chronic hyponatraemia (sodium concentration 112 mmol/l), which of the following findings would most suggest a diagnosis of the syndrome of inappropriate [secretion of] antidiuretic hormone (SIADH)?

1- Normal cortisol response to ACTH

2- Plasma albumin concentration 28 g/l

3- Plasma osmolality 248 mOsmol/kg

**4- Urinary osmolality 350 mOsmol/kg**

5- Urinary sodium concentration < 20 mmol/l

Q4689. A 42-year-old man consulted his family doctor because of a 2-3 month history of lethargy and feeling generally unwell. The history was otherwise unremarkable. His urine tested positive for glucose, and a random venous plasma glucose concentration was 8.3 mmol/l. The family doctor arranged an oral glucose tolerance test: glucose concentration at baseline 5.6 mmol/l, 9.3 mmol/l at 120 minutes. Which of the following statements is correct?

1- Diabetes could have been diagnosed on the random glucose value alone

2- The combination of the random glucose and glycosuria are diagnostic of diabetes

3- The result of the OGTT confirms a diagnosis of diabetes

**4- The result of the OGTT indicates impaired glucose tolerance**

5- The result of the OGTT indicates that he is

Q4690. A 61-year-old woman was referred for further investigation of malabsorption and villous atrophy on duodenal biopsy. Her coeliac serology was negative and her symptoms failed to improve on a gluten-free diet. Which of the following is true of Whipple's disease?

1- The causative organism is a Gram-negative coccus

2- It typically affects middle-aged women

**3- PAS-staining granules are seen in the macrophages**

4- Cerebral involvement responds to antibiotic treatment

5- Recurrence after treatment is rare

Q4691. A 40-year-old woman is brought unconscious to A&E. She apparently has swallowed a large number of pills belonging to her friend who is being treated for a psychiatric ailment. On examination, she is apyrexial, her pulse is 130 bpm and her blood pressure is 90/60 mmHg. Her pupils are dilated. ECG shows sinus tachycardia and occasional ventricular ectopics. Which drug is she most likely to have taken?

**1- Imipramine**

2- Chlordiazepoxide

3- Lithium

4- Chlorpromazine

5- Fluoxetine

Q4692. A 24-year-old theatre nurse presents for review. She has red scaling plaques that are worse on her hands but are also present on the flexor surfaces of her arms and legs. Her past history of note includes coeliac disease. There is a mildly raised blood eosinophil count. What diagnosis fits best with this clinical picture?

1- Psoriasis

**2- Atopic eczema**

3- Photosensitivity

4- Dermatitis herpetiformis

5- Histiocytosis-X

Q4693. Which one of the following intrinsic hand muscles is supplied by the median nerve?

1- Lateral two interossei

**2- Abductor pollicis brevis**

3- Medial two lumbricales

4- Flexor pollicis longus

5- Extensor pollicis

Q4694. Which of the following relates to exacerbation of chronic bronchitis in patients with COPD?

**1- Moraxella catarrhalis is commonly isolated on culture**

2- Clinical symptoms are usually severe

3- An elevated white cell count indicates exacerbation

4- Trimethoprim-sulfamethoxazole combinations are effective in the treatment of M. catarrhalis infection

5- Gram's stain is inconclusive and blood

Q4695. Which of the following respiratory physiology tests would be consistent with a diagnosis of moderately established cryptogenic fibrosing alveolitis?

**1- Diffusion capacity decreased, FEV1/FVC normal, total lung capacity reduced**

2- Diffusion capacity increased, FEV1/FVC normal, total lung capacity increased

3- Diffusion capacity normal, FEV1/FVC reduced, total lung capacity reduced

4- Diffusion capacity decreased, FEV1/FVC normal, total lung capacity normal

5- Diffusion capacity decreased, FEV1/FVC

Q4696. A 36-year-old woman with systemic sclerosis develops breathlessness on exertion. Her pulmonary function tests show normal spirometry but a decreased gas transfer factor (TLCO, transfer factor for carbon monoxide) and transfer coefficient (KCO). Which of the following is the most likely explanation for this abnormality?

1- Fibrosing alveolitis

**2- Pulmonary vascular disease**

3- Severe thoracic skin thickening

4- Pleural involvement

5- Respiratory muscle weakness

Q4697. A 10-year-old boy is hospitalised because of a recent malaena and fever (38°C). The patient also complains of arthralgia involving the knees and the ankles. On examination he has a purpuric rash involving the legs. Urinalysis discloses proteinuria with microscopic haematuria. A biopsy of the purpuric lesion reveals leucocytoclastic vasculitis in the small vessels. Which one of the following statements is true about this boy's illness?

1- The purpuric skin rash is due to associated thrombocytopenia

**2- Active urinary sediment with RBC casts indicates glomerulonephritis**

3- Identification of anti-glomerular basement membrane antibodies is expected in half of the cases

4- pANCA is positive in two thirds of the cases

5- Renal granulomas are pathognomonic for

Q4698. Which of the following definitely excludes IgG subclass deficiency?

1- Normal serum immunoglobulins

**2- Good IgG antibody responses to immunisations**

3- The presence of existing antibody responses to past infections

4- Normal IgG subclasses

5- Normal peripheral blood lymphocyte

Q4699. Which of the following is a feature of MEN-1?

1- Marfanoid features

2- Phaeochromocytoma

3- Medullary carcinoma of the thyroid

**4- Parathyroid hyperplasia**

5- Mucosal neuromas

Q4700. Which of the following statements best describes a type-2 error?

1- Risk of a false-positive result

2- Alpha error

3- Risk of detecting a treatment difference when there is none

**4- Risk of not detecting a significant difference when there is one**

5- None of the above

Q4701. A 45-year-old man attends for review. He has been suffering increasing shortness of breath over the past few years. He is a non-smoker who drinks 20 units per week of alcohol and has no significant past cardiovascular history. Now he presents with what seems to have been a transient ischaemic attack (TIA), with weakness and coordination problems affecting his left side, which have resolved over the past 24 hours. On examination blood pressure is 142/95 mmHg and he is in sinus rhythm. There is no opening snap, but a diastolic murmur is heard which changes in character according to posture. Bloods are unremarkable, including C-reactive protein (CRP), which is in the normal range. Which of the following diagnoses fit best with this clinical picture?

1- Right atrial myxoma

**2- Left atrial myxoma**

3- Aortic stenosis

4- Mitral stenosis

5- Mitral regurgitation

Q4702. A 35-year-old woman who has been treated for asthma presents for review. She helps with mucking out at a horse-riding stable over the weekends. She had been well until the past year or so, bit has since suffered recurrent chest infections, a dry cough and shortness of breath. There is no haemoptysis. Full blood count reveals a raised eosinophil count. Chest X-ray reveals evidence of pulmonary infiltration and some lobar consolidation and cavitation. What is the diagnosis that fits best with this clinical picture?

1- Aspergilloma

**2- Allergic bronchopulmonary aspergillosis (ABPA)**

3- Asthma

4- Tuberculosis

5- Bronchiectasis

Q4703. Which one of the following groups is arranged as nominal scale data?

**1- Hot/cold**

2- Hot/hotter/hottest

3- 81-90/91-100/101-110°C

4- 271-280/281-290/291-300 kelvin

5- None

Q4704. A 22-year-old man is admitted for assessment after being found wandering the streets saying that he is being controlled by radio waves from a mobile phone tower. He hears voices being critical about him. After talking to his family it is clear he has had these symptoms for six weeks. Which treatment is most appropriate to prevent a relapse in the future?

**1- Risperidone**

2- Haloperidol

3- Cognitive behavioural therapy

4- Chlorpromazine

5- Fluoxetine

Q4705. Which of the following in a 64-yearold man with diabetes mellitus warrants urgent ophthalmology referral?

1- Background diabetic retinopathy

**2- Vitreous haemorrhage**

3- Cataracts

4- Drusen

5- Non-proliferative changes in the periphery

Q4706. A 40-year-old man with coeliac disease complains of a recurrence of his symptoms. What is the most likely diagnosis?

**1- Intestinal lymphoma**

2- Intestinal lymphangiectasia

3- Bacterial overgrowth

4- Crohn's disease

5- Giardia infection

Q4707. A 29-year-old woman is admitted complaining of intermittent pleuritic chest pain and shortness of breath. She is using the oral contraceptive pill. Other past history of note includes recent separation from a violent man partner and a recent attack of shingles, which has now resolved. On examination her pulse is 74/min and regular, with blood pressure of 124/72 mmHg. Saturations are 98% on air and she does not de-saturate on exercise. Arterial blood gasses reveal: • pH 7.48• pa(O2) 11.1 kPa• pa(CO2) 3.1 kPa• Ddimers are negative• free thyroxine (T4) is 17.1 pmol/l (10-22) • chest X-ray is unremarkable. Which of the following represents the most likely diagnosis in this case?

1- Hyperthyroidism

2- Chronic thrombo-embolic disease

3- Chickenpox pneumonitis

**4- Hyperventilation syndrome**

5- Diffuse interstitial lung disease

Q4708. A 78-year-old man is brought to his GP by his wife. She reports an 18-month history of progressive memory impairment (especially for recent events), worsening apathy and occasional disorientation in previously familiar environments. He scores 21/30 on the Mini-Mental State Examination. His BP is 150/90, and pulse 80 and regular. What is the most likely diagnosis?

**1- Alzheimer's disease**

2- Depression

3- Mild cognitive impairment

4- Lewy-body dementia

5- Vascular dementia

Q4709. A 50-year-man presnts with acute pain and inflammation of his big toe. You suspect a clinical diagnosis of gout. Which of the following drugs would be most likely to be responsible?

1- Spironolactone

2- Losartan

3- Amlodipine

4- Indometacin

**5- Aspirin**

Q4710. A 52-year-old man undergoes Bruceprotocol exercise testing 6 weeks following an uncomplicated inferior myocardial infarction. He was ECHOed prior to his exercise test, where abnormal inferior wall motion was demonstrated. He is currently on aspirin 75 mg od, simvastatin 40 mg od, lisinopril 20 mg od and atenolol 25 mg od. Resting heart rate is 72 bpm and blood pressure is 130/70 mmHg. He achieves 4 minutes 15 seconds, stopping secondary to chest pain and associated ST-segment depression in the inferolateral leads. What would be the next stage in his management?

1- Add diltiazem and review in clinic

2- Arrange a stress echocardiogram

3- Increase atenolol 50 mg od and repeat the exercise test

**4- Refer for coronary angiography**

5- Refer for a myocardial perfusion scan

Q4711. A 16-year-old man presents with acute central abdominal pain and vomiting. On examination, his abdomen was tender but there was no guarding, and bowel sounds were normal. Power was reduced distally in his lower limbs and ankle and knee reflexes were absent. An older sister presented with a similar condition. Blood tests showed: Hb 11 g/dl; Mean corpuscular volume (MCV) 72 fl ; Platelets 170; Blood film Basophilic stippling; Urinary d- ALA (delta-aminolevulinic acid) 100 mmol/24 hrs (normal range 8-53). What is the most likely diagnosis?

1- Arsenic poisoning

**2- Lead poisoning**

3- Acute intermittent porphyria (AIP)

4- Guillain-Barrè syndrome (GBS)

5- Diabetic ketoacidosis (DKA)

Q4712. A 30-year-old man from Somalia attends your clinic with a productive cough. Sputum is smear-positive for tuberculosis. What does this mean?

1- He needs treatment for tuberculosis and his close contacts need screening, but he is not infectious to casual contacts

**2- He needs treatment for tuberculosis, his close contacts need screening and he needs to be isolated from casual contacts**

3- He needs treatment for tuberculosis, but he is not infectious to close or casual contacts

4- He has multidrug-resistant tuberculosis

5- He has HIV-associated tuberculosis

Q4713. A 46-year-male accompanied by his partner came to the clinic. She complained that he has become lethargic, increasingly sleepy in the daytime, has a headache in the morning and some degree of impairment of intellectual ability. He has a BMI of 34, smokes 20 cigarettes per day and about 30 units of alcohol per week. No significant past history and drug history is present. Other than a slightly lower air entry in both lungs, there was no other significant finding on examination. Chest X-ray showed emphysema. Arterial blood gas results were: pH 7.41, pa(O2) 9.8, pa(CO2) 5.8. Which investigation would you next perform to obtain the correct diagnosis?

1- Lung function test

2- Thyroid function test

**3- Polysomnographic studies**

4- Echocardiography

5- CT scan brain

Q4714. A relative of a patient of yours who has metastatic cancer asks your opinion about a new experimental cancer treatment that works by cutting off the tumour blood supply. He is referring to which group of drugs?

**1- Angiogenesis inhibitors**

2- Interferons

3- Monoclonal antibodies

4- Taxanes

5- Matrix metalloproteinase inhibitors

Q4715. A 56-year-old man presents to his GP complaining of lethargy. Routine blood testing reveals hypochromic microcytic anaemia with low ferritin. He has had no symptoms of indigestion or change in bowel habit and there is no medication use of note. Which of the following would be the most appropriate investigation in this patient?

1- Upper gastrointestinal (GI) endoscopy

2- Rigid sigmoidoscopy

3- Computed tomography (CT) scan abdomen

4- Barium enema

**5- Flexible colonoscopy**

Q4716. You are called to the Accident and Emergency Department to see a 25-year-old man who experienced a sudden-onset, severe posterior headache 2 hours previously. He has vomited once and has minimal neck stiffness. He is apyrexial and the neurological examination is entirely normal. There is a family history of a 'burst blood vessel'. An emergency plain CT scan (at 3آ 1/2hours after the onset of symptoms) is normal. Which of the following is likely to be the most helpful next step in reaching a conclusive diagnosis?

1- CSF examination for xanthochromia within the next 2 hours

**2- CSF examination with spectrophotometry for haemoglobin breakdown products in 10 hours' time**

3- Computed venography followed by CSF examination for xanthochromia

4- Cranial MRI with gadolinium contrast enhancement

5- 4-Vessel intracerebral angiography

Q4717. A 45-year-old man is admitted to the hospital with a diagnosis of mycoplasma pneumonia. Which of the following rashes is most likely to occur with this type of pneumonia?

**1- Erythema multiforme**

2- Erythema nodosum

3- Epidermolysis bullosa

4- Pityriasis rosea

5- Urticaria

Q4718. A young computer programmer suddenly develops dysphasia and right-sided weakness. Cardiac examination is normal and he is afebrile. Which investigation would confirm the underlying cardiological diagnosis?

1- Chest X-ray

2- 12-lead ECG

3- 2-D echocardiography

4- Carotid Doppler study

**5- Transoesophageal echocardiogram**

Q4719. You are a locum medical SHO in clinic and are asked to see a parent who is concerned that their 6-year-old child's poor performance at school is due to lead poisoning. Which of the following statements concerning lead toxicity is true?

1- Oral DMSA (2,3-dimercaptosuccinic acid) increases absorption from the gastrointestinal tract

2- Hypercalcaemia is associated with increased bone deposition

3- Lead is rapidly absorbed through the skin

4- Haematological effects are only seen at concentrations above 1000 µg/l

**5- Chronic moderate poisoning (450-600 µg/l)**

Q4720. A 22-year-old student commences chemotherapy for B-type acute lymphoblastic leukaemia. She suffers from vomiting, but 36 h later her condition worsens and her bloods reveal a corrected calcium of 2.0 mmol/l and serum potassium of 6.7 mmol/l. Which of the following options is the best way to avoid this problem from occurring?

1- Pretreatment with furosemide therapy

2- Adequate hydration pre-chemotherapy

3- Allopurinol pre-chemotherapy

**4- Hydration and allopurinol prechemotherapy**

5- Furosemide and allopurinol prechemotherapy

Q4721. A 35-year-old woman is diagnosed with systemic lupus erythematosus. What is the most common finding on blood testing that would be of help in supporting your clinical findings?

1- Anti double-stranded DNA

2- Rheumatoid factor

3- VDRL-positive

**4- Low complement levels**

5- Anticardiolipin antibody

Q4722. A 23-year-old woman presents to her GP after the birth of her second child. She complains of extreme tiredness and a persistent hoarse voice that she is having problems shaking off. Despite breast-feeding her child she is failing to lose her pregnancy weight. Thyroid autoantibodies are negative. Her TSH is 12 mU/l, with a Free T4 of 5 pmol/l. There is no thyroid tenderness on examination. Her GP notes that her pulse is only 52 beats per minute. What diagnosis fits best with this clinical picture?

1- Hashimoto's thyroiditis

**2- Postpartum thyroiditis**

3- Atrophic hypothyroidism

4- Iodine deficiency

5- Hyperthyroidism

Q4723. A 32-year-old woman who is known to be 17 weeks' pregnant presents for review. She has periods of paroxysmal supraventricular tachycardia (SVT) and on this occasion has a ventricular rate of 165/min and a blood pressure of 90/50 mmHg, feeling faint and unwell. Which of the following anti-arrhythmics would be the most appropriate prophylaxis for her?

**1- Flecainide**

2- Amiodarone

3- Digoxin

4- Phenytoin

5- Propafenone

Q4724. A 26-year-old woman with epilepsy and a low IQ presents with flank pain, hypotension and anaemia. A CT scan of her abdomen shows a large haemorrhage into a mass in her right kidney, which is composed primarily of fat. There are two similar lesions (without haemorrhage) in her left kidney. Renal function is normal. What is the underlying condition?

1- Adult polycystic kidney disease

2- Renal-cell carcinoma

**3- Tuberous sclerosis**

4- von Hippel-Lindau disease

5- Xanthogranulomatous pyelonephritis

Q4725. A 40-year-old woman presents with progressive confusion and mild neck stiffness. A CT scan showed basal meningeal enhancement. A lumbar puncture showed an opening pressure of 200 mmH2O, a turbid CSF with 500 leucocytes/ml (90% lymphocytes), a glucose concentration of 1 mmol/l and negative results with Gram, Indian ink and Ziehl-Neelsen stains. What is the best treatment?

**1- Rifampicin + INAH + pyrazinamide + ethambutol**

2- Ceftriaxone

3- Aciclovir

4- Corticosteroids

5- Liposomal amphotericin B

Q4726. In which of the following emergency medical presentations is non-invasive ventilation an established treatment?

1- Tension pneumothorax

2- Acute asthma

**3- Acute exacerbation of COPD with Type 2 respiratory failure**

4- ARDS

5- Pulmonary oedema with hypertension

Q4727. A 37-year-old man is receiving weekly injections for rheumatoid arthritis. He has developed a sore throat and a pruritic rash over his body over the past few days. A full blood count shows microcytic hypochromic anaemia, leucopenia and thrombocytopenia. What is he most likely to have been prescribed?

**1- Gold**

2- D-Penicillamine

3- Infliximab

4- Methotrexate

5- Celecoxib

Q4728. How is tuberculosis most commonly spread?

1- Ingestion of contaminated milk

2- Contamination of skin abrasions in healthcare workers

**3- Inhalation of droplet nuclei**

4- Sexual contact

5- Blood transfusion

Q4729. A 57-year-old man presents with a persistent history of heartburn. He keeps on returning to his GP and eventually she refers him to you. A trial of low-dose PPI and lifestyle measures has failed to alleviate his symptoms. Screening bloods are unremarkable. You arrange an upper GI endoscopy; this reveals an abnormally high junction between the columnar epithelium of the stomach and the oesophageal squamous epithelium, with fronds of columnar epithelium extending up into the oesophagus. You suspect Barrett's oesophagus, which of the following statements is true?

1- He has a 30-50 times increased risk of squamous-cell carcinoma of the oesophagus compared to a non-Barrett's population

**2- He has a 30-50 times increased risk of adenocarcinoma of the oesophagus compared to a non-Barrett's population**

3- He has no increased risk of carcinoma

4- Continuous low-dose PPI therapy is appropriate in this case

5- He has a 30-50 times increased risk of

Q4730. You are reviewing a 52-year-old man who has suffered a myocardial infarction. You suspect occlusion of the posterior descending coronary artery. In this case, which region of myocardium would you expect to be most affected?

1- The right atrium

2- The right ventricle

3- The anterior septum

4- The anterior left ventricular wall

**5- The posterior portion interventricular**

Q4731. An 82-year-old man is admitted with confusion. There is no evidence of acute infection. On examination there is a mass in the lower abdomen above the symphysis pubis. Blood testing reveals a urea of 42.1 mmol/l, creatinine 540 mmol/l and a potassium concentration of 6.7 mmol/l. He is given intravenous calcium and insulin and dextrose. What is the next most appropriate treatment intervention?

**1- Urinary catheterisation**

2- Haemodialysis

3- Urgent renal ultrasound scan

4- Furosemide therapy

5- Intravenous rehydration

Q4732. A 62-year-old man with a heavy smoking history presents with a mass on CXR. Which of the following clinical features might still permit curative surgical resection for bronchial carcinoma?

1- Ipsilateral malignant pleural effusion

2- Invasive superior vena caval (SVC) obstruction

3- FVC <1.2 pre-op

4- Left recurrent laryngeal nerve (RLN) palsy

**5- Hypercalcaemia**

Q4733. A 32-year-old contract spray painter presents to the respiratory clinic for review. His asthma is becoming increasingly difficult to control and he now requires fluticasone 500 mg/day and salmeterol 100 mg/day just to perform reasonable activities of daily living. He reports that the only time he has felt well in recent months is when he spent 3 weeks on holiday at his mother's house at the seaside. Chest X-ray reveals mild hyperinflation, and lung function reveals an obstructive defect. What is the diagnosis that best fits with his symptoms?

1- Simple asthma

**2- Occupational asthma**

3- Bronchiectasis

4- α1-antitrypsin deficiency

5- Pulmonary fibrosis

Q4734. A 35-year-old woman on carbamazepine for epilepsy was found to have Hashimoto's thyroiditis and has been prescribed thyroxine by her GP. She comes back to the clinic a week later complaining of fatigue, depression, weight gain and constipation. Her T3 and T4 levels are found to be low despite the proper intake of medications. What is the most likely cause for her symptoms?

1- Increased binding of thyroxine by thyroxine-binding globulin

2- Interference with intestinal absorption of thyroxine by carbamazepine

3- Adverse reaction of carbamazepine

**4- Increased thyroxine clearance by the action of carbamazepine on liver enzymes**

5- Direct effect of carbamazepine on thyroxine

Q4735. The start of symptomatic food poisoning is the fastest after ingestion of which pathogen?

1- Salmonella enteritis

**2- Staphylococcus aureus**

3- Clostridium botulinum

4- Vibrio cholerae

5- Shigella sonnei

Q4736. A 41-year-old man presents with a 5- year history of recurrent episodes of bloody diarrhoea. He has been diagnosed with ulcerative colitis. Despite regular treatment with adequate doses of sulfasalazine, he has had several exacerbations of his disease and has required several weeks of steroids to control the flare-ups. What is the best next line of treatment for him?

1- Methotrexate

**2- Azathioprine**

3- Ciclosporin

4- Cyclophosphamide

5- Subtotal colectomy

Q4737. A 41-year-old man with a family history of sudden death presents to casualty with a second episode of collapse. On this occasion he is referred to the Cardiology Department for review. Echocardiography reveals asymmetrical septal hypertrophy, abnormal systolic motion of the anterior mitral valve leaflet and narrowing of the left ventricular outflow tract. The 24-h electrocardiogram (ECG) monitoring as an outpatient reveals several periods of nonsustained ventricular tachycardia. Which of the following would be most appropriate for the management of his arrhythmia?

1- Oral flecainide 100 mg daily

2- Oral amiodarone 200 mg tds

3- Oral amiodarone 200 mg daily

**4- Implantable cardioverter defibrillator**

5- Phenytoin 100 mg po daily

Q4738. A 29-year-old woman presents with insomnia, aggressiveness and increased libido. Her husband says that prior to this, she was markedly withdrawn and blamed herself for her daughter's death due to cancer. She now also has suicidal thoughts.In the context of appropriate medical supervision, which drug would be most suitable in this case?

1- Diazepam

2- Fluoxetine

**3- Lithium**

4- Carbamazepine

5- Valproic acid

Q4739. Which of the following is a feature of restriction fragment length polymorphisms (RFLPs)?

1- They utilise restriction exonucleases

2- They are infrequently used in linkage analysis

**3- They may be used to diagnose Huntington's disease**

4- They use Western blotting technique

5- They are used in linkage which involves a

Q4740. A 48-year-old patient with type 2 diabetes visits you in the clinic and has brought with him a printout from the Internet about the Proactive study. He is demanding that he be commenced on pioglitazone 45 mg as it has a benefit with respect to cardiovascular disease. Relative-risk reduction for the combined end-point of death from any cause, non-fatal myocardial infarction (excluding silent) or stroke was 16%, absoluterisk reduction of 2.1% over 3 years. Which of the following fits best with the numbers needed to treat to avoid the combined end-point shown above?

1- 84

**2- 48**

3- 6

4- 2.1

5- 2

Q4741. A 17-year-old young woman with poorly controlled diabetes mellitus presents with a temperature, dehydration and altered consciousness. Her initial biochemistry shows sodium 130 mmol/l, potassium 4.5 mmol/l, bicarbonate 6 mmol/l, urea 11.2 mmol/l, creatinine 135 nmol/l and hydrogen ion 80. What is the most important immediate treatment?

1- Intravenous antibiotics

2- Intravenous bicarbonate

**3- Intravenous fluids**

4- Intravenous insulin

5- Intravenous potassium

Q4742. Your review a 62-year-old woman with osteoarthritis. Which of the following stems is true of osteoarthritis?

1- Defects in collagen Type I genes in familial osteoarthritis (OA)

**2- Defects in collagen Type II genes in familial osteoarthritis (OA)**

3- Commonly distal polyarticular joint involvement

4- Raised ESR

5- Mild hip dysplasia is not associated with

Q4743. A 35-year-old-woman of African origin presents with a 4-month history of increasing swelling over her feet and abdominal distension. She has no history of cough, orthopnoea or breathlessness on exertion. Her heart rate is 98 beats/minute: irregularly irregular. Her JVP is markedly raised and she has pitting lower limb oedema. The heart sounds are soft, and there are no audible murmurs. Abdominal examination reveals hepatomegaly along with ascites. Chest X-ray reveals a normal cardiac size and clear lung fields. A lateral X-ray shows calcification around the heart border. Urinalysis is normal. Her ECG shows a low QRS voltage and lateral T-wave changes. What is the likely diagnosis?

1- Dilated cardiomyopathy

2- Cirrhosis of the liver

**3- Constrictive pericarditis**

4- Restrictive cardiomyopathy

5- Hypertrophic cardiomyopathy

Q4744. A 50-year-old woman presents following a fall. She reports pain and weakness in her hands for several months, stiff legs and swallowing difficulties and has bilateral wasting of the small muscles of her hands. Reflexes in the upper limbs are absent. Tongue fasciculations are present and both legs show increased tone, pyramidal weakness and hyperreflexia with extensor plantars. Pain and temperature sensation is impaired in the upper limbs. What is the most likely diagnosis?

1- Multiple sclerosis

2- Motor neurone disease

**3- Syringobulbia**

4- Syringomyelia

5- Cervical spondylosis

Q4745. A 24-year-old woman is undergoing chemotherapy for acute leukaemia. She is suffering from severe vomiting and you plan to choose an appropriate antiemetic for her. Which of the following would be the most appropriate choice?

1- Metoclopramide im

2- Prochlorperazine im

3- Oral ondansetron

**4- Ondansetron iv**

5- Oral domperidone

Q4746. A 58-year-old woman is admitted to hospital with a history of general muscle weakness of 12 months' duration. She also gives a history of pain in the small joints of her hand of over 18 months' duration. In addition, there is a history of difficulty in swallowing. Examination is normal except for tenderness of her upper arms and swelling of the small joints of her hands. Her ESR is 60 mm in one hour, her haemoglobin is 9.5 g/dl, and mean corpuscular volume (MCV) and mean cell haemoglobin concentration (MCHC) are normal. Serum antinuclear antibodies and rheumatoid factor are positive. Creatine Kinase is also raised. What is the most likely diagnosis?

1- Rheumatoid arthritis

2- Sjögren's syndrome

3- Polymyalgia rheumatica

4- Mixed connective tissue disease

**5- Polymyositis**

Q4747. A 25-year-old sergeant from the army attends the clinic at the request of his camp doctor. Some months ago he returned from a tour of duty in Iraq. While there he was known to have taken part in a bayonet charge in which a number of the enemy were killed. He is haunted by recurrent dreams about the event and is losing interest in his job with the army. His wife reports that he has increased his life-insurance investments and sees no future for himself and has told her to prepare for the worst. He seems devoid of enjoyment or upset at life events and is disinterested in his job. Which of the following diagnoses fits best with this clinical picture?

1- Endogenous depression

2- Reactive depression

3- Hypomania

4- Personality disorder

**5- Posttraumatic stress disorder (PTSD)**

Q4748. Which of the following gives rise to proto-oncogene stimulation, resulting in protein synthesis and causing hypertrophy of cardiac muscle?

1- Propranolol

2- Thyroxine

3- Lidocaine (lignocaine)

**4- Angiotensin II**

5- Cortisol

Q4749. A 45-year-old woman who smokes 30 cigarettes per day is admitted as a cardiac arrest via ambulance from the local city centre. Her husband says that she has recently suffered a chest infection, she is penicillinallergic and has been prescribed erythromycin. Other past medical history is of chronic vaginal candidiasis, for which her husband believes she is taking some antifungal tablets. Given her medication history, which of the following causes of cardiac arrest is more probable?

1- Myocardial infarction

2- Ventricular tachycardia

3- Supraventricular tachycardia

**4- Torsades de pointes ventricular tachycardia**

5- Anaphylaxis to erythromycin

Q4750. A 44-year-old man with coeliac disease presents complaining of pain in his hips and thighs. A hip X-ray shows linear areas of low density surrounded by sclerotic borders. What is the most likely diagnosis?

1- Osteoporosis

**2- Osteomalacia**

3- Paget's disease

4- Enteropathic arthritis

5- Reactive arthritis

Q4751. Which of the following is a feature of the Sézary syndrome?

1- B-cell lymphoma

2- Macrophage disorder

3- Natural killer cell deficiency

4- Neutrophil disease

**5- T-cell malignancy**

Q4752. HIV patients with a CD4 count below 200/ mm3 should receive appropriate prophylaxis against Pneumocystis jiroveci (formerly called Pneumocystis carinii) pneumonia. What is the most appropriate medication?

1- Ampicillin

2- Erythromycin

**3- Co-trimoxazole**

4- Corticosteriods

5- Cefaclor

Q4753. A 35-year-old woman with recently diagnosed primary pulmonary hypertension asks you some questions regarding treatment options. She is awaiting transfer to a specialist centre for right heart catheterisation. Which of the following are true?

**1- She will benefit from taking long-term anticoagulation with warfarin**

2- She will benefit from taking verapamil

3- She will benefit from taking lisinopril

4- She will benefit from taking the oral contraceptive pill

5- She will be able to have children, as long as

Q4754. After initiating lithium therapy when should the plasma level be checked?

1- 12 hours

2- 12-24 hours

3- 24-48 hours

4- 3-5 days

**5- 5-7 days**

Q4755. The presence of galactorrhoea is MOST suggestive of which one of the following conditions?

1- Turner's syndrome

2- Polycystic ovary disease

**3- Hypothyroidism**

4- Sheehan's syndrome

5- Bromocriptine therapy

Q4756. A middle-aged man is rushed in an unconscious state to the A&E department. It is stated that he swallowed a large number of unknown tablets. Investigations reveal: Na+ 137 mmol/l; K+ 3.5 mmol/l; Cl- 96 mmol/l; HCO3- 16 mmol/l; pH 7.25; anion gap 25 mmol/l. What tablets is he most likely to have swallowed?

1- Allopurinol

**2- Aspirin**

3- Indometacin

4- Benzylpenicillin

5- d-Penicillamine

Q4757. A 25-year-old woman is brought to the accident and emergency department after suffering a blackout. She was waiting for the bus when she felt nauseated, dizzy and sweaty. She lost consciousness for 1 minute. A friend says she was pale, had some jerking of her limbs for 10 s, but did not bite her tongue and there was no history of urinary incontinence. She recovered immediately with no confusion or disorientation. Examination is normal. ECG is normal. What further investigations are required to made a diagnosis?

1- CT brain

2- Doppler of carotids

3- EEG

4- MRI brain

**5- No investigations**

Q4758. As medical registrar on call you are summoned to assist with a cardiac arrest on CCU. A 60-year-old man is being resuscitated having presented with unstable angina 3 days before. He has had three unsuccessful shocks for ventricular fibrillation and is receiving his second cycle of cardiopulmonary resuscitation. An anaesthetist is looking after his airway. He has a large-bore iv access in his antecubital fossa. What additional therapy would you consider at this point?

**1- Amiodarone**

2- Bretylium

3- Calcium chloride

4- Lidocaine

5- Sodium bicarbonate

Q4759. You are asked to review a 24-yearold woman who has a history of excessive sunbathing and is worried about her risk of skin cancer. She has been reading about melanin production on the Internet and wants to know about where melanocytes are positioned in the anatomy of the skin. Which of the following best describes the position of melanocytes

**1- Melanocytes are positioned in the basal layer of the epidermis**

2- Melanocytes are positioned in the outer layer of the epidermis

3- Melanocytes are positioned in the dermis

4- Melanocytes are positioned in the midlayers of the epidermis

5- Melanocytes are positioned in the

Q4760. An HIV-positive patient attends A&E with severe right-sided loin pain. An IVU reveals a calculus obstructing the right ureter. Which of his medications is likely to have contributed to this?

1- AZT

**2- Indinavir**

3- Co-trimoxazole

4- Lamivudine

5- Abacavir

Q4761. A 26-year-old teacher presents to A&E with a rash on her lower legs and a blood blister on her tongue. Her last menses, 2 weeks ago, was heavier than usual. Otherwise she is very well and has no past medical history of note. On examination, there are several small blood blisters on her tongue and a fine petechial rash on her lower legs. There are no other abnormal clinical findings. Her Hb is 12.8 g/dl, with normal indices, WCC 8.6 x 109 /L, with a normal differential, and platelets 12 x 109 /L. What would the best immediate management of this patient include?

1- Intravenous immunoglobulin

**2- Oral prednisolone: 1-2 mg/kg (50-100mg daily dose)**

3- Immediate platelet transfusion

4- Transfusion of fresh-frozen plasma

5- All of the above

Q4762. A 28-year-old man presents with acute pancreatitis. He admits to occasionally drinking wine, but not to excess, and there have been no symptoms to suggest gallbladder disease. He suffered a left retinal vein thrombosis 2 years ago. Triglyceride concentration was estimated at 10 mmol/l, with normal HDL and LDL levels. What is the most likely cause of his clinical presentation?

1- Secondary hyperlipidaemia

2- Familial hypercholesterolaemia

**3- Familial hypertriglyceridaemia**

4- Hypolipidaemia

5- Abetalipoproteinaemia

Q4763. A 35-year-old office worker presents with a 5-month history of right-sided abdominal pain, watery but not bloody diarrhoea and one stone weight loss. On examination she is clubbed. Abdominal and rectal examination is unhelpful. Her Hb is 11.1 g/dl, white blood cells (WBC) 9.8 109 /l and Creactive protein (CRP) 15 mg/l (0-10). The most likely diagnosis is?

1- Large bowel Crohn's disease

2- Ulcerative colitis

3- Sub-acute appendicitis

**4- Small bowel Crohn's disease**

5- Irritable bowel syndrome

Q4764. The GP was called to the nursing home to see a 75-year-old man with dementia and severe pruritus. On examination, he had excoriations over his trunk and limbs. There was some scaling over his palms, most prominently in the web spaces. Which is the most likely diagnosis?

1- Iron deficiency anaemia

2- Chronic renal failure

3- Diabetes

**4- Scabies infestation**

5- Atopic eczema

Q4765. A 40-year-old man is admitted with a 5-day history of fevers, abdominal pain and diarrhoea 1 week after returning from a business trip to Rome. He is noted to have a dry cough and a temperature of 40°C. Blood tests show a normal total white cell count with a lymphopenia and his serum Na concentration is 125 mmol/l. A chest X-ray shows some consolidation in the right lower lobe. A presumptive diagnosis is made and the patient started on antibiotics. Which of the following tests would most rapidly confirm the diagnosis?

1- Blood cultures

2- Gram stain on bronchoalveolar lavage

3- Serology

**4- Urinary antigen test**

5- Urine MCS

Q4766. A 42-year-old man presents to his GP with symptoms of lower respiratory tract infection. This fails to clear after 2 weeks of oral antibiotics and unfortunately chest X-ray reveals a suspicious mass in the central region of the right lung. At bronchoscopy the tumour is noted to be particularly vascular. Histology reveals small polygonal cells with a finely granular eosinophilic cytoplasm, and the nuclei are small and round. There is no evidence of tumour metastasis. Which of the following represents the most likely diagnosis in this case?

1- Small-cell carcinoma of the bronchus

**2- Carcinoid tumour of the bronchus**

3- Squamous-cell carcinoma of the bronchus

4- Alveolar carcinoma

5- Adenocarcinoma of the bronchus

Q4767. Which of the following statements applies to the physiology of the normal menstrual cycle?

1- The luteal stage lasts from day 1 to day 14 of the menstrual cycle

2- The follicular stage lasts from day 18 to day 28 of the menstrual cycle

3- Rising levels of progesterone occur during the follicular stage

4- There is a large fall in GnRH just before ovulation

**5- There is a large rise in GnRH just before**

Q4768. A 42-year-old woman with rheumatoid arthritis presents with painful red eyes. On examination, her visual acuity is normal but there is marked dilatation of the deep and superficial scleral vessels. What is she suffering from?

1- Sjögren's syndrome

2- Episcleritis

3- Reiter's syndrome

**4- Scleromalacia**

5- Conjunctivitis

Q4769. A 45-year-old woman with type 2 diabetes presents for review. She currently takes metformin and gliclazide and has an Hb A1c of 6.8%. Blood pressure is 142/82 mmHg on no antihypertensive medication. Total cholesterol is 5.2 mmol/l, but high-density lipoprotein (HDL) level is only 0.8 mmol/l; serum creatinine is 92 mmol/l. Urine microalbumin stix are positive. Which one of the following would be the most appropriate intervention in this case?

1- Stop metformin

2- Stop gliclazide

**3- Start atorvastatin 10 mg daily**

4- Transition to insulin therapy

5- Start bendroflumethiazide 2.5 mg

Q4770. Which one of the following is MOST likely to increase during exercise?

1- Peripheral vascular resistance

2- Pulmonary vascular resistance

**3- Stroke volume**

4- Diastolic pressure

5- Venous compliance

Q4771. A 35-year-old woman, who is receiving fortnightly intramuscular injections for rheumatoid arthritis, presents to her GP with sore throat, cough and tingling and numbness in her hands and feet. Blood tests show pancytopenia. What medication is she most likely to be on for rheumatoid arthritis?

1- Indometacin

2- Methotrexate

**3- Gold**

4- Sulfasalazine

5- Hydroxychloroquine

Q4772. Which one of the following statements with regard to Kaposi's sarcoma (KS) is true?

**1- The incidence of KS in AIDS has been in progressive decline since the early 90s**

2- There is a 400 times increased risk of KS among patients with congenital immune deficiency

3- Respiratory tract disease is regarded as the most common initial manifestation

4- In recent years the incidence of KS in AIDS in heterosexual men has exceeded that in homosexual and bisexual men

5- KS is rarely encountered in organ transplant

Q4773. Pulmonary gas exchange occurs under which of the following physiological principles?

**1- Gas exchange can occur in the final seven branches of the bronchoalveolar tree**

2- The first 12 branches of the bronchial tree are collectively known as the conducting zone

3- The equilibration of gases takes about 2.5 s in the resting lung

4- Only about 0.15% of oxygen is carried in solution in the plasma

5- Carbon dioxide is less water-soluble than

Q4774. A 50-year-old man is admitted following a 1-week history of myalgia, rash, headache and conjunctivitis. He feels increasingly unwell with neck stiffness. On examination Kernig's sign is positive and hepatosplenomegaly is noted. He has a creatinine concentration of 180 µmol/l, ALT 250 IU/l, bilirubin 90 µmol/l and raised inflammatory markers with a neutrophilia. A lumbar puncture confirms meningitis with a CSF lymphocytosis. What is the most likely causative agent?

1- Borrelia burgdorferi

**2- Leptospira ictohaemorrhagica**

3- Mycoplasma spp

4- Treponema pallidum

5- Typhus

Q4775. An 18-year-old man with Marfan's syndrome is reviewed in the cardiology clinic after a screening ECG is found to be abnormal, with left axis deviation and prominent Q waves in I, III, aVF and V3-V6. Which cardiac abnormality is most likely to be found?

**1- Aortic regurgitation**

2- Atrial septal defect

3- Dilated cardiomyopathy

4- Pulmonary regurgitation

5- Persistent ductus arteriosus

Q4776. A 22-year-old man is being treated on the ward for a deep vein thrombosis in his left leg, which occurred after he had been injecting drugs of abuse into his femoral vein. He had been stable on a methadone programme at quite a high dose for 6 months, but he dropped out of this 10 days prior to his admission. The nurses ask you to see him at night because he has abdominal pain and diarrhoea. The only clinical findings on examination are of a swollen left leg and a non-discharging sinus over the femoral vein, the abdomen is soft and rectal examination is normal. What is the most appropriate prescription?

1- Usual dose methadone

2- Low-dose diamorphine

3- Low-dose methadone

**4- Loperamide**

5- Diazepam

Q4777. In performing a lumbar puncture, the operator needs to be familiar with the anatomy involved. Which anatomical feature is relevant to this procedure?

1- In the newborn baby, the spinal cord occupies the full length of the dural sac

2- The dural sac in the adult terminates at the lower end of the sacral canal

**3- The spinal cord in the normal adult terminates anywhere from opposite the body of T12 to the body of L3; however, the commonest level is at the disc space between L1 and L2**

4- The spinal cord in the average male is 12 inches (30 cm) in length

5- The extradural space comprises a thin layer

Q4778. A 30-year-old woman presents to her GP with a history of amenorrhoea and galactorrhoea. She is keen to become pregnant and has been trying for 9 months to conceive without success. She is of normal weight and has no other constitutional symptoms. Which of the following is most likely to be the reason for her symptoms?

1- Drug treatment she is on for asthma

2- Hypothyroidism

3- Hyperthyroidism

4- Previously undiagnosed hepatic impairment

**5- Pituitary microadenoma**

Q4779. A 28-year-old teacher presents with headache, photophobia and neck stiffness following a flu-like illness. Following a dose of intramuscular penicillin, a lumbar puncture is performed. The CSF is clear, with 60 white blood cells/µl (50% lymphocytes), protein 0.8 g/l, glucose 3.5 mmol/l (serum glucose 5.0 mmol/l) and no organisms on the Gram stain. What is the most likely causative organism?

**1- Enterovirus spp**

2- Listeria monocytogenes

3- Mycobacterium tuberculosis

4- Neisseria meningitidis

5- Streptococcus pneumoniae

Q4780. A 55-year-old woman on procainamide develops drug-induced lupus erythematosus. What is the most characteristic clinical feature of this condition?

**1- It may occur with chlorpromazine**

2- It commonly involves the kidneys

3- It rarely causes pulmonary disease

4- The symptoms may be alleviated with longterm steroids

5- It does not occur with isoniazid

Q4781. A 76-year-old patient is admitted to the acute admission unit with septic shock. Pulse is 106 and BP 90/40 mmHg. Urinary catheterisation produces 75 ml of concentrated urine. Which of the following principles applies to the choice of an appropriate intravenous fluid for resuscitation?

**1- Certain intravenous solutions, which would be hypo-osmolar, have dextrose added to ensure they are iso-osmolar**

2- Hartmann's solution contains sodium, potassium, chloride, calcium and bicarbonate

3- An advantage of crystalloid solutions is that relatively small volumes have to be infused to restore an intravascular volume deficit

4- The normal colloid oncotic pressure is 70 mmHg

5- Albumin is indicated

Q4782. A 38-year-old woman is seen in A&E with a history of collapse. She recalls rushing for the bus before feeling faint. Her brother recently died suddenly due to a heart problem. On examination she has a 'jerky' pulse, a thrusting cardiac impulse and a midsystolic murmur. What is the likely diagnosis?

1- Dilated cardiomyopathy

**2- Hypertrophic cardiomyopathy**

3- Mitral valve prolapse

4- Aortic stenosis

5- Pericarditis

Q4783. A 35-year-old woman, who has been on antiepileptic medication for many years, presents complaining of fatigue, lethargy, bone pain, tingling and numbness in her lower limbs and swelling of her gums. Investigations reveal Hb 8.4 g/dl, MCV 106 fl, WCC 7.2 x 109 /L, platelets 170 x 109 /L, alkaline phosphatase 534 IU/l, parathyroid hormone 10.4 pmol/l. Which antiepileptic medication is most likely to cause these problems?

1- Phenobarbital

**2- Phenytoin**

3- Primidone

4- Sodium valproate

5- Carbamazepine

Q4784. A 75-year-old woman, who is a chronic alcoholic, presents with recurrent episodes of a swollen, red-hot right ankle. Aspiration of the joint reveals negatively birefringent crystals. What is the probable diagnosis?

1- Calcium pyrophosphate arthropathy

**2- MSUM arthropathy**

3- Basic calcium phosphate deposition

4- Osteoarthritis

5- Osteoporosis

Q4785. A 24-year-old man is found to have proteinuria on screening for medical insurance. On close questioning he complains of a burning sensation in his hands and feet. Blood pressure is 130/70 mmHg, he has several blanching red papules over his legs and buttocks and his daily urine protein excretion rate is 1.2 g. An ECG reveals left ventricular hypertrophy and first-degree heart block. Audiometry is normal and the family history is negative. What is the most likely cause of the proteinuria?

1- Alport's syndrome

2- Diabetic nephropathy

**3- Fabry's disease**

4- Mesangiocapillary glomerulonephritis

5- Minimal-change disease

Q4786. In a randomised controlled trial to compare two drugs (A and B) for the secondary prevention of myocardial infarction, in the first year there were five deaths in 100 patients treated with drug A and ten deaths in 100 patients treated with drug B. The results are reported as X2 = 1.15, P = 0.28. Which of the following statements is most appropriate?

1- There is a 28% probability that the death rate with drug A is lower at one year than the death rate with drug B

2- There is a 72% probability that the null hypothesis of equal drug effects is true

**3- The null hypothesis of equal drug effects has not been disproved**

4- The two drugs may be considered equivalent

5- A larger trial would have given statistically

Q4787. A 76-year-old man presents to his GP with increasing lumbar spine pain, lethargy and tiredness. Lumbar spine x-ray reveals areas of collapse suspicious of pathological fractures. Laboratory testing reveals anaemia with haemoglobin of 8.5 g/dl and urinary Bence Jones protein is identified. Skeletal survey reveals a number of suspicious areas including the lumbar spine, both femurs and the right humerus. Multiple myeloma is confirmed. Which of the following most accurately represents the median survival prognosis for unselected patients with multiple myeloma?

1- 1 year

2- 2 years

3- 5 years

4- 4 years

**5- 3 years**

Q4788. A 22-year-old man is being treated on the ward for a deep vein thrombosis in his left leg, which occurred after he had been injecting drugs of abuse into his femoral vein. He had been stable on a methadone programme at quite a high dose for 6 months, but he dropped out of this 10 days prior to his admission. The nurses ask you to see him at night because he has abdominal pain and diarrhoea. The only clinical findings on examination are of a swollen left leg and a non-discharging sinus over the femoral vein, the abdomen is soft and rectal examination is normal. What is the most appropriate prescription?

1- Usual dose methadone

2- Low-dose diamorphine

3- Low-dose methadone

**4- Loperamide**

5- Diazepam

Q4789. A 39-year-old woman with a history of manic-depressive disorder visits her GP for review. She is currently treated with lithium therapy. The GP has been monitoring her blood pressure for the last few months, it is 155/105 mmHg in the clinic and he is keen to commence pharmacotherapy. Which one of the following statements best represents the interaction between blood pressure lowering agents and lithium?

1- Bendroflumethiazide leads to decreased lithium concentration

**2- Acetazolamide leads to decreased lithium concentration**

3- Methyldopa leads to decreased neurotoxicity

4- Angiotensin-converting enzyme (ACE) inhibitors lead to decreased lithium concentration

5- Calcium channel blockers lead to decreased

# Chapter 21 2007 September

Q4790. A 23-year-old woman presents to the dermatology department with a 6-month history of unilateral dermatitis of the eyelids. There are no other symptoms of allergy. Her serum IgE is normal. Which of the following is the patient most likely to be allergic to?

1- Egg white

**2- Nail varnish**

3- Dermatophagoides

4- Peanut

5- Mascara

Q4791. A 41-year-old man presents with a 5-year history of recurrent episodes of bloody diarrhoea. Despite regular treatment with adequate doses of sulfasalazine, he has had several exacerbations of his disease and has required several weeks of steroids to control the flare-ups. What is the best next line of treatment for him?

1- Methotrexate

**2- Azathioprine**

3- Ciclosporin

4- Cyclophosphamide

5- Subtotal colectomy

Q4792. A 19-year-old woman presented in autumn with erythematous plaques on the chest and forearm. Which of the following would help with a diagnosis?

1- Antinuclear antibody

2- Porphyria screen

3- Anti-smooth-muscle antibodies

4- Anti-phospholipid antibodies

**5- None of the above**

Q4793. A 52-year-old woman, diagnosed with type-2 diabetes mellitus and losing weight, is referred for an opinion; her GP is thinking about insulin therapy. A normochromic, normocytic anaemia is noted. On examination she has angular stomatitis and a welldemarcated erythematous rash in her groin, which extends to her lower limbs, buttocks and perineum. What is the next step in her management?

1- Refer to nursing colleagues for conversion to insulin

2- Try high-dose sulphonylurea therapy

3- Observe and see again in 6 months

**4- Measure plasma glucagon levels**

5- Measure plasma somatostatin levels

Q4794. In a pulmonary hypertension clinic, a patient asks you about bosentan, they have read on the internet that it is a drug for the management of pulmonary arterial hypertension. Which of the following statements is true concerning the actions and unwanted effects of bosentan?

1- It is a competitive antagonist of the ETA but not ETB receptor

2- Dose-related nephrotoxicity can occur

3- Haemoglobin concentrations rise

4- It is safe for use in pregnancy

**5- Systemic vascular resistance falls**

Q4795. A 55-year-old woman has been complaining of itching (especially in the warmth), headache, dizziness and tiredness for the last 2 years. On examination she is slightly cyanosed and has splenomegaly.The following laboratory parameters are obtained: Hb 18 g/dl; haematocrit 0.58; erythrocytes 6.8 x 1012/l; leucocytes 17 x 109 /L; platelets 395 x 109 /L. What is the most likely diagnosis?

1- Secondary erythrocytosis

**2- Polycythaemia vera**

3- Hairy-cell leukaemia

4- Brain tumour with paraneoplastic ACTH secretion

5- Waldenstrom's macroglobulinaemia

Q4796. What is the most appropriate prophylaxis against bacterial endocarditis in patients with prosthetic heart valves undergoing dental procedures?

1- Amoxycillin

2- Cefaclor

3- Gentamicin

**4- Nothing**

5- Cefuroxime

Q4797. A 65-year-old woman with scleroderma and Reynaud's phenomenon complains of weight loss and has been referred for an opinion. Gastrointestinal associations of progressive systemic sclerosis include which of the following?

**1- Oesophageal stricture**

2- Primary sclerosing cholangitis

3- Abnormal exocrine pancreatic function

4- Diverticula of the large bowel

5- Small-bowel lymphoma

Q4798. A 60-year-old man with unstable angina on long-term digoxin was being monitored on the ward with telemetry when the monitor displayed a tachycardia of 180 bpm. The printout showed discrete normal morphology P waves before each QRS complex and there was an acceleration in the rate after initiation of the arrhythmia. The QRS width was 0.12 s. Which of the following is the most likely arrhythmia?

**1- Automatic supraventricular tachyarrhythmias**

2- AV nodal re-entrant tachycardia

3- Bypass tract-mediated macroentrant tachycardia

4- Intra-atrial re-entry

5- Ventricular tachycardia

Q4799. A 50-year-old Ghanaian man visits Ghana for a funeral having been continuously resident in the UK for 15 years. A week after his return to the UK he develops fevers and a blood test confirms the presence of malaria. The laboratory technician is happy that she can see all stages of the parasite and not just trophozoites and gametocytes. Less than 1% of erythrocytes are parasitised. What is the most appropriate treatment?

1- Erythromycin

2- Quinidine

**3- Chloroquine**

4- Blood transfusion

5- Praziquantel

Q4800. A 47-year-old man attends the outpatient clinic complaining of swelling in the ankles and lethargy. On examination, his blood pressure is 160/90 and he is found to have pitting oedema in both legs. Laboratory investigations reveal: Hb 11.5 g/dl Urea 35 mmol/l Creatinine 275 µmol/l Hepatitis B antigen Positive Anti-nuclear antibodies negative What is the probable diagnosis?

**1- Membranous glomerulonephritis**

2- Hepatitis B infection

3- Acute interstitial nephritis

4- Renal tubular acidosis

5- Systemic lupus erythematosus

Q4801. A 64-year-old man is admitted with a severe haematemesis. Upper GI endoscopy identifies a posterior gastric ulcer. Bleeding is most likely to having occurred from which main vessel?

**1- Splenic artery**

2- Left gastroepiploic artery

3- Inferior pancreaticoduodenal artery

4- Oesophageal branch of the left gastric artery

5- Gastroduodenal branch of the right gastric

Q4802. A 40-year-old man presents with a 5-year history of weakness of his right hand and left foot. There has been a slow progression over the last 2 years. On examination he has a right wrist drop and a left foot drop. Nerve conduction studies and EMG show evidence of motor neuropathy of the right radial nerve and left common peroneal nerve with conduction block. Sensory action potentials are normal. MRI of the whole spine is normal. What is the treatment of choice?

1- Azathioprine

2- Beta-interferon

**3- Immunoglobulins**

4- Prednisolone

5- Riluzole

Q4803. A newborn baby boy has facial deformities and a small-misproportioned head. He is irritable, hypotonic and has severe tremors. What diagnosis, related to antenatal care, would best account for these symptoms?

**1- Fetal alcohol syndrome**

2- AIDS

3- Down's syndrome

4- Microcephalus

5- Hydrocephalus

Q4804. A 44-year-old, diabetic, obese man presents with a painful swollen ankle that has become worse over the past 2 weeks. He gives a history of recent alcohol consumption. Small rhomboid-shaped crystals are seen in the joint aspirate along with numerous neutrophils. An X-ray shows evidence of chondrocalcinosis. What is the most likely diagnosis?

1- Gouty arthritis

2- Osteoarthritis

3- Septic arthritis

4- Charcot's joint

**5- Pseudogout**

Q4805. A 23-year-old woman was referred with abnormal liver biochemistry in the third trimester of pregnancy. Which of the following would suggest pregnancy-related cholestasis as a cause?

**1- Elevated serum bile salts**

2- Elevated urate

3- Hypoalbuminaemia

4- Macrocytosis

5- Thrombocytopenia

Q4806. A 30-year-old woman presents to her GP with a history of amenorrhoea and galactorrhoea. She is keen to become pregnant and has been trying for 9 months to conceive without success. She is of normal weight and has no other constitutional symptoms. Which of the following is most likely to be the reason for her symptoms?

1- Drug treatment she is on for asthma

2- Hypothyroidism

3- Hyperthyroidism

4- Previously undiagnosed hepatic impairment

**5- Pituitary microadenoma**

Q4807. A 50-year-old man had a mechanical aorticvalve replacement for severe aortic stenosis, and was discharged home 10 days later. Two weeks later, he started feeling unwell and had lethargy, nausea and pyrexia of 38.3°C. Echocardiography showed vegetations on the aortic valve. Which of the following is the most likely causative organism?

1- Enterococci

2- Group D streptococci

3- Haemophilus influenzae

**4- Staphylococcus epidermidis**

5- Streptococcus viridans

Q4808. A 52-year-old man is reported to have serious problems in developing social relationships. He is self-centred, arrogant, aggressively violent at times, exaggerates his abilities and fantasises that he is superior to others. His wife has suffered several mental breakdowns related to his selfishness and lack of empathy and remorse. From his medical history, you have ascertained that he is not suffering from any physical illnesses, although his mental health status remains to be investigated. What is the most likely psychiatric diagnosis?

1- Antisocial personality disorder

2- Histrionic personality disorder

3- Schizoid personality disorder

4- Psychopathic personality disorder

**5- Narcissistic personality disorder**

Q4809. Which is the most common malignant neoplasm of the lung?

1- Carcinoid tumour

2- Squamous-cell carcinoma of the bronchus

**3- Metastatic carcinoma**

4- Adenocarcinoma of the bronchus

5- Oat-cell carcinoma

Q4810. An 8-year-old child is admitted to hospital having ingested some of her mother's iron tablets (ferrous fumarate) 4 hours earlier. Her serum iron concentration is 182 µmol/l. Plain abdominal X-ray is unremarkable. What would be the most useful therapeutic measure?

1- Gastric lavage with desferrioxamine

2- Induction of vomiting

**3- Intravenous infusion of desferrioxamine**

4- Oral activated charcoal

5- Whole bowel irrigation

Q4811. A 10-year-old Egyptian boy who has recently immigrated to the UK is found to have hepatitis C infection. He is unsure as to how he could have acquired this disease. His mother died of jaundice 10 years ago. He was treated in Egypt 3 years ago for a bladder infection and the passage of blood in his urine. What is the most likely method of transmission in this case?

1- Contact with the local population

**2- Vertical transmission**

3- Sexual transmission

4- Contaminated drinking water

5- Intramuscular injections

Q4812. A 32-year-old woman attends with her mother. She has always lived at home and never worked. Over the past few weeks she has become increasingly anxious and begs her mother not to leave her on her own at home. Her mother reveals that her daughter has always needed a lot of reassurance and has never liked being left alone. What is the most likely diagnosis?

1- Histrionic personality disorder

2- Depression

3- Conversion disorder

4- Borderline personality disorder

**5- Dependent personality disorder**

Q4813. A 45-year-old woman has a 20-year history of schizophrenia. She has had many relapses requiring admission under the Mental Health Act as she regularly 'forgets' to take her medication. What psychological treatment may help in your management of her?

1- Psychoanalytical psychotherapy

2- Family therapy

3- Interpersonal therapy

**4- Compliance therapy**

5- Exposure therapy

Q4814. A 70-year-old obese man is admitted with a 6- hour history of chest pain. An ECG reveals an inferior wall myocardial infarction. Measurement of which of the following would best confirm the diagnosis?

1- Creatine kinase

2- Creatine kinase MB

**3- Cardiac-specific troponin T**

4- Aspartate aminotransferase

5- Lactate dehydrogenase

Q4815. A 58-year-old woman was admitted with a pulmonary embolism. After 7 days she has developed an arterial thrombosis in her left leg: her thrombocyte count is 40 x 109 /l. What is the most likely diagnosis?

1- Acute adrenal insufficiency

2- Disseminated intravascular coagulation

**3- Heparin-induced thrombocytopenia**

4- Immune thrombocytopenic purpura

5- Thrombotic thrombocytopenic purpura

Q4816. A 24-year-old patient is brought in from the local airport, suspected of being a body packer. Which of following statements is true concerning the management of body packers?

**1- Abdominal X-rays may not show the total number of packages swallowed**

2- Whole-bowel irrigation is contraindicated in management

3- Gastric lavage may be indicated in body packers

4- Patients who are asymptomatic on arrival in Accident and Emergency can be discharged without further investigation

5- Paraffin laxatives are safe in these patients

Q4817. A 69-year-old man has been admitted to the emergency department with syncope. He felt hot, complained of nausea and then fainted. His electrocardiogram (ECG) was normal. His brother suffers from adult onset epilepsy. What is the most appropriate investigation?

1- Electroencephalogram (EEG)

2- 24-h ECG

3- Computed tomography (CT) of the brain

4- Echocardiography

**5- Tilt test**

Q4818. In a cyanosed patient which one of the following statements is accurate?

**1- The paO2 is not normally above 50 mmHg (7 kpascal)**

2- In methaemoglobinaemia the paO2 is never above 50 mmHg (7 kpascal)

3- The expected reduced haemoglobin level is around 3 g/l

4- The blue tinge of the skin and mucous membrane is due to CO2 retention

5- O2 therapy should be avoided as it may

Q4819. Genomic imprinting is seen in which of the following conditions?

1- Neurofibromatosis

**2- Prader-Willi syndrome**

3- Huntington's chorea

4- Hurler's syndrome

5- Marfan's syndrome

Q4820. A 25-year-old man, known to have suffered from type-1 diabetes mellitus for over 10 years, presents with a rash on his shins. The endocrinologist makes a diagnosis of necrobiosis lipoidica. Which of the following best describes necrobiosis lipoidica?

1- It is commonly seen in males

2- It most commonly occurs on the knuckles

3- It is treated with oral steroids

4- It is secondary to a fungal infection

**5- Low-dose aspirin helps healing**

Q4821. A cerebral angiogram is performed on a 37- year-old woman, following a suspected aneurysmal bleed. Which anatomical feature should be considered when interpreting the angiogram?

**1- The middle cerebral artery is the largest single component of the circle of Willis**

2- The posterior cerebral artery is clearly seen on a lateral carotid angiogram

3- The vertebral arteries meet at the foramen magnum to form the basilar artery

4- The middle cerebral artery courses over the lateral aspect of the temporal lobe of the cerebrum

5- The middle meningeal artery is an

Q4822. A 10-year-old boy presented with recurrent convulsions. The convulsions usually occur at night and are confirmed by an eyewitness. Clinically examination revealed 3 café-au-lait spots (5mm diameter) on the lower limbs and 4 on his back. Which of the following would be most helpful in confirming the suspected underlying diagnosis?

1- Computed tomography (CT) brain

2- Genetic testing with protein truncation assay

**3- Slit lamp examination of the eye**

4- EEG

5- Cutaneous biopsy of buttock lesion

Q4823. A 60-year-old woman presents to her general practitioner complaining of tiredness. She is a vague about her symptoms. On examination she is clinically anaemic. There is a history of abdominal surgery some years previously. Some laboratory investigations are carried out, the results of which are as follows: Hb 5.6 g/dl (11.5-16.5), MCV 117 fl (80-96), MCH 31 pg (28-32), MCHC 35 g/dl (32-35), WCC 2.5 x 109 /L (4-11 x 109 ), platelets 132 x 109 /L (150- 400 x 109 ); urea 5.0 mmol/l (2.5-7.5), Na 139 mmol/l (137-144), K 4.0 mmol/l (3.5-4.9), creatinine 65 mmol/l (60-110), AST 25 U/l (1- 31), ALT 41 U/l (5-35), ALP 90 U/l (45-105), bilirubin 35 mmol/l (1-22), LDH 850 U/l (10- 250), serum Vitamin B12 56 ng/l (140-650), serum folate 2.5 m g/l (> 1.8). Which of the following is most likely to be the cause of her macrocytic anaemia?

1- Autoimmune haemolytic anaemia

**2- Ileal resection**

3- Myelodysplastic syndrome

4- Congenital lack of intrinsic factor

5- Sideroblastic anaemia

Q4824. Which of the following statements about prostaglandin synthesis is correct?

1- It is activated by glucocorticoids

2- It is produced by lipoxygenase

3- It is activated by aspirin

**4- It is mediated by cyclooxygenase**

5- It causes vasoconstriction

Q4825. A 78-year-old man presents with sudden onset of the loss of sensation of pain and temperature over his left face and right side of the body. In addition to these sensory abnormalities, there is a left-sided Horner's syndrome. Which blood vessel is most likely to be involved?

1- Basilar artery

2- Left anterior cerebral artery

3- Left middle cerebral artery

4- Left posterior cerebral artery

**5- Left posterior inferior cerebellar artery**

Q4826. An 18-year-old girl presents via her GP who is concerned that she may have an underlying endocrine problem. She is a good student and has just won a place at university. She weighs only 38 kg (6 stone) and is 1.78 m (5 ft 10 inches) tall. She is emaciated, her skin is dry and she has excessive growth of lanugo hair. She has been amenorrhoeic for 9 months. Her cortisol level is elevated, her Free T4 is normal. She has an anaemia and associated reduced white cell and platelet count. Which of the following diagnoses is most likely to fit with this clinical picture?

1- Addison's disease

2- HIV

3- Occult carcinoma

4- Hypothyroidism

**5- Anorexia nervosa**

Q4827. A 72-year-old heavy smoker presents with shortness of breath and haemoptysis. On examination you notice some facial swelling. You suspect a bronchial neoplasm. What other clinical sign would it be particularly important to look for if you were suspecting SVC obstruction?

**1- Venous dilatation over the anterior chest wall**

2- Supraclavicular or cervical lymphadenopathy

3- Finger clubbing

4- Cranial nerve palsy

5- Central cyanosis

Q4828. A 25-year-old woman presents with loss of weight, gritty eyes and double vision on looking up. Which of the following is the most important investigation?

1- CT brain

2- Exophthalmometry

**3- Formal perimetry**

4- Hess chart

5- Schirmer's test

Q4829. A 48-year-old man with a two-year history of ulcerative colitis, has been receiving parenteral nutrition for 4 months. He develops a dermatitis and had noticed some loss of hair. Serum biochemistry shows a marginally raised glucose concentration and a lower alkaline phosphatase activity. Which of the following is the most likely?

1- Chromium deficiency

2- Copper deficiency

3- Magnesium deficiency

4- Selenium deficiency

**5- Zinc deficiency**

Q4830. A 68-year-old man is admitted to hospital for elective femoral angioplasty. On examination, he is found to have widespread lymphadenopathy. Blood is taken for 'group and save'. His cells are not agglutinated by either anti-A or anti-B; his serum does not cause agglutination of cells of blood group A or B. Based on these data, which of the following is most likely to be his genotype?

1- AB

2- AO

3- BB

4- BO

**5- OO**

Q4831. A 32-year-old woman presents with left inguinal and groin pain of 1-week duration that is worse with weight bearing and ambulation. Physical examination reveals full range of motion of the left hip. She walks with a limp. She had previously been treated with aggressive chemotherapy for Hodgkin's disease. An anteroposterior film of the pelvis demonstrates no osseous abnormality. Which of the following tests would be most useful in making the diagnosis?

1- Serum rheumatoid factor

2- Erythrocyte sedimentation rate

**3- Magnetic resonance imaging (MRI) of the left hip**

4- Arthrogram of the left hip

5- Blood alcohol level

Q4832. A 33-year-old HIV-positive man presents for review. He is poorly compliant with antiretroviral therapy and his recent CD4 count is only 90/ml blood. He complains of a gradual-onset headache, fever, malaise, night sweats and a cough associated with haemoptysis. He is emaciated. On examination there is widespread lymphadenopathy, there are crackles and wheeze on auscultation of his chest, and tenderness over the liver edge. Blood testing reveals a normochromic normocytic anaemia, he has a low white count, urea and creatinine levels are raised and liver function tests are abnormal. Sputum samples reveal acid- and alcohol-fast bacilli (AFB). Chest X-ray reveals calcified lymph nodes, cavitation and areas of lung fibrosis and hilar retraction. Which diagnosis fits best with this clinical picture?

1- Primary pulmonary tuberculosis

**2- Miliary tuberculosis**

3- Bacterial pneumonia

4- Pulmonary fibrosis

5- Bronchial carcinoma

Q4833. Where is the chromosomal translocation in acute promyelocytic leukaemia located?

**1- t(15:17)**

2- t(9:22)

3- t(13:18)

4- t(10:19)

5- t(16:18)

Q4834. Which of the following is being used as a prognostic marker in acute myeloblastic leukaemia?

1- Elevated lactate dehydogenase (LDH)

**2- Karyotype of bone marrow**

3- Monocytic morphology

4- The number of blasts in the bone marrow

5- White cell count at diagnosis

Q4835. A junior doctor from Nigeria is being investigated following a needle-stick injury while taking a blood sample from a patient infected with hepatitis B virus, his vaccination status is unknown. Which test will provide the earliest diagnosis of hepatitis B infection in this case?

1- HBeAg

2- IgM anti-HBc

3- Anti-HBeAg

**4- HBsAg**

5- IgG anti-HBc

Q4836. A 50-year-old shopkeeper has plaques on the extensor surfaces of her upper limbs. She complains of pain in her hands. On examination there is a telescoping deformity of both index fingers. The nails show pitting and horizontal ridging. From what is she most probably suffering?

1- Reactive arthritis

2- Systemic lupus erythematosus

3- Rheumatoid arthritis

**4- Arthritis mutilans**

5- Gouty arthritis

Q4837. A 75-year-old woman undergoes total gastrectomy for carcinoma of stomach. With which of the following nutrients is she most likely to require parenteral replacement?

1- Ascorbic acid

2- Folic acid

3- Iron

**4- Vitamin B12**

5- Vitamin D

Q4838. A 69-year-old man presents with a 3-hour history of chest pain. ECG shows an inferior wall infarction with ST elevation of 3 mm. There is no history of diabetes mellitus, injury or previous surgery. Blood pressure is 132/70 mmHg with a pulse of 58/min. Which of the following treatments would be most appropriate?

**1- Tissue plasminogen activator**

2- Aspirin

3- 2b3a inhibitor

4- Heparin

5- Metoprolol

Q4839. A 22-year-old woman was noted by her boyfriend to have multiple episodes of collapse. It occurred six times in a 1-week period, always when the patient was standing. Each time the patient would look pale and collapse abruptly with her eyes closed. After 2 minutes or so, the patient would wake up and would feel weak, remembering a dizzy feeling and a sensation of "vision going black" before collapsing. There was no confusion after the attack and the patient was well between attacks. What is the most likely diagnosis?

1- Atonic epileptic seizure

2- Cardiogenic syncope

**3- Vasovagal syncope**

4- Pseudoseizure

5- Complex partial seizure

Q4840. A 40-year-old woman is admitted with a stroke after a prolonged pyrexial illness. On examination she is in sinus rhythm, has splenomegaly and a pansystolic murmur at the apex. Blood cultures confirm an infective endocarditis. Which of the following is the most common causative organism?

**1- Streptococcus viridans**

2- Staphylococcus aureus

3- Streptococcus bovis

4- Gram-negative bacilli

5- Staphylococcus epidermidis

Q4841. A young woman is admitted to A&E having taken an aspirin overdose. The plasma concentration of salicylate is 550 mg/l (4.0 mmol/l). What clinical feature would most suggest that another drug has been taken in addition to aspirin?

**1- Coma**

2- Hyperventilation

3- Sweating

4- Tinnitus

5- Vomiting

Q4842. A 19-year-old college student presents with violent vomiting, abdominal cramps and watery diarrhoea within 4 hours of having drunk a glass of warm milk in his hall of residence's canteen. Given the likely bacterial infection, which of the following microbiological mechanisms is most likely to be responsible for his symptoms?

1- Toxins formed in the intestine

2- Rapid multiplication of organisms in the gut

**3- Preformed toxins in the milk**

4- Action of toxins directly on the emetic centre

5- Growth of organisms in the milk

Q4843. You are asked to review a 56-year-old man with myocardial infarction who is on the third day of his admission. There is a past history of arthritis for which he uses NSAIDs, but nil else of note. During his admission he had a short period of atrial fibrillation that reverted spontaneously. It has been noted that his urine output is tailing off. His serum creatinine level has risen from 156 mmol/l (60-110) on admission to 195 mmol/l now, and his urea is 12 mmol/l (2.5-7.5). His urine osmolality has been measured at 520 mOsmol/kg (350- 1000), with a low urine sodium at 15 mmol/l. What diagnosis do you suspect?

1- Acute tubular necrosis

**2- Prerenal uraemia**

3- Chronic interstitial nephritis

4- Acute interstitial nephritis

5- Renal artery embolus

Q4844. A patient tells you that her 9-year-old son has recently been prescribed a drug for treatment of his 'hyperactivity'. What is it likely to be?

**1- Methylphenidate**

2- Modafinil

3- Sildenafil

4- Diazepam

5- Fluoxetine

Q4845. A 36-year-old man presents with a headache over his left eye spreading across his forehead. During the headache he develops difficulty speaking. Three minutes later he has developed clumsiness in his right hand, and 2 minutes after that he describes his right leg as 'feeling heavy'. His speech and limb symptoms have disappeared after 20 minutes, but his headache persists for 6 hours. He suffered from migraine as a teenager but has not had an attack in over 15 years. He smokes 25 cigarettes a day. On examination he has a mild left ptosis and a small reactive left pupil, but nothing else is found. What is the most likely diagnosis?

1- Basilar artery aneurysm

2- Internal carotid artery dissection

**3- Migraine**

4- Subarachnoid haemorrhage

5- Vertebral artery dissection

Q4846. A 38-year-old black woman draws your attention to a swelling in her neck, which she noticed 2 days ago. She denies palpitations, diaphoresis and weight loss. There is no pain, hoarseness or dysphagia. Her medical history is notable only for hypertension. Medications include only atenolol 50 mg once daily. On exam, blood pressure is 150/80 mm Hg; pulse is 70. There is a 2 x 1-cm non-tender nodule on the right lobe of the thyroid. No lymphadenopathy is detected. The remainder of the exam is unremarkable. Electrolytes, blood urea nitrogen (BUN), creatinine, liver function tests, calcium, phosphorus and CBC are normal. What would you do next?

1- Arrange a thyroid ultrasound scan

2- Elicit a family history of thyroid cancer

3- Obtain thyroid function tests

4- Perform fine-needle aspiration

**5- All of the above**

Q4847. The stop-start technique (Seman's technique) is used for the treatment of which of the following?

1- Panic disorder

2- Obsessive-compulsive disorder

3- Anxiety

**4- Premature ejaculation**

5- Vaginismus

Q4848. A 31-year-old woman is seen at home by her GP 12 weeks after a successful first pregnancy. She is tearful, has lost her appetite and thinks she no longer has her uterus. There are no features of delirium. She has a history of illicit drug use and her older brother has depression. There are no features to suggest infection and there are no focal neurological signs. What is the likely diagnosis?

1- Maternity blues

**2- Postpartum depression**

3- Drug-induced psychosis

4- Schizophrenia

5- Postpartum psychosis

Q4849. An 81-year-old woman is referred to the thyroid clinic with increasing size of a preexisting goitre. She has had long-standing hypothyroidism and has been on a dose of thyroxine of 100 mg daily for many years. Which of the following primary thyroid cancers is she most likely to have?

1- Anaplastic thyroid cancer

2- Follicular thyroid cancer

3- Medullary thyroid cancer

4- Papillary thyroid cancer

**5- Thyroid lymphoma**

Q4850. An 18-year-old girl presents with a four-day history of cough, headache, fever and joint pains. Blood tests show the presence of raised antibody titres and the presence of cold agglutinins. A diagnosis of Mycoplasma pneumoniae infection is made. Which drug would you prescribe as first line treatment for this patient?

1- Tetracycline

2- Rifampicin

3- Penicillin

**4- Clarithromycin**

5- Co-trimoxazole

Q4851. An 18-year-old girl presents with a four-day history of cough, headache, fever and joint pains. Blood tests show the presence of raised antibody titres and the presence of cold agglutinins. A diagnosis of Mycoplasma pneumoniae infection is made. Which drug would you prescribe as first line treatment for this patient?

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2- Rifampicin

3- Penicillin

**4- Clarithromycin**

5- Co-trimoxazole

Q4852. A 48-year-old woman is admitted with a couple of days' history of fever with rigors and breathlessness. On examination she looks extremely unwell and is confused, cyanosed, has a respiratory rate of 36/min and a systolic blood pressure of 86 mmHg. There is dullness on percussion and bronchial breathing at her right base. The chest radiograph reveals consolidation. Which of the following would be the most appropriate antibiotic regimen to use?

1- Oral amoxicillin

2- Oral amoxicillin and oral clarithromycin

**3- Intravenous cefotaxime and intravenous clarithromycin**

4- Intravenous ceftazidime and intravenous vancomycin

5- Intravenous amoxicillin and intravenous

Q4853. A 65-year-old man with a known history of lung cancer presents with anorexia, malaise and drowsiness. A CT scan shows metastatic lesions in the liver. Laboratory test results are as follows: Hb, 7.8 g/dl; WCC, 11.5 x 109 /L; Ferritin, 5.0 nmol/l; Urea, 27 mmol/l; Creatinine, 377 µmol/l; 24 hour urine protein, 3.8g. A renal biopsy shows focal subepithelial deposition of IgG and C3. A probable diagnosis is:

1- Focal segmental glomerulosclerosis

2- Nodular glomerulosclerosis

3- Microcytic hypochromic anaemia

4- Minimal change glomerulonephropathy

**5- Membranous glomerulonephropathy**

Q4854. A young man presents to the A&E department with an acutely swollen and painful right knee associated with red gritty eyes and dysuria. He has recently returned from Thailand where he had diarrhoea and vomiting for several days. Joint aspiration shows the presence of giant macrophages. No organisms are seen on Gram staining. What could be the diagnosis?

**1- Reiter's syndrome**

2- Behçet's disease

3- Sjögren's syndrome

4- Gonococcal arthritis

5- Septic arthritis

Q4855. A 64-year-old woman presents with a 3- month history of tiredness, fever, weight loss and pain and stiffness in her shoulders and neck. She has now developed a severe headache. Physical examination reveals tenderness over the temporal region. Blood tests: Hb 10.5 g/dl (11.5-16.5), ESR 80 mm/1st hour (0-30). What is the most probable diagnosis?

1- Polymyositis

**2- Temporal arteritis**

3- Neurosarcoidosis

4- Chronic fatigue syndrome

5- Migraine

Q4856. A 45-year-old woman presents with a 4- month history of malaise, weight loss, occasional fever and progressive difficulty in climbing stairs. On examination there is wasting of the pelvic girdle muscles with weakness. Blood test results are unremarkable except for raised anti-Jo-1 antibodies. EMG shows spontaneous fibrillation, high-frequency repetitive potentials and polyphasic potentials on voluntary movements. What is the most likely diagnosis?

1- Polymyalgia rheumatica

2- Osteoarthritis of the hip

3- Fibromyalgia

**4- Polymyositis**

5- Guillain-Barrè syndrome

Q4857. Which serological marker shows vaccination success after hepatitis B immunisation?

1- Hbs antigen

**2- Anti-Hbs antibodies**

3- Anti-Hbe antibodies

4- Anti-Hbc antibodies

5- Hbe antigen

Q4858. A 55-year-old man attends the clinic complaining of increasing pain and weakness of his lower limbs and a purplish rash around his eyes and on his knuckles. Blood tests show a creatinine kinase level of 14,500 IU/l. A chest X-ray reveals a large shadow in the right mid-zone. Which antibody is most strongly associated with this disease?

1- Anti-centromere

**2- Anti-Jo-1**

3- Anti-RNP

4- Anti-Scl-70

5- Anti-dsDNA

Q4859. You review a 67-year-old man who has suffered from severe weight loss over the past few weeks. He also has epigastric pain that radiates to his back. On examination he is jaundiced and you wonder about a mass in the epigastrium. Your laboratory is able to check his tumour marker status, and you find a raised CA-19-9 result. What is the most likely source of his cancer?

1- Lung

2- Liver

3- Stomach

**4- Pancreas**

5- Colon

Q4860. A 35-year-old Asian man is diagnosed as suffering from Plasmodium vivax malaria. Which of the following antimalarials is most likely to be a slow-acting schizonticide?

**1- Pyrimethamine**

2- Artemisinin

3- Mefloquine

4- Quinine

5- Mepacrine

Q4861. A 60-year-old diabetic woman with chronic arthritis has a swollen, red-hot and painful right knee following an intra-articular injection of steroid for pain relief 4 days earlier. What test would confirm the diagnosis?

1- Urgent blood sugar estimation

2- Blood culture

**3- Joint aspiration and culture**

4- Joint aspiration and microscopy under polarised light

5- Serum rheumatoid factor estimation

Q4862. A 33-year-old woman has a melanocytic naevi on her left shin. Which of the following features will not suggest malignant change?

1- Itch

2- Irregularity of surface

3- Increase in pigmentation

**4- Decrease in size**

5- Bleeding

Q4863. A 64-year-old man with long-standing type-2 diabetes, who has recently started on peritoneal dialysis, is admitted with a fractured femoral neck. His serum calcium concentration is 2.9 mmol/l, phosphate is 2 mmol/l and PTH is 5.6 pg/ml (normal range 25-65). Medications include alfacalcidol 0.5 mg daily and calcium carbonate 500 mg three times daily. What would a bone biopsy show?

**1- Adynamic bone disease**

2- Aluminium deposition at the osteoid bone interface

3- An increase in plasma cells

4- Osteitis fibrosa cystica

5- Osteoporosis

Q4864. A patient who suffers from colitis ulcerosa presents with severe active disease. He has more than six bowel motions daily with blood, and has tachycardia, fever and anaemia. His colon is tender on palpation. What is the most appropriate therapy?

1- Loperamide

2- Mesalazine

**3- Prednisolone**

4- Neomycin

5- Vancomycin

Q4865. A previously fit 30-year-old man presents with a two month history of weight loss, tiredness, and nausea. Investigations show (normal range in brackets): Haemoglobin 10.5 g/dl (13.0-18.0) Mean cell volume (MCV) 88 fL (80-96) White cell count 6.0 x 109 /l (4-11) Platelet count 450 x 109 /l (150-400) Serum sodium 130 mmol/l (137-144) Serum potassium 5.7 mmol/l (3.5-4.9) Serum urea 3.0 mmol/l (2.5-7.5) Serum creatinine 78 mmol/l (60-110) Serum total tetra-iodothyronine (T4) 55 nmol/l (50-150) Serum thyroid-stimulating hormone (TSH) 8 mU/l (0.2-5.5) Which of the following is the most useful diagnostic investigation?

1- Antithyroid peroxidase antibody titre

2- Insulin tolerance test

3- Free thyroxine concentration

**4- Short synacthen test**

5- Thyroid-releasing hormone (TRH) test

Q4866. An HIV-positive patient attends clinic. He is on his first antiretroviral regimen, which includes stavudine, DDI and nevirapine. He is well but complains of wasting of his temporal areas and arms with an increase in the size of his abdomen. You do some screening tests, the results of which are shown below: U&E normal; LFT normal; glucose 7.9 mmol/l; amylase 80 U/l; cholesterol 8.8 mmol/l; TGs 12.7 g/l; FBC normal; CD4 count 870 cells/mm3 ; HIV viral load < 50 copies/ml. Which advice is the most appropriate?

1- Stop the antiretroviral therapy and start atorvastatin 40 mg

2- Arrange a glucose tolerance test and start atorvastatin 40 mg

3- Switch the stavudine to abacavir and start atorvastatin 40 mg

4- Switch the nevirapine to nelfinavir and start pravastatin 10 mg

**5- Switch the stavudine to abacavir and start**

Q4867. A patient in intensive care received aminoglycosides and cephalosporins intravenously for 10 days. Shortly after completing this course of treatment he developed watery diarrhoea that was associated with abdominal pain. Now, 2 days later he has fever and bloody diarrhoea (frequency 20 times per day). Which oral therapy would be most appropriate?

1- Erythromycin

2- Amphotericin B

3- Bulk-forming medication

**4- Vancomycin**

5- Prednisolone

Q4868. Which one of the following antihypertensive agents controls the blood pressure by blocking the peripheral a1-adrenoceptor?

1- Losartan

**2- Doxazosin**

3- Minoxidil

4- Methyldopa

5- Clonidine

Q4869. Which one of the following neurological findings is MOST helpful in differentiating subacute combined degeneration of the cord from multiple sclerosis?

1- Bilateral Babinski's sign

**2- Absent ankle jerk**

3- Optic atrophy

4- 'Barber's chair' sign

5- Ataxia

Q4870. A patient with metastatic carcinoma of the breast is admitted for chemotherapy. Her history reveals that she has had several deep vein thromboses in the past as well as a pulmonary embolism when she was younger. Which chemotherapeutic agent should be particularly avoided in her case?

**1- Tamoxifen**

2- Anastrozole

3- Goserelin

4- Letrozole

5- Buserelin

Q4871. A 53-year-old woman with end-stage renal failure develops pulmonary tuberculosis. Which one of the following drugs should be used in a reduced dose?

1- Rifampicin

2- Isoniazid

3- Pyrazinamide

**4- Ethambutol**

5- Pyridoxine

Q4872. A young woman with known systemic lupus erythematosus, complicated by an autoimmune neutropenia, is referred for consideration of her therapeutic options. The initial choice of treatment would have been azathioprine; however, monitoring of the drug therapy is likely to be highly problematic since this patient is neutropenic. A cytotoxic agent selective for lymphocytes is therefore preferable, to circumvent such problems. Which agent best fits her requirements?

**1- Mycophenolate mofetil**

2- Sirolimus

3- Chlorambucil

4- Ciclosporin

5- Thalidomide

Q4873. A 40-year-old man comes to see you because he is worried about his family history of Huntington's disease. His 45-year-old sister is known to be affected and has been given a molecular diagnosis, but neither parent is affected and both have had a normal gene test. What is the most likely reason for this inheritance pattern?

1- Anticipation

2- A new mutation in the sister

**3- Non-paternity**

4- Females are more often affected

5- Non-penetrance in the parents

Q4874. The use of prostaglandin to keep the ductus arteriosus open is necessary in which of the following?

**1- Tricuspid atresia**

2- Atrioventricular septal defect

3- Total anomalous pulmonary venous return with obstruction

4- Aortic stenosis

5- Atrial septal defect

Q4875. A 35-year-old homosexual, known to be HIVseropositive, presents with right-sided weakness and a 2-week history of difficulty with his speech. The CD4 T-lymphocyte count is 50 cells/µl. An MRI scan of the brain demonstrates a large ring-enhancing lesion in the parietofrontal region of the left hemisphere and several small lesions in the right hemisphere. What is the most likely diagnosis?

1- HIV encephalopathy

2- Lymphoma

3- Progressive multifocal leucoencephalopathy (PML)

**4- Toxoplasmosis**

5- Tuberculosis

Q4876. A 21-year-old woman presents to the Emergency department for review, having been referred by her GP. She is opening her bowels to bloody diarrhoea some eight times per day, including at night. She has a resting heart rate of 95 bpm. Her abdomen is bloated but non-tender, albumin is 32 g/l (37-49) and her Hb is 10.4 g/dl (11.5-16.5). She also has a raised plasma viscosity. X-ray reveals that her transverse colon has a diameter of 5 cm. Stool culture has proved negative and her symptoms have now been present for a few weeks. You are considering a diagnosis of ulcerative colitis in this woman. Which of her clinical features would fit best with severe ulcerative colitis?

1- Heart rate of 95 bpm

2- Albumin of 32 g/l

3- Hb of 10.4 g/dl

4- Transverse colon diameter 5 cm

**5- Bowels open eight times/day**

Q4877. An 8-month-old infant is undergoing speech development testing to trace any irregularities at an early stage. She can only make certain sounds, which she always repeats.Following the normal speech development stages, which one of the following terms would best describe her present state of speech development?

**1- Babbling**

2- Echolalia

3- Rhythm speech

4- Irregular speech

5- Telegraphic speech

Q4878. A 38-year-old man presents with an acute anaemia. Hb 72 g/l, haptoglobin < 0.05 g/l, reticulocytes 320 x 109 /L (reference 25-85 x 109 /L). What is the most likely form of the anaemia?

1- Iron deficiency anaemia

**2- Haemolytic anaemia**

3- Aplastic anaemia

4- Pernicious anaemia

5- Folic acid deficiency anaemia

Q4879. An 18-year-old female presents with a 3-day history of progressive weakness and numbness of her legs, urinary retention and back pain some 2 weeks following an upper respiratory infection. On examination there is spastic paraparesis, sensory level up to T5, extensor plantars. Examination of her cranial nerves and upper limbs is normal. MRI of the spine is normal. CSF analysis reveals 50 cells/mm3 , over 90% lymphocytes with normal protein and glucose levels and negative oligoclonal bands. What is the most likely diagnosis?

1- Anterior spinal artery occlusion

2- Guillain-Barrè syndrome

3- Multiple sclerosis

**4- Postinfectious transverse myelitis**

5- Thoracic disc prolapse

Q4880. What is the commonest cause of death in patients with von Hippel-Lindau disease?

1- Cerebellar haemangioblastoma

**2- Renal carcinoma**

3- Retinal tumours

4- Myocardial infarction

5- Phaeochromocytoma

Q4881. A 35-year-old man presented with a 2-day history of diplopia, dysarthria and dysphagia. During the next 24 hours he developed a dry mouth, breathlessness and progressive weakness of his upper and lower limbs initially affecting the proximal muscles. On examination, he has fixed dilated pupils, generalised ophthalmoplegia, dysarthria and bilateral pharyngeal weakness. His cough is weak. He has a global weakness of his upper and lower limbs. Tone is normal, reflexes depressed and plantar responses flexor. Sensation is normal. General medical examination is normal. What is the most likely diagnosis?

**1- Botulism**

2- Guillain-Barrè syndrome

3- Myasthenia gravis

4- Motor neurone disease

5- Poliomyelitis

Q4882. A 34-year-old coronary care nurse accidentally stabs himself with a used needle from a patient infected with the hepatitis C virus. He attends the occupational health department and asks for advice. Which would be the most appropriate next step suggested by the occupational health doctor?

1- Monthly hepatitis C antibody testing

**2- Monthly hepatitis C PCR testing**

3- 6 months' ribavirin therapy

4- 6 months' lamivudine therapy

5- 6 months of weekly interferon therapy

Q4883. A 75-year-old man is referred for total hip replacement. He has a history of hypertension and angina and has suffered a myocardial infarction some 8 years earlier. Current medication includes atenolol 50 mg daily, ramipril 10 mg daily, aspirin 75 mg daily and isosorbide dinitrate 60 mg. Blood pressure at the preoperative assessment was 160/80 mmHg but he maintains that his readings with the general practitioner have been normal. He last had an exercise test some 3 years earlier and managed 8 min with no significant electrocardiogram (ECG) changes. Which one of the following investigations in addition to standard assessment would be most appropriate for the preoperative assessment of this patient?

1- Repeat exercise ECG test

**2- Routine echocardiogram**

3- 99Tcm MIBI SPECT scan

4- Stress ECG

5- Magnetic resonance angiography

Q4884. Which of the following is associated with the correct disease?

1- HLA DR4 - ankylosing spondylitis

2- HLA B27 - Behçet's disease

3- HLA B5 - haemochromatosis

4- HLA A3 - multiple sclerosis

**5- HLA Cw6 - psoriasis**

Q4885. A 30-year-old woman, back from a trip to Thailand, presents with sunburn on her back. What is the main type of damage caused by excessive ultraviolet radiation on cells?

1- Inhibition of DNA synthesis

**2- Formation of pyrimidine dimers**

3- Ionisation

4- DNA fragmentation

5- Inhibition of synthesis of DNA polymerase

Q4886. Which one of the following is associated with hyperkalaemia?

1- Bartter's syndrome

2- Treatment with corticosteroids

3- Liquorice addiction

4- Liddle's syndrome

**5- Ciclosporin**

Q4887. A 55-year-old mechanic presents with a 4- week history of tenesmus and rectal bleeding. His bowel habit has not significantly changed. Rectal examination reveals a granular mucosa and a sigmoidoscopy reveals touch bleeding on a background of diffuse erythema. Above 10 cm, the mucosa appears to be normal. Rectal biopsies show generalised mucosal inflammation with crypt abscesses. The most appropriate initial therapy is?

1- Oral prednisolone

2- Oral mesalazine

3- Oral sulfasalazine

4- Rectal steroids

**5- Rectal mesalazine**

Q4888. Which of the following is a characteristic clinical finding of opioid poisoning?

1- Pupillary dilatation

2- Hypothermia

3- Deep respiration

**4- Bradycardia**

5- Sweating and lacrimation

Q4889. A 35-year-old woman who was previously fit and well presents with breathlessness that has been getting worse over 3 or 4 months. Her sister died a few years ago with a lung disease. On examination, her jugular venous pressure is raised and she has a palpable heave at the left sternal edge. What would be your provisional diagnosis?

**1- Familial primary pulmonary hypertension**

2- Tricuspid regurgitation

3- Chronic pulmonary thromboembolism

4- Constrictive pericarditis

5- Pulmonary venous hypertension

Q4890. A 17-year-old, non-pregnant, asymptomatic woman with no past medical history is found to have 106 colony-forming units of Escherichia coli/ml urine on a routine healthcheck. What is the most appropriate management?

1- Treat with oral co-trimoxazole for 10 days

2- Treat with a single dose of oral trimethroprim

3- Investigate her renal tract

4- Treat with an intravenous antibiotic

**5- No antibiotics are indicated**

# Chapter 22 2008 January

Q4891. A 32-year-old woman presents to the Emergency department with jaundice. She has been taking a 2 week course of antibiotics prescribed by her doctor for recurrent urinary tract infection, but can’t remember their name. On examination she is apyrexial, her BP is 132/78 mmHg, her BMI is 24, and she has jaundiced sclerae. There is no tenderness on abdominal examination. Investigations Hb 13.1 g/dl WCC 5.1 x 109 /L PLT 221 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 100 μmol/l ALT 82U/l Alk P 394 U/l Bilirubin 160 μmol/l Which of the following antibiotics is most commonly associated with this blood picture?

1- Trimethoprim

**2- Co-amoxiclav**

3- Rifampicin

4- Ciprofloxacin

5- Erythromycin

Q4892. A 60-year-old diabetes patient dies during haemodialysis. Apparently the nurses went to make him a piece of toast, and when they returned he had suffered a cardiac arrest. The said that he felt clammy and a little nauseous and had assumed that he was suffering from hypoglycaemia. Investigations (taken predialysis) Hb 10.8 g/dl WCC 5.8 x 109 /L PLT 210 x 109 /L Na+ 139 mmol/l K+ 5.6 mmol/l Creatinine760 μmol/l Which of the following is the most likely cause of death?

1- Cardiomyopathy

**2- Coronary artery disease**

3- Hyperkalaemia

4- Cerebrovascular disease

5- Hypoglycaemia

Q4893. A 19-year-old female gymnast presents with complaints of headache and fatigue. She has had no significant previous medical history, but has been amenorrhoeic for the past 4 months. On examination her BP is 110/70 mmHg and pulse is 55/min. Her BMI is 16. Investigations Hb 11.5 g/dl WCC 5.2 x 109 /L PLT 156 x 109 /L Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 72 μmol/l The GP requests you to assess her hormone levels. Which of the following hormone panel do you expect to be most elevated?

**1- Cortisol**

2- GH

3- LH

4- Prolactin

5- Thyroid

Q4894. A 62-year-old woman comes to see you. She is suffering from terrible paroxysms of stabbing and burning pain which feel like someone stabbing a hot knife into her cheek, each time they occur lasting for 1-2 minutes. The attacks always occur on the left, can come at any time without warning and when they occur they tend to recur over the course of a couple of the day. Occasionally they can be triggered by a cold wind or by washing the face. Neurological examination is completely normal. Investigations Hb 12.0 g/dl WCC 5.1 x 109 /L PLT 191 x 109 /L ESR 12 mm/hr Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 105 μmol/l Which of the following is the best prophylaxis against further attacks?

**1- Carbamazepine**

2- Amitryptiline

3- Baclofen

4- Diazepam

5- Sertraline

Q4895. A 59-year-old patient who is a known hypertensive presents with confusion, blurred vision, vomiting and a severe headache. You understand from his wife that he fell in the shower at the weekend and knocked his head. On examination he is conscious although confused, there are no focal cranial nerve deficits and no peripheral sensory or motor deficits. His BP is markedly elevated at 175/115 mmHg. He looks short of breath and there are bibasal crackles consistent with heart failure on auscultation of the chest. Investigations Hb 13.5 g/dl WCC 5.0 x 109 /L PLT 190 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 185 μmol/l Fundoscopy - Severe hypertensive retinopathy with haemorrhages and papilloedema What is the most likely cause of his symptoms?

1- Viral encephalopathy

2- Subdural haematoma

3- Subarachnoid haemorrhage

4- Diabetic retinopathy

**5- Hypertensive encephalopathy**

Q4896. A right handed 70-year-old male patient presents with sudden weakness in the right arm and right leg with right hemisensory loss and aphasia. He has a history of hypertension for which he takes ramipril 10mg and he smokes 20 cigarettes per day. What is the most likely site of the lesion?

1- Posterior cerebral artery

2- Anterior cerebral artery

**3- Middle cerebral artery**

4- Posterior inferior cerebral artery

5- Vertebral artery

Q4897. A 60-year-old man comes to the clinic. He has had worsening dysphagia for the past 6 months, first for solids such as toast, but he is now having increasing difficulty even swallowing soup. He has lost approximately 6kg in weight over the past 2 months. He smokes 20 cigarettes per day, drinks 2 glasses of whisky each evening, and has been treated for a hiatus hernia with omeprazole for 6 years, but in practice has suffered indigestion for nearly 20 years. Investigations Hb 10.9 g/dl WCC 5.4 x 109 /L PLT 180 x 109 /L ESR 42 mm/hr Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 130 μmol/l CXRFluid level behind the heart What is the most likely diagnosis?

1- Achalasia

**2- Oesophageal carcinoma**

3- Oesophageal diverticulum

4- Pharyngeal pouch

5- Rolling hiatus hernia

Q4898. A patient with hereditary elliptocytosis will be undergoing an elective splenectomy. He has enlarged tender spleen on abdominal examination. When should this patient receive conjugate pneumococcal vaccination?

1- 1 week before operation

2- 1 month before operation

**3- 2 weeks before operation**

4- 1 month after operation

5- Postoperatively

Q4899. A 70-year-old woman with a history of rheumatoid arthritis comes to the clinic for review. Most recently she has been suffering from increased shortness of breath. She takes diclofenac and methotrexate for her arthritis. Other history of note includes smoking of 10 cigarettes per day. On examination her BP is 145/82 mmHg, she is mildly clubbed. On auscultation there are inspiratory crackles throughout both lung fields. Investigations Hb 12.2 g/dl WCC 5.6 x 109 /L PLT 200 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 139 μmol/l Anti-GBM antibody negative FEV1 84% FVC 81% KCO reduced pO2 7.8 kPa pCO2 3.5 kPa What is the most likely diagnosis?

1- Asthma

2- COPD

**3- Methotrexate pneumonitis**

4- PE

5- Haemorrhage

Q4900. A 49-year-old patient with a history of previous surgery for a bleeding duodenal ulcer and recurrences on omeprazole therapy comes to the clinic. You review his results, including a gastrin level. Investigations Hb 11.2 g/dl WCC 5.3 x 109 /L PLT 145 x 109 /L Na+ 139 mmol/l K+ 4.8 mmol/l Creatinine 105 μmol/l ALT 54 U/l Gastrin 128 (High) Which of the following statements is true concerning gastrin?

1- It is secreted by the parietal cells in the stomach

2- It is inhibited by pancreatic bicarbonate

3- It is produced from A pancreatic A cells

4- It is produced from B pancreatic B cells

**5- Release is triggered by GI luminal peptides**

Q4901. A 42-year-old gay man comes to the clinic with a skin rash. He has multiple pink/red maculo-papular lesions on his skin, they range in size from a few mm across to 2-3 cm, and involve the oral mucosa as well. You suspect that it may be Kaposi’s sarcomaKaposi's sarcoma is associated with which virus?

**1- Human Herpes Virus 8 (HHV8)**

2- Epstein Barr virus (EBV)

3- Human Herpes Virus 6 (HHV6)

4- Human T-lymphotropic virus (HTLV)

5- Human papillomavirus (HPV)

Q4902. A 24-year-old female patient brought to see you by her husband as she is pre-occupied and refuses to go outside for the last 6 weeks, stating that she is afraid of catching avian flu, saying that she knows that is likely because of all of the migrating birds outside her house. It is her husband's socks on the washing line that can save her/have alerted her to this(!), as the order they are arranged in determines a signal which is transmitted to scare the birds away. Her past medical history is unremarkable; she drinks only 4 glasses of wine per week, and is a non-smoker. She admits to marijuana use during her teenage years. Investigations Hb 13.0 g/dl WCC 5.7 x 109 /L PLT 191 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 100 μmol/l ALT 35 U/l TSH 1.2 U/l What is the most likely diagnosis?

**1- Acute paranoid schizophrenia**

2- Phobic disorder

3- Manic depression

4- Alcoholism

5- Delirium

Q4903. A 52-year-old woman comes for review. She has a symmetrical small joint polyarthritis affecting predominantly the proximal interphalangeal joints, both knees and ankles. Her pain is predominantly worst in the morning when she also has significant stiffness. Investigations Hb 12.1 g/dl WCC 5.2 x 109 /L PLT 190 x 109 /L Na+ 139 mmol/l K+ 5.0 mmol/l Creatinine 105 μmol/l Rheumatoid factor +++ What x-ray changes would you expect to see on views of the hands?

1- Osteophyte formation

**2- Periarticular osteopaenia around the PIP joints**

3- Periarticular sclerosis around the DIP joints

4- Cyst formation in the distal portion of the phalanges

5- Carpal bone micro fractures

Q4904. A 60-year-old man who was previously thought to have essential hypertension is referred to the clinic. His blood pressure control has deteriorated, after previously having been well controlled on 3 agents, amlodipine 10mg, indapamide 1.5mg, and ramipril 5mg. On examination his BP is 150/98 mmHg. There is a left carotid bruit. Investigations Hb 11.9 g/dl WCC 5.4 x 109 /L PLT 201 x 109 /L Na+ 139 mmol/l K+ 5.2 mmol/l Creatinine 182 µmol/l (149 µmol/l some 6 months earlier) Urinalysis negative for both protein and blood Which of the following is the most likely cause?

1- Conn’s syndrome

**2- Renovascular disease**

3- Membranous nephropathy

4- IgA nephropathy

5- Coarctation

Q4905. A 61-year-old patient who suffered a humeral fracture after falling off a ladder presents for review after being in a cast for the past 8 weeks. He presents with weakness in the deltoid, and sensory loss over the deltoid region. Which of the following is the most likely underlying lesion?

1- Brachial plexus injury

**2- Axillary nerve injury**

3- Radial nerve injury

4- Ulnar nerve injury

5- Neuralgic amyotrophy

Q4906. A 61-year-old patient who suffered a humeral fracture after falling off a ladder presents for review after being in a cast for the past 8 weeks. He presents with weakness in the deltoid, and sensory loss over the deltoid region. Which of the following is the most likely underlying lesion?

1- Brachial plexus injury

**2- Axillary nerve injury**

3- Radial nerve injury

4- Ulnar nerve injury

5- Neuralgic amyotrophy

Q4907. A 70-year-old woman with a history of rheumatoid arthritis comes to the Emergency room with sudden painful loss of vision in her left eye. There is also a history of hypertension which is managed with ramipril 10mg daily and amlodipine 5mg, and Type 2 diabetes controlled with metformin. She is taking prednisolone and hydroxychloroquine for her rheumatoid. Additionally she takes amitriptyline for depression. On examination her BP is 152/92 mmHg, there is increased intraocular pressure, more marked in the left eye than the right, and bilateral optic disc cupping on fundoscopy. Both pupils look partially dilated. Which of the following drugs is the most likely cause?

1- Hydroxychloroquine

2- Metformin

3- Prednisolone

4- Ramipril

**5- Amitriptyline**

Q4908. You review a 58-year-old patient with type I diabetes that has been given a 5 unit transfusion of blood in response to an upper GI bleed some 2 weeks earlier. You examine his home blood glucose monitoring diary and see that he appears to have a problem with hypoglycaemia in the late afternoon, but is running high on his morning fasting sugars. You want to refer to an HbA1c to see what is happening over time. How long will you wait until you next check this patient's HbA1C level?

1- 2 months

2- 3 months

3- 4 months

4- 5 months

**5- 6 months**

Q4909. A 19-year-old student comes to see the GP after developing some chicken pox spots. He has not been exposed as a child and has recently been taking prednisolone for an exacerbation of asthma. The steroids are stopped and he is discharged home, told to rest and take paracetamol. 2 days later he returns. He is pyrexial 38.2oC, and is markedly short of breath with a cough. Auscultation of the chest reveals bronchial breathing. Investigations Hb 12.4 g/dl WCC 11.2 x 109 /L PLT 240 x 109 /L Na+ 139 mmol/l K+ 5.0 mmol/l Creatinine 120 μmol/l pO2 7.6 kPa pCO2 3.2 kPa Which of the following is the most appropriate therapy for his infection?

1- Oral flucloxacillin

**2- IV aciclovir**

3- PO aciclovir

4- PO steroids

5- Co-amoxiclav

Q4910. A 45-year-old woman comes to the clinic complaining of skin thickening on her hands, wth subcutaneous calcinosis, and leathery skin elsewhere. She also feels that her fingers feel particularly cold and very painful when she goes out, even to the extent that she has taken to wearing gloves in the summer. She also suffers from reflux oesophagitis and was started by her GP on omeprazole a few months earlier. On examination her BP is 155/90 mmHg, she has sclerodactyly and calcification in her hands, and you notice multiple telangiectasia. Investigations Hb 11.0 g/dl WCC 8.2 x 109 /L PLT 142 x 109 /L Anti centromere antibody positive Na+ 139 mmol/l K+ 5.0 mmol/l Creatinine 162 μmol/l Which of the following is the most likely cause of mortality related to her underlying disease?

1- Bronchial carcinoma

2- Inflammatory lung disease

**3- Chronic renal failure**

4- GI bleeding

5- Oesophageal carcinoma

Q4911. A 74-year-old man presents to the clinic complaining of increased shortness of breath. He has smoked 40 cigarettes per day for the past 30 years. Medications include diclofenac and paracetamol for joint pain. He comes to the clinic with a CXR from his GP which shows a spiculated left hilar mass. What would be the expected respiratory findings over the abnormal area?

1- Monophonic wheeze

2- Hyper-resonance

**3- Whispering pectoriloquy**

4- Polyphonic wheeze

5- Inspiratory crackles

Q4912. A patient is admitted to the ward with multiple fractures having fallen while climbing a wall after running from police. One week later he is suffering from nasal discharge, hypersalivation and irritability. He also has diarrhoea and has vomited twice since admission. Investigations Hb 11.0 g/dl WCC 5.0 x 109 /L PLT 105 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 120 μmol/l ALT 85 U/l Which of the following agents do you suspect him of having abused?

1- Amphetamine

2- Cocaine

**3- Heroin**

4- Codeine

5- Alcohol

Q4913. A 32-year-old woman comes to the neurology clinic for review with a diagnosis of complex partial seizures. She has had intolerable side effects previously with carbamazepine and sodium valproate and may wish to start a family with her new partner. Which of the following would be the most appropriate next option for her?

**1- Lamotrigine**

2- Levatiracetam

3- Phenobarbitone

4- Topiramate

5- Gabapentin

Q4914. You review a young man with hypocalcaemia and notice on review of his hands that he has a shortened fourth and fifth digit on each hand. You wonder if he may have pseudohypoparathyroidism, caused by a Gprotein abnormality. Which of the following best describes the location of G-proteins?

1- In the nucleus

2- In the nuclear membrane

3- In the nucleolus

**4- In the cytoplasm**

5- In the cell membrane

Q4915. A 19-year-old lady who has a history of paracetamol overdose on three occasions presents with a rash on her arm that developed overnight. On examination the rash is linear and erythematous. Investigations Hb 12.1 g/dl WCC 5.0 x 109 /L PLT 200 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 100 μmol/l ESR 10 mm/hr What is most likely diagnosis?

**1- Dermatitis artefacta**

2- Impetigo

3- Pityriasis versicolor

4- Contact dermatitis

5- Psoriasis

Q4916. A 61-year-old man comes to the clinic for a check up some 6 weeks after his inferior myocardial infarction. Current medication includes ramipril, bisoprolol, aspirin and simvastatin. He asks for advice about when the best time is to take his simvastatin. When is the best time for simvastatin to be taken?

1- After breakfast

2- After evening meal

**3- Last thing at night**

4- First thing in the morning

5- Just before evening meal

Q4917. A 30-year-old woman was started on carbamazepine for partial complex seizures and was also advised to discontinue her moderate alcohol consumption. Therapeutic concentrations of carbamazepine were achieved within four days with a dose of 200 mg daily, but the dose needed to be increased to 400 mg daily within two weeks to achieve a therapeutic plasma concentration. Which one of the following is likely to account for this observation?

**1- Auto-induction of carbamazepine metabolism**

2- Auto-inhibition of carbamazepine metabolism

3- Cessation of alcohol intake

4- Concomitant prescription of the oral contraceptive pill

5- Reduced bioavailability of carbamazepine

Q4918. A 38-year-old patient with a history of asthma presents with weakness of right hand and plantar flexion of his left foot. His asthma is managed with salmeterol fluticasone combination inhaler. On examination his BP is 152/91 mmHg. He has polyphonic wheeze on auscultation of the chest. Investigations Hb 13.2 g/dl WCC 8.2 x 109 /L (raised eosinophils) PLT 180 x 109 /L Na+ 139 mmol/l K+ 4.3 mmol/l Creatinine 149 μmol/l Urine dipstick blood +, protein + Which of the following is the most appropriate autoantibody to test for?

**1- p-ANCA**

2- ANA

3- c-ANCA

4- Anti-ds DNA

5- Anti-SM antibody

Q4919. A 19-year-old patient who is recently moved to the area is admitted to the Emergency ward with multiple epileptic seizures. His epilepsy settles and he is discharged, but you note some abnormal findings on examination including an elevated BP of 149/92 mmHg, some hypopigmented patches on his face, and periungual fibromas. You send him for some investigations Hb 12.4 g/dl WCC 4.9 x 109 /L PLT 302 x 109 /L Na+ 140 mmol/l K+ 4.5 mmol/l Creatinine 130 μmol/l Urine dipstick blood + Renal ultrasound Bilateral renal cysts What is the most likely diagnosis?

1- Von Hippel Lindau disease

2- Neurofibromatosis

3- Polycystic kidney disease

**4- Tuberous sclerosis**

5- MEN 2

Q4920. A 16-year-old woman with Addison's disease is intolerant of her hydrocortisone treatment, which she takes at a dose of 20 mg in the morning and 5 mg in the evening. Which of the following doses of prednisolone would provide an equivalent daily dose to her hydrocortisone?

1- 1 mg

**2- 7.5 mg**

3- 10 mg

4- 12.5 mg

5- 15 mg

Q4921. A 32-year-old man presents to the clinic with shortness of breath, which is particularly bad when he goes jogging. He has recently increased his exercise to try and reduce his weight. On a couple of occasions he has also noticed some chest discomfort which has caused him to stop exercising. On examination his BP is 150/88 mmHg, and he has a double apical impulse. On auscultation there is a harsh mid systolic murmur which is loudest between the apex and the left sternal border. Investigations; Hb 13.0 g/dl WCC 4.8 x 109 /L PLT 199 x 109 /L Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 100 μmol/l ECG LVH and wide spread Q waves Which of the following is most directly correlated with increased risk of sudden death?

1- Increased left ventricular outflow tract gradient

2- Presence of mitral regurgitation

**3- Degree of left ventricular hypertrophy**

4- Asymmetrical septal hypertrophy

5- Systolic anterior motion

Q4922. You see a teenage girl who presents to you from a summer children's party. She says that she had helped to blow up balloons at the party. She has wheezing, angiodema and lip swelling, urticaria and rash. What is the most likely diagnosis?

**1- Latex allergy**

2- Peanut allergy

3- Allergic contact dermatitis

4- C1-esterase deficiency

5- Wasp sting allergy

Q4923. A 25-year-old man presents with bilateral ankle pain and swelling. He has red raised lesions on both his shins. He is usually fit and well, and works as a lawyer. The only history of note is a pharyngitis which preceded the symptoms. Investigations Hb 11.5 g/dl WCC 6.4 x 109 /L PLT 176 x 109 /L ESR48 mm/hr Na+ 139 mmol/l K+ 4.2 mmol/l Creatinine 110 μmol/l Which of the following is the most likely clinical outcome?

**1- Spontaneous resolution**

2- He is likely to develop bilateral sacroiliitis

3- He is likely to develop Inflammatory bowel disease

4- He is likely to develop enteropathy

5- He is likely to develop signs of tuberculosis

Q4924. A 24-year-old woman came to the GU clinic complaining of urethral discharge. She admitted to three episodes of unprotected sex with different male partners over the past 3 months. Investigations;Microbiology samples - Gram negative diplococci visualisedShe was treated with cephalosporin but no resolution of symptoms was apparent. With which of the following is there likely to be co-infection?

1- Candida spp

**2- Chlamydia trachomatis**

3- HSV

4- Syphilis

5- Trichomonas vaginalis

Q4925. Glucokinase exists in brain, pancreas and liver, and responds differently in different locations. In the brain, response is governed merely by different glucose levels, while in liver glucokinase activity increases after meals. Downregulation of glucokinase activity in the liver is an example of which of the following?

1- Affinity

2- Specificity

3- Co-activation

4- Stereoisomerism

**5- Co-repression**

Q4926. A 68-year-old man who is on a stable dose of warfarin therapy for an artificial aortic valve replacement comes to the Emergency room. He has redness, swelling and pain over the 1st MTP joint of his right foot. On examination has appears to have acute gout. Investigations Hb 11.9 g/dl WCC 5.2 x 109 /L PLT 229 x 109 /L Na+ 140 mmol/l K+ 4.5 mmol/l Cr 145 μmol/l INR 2.9 Which of the following is the most appropriate treatment for his gout?

**1- Prednisolone**

2- Colchicine

3- Diclofenac

4- Allopurinol

5- Indometacin

Q4927. You see a 40-year-old patient with Crohn's disease who has been suffering diarrhoea >6 times/day which is unresponsive to steroids and mesalazine (which he has been taking for 3 weeks). Investigations Hb 10.4 g/dl WCC 12.1 x 109 /L PLT 380 x 109 /L Na+ 139 mmol/l K+ 4.0 mmol/l Creatinine 150 μmol/l Albumin 30 g/l ESR 65 mm/hr What is the most appropriate next treatment?

**1- Azathioprine**

2- Infliximab

3- Methotrexate

4- Surgery

5- Cyclophosphamide

Q4928. A 44-year-old male patient has returned from running his bar in Spain to the UK to seek medical advice. He is worried as he has been suffering from joint pains, is up 2 or 3 times in the night to pass urine and thirsty all the time, and is unable to maintain his erection. He has a history of hypertension for which he takes ramipril 10mg daily. On examination he looks well and is very suntanned, has a BP of 145/88 mmHg and is obese with a BMI of 32. There is seems to be a slight reduction in secondary body hair. You also notice some spider naevi on close examination of the skin. Investigations Hb 14.1 g/dl WCC 4.5 x 109 /L PLT 245 x 109 /L Na+ 139 mmol/l K+ 5.0 mmol/l Creatinine 145 μmol/l ALT90 U/l Alk P185 U/l Which of the following would be the investigation of choice?

1- Blood glucose

2- Serum ferritin

**3- Transferrin saturation**

4- Caeruloplasmin

5- Urinary copper excretion

Q4929. A 17-year-old young woman is admitted to A&E having collapsed at a rave. She is in a shocked state and unable to give a coherent history, but is found to have a card in her purse that indicates that she is on steroids for adrenal failure. A clinical diagnosis of an addisonian crisis is made and a blood sample is taken for cortisol measurement. Finger prick glucose testing reveals a BM of 3.4 mmol/l. Which of the following should be given the most priority in her management?

1- Intravenous glucose infusion

2- Parenteral administration of hydrocortisone

3- Replacement of mineralocorticoid

**4- Resuscitation with intravenous physiological saline and hydrocortisone**

5- Treatment of any precipitating factor

Q4930. A young boy has his second episode of Neisseria meningitis. You suspect he may have complement deficiency. Which of the following deficient complement factors is particularly associated with Neisseria infection?

1- C1

2- C2

3- C3

4- C4

**5- C5**

Q4931. A lady presents with amenorrhoea and galactorrhoea. She has normal visual fields. You are concerned that she may have a prolactinoma. Investigations Hb 12.5 g/dl WCC 4.9 x 109 /L PLT 199 x 109 /L Na+ 140 mmol/l K+ 4.9 mmol/l Creatinine 90 μmol/l Prolactin 1150 mU/l MRI 7 mm pituitary microadenoma Which of the following hormones would you expect to be low?

1- ADH

2- Cortisol

3- GH

4- Thyroxine

**5- LH**

Q4932. A 38-year-old nurse who has had a positive tuberculin skin test comes to you for advice. She had been in contact with a patient who had pulmonary tuberculosis some 6 days earlier, and has not received a BCG vaccination in the past. She is well and her CXR is normal. She has started a course of isoniazid. Which of the following is the most appropriate occupational health advice?

1- Continue to work as normal

2- Stay off work for 2 weeks while she is on the initial prophylactic isoniazid course

3- Stay off work and have a repeat CXR in 6 weeks

4- Stay off work for 6 weeks

**5- Continue isoniazid for at least 3 months**

Q4933. A 54-year-old man with a history of myocardial infarction some 5 years ago comes to see you with problems maintaining the hardness of his erections. He is keen to start sildenafil. He has chronic stable angina with no intervention required post angiography and hypertension and is taking a range of medications. Investigations Hb 12.0 g/dl WCC 5.1 x 109 /L PLT 281 x 109 /L Na+ 139 mmol/l K+ 5.0 mmol/l Creatinine 120 μmol/l Which the following medication is LEAST likely to cause any interaction with sildenafil?

1- Doxazocin

2- GTN

3- Nicorandil

4- Isosorbide mononitrate

**5- Furosemide**

Q4934. A 42-year-old man with the features of congenital myotonic dystrophy comes to see you for review. He has suffered from mild intellectual impairment, frontal balding typical of the disease and increasing muscle weakness with increased muscle tone over the past few years. Most recently he has suffered from a number of episodes of syncope. On examination his BP is 129/70 mmHg, his pulse 55 BPM, there are no other significant findings on cardiovascular examination. What ECG findings might you most commonly expect to see in this case?

1- Short PR interval

**2- PR prolongation**

3- Long QT syndrome

4- Bifasicular block

5- Left bundle branch block

Q4935. You review a 72-year-old man with a history of dementia. He is becoming increasingly hard to manage at home, is agitated and difficult and is suffering from delusions that the members of his family who care for him are trying to poison him. You decide to add risperidone to his regime. For which of the following receptors does risperidone have the highest affinity?

1- 5HT-3 receptors

**2- 5HT-2 receptors**

3- alpha-1 adrenergic receptors

4- d-1 receptors

5- h-2 receptors

Q4936. A female who is a known alcoholic was rescued from a burning house. She has no burns and appears clinically well, although she has suffered some smoke inhalation. On examination her temperature is 34oC, she is haemodynamically stable with a BP of 122/72 mmHg. Investigations - ABG results; paO212 kPa paCO2 2.6 kPa pH normal Bicarbonate normal SpO2 92% What is the cause for the apparent hypoxia seen on SpO2?

1- Poor peripheral circulation

2- Respiratory alkalosis

3- Pulmonary embolism

**4- Carbon monoxide poisoning**

5- Pulmonary haemorrhage

Q4937. A 53-year-old man is admitted in an intoxicated state having drunk a large quantity of methanol. His blood levels indicate that you should treat him with fomepizole. When treating a methanol overdose with fomepizole, what are the pharmacokinetics involved?

**1- Competitive inhibition**

2- Competitive agonism

3- Non-competitive inhibition

4- Non-competitive agonism

5- Partial agonism

Q4938. You see a girl who tells you she has felt empty and low in mood for a long time. She tells you that she has no friends, prefers to stay at home but hates being alone, uses cannabis, has a history of alcohol use and history of selfharm with threatening suicide. On examination of her casualty records it transpires she has self harmed on around 6 occasions over the past year. She denies early morning wakening or lack of appetite. What is the most likely diagnosis?

**1- Borderline personality disorder**

2- Depressive disorder

3- Schizoid personality disorder

4- Histrionic personality disorder

5- Narcissistic personality disorder

Q4939. A 28-year-old patient is undergoing a dental extraction. He has mild haemophilia A with factor VIII activity of around 5%. He has been given desmopressin prophylaxis. What is the mode of action of desmopresssin?

1- Antithrombin III action

2- Prevention of fibrinolysis

**3- Release of stored factor VIII from endothelium**

4- Increase in von-Willebrand factor only

5- Increase in factor 10a

Q4940. A 42-year-old patient who has a history of paroxysmal AF has been treated with warfarin. The AF has now resolved after successful DC cardioversion. Investigations; Hb 13.1 g/dl WCC 4.9 x 109 /L PLT 294 x 109 /L Na+ 139 mmol/l K+ 4.8 mmol/l Creatinine 100 μmol/l TSH 2.1 U/l ECHO – Normal sized left atrium, no significant valvular disease For how long should the warfarin be continued?

**1- 4 weeks**

2- 6 months

3- 1 year

4- 3 years

5- Stop with immediate effect

Q4941. A 32-year-old woman presents with pain and frequency of urination. This is her third attack over the course of the year, and she has additionally suffered one episode of left sided pyelonephritis. On examination she is pyrexial 38.0oC, her BP is 110/70 mmHg and she has a pulse of 92/min. Examination reveals left loin and suprapubic tenderness. Investigations Hb 12.1 g/dl WCC 13.1 x 109 /L PLT 208 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 110 μmol/l CT AbdomenSuspicion of staghorn calculi MSU Proteus grown What are the calculi most likely to be composed of?

1- Calcium oxalate

2- Calcium phosphate

3- Urate

4- Cysteine

**5- Magnesium ammonium phosphate**

Q4942. A 61-year-old man presents with a 1 year history of intermittent difficulty with swallowing and halitosis. Occasionally he even regurgitates undigested food. He is diabetic and is currently taking metformin. Other past history of note includes recurrent bouts of pneumonia (2 in the past 3 years), and asthma which was recently diagnosed by his GP. On examination he looks well and his BMI is 32. Investigations Hb 12.1 g/dl WCC 5.2 x 109 /L PLT 190 x 109 /L Na+ 139 mmol/l K+ 4.8 mmol/l Creatinine 135 μmol/l Oesophageal pressure studies unremarkable Which of the following is the most likely diagnosis?

**1- Pharyngeal pouch**

2- Hiatus hernia

3- Oesophageal carcinoma

4- Barrett's oesophagus

5- Oesophageal candidiasis

Q4943. A poorly controlled patient with Type 2 diabetes comes to the clinic for review. He has a history of hypertension for which he takes ramipril 10mg daily, and amlodipine 10mg. Current diabetes medication is metformin 1g BD and gliclazide 160mg BD. On examination his BP is 145/85 mmHg. His vision is 6/6 bilaterally on clinical examination. Investigations Hb 12.0 g/dl WCC 5.0 x 109 /L PLT 231 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 156 μmol/l HbA1c 7.8% Fundoscopy – neovascularisation close to the optic disc. Which of the following is the most important step in clinical management?

1- Add pioglitazone 30mg to treatment

2- Transition to insulin therapy

**3- Referral for laser photocoagulation**

4- Add indapamide to his regime

5- Add doxazosin to his regime

Q4944. An elderly man presented with a lump on his temple that is shiny and is gradually increasing in size. What is the most likely diagnosis?

**1- Basal cell carcinoma**

2- Squamous cell carcinoma

3- Seborrhoeic wart

4- Lentigo maligna

5- Amelanotic melanoma

Q4945. You are examining the protocols with reference to echocardiography for patients attending the cardiology clinic. Which of the following agents is associated with cardiac toxicity and is likely to require increased monitoring?

**1- Trastuzumab**

2- Cyclophosphamide

3- Cisplatin

4- Rituximab

5- Sunitinib

Q4946. A 58-year-old man presents with tiredness, easy bruising, night sweats and weight loss. Investigations Hb 8.9 g/dl WCC 22.1 x 109 /L (circulating blasts seen) PLT 72 x 109 /L Na+ 139 mmol/l K+ 5.3 mmol/l Creatinine 155 μmol/l Bone Marrow Aspiration 32% blasts Which of the following genetic abnormalities is associated with the worst prognosis?

1- inv 16

**2- 5q3- t(15;17)**

4- t(16;16)

5- t(8;21)

Q4947. A 24-year-old man from a travelling family who has shunned regular medical follow up comes to the clinic complaining of shortness of breath and chest pain. You review his catheterisation results. Pressure RV110/0 mmHg Pressure LV 90/0 mmHg LV oxygen saturation 88% Given the likely clinical diagnosis, which of the following is the most likely finding on clinical examination?

1- A diastolic murmur

**2- Persistent hypoxia despite maximal oxygen therapy**

3- Tapping apex beat

4- Narrow tented P waves on ECG

5- Decreased pulmonary vasculature on CXR

Q4948. You see a poorly controlled 58-year-old type 2 diabetes patient who is fasting for Ramadan. He has background diabetic retinopathy, and currently takes metformin 500mg TDS as well as ramipril 10mg and aspirin 75mg. Investigations Hb 12.1 g/dl WCC 5.0 x 109 /L PLT 212 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 120 μmol/l HbA1c 7.8% What advice would you give him regarding his medication while fasting?

1- Stop metformin

2- Give short acting insulin for the evening meal

3- Switch to glicazide BD

**4- Give metformin 500mg in morning, 1000mg in evening**

5- Do not fast for health reasons

Q4949. A 71-year-old male patient presents with deteriorating vision. He complains of blurred central vision when looking through both eyes, although the left eye is slightly worse than the right. Fluoroscein angiography indicates choroidal neovascularisation with leakage in the area of the maculae bilaterally. When assessing possible risk factors for his condition, which of the following is the most important?

**1- Smoking**

2- Alcohol

3- Hypertension

4- Diabetes

5- Cataract surgery

Q4950. A 62-year-old woman presents for review. She has suffered from joint pains and arthritis for the past few years. Blood testing reveals positive rheumatoid factor. What is the most common human leucocyteassociated antigen (HLA) type in rheumatoid arthritis?

1- HLA B5

2- HLA B27

3- HLA DR2

4- HLA DR3

**5- HLA DR4**

Q4951. Thiazide diuretics have their mode of action in which part of the kidney?

1- Convoluted tubule

**2- Proximal segment of the distal convoluted tubule**

3- Ascending limb of Henle's loop

4- Distal segment of the distal convoluted tubule

5- Descending limb of Henle's loop

Q4952. A 32-year-old fireman presents with insomnia, recurrent bad dreams and depressive symptoms after witnessing the death of a colleague during an incident they attended. You understand that he was distressed at the time as he was unable to help his friend and had to be withdrawn from the building. He admits to drinking a glass of wine each evening to help him sleep. This happened over 2 years ago, yet he is still suffering symptoms now and has missed a significant amount of time off work. What is the most likely diagnosis?

**1- Post traumatic stress disorder (PTSD)**

2- Adjustment disorder

3- Alcoholism

4- Reactive depression

5- Obsessive compulsive disorder

Q4953. A 48-year-old publican presents with acuteonset confusion and a mild fever. On examination he has signs of chronic liver disease and ascites and is generally tender over his abdomen. Blood tests reveal mildly raised AST and ALT levels and a bilirubin of 186 μmol/l. He has an INR of 2, a mixed picture anaemia with a haemoglobin of 9.8 g/dl, low platelets and an elevated neutrophil count. His creatinine is 145 μmol/l. An ascitic tap reveals fluid with a polymorphonuclear cell count of > 250/mm3 . What is the most likely diagnosis?

**1- Spontaneous bacterial peritonitis**

2- Perforated duodenal ulcer

3- Cholangitis

4- Cholecystitis

5- Acute pancreatitis

Q4954. A 40-year-old man describes intermittent unilateral pain above and behind his left eye, which has woken him from sleep every night for the previous 7 days. The pain is described as severe and stabbing, lasting about 30 minutes and making him restless and agitated. It is associated with tearing from his left eye and nasal stuffiness. When he looked in the mirror during attacks he had noted his left eyelid drooping. He remembers he had experienced similar symptoms for about a month last year, but that they had resolved spontaneously and he had not sought medical attention. Physical examination is normal. He is a lifelong smoker. What is the diagnosis?

1- Migraine

**2- Cluster headache**

3- Temporal arteritis

4- Paroxysmal hemicrania

5- Trigeminal neuralgia

Q4955. A 71-year-old man who has a 40 pack year smoking history presents to the GP with shortness of breath and bilateral ankle swelling. On examination he has a BP of 145/90 mmHg, a plethoric face and bilateral coarse wheeze on auscultation of the chest. There is pitting oedema affecting both ankles. Which of the following has proven mortality benefit in this condition?

1- Digoxin

**2- Long term oxygen therapy (LTOT)**

3- Bisoprolol

4- Ramipril

5- Ipratropium

Q4956. A 22-year-old woman of Caucasian origin presents to the GP complaining of an acutely swollen, painful left arm. She has an unremarkable past medical history and takes the contraceptive pill as her only medication. On examination her arm looks swollen and oedematous, with some evidence of venous distension. Investigations Hb 13.1 g/dl WCC 4.5 x 109 /L PLT 200 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 120 µmol/l APTT and PT normal Left arm venogram: extensive axillary vein thrombosis You suspect an inherited prothrombotic disorder. Which is the most common inherited prothrombotic disorder in patients of northern European origin?

1- Protein C deficiency

2- Protein S deficiency

**3- Heterozygous factor V Leiden**

4- Antithrobin III deficiency

5- Prothrombin mutation

Q4957. A 20-year-old woman who suffers from intermittent torticollis has severe vomiting and dehydration after a food poisoning incident. Investigations; Hb 14.0 g/dl WCC 7.9 x 109 /L PLT 220 x 109 /L Na+ 139 mmol/l K+ 4.8 mmol/l Urea 14.0 mmol/l Creatinine 185 μmol/l You decide to give her an anti-emetic as she is very dehydrated. Which medication should be avoided in this case?

**1- Prochlorperazine**

2- Ondansetron

3- Domperidone

4- Certirizine

5- Promethazine

Q4958. A 31-year-old woman who is 33 weeks pregnant with her first child comes to the casualty department complaining of a severe headache and easy bruising. On examination she has a BP of 145/89 mmHg, compared to a booking BP of 128/75 mmHg. Only medication includes some Gaviscon that she was given a few weeks ago by her GP for indigestion. Investigations Hb 10.0 g/dl WCC 8.2 x 109 /L PLT52 x 109 /L Na+ 139 mmol/l K+ 5.6 mmol/l Creatinine 160 μmol/l Bilirubin85 μmol/l Which of the following is the most appropriate management?

1- Plasma exchange

2- Prednisolone

3- Normal human immunoglobulin

4- IV heparin

**5- Magnesium sulphate**

Q4959. A 53-year-old patient who has had chemotherapy for metastatic breast cancer 6 months earlier comes to the clinic complaining of shortness of breath on exertion. Her BP is 125/78 mmHg, her pulse is 94/min and her apex beat is displaced to the anterior axillary line. Investigations Hb 11.9 g/dl WCC 5.0 x 109 /L PLT 190 x 109 /L Na+ 140 mmol/l K+ 4.5 mmol/l Creatinine 160 μmol/l CXR – Cardiomegaly, increased shadowing consistent with mild pulmonary oedema at both bases Which chemotherapeutic agent is most likely to be responsible for this patient's symptoms?

**1- Doxorubicin**

2- Docetaxel

3- Cisplatin

4- Bleomycin

5- Carbiplatin

Q4960. In a randomised controlled trial of a new treatment for preventing recurrence of stroke, 1000 patients are randomised to the new treatment and 1000 to standard therapy. A total of 66 patients receiving the new treatment suffered recurrent stroke, compared to 110 in the control arm. What was the relative risk reduction?

1- 4.4%

2- 6.6%

3- 11%

**4- 40%**

5- 60%

Q4961. You are consulted on a 32-year-old obese patient with cellulitis who is not responding to treatment with flucloxacillin and benzylpenicillin in combination used over the past 3 days. She has a past history of varicose veins, but nil else of note. Investigations Hb 12.1 g/dl WCC 13.4 x 109 /L PLT 201 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 130 μmol/l What is the most appropriate next treatment step?

1- Oral co-trimoxazole

2- IV metronidazole

3- IV gentamicin

**4- Oral clindamycin**

5- Oral vancomycin

Q4962. You see a patient in clinic who was diagnosed with ankylosing spondylitis 2 years ago. Which of the following findings would you expect to see on X-ray of the spine?

1- Syndesmophytes

2- Sclerosis of vertebral discs

3- Fusion of the costovertebral joints

4- Bamboo spine

**5- Subchondral bony sclerosis on the iliac side**

Q4963. A 19-year-old woman is found in the desert following an accident 7 days earlier. She is severely dehydrated, drowsy and confused. On examination she looks very dry and has a BP of 90/65 mmHg. Investigations Hb 14.9 g/dl WCC 6.0 x 109 /L PLT 190 x 109 /L Na+ 145 mmol/l K+ 5.4 mmol/l Creatinine 198 μmol/l Urea 21.0 mmol/l Which of the following is the adaptive mechanism which has prevented her from dying from dehydration?

**1- Increase of aquaporin-2 in collecting duct**

2- Decrease in ADH

3- Reduction in GFR

4- Decrease in BP

5- Increase in renal sodium excretion

Q4964. A 58-year-old woman with severe active rheumatoid arthritis comes to the clinic. She feels dreadful and has evidence of active disease, with pain in her hands, elbows and ankles being particularly severe at the moment. Current medication includes prednisolone 5mg daily, methotrexate, and NSAIDs. On examination her BP is 130/70 mmHg, she is very thin with a BMI of 17. There are rheumatoid nodules on both elbows. Investigations Hb 10.5 g/dl WCC 6.4 x 109 /L PLT 192 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 140 μmol/l ESR 52 mm/hr You are considering adding rituximab to her regime. Against which of the following receptors does rituximab have its main activity?

**1- CD20**

2- CD19

3- CD21

4- CD3

5- CD22

Q4965. A 30-year-old man is being investigated for hypertension. A combination of BPs estimated by colour flow Doppler and measured values are listed below. Observed BPs LV200/10 mmHg Ascending aorta200/70 mmHg Right arm190/70 mmHg Right femoral artery110/70 mmHg Which of the following is the most likely diagnosis?

**1- Coarctation of aorta**

2- Left subclavian artery stenosis

3- Aortic regurgitation

4- Aortic stenosis

5- HOCM

Q4966. A patient presents with eye pain and diplopia of 2 days’ duration. On examination there is no proptosis, but a left sided VIth nerve palsy, a partial left IIIrd nerve palsy, and left Vth nerve sensory changes over the maxilla are present. What is the most likely site of the lesion?

**1- Cavernous sinus**

2- Orbital artery

3- Vertebral artery

4- Anterior cerebral artery

5- Middle cerebral artery

Q4967. A 55-year-old female presented with abdominal pain and frequency. She admits to symptoms of weight loss and night sweats. Examination demonstrated a splenic tip palpable 12 cm below the costal margin and mild hepatomegaly, but there was no clinical enlargement of the peripheral lymph nodes. The full blood count was haemoglobin 8.9 g/dl, white blood cell count 5.4 x 109 per litre, platelets 470 x 109 per litre, mean cell volume 85 femtolitres (fl), and reticulocytes 2.4%. The peripheral blood film was reported to show ovalocytes (elliptocytes) and the occasional myelocyte and nucleated red cell. The serum lactate dehydrogenase (LDH) was 1256 U/l. Which of the following is the most likely diagnosis?

1- Chronic myeloid leukaemia

2- Essential thrombocythaemia

3- Megaloblastic anaemia

**4- Myelofibrosis**

5- Non-Hodgkin's lymphoma

Q4968. A 64-year-old woman presents with sudden right sided weakness and dysphagia, dysarthria and diplopia. She has a history of hypertension managed with ramipril 10mg daily, and diabetes mellitus managed with metformin 1g BD. Her BP is 165/90 mmHg. A recent HbA1c was 8.2%. Where is the most likely site of her lesion?

1- Right pons

**2- Left pons**

3- Left internal capsule

4- Left hemisphere

5- Right cerebellum

Q4969. A 32-year-old woman was referred for endoscopy and found to have a duodenal ulcer and a positive urease test. She was given lansoprazole, amoxicillin and clarithromycin for 7 days. Which of the following is the most appropriate way of determining the successful eradication of H. pylori?

**1- [13C]urea breath test**

2- Blood serology testing

3- Endoscopy and antral histology

4- Endoscopy and CLO test

5- Faecal antigen testing

Q4970. A 60-year-old woman with a long history of manic depressive psychosis managed with lithium therapy is sent to see you for review. She has a BP of 152/93 mmHg, and the GP is keen to commence anti-hypertensive therapy. Investigations Hb 12.3 g/dl WCC 5.4 x 109 /L PLT 195 x 109 /L Na+ 143 mmol/l K+ 4.0 mmol/l Creatinine 145 μmol/l Total cholesterol 5.9 mmol/l HDL0.8 mmol/l Which antihypertensive would be most appropriate for her to start?

1- Ramipril

2- Valsartan

3- Indapamide

4- Amlodipine

**5- Atenolol**

Q4971. A diagnosis of diabetes mellitus was being considered in 32-year-old woman who was 16 weeks pregnant. Her body mass index (BMI) was 22 kg/m2 (18-25). A 75 g oral glucose tolerance test (OGTT) was reported as in the table: TimePlasma glucose concentration (fasting) (mmol/l) Normal range 0h < 6.0 Patient 0h 6.0 Normal 2h < 11.1 Patient 2h 12.5 Which of following appropriate next step in management of this patient?

1- Glipizide therapy

**2- Soluble insulin**

3- Low calorie diet

4- Metformin therapy

5- Repeat OGTT in four weeks

Q4972. In a small double-blind study of pain following dental surgery, patients are randomly allocated to receive either an analgesic tablet or a matching placebo tablet 1 hour preoperatively. All patients were asked to rate their pain at 4 hours after surgery using the following scale: 0 = nil, 1 = mild, 2 = moderate, 3 = severe. What is the best statistical test for analysing the results of this study?

1- Chi-square test

2- One-way analysis of variance

**3- Mann-Whitney U-test**

4- Fisher exact test

5- Unpaired Student t-test

Q4973. A 58-year-old female patient goes into anaphylactic shock in the operating theatre soon after induction. She has been previously patch tested for severe asthma, and was found to be allergic to cats, dogs, trees and pollens. She received vecuronium and propofol on induction. Which of the following is the most likely cause?

1- Latex allergy

2- C1-esterase deficiency

**3- Vecuronium**

4- Propofol

5- Nitrous oxide

Q4974. A man visits the travel clinic prior to an overseas trip. After giving his medical history, including two previous episodes of severe viral meningitis, he is told that he should not receive a live attenuated vaccine as it would not be suitable. Which of the following is a live, attenuated vaccine?

1- Influenza

**2- Yellow fever**

3- Diphtheria

4- Tetanus

5- Hepatitis B

Q4975. An 18-year-old woman presents with an acute exacerbation of asthma associated with a chest infection. She is unable to complete a sentence and her peak flow rate was 35% of her normal level. She is treated with high-flow oxygen, nebulised bronchodilators. and oral corticosteroids, but this is associated with little change in her condition. Which of the following treatments, given intravenously, would be the most appropriate for this patient?

1- Aminophylline

2- Augmentin

3- Hydrocortisone

**4- Magnesium**

5- Salbutamol

Q4976. A 52-year-old man presents with an acute upper gastrointestinal (GI) haemorrhage, but has no further bleeding after the initial episode. Unfortunately upper GI endoscopy reveals a suspicious ulcer, which is biopsied. This reveals the presence of mucosa associated lymphoid tissue and Helicobacter pylori. What is the most appropriate initial treatment in this case?

1- High-dose proton-pump inhibitor therapy

**2- Heliobacter pylori eradication therapy**

3- Chemotherapy for lymphoma

4- Surveillance endoscopy in 3 months

5- Referral for surgery

Q4977. A 62-year-old lady is admitted to the psychiatric ward with delusions that her neighbours are trying to poison her. She is later discharged on chlorpromazine with her behaviour returned to normal; but then presents a few weeks later with joint pains and a dry mouth. Investigations Hb 12.4 g/dl WCC 6.1 x 109 /L PLT 167 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 134 μmol/l ALT 36 U/l Anti-ss DNA positive Anti-Ro positive C4 slightly reduced Which of the following is the most likely diagnosis?

**1- Drug induced lupus**

2- SLE

3- Sjögren's

4- Mixed connective tissue disorder

5- Scleroderma

Q4978. A 32-year-old patient with a CMV positive renal transplant develops deteriorating renal function some 8-10 weeks after his transplant. He is also suffering from a flu-like illness. On examination he has a pyrexia of 37.8C, and looks poorly; he has evidence of pharyngitis. Investigations Hb 11.8 g/dl WCC 3.6 x 109 /L PLT 163 x 109 /L Na+ 139 mmol/l K+ 4.6 mmol/l Creatinine 194 μmol/l (152μmol/l 3 weeks earlier) Which of the following is the most appropriate treatment?

1- Aciclovir

**2- Ganciclovir**

3- Cyclosporin

4- Pentamidine

5- Co-trimoxazole

Q4979. A man with hypertension presents with 6 month history of memory loss, aggression and social disinhibition. He has also been incontinent of urine on occasions. His hypertension was diagnosed many years earlier and he is managed with a combination of ramipril, amlodipine and indapamide. On examination his BP is 155/95 mmHg. Investigations Hb 12.1 g/dl WCC 5.1 x 109 /L PLT 180 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 130 μmol/l TSH 2.0 U/l Glucose 7.0 mmol/l MRI Increased T2 signal in the frontal lobe white matter SPECT decreased metabolism in the frontal region Which of the following is the most likely diagnosis?

1- Dementia of Alzheimer's type

2- Cerebrovascular incident

3- Lewy body dementia

4- Normal pressure hydrocephalus

**5- Pick’s disease**

Q4980. A child has been scratched by a cat and develops axillary lymphadenopathy. He has no fever. Which organism is most likely responsible for this?

**1- Bartonella henselae**

2- Staphylococcus aureus

3- Streptococcus pyogenes

4- Toxoplasma gondii

5- Pasteurella multicida

Q4981. A 72-year-old man presents with headaches, itching, and weight loss. He is a non-smoker with a history of mild hypertension treated with amlodipine 10mg. On examination his BP is 166/98 mmHg, and he looks plethoric. There is hepatosplenomegaly on abdominal examination. Investigations Hb 20.2 g/dl WCC 14.2 x 109 /L PLT 630 x 109 /L Haematocrit 0.55 (0.40-0.52) Visc 2.8 mPa/s (1.50-1.72) Leukocyte alkaline phosphatase: elevated Which of the following is the most likely diagnosis?

**1- Primary polycythaemia**

2- Essential thrombocythaemia

3- Chronic myeloid leukaemia

4- Chronic lymphocytic leukaemia

5- Secondary polycythaemia

Q4982. A lady who is 12 weeks pregnant presents to the clinic with albuminuria. She is previously well with no past history of note, and this is her first pregnancy. Her mother has a history of renal disease. Her only past history of note is a few urinary tract infections as a child. Her BP is measured at 142/62 mmHg. Investigations Hb 11.5 g/dl WCC 5.6 x 109 /L PLT 230 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 128 μmol/l Urinary albumin0.8g/24hrs What is most likely cause of the albuminuria?

1- UTI

**2- Reflux nephropathy**

3- Orthostatic proteinuria

4- Pre-eclampsia

5- Minimal change disease

Q4983. A 70-year-old lady who had a lumpectomy for breast carcinoma 20 years ago now presents with lower back pain. She has been feeling tired over the past few months, and takes ramipril for blood pressure but has had no other significant symptoms. Investigations Hb 10.9 g/dl WCC 5.0 x 109 /L PLT 210 x 109 /L Visc2.25 Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 130 μmol/l Ca corrected 2.2 mmol/l Alkaline phosphatase 290 U/l Total protein 62g/l Albumin 30g/l Bone scan normal Given the likely diagnosis, which of the following is the most appropriate investigation to assess the activity of her underlying disease?

1- MR spine

**2- Serum beta 2 microgloblulin**

3- Serum protein electrophoresis

4- HER-2 status

5- Serum P1NP

Q4984. A 72-year-old woman comes to see you because she finds taking her bisphosphonate tablets an inconvenience. She is concerned that her tablets which seem rather large, should be taken whole, and swallowed with plenty of water while sitting or standing at least 30 minutes before breakfast (or any other oral medicine). This is rather inconvenient as she has diabetes. The patient should then sit or stand upright for 30 minutes after taking the tablet. How would you explain the reason for this to her?

1- To increase bioavailability

**2- To reduce GI side-effects**

3- To prevent interaction with other medications

4- Because of reduced gastric emptying

5- To reduce the incidence of osteonecrosis of

Q4985. You are examining some strategies for research into a possible metabolic defect. You think this involves an abnormality of pyruvate kinase. In which of the following processes is pyruvate kinase the rate limiting step?

**1- Glycolysis**

2- Hydrolysis

3- Hydroxylation

4- Carbonation

5- Dehydrogenation

Q4986. A 38-year-old man presents with emphysema. He is a non-smoker. He also has abnormal liver function tests, and his liver biopsy reveals evidence of cirrhosis. You suspect alpha-1 antitrypsin deficiency. What is the genotype that fits best with this clinical picture?

1- PiMM

2- PiMZ

3- PiSZ

**4- PiZZ**

5- PiSS

Q4987. A 62-year-old woman is admitted having collapsed at her local supermarket complaining of palpitations. On examination she is very unwell with a BP of 90/50 mmHg and very rapid palpitations. Investigations; ECG - Ventricular tachycardia with moving axis - torsade de pointes Which of the following drugs is not associated with this arrhythmia?

1- Sotalol

**2- Verapamil**

3- Flecainide

4- Digoxin

5- Risperidone

Q4988. A 25-year-old man explains that he has experienced episodes where he is unable to move just before onset of sleep, and just after waking. Each time it occurs it leaves him feeling frightened and anxious. It is sometimes associated with visual disturbances. What is the most likely diagnosis?

1- Panic disorder

**2- Sleep paralysis**

3- Periodic paralysis

4- Night terrors

5- Frontal lobe epilepsy

Q4989. A 60-year-old lady presents with a 4-week history of generalised rash. She complains of areas of erythema and blistering although only excoriations are visible today. On further questioning she also admits to difficulty swallowing and pain on passing urine. Her past medical history includes angina, and coeliac disease. Her medication includes aspirin, atenolol and hydralazine. She is subsequently reviewed by the dermatologists who perform a skin biopsy. The immunofluorescence results show immunoglobulin G (IgG) staining in the intercellular substance. What is the most likely diagnosis?

1- Epidermolysis bullosa

2- Pemphigoid

**3- Pemphigus**

4- Dermatitis herpetiformis

5- Allergic reaction

Q4990. You are consulted by a 33-year-old woman who is due to go on a cruise. She has been on a cruise ship previously but was kept in her room with nausea and vomiting which she thinks would be attributed to sea sickness. She does not wish to have a similar experience on her next cruise. What would you prescribe for her to best avoid such symptoms?

**1- Cinnarizine**

2- Prochlorperazine

3- Ondansetron

4- Metoclopramide

5- Domperidone

Q4991. A 63-year-old man is admitted with a severe cough productive of rusty coloured sputum that he has had for the past 4 days. On admission he is pyrexial 38.5°C, has a BP of 105/65 mmHg, and a pulse of 105/min. His respiratory rate is 29/min. There is extensive bronchial breathing over the lower right lung field. Which of the following in his history, examinations or investigations would be the worst prognostic factor for pneumonia?

1- Respiratory rate 29/min

2- Age 63

3- BP 105/65 mmHg

**4- Urea 8.2 mmol/l**

5- Pyrexia 38.5°C

# Chapter 23 2008 September

Q4992. A 42-year-old man presented with headache and blurred vision for a few weeks. Investigation showed serum prolactin of 21 500mU/l. On further questioning he admitted loss of interest in sexual intercourse over the past few months and general feelings of lethargy. Computerised tomography (CT) brain scan showed a large pituitary mass encroaching on the optic chiasm with evidence of midline shift. What is the next appropriate treatment?

1- Hypophysectomy

2- Pituitary irradiation

3- Dopamine agonist

4- Somatostatin

**5- Adenomectomy**

Q4993. A 10-year-old boy has a history of tonsillitis followed by haematuria and hypertension. What would be the characteristic blood test finding in this condition?

1- Normal C3 level

**2- Depressed CH 50 level**

3- Low C4 level

4- Increased cryoglobulins

5- Elevated antinuclear antibody

Q4994. A 23-year-old man goes out for his birthday and drinks 10 pints of strong lager. He suffers from polyuria and passes large volumes of urine. His blood results are shown below Na+ 145 mmol/l K+ 4.4 mmol/l Urea 14.5 mmol/l Creatinine 195 μmol/l Which of the following is the most likely underlying process?

1- Increased renin levels

2- Reduced angiotensin levels

**3- Reduced expression of renal aquaporin channels**

4- Increased GFR

5- Increased vasopressin levels

Q4995. A 46-year-old woman with a history of Type 1 diabetes presents to the clinic complaining of pain, pins and needles and loss of sensation in her feet. Her diabetes has been poorly controlled over a number of years, with her HbA1c averaging around 8.8% on a basal bolus insulin regime. You suspect she might have diabetic neuropathy. What would be the expected findings on nerve conduction study?

1- Increased nerve conduction velocity on peripheral nerve testing

2- Increased peripheral nerve action potentials

**3- Decreased nerve conduction velocity on peripheral nerve testing**

4- More marked loss of motor nerve conduction velocity

5- Improvement in function after short term

Q4996. You review a 26-year-old woman who attends the cardiology clinic with her husband. They wish to start a family, but they have been referred by the GP as he is worried that she has a history of heart disease. Which of the following cardiovascular conditions is an absolute contra-indication to pregnancy?

1- Mitral valve prolapse

2- Previous repaired patent ductus arteriosus

3- Atrial septal defect

**4- Primary pulmonary hypertension**

5- Bicuspid aortic valve

Q4997. A 67-year-old man with a history of Type 2 diabetes and hypertension attends the general practitioner with his wife. She is concerned about a sudden deterioration in his speech. Whilst he appears to be understanding what his wife says to him, she is concerned that his responses have become halting and non-fluent, and he appears to be expending great effort when he talks. He can however repeat phrases when asked. You suspect that he has transcortical motor aphasia. He is right handed. Which of the following areas of the brain is most likely to have been affected?

1- Orbito-frontal region

**2- Inferior frontal gyrus**

3- Parietal lobe

4- Occipital lobe

5- Temporal lobe

Q4998. A 37-year-old woman is referred to your clinic with two episodes of sudden-onset limb paralysis at night-time over the last 4 months. She describes waking shortly after falling asleep and being aware of an inability to move her limbs or to speak, associated with a feeling of suffocation lasting for about a minute. Her father recently died from an intracerebral haemorrhage during sleep. She has no other symptoms other than daytime sleepiness, which she puts down to looking after her two young children. There are no abnormalities on examination. What is the most likely diagnosis?

1- Depression and anxiety

2- Nocturnal seizures

3- Brainstem transient ischaemic attack

**4- Narcolepsy**

5- Cervical disc prolapse

Q4999. A 25-year-old man presents with right-sided facial weakness and swelling. There is a right LMN facial nerve palsy but no other abnormalities on examination. Lumbar puncture findings are: Opening pressure 18cm CSF Protein 0.9 g/l Glucose 3.5 mmol/l Microscopy 85 lymphocytes What is the most likely diagnosis?

1- Lyme disease

2- Multiple sclerosis (MS)

3- Guillain-Barrè syndrome (GBS)

**4- Neurosarcoidosis**

5- Ramsay Hunt syndrome

Q5000. A 17-year-old boy presents to the GP. Most recently he has suffered a respiratory tract infection and he is very distressed that on going to the bathroom he is urinating frank blood. The only history of note is microscopic haematuria diagnosed in childhood. Renal biopsy with histological staining is consistent with a diagnosis of Alport's syndrome. Which of the following other features is likely to be present?

1- Red-green colour blindness

2- Otosclerosis

**3- Sensorineural deafness**

4- Multiple lipomas

5- Cataracts

Q5001. Which of the following is a good first-choice oral treatment for primary generalised epilepsy in a 20-year-old man?

1- Topiramate

**2- Valproate**

3- Carbamazepine

4- Phenytoin

5- Phenobarbital

Q5002. Pyrazinamide is used as part of the combination therapy for tuberculosis. What is the most common side-effect of pyrazinamide?

**1- Hepatitic dysfunction**

2- Hyperuricaemia

3- Colour vision changes

4- Dizziness

5- Neurotoxicity

Q5003. A 55-year-old man presents with a resting tremor of his right arm and a diagnosis of idiopathic Parkinson's disease is made. Which one of the following drugs is most likely to help his tremor?

1- Amantadine

**2- Benzhexol**

3- Cabergoline

4- Co-careldopa

5- Selegiline

Q5004. A woman who is 36 weeks pregnant presented with acute pyelonephritis. She has a history of recurrent urinary tract infection as a child. Her mother has a history of hypertension and was told that her kidneys were 'damaged'. Investigations reveal: creatinine (Cr) 58 (low normal). What is the most likely diagnosis?

1- Autosomal dominant polycystic kidney disease

**2- Reflux nephropathy**

3- Urinary stasis of pregnancy

4- Chronic interstitial nephritis

5- Glomerulonephritis

Q5005. A 29-year-old man is brought to the clinic by his girlfriend. He is a long term user of intravenous heroin. Over the past few days he has become confused and aggressive and has suffered a fit. Investigations reveal ring lesions on contrast CT scan, his CD4 count is 45/ mm3 (normal >500) and an HIV test is positive. You suspect he has toxoplasmosis. Which of the following is the most appropriate therapy for him?

1- Fansidar

**2- Sulphadiazine and pyrimethamine**

3- Clindamycin

4- Atovaquone

5- Azithromycin

Q5006. A 45-year-old man presents with a 1-week history of progressive breathlessness. He gives a history of past intravenous drug use and is hepatitis C antibody-positive. He desaturates with minimal exertion with an oxygen saturation of 75% on air. He is lymphopenic and a chest X-ray demonstrates subtle bilateral interstitial shadowing. What is the most likely cause of his breathlessness?

1- Congestive cardiac failure

2- Cytomegalovirus pneumonia

**3- Pneumocystis jiroveci pneumonia**

4- Pulmonary aspergillosis

5- Streptococcus pneumoniae pneumonia

Q5007. A 32-year-old man returns from a cruise on the river Nile in Egypt. During the trip he made a point of trying some local food from the various stops along the river. For a few days before coming home, and since his return he has suffered from diarrhoea which floats on the surface of the toilet bowl and is hard to flush away. He has also noticed that his abdomen feels very bloated, and the diarrhoea occasionally contains blood. His partner complains that he has increased flatulence that smells disgusting. A fresh stool sample is obtained which appears to contain some cysts. Which of the following represent the most likely infective cause?

**1- Giardia**

2- Salmonella

3- Shigella

4- Campylobacter

5- Staphylococcus aureus

Q5008. A 44-year-old African woman presents to the clinic. She is known to be HIV positive, and has been visiting her son who is a student in the UK. He has attended the clinic with her as she has become increasingly tired, drowsy and intermittently confused over the past few weeks. Ophthalmoscopy reveals evidence of choroidoretinitis. Her CD4 count is noted to be 10/ mm3 (normal >500) Contrast CT Brain reveals ring enhancing lesions CSF reveals mononuclear pleocytosis and elevated protein Which of the following is the most likely diagnosis?

1- Tuberculous meningitis

2- CMV encephalitis

3- Pneumocystis jiroveci

4- Cryptococcal infection

**5- Toxoplasmosis**

Q5009. A 45-year-old man was diagnosed with new onset AF after visiting his GP complaining of palpitations. An ECG confirmed atrial fibrillation with a ventricular rate of 85/minute, and an ECHO did not reveal any significant structural heart disease. On advice of the hospital he was given low molecular weight heparin and stabilised on warfarin, with an INR of 2.5. You arrange for him to be cardioverted a few weeks later and the procedure is successful. For how long is it recommended to continue his warfarin therapy according to current guidelines?

1- For life

2- For 1 week

3- For 72 hours

**4- For four weeks**

5- For 6 months

Q5010. A 26-year-old man presents to the sexually transmitted diseases clinic. He has returned from a trip away in Eastern Europe and he admits to an episode of unprotected sex with a woman he met in a bar some 2 weeks earlier. He complains of pain on passing urine, arthritic type pain affecting predominantly his knees, wrists, ankles and the small joints of his hands. There is associated conjunctivitis and a psoriatic type rash on his palms and the soles of his feet. Bloods; Hb 13.1 g/dl WCC 6.1 x 109 /L PLT 301 x 109 /L Na+ 140 mmol/l K+ 4.9 mmol/l Creatinine 100 μmol/l ESR 52 mm/hr Which of the following is the HLA-subtype most commonly associated with this condition?

1- HLA-DR2

2- HLA-DR3

3- HLA-DR4

4- HLA-B26

**5- HLA-B27**

Q5011. A 30-year-old homosexual man has been diagnosed with anal carcinoma. Which pathogen is responsible for this?

1- Human herpesvirus 8 (HHV8)

2- Human T-cell lymphotrophic virus type I (HTLV-I)

3- HCV

4- CMV

**5- Human papillomavirus (HPV)**

Q5012. A 42-year-old, atopic, health-care worker presents with red weals and itchy hands within 20 minutes of wearing latex gloves. Which of the following mechanisms is most likely to be relevant?

1- Contact dermatitis

2- Complement-mediated

3- Immune complex-mediated

4- Delayed-type hypersensitivity

**5- IgE-mediated sensitivity**

Q5013. A 28-year-old woman has a disabling headache syndrome consisting of recurrent, severe, unilateral (either right or left) headaches twice a week lasting for 8 hours each. The pain is constant and associated with nausea and phonophobia. It has not responded to ibuprofen or paracetamol. The headaches are more common after physical exercise. She has identified no dietary triggers, and there is no family history of migraine. She is very worried about her increasing weight. Which of the following is a sensible treatment course?

1- Pizotifen (for prophylaxis) and ergotamine (for the acute attacks)

**2- Amitriptyline (for prophylaxis) and a triptan (for the acute attacks)**

3- Methysergide (for prophylaxis) and a nonsteroidal anti-inflammatory drug (NSAID) (for the acute attacks)

4- Regular daily co-proxamol (for prophylaxis), increased during the acute attacks

5- Regular daily non-steroidal antiinflammatory drug (NSAID) (for

Q5014. A 27-year-old Jewish man attends the clinic with his wife. They are keen to start a family but are worried because his brother developed jaundice during teenage years and was given a diagnosis of Dubin Johnson syndrome. He asks for advice as to the chance of his children inheriting the condition. Which of the following most accurately represents the mode of inheritance for Dubin Johnson syndrome?

1- X-linked recessive

2- Autosomal dominant

**3- Autosomal recessive**

4- X-linked dominant

5- Occurs by new mutation only

Q5015. You review a 35-year-old woman with progressively increased shortness of breath and lethargy after the birth of her 1st child. You send her for some pulmonary function tests, including measurement of gas transfer. Which of the following gases is usually used for measurement of gas transfer?

1- Carbon dioxide

2- Oxygen

3- Methane

**4- Carbon monoxide**

5- Nitrous oxide

Q5016. A 25-year-old man presents to the GP with a history of severe diarrhoea which contained occasional flecks of blood. This was accompanied by unpleasant gripping abdominal pain. It came on some 6-7 hrs after eating a rice based dish. He had eaten the food from a local Chinese takeaway. His flatmate had suffered similar symptoms after visiting the same takeaway a few days earlier and these resolved within a day. Which of the following is the most likely causative organism?

1- Salmonella

2- Shigella

3- Staphylococcus aureus

**4- Bacillus cereus**

5- Campylobacter

Q5017. You review a 71-year-old former boilermaker. He has suffered increasing shortness of breath and vague right sided chest pain over the past few months. He has a history of smoking 30 cigarettes per day for 30 years. On examination he appears to have a large right sided pleural effusion. This is confirmed on chest x-ray. Pleural fluid evaluation reveals this to be an exudate and you suspect an underlying mesothelioma. Which of the following fit best with the pathophysiology of mesothelioma?

1- Cigarette smoking is a known primary risk factor

2- Simian SV 40 is the most common cause

**3- Loss of one copy of chromosome 22 is the most common karyotypic change in mesothelioma cell lines**

4- Drainage of pleural effusion is never associated with tumour seeding along the track

5- Surgical cure is possible in 30% of cases

Q5018. You are asked to design a trial for a new antihypertensive agent after taking part in the phase 2 studies. You suspect that it has a power to achieve a relative risk reduction of 18% in CV events. You are examining methodology and statistical tests to determine effectiveness of this agent. What is the power of a statistical test?

**1- The probability that it will correctly lead to rejection of a false null hypothesis**

2- The probability that it will falsely lead to rejection of a true null hypothesis

3- The probability that it will falsely lead to rejection of a false null hypothesis

4- The probability that it will correctly lead to rejection of a true null hypothesis

5- The sample size needed to detect a

Q5019. A 27-year-old woman presents to the rheumatology clinic. She complains of arthritis affecting her knees, elbows, wrists, ankles and the small joints of her fingers. There has also been fever and weight loss of 4kg over the past 5 months. On examination she has hepatomegaly and arthritis over a joint distribution consistent with rheumatoid arthritis. Which of the following investigations would be most appropriate in determining if this patient was suffering from adult onset Still's disease?

1- Rheumatoid factor

2- Anti-nuclear antibody

3- Raised ESR

**4- Raised ferritin**

5- Anti-CCP antibodies

Q5020. A 48-year-old man presents to the clinic complaining of painful hands and fingers. On examination he has bilateral sausage shaped fingers and pain over the distal interphalangeal joints. His nails are also pitted. There is no other past medical history of note. His blood results are shown below. Hb 14.0 g/dl PLT 180 x 109 /L WCC 8.1 x 109 /L CRP46 mg/l Rheumatoid factor negative Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 100 μmol/l Which of the following is the most likely diagnosis?

1- Rheumatoid arthritis

**2- Psoriatic arthritis**

3- Gout

4- Osteoarthritis

5- Post viral arthritis

Q5021. A 46-year-old woman presents to the rheumatology clinic for review. She has a history of SLE. Currently she is maintained on 60mg of prednisolone per day and you are considering introducing azathioprine as a second line agent. Her blood results are: Hb 11.0 g/dl WCC 7.1 x 109 /L PLT 130 x 109 /L Na+ 139 mmol/l K+ 4.0 mmol/l Creatinine 130 μmol/l Plasma Viscosity 2.1 mPa/s (1.50-1.72) The levels of which of the following can be easily measured to assess the risk of azathioprine toxicity?

1- 6-mercaptopurine

**2- Thiopurine S-methyltransferase activity (TPMT)**

3- 6-thioguanine nucleotides

4- Inosine triphosphatase activity

5- 6-methylmercaptopurine

Q5022. A 42-year-old alcoholic gentleman is admitted with pain, swelling and redness over the 1st MTP joint. On examination he has a number of tophi, and this is diagnosed as gout. He is started on allopurinol and discharged. 2 days later he returns complaining of pain and inflammation over the small joints of his hands, his wrists, ankles and knees. His temperature is 38.5°C. Bloods Hb 11.0g/dl WCC 6.9 x 109 /L PLT 145 x 109 /L Na+ 138 mmol/l K+ 4.0 mmol/l Creatinine 90 μmol/l Which of the following is the most likely cause of his presentation?

1- Allergy to allopurinol

2- Septic arthritis

3- Rheumatoid arthritis

4- Pseudogout

**5- Allopurinol therapy**

Q5023. A 40-year-old obese lady with a history of asthma presents with progressive breathlessness. On examination she is has a raised JVP, ankle oedema, right parasternal heave and a murmur consistent with tricuspid regurgitation. Chest auscultation is clear. You understand from her husband that she has suffered progressively worsening symptoms over the past year, he has noticed that she has had particular problems with snoring and stopping breathing at night since he met her. ABG results; pH 7.39 pO2 7.3kPa (11.3-12.6) pCO2 3.9kPa (4.7-6.0) What is the most likely diagnosis?

1- Primary pulmonary hypertension

2- Chronic asthma

**3- Secondary pulmonary hypertension**

4- Atrial septal defect

5- Pulmonary fibrosis

Q5024. A 19-year-old woman has recently started work as an apprentice in a carpentry factory. She reports cough and wheeze which worsens as the working week progresses. Unusually though, she seemed free of symptoms when she joined some friends on a week’s holiday to Spain, and certainly she is better at weekends. Her peak flow in the GP surgery is 450 (predicted 510). You suspect that she may have occupational asthma; which of the following is the most appropriate way to diagnose it?

1- Trial of 30mg prednisolone PO for 1 week

2- Outpatient spirometry

**3- Peak flow diary**

4- Trial of salbutamol inhaler

5- Patch testing

Q5025. A 48-year-old non-smoking lady with asthma managed with seretide 50 2 puffs BD and a BMI of 35 presents with 3 months progressive shortness of breath. Her lung function tests are as follows: FEV1 2.2 (87% predicted) Post salbutamol 2.3 FVC 3.4 (82% predicted) Post salbutamol 3.5 Transfer coefficient 55% What is the most likely diagnosis?

**1- Pulmonary Embolism**

2- Asthma

3- Alveolar haemorrhage

4- Obesity

5- Chronic obstructive pulmonary disease

Q5026. A 71-year-old woman with a 30 pack year history of smoking presents with rapidly worsening shortness of breath. Her daughter has brought her to the hospital and is concerned as despite having antibiotics from the GP her cough has worsened and she now seems very tired and lethargic. Normal medication includes salbutamol and atrovent inhalers. On examination she looks weary and has a cough productive of yellow green sputum, there are coarse crackles and wheeze on auscultation of the chest. Her blood gases on 28% O2: pH 7.25 pO2 7.4kPa (11.3-12.6) pCO2 8.9kPa (4.7-6.0) HCO3- 35mmol/l (20-28) BE +9 What is the next most appropriate management step?

**1- Non-invasive ventilation**

2- Intubation and ventilation

3- IV doxapram

4- Increase inspired oxygen

5- Decrease inspired oxygen

Q5027. You are asked to review a 17-year-old who suffers from leprachaunism. You understand that this occurs due to a mutation associated with the insulin receptor. Where is the insulin receptor located?

**1- Cell membrane**

2- Nucleus/nuclear membrane

3- Cytoplasm

4- Endoplasmic reticulum

5- Chromatin

Q5028. A 51-year-old-life-long smoker, who has worked for many years in a shipyard presents with a few months history of increasing breathlessness. On examination he has a BP of 145/85 mmHg and a pulse of 75/minute; his BMI is 31 and he also appears to have finger clubbing. Auscultation of the chest reveals bibasal inspiratory crackles. CXR is reported as showing evidence of pleural plaques Pulmonary function testing reveals a mixed obstructive/restrictive picture. Which of the following is the most likely cause of his breathlessness?

1- COPD

2- Obesity

3- Asbestos related pleural plaques

**4- Asbestosis**

5- Idiopathic pulmonary fibrosis

Q5029. A 17-year-old boy with a history of type 1 diabetes mellitus, sensorineural high tone deafness and colour blindess presents for review in the genetics clinic. You learn from his mother that other members of the family are affected, including a daughter aged 21 who also suffers from Type 1 diabetes. Which of the following represents the usual mode of inheritance for the likely genetic syndrome?

1- Autosomal dominant

2- X-linked

3- X-linked recessive

**4- Autosomal recessive**

5- Chromosomal non-dysjunction

Q5030. A 20-year-old woman presents with gradually reducing vision in her left eye of two weeks' duration. Visual acuity is 6/4 (right eye) and 6/36 (left eye). The left pupil reacts sluggishly and the consensual pupillary reaction in the right eye is also sluggish. Optic discs are normal. What is the most likely diagnosis?

1- Cerebral tumour

2- Holmes-Adie pupil

3- Factitious visual loss

4- Parinaud's syndrome

**5- Retrobulbar neuritis**

Q5031. A new anti-diabetic agent is launched on the UK market. There was some concern in one of the animal studies which took place in development that there may be an increased risk of carcinoma of the bladder associated with its use. Which of the following would be most useful in determining if there is a risk of bladder cancer when the drug is used in a larger population?

1- Further mechanistic studies in another mammalian mode

2- A long-term post-marketing randomised controlled trial

3- A cohort study

**4- A case control study**

5- A database study

Q5032. A 54-year-old shipyard worker with a 30 pack year smoking history presents to the GP with increasing shortness of breath. He rarely consults the doctor, but now he is unable to walk up the road to the shops. His BP is 150/80 mmHg, with a pulse of 75/minute, in atrial fibrillation. On auscultation of the chest there is pronounced wheeze interspersed with occasional coarse crackles. His FEV1/FVC is 60%, with a KCO of 55%. CXR shows slightly increased lung markings, but nil else of note. Which of the following is the most likely diagnosis?

1- Idiopathic pulmonary fibrosis

2- Asthma

**3- COPD**

4- Asbestosis

5- Left ventricular failure

Q5033. In what type of dementia are both neurofibrillary tangles (NFTs) and senile plaques seen pathologically?

**1- Alzheimer's dementia**

2- Pick's disease

3- Punch-drunk syndrome

4- Lewy body dementia

5- Huntington's disease

Q5034. A 35-year-old woman patient tells you that her father and her older brother have Huntington's disease. What is her chance of developing Huntington's disease?

1- 0%

2- 25%

**3- 50%**

4- 75%

5- 100%

Q5035. A 78-year-old woman presents to A&E following an overdose of paracetamol and amitriptyline. Following successful medical management, you assess her prior to discharge. Which one of the following features, present on assessment, is most likely to indicate a risk of completed suicide after discharge?

1- Her age

2- One previous episode of deliberate selfharm (DSH) by attempted hanging last year

**3- Delusions of poverty**

4- Living alone

5- Presence of obsessional symptoms

Q5036. A girl is repeatedly sexually molested from the age of 8 by her father. He warns her not to tell anyone or she will be killed. What condition could occur as a sequel to this situation?

1- Dependent personality disorder

2- Autistic disorder

**3- Dissociative identity disorder**

4- Hypochondriasis

5- Major depressive disorder

Q5037. A 22-year-old medical student is admitted in an acutely confused state to the Emergency Department. He believes that he has been sent by God as a disciple of Jesus to prepare for the second coming of Christ. You suspect that he either has a primary psychiatric disorder or has been using cannabis. Which of the following features, if present, would be most likely to be associated with cannabis abuse rather than schizophrenia?

1- Long history of psychotic symptoms

2- A predominantly negative symptom picture

**3- A short history of onset of psychosis**

4- A depressive symptomatology

5- A history of poor university performance

Q5038. A 58-year-old man with multiple dental problems presents to the Emergency department. Apart from an abscess on his toe for which he has been receiving flucloxacillin he has been relatively well. On examination he has splinter haemorrhages and looks anaemic. You detect an aortic systolic murmur. Echocardiogram is suggestive of aortic valve endocarditis and blood cultures confirm Streptococcus viridans. In addition to IV benzylpenicillin which antibiotic would you prescribe?

1- Ceftriaxone

**2- Gentamicin**

3- Azithromycin

4- Vancomycin

5- Ciprofloxacin

Q5039. A lady loses her husband in a traumatic RTA. Three months afterwards she says she regularly hears his voice when alone at home. She is not eating very well and has lost 2 kilos of weight in this time. She says she often feels his presence around her and sometimes sees him when she goes outside; she is reassured by these feelings. What diagnosis should be suspected?

1- Adjustment disorder

**2- Psychotic depression**

3- Post-traumatic stress disorder

4- Hypomania

5- Bereavement reaction

Q5040. A 40-year-old woman with rheumatoid arthritis takes oral steroids. She presents with watering of both eyes associated with intermittent blurred vision when using a computer. What is the most likely diagnosis?

1- Cataract

2- Diabetic retinopathy

**3- Dry eyes**

4- Glaucoma

5- Transient ischaemic attack

Q5041. A 54-year-old man with a 40 pack year smoking history presents to the clinic complaining of a chronic cough and haemoptysis. He has lost 4kg in weight recently. He has an abnormal chest x-ray consistent with bronchial carcinoma. Investigations; Hb 11.0 g/dl WCC 6.1 x 109 /L PLT 352 x 109 /L ESR 65 mm/hr Na+ 132 mmol/l K+ 3.9 mmol/l Creatinine 130 μmol/l Bronchoscopy with transbronchial biopsy reveals adenocarcinoma of the bronchus You arrange a CT thorax. Which of the following would tend to rule out the possibility of a surgical cure?

1- FEV1 1.6

2- Superior vena caval obstruction

**3- Malignant pleural effusion**

4- Ipisilateral mediastinal lymph node involvement

5- Horner’s syndrome

Q5042. A general practitioner calls you for advice about a 28-year-old woman with easy bruising. She has previously attended a psychiatric unit for self-harming behaviour. She is generally well apart from occasional diarrhoea and has no mucosal bleeding. Her mother has had recurrent venous thromboses, but there is no family history of a bleeding disorder. A full blood count is normal, but she her coagulation screen is activated partial thromboplastin time (APTT) 60 s (normal 28- 38 s), prothrombin time (PT) no clot after 120 s (normal 10- 14s), andfibrinogen 3.6 g/l (normal 2-4 g/l), which is abnormal. What is the most likely explanation?

1- Incorrect sampling

2- Inherited dysfibrinogenaemia

3- Inherited factor VII deficiency

4- Vitamin K deficiency caused by malabsorption

**5- Warfarin overdose**

Q5043. A 71-year-old lady with a history of one previous myocardial infarction presents to the Emergency department. She has sudden onset shortness of breath and palpitations which happened after her dinner a couple of hours earlier. A previous ECG from clinic a month earlier shows sinus rhythm. Medication includes ramipril 10mg daily, amlodipine 10mg daily and aspirin 75mg. On examination her blood pressure is 100/60 mmHg, pulse is 140/min irregular and she has evidence of LVF. Bloods Hb 14.0 g/dl WCC 6.7 x 109 /L PLT 190 x 109 /L Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 130 µmol/l ECGFast atrial fibrillation, lateral ST depression Which of the following is the most appropriate medication to control her AF?

1- Digoxin

**2- Amiodarone**

3- Flecainide

4- Sotalol

5- Verapamil

Q5044. A patient with tuberculosis was started on combination therapy with isoniazid, rifampicin, pyrazinamide and ethambutol. She is a known slow acetylator of isoniazid. Which particular side-effect is she most likely to be at an increased risk of experiencing?

1- Renal toxicity

2- Visual disturbances

**3- Peripheral neuropathy**

4- Cranial nerve palsy

5- Hypertension

Q5045. You are asked to see a 17-year-old woman in the Emergency department. She has been brought to the unit by her boyfriend who is concerned that she may have taken an overdose after being depressed about her mother who is dying of carcinoma of the breast. Which of the following may indicate that she has taken some of her mother’s morphine sulphate pills?

1- Increased libido

**2- Sweating**

3- Dilated pupils

4- Hypertension

5- Urinary incontinence

Q5046. Which of the following drugs requires plasma level monitoring?

**1- Vancomycin**

2- Ciprofloxacin

3- Bleomycin

4- Erythromycin

5- Cefuroxime

Q5047. A 26-year-old woman, who is 8 weeks pregnant, has two episodes of convulsions. The decision is made to commence antiepileptic drug treatment. She wants advice about the anti-epileptic drug associated with the lowest risk of congenital malformations. Which of the following would you most avoid?

**1- Sodium valproate**

2- Pheyntoin

3- Lamotrigine

4- Carbamazepine

5- Topiramate

Q5048. What is the primary mode of action of Nacetylcysteine?

1- Reduction of the formation of nitric oxide

2- Histamine antagonist

**3- Reduction of the circulation of toxic metabolites**

4- Phase I induction

5- Dopamine agonist

Q5049. A 17-year-old girl is admitted from her birthday party. She does not normally drink alcohol, but you understand she was given some by a friend, and a pill to 'loosen up and have fun'. On examination she is barely rousable. On examination her GCS is 9, BP is 155/95 mmHg, pulse is 95/min. Which of the following features is most specific in terms of elucidating the likely underlying diagnosis?

**1- Hyperthermia**

2- Hypernatraemia

3- Pin point pupils

4- Hyperthyroidism

5- Hyperkalaemia

Q5050. A 17-year-old girl is admitted from her birthday party. She does not normally drink alcohol, but you understand she was given some by a friend, and a pill to 'loosen up and have fun'. On examination she is barely rousable. On examination her GCS is 9, BP is 155/95 mmHg, pulse is 95/min. Which of the following features is most specific in terms of elucidating the likely underlying diagnosis?

**1- Hyperthermia**

2- Hypernatraemia

3- Pin point pupils

4- Hyperthyroidism

5- Hyperkalaemia

Q5051. A type-2 diabetic patient presents with a blood pressure of 155/90 mmHg and microalbuminuria. Which would be the most appropriate choice of antihypertensive drug for this patient?

1- Diuretic

2- Alpha-blocker

**3- ACE inhibitor**

4- Beta-blocker

5- Calcium-channel blocker

Q5052. A 19-year-old woman presents to the emergency department. She had a row with her boyfriend and took a handful of tablets of her mother’s which she found in a bottle. Her mother has multiple health problems, including hypertension, reflux oesophagitis, dyslipidaemia and night cramps. She complains of involuntary spasms affecting the left side of her neck, particularly the sternocleidomastoid muscle, and feels very upset. On examination her blood pressure is 155/90 mmHg. Bloods; Hb 13.0 g/dl PLT 190 x 109 /L WCC 5.4 x 109 /L Na+ 140 mmol/l Creatinine 100 μmol/l Which of the following drugs is she most likely to have taken?

1- Quinine

**2- Metoclopramide**

3- Simvastatin

4- Ramipril

5- Omeprazole

Q5053. A 46-year-old AIDS patient on medication for a respiratory tract infection and constipation complains that his urine is stained orange-red. His contact lenses have also become discoloured. Which drug is most likely to cause this?

1- B complex vitamins

2- Nelfinavir

3- Erythromycin

**4- Rifampicin**

5- Phenolphthalein

Q5054. A 70-year-old lady with a history of asthma presents with shortness of breath for some days. She is also treated with ramipril 10mg daily. On examination her blood pressure is 135/85 mmHg, pulse is 100/min (atrial fibrillation). She is not in cardiac failure. Examination of the respiratory system reveals wheeze consistent with asthma. Results; Hb 13.2 g/dl WCC 6.1 x 109 /L PLT 240 x 109 /L Na+ 138 mmol/l K+ 4.7 mmol/l Creatinine 125 μmol/l CXR Cardiomegaly consistent with longstanding hypertensive heart disease Which of the following is the most appropriate treatment for her atrial fibrillation?

1- Diltiazem

**2- Digoxin**

3- Amiodarone

4- Atenolol

5- Dysopyramide

Q5055. You are asked to help identify whether the child of a woman with a neuromuscular disorder is affected by the condition. A specific DNA sequence associated with the mutation which causes the disorder has been identified. Which of the following methods is a technique to identify a particular DNA sequence?

1- Northern blot

2- Eastern blot

**3- Southern blot**

4- Western blot

5- South-Western blot

Q5056. A 73-year-old man with chronic lymphocytic leukaemia (CLL) is followed up in clinic. He has become increasingly breathless over the last three months but has no other symptoms and is on no medication. On examination, he is pale and has bilateral cervical and inguinal lymphadenopathy and a firm 5-cm splenomegaly. FBC shows: Hb 7.4 g/dl; WCC 25 x 103 /mm3 ; platelets 117 x 103 /mm3 ; urea 15 mmol/l; creatinine 203 mmol/l; bilirubin 49 mmol/l. Which investigation is most appropriate to demonstrate the likely cause of anaemia?

1- Bone marrow aspirate

2- Autoantibody profile

3- Erythropoietin level

**4- Antiglobulin test**

5- Urinary haemosiderin

Q5057. A 38-year-old patient is investigated for his anaemia. A bone marrow biopsy shows a reduction of haematopoietic cells, a trephine biopsy shows mainly fatty bone marrow. Given the likely diagnosis, what is the most effective long term treatment if this problem persists without an obvious predisposing factor having been identified?

1- Blood transfusions

2- Chemotherapy

3- Corticosteroids

4- Splenectomy

**5- Haematopoietic stem-cell transplantation**

Q5058. A 60-year-old woman, who has been a lifelong smoker, has been recently diagnosed with lung cancer. Her husband asks you about how her smoking is likely to have contributed to her chances of developing this condition. Which of the following best describes the contribution of smoking history to lung cancer risk?

1- Life-long smokers have a lung cancer risk 2- 3 times greater than that of non-smokers

2- Non smokers are more likely to develop small-cell cancers

3- Life-long smokers are particularly likely to develop adenocarcinoma compared with life-long non-smokers

4- Life-long smokers have a 50% increased risk of developing cancer compared with nonsmokers

**5- The relative risk for developing small-cell**

Q5059. You are asked to review a postmenopausal 57- year-old woman who has attended the oncology clinic for review. She has recently had a left mastectomy with axillary lymph node clearance, nine lymph nodes contained evidence of tumour infiltration. The tumour cells are oestrogen and progesterone receptor-positive. You are considering starting her on the drug treatment anastrozole. Which of the following options most accurately describes the mode of action of anastrozole?

1- It blocks the ovarian production of oestrogens

**2- It blocks the peripheral tissue conversion of androgens to oestrogens**

3- It blocks the production of progesterone

4- It is an oestrogen-receptor antagonist

5- It is a progesterone-receptor antagonist

Q5060. A 51-year-old man presents for review with lethargy and periodic fevers. He has experienced gradual weight loss and has noticed some lymph nodes appear under his armpits and in his groin. Biopsy of one of the axillary nodes is suggestive of a follicular lymphoma. Immunohistological staining suggests that the lymphocytes are CD20+. He is commenced on standard chemotherapy in conjunction with a monoclonal antibody. Which drug treatment for non-Hodgkin’s lymphoma acts against CD20 lymphocytes?

1- Ciclosporin

2- Infliximab

**3- Rituximab**

4- Trastuzumab

5- Gemtuzumab

Q5061. Which of the following is an acute porphyria?

1- Congenital erythropoietic porphyria

2- Erythropoietic protoporphyria

3- Porphyria cutanea tarda

**4- Variegate porphyria**

5- None of the above

Q5062. A 54-year-old Afro-Caribbean man consults his family doctor because of the chest discomfort he first noticed 4 days ago after a session digging in his garden, but which he says is now resolving. He has previously been well, but is being treated with a statin for hypercholesterolaemia, and a thiazide and a calcium-channel antagonist for hypertension. Serum creatine kinase activity is 425 U/l (normal up to 150 U/l); serum troponin-T concentration is normal. What is the most likely explanation for the elevated creatine kinase?

1- Myocardial infarction

**2- Racial variant**

3- Recent exercise

4- Statin treatment

5- Thiazide treatment

Q5063. A 40-year-old lady presents with numbness and tingling in little finger of her right hand, and a diagnosis of ulnar neuropathy is made. Which muscle of her hand is most likely to be affected?

1- Extensor digiti minimi

2- Lateral 2 lumbricals

3- Flexor pollicis longus

4- Flexor pollicis brevis

**5- Adductor pollicis**

Q5064. A 73-year-old man is admitted to the hospital after suffering a left carotid territory stroke. His blood pressure is 155/90 mmHg and he is in sinus rhythm with a pulse of 65 bpm. On carotid duplex it appears there is a stenosis which is amenable to surgical therapy. He asks you about the risks of surgery versus intensive medical therapy. On reviewing the trials you note that the incidence of stroke in the surgical intervention group was 8%, versus 18% in those who had medical intervention only. How would you calculate the number needed to treat over 2 years with surgery to prevent 1 stroke?

**1- 100/(18-8)**

2- 18/8

3- 100/(18/8)

4- 18-8

5- 100-(18/8)

Q5065. A 25-year-old man was found by his family at home having suffered a cardiac arrest. He was previously well, apart from well controlled Type 1 diabetes controlled with a basal bolus insulin regime. His family followed the ambulance and ask if they can be in the resuscitation room. After 20 mins of repeated resuscitation cycles he has remained in asystole. Blood gases; pH 7.01 pO2 8.4 kPa pCO2 3.9 kPa Bicarb 10 mmol/l Which person is the most appropriate person to make the decision to discontinue resuscitation?

1- A&E consultant

2- On call medical consultant

3- Parents of the patient

4- Patient’s fianceé

**5- Resuscitation team leader**

Q5066. A 19-year-old man from a family of travellers presents to the Emergency department. He has suffered a sudden deterioration in vision. Additional past medical history of note includes bilateral shoulder dislocation. On examination he is tall and thin with a high arched palate. He appears to have suffered a lens dislocation Which of the following genes is most likely to be abnormal?

**1- Fibrillin-1**

2- Collagen Type II

3- Collagen Type III

4- Collagen Type IV

5- Collagen Type V

Q5067. A 42-year-old gentleman with pyrexia of unknown origin is being investigated. He received a renal transplant 3.5 years previously, where the donor was CMV antibody positive, EBV antibody positive, HIV negative. On examination he has enlarged axillary lymph nodes. His bloods are as follows: Hb 10.0 g/dl WCC 9.2 x 109 /L PLT 135 x 109 /L Creatinine 120 µmol/l (3yrs ago was 110) ESR 50 mm/hr Which of the following is the likely cause?

**1- Lymphoma**

2- CMV

3- EBV

4- HIV

5- Hepatitis C

Q5068. You are asked by a local general practitioner to review a 72-year-old man who complains of lethargy and tiredness. Recent haemoglobin was low at 10.1 g/dl and he had a macrocytosis. Further investigation reveals no evidence of haematological malignancy, but screening does reveal folic acid deficiency. Which of the following foods contains the largest proportion of folic acid?

**1- 150 g of liver**

2- 1 banana

3- 1 papaya

4- 1 cup of baked beans

5- 1 cup of raw spinach

Q5069. A 45-year-old woman presents with night sweats, right upper quadrant abdominal pain, weight loss and anorexia. A scan reveals a liver abscess consistent with bacterial infection. Past history of note includes Crohn’s disease which may be a possible contributing cause. She is known to be allergic to penicillin. Which of the following antibiotic regimens would be most appropriate as an empirical regimen?

1- Clindamycin + Metronidazole

2- Clindamycin + Ciprofloxacin

3- Vancomycin + Meropenem

**4- Ceftriaxone + metronidazole**

5- Azithromycin + clindamycin

Q5070. A 60-year-old woman is concerned about her risk of osteoporosis and wishes to make adjustments to her diet to increase her intake of vitamin D. She is already taking calcium supplements but wanted to know which food to eat which is a good natural source for vitamin D. Which of the following foods would you advise her to eat more of?

**1- Herring**

2- Eggs

3- Green vegetables

4- Red meat

5- Eels

Q5071. A 60-year-old woman is concerned about her risk of osteoporosis and wishes to make adjustments to her diet to increase her intake of vitamin D. She is already taking calcium supplements but wanted to know which food to eat which is a good natural source for vitamin D. Which of the following foods would you advise her to eat more of?

**1- Herring**

2- Eggs

3- Green vegetables

4- Red meat

5- Eels

Q5072. A 70-year-old woman presents to the preoperative orthopaedic clinic prior to hip replacement. She has suffered a myocardial infarction 4 years earlier and is managed with aspirin 75mg daily, ramipril 10mg daily and atorvastatin 40mg daily. There is no history of angina but she is only able to walk around 50 yards. On examination she looks well, her BP is 145/80 mmHg with a pulse of 75/minute. Bloods; Hb 14.0 g/dl WCC 5.9 x 109 /L PLT 180 x 109 /L Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 130 µmol/l Which of the following is the most appropriate investigation to assess her suitability for surgery from the point of view of her cardiovascular status?

1- 12-lead ECG

2- Treadmill stress test

3- Echocardiogram

**4- Dobutamine stress echo**

5- Cardiac angiography

Q5073. A patient who had a myocardial infarction 6 months ago is diagnosed as having gingival hypertrophy. Which drug is most likely to be responsible for this?

1- Atorvastatin

2- Isosorbide mononitrate

3- Aspirin

**4- Amlodipine**

5- Atenolol

Q5074. A 45-year-old woman is reviewed in the gastroenterology clinic. She has a 12 year history of asthma. There is also a history of acid reflux, where she reports symptoms of waterbrash and burning in her throat nearly every night. She has suffered 3 lower respiratory tract infections in the past year despite long term continuous treatment with 40mg omeprazole. Her BMI is 28. Upper GI endoscopy shows severe oesophagitis. Which of the following would be the most appropriate next treatment step?

1- Encourage her to raise the head of the bed

2- Add an anti-acid to her regime

**3- Refer her for fundoplication**

4- Increase her omeprazole to 60mg

5- Insist that she loses at least 15% of her

Q5075. A 24-year-old man presents with malaise, mild fever, loss of weight and anorexia. On examination, his scleras appear yellow. Serum bilirubin is elevated at 85 mmol/l (normal 1-22 mmol/l). ELISA for IgG anti-HEV is positive and HEV RNA is detectable in serum by PCR. What would be the characteristic finding on liver biopsy in this case?

1- Ground-glass hepatocytes

**2- Marked cholestasis**

3- Lymphoid aggregates

4- Microvesicular steatosis

5- Marked increase in the activation of

Q5076. A 23-year-old woman presents with intermittent diarrhoea, abdominal pain and distension. She has also suffered increasing tiredness and lethargy for the past 6 months. You arrange some investigations: Hb 10.5 g/dl MCV 105 fl WCC 8.2 x 109 /L PLT 135 x 109 /L Na+ 140 mmol/l K+ 3.9 mmol/l Creatinine 100 μmol/l Colonoscopy with biopsies shows multiple areas of inflammation, punched out ulcers Barium follow through reveals evidence of severe small bowel inflammation Given the likely diagnosis, which of the following is the biggest risk factor associated with the development of the disease?

1- Increasing age

2- Smoking

**3- Oral contraceptive use**

4- Diet low in soluble fibre

5- Excess alcohol consumption

Q5077. A 42-year-old woman is referred to the clinic with very difficult to manage hypertension. She is currently taking indapamide, ramipril, amlodipine and doxasosin, yet her blood pressure is still 155/95 mmHg. On examination she has a BMI of 25. Ophthalmoscopy reveals evidence of chronic changes consistent with hypertension. Bloods reveal; Hb14.0g/dl WCC 5.8 x 109 /L PLT 190 x 109 /L Na+ 139mmol/l K+ 3.3mmol/l Creatinine 100 μmol/l You suspect Conn’s syndrome. Which of the following is the investigation of choice to confirm the diagnosis?

1- CT Abdomen

2- Iodine (I131) iodocholesterol scanning

**3- Aldosterone:renin ratio**

4- MRI abdomen

5- Morning cortisol

Q5078. A junior doctor from Nigeria is being investigated following a needle-stick injury while taking a blood sample from a patient infected with hepatitis B virus, his vaccination status is unknown. Which test will provide the earliest diagnosis of hepatitis B infection in this case?

1- HBeAg

2- IgM anti-HBc

3- Anti-HBeAg

**4- HBsAg**

5- IgG anti-HBc

Q5079. A 32-year-old man presents with unilateral gynaecomastia. He had breast reduction surgery on the other side 10 yrs ago. On examination he has, sparse body hair in the axilla and pubic regions. Two testicles are identified, both of small volume. On further questioning you elucidate that he has a normal sense of smell. His blood tests reveal: Testoterone 4nmol/l (9-35) LH + FSH normal Prolactin 400mU/l (<360) Which of the following is the most likely diagnosis?

**1- Klinefelter’s syndrome**

2- Kallman’s syndrome

3- Androgen insensitivity

4- Testicular feminisation

5- 17-beta hydroxylase deficiency

Q5080. A 2-year-old boy, who has recently been circumcised, presents with purple papules on the scar and on his fingers, with evidence of excoriation. A white, lacy, reticulate appearance overlying lesions in the buccal mucosa is evident on oral examination. What is the most likely diagnosis?

1- Nodular prurigo

2- Psoriasis

3- Discoid eczema

4- Pyogenic granuloma

**5- Lichen planus**

Q5081. A 61-year-old man with known cirrhosis secondary to hepatitis C infection attends for review. There is a past histpry of iv heroin abuse and alcoholism. He has been feeling progressively more unwell during the past 6 months, with weight loss and worsening ascites. He is on long-term sick leave and has been closely monitored by his live-in partner, who maintains there has been no further drug abuse or consumption of alcohol. Which of the following is the most likely diagnosis given this clinical picture?

1- Superimposed hepatitis B infection

2- Alcoholism

3- Chronic active hepatitis

4- Spontaneous bacterial peritonitis

**5- Hepatocellular carcinoma**

Q5082. A 70-year-old diabetic man being treated with amiloride for congestive heart failure is admitted in a comatose state. Blood tests: sodium 152 mmol/l (137-144), potassium 5.0 mmol/l (3.5-4.9), chloride 115 mmol/l (95- 107), bicarbonate 30 mmol/l (20-28), glucose 50 mmol/l (3-6) and pH 7.35 (7.36-7.44). Creatinine is raised at 190 micromol/l. He is taking metformin for his diabetes. What is the most probable diagnosis?

1- Diabetic ketoacidosis

2- Ventricular arrhythmia

**3- Non-ketotic hyperosmolar coma**

4- Diabetic nephropathy

5- Hyperkalaemia due to amiloride

Q5083. A homeless male presents with multiple lustreless nails. There is no other skin lesion. What is the most appropriate investigation?

**1- Wood light examination**

2- Nail clippings for mycology

3- C-reactive protein

4- Blood cultures

5- Erythrocyte sedimentation rate

Q5084. Which of the following statements about prostaglandin synthesis is correct?

1- It is activated by glucocorticoids

2- It is produced by lipoxygenase

3- It is activated by aspirin

**4- It is mediated by cyclooxygenase**

5- It causes vasoconstriction

Q5085. You are asked to review a 24-year-old woman who has a history of excessive sunbathing and is worried about her risk of skin cancer. She has been reading about melanin production on the Internet and wants to know about where melanocytes are positioned in the anatomy of the skin. Which of the following best describes the position of melanocytes

**1- Melanocytes are positioned in the basal layer of the epidermis**

2- Melanocytes are positioned in the outer layer of the epidermis

3- Melanocytes are positioned in the dermis

4- Melanocytes are positioned in the midlayers of the epidermis

5- Melanocytes are positioned in the

Q5086. A 38-year-old woman presents to her GP complaining of palpitations, sweating and weight loss of around 4kg over the past 6 months. She has a history of thyroid disease in the family. On examination she has a blood pressure of 145/85 mmHg and a pulse of 92/minute. Bloods; TSH <0.05 mU/l Hb 13.4 g/dl WCC 5.6 x 109 /L PLT 223 x 109 /L Na+ 140 mmol/l K+ 4.0 mmol/l Creatinine 100 μmol/l You suspect that she has thyrotoxicosis. Which of the following fits best with the action/effects of excess thyroxine?

**1- Improved insulin sensitivity**

2- Decreases myocardial oxygen demand

3- Increased tissue elasticity

4- Increases prolactin release

5- Leads to increased bone mass

Q5087. A 32-year-old woman presents with extreme lethargy a couple of weeks after the birth of her third child by emergency caesarean section. She complained to the health visitor of increasing problems some 7 days earlier, but was told that this was to be expected after the birth of her child. On admission via casualty she was noted to have a sodium concentration of 127 mmol/l, a potassium concentration of 6.8 mmol/l and a urea of 12 mmol/l. What is the likely diagnosis?

**1- Sheehan's syndrome**

2- Hypothyroidism

3- Primary adrenal failure

4- Postnatal depression

5- Dehydration

Q5088. A 21-year-old Medical Student presents with recurrent collapses. These have occurred on a number of occasions in association with stressful periods on the wards. Most recently she has been attached to the Emergency department and has suffered two collapses during cardiac arrests of patients on the unit. Her father has a history of Type 1 diabetes. You are on call with her overnight and she collapses again, you collect a blood sample. Bloods; Glucose 1.6 mmol/l Insulin 1261 pmol/l C-Peptide 20 pmol/l (<400) Which of the following is the most likely diagnosis?

1- Insulinoma

2- Glucagonoma

3- Phaeochromocytoma

4- Illicit use of sulphonylureas

**5- Illicit use of insulin**

Q5089. A 78-year-old lady is admitted from home by ambulance. She was found lying on the floor by her home help after suffering a fall. She has a history of hypertension managed with ramipril 10mg PO daily. On examination her temperature is 30.0oC, her BP is 100/50 mmHg, with a pulse of 52/min. She has a fractured left neck of femur. Bloods; Hb 14.5 g/dl WCC 4.5 x 109 /L PLT 192 x 109 /L Na+ 143 mmol/l K+ 5.3 mmol/l Creatinine 195 μmol/l Which of the following ECG features is most characteristic of moderate to severe hypothermia?

1- Long QT interval

2- Short PR interval

3- 2nd degree heart block

4- Complete heart block

**5- J waves**

Q5090. A 29-year-old woman with thyrotoxicosis presents with a 6-week history of amenorrhoea. Laboratory investigations confirm an early pregnancy. Which of the following drugs would be most appropriate in this condition?

1- Carbimazole

2- Radioactive iodine

3- Propranolol

**4- Propylthiouracil**

5- Methimazole

Q5091. A 45-year-old man presents to the clinic complaining of a lump in the neck which becomes particularly more prominent when she swallows. On examination there is a thyroid nodule at the base of the neck. Leukocyte screening of two other family members who suffered thyroid carcinoma has revealed the ret proto-oncogene. Which type of thyroid carcinoma is linked to the ret-proto-oncogene?

1- Papillary thyroid carcinoma

2- Anaplastic thyroid carcinoma

3- Follicular thyroid carcinoma

**4- Medullary thyroid carcinoma**

5- Thyroid lymphoma

Q5092. A 24-year-old woman is referred by her GP with a number of large boil-like lesions that have appeared on her back over the course of a few days. She is awaiting investigations by a gastroenterologist for diarrhoea and has been found to be anaemic. On examination in the dermatology clinic, three out of the four lesions have broken down, leaving large ulcerated painful areas. What diagnosis fits best with this clinical picture?

1- Erythema induratum

**2- Pyoderma gangrenosum**

3- Necrobiosis lipoidica

4- Erythema nodosum

5- Erythema multiforme

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Q5093. A 24-year-old woman undergoes resection of the terminal ileum with fashioning of an ileostomy for Crohn's disease. Some 2 weeks after surgery, she is making a good recovery, and is eating a high-energy, low-residue diet, but has a high ileostomy volume, necessitating intravenous fluid replacement. Her serum calcium concentration is 1.82 mmol/l, phosphate 1.28 mmol/l, alkaline phosphatase 82 U/l (normal < 150), albumin 30 g/l, creatinine 80 m mol/l. Prior to surgery, her serum calcium concentration was 2.18 mmol/l, albumin 36 g/l. What is the most likely cause of her hypocalcaemia?

1- Formation of insoluble calcium salts in the intestine

2- Hypoalbuminaemia

**3- Hypomagnesaemia**

4- Malabsorption of calcium

5- Malabsorption of vitamin D

Q5094. A 68-year-old-man with atrial fibrillation (AF) is admitted electively for DC cardioversion, to be performed as a day-case procedure. However, the procedure is postponed to a later date. Which one of the following reasons could be responsible for the delay?

1- He had discontinued digoxin for the last 2 days

2- He was taking amiodarone

**3- His INR 3 weeks ago was 1.6**

4- His serum potassium level was 4.2 mEq/l

5- He had an episode of angina 2 days ago

Q5095. Side-effects of ciclosporin therapy include which of the following?

1- Alopecia

2- Myelosuppression

**3- Chronic interstitial nephritis**

4- Stomatitis

5- Urolithiasis

Q5096. A 75-year-old heavy smoker of 40 cigarettes per day is admitted to the Emergency department. He has a past history of hypertension and atrial fibrillation. Over the past few months he has suffered a chronic cough and has lost approximately 2 stone (about 12.5 kg) in weight. He has been increasingly drowsy over the past few days and his relatives were unable to rouse him this morning. On examination he has a GCS of 6 and you notice that he has been incontinent of urine and faeces. What diagnosis fits with this clinical picture?

1- Subarachnoid haemorrhage

2- Embolic stroke

3- Cerebral meningioma

4- Glioblastoma multiforme

**5- Metastatic carcinoma with cerebral**

Q5097. Which one of the following is true regarding subacute bacterial endocarditis (SBE)?

1- The risk of infection for mitral valve lesions is higher than for aortic valve lesions

2- Q fever is the most frequent cause of culture negative endocarditis

**3- If Streptococcus bovis endocarditis is diagnosed a thorough investigation of the colon is indicated**

4- In early prosthetic valve endocarditis Staphylococcus aureus is frequently isolated

5- Prophylaxis for endocarditis is probably not

Q5098. Which of the following statements relates to the pharmacology of trimethoprim?

1- It is a bacteriocidal drug

**2- It is combined with sulfamethoxazole for synergistic reasons**

3- It requires estimation of serum levels to assess therapeutic efficacy

4- It may cause marrow depression and microcytic anaemia

5- It may cause side-effects such as hepatic

Q5099. The GP was called to the nursing home to see a 75-year-old man with dementia and severe pruritus. On examination, he had excoriations over his trunk and limbs. There was some scaling over his palms, most prominently in the web spaces. Which is the most likely diagnosis?

1- Iron deficiency anaemia

2- Chronic renal failure

3- Diabetes

**4- Scabies infestation**

5- Atopic eczema

Q5100. In a diabetes specialist clinic you are about to review a 59-year-old patient with type-2 diabetes mellitus that is not responding to dietary advice and weight reduction. He therefore needs to commence taking an oral hypoglycaemic agent. Which of the following is true concerning the oral hypoglycaemic agents used in the management of diabetes mellitus?

1- Metformin causes hypoglycaemia

2- Sulphonylureas reduce peripheral insulin sensitivity

3- Glitazones are strongly associated with significant hepatotoxicity

**4- Acarbose inhibits a -glucosidase**

5- Metformin increases insulin secretion

Q5101. A 64-year-old librarian is referred to you, complaining of a burning sensation on the anterolateral aspect of her right thigh. She is diabetic and has not attended the diabetic follow-up clinic for a year. Some 7 months ago she had a mild stroke affecting her right side and was found to be in atrial fibrillation, for which she was prescribed warfarin. In addition, her GP recently prescribed her an antibiotic for a chest infection. Examination reveals normal muscle power. Tone is slightly increased on the right, with the right-sided reflexes a little brisker than those on the left. Pinprick was reduced over the anterolateral aspect of her right thigh. What is the most likely diagnosis?

1- Diabetic femoral amyotrophy

2- Thalamic pain secondary to previous stroke

3- Iliopsoas haematoma from warfarin causing a femoral neuropathy

**4- Compression of the lateral cutaneous nerve of the thigh**

5- Femoral hernia

Q5102. An 18-year-old young woman presents with a 4-day history of cough, headache, fever and joint pains. Blood tests show the presence of raised antibody titres and the presence of cold agglutinins. A diagnosis of Mycoplasma pneumoniae infection is made. Which drug would you prescribe as first-line treatment for this patient?

1- Cefuroxime

2- Rifampicin

3- Penicillin

**4- Clarithromycin**

5- Co-trimoxazole

Q5103. A 35-year-old woman presents with increasing headache, nausea, vertigo, decreasing vision in both eyes and persistent fever. She also complains of pain in her legs on jogging. Her blood pressure is 190/110 mmHg. Femoral pulses are weak with a radiofemoral delay. What is the most likely diagnosis?

1- Wegener's granulomatosis

2- Coarctation of aorta

3- Giant-cell arteritis

4- Polyarteritis nodosa

**5- Takayasu's arteritis**

Q5104. A 58-year-old woman was admitted with a pulmonary embolism. After 7 days she has developed an arterial thrombosis in her left leg: her thrombocyte count is 40 x 109 /l. What is the most likely diagnosis?

1- Acute adrenal insufficiency

2- Disseminated intravascular coagulation

**3- Heparin-induced thrombocytopenia**

4- Immune thrombocytopenic purpura

5- Thrombotic thrombocytopenic purpura

Q5105. A 44-year-old pharmacist presents with a history of recurrent episodes of faintness, sweating and tremor, occurring particularly in the late morning or late afternoon. An insulinoma is suspected. The patient is admitted for 3 days' consecutive overnight fasting with blood glucose measurements in the morning. She remains asymptomatic during her admission and the lowest blood glucose concentration is 4.4 mmol/l. On discharge from hospital, she reports that her symptoms have recurred. What would be the most useful investigation to establish the diagnosis?

1- Measurement of plasma b - hydroxybutyrate

2- Measurement of glycated haemoglobin (Hb A1c)

3- Prolonged glucose tolerance test

**4- Simultaneous measurement of glucose and C-peptide when symptomatic**

5- Simultaneous measurement of glucose and

Q5106. A 30-year-old pregnant female who has reached 20 weeks has a family history of deep vein thromboses (DVTs). Her thrombophilia screen shows factor V Leiden. What is the most appropriate management?

**1- Seek medical attention for anticoagulation if the calf swells**

2- Aspirin 75 mg once daily

3- Prophylactic low-molecular weight heparin

4- Prophylactic unfractionated heparin

5- Prophylactic warfarin

Q5107. A 24-year-old man has been diagnosed with Hodgkin's lymphoma stage IA. Which therapy is indicated?

1- Radiotherapy alone

**2- Combination chemotherapy followed by radiotherapy**

3- High-dose chemotherapy with concurrent radiotherapy

4- High-dose chemotherapy with bone marrow transplantation

5- Lymphadenectomy and chemotherapy

Q5108. What is the significance of the bcr/abl gene?

1- It acts on stem cell line in the DNA

2- It blocks apoptosis

**3- It codes for production of a tyrosine kinase**

4- It increases production of G-CS (cerebrospinal fluid)

5- It increases expression of G-CSF receptors

Q5109. A 25-year-old man presents in the casualty department with a two-day history of a painful and swollen left knee. He is pyrexial with a temperature of 38.5°C. Examination of his cardiovascular and respiratory system is normal. An abdominal examination is normal. He also mentions that he developed a painful right ear and saw his doctor five days ago who told him he had an infected ear and prescribed antibiotics. His left knee is swollen, red, tender and slightly flexed. A diagnosis of septic arthritis is made. What is the most likely causative organism?

1- Streptococcus viridans

2- Staphylococcus epidermidis

**3- Staphylococcus aureus**

4- Escherichia coli

5- Neisseria meningitides

Q5110. A 23-year-old woman with a lifelong history of atopy, hay fever and mild asthma attends her GP. Over the last 3 months she has been waking in the early morning coughing and wheezing, and it is slowly getting worse. She is taking inhaled salbutamol seven times a day and is also using inhaled steroids 400 mg twice a day. Her predicted peak flow rate is 500 l/min and it is now 350 l/min. What would you advise her GP to do?

1- Call an ambulance and admit her to hospital

2- Start an oral leukotriene-receptor antagonist, such as montelukast

3- Start her on oral theophylline

**4- Start an inhaled long-acting b 2-agonist**

5- Lend her a nebuliser to use at home

Q5111. Which of the following is not typically a cause of hypercalcaemia?

1- Hyperparathyroidism

**2- Hypothyroidism**

3- Milk-alkali syndrome

4- Sarcoid

5- Squamous-cell carcinoma

Q5112. An obese 36-year-old woman has been referred by her GP. Her past history of note includes gestational diabetes during her last pregnancy 2 years ago. She also has a strong family history of type-2 diabetes. Her GP checked her liver function tests as part of a routine health screen and found a raised ALT level. An infective hepatitis screen and autoimmune profile were normal. There is no history of excess alcohol consumption. Abdominal ultrasound reveals evidence of fatty infiltration of the liver. Biopsy reveals fat infiltration with some evidence of fibrosis. Which diagnosis fits best with this clinical picture?

**1- Non-alcoholic steatohepatitis (NASH)**

2- Autoimmune hepatitis

3- Alcoholic cirrhosis

4- Cholecystitis

5- Hepatocellular carcinoma

Q5113. A 50-year-old man with no previous cardiovascular history comes to the Emergency room after referral from his GP. He attended the GP surgery with palpitations, which were extremely rapid and irregular. It is now 9am and he tells you the palpitations began the previous morning after a heavy drinking session with a friend from work. There is no history of smoking, cardiovascular disease or previous myocardial infarction, he plays squash twice per week and cycles to work. On examination his BP is 125/77 mmHg, his pulse is 140/min, irregular. He is not in cardiac failure. Investigations; Hb 13.1 g/dl WCC 4.9 x 109 /L PLT 210 x 109 /L Na+ 139 mmol/l K+ 4.7 mmol/l Creatinine 120 μmol/l CXR No cardiomegaly, no LVF ECG Fast atrial fibrillation, no Q waves Which of the following is the most appropriate therapy to chemically cardiovert him?

1- Adenosine

2- Bisoprolol

3- Digoxin

**4- Flecainide**

5- Verapamil

Q5114. A 74-year-old woman is noted to have poor self-care with symptoms of early morning wakening and decreased appetite. She has poor concentration, and is easily agitated. There is a history of recent death in the family. She also recently lost her job as a volunteer. She has difficulty in answering short-term recall questions. What is the diagnosis?

1- Pathological grief

**2- Depressive pseudodementia**

3- Dementia

4- Personality disorder

5- Delirium

Q5115. A 26-year-old woman presents to her GP with mood swings and depression. She is prescribed Prozac, but returns a few months later with pains and numbness in both legs. Her antidepressant is changed but her mood worsens and she starts to have problems with her memory and motivation. She is referred to your clinic where, in addition to mild cognitive impairment, you notice slight increased tone in her limbs and occasional myoclonic jerks. Her MRI scan reveals thalamic hyperintensity on T2-weighted images, but her EEG is normal. What is the most likely diagnosis?

1- Corticobasal degeneration

2- Progressive severe depression

3- Juvenile myoclonic epilepsy

**4- New-variant Creutzfeldt-Jakob disease**

5- Wilson's disease

Q5116. An 18-year-old man presents with nausea, vomiting and diaphoresis. His pupils are dilated and his blood pressure is elevated. Misuse of which substance is most likely to have caused this condition?

1- Morphine

**2- Cocaine**

3- Alcohol

4- Amphetamine

5- Lysergic acid diethylamide (LSD)

Q5117. A 29-year-old woman presents to her GP with a history of weight loss, heat intolerance, poor concentration and palpitations. Which of the following is most likely to be associated with a diagnosis of thyroiditis associated with viral infection?

1- Bilateral exophthalmos

2- Diffuse, smooth goitre

**3- Reduced uptake on thyroid isotope scan**

4- Negative thyroid peroxidase antibodies

5- Pretibial myxoedema

Q5118. An HIV-positive patient with a CD4 count of 550 cells/µl attends clinic to seek advice on vaccinations prior to travel to sub-Saharan Africa. Which fo the following vaccines should be avoided?

**1- BCG**

2- Hepatitis A

3- Polio (Salk)

4- Meningococcal

5- Tetanus

Q5119. You review a 28-year-old man with a family history of early thyroid carcinoma and phaeochromocytoma. Your patient has been searching on the internet and has found information about the RET proto-oncogene. The proto-oncogene RET causes which thyroid cancer?

1- Papillary

**2- Medullary**

3- Follicular

4- Anaplastic

5- Lymphoma

Q5120. A 46-year-old woman is admitted to hospital with a left basal, community-acquired pneumonia. She is on the appropriate antibiotics. She is still pyrexial four days after admission and a chest X-ray confirms a left pleural effusion. The house officer has performed a diagnostic tap. Which of the following is an indication to insert a chest drain?

1- Pleural fluid protein level more than 50% of serum protein level

2- Pleural fluid LDH more than 60% of serum LDH

3- Haemorrhagic pleural fluid

**4- Pleural fluid pH < 7.2**

5- Pleural fluid glucose < 1.6 mmol/l

Q5121. A hypertensive, heavy smoking, 73-year-old man suffers a massive cardiac infarct following occlusion of his anterior interventricular artery, (anterior descending artery). Angiography is performed to demonstrate the coronary vessels. Which anatomical relationship of these vessels should be borne in mind?

1- The anterior interventricular artery arises above the left posterior aortic cusp

**2- The anterior interventricular artery supplies almost all of the left ventricle**

3- There is a rich collateral circulation between the right and left coronary arteries

4- The circumflex artery is the major branch of the right coronary artery

5- The posterior interventricular artery is a

Q5122. A patient presents with mononeuritis multiplex affecting the oculomotor nerve (III). What clinical feature is likely to be present on examination?

**1- Ptosis of the upper eyelid on the affected side**

2- Constricted pupil on the affected side

3- Inability to laterally deviate the eye on that side

4- Decreased sweating of the face on the affected side

5- A light shone into the affected eye fails to

Q5123. If two new screening tests for colon cancer and for pancreatic cancer are introduced, both of the tests have the same sensitivity and specificity, and they are applied to the general population aged between 55 and 69 years, then which of the following statements would best apply?

1- Both tests will have the same positive predictive value, and both tests will have the same negative predictive value

2- The positive predictive value for the colon cancer test will be higher and the negative predictive value for the colon test will be higher

**3- The positive predictive value for the colon cancer test will be higher and the negative predictive value for the pancreatic test will be higher**

4- The positive predictive value for the pancreatic cancer test will be higher and the negative predictive value for the pancreatic cancer test will be higher

5- The positive predictive value for the

Q5124. An 18-year-old girl presents via her GP who is concerned that she may have an underlying endocrine problem. She is a good student and has just won a place at university. She weighs only 38 kg (6 stone) and is 1.78 m (5ft 10 inches) tall. She is emaciated, her skin is dry and she has excessive growth of lanugo hair. She has been amenorrhoeic for 9 months. Her cortisol level is elevated, her Free T4 is normal. She has an anaemia and associated reduced white cell and platelet count. Which of the following diagnoses is most likely to fit with this clinical picture?

1- Addison's disease

2- HIV

3- Occult carcinoma

4- Hypothyroidism

**5- Anorexia nervosa**

Q5125. A 60-year-old lady, who has been an inpatient in the medical unit for several weeks, is noted to have a haemoglobin concentration of 9.9 g/dl (13-16). The blood film shows evidence of haemolysis. She has been on multiple medications and a drug-related cause is suspected. Which of the following agents is most likely to be responsible for her anaemia?

**1- Penicillin**

2- Verapamil

3- Captopril

4- Erythromycin

5- Atenolol

Q5126. A 22-year-old woman is brought to A&E having ingested 20 tablets of paracetamol 8 hours earlier. What should her immediate management consist of?

1- Activated charcoal

2- Liver function tests, prothrombin time and INR estimations

3- Plasma paracetamol concentration estimation

4- Inform the local liver unit for management of acute liver failure

**5- Intravenous N-acetylcysteine**

Q5127. A cerebral angiogram is performed on a 37- year-old woman, following a suspected aneurysmal bleed. Which anatomical feature should be considered when interpreting the angiogram?

**1- The middle cerebral artery is the largest single component of the circle of Willis**

2- The posterior cerebral artery is clearly seen on a lateral carotid angiogram

3- The vertebral arteries meet at the foramen magnum to form the basilar artery

4- The middle cerebral artery courses over the lateral aspect of the temporal lobe of the cerebrum

5- The middle meningeal artery is an

Q5128. A 55-year-old woman presents with her husband to the endocrine clinic. She has distressing symptoms of sweating, and her husband noticed increased prominence of her jaw when he was archiving photos from recent years. Last year she was diagnosed with type-2 diabetes. Other past history of note is that she has recently been operated on for carpal tunnel syndrome. Which of the following most likely to fit with her condition?

1- Random growth-hormone level is likely to be < 1 mU/l

2- IGF-1 levels are likely to be normal

**3- Growth-hormone levels are likely to remain above 20 mU/l after a 75-g glucose load**

4- 1-25-OH vitamin D level is invariably normal

5- Hypertension coexists in 20% of patients

Q5129. A 24-year-old woman attends the neurological clinic for review of multiple sclerosis, diagnosed 2 years before. She had presented with blurring of vision and mild pain in her left eye, which had resolved over a period of 3 months and had not recurred. On examination now, the following observations are made: light shone in the left eye causes constriction of the left and right pupils; light shone into the right eye causes constriction of the right and left pupils but when the light is shone back into the left eye, the left pupil dilates slightly. Which of the following is the most likely site of the lesion responsible?

1- Left ciliary ganglion

2- Left oculomotor nerve

**3- Left optic nerve**

4- Right ciliary ganglion

5- Right optic nerve

Q5130. A 55-year-old patient has been complaining of a 4-week history of shortness of breath and cough with occasional bloody phlegm. He has been smoking 10 cigarettes per day for 25 years. The clinical examination, chest X-ray and laboratory parameters including arterial blood gases are unremarkable. Which of the following investigations is most likely to give the correct diagnosis?

1- Sputum cytology

2- Spirometry

**3- CT thorax**

4- Follow-up chest X-ray in 6 weeks

5- Ventilation/perfusion scan of the lung

Q5131. A previously healthy 25-year-old man presented with watery diarrhoea of 10 days' duration. He had no significant past medical history. Examination showed significant postural drop. Stool culture samples yielded Cryptosporidium parvum. What is the next appropriate management after replacement with intravenous fluids?

1- Albendazole

2- Co-trimoxazole

3- Metronidazole

**4- No specific therapy**

5- Ciprofloxacin

Q5132. A 69-year-old diabetic woman is febrile with chills and rigors and has a 1-day history of pain in her right knee. What clinical diagnosis should be considered most likely until excluded?

1- Gouty arthritis

2- Osteoarthritis

3- Pseudogout

**4- Septic arthritis**

5- Reactive arthritis

Q5133. A 26-year-old woman presents to A&E with fever, myalgia and shock after returning from a holiday in Korea. Her blood pressure is 78/50 mmHg, respiratory rate is 40/min, she is cyanosed but not jaundiced and has bilateral conjunctival haemorrhage with epistaxis. She receives volume resuscitation but remains oliguric (5 ml/hour). Plasma creatinine is 460 m mol/l, urea is 182 mmol/l, Hb is 9.1 g/dl, platelet count is 34 x 1012/l and prothrombin time is 32 seconds. What is the diagnosis?

1- Acute interstitial nephritis

2- Haemolytic-uraemic syndrome

**3- Hantavirus infection**

4- Leptospirosis

5- Rhabdomyolysis

Q5134. A 33-year-old man presents with a 10-year history of arm tremor, which he has had for many years. However, it has become worse recently, such that he now finds it embarrassing at work and is worried about losing his job. His father had a similar problem, although this was mild and always put down to benign tremulous Parkinson’s disease. On examination he has a fine postural tremor, but normal tone. Fine finger movements are normal, as is his gait. What is the most likely diagnosis?

1- Wilson’s disease

2- Familial cerebellar degeneration

3- Familial Parkinson’s disease

4- Severe anxiety

**5- Benign essential tremor**

Q5135. A 39-year-old man with coeliac disease presents complaining of pain in both legs and difficulty in walking. An X-ray shows linear areas of low density surrounded by sclerotic borders in both femurs. Given the most likely explanation for his lower limb symptoms, which test would be most useful in diagnosing this condition?

1- Plasma calcium

2- Parathyroid hormone level

3- Serum phosphate

**4- Serum alkaline phosphatase**

5- Urinary phosphate excretion

Q5136. Which of the following is being used as a prognostic marker in acute myeloblastic leukaemia?

1- Elevated lactate dehydogenase (LDH)

**2- Karyotype of bone marrow**

3- Monocytic morphology

4- The number of blasts in the bone marrow

5- White cell count at diagnosis

Q5137. A 68-year-old male patient with disseminated carcinoma of the prostate is being treated with buprenorphine, which until recently has controlled his bone pain well. Other significant history of note includes chronic renal failure. More recently, he has complained of increasing pain in the hip. Which of the following measures would be most appropriate to optimise his pain control?

1- Add morphine elixir to his therapy

**2- Substitute morphine elixir for buprenorphine**

3- Substitute sustained-release morphine tablets for buprenorphine

4- Add diclofenac to his therapy

5- Add amitriptyline to his therapy

Q5138. People can be described as either fast or slow drug acetylators. Which of the following statements is true?

**1- Sulfasalazine can cause haemolysis in slow acetylators**

2- Slow acetylation is an autosomal-dominant trait

3- Approximately 60% of Japanese people are fast acetylators

4- Drug acetylation is a phase-I reaction

5- Dapsone treatment can cause neuropathy

Q5139. A patient presents with pancytopenia (anaemia, leucopenia, thrombocytopenia). No material could be obtained from a bone marrow aspiration. Which is the next investigation employed to obtain a diagnosis?

1- Level of LDH in serum

2- Chromosome analysis

**3- Bone marrow biopsy and histological examination**

4- Level of alkaline phosphatase in serum

5- Level of Vitamin B12 in serum

Q5140. You are called to see a 50-year-old woman who is having difficulty breathing following a laparoscopic cholecystectomy. She is making a lot of noisy inspiratory effort with stridor. You notice she is taking warfarin long term for thromboembolic disease, salbutamol and inhaled steroids for asthma and penicillamine for severe rheumatoid arthritis. Which test might be the most helpful in diagnosing her current problem?

1- Peak flow

2- Spirometry with transfer factor measurement

**3- Spirometry with flow volume loops**

4- Chest X-ray

5- CT chest

Q5141. A 52-year-old woman, diagnosed with type-2 diabetes mellitus and losing weight, is referred for an opinion; her GP is thinking about insulin therapy. A normochromic, normocytic anaemia is noted. On examination she has angular stomatitis and a welldemarcated erythematous rash in her groin, which extends to her lower limbs, buttocks and perineum. What is the next step in her management?

1- Refer to nursing colleagues for conversion to insulin

2- Try high-dose sulphonylurea therapy

3- Observe and see again in 6 months

**4- Measure plasma glucagon levels**

5- Measure plasma somatostatin levels

Q5142. A 22-year-old woman with partial lipodystrophy presents with a 3- month history of increasing swelling of her legs, which is now up to her knees. Urinalysis shows heavy proteinuria but no haematuria. A diagnosis of nephrotic syndrome is therefore made. Which investigation is most likely to help in the definition of the underlying renal pathology?

1- Serum immunoglobulins

**2- Complement studies**

3- Antineutrophil cytoplasmic antibodies (ANCA)

4- Antiglomerular basement membrane antibodies (anti-GBM)

5- Antistreptolysin titre (ASOT)

Q5143. A 70-year-old-man reverts to atrial fibrillation after several attempts at cardioversion, but remains symptomatic despite rate control with digoxin and metoprolol. He developed pulmonary fibrosis with amiodarone. Which of the following will be the next step in the management of this patient?

1- Switch metoprolol to amlodipine

2- Double the dose of digoxin

**3- Perform radiofrequency ablation of the AV node, and implant a pacemaker**

4- Make another attempt at cardioversion

5- Implant a cardiovertor defibrillator

Q5144. A 59-year-old woman complains of left knee pain. On examination no abnormality is found except that her BMI is 32. An X-ray of the knee joint shows narrowing of the joint space and subchondral sclerosis. What is the possible cause for her condition?

1- Ageing

2- Pyrophosphate arthropathy

**3- Obesity**

4- Menopause

5- Gout

Q5145. A 29-year-old woman with temporal lobe epilepsy wishes to have a baby. She is currently taking phenytoin 300 mg per day and lamotrigine 50 mg per day in combination. Her partial seizures have been controlled for 10 months. She has no history of generalised tonico-clonic seizures. She is already taking a multivitamin tablet containing folic acid as she has read that this is advised in early pregnancy. She is anxious about the risk of fetal malformations. What would be the most appropriate advice to suggest regarding her management?

1- Once she is pregnant, start high-dose folic acid (5 mg per day)

2- Start high-dose folic acid now

**3- Start high-dose folic acid now and try to withdraw one of her antiepileptic drugs (AED)**

4- Try to reduce the dose of each AED and continue taking a multivitamin tablet

5- Try to reduce the dose of each AED and

Q5146. A 59-year-old woman complains of left knee pain. On examination no abnormality is found except that her BMI is 32. An X-ray of the knee joint shows narrowing of the joint space and subchondral sclerosis. What is the possible cause for her condition?

1- Ageing

2- Pyrophosphate arthropathy

**3- Obesity**

4- Menopause

5- Gout

Q5147. In multiple drug resistant tuberculosis (MDRTB) which one of the following statements is NOT accurate?

**1- Usually caused by Mycobacterium aviumintracellulare (MAI)**

2- AIDS has increased the incidence of MDRTB

3- Sputum smear for acid-fast bacilli is often positive

4- Directly observed therapy or supervised therapy is recommended

5- Quinolones such as ciproxin have an anti-TB

Q5148. A 30-year-old man is found to have macroscopic haematuria, proteinuria of 1.5 g/24 hours and a serum creatinine level of 153 µmol/l. What is the most likely diagnosis?

1- Diabetic nephropathy

2- Membranous glomerulonephritis

3- Henoch-Schönlein purpura

4- Focal glomerulosclerosis

**5- IgA nephropathy**

Q5149. A 41-year-old man presents to his GP with a rather odd history of intermittent fever, cough and pleuritic chest pain. He is given a course of antibiotics and returns to his GP 3 weeks later complaining of malodorous diarrhoea 5- 10 times per day, which actually pre-dated his chest pain and arthralgia. Which of the following tests is best to provide a definitive diagnosis?

1- Chest X-ray

**2- Small-bowel barium follow-through and biopsy of the small intestine**

3- Stool culture for Clostridium difficile

4- HIV testing

5- Sputum culture for tuberculosis

Q5150. A 19-year-old woman is referral to you with a blood pressure of 180/130 mmHg. On examination she has cafe-au-lait patches and some axillary freckling. She required surgery for scoliosis as a child. What is the most likely underlying diagnosis?

1- Marfan's syndrome

**2- Neurofibromatosis type 1**

3- Hypertrophic cardiomyopathy

4- Tuberous sclerosis

5- Cushing's disease

Q5151. A patient on total parenteral nutrition (TPN) regimen presents with drowsiness and abnormal serum electrolytes. What is the most likely cause?

1- Hypocalcaemia

2- Hypercalcaemia

3- Hypernatraemia

**4- Hypophosphataemia**

5- Hypomagnesaemia

Q5152. A 32-year-old patient with asthma has been stable with inhaled salbutamol when required. Recently she had to use her inhaler more frequently and also at night. What is the next step in her therapy?

1- Inhaled β2-agonist at maximum dose

**2- Regular inhaled budesonide, inhaled salbutamol when required**

3- Addition of oral corticosteroids

4- Addition of oral leukotriene-receptor antagonist

5- Addition of oral theophylline

Q5153. A student returns from a backpacking holiday in South America having developed abdominal pain, diarrhoea and fevers 1 week prior to his return. On examination he has a fever of 38.5°C and diffuse abdominal pain. Stool microscopy shows pus cells and red blood cells, culture is awaited. What is the most likely organism?

1- Plasmodium falciparum

2- Norwalk virus

3- Rotavirus

**4- Salmonella spp**

5- Vibrio cholerae

Q5154. A 70-year-old man with chronic bronchitis is admitted with dyspnoea and peripheral cyanosis. On auscultation, there are scattered rhonchi but no wheeze or evidence of consolidation. Arterial blood-gas determinations show a pH of 7.38, pa(O2) 40 mmHg and pa(CO2) 45 mmHg. 40% oxygen is given by facemask. Within 10 minutes he becomes more drowsy and his respiratory rate falls. A repeat arterial blood-gas estimation shows a pH of 7.24, pa(O2) 72 mmHg, pa(CO2) 63 mm Hg. What is the next step in his management?

1- Obtain a chest X-ray

2- Do a ventilation/perfusion scan

**3- Decrease the fraction of inspired oxygen**

4- Initiate mechanical ventilation

5- Administer intravenous aminophylline

Q5155. A 35-year-old homosexual, known to be HIVseropositive, presents with right-sided weakness and a 2-week history of difficulty with his speech. The CD4 T-lymphocyte count is 50 cells/µl. An MRI scan of the brain demonstrates a large ring-enhancing lesion in the parietofrontal region of the left hemisphere and several small lesions in the right hemisphere. What is the most likely diagnosis?

1- HIV encephalopathy

2- Lymphoma

3- Progressive multifocal leucoencephalopathy (PML)

**4- Toxoplasmosis**

5- Tuberculosis

Q5156. A 14-year-old boy presents acutely with petechiae on his legs, severe abdominal pain, bloody faeces, haematuria and painful joint swelling. The haematology laboratory results are normal. What is the most likely diagnosis?

1- Acute lymphocytic leukaemia

2- Alport's syndrome

**3- Henoch-Schönlein purpura**

4- Juvenile rheumatoid arthritis

5- Typhus abdominalis

Q5157. A 60-year-old is taking warfarin long-term for recurrent pulmonary emboli. The patient presents to A&E complaining of vomiting a large amount of bright red blood. On examination he is pale, hypotensive with a blood pressure of 90/60 mmHg and has epigastric tenderness. Initial blood tests show:Hb 6.5 g/dl, with a normochromic normocytic anaemia; WCC 12.3 x 109 /L; platelets 375 x 109 /L and INR 9.2. How should his coagulation be corrected immediately?

1- Transfusion of fresh blood

2- Transfusion of packed red cells

3- Transfusion of 20 units cryoprecipitate and 20 mg iv vitamin K

4- Transfusion of 2000 U factor VIII concentrate

**5- Transfusion of 4 units fresh-frozen plasma**

Q5158. During the assessment of a stroke, a middleaged man undergoes detailed neurological examination. Which of the following physical signs would most suggest a pyramidal lesion?

1- Weakness of forearm flexion

2- Weakness of hip extension

**3- Weakness of knee flexion**

4- Weakness of ankle plantar flexion

5- Weakness of wrist flexion

Q5159. A young man presents with haematuria and recurrent haemoptysis. Renal biopsy shows the presence of antiglomerular basement membrane antibody. What is the most significant feature with regard to the immune system in this disease?

**1- Autoantibodies are directed against type-IV collagen**

2- C3 levels are reduced

3- Antiglomerular basement membrane antibodies occur in 50% of patients

4- Antibody deposition causes mesangial proliferation

5- Positive c-ANCA indicates pulmonary

Q5160. You are reviewing your patients' blood results before the weekly ward round and notice that a 53-year-old woman has hyponatraemia that you think could be due to one of the drugs she is taking. Which of the following drugs/groups of drugs that can all cause hyponatraemia, does not cause it by the syndrome of inappropriate antidiuretic hormone (SIADH)?

**1- Furosemide**

2- Amitriptyline

3- Chlorpropamide

4- Phenothiazines

5- Clofibrate

Q5161. A patient presents with high fever, neck stiffness and a rash on both legs. A lumbar puncture reveals Gram-positive bacteria. What is the most likely pathogen?

1- Neisseria meningitidis

2- Haemophilus influenzae

**3- Streptococcus pneumoniae**

4- Pseudomonas aeruginosa

5- Escherichia coli

Q5162. Which of the following features applies to acetylcholine-mediated transmission at the motor endplate?

**1- The synaptic fusion complex is made of synaptobrevin, syntaxin and synaptosomeassociated protein**

2- Syntaxin forms a SNAP complex, together with NSF, Ca2+ and other proteins

3- Tetanus toxin (TeNT) cleaves specific sites of SNAP-25

4- Botulinum toxin type B (BoNT/B) cleaves syntaxin

5- Botulinum toxin type A (BoNT/A) cleaves

Q5163. A 25-year-old man presents to A&E with an acute exacerbation of asthma that is failing to respond to inhaled bronchodilators. As part of the medical team on call you are asked to review him, and you decide to treat him with intravenous magnesium. Which of the following statements is true?

1- The usual dose is 2 mg

2- Magnesium increases acetylcholine release

3- Hypertension is commonly seen after treatment

**4- Magnesium relaxes bronchial smooth muscle**

5- Drowsiness and coma in this situation are

Q5164. Anti-Ro antibodies in isolation (negative ANA) occur in which of the following conditions?

1- Sjögren's syndrome

2- Sicca syndrome

**3- Systemic lupus erythematosus (SLE)**

4- Scleroderma

5- Polymyositis

Q5165. How is tuberculosis most commonly spread?

1- Ingestion of contaminated milk

2- Contamination of skin abrasions in healthcare workers

**3- Inhalation of droplet nuclei**

4- Sexual contact

5- Blood transfusion

Q5166. A patient who has had a subtotal thyroidectomy for hyperthyroidism is on thyroxine replacement. She has a normal thyroid-stimulating hormone (TSH), normal tri-iodothyronine (T3) and low free thyroxine (T4) levels. What is the most likely reason for those results?

1- Hypothalamic pituitary causes

2- Poor compliance with thyroxine supplements

**3- The patient's results are as expected - no change in treatment is required**

4- She has sick euthyroid syndrome

5- Malabsorption

Q5167. A 24-year-old man presents to his GP with a nodular rash over his shins, which was dusky blue in appearance at first but has now faded to a bruise-like appearance. His past history of note includes intermittent diarrhoea, occasionally with blood. There is no other past history of note. On examination there is minor tenderness on the left side of his abdomen and proctoscopy reveals moderate inflammation of the rectum. Blood testing reveals a raised CRP and a normochromic normocytic anaemia. Which diagnosis fits best with this clinical picture?

1- Tuberculosis

2- Mycoplasma infection

**3- Ulcerative colitis**

4- Crohn's disease

5- Sarcoidosis

Q5168. You review an elderly woman who has presented to the Emergency Department with dehydration resulting from severe diarrhoea. She was prescribed antibiotics for a recent respiratory tract infection. Which of the following drugs would be the most likely cause of Clostridium difficile diarrhoea?

1- Penicillin V

2- Ciprofloxacin

3- Clarithromycin

4- Metronidazole

**5- Cephalexin**

Q5169. Each of the following diseases has an autosomal dominant inheritance EXCEPT?

1- Alloimmunisation against platelets

2- Adult polycystic kidney disease

3- Marfan's syndrome

**4- Haemochromatosis**

5- Neurofibromatosis

Q5170. A 73-year-old widow is undergoing haemodialysis for chronic renal failure. What is the most common problem that can arise in this case?

1- Vitamin D deficiency

2- Hypocalcaemia

3- Fluid and electrolyte imbalance

4- Viral hepatitis

**5- Protein-calorie malnutrition**

Q5171. A 40-year-old bank clerk on phenelzine has shown little improvement and her GP has therefore prescribed an additional drug. Now, 2 days later, she is brought to A&E in an agitated state with high fever, tremors and restlessness. What is the additional drug that was prescribed?

1- Imipramine

2- Amitriptyline

3- Tranylcypromine

4- Lithium

**5- Fluoxetine**

Q5172. A 35-year-old woman is found to have aortic regurgitation. She is wearing aphakic spectacles. Which of the following diagnoses in the eye clinic sheds light on the cause of her valvular disease?

1- Cataract

2- Glaucoma

3- Kayser-Fleischer rings

**4- Ectopia lentis**

5- Iritis

Q5173. A 25-year-old woman is referred to you for treatment of her asthma. She is otherwise well and there is no significant previous medical history. During the consultation it transpires that her sister died of cystic fibrosis and she is worried about having a child affected with the same disease. Her chest Xray is normal. Assuming a population carrier frequency of 1 in 25, what is the chance of her having an affected child?

1- 1 in 10

2- 1 in 50

3- 1 in 100

**4- 1 in 150**

5- 1 in 200

Q5174. A 55-year-old man diagnosed with hypertension and not responding to recommended lifestyle changes was commenced on drug treatment one month ago. There is a past history of benign prostatic hypertrophy. He complains of dizziness and severe postural hypotension is found. What is the most likely aetiological agent?

**1- Doxazosin**

2- Bendrofluazide

3- Angiotensin-converting enzyme (ACE) inhibitor

4- Angiotensin receptor blocker

5- β-blockers

Q5175. A 55-year-old woman known to suffer from severe disabling rheumatoid arthritis has a 12- month history of dyspnoea. She also complains of a dry cough of similar duration. She has never smoked and has never been employed. Examination shows a woman of average build with severe hand deformities and nodules at the elbow. Cardiovascular examination is normal. Lung fields reveal a diffuse expiratory wheeze. Routine blood tests, a chest X-ray and an ECG are all normal. What is the most likely reason for her symptoms?

**1- Bronchiolitis obliterans**

2- Chronic obstructive airway disease

3- Bronchiectasis

4- Asthma

5- Pleural effusion

Q5176. A 55-year-old woman known to suffer from severe disabling rheumatoid arthritis has a 12- month history of dyspnoea. She also complains of a dry cough of similar duration. She has never smoked and has never been employed. Examination shows a woman of average build with severe hand deformities and nodules at the elbow. Cardiovascular examination is normal. Lung fields reveal a diffuse expiratory wheeze. Routine blood tests, a chest X-ray and an ECG are all normal. What is the most likely reason for her symptoms?

**1- Bronchiolitis obliterans**

2- Chronic obstructive airway disease

3- Bronchiectasis

4- Asthma

5- Pleural effusion

Q5177. A 48-year-old man with a two-year history of ulcerative colitis, has been receiving parenteral nutrition for 4 months. He develops a dermatitis and had noticed some loss of hair. Serum biochemistry shows a marginally raised glucose concentration and a lower alkaline phosphatase activity. Which of the following is the most likely?

1- Chromium deficiency

2- Copper deficiency

3- Magnesium deficiency

4- Selenium deficiency

**5- Zinc deficiency**

Q5178. A 69-year-old woman presented via her GP with episodes of facial flushing and diarrhoea. An ultrasound scan revealed multiple hepatic lesions, and a 24-h urine collection revealed an elevated 5-HIAA. Unfortunately she did not consent to follow-up and next presented 2 years later. Her son noticed a gradual deterioration in her condition so that she appeared unable to cope at home. There was apathy, depression and the onset of mild confusion. The diarrhoea is still present at review, and now she appears to have photosensitive dermatitis, glossitis and angular stomatitis. What diagnosis fits best with her clinical picture?

**1- Pellagra**

2- Alzheimer's disease

3- Coeliac disease

4- Riboflavin deficiency

5- Thiamine deficiency

Q5179. A young man presents with swelling of his face and feet, haematuria and proteinuria. He had measles 6 weeks earlier from which he had recovered uneventfully. Renal biopsy shows mesangial cell proliferation with electrondense, linear intramembranous deposits that stain for C3 only. What is the most probable diagnosis?

1- Focal glomerulonephritis

**2- Membranoproliferative glomerulonephritis**

3- Minimal-change nephropathy

4- Nodular sclerosis

5- Proliferative glomerulonephritis

Q5180. A 65-year-old woman with scleroderma and Reynaud's phenomenon complains of weight loss and has been referred for an opinion. Gastrointestinal associations of progressive systemic sclerosis include which of the following?

**1- Oesophageal stricture**

2- Primary sclerosing cholangitis

3- Abnormal exocrine pancreatic function

4- Diverticula of the large bowel

5- Small-bowel lymphoma

Q5181. A 30-year-old woman is routinely seen by her GP 24 weeks into her first pregnancy. She is well without adverse symptoms. Her blood pressure is 150/96 mmHg. Her baseline blood pressure at booking was 136/84 mmHg. No other abnormalities are found. What drug therapy would you prescribe?

1- Bendrofluazide

2- Moxonidine

**3- Labetalol**

4- Losartan

5- Ramipril

Q5182. A 56-year-old diabetic male had an anterior myocardial infarction 5 years ago. He is receiving aspirin 150 mg once daily and twice daily insulin. Baseline screen revealed a body mass index (BMI) of 34, blood pressure 150/90 mmHg , haemoglobin A1c (HbA1c) 6.9 %, serum cholesterol 3.6 mmol/l (normal < 5.1 mmol/l). Which of the following measures would delay deterioration in renal function?

1- Orlistat

2- Increase to 4—أ daily insulin

**3- Ramipril**

4- Simvastatin

5- Increase aspirin from 150 mg to 300 mg

Q5183. A 50-year-old Ghanaian man visits Ghana for a funeral having been continuously resident in the UK for 15 years. A week after his return to the UK he develops fevers and a blood test confirms the presence of malaria. The laboratory technician is happy that she can see all stages of the parasite and not just trophozoites and gametocytes. Less than 1% of erythrocytes are parasitised. What is the most appropriate treatment?

1- Erythromycin

2- Quinidine

**3- Chloroquine**

4- Blood transfusion

5- Praziquantel

Q5184. A 70-year-old woman with long-standing hypertension is referred to out-patients with a diagnosis of asymptomatic atrial fibrillation. Echocardiography demonstrates normal left ventricular function, mild LVH and normal mitral valve structure. The left atrium is slightly enlarged (4.2 cm). She is not keen on cardioversion and her rate is well controlled at 70 bpm. What would be the optimal strategy for longterm anticoagulation?

1- Aspirin

2- Clopidogrel

3- Dipyridamole

4- Low molecular weight heparin

**5- Warfarin**

Q5185. A 43-year-old man presents with acute central chest pain radiating to his back. He is pale, sweaty and looks extremely unwell. The admitting nurse notices that his blood pressures appear to be unequal when comparing the left and right arms. Chest auscultation reveals aortic regurgitation, and on the ECG the complexes look small. What diagnosis fits best with this clinical picture?

1- Acute myocardial infarction

2- Pericarditis

3- Subacute bacterial endocarditis

**4- Aortic dissection**

5- Aortic regurgitation

Q5186. A 46-year-male accompanied by his partner came to the clinic. She complained that he has become lethargic, increasingly sleepy in the daytime, has a headache in the morning and some degree of impairment of intellectual ability. He has a BMI of 34, smokes 20 cigarettes per day and about 30 units of alcohol per week. No significant past history and drug history is present. Other than a slightly lower air entry in both lungs, there was no other significant finding on examination. Chest X-ray showed emphysema. Arterial blood gas results were: pH 7.41, pa(O2) 9.8, pa(CO2) 5.8. Which investigation would you next perform to obtain the correct diagnosis?

1- Lung function test

2- Thyroid function test

**3- Polysomnographic studies**

4- Echocardiography

5- CT scan brain

Q5187. Chorea is a recognised feature of each of the following disorders EXCEPT?

1- Wilson's disease

**2- Haemochromatosis**

3- Long term use of the oral contraceptive pill

4- Lupus erythematosus

5- Polycythaemia rubra vera

Q5188. Right ventricular myocardial infarction is characterised by which of the following?

**1- ST-segment elevation in leads II, III and aVF with Q waves and T-wave inversion in these leads**

2- Occlusion of the left coronary artery

3- Marked pulmonary vascular congestion

4- A rise in systolic blood pressure

5- Absent Kussmaul's sign

Q5189. A 15-year-old girl, with no previous history of mental illness, suffers an emotional breakdown with partial speech loss. She deliberately avoids talking about the death of her grandfather. When confronted with similar situations she cannot control her emotion and shows avoidance behaviour. How would her emotional reaction best be described?

1- Catharsis

**2- Repression**

3- Retrogression

4- Depression

5- Amnesia

Q5190. A 6-year-old boy presents with oedema of his face and ascites. The 24-hour urinary protein is 4.0 g, while the serum albumin concentration is 25 g/l. Hypertriglyceridaemia is present. What is the most likely cause of this condition?

1- Diffuse proliferative glomerulonephritis

2- Renal amyloidosis

3- Focal segmental glomerulonephritis

**4- Minimal-change nephropathy**

5- Berger's disease

Q5191. A 72-year-old lady with confirmed anaplastic thyroid carcinoma is being screened for metastases. Which of these organs is the most likely to be involved with metastases?

1- Brain

**2- Lung**

3- Oesophagus

4- Spleen

5- Kidney

Q5192. A 58-year-old publican attends the clinic with confusion, you suspect alcohol-related problems. Which of the following pathological changes is a characteristic feature of the WernickeKorsakoff syndrome?

1- Cerebellar atrophy

2- Dilatation of the III ventricle

**3- Neuronal loss in the mammillary bodies**

4- Demyelination in the pons and medulla

5- Microvascular lesions in the cortex

Q5193. A 12-year-old girl is admitted to the hospital with a history of an epileptic fit. The admitting doctor has documented hypopigmented macules on her abdomen and acne-like eruption on her face. Examination of her fingers shows small periungal fibrous papules. She is also known to have learning disabilities. What is the most likely diagnosis?

**1- Tuberous sclerosis (Bourneville's disease)**

2- Neurofibromatosis

3- Refsum's disease

4- Osler's disease

5- Bloom's syndrome

Q5194. A 69-year-old man presents to the GP complaining of hip and back pain. Over the past few months he has also noticed increasing symptoms of dysuria, hesitancy and dribbling when he tries to pass urine. Occasionally he has noticed that the urine may be tinged with blood. Other past history of note includes hypertension, for which he takes amlodipine 5mg daily. On examination his BP is 146/89 mmHg, pulse is 75/min, regular. PR examination reveals a firm, enlarged prostate with obliteration of the lateral sulcus. Investigations; Hb 10.6 g/dl WCC 6.2 x 109 /L PLT 190 x 109 /L Na+ 141 mmol/l K+ 5.4 mmol/l Creatinine 195 μmol/l Alk P 2980 U/l ALT 32 U/l 3-a++2.30 mmol/l Which of the following is the most appropriate next investigation?

1- Bone scan

2- Lumbar spine and hip x-ray

**3- CXR**

4- Trans-rectal prostatic biopsy

5- CT abdomen and pelvis

Q5195. A 74-year-old man who last attended the doctor some 6 months earlier because of a rash on his shin presents to the clinic complaining of a lump at the base of his neck and cold blue finger tips. On further questioning he tells you that he has been suffering from fatigue and sweats at night for the past few months. You examine him and elicit left supraclavicular lymphadenopathy. He also has acrocyanosis. Whilst you are arranging a follow up he suffers a respiratory tract infection and is treated by the GP with clarithromycin. Investigations; Hb 10.9 g/dl WCC 18.1 x 109 /L PLT 410 x 109 /L Cold agglutinins positive Na+ 141 mmol/l K+ 5.5 mmol/l Creatinine 135 μmol/l ALT 180 U/l LDH 642 U/l Which of the following is the most likely diagnosis?

1- Mycoplasma pneumonia

2- Drug induced haemolysis

3- Non-Hodgkin’s lymphoma

4- Hodgkin’s lymphoma

5- Bronchial carcinoma

Q5196. A 40-year-old man presents with a long history of productive cough breathlessness. He had complained of halitosis, exacerbations that consisted of productive sputum, chest pain, and occasional haemoptysis. Examination in the clinic reveals bilateral inspiratory crackles. Which of following treatments is likely to best decrease the frequency of his exacerbations?

1- Cyclical antibiotic therapy

2- Inhaled corticosteroids

3- Nebulised bronchodilators

**4- Postural drainage**

5- Surgical resection

Q5197. A 74-year-old woman presents with left knee pain. She has a history of hypertension which is treated with indapamide 1.5mg daily and is obese, with a BMI of 31. On examination she looks well, her BP is 135/82 mmHg. On examination the knee is unremarkable, but internal rotation of the left hip is limited by pain. Investigations; Hb 12.1 g/dl WCC 5.2 x 109 /L PLT 192 x 109 /L Na+ 141 mmol/l K+ 4.9 mmol/l Creatinine 110 μmol/l ESR 10 mm/hr Left knee x-raynormal Which of the following is the most appropriate next investigation?

1- MRI knee

2- Arthroscopy knee

3- X-ray femur

**4- X-ray left hip and pelvis**

5- Bone scan

Q5198. The 3-year-old child of 12-week pregnant 25- year-old woman develops a typical chickenpox illness. The mother does not recall having had chicken pox herself. What do you advise the mother to do?

1- Avoid further contact with the child

**2- Test the mother for varicella-zoster IgG**

3- Take aciclovir as prophylaxis

4- Receive varicella-zoster immune globulin (VZIG) urgently

5- Consider termination of pregnancy

Q5199. A 39-year-old lady is noted to have a serum sodium concentration of 127 mmol/l (137- 144), as well as a high urine osmality. A diagnosis of syndrome of inappropriate antidiuretic hormone (ADH) secretion (SIADH) is made, and a drug-related cause is suspected. Which of the following drugs is most likely to be responsible?

**1- Carbamazepine**

2- Rifampicin

3- Lithium

4- Chlorpropamide

5- Demeclocycline

Q5200. A male patient age 33 presents with depression, weight loss and choreiform movements. He informs you that his father had similar symptoms aged 50, his grandfather at aged 75, and both deteriorated in terms of mobility and mental state and eventually died. What is the phenomenon described here known as?

1- Increased penetrance

2- Autsomal dominance

**3- Anticipation**

4- X-linked dominant characteristics

5- Mitochondrial characteristics

Q5201. A 72-year-old man who visited his GP suffering from an infection 2 days earlier is admitted to the Emergency room after suffering a collapse at the supermarket. His wife tells you that he suffered from a myocardial infarction some 6 years ago, but has otherwise been relatively well, taking aspirin, ramipril and atorvastatin as regular medications. She doesn’t know the type of antibiotics he has been taking. On examination his BP is 120/71 mmHg and he is drowsy. His pulse is 70/min and regular. Investigations; Hb 13.1 g/dl WCC 5.1 x 109 /L PLT 232 x 109 /L Na+ 140 mmol/l K+ 4.2 mmol/l Creatinine 123 μmol/l 12 lead ECG sinus rhythm, QT interval 0.5s Short runs of torsades seen on the monitor Which of the following is the most likely causative antibiotic?

1- Oxytetracycline

2- Metformin

3- Co-amoxyclav

4- Cephalexin

**5- Clarithromycin**

Q5202. A 62-year-old man presents with a sudden onset of poor balance and vertigo. On examination he has left-sided cerebellar ataxia. Sensory testing reveals a loss of pinprick and temperature sensation over his right hemitrunk and right arm and leg. He appears to have some numbness over the left side of his face.There is a left-sided ptosis and the left pupil is smaller than the right. Cranial MRI reveals an ischaemic lesion in one of the locations shown below; which would best explain his symptoms and signs?

**1- Left lateral medulla**

2- Right lateral medulla

3- Left medial medulla

4- Left cerebellar hemisphere

5- Left mid-brain at the level of the IIIrd cranial

Q5203. A 68-year-old woman presents with a six week history of an itchy rash. The rash appeared on the medial and anterior aspects of the thigh and trunk. It consisted of numerous small fluid filled vesicles and a number of larger lesions measuring 2-3cm filled with serous fluid. What is the most likely diagnosis?

1- Vesicular insect bite eruption

2- Bullous impetigo

**3- Bullous pemphigoid**

4- Scabies

5- Dermatitis herpetiformis

Q5204. A 17-year-old girl attends the Emergency Department with her parents. She has had a recent row with her partner and admits to having ingested 40 500 mg paracetamol tablets around 24 hours ago. Which of the following markers is the best indicator of prognosis?

1- Activated partial thrombin time (APTT)

**2- Prothrombin time**

3- Alanine transaminase (ALT)

4- Aspartate amino transferase (AST)

5- Bilirubin

Q5205. A 67-year-old man presents with sudden onset atrial fibrillation (ventricular rate of 150/minute). His serum creatinine concentration was 250 µmol/L (70-110). What is the main factor that determines the choice of loading dose of digoxin in this patient?

**1- Renal clearance**

2- Volume of distribution

3- Bioavailability

4- First pass metabolism

5- Plasma binding proteins

Q5206. A 65-year-old man who is admitted to hospital for right sided pneumonia becomes acutely confused and aggressive on the ward. He is known to drink 3 pints of beer per day. When you see him he has pulled out his drip and he is trying to punch the nursing and medical staff suggesting that they are all out to kill him. You calm him down temporarily and examine him. On examination he is pyrexial 38.2oC, has a BP of 100/60 mmHg and a pulse of 92/min, regular. There are signs of extensive right sided consolidation on respiratory examination. Investigations; Hb 10.8 g/dl MCV 102 fl WCC 13.1 x 109 /L PLT 191 x 109 /L Na+ 136 mmol/l K+ 4.5 mmol/l Creatinine 180 μmol/l Which of the following is the most likely cause of his symptoms?

**1- Acute confusional state secondary to infection**

2- Delerium tremens

3- Dementia

4- Wernicke’s encephalopathy

5- Korsakoff’s psychosis

Q5207. A 33-year-old woman presents with polydipsia and polyuria. Her symptoms started soon after a road traffic accident 6 months ago. Her blood pressure is 120/80 mmHg. The daily urinary output is 6-8 litres. Blood tests: sodium 130 mmol/l (137-144), potassium 3.5 mmol/l (3.5-4.9), urea 6 mmol/l (2.5-7.5) and glucose 4 mmol/l (3-6). Plasma osmolality is 268 mOsmol/l (278-305) and urine osmolality is 45 mOsmol/l (350-1000). What is the most likely diagnosis?

1- Cranial diabetes insipidus

2- Diuretic phase of acute renal failure

3- Nephrogenic diabetes insipidus

**4- Psychogenic polydipsia**

5- Syndrome of inappropriate antidiuretic

Q5208. A 19-year-old woman presents with a painful left hip and groin and is unable to weight bear. She completed therapy for acute myeloblastic leukaemia some 6 months earlier. On examination she walks with a limp, and there is limitation of hip flexion, internal and external rotation. Investigations; Hb 12.1 g/dl WCC 6.1 x 109 /L PLT 191 x 109 /L Na+ 140 mmol/l K+ 4.7 mmol/l Creatinine 130 μmol/l CRP 12 mg/l Left hip x-ray joint sclerosis with collapse of the femoral head Which of the following is the most likely diagnosis?

1- Septic arthritis

2- Gout

3- Pseudogout

**4- Avascular necrosis**

5- Osteoarthritis

Q5209. An elderly man who has undergone a previous emergency partial gastrectomy nine months earlier is referred by his GP with symptoms of abdominal bloating, mild abdominal distension, flatulence and intermittent diarrhoea. On examination he looks pale his BP is 135/70 mmHg, pulse is 85/min regular, general examination is unremarkable apart from a midline scar consistent with his partial gastrectomy. Investigations; Hb 10.0 g/dl MCV 104 fl WCC 5.9 x 109 /L PLT 145 x 109 /L Na+ 141 mmol/l K+ 4.8 mmol/l Creatinine 100 μmol/l Which of the following is the most appropriate next investigation?

1- Barium follow through

**2- Hydrogen breath test**

3- Endoscopy of the gastric remnant

4- Prolonged glucose tolerance test

5- Schilling test

Q5210. A 25-year-old smoker of 5 cigarettes per day comes to the clinic complaining of recurrent haemoptysis that he has suffered from for the past 2 years. He has been treated for intermittent cough and respiratory infections over the past few years. On examination he looks a little thin but otherwise well. Respiratory examination raises the suggestion of left upper lobe collapse. There are no other abnormal findings. Investigations; Hb 11.9 g/dl WCC 5.9 x 109 /L PLT 187 x 109 /L Na+ 141 mmol/l K+ 4.2 mmol/l Creatinine 110 μmol/l CXRleft upper lobe collapse Which of the following is the most likely diagnosis?

1- Inhaled foreign body

2- Bronchiectasis

3- Bronchial carcinoma

4- Left upper lobe pneumonia

**5- Bronchial carcinoid**

Q5211. Which serological marker shows vaccination success after hepatitis B immunisation?

1- Hbs antigen

**2- Anti-Hbs antibodies**

3- Anti-Hbe antibodies

4- Anti-Hbc antibodies

5- Hbe antigen

Q5212. A 32-year-old woman with a history of Sjögren's syndrome gives birth to her second child. On examination the baby is noted to be bradycardic at 65 beats per minute during birth checks carried out by the on-call midwife. The baby's ECG shows that she appears to be in a junctional rhythm. Which of the following antibodies is most likely to be responsible for the child's heart block?

1- Anti-nuclear

2- Anti-mitochondrial

3- Anti-smooth muscle

**4- Anti-ro**

5- Rheumatoid factor

Q5213. You are drawing up a trial of a new screening test. If the threshold of the screening test is increased, which of the following would increase?

1- Sensitivity

2- Specificity

**3- Prevalence**

4- Negative predictive value

5- Positive predictive value

Q5214. A 35-year-old man comes to the clinic complaining of tiredness, lethargy and an increasingly hoarse voice. He also tells you that he has been losing his hair over the past few months and has noticed fullness in his neck; he has gained 7kg in the past 3 months. On examination he has a puffy face and periorbital oedema and there is a firm, rubbery goitre. His pulse is 48/min and regular, his BP 142/73 mmHg. Investigations; Hb 11.4 g/dl WCC 5.4 x 109 /L PLT 183 x 109 /L Na+ 141 mmol/l K+ 4.7 mmol/l Creatinine 120 μmol/l TSH 10.1 U/l Total cholesterol 8.2 mmol/l Triglycerides 3.2 mmol/l LDL 3.9 mmol/l FNA thyroidDiffuse lymphocytic and plasma cell infiltration Which of the following is the most likely diagnosis?

1- De Quervain’s thyroiditis

2- Atrophic hypothyroidism

**3- Hashimoto’s thyroiditis**

4- Grave’s disease

5- Thyroid lymphoma

Q5215. An 18-year-old student is admitted to the Emergency room after a collapse in a night club. He has no recollection of the incident, was assisted by his friends and had begun to regain consciousness by the time the ambulance had arrived. On direct questioning in the Emergency room he admits to 2 previous syncopal episodes. He denies elicit drug use. On examination his BP is 123/72 mmHg, his pulse is 72 regular. Investigations; Hb 13.2 g/dl WCC 5.3 x 109 /L PLT 199 x 109 /L Na 142 mmol/l K 4.6 mmol/l Creatinine 90 μmol/l ECG Sinus rhythm, QT interval 0.52s Defect in which ion channel is the most likely cause of his symptoms?

1- Magnesium

2- Sodium

**3- Potassium**

4- Chloride

5- Calcium

Q5216. A 31-year-old woman is admitted with a collapse at work. By the time she is admitted to the Emergency room she is complaining of a severe headache and drowsiness. Only medication of note is the combined oral contraceptive pill. On examination she is hypotensive at 95/60 mmHg. There appears to be no visual response in the right eye, her left eye shows a peripheral temporal field loss and partial third nerve palsy. Investigations; Hb 12.1 g/dl WCC 5.0 x 109 /L PLT 170 x 109 /L Na+ 134 mmol/l K+ 5.3 mmol/l Creatinine 120 μmol/l Which of the following is the most likely cause?

1- Posterior communicating artery aneurysm

2- Sub-arachnoid haemorrhage

**3- Pituitary apoplexy**

4- Basilar artery thrombosis

5- Extra-dural haemorrhage

Q5217. A 21-year-old man returns from travelling in India. Investigations show he is IgG HAV positive, HBsAg negative, HBeAg positive and has a raised ALT. Which of the following is the most likely diagnosis?

1- Hepatitis A

**2- Hepatitis B**

3- Hepatitis C

4- Hepatitis D

5- Hepatitis E

Q5218. A 35-year-old man who had a splenectomy 7 years earlier for idiopathic thrombocytopenia (ITP) presents with sudden onset high fever and severe hypotension. What is the most likely organism to be causing this?

1- Staphylococcus aureus

**2- Streptococcus pneumoniae**

3- Plasmodium falciparum

4- Herpes simplex virus

5- Epstein-Barr virus

Q5219. You are researching a new agent for the management of hypoxia related to acute pneumonia. Part of the assessment includes changes in the pulmonary vasculature in response to hypoxia. When considering acute hypoxia, which of the following is true of the pulmonary vasculature?

1- An area of lung affected by pneumonia is likely to experience vasodilatation

**2- An area of lung unaffected by pneumonia is likely to experience vasodilatation**

3- An area of lung unaffected by pneumonia is likely to experience vasoconstriction

4- Increased cardiac output promotes pulmonary vasoconstriction

5- Hypothermia promotes pulmonary

Q5220. A 25-year-old pregnant woman complains she has had painful nodules on her shins for over 2 weeks. She suffers from asthma, which is well controlled and is 32 weeks' pregnant. Examination shows painful nodules over her shins. What is the most likely diagnosis?

1- Erythema multiforme

**2- Erythema nodosum**

3- Cellulitis

4- Granuloma annulare

5- Drug eruption

Q5221. A 42-year-old man who is known HIV positive presents with difficulty with short term memory, generalised weakness and gait disturbance. He also has headaches and blurred vision. On examination he has 3/5 weakness of the left arm and 4/5 power weakness of the right leg. Investigations; Hb 11.5 g/dl WCC 6.7 x 109 /L CD4 count 82 cells/mm3 PLT 184 x 109 /L Na+ 137 mmol/l K+ 4.5 mmol/l Creatinine 134 μmol/l CSF Elevated protein MRI brain Multiple hyperintense white matter lesions seen on the T2 weighted scan, predominantly in the frontal and parietooccipital regions Which of the following is the most likely diagnosis?

**1- Progressive multifocal leukoencephalopathy (PML)**

2- HIV encephalopathy

3- CNS lymphoma

4- Herpes simplex encephalitis

5- Focal cerebritis

Q5222. A 62-year-old man who had previously undergone treatment for tuberculosis some 8 years ago presents via his GP complaining of haemoptysis. He also says that over the past 3 months he has suffered night sweats on a few occasions each week and a chronic cough. He smokes 10 cigarettes oer day. On examination he is mildly pyrexial 37.4°C and his BP is 142/89 mmHg. Auscultation of the chest reveals evidence of consolidation affecting the right upper lobe. Investigations; Hb 11.9 g/dl WCC 11.1 x 109 /L PLT 190 x 109 /L Na+ 138 mmol/l K+ 4.8 mmol/l Creatinine 105 μmol/l CXR Right upper lobe cavitating lesion Aspergillus precipitins+ve Which of the following is the most likely diagnosis?

1- Allergic bronchopulmonary aspergillosis

**2- Aspergilloma**

3- Invasive aspergillosis

4- Reactivated tuberculosis

5- Lung cancer

Q5223. A 19-year-old man presents to the GP 1 month after returning from a holiday to Berlin. He complains of rectal discharge, pain and diarrhoea and pain affecting his right knee. Additionally he has pain and photosensitivity affecting both eyes, and hyperkeratotic reddened skin on his palms and the soles of his feet. On examination he appears to have conjunctivitis, keratoderma blennorrhagica and oligoarthritis of his right knee. Investigations; Hb 12.1 g/dl WCC 13.1 x 109 /L PLT 190 x 109 /L Na+ 141 mmol/l K+ 4.0 mmol/l Creatinine 94 μmol/l ESR 35 mm/hr Right knee aspirateno organism grown Which of the following is the most appropriate initial treatment for him?

1- Salazopyrine

2- Doxycycline

3- Prednisolone

4- Diclofenac

**5- Intra-articular corticosteroid injection**

Q5224. A 72-year-old woman has recently returned from her 3 month winter holiday to the Spanish Riviera. Over the past few days she has suffered from increasing cough and breathlessness, other symptoms include a headache and diarrhoea. By the time she presented to the Emergency department with her daughter she was confused and incontinent of urine. On examination in the Emergency room she is pyrexial 38.4oC with a BP of 100/60 mmHg and a pulse of 105/min. She has bilateral wheeze on auscultation of the chest. Investigations reveal; Hb 13.1 g/dl WCC 13.2 x 109 /L PLT 130 x 109 /L Na+ 131 mmol/l K+ 4.5 mmol/l Creatinine 145 μmol/l Urine Protein +, blood + paO2 7.1 kPa paCO2 3.8 kPa Which of the following is the most likely diagnosis?

1- Urinary sepsis

2- Listeria monocytogenes

**3- Legionnaires disease**

4- Pneumococcal pneumonia

5- Meningococcal meningitis

Q5225. A 38-year-old woman presents to the clinic complaining that she is bumping into door frames when she walks around and has recently crashed into a parked car while driving along her street. Over the past few months she has been feeling increasingly tired. Only medication of note includes the combined oral contraceptive pill. On examination her BP is 142/82 mmHg. Neurological examination is normal apart from a bitemporal heminanopia. Investigations reveal; Hb 13.0 g/dl WCC 4.9 x 109 /L PLT 192 x 109 /L Na+ 141 mmol/l K+ 4.0 mmol/l Creatinine 110 μmol/l Where is the most likely site of the lesion which has led to her visual disturbance?

1- Temporal lobe

2- Occipital lobe

3- Optic nerve

**4- Optic chiasm**

5- Frontal lobe

Q5226. An 18-year-old man comes to the Emergency room because he has suffered a severe syncopal attack whilst playing a game of squash. His opponent tells you that he collapsed and took a few minutes to recover. Apparently this was the second episode, the first having occurred after a strenuous period of exercise at the swimming pool. Of note is the fact that his father died of a cardiac arrest at the age of 32. On examination he looks fit, his BP is 132/78 mmHg, his pulse is 70/min, sinus rhythm. Investigations; Hb 12.8 g/dl WCC 5.0 x 109 /L PLT 182 x 109 /L Na+ 139 mmol/l K+ 4.8 mmol/l Creatinine 120 μmol/l ECG Sinus rhythm but QT interval 0.51s 24hr tape paroxysmal AF on 2 occasions Which of the following agents should be given for rhythm control in this case?

1- Adenosine

2- Flecainide

3- Verapamil

4- Amiodarone

**5- Metoprolol**

Q5227. A 62-year-old man presents with dysphagia. He reports epigastric pain which has worsened over the past 4 months and is worried that he is losing weight. There is a history of 20 units of alcohol consumption per week and he smokes 20 cigarettes per day. On examination he looks thin, his BMI is 21 and there is some tenderness on palpation of the epigastrium. Investigations; Hb 10.4 g/dl WCC 5.1 x 109 /L PLT 130 x 109 /L Na+ 140 mmol/l K+ 4.9 mmol/l Creatinine 131 μmol/l Which of the following is the most appropriate next step for him?

1- H pylori screen

2- Abdominal ultrasound scan

3- Barium swallow

**4- Upper GI endoscopy**

5- Gastrin levels

Q5228. A 51-year-old woman with a history of Type 2 diabetes and bipolar disorder is admitted for review because of low sodium (118 mmol/l). On examination her BP is 139/72 mmHg, her pulse is 70/min regular and she is not in cardiac failure. Investigations; Hb 12.4 g/dl WCC 5.3 x 109 /L PLT 190 x 109 /L Na+ 118 mmol/l K+ 3.8 mmol/l Creatinine 92 μmol/l HbA1c 7.4% Fasting glucose 6.4 mmol/l Which of the following drugs is most likely to be responsible?

1- Moclobemide

**2- Carbamazepine**

3- Lithium

4- Gliclazide

5- Pioglitazone

Q5229. A 63-year-old woman presents with a 6-week history of cervical lymphadenopathy, fevers and sweats. A biopsy of an enlarged gland is performed. Which of the following histopathological subtypes of Hodgkin's disease most suggests a poor prognosis?

**1- Lymphocyte depleted**

2- Lymphocyte predominant

3- Mixed cellularity

4- Nodular sclerosis type I

5- Nodular sclerosis type II

Q5230. A 50-year-old woman presents to the clinic complaining of a tremor. She tells you it began in her right arm, but her left arm and head are also involved, causing her to have an annoying head nodding tremor. She says the tremor is worse when she gets emotional and her husband tells you that she does not appear to have it when she is asleep. She tells you that her father had the same problem when he approached a similar age. On examination her gait and balance appear normal, as are her tone and reflexes. A sample of handwriting also appears normal. Which of the following is the most appropriate way to manage her tremor?

1- L-dopa

2- Cabergoline

3- Primipexole

4- Metoprolol

**5- Propranolol**

Q5231. A 56-year-old man has an ischaemic stroke following right carotid artery thrombotic occlusion, and has clinical signs of a right total anterior artery stroke.As well as left hemiparesis and left homonymous hemianopia, which clinical sign of parietal lobe dysfunction might you expect to find?

1- Receptive dysphasia

2- Acalculia

**3- Inability to copy a drawing of a clock-face**

4- Right-left confusion

5- Agraphia

Q5232. A 74-year-old patient with congestive heart failure is on spironolactone. What is the primary site of action of this drug?

1- Proximal tubular cells

2- Thick ascending limb of loop of Henle

**3- Distal tubules**

4- Juxtaglomerular apparatus

5- Proximal tubules

Q5233. A 72-year-old man who takes 75mg of aspirin daily presents to the GP complaining of large ecchymoses on his arms. He is concerned that he might be bleeding excessively. He has suffered a myocardial infarction some 3 years earlier and other current medication includes ramipril 10mg, bendroflumethiazide 2.5mg and atorvastatin 10mg. On examination he is apyrexial, his BP is 142/84 mmHg, pulse 74/min, regular. He has extensive ecchymoses on both forearms. Investigations; Hb 12.1 g/dl WCC 6.1 x 109 /L PLT 140 x 109 /L Na+ 140 mmol/l K+ 4.5 mmol/l Creatinine 130 μmol/l PT 16.2 s (11.5-15.5) APPT 33.1s (30-40) Which of the following is the most likely diagnosis?

1- ITP

2- TTP

**3- Aspirin related ecchymoses**

4- Traumatic bruising

5- DIC

Q5234. A 23-year-old man who has been intermittently unemployed since leaving university is picked up by the police. He says that he can hear two voices talking about him in a negative way, and arguing with each other about what is wrong with him. He also tells you that the window display in his local store is arranged in such a way that says people are looking for him. He was admitted 2 weeks earlier to the Emergency room with a paracetamol overdose and records show that he has previously attended the unit with evidence of alcohol, heroin and cannabis abuse. On examination in the ER he is agitated and unkempt and mumbling to himself constantly. Physical examination is unremarkable. Which of the following is the most likely diagnosis?

1- Acute alcohol withdrawal

2- Manic depressive psychosis

3- Schizo-affective disorder

**4- Schizophrenia**

5- Argyll Robertson pupil

Q5235. A 48-year-old woman has suffered from burning pain and peripheral neuropathy in her hands and feet for the past 18 months. She is known to have a problem with alcohol and drinks 8-10 bottles of wine per week. She also suffers from rheumatoid arthritis. On examination her BP is 125/72 mmHg. Her JVP is raised 6cm and she has ankle oedema and hepatomegaly. Investigations; Hb 10.5 g/dl MCV 102 fl WCC 7.2 x 109 /L PLT 142 x 109 /L Na+ 140 mmol/l K+ 4.0 mmol/l Urea 17 mmol/l Creatinine 150 μmol/l Urine Protein +++ CXR No evidence of cardiomegaly Which of the following is the most likely diagnosis?

**1- Amyloid neuropathy**

2- Uraemic neuropathy

3- Alcoholic neuropathy

4- Chronic Inflammatory Demyelinating Polyneuropathy (CIDP)

5- B12 deficiency

Q5236. A 28-year-old man presents with pain in his left arm. Until recently he has worked as a chef but was forced to give up this work because he had difficulty sensing when objects were hot to touch and was frequently getting burned. On examination he has mild bilateral weakness of the biceps, triceps and finger muscles, with absent biceps, triceps and brachioradialis reflexes. There is reduced pin prick sensation over a diffuse area involving both upper limbs and the shoulder areas, but vibration and joint position sense are preserved. He has a mild increase in tone affecting both legs. Investigations; Hb 12.4 g/dl WCC 5.9 x 109 /L PLT 231 x 109 /L ESR 12 mm/hr Na+ 141 mmol/l K+ 4.3 mmol/l Creatinine 110 μmol/l Glucose 5.2 mmol/l Which of the following is the most likely diagnosis?

1- Neuralgic amyotrophy

2- Cervical myelitis

3- Meningioma

4- Multiple sclerosis

**5- Syringomyelia**

Q5237. A 32-year-old woman was noted by her GP to have unequal pupils, with the right one more dilated than the left, with absent constriction to light. This did not improve after dark adaptation, although the pupil did constrict to accommodation. Which of the following is the most likely diagnosis?

1- IIIrd nerve palsy

2- Horner's syndrome

**3- Adie's tonic pupil**

4- VIth nerve palsy

5- Argyll Robertson pupil

Q5238. You review a 28-year-old girl who has been referred with amenorrhoea. She is noted on routine screening to have a raised prolactin level. She has read about her condition on the Internet and has some questions about prolactin physiology. Thinking of hormones in general, which of the following hormones is under continuous inhibition?

**1- Prolactin**

2- Growth hormone

3- Adrenocorticotrophic hormone

4- Thyroid-releasing hormone

5- Testosterone

Q5239. A 31-year-old man presents with transient loss of consciousness and palpitations. ECG shows ventricular tachycardia (not SVT). Which of the following cannot be used safely?

1- Adenosine

2- Amiodarone

3- DC cardioversion

4- Flecainide

**5- Verapamil**

Q5240. A 75-year-old man presents with fatigue and weight loss. He has also been noted to be increasingly vague. On examination he is clinically anaemic and his Mini-Mental score is 5/10. He has 2 cm of splenomegaly and 2 cm of hepatomegaly. There are no other positive findings. Investigation shows the following: Hb is 8.3 g/dl (13-18), MCV 102 fl (80-96), WCC 6.5 x 109 /L (4-11 x 109 ) with a normal differential, platelets 150 x 109 /L (150-400 x 109 ); urea 10 mmol/l (2.5-7.5), Na 139 mmol/l (137-144), K 4.6 mmol/l (3.5-4.9), creatinine 135 m mol/l (60-110), total protein 88 g/l (61- 76), alb 24 g/l (37-49), Ca 2.29 (2.2-2.6) and viscosity 8.2 centipoise (1.5-1.72); IgG 7.0 g/l (7.0-14.5), IgA 0.55 g/l (0.80-4.0), IgM 22.7 g/l (0.45-2.00). What is the most appropriate treatment to improve his clinical state?

**1- Urgent plasmapheresis**

2- Transfusion of packed cells

3- Immediate chemotherapy

4- Intravenous fluids

5- Prednisolone

Q5241. You are at the scene of a cardiac arrest within the hospital, when one of the nurses accidentally injects the distal part of her thumb with adrenalin from an auto injector. The finger has become white and intensely painful. Which of the following is the most appropriate way to manage the problem?

1- Administer 60mg of nifedipine orally

2- Administer 50mg of oral atenolol

3- Give sublingual GTN

**4- Give local phentolamine**

5- Administer IV labetalol

Q5242. A 26-year-old man returns from a holiday in Spain. He is concerned that he has two patches of depigmentation on his upper chest where he has failed to gain an adequate suntan. On examination these patches consist of well-demarcated scaly white skin, with a marked absence of pigmentation compared to the tanned areas. Which of the following is the most appropriate treatment in this case?

1- Fusidic acid ointment

**2- Clotrimazole ointment**

3- 1% hydrocortisone cream

4- Fluconazole tablets

5- Ketoconazole tablets

Q5243. A 57-year-old man with advanced cirrhosis is brought to the hospital by his wife as he has become confused, drowsy and unwell. Blood tests reveal that a haemoglobin of 10.5 g/dl (13.0-18.0) and 75 x 109 /L platelets (150-400 x 109 /L). He has a creatinine concentration of 385 mmol/l (60-110), urea is 8.1 mmol/l (2.5- 7.5). Catheterisation reveals a residual volume of 35 ml and he is anuric for the next 2 h. Urine sodium is low, at less than 10 mmol/l. An ultrasound scan reveals normal sized kidneys with no evidence of obstruction and an empty bladder. His blood pressure is 105/65 mmHg and his central venous pressure is 14 mm H2O. What diagnosis fits best with this clinical picture?

1- Prerenal failure

**2- Hepatorenal syndrome**

3- Spontaneous bacterial peritonitis

4- Acute GI haemorrhage

5- Acute tubular necrosis secondary to sepsis

Q5244. A 27-year-old woman is taking the oral contraceptive pill and has a history of epilepsy. She finds that sodium valproate is causing her to put on weight and she is keen to switch to an alternative medication. Which of the following would be the most appropriate medication for her?

1- Clonazepam

2- Phenytoin

3- Topiramate

4- Carbamazepine

**5- Lamotrigine**

Q5245. An obese patient presented with increased abdominal striae, and 12-midnight cortisol was elevated. He has hypertension with a BP of 155/82 mmHg, type 2 diabetes and has recently suffered a left Colle's fracture. Which of the following would best confirm the diagnosis of Cushing's disease?

1- Low-dose dexamethasone suppression test

2- Synacthen test

3- 24-hour urinary cortisol collection

**4- High-dose dexamethasone suppression test**

5- Basal adrenocorticotropic hormone (ACTH)

Q5246. A 55 year-old man with a history of mitral regurgitation and atrial fibrillation is warfarinised. His INR is therapeutic at 2.0. He needs to undergo pre-planned tooth extraction under local anaesthesia. How would you manage him prior to the procedure?

1- Stop warfarin for 2 days

2- Stop warfarin, start LMWH

3- Stop warfarin, start unfractionated heparin

4- Stop warfarin start aspirin

**5- Maintain warfarin at the therapeutic dose**

Q5247. A 65-year-old man who has recently retired from a job in the city presents with early morning wakening, low mood, loss of interest in the family, poor memory and concentration and says that he is worried about money. His wife suggests that they are very comfortably off. On examination he looks a little unkempt. Clinical examination is unremarkable apart from a Mini Mental state score of 26/30. Investigations; Hb 12.1 g/dl WCC 4.9 x 109 /L PLT 230 x 109 /L Na+ 140 mmol/l K+ 4.9 mmol/l Creatinine 130 μmol/l ECG Sinus rhythm TSH 1.5 U/l Which of the following is the most likely diagnosis?

1- Alzheimer’s disease

2- Multi-infarct dementia

**3- Depression**

4- CJD

5- Pick’s disease

Q5248. A 72-year-old woman is admitted for her preclerking prior to a left total hip replacement. She feels well and currently takes indapamide for hypertension but no other medication. The surgeons do not document any abnormal clinical findings. Investigations; Hb 12.0 g/dl WCC 20.0 x 109 /L Lymphocytes 19 x 109 /L PLT 148 x 109 /L ECG sinus rhythm, Q waves inferiorly CXR LVH but nil else of note Which of the following is the most appropriate way to manage her?

1- Cancel her hip surgery

**2- Go ahead with the surgery but keep her under haematology follow up**

3- Start alemtuzumab

4- Start chlorambucil

5- Start fludarabine

Q5249. A 24-year-old woman who is 16 weeks pregnant presents to her GP complaining of frequency and dysuria. She has been relatively well in her pregnancy so far and has no significant past medical history. On examination she is pyrexial 37.6°C and has some suprapubic tenderness. Investigations; Hb 12.1 g/dl WCC 10.4 x 109 /L PLT 201 x 109 /L Na+ 140 mmol/l K+ 4.0 mmol/l Creatinine 90 μmol/l Urine dipstick blood +, protein ++, leucocytes ++ Which of the following antibiotics should be avoided in this patient?

1- Amoxycillin

2- Co-amoxiclav

**3- Ciprofloxacin**

4- Trimethoprim

5- Cephalexin

Q5250. A 50-year-old retired boiler man with shortness of breath comes to the clinic. The GP wonders if he has obstructive lung disease and the man arrives with his spirometry results. They are shown below. Investigations; FEV1 1.86 (predicted 3.0) FVC 2.5 (predicted 2.8) Post salbutamol FEV1 2.0 FVC 2.7 Transfer factor 55% Which of the following is the most likely diagnosis?

1- Asthma

**2- Emphysema**

3- Pulmonary fibrosis

4- Pulmonary embolism

5- Asbestos related pleural plaque disease

Q5251. A 42-year-old man with long-standing epilepsy presents to the clinic for review. He complains of increasing ataxia over the past few months and is particularly distressed by bilateral Dupuytren’s contractures that he is developing. On examination he has bilateral poor co-ordination, nystagmus and ataxia on walking, there is axillary and inguinal lymphadenopathy. Sensory testing reveals decreased sensation in both feet. Which of the following medications is most likely to be responsible?

1- Sodium valproate

2- Carbamazepine

**3- Phenytoin**

4- Topiramate

5- Lamotrigine

Q5252. A 67-year-old man attends the cardiology clinic. He has been suffering some angina-type chest pain on going out in the cold air and is worried that he might have coronary artery disease. There is a past medical history of smoking 20 cigarettes per day, and hypertension which is managed with ramipril 10mg daily. His GP has sent an ECG which appears to show that he is in left bundle branch block. What would you expect to hear on auscultation?

1- Loud first heart sound, reversed splitting of the 2nd heart sound

2- Soft first heart sound, fixed splitting of the 2nd heart sound

**3- Soft first heart sound, reversed splitting of the 2nd heart sound**

4- Soft first heart sound, normal 2nd heart sound

5- Loud first heart sound, normal 2nd heart

Q5253. A 55-year-old man presents with bilateral tremor, worse on the right, which does not worsen on movement. He has a history of mild hypertension for which he takes ramipril 10mg daily. On examination there is no bradykinesia or cog wheeling. Tone and reflexes are entirely normal. When you ask him to talk his speech also seems to be affected by the tremor. Investigations; Hb 13.1 g/dl WCC 6.1 x 109 /L PLT 191 x 109 /L Na+ 140 mmol/l K+ 4.5 mmol/l Creatinine 100 μmol/l Which of the following is the most appropriate therapy for him?

1- Co-careldopa

2- Cabergoline

**3- Propranolol**

4- Pramipexole

5- Ropinirole

Q5254. A 17-year-girl who has known cystic fibrosis presents with increasing cough productive of purulent sputum. She has had 3 previous admissions to hospital with exacerbations over the past 4 years. So far she is maintaining her weight and is able to continue her studies at school. On examination she is pyrexial 37.8oC, her BP is 120/72 mmHg, pulse 90/min, regular. She has bilateral crackles and wheeze; the crackles are particularly increased at the left base. Investigations; Hb 12.0 g/dl WCC 13.1 x 109 /L PLT 181 x 109 /L Na+ 141 mmol/l K+ 4.9 mmol/l Creatinine 110 μmol/l CRP 71 mg/l Which of the following is the most appropriate initial antimicrobial treatment?

**1- Piperacillin plus tazobactam (Tazocin)**

2- Ciprofloxacin

3- Benzylpenicillin

4- Erythromycin

5- Clindamycin

Q5255. A 42-year-old woman is diagnosed with phaeochromocytoma. Screening with pentagastrin testing suggests that she has medullary thyroid carcinoma, and you plan a thyroidectomy. What anti-hypertensive medication should be started before surgery for a patient with phaeochromocytoma?

**1- Phenoxybenzamine**

2- Atenolol

3- Labetolol

4- Ramipril

5- Doxazosin

Q5256. An obese patient presented with increased abdominal striae, and 12-midnight cortisol was elevated. He has hypertension with a BP of 155/82 mmHg, type 2 diabetes and has recently suffered a left Colle's fracture. Which of the following would best confirm the diagnosis of Cushing's disease?

1- Low-dose dexamethasone suppression test

2- Synacthen test

3- 24-hour urinary cortisol collection

**4- High-dose dexamethasone suppression test**

5- Basal adrenocorticotropic hormone (ACTH)

Q5257. A 38-year-old male with a 40 pack year smoking history presents with thoracic back pain and collapse. He is unable to stand. He has no past medical history of note. On examination he has a spastic paraparesis, upgoing plantars, bilateral hyperreflexia and a sensory level at T10. Investigations; Hb 12.8 g/dl WCC 5.1 x 109 /L PLT 210 x 109 /L Na+ 140 mmol/l K+ 4.5 mmol/l Creatinine 120 μmol/l Thoraco-lumbar spine x-ray collapse at T10 Which of the following is the most likely diagnosis?

1- Prolapsed thoracic disc

2- Metastatic bronchial carcinoma

3- Osteoporotic thoracic spine collapse

4- Anterior Spinal artery dissection

**5- Spinal meningioma**

Q5258. A 76-year-old woman with thyroid cancer comes to see you. Which of the following has the worst prognosis in thyroid cancer?

1- Papillary carcinoma with lymph node metastases

2- Follicular carcinoma with bone metastases

**3- Anaplastic carcinoma with long-standing goitre**

4- Thyroid lymphoma

5- Medullary carcinoma as part of MEN

Q5259. A 41-year-old woman who has been suffering from recurrent sinusitis and collapse of her nasal bridge presents to the GP with increasing shortness of breath and haemoptysis. Over the past few weeks she has begun to feel increasingly lethargic. On examination her BP is 165/80 mmHg, she appears to have collapse of the nasal bridge. There is bilateral wheeze and inspiratory crackles on auscultation of the chest. Investigations; Hb 10.4 g/dl WCC 11.1 x 109 /L PLT410 x 109 /L Na+ 141 mmol/l K+ 5.7 mmol/l Creatinine 185 μmol/l CXRBilateral diffuse hazy pulmonary opacities Which of the following antibodies is most likely to be present?

**1- Anti-serine protease 3**

2- Anti-smooth muscle

3- Anti-myeloperoxidase

4- Rheumatoid factor

5- Anti-centromere

Q5260. A 68-year-old woman complained of pain at the base of her right thumb. There is no history of recent injury, or of any particular activities involving repeated movement of the joint. There was tenderness and swelling of the right first carpometacarpal joint. What is the most likely diagnosis?

1- Avascular necrosis of the scaphoid

2- De Quervain's tenosynovitis

**3- Osteoarthritis**

4- Psoriatic arthritis

5- Rheumatoid arthritis

Q5261. A 61-year-old man with Type 2 diabetes comes to the clinic with a foot ulcer on the plantar surface of his left foot. He has had Type 2 diabetes for the past 8 years and is currently managed with metformin and sulphonylurea. On examination his BP is 160/92 mmHg, his pulse 75/min and regular. He is obese with a BMI of 32. He has loss of vibration sense on his big toes and insensitivity to the 10g monofilament on the soles of both feet. He has loss of the arches on both sides. Investigations; Hb 12.5 g/dl WCC 4.9 x 109 /L PLT 180 x 109 /L Na+ 141 mmol/l K+ 4.9 mmol/l Creatinine 110 μmol/l HbA1c 7.8% Which of the following is the best predictor for his future risk of ulceration?

1- Loss of vibration sense

2- Loss of 10g monofilament sensation

**3- Previous / present ulcer**

4- Foot deformity

5- His increased BMI

Q5262. A 22-year-old man who is known to be HIV positive presents with diarrhoea for the past 10 days, which he put down to food poisoning from chicken, but appears to be unresponsive to ciprofloxacin. He is currently opening his bowels 5-10 times per day with profuse watery diarrhoea. Investigations; Hb 11.0 g/dl WCC 10.1 x 109 /L CD4 75 cells/mm3 PLT 120 x 109 /L Na+ 141 mmol/l K+ 3.9 mmol/l Urea 12.1 mmol/l Creatinine 180 μmol/l Acid fast staining of stool:- red oocysts against a blue green background Which of the following is the most likely diagnosis?

1- Mycobacterium avium intracellulare

**2- Cryptosoporidium**

3- Giardiasis

4- Shigella

5- Isosporiasis

Q5263. Which of the following is associated with hereditary angio-oedema?

**1- Low levels of C1 inhibitor**

2- High levels of C1 inhibitor

3- C3 deficiency

4- High levels of C4 complement during an attack

5- Deficiency of the membrane-attack

Q5264. A 31-year-old man presents with a number of small epidermal blisters, predominantly affecting his scalp, scapular area and buttocks. The blisters are intensely itchy. Skin biopsy is positive to IgA immunofluorescence. What diagnosis fits best with this clinical picture?

1- Pemphigus

2- Pemphigoid

3- Porphyria cutanea tarda

**4- Dermatitis herpetiformis**

5- Erythema multiforme

Q5265. A 72-year-old woman is admitted for assessment after two episodes of collapse over the past few months. She has been managed by her GP for many years for hypertension and is currently treated with indapamide and amlodipine. On examination she looks a little thin. Her BP is 175/125 mmHg. Auscultation of the chest reveals an ejection systolic murmur. She has minor crackles at both lung bases. Investigations; Hb 13.0 g/dl WCC 5.3 x 109 /L PLT 194 x 109 /L Na+ 140 mmol/l K+ 4.2 mmol/l Creatinine 145 μmol/l Cardiac catheterization gradient of 50mmHg across the valve Which of the following would most influence your decision to refer this patient for valve replacement?

1- Gradient of 50 mmHg

2- Presence of left ventricular hypertrophy

**3- Presence of symptoms**

4- Presence or absence of valvular calcification

5- Her relatively young age

Q5266. A 90-year-old man with chronic leukaemia presents with gout, which his general practitioner treats allopurinol. How does allopurinol prevent the accumulation of uric acid?

1- By competing for the uric acid transporter in the kidney

2- By enhancing its solubility

**3- By inhibiting a step in purine breakdown**

4- By inhibiting a step in purine synthesis

5- By inhibiting the inflammatory response

Q5267. A 64-year-old woman who is taking long term sulphasalazine therapy for rheumatoid arthritis is referred to the clinic by her GP as she has developed painless haematuria. Other past history of note is hypertension, for which she takes ramipril. On examination her BP is measured as 143/84 mmHg. There are obvious signs of rheumatoid affecting her hands, wrists and elbows. Investigations reveal; Hb 11.5 g/dl WCC 5.0 x 109 /L PLT 190 x 109 /L ESR 13 mm/hr Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 130 µmol/l Urine blood ++, protein ++ Which of the following is the most appropriate investigation?

1- Rectal biopsy

**2- Renal biopsy**

3- Renal ultrasound scan

4- Cystoscopy

5- Urine cytology

Q5268. A 29-year-old woman comes to the clinic for review. She underwent partial bowel resection 2 years earlier for Crohn’s disease and has an ileostomy. On examination she has a purple coloured ulcerated lesion on the edge of the stoma, extending to the muscle layer, around 3cm in diameter. Investigations; Hb 10.5 g/dl WCC 7.2 x 109 /L PLT 180 x 109 /L CRP 18 mg/l (<10) Na+ 140 mmol/l K+ 3.7 mmol/l Creatinine 120 μmol/l Which of the following is the most likely diagnosis?

1- Reactivation of Crohn’s

2- Traumatic removal of stoma bag

3- Contact dermatitis

**4- Pyoderma gangrenosum**

5- Erythema nodosum

Q5269. A 71-year-old man with a 40 pack year smoking history is admitted with an exacerbation of COPD. He is usually independent at home and manages with no intervention or social support. He has been unwell for the past 3 days with increasing cough productive of purulent sputum. On admission he appears to be significantly hypoxic and hypercapnic, with a pO2 of 7.1, and pCO2 of 5.9. He is very short of breath, but struggles to tell you that he does not want to be ventilated. Unfortunately he becomes increasingly tired and becomes unresponsive some 30 mins later. Which of the following is the most appropriate plan with respect to his further management?

1- Continue on antibiotics only

2- Contact hospital legal team to proceed to intubate

3- Ask the family to consent for him to be intubated

**4- Intubate and act on the best interests of the patient, whilst informing the relatives**

5- Withdraw ALL treatment

Q5270. A 28-year-old man who has a history of perioral/ buccal pigmentation, intermittent gastrointestinal bleeding and multiple polyposis is diagnosed with Peutz-Jegher's syndrome. He has met a partner and wants to start a family, but visits you for genetic counselling. What is the usual inheritance pattern for Peutz Jegher's syndrome?

**1- Autosomal dominant**

2- Autosomal recessive

3- X-linked recessive

4- X-linked dominant

5- Mitochondrial

Q5271. A 43-year-old woman is referred by her general practitioner with a productive cough and inspiratory crackles at the left base. Which of the following is considered to be a core adverse prognostic factor?

1- Respiratory rate of 28/minute

2- Blood pressure of 98/65 mmHg

**3- Serum urea concentration of 7.1 mmol/l**

4- Oxygen saturation of 92% on room air

5- Bilateral changes on chest radiograph

Q5272. You are teaching molecular biology to a group of medical students, and one asks you about how reverse transcriptase works. How does reverse transcriptase work?

1- It amplifies segments of DNA

2- It cleaves specific portions of DNA

3- It is involved in protein synthesis

4- It transcribes RNA from DNA

**5- It transcribes DNA from RNA**

Q5273. A 20-year-old woman complains of a 2-week history of fever, chest pain, stiffness, swelling in the wrists and fingers and oedema in both legs. She also has a rash on her palms and complains of excessive loss of hair while combing.Given the likely diagnosis, which of the following results is most likely to be found on blood testing?

1- Autoimmune haemolytic anaemia

2- Positive rheumatoid factor

**3- Low serum complement levels**

4- Anti double-stranded DNA antibodies

5- Anticardiolipin antibodies

Q5274. Which of the following is the most appropriate management step in a ward outbreak of MRSA?

1- Close ward until infection clear

2- Treat all positive members of ward with iv antibiotics

**3- Improve hand washing hygiene among staff**

4- Exclude staff with positive MRSA tests

5- Clean rooms and walls with alcohol

Q5275. A 62-year-old woman comes to the clinic complaining of problems swallowing both liquids and solids over the past few months. She says this is associated with retrosternal chest pain and she tends to regurgitate both liquids and solids. There has been gradual weight loss. Otherwise she feels well and has no significant past medical history. On examination she looks well, her BP is 142/84 mmHg and there is no lymphadenopathy. Abdominal examination is normal. Her BMI is 27. Investigations; Hb 12.9 g/dl WCC 5.4 x 109 /L PLT 210 x 109 /L Na+ 141 mmol/l K+ 5.0 mmol/l Creatinine 120 μmol/l Alb 39 g/l ALT 17 U/l Alk P 85 U/l Viscosity 1.7 mPa/s (1.5-1.72) Barium swallow dilated oesophagus, with tapering birds beak appearance at distal end Which of the following is the most likely diagnosis?

1- Severe oesophageal reflux

2- Oesophageal carcinoma

3- Barrett’s oesophagus

**4- Achalasia**

5- Hiatus hernia

Q5276. A 78-year-old woman presents with dull abdominal pain and lethargy. She has no past history of note apart from hypertension for which she takes ramipril 10mg daily, and she has no history of alcohol consumption. On examination her BP is 145/80 mmHg; the most striking finding is 9cm splenomegaly. Investigations; Hb 8.9 g/dl WCC28.1 x 109 /L PLT630 x 109 /L Na+ 141 mmol/l K+ 4.9 mmol/l Creatinine 130 μmol/l Which other clinical finding is most likely in this case?

1- Ascites

2- Inguinal lymphadenopathy

3- Lymphoedema

**4- Petechiae / Ecchymoses**

5- Hepatomegaly

Q5277. A patient presents with hyperkeratotic plaques on the skin, especially at the scalp margin. Mycology of hair pullings - no growth. What is the likely diagnosis?

**1- Psoriasis**

2- Seborrhoeic dermatitis

3- Tinea capitis

4- Lichen simplex

5- Discoid eczema

Q5278. A 49-year-old woman with a history of SLE presents with a sudden decrease in vision in her left eye. On examination her BP is 155/85 mmHg. Ophthalmology examination reveals flame shaped haemorrhages, retinal oedema affecting the temporal region of the retina. Which of the following is the most likely cause of her symptoms?

1- Vitreous haemorrhage

2- Retinal vein thrombosis

3- Retinal artery thrombosis

4- Branch retinal artery thrombosis

**5- Branch retinal vein thrombosis**

Q5279. A 62-year-old man presents with lower back pain radiating into the posterior part of the tops of both legs. He also reports trouble with difficulty starting and stopping his stream of urine and difficulty making it to the toilet when he wants to pass stool. On examination he has local tenderness to palpation over the lower back. There is diminished light touch in the perianal region and decreased anal tone. Where is the most likely cause of his symptoms?

1- Conus medullaris lesion

2- L1 disc lesion

**3- Cauda equina syndrome**

4- T10 disc lesion

5- Spinal meningioma

Q5280. A 42-year-old woman is brought to the clinic by her husband who is worried that she is becoming increasingly forgetful, and most recently couldn't remember her way home after going out shopping. She has a history of hypertension which is treated with indapamide and she has intermittent left flank pain. During the past 18 months she has suffered two episodes of mononeuritis. On examination her BP is 155/88 mmHg, she has skin discoloration consistent with livedo reticularis. Investigations; Hb 10.8 g/dl WCC 11.1 x 109 /L PLT 52 x 109 /L Na+ 141 mmol/l K+ 4.9 mmol/l Creatinine 176 μmol/l Hep B surface antigen positive Urine dipstick blood ++, protein++ Which of the following antibodies is most likely to be associated with this clinical presentation?

1- Anti-cardiolipin

2- Anti-glomerular basement membrane

3- C-ANCA

**4- P-ANCA**

5- Anti-smooth muscle

Q5281. You are reviewing a research proposal for a trial of a new TNF-alpha antagonist. When reviewing the profile of TNF alpha, which of the following is true?

**1- Raised levels lead to increased insulin resistance**

2- Acts on only one target cell

3- The gene coding for it is found on chromosome 7

4- TNF-alpha is produced only by macrophages

5- Lipopolysaccharide inhibits TNF-alpha

Q5282. A 17-year-old girl, who has been doing work experience at a local farm, presents to the Emergency department with fever, headache and diarrhoea. She is usually well; she suffers from mild asthma for which she takes a seretide 50 inhaler and also takes the oral contraceptive pill. On examination her BP is 155/84 mmHg, and her temperature is 37.8oC. She looks unwell with a widespread purpuric rash and petechial haemorrhages. Investigations; Hb 9.8 g/dl (schistocytes seen on film) WCC 11.1 x 109 /L PLT 84 x 109 /L Na+ 141 mmol/l K+ 5.8 mmol/l Creatinine 210 μmol/l PT 13.1s APTT 24.9s Urine blood ++, protein ++ (only able to pass 50ml in total) Which of the following is the most likely causative organism?

1- Salmonella

2- Shigella

**3- E Coli**

4- Brucella

5- Listeria

Q5283. A 74-year-old lady who is known to enjoy 3-4 glasses of wine per evening as well as gin and tonic is admitted to hospital. She has a past history of hypertension, a MI 6 years ago, and 2 previous admissions for urinary tract infection. The nurses ask you to see her as she appears to be acting strangely. Investigations Hb 10.9 g/dl MCV 102 fl WCC 9.4 x 109 /L PLT 140 x 109 /L ESR 10 mm/hr Na+ 140 mmol/l K+ 4.5 mmol/l Creatinine 142 µmol/l ALT 95 U/l Which of the following features would be most suggestive of a diagnosis of acute alcohol withdrawal?

1- Delusions about dying

2- Compulsive checking

3- Delusions about being the messiah

**4- Seeing a large vicious dog next to her bed**

5- Excessive sleeping

Q5284. A 21-year-old woman is referred to the renal clinic with hypertension. She has no significant past medical history but remembers taking antibiotics on a few occasions as a child. Only medication of note includes the oral contraceptive pill and ramipril 10mg daily for her blood pressure. On examination her BP is 155/92 mmHg. Abdominal examination is unremarkable. Investigations; Hb 10.9 g/dl WCC 8.9 x 109 /L PLT 134 x 109 /L Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 167 μmol/l Urine dipstick protein +++, blood +++ Renal ultrasound scan Right kidney 11cm, left 9.5cm (normal 11-12cm) Which of the following is the most appropriate investigation to confirm the diagnosis?

1- Renal biopsy

2- CT abdomen and pelvis

**3- Voiding cystourethrogram (VCUG)**

4- Renal isotope scan

5- Cystoscopy

Q5285. A 54-year-old woman with metastatic carcinoma of the breast presents to the clinic with very much worsening pain in her back and ribs, she has known bony metastases in the area. Current medication includes 100mg of MST BD with top up doses of 10mg oral morphine as required. She also takes regular paracetamol. Which of the following additional steps would you take to control her pain?

1- Stop oral morphine and prescribe diclofenac

2- Increase dose of MST

**3- Increase dose / frequency of oral morphine top-ups**

4- Start diamorphine syringe driver

5- Start fentanyl patches

Q5286. You review a 72-year-old man with severe chronic obstructive pulmonary disease (COPD), who asks about the provision of oxygen therapy at home. In which of the following have randomised controlled trials shown that long-term oxygen therapy (LTOT) reduces mortality?

1- Asthma

**2- Cor pulmonale caused by chronic airflow obstruction**

3- Cryptogenic fibrosing alveolitis

4- Cystic fibrosis

5- Pulmonary sarcoidosis

Q5287. A 70-year-old man is found by his home help lying on the floor of his lounge. An empty bottle which contained 5mg diazepam tablets and half a bottle of whisky are on the table. He has a past medical history of severe rheumatoid arthritis and you understand his pain and disability had worsened significantly over the past few months. On examination in the Emergency room his temperature is 34oC. His BP is 105/65 mmHg, with a pulse of 60/min. Investigations; Hb 12.1 g/dl WCC 12.1 x109 /l PLT 230 x109 /l Na+ 141 mmol/l K+ 6.0 mmol/l Creatinine 240 µmol/l ALT 550 U/l Urine blood ++ Which of the following is the most likely diagnosis?

1- Additional paracetamol overdose

**2- Rhabdomyolysis**

3- Urinary sepsis

4- Hepatitis

5- Myocardial infarction

Q5288. A 54-year-old patient presents to the clinic with indigestion. He denies excessive alcohol intake and is a non-smoker. Past medical history of note is mild asthma which is controlled with a low dose seretide inhaler. On examination he looks well, his BMI is 31, his BP 142/80 mmHg. There is mild epigastric tenderness. Investigations; Hb 11.0 g/dl WCC 6.7 x 109 /L PLT 185 x 109 /L Na+ 141 mmol/l K+ 4.4 mmol/l Creatinine 110 μmol/l Biopsy of suspicious area in stomach Low grade MALToma Which of the following is the most appropriate management of this patient?

1- Gastrectomy

2- Partial gastrectomy

3- Long term omeprazole therapy

**4- H pylori eradication**

5- Oral imatinib

Q5289. A 71-year-old woman is admitted by ambulance after having collapsed at home in front of her husband, shortly after having complained of a severe headache. She has a history of hypertension for which she takes ramipril 10mg daily and indapamide 1.5mg. On examination her BP is 195/110 mmHg. Her pupils are pinpoint, but reactive to strong light. She is comatose, with her eyes in midposition with no movement on head turning. Tone is increased bilaterally and plantars are upgoing. Investigations; Hb 12.4 g/dl WCC 5.0 x 109 /L PLT 180 x 109 /L Na+ 141 mmol/l K+ 4.9 mmol/l Creatinine 141 μmol/l Which of the following is the most likely cause of her stroke?

1- Left middle cerebral artery infarct

**2- Pontine haemorrhage**

3- Lacunar haemorrhage

4- Thalamic haemorrhage

5- Lateral medullary syndrome

Q5290. A 72-year-old man is brought to the Emergency Department by his wife. She has noticed that his walking has deteriorated over the past few months. He has also become incontinent of urine and she feels he may be confused. A history of shingles one month ago is noted. They admit to his drinking two glasses of wine per day. On examination he has a broad based shuffling gait and memory loss. Which of the following diagnoses fits best with this clinical history?

1- Benign intracranial hypertension

2- Intracerebral neoplasm

3- Alcoholic dementia

4- Multi-infarct dementia

**5- Normal pressure hydrocephalus**

Q5291. A 17-year-old girl presents with a severe headache which came on gradually over the past 12hrs and is associated with a stiff neck. She has suffered from cold and cough symptoms over the past few days and diarrhoea. She works in a crèche and is concerned as one of the children has recently been diagnosed with tuberculosis. On examination she is pyrexial 38.4oC, has a BP of 110/70 mmHg and a pulse of 95/min, there is a fine maculopapular rash over her trunk. She has significant neck stiffness and signs of meningism. Investigations; Hb 13.1 g/dl WCC 10.0 x 109 /L PLT 201 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 100 μmol/l Glucose 4.8 mmol/l CSF Lymphocytosis, glucose 4.5, protein slightly elevated Which of the following is the most likely diagnosis?

1- Tuberculous meningitis

2- Herpes simplex encephalitis

**3- Enterovirus meningitis**

4- Enterococcus meningitis

5- Listeria meningitis

Q5292. A 44-year-old man is surprised to find that he cannot easily get his feet into a pair of shoes that he last wore 5 years ago. He goes to buy a new pair and is told that his size has increased. He trawls the Internet for an explanation and, deciding that he may have acromegaly, consults his GP. The GP has not seen him for several years and thinks his appearance has changed, so refers him to the endocrine clinic. Which of the following would be the most useful first-line test for investigating him?

1- Glucose tolerance test with measurement of growth hormone

2- Insulin hypoglycaemia test (insulin tolerance test, insulin stress test)

3- Measurement of serum growth hormone during sleep

4- Measurement of serum growth hormone following exercise

**5- Measurement of serum insulin-like growth**

Q5293. A 71-year-old patient with rheumatoid arthritis has been using above the normal recommended daily dose of NSAIDs to control her pain. Additional medication includes low dose prednisolone and indapamide for hypertension. Over the past few weeks she has become increasingly lethargic and is now suffering from daily nausea, additionally she is now suffering from bilateral flank pain. On examination her BP is 148/93 mmHg. Investigations; Hb 10.4 g/dl WCC 9.1 x 109 /L PLT 134 x 109 /L Na+ 140 mmol/l K+ 5.9 mmol/l Creatinine 230 μmol/l Urine analysis protein ++ CT renal tract - bilateral small kidneys, ring shadows in the medullae, renal pelvis filling defects Which of the following is the most likely diagnosis?

1- Acute tubular necrosis

**2- Papillary necrosis**

3- Membranous glomerulonephritis

4- Interstitial nephritis

5- Minimal change disease

Q5294. A 22-year-old man is admitted to the medical ward with a vesicular rash all over his body. He has a fever and says that the rash began a few days after symptoms of a cold. On examination his BP is 125/77 mmHg, his temperature is 38.2oC. He has a vesicular rash covering his trunk. Respiratory examination is unremarkable and his saturation on air is 96%. Which of the following is the most appropriate management for him?

1- Varicella zoster immunoglobulins (VZIG)

**2- Aciclovir**

3- Flucloxacillin

4- Normal saline rehydration

5- Paracetamol

# Chapter 25 2009 May

Q5295. You are reviewing a 45-year-old woman with chronic myeloid leukaemia (CML). You note that she is Phildelphia chromosome positive and you remember that this represents the BCR-ABL gene. What does the BCR-ABL gene code for?

**1- Tyrosine kinase**

2- Serine protease

3- Alkaline phosphatase

4- Xanthine oxidase

5- Epidermal growth factor

Q5296. A 28-year-old woman with a history of Von-Willebrand's disease Type 1 comes to the haematology clinic for review. She has suffered from menorrhagia and required a 2 unit blood transfusion after removal of a diseased molar tooth 1 year earlier. She now requires removal of one further tooth. How would you advise managing her with respect to potential blood loss?

1- Give VWF containing factor VIII concentrate at the time of procedure

2- Give FFP at the time of procedure

3- Making whole blood available if needed

4- Give cryoprecipitate at the time of procedure

**5- Give DDAVP a short time before the**

Q5297. A 54-year-old man presents with joint pains, anorexia, diarrhoea and intermittent fevers. He has lost 5kg in weight over the past 6 months and feels “washed out”. There is a past history of hypertension which is managed with amlodipine 5mg but nil else of note. On examination he looks very thin, his BMI is 18, his BP is 138/72 mmHg, he has inguinal lymphadenopathy. His abdomen appears distended and he has bilateral pitting oedema, but there are no other abnormal findings. Investigations;Hb 10.0 g/dl WCC 9.2 x 109 /L PLT 191 x 109 /L Na+ 139 mmol/l K+ 3.8 mmol/l Creatinine 125 µmol/l Albumin 24 g/l ALT 186 U/l Small bowel biopsy – Expanded villi – PAS positive macrophages Which of the following is the most likely diagnosis?

1- Intestinal lymphoma

**2- Whipple's disease**

3- Tropical sprue

4- Coeliac disease

5- Hepatitis

Q5298. A 42-year-old man presents with chronic right knee pain. He lives and works in Italy and only returns to the UK intermittently to see his family. He has a history of Type 2 diabetes mellitus diagnosed last time he was in the UK, which is currently managed with diet. On examination his BP is 142/82 mmHg, his pulse is 76/min and regular. He looks particularly tanned. You count a number of spider naevi on examination of his upper chest and you notice that his pubic hair seems a little sparse. His BMI is 31. Investigations; Hb 10.9 g/dl WCC 8.1 x 109 /L PLT 190 x 109 /L Na+ 139 mmol/l K+ 4.5 mmol/l Creatinine 134 μmol/l ALT 182 U/l Bili 65 μmol/l Glucose 11.1 mmol/l Right knee x-ray chondrocalcinosis Which of the following tests would you carry out next?

1- Serum calcium

**2- Serum ferritin**

3- Serum copper

4- Urinary copper

5- Hepatitis serology

Q5299. A 36-year-old nurse with a 15-year history of ulcerative colitis (UC) develops abnormal liver enzymes. ALT 154 U/l, alkaline phosphatase 354 U/l, bilirubin 12 mmol/l. An ultrasound is normal. She is antineutrophil cytoplasmic antibody (ANCA)-positive. What would you be most likely to suspect?

1- Gallstones

2- Mesalazine hepatitis

**3- Primary sclerosing cholangitis**

4- Chronic active hepatitis

5- Primary biliary cirrhosis

Q5300. A 37-year-old traveller to Latin America presents with an ulcer in his nose and says that he has suffered problems with nasal congestion for some time. He had been working for around 9 months or so on an Operation Raleigh project at a jungle school. On examination there is a firm red ulcerated papule in the left nostril, which involves the nasal septum. Investigations; Hb 12.1 g/dl WCC 9.1 x 109 /L PLT 202 x 109 /L Na+ 142 mmol/l K+ 4.6 mmol/l Creatinine 105 µmol/l Which of the following is the most likely diagnosis?

1- Visceral leishmaniasis

2- Basal cell carcinoma

3- Squamous cell carcinoma

**4- Mucocutaneous leishmaniasis**

5- Blastomycosis

Q5301. A 65-year-old woman presents with a tense blistering skin rash which predominantly affects the flexural surfaces of her arms and legs and she has some blisters forming on her torso. She has never had blisters inside her mouth. On examination she has a number of bullae, more severe on the flexor surfaces of her arms and legs. There are no visible oral lesions. She tells you that the bullae usually heal without scarring. Investigations: Hb 13.1 g/dl WCC 7.4 x 109 /L PLT 201 x 109 /L Na+ 141 mmol/l K+ 4.4 mmol/l Creatinine 110 µmol/l Skin biopsy - subepidermal blister, polymorphous inflammatory infiltrate with a predominance of eosinophils Which of the following is the most likely diagnosis?

1- Pemphigus

**2- Bullous pemphigoid**

3- Erythema multiforme

4- Epidermolysis bullosa

5- Dermatitis herpetiformis

Q5302. A 34-year-old patient with severe post-influenza staphylococcal pneumonia is admitted to the intensive therapy unit. Unfortunately he deteriorates with renal failure and low output cardiac failure with hypotension. He also has evidence of developing disseminated intravascular coagulation (DIC). His BP is 95/50 mmHg, pulse 105/min, on inotropic support. Investigations; Hb 10.8 g/dl WCC 15.2 x 109 /L PLT 74 x 109 /L Na+ 141 mmol/l K+ 5.8 mmol/l Creatinine 375 µmol/l He is given activated protein C but then suffers an acute deterioration in his conscious level. When you see him is unconscious with bilateral increased tone, upgoing plantars and very sluggish pupil reactions bilaterally. What is most likely to have happened?

1- Embolic stroke

**2- Intracranial haemorrhage**

3- Watershed stroke due to hypotension

4- Intracerebral abscess

5- Cavernous sinsus thrombosis

Q5303. A 30-year-old man completed adjuvant chemotherapy for a stage-I testicular teratoma one month ago. He now presents with increasing shortness of breath and a dry cough. You suspect an adverse drug reaction related to one of his chemotherapeutic agents. What would be the most likely drug responsible?

**1- Bleomycin**

2- Cisplatin

3- Etoposide

4- Methotrexate

5- Vincristine

Q5304. A 26-year-old pregnant woman presents for her 24 week scan. It is her first child, and the father has haemophilia A. The scan shows that the child is a male fetus. Which of the following represents the likely percentage chance that her son will have haemophila A?

1- 100%

2- 50%

3- 33%

4- 25%

**5- 0%**

Q5305. An 11-year-old boy weighing 70 kg presents with limitation of abduction and internal rotation of the hip. There is tenderness in Scarpa's triangle on examination. On flexing the hip, external rotation of the limb occurs. What is the most likely diagnosis?

1- Perthe's disease

**2- Slipped upper femoral epiphysis**

3- Transient synovitis of the hip

4- Tuberculosis of the hip

5- Juvenile spondyloarthropathy

Q5306. A 15-year-old boy is being treated with ADH for diabetes insipidus. His plasma glucose level (fasting) is 6 mmol/l (3-6), sodium 139 mmol/l (137-144), potassium 4.5 mmol/l (3.5-4.9) and calcium 2.9 mmol/l (2.2- 2.6). He still has complaints of polyuria, polydipsia and nocturia. What could be the most probable cause?

1- Diabetes mellitus

**2- Nephrogenic diabetes insipidus**

3- Primary polydipsia

4- SIADH

5- Hypercalcaemia

Q5307. A 52-year-old male is undergoing exercise tolerance testing for coronary artery disease screening after suffering indigestion type pain whilst playing squash with a workmate. He reaches stage II of the Bruce protocol when his BP is 210/100 mmHg and HR 170/min. ECG changes are noted. Which of the following is the strongest indicator for stopping the test?

1- His BP of 210/100 mmHg

2- His heart rate

**3- 2mm ST depression in the lateral leads**

4- Patient request

5- Ventricular ectopics on the monitor

Q5308. A 67-year-old man is referred to the cardiology clinic with angina, progressive heart failure and two episodes of syncope. He has a history of hypertension managed with ramipril and indapamide and suffered an inferior myocardial infarction some 4 years ago. On examination his BP is 125/105 mmHg, and he has a soft ejection systolic murmur loudest at the apex. He has evidence of LVH and there are bilateral inspiratory crackles on auscultation of the chest consistent with LVF. Investigations; Hb 12.4 g/dl WCC 6.1 x 109 /L PLT 208 x 109 /L Na+ 140 mmol/l K+ 4.3 mmol/l Creatinine 185 µmol/l Which of the following is likely to be the most significant problem which is driving his symptoms?

1- Coronary artery disease

2- Mitral regurgitation

**3- Aortic stenosis**

4- Cardiac arrhythmias

5- Chronic renal failure

Q5309. An 18-year-old man presented to his GP having noticed a bloody discoloration of his urine over the past couple of days; he has also recently suffered a respiratory tract infection. Urine testing confirms haematuria and proteinuria. On two previous occasions after respiratory tract infection he was noted to have microscopic haematuria. He was referred for renal opinion. Biopsy reveals a focal proliferative glomerulonephritis. What underlying diagnosis fits best with this clinical picture?

1- Henoch-Schönlein syndrome

2- Goodpasture's syndrome

3- Minimal-change disease

**4- IgA nephropathy**

5- Membranous glomerulonephritis

Q5310. A patient with a history of angina is being investigated for dyspnoea. Blood tests confirm haemolytic anaemia and a peripheral smear shows the presence of Heinz bodies and methaemoglobinaemia. Which of the following medications may most likely be responsible for this complication?

1- Amlodipine

2- Aspirin

3- Metoprolol

**4- Isosorbide mononitrate**

5- Verapamil

Q5311. A 52-year-old man with disseminated prostatic carcinoma comes to the Emergency room after his family called an ambulance. They are very concerned as he has become increasingly drowsy and they are now unable to rouse him from sleep. He is managed with prolonged release morphine but his dose has remained unchanged for the past 4 weeks. It is only over the past 3 days that he has deteriorated. On examination he is unconscious and groans in response to vigorous stimulation. His BP is 100/50 mmHg, his respiratory rate is 9/min. Investigations; Hb 10.2 g/dl WCC 6.2 x 109 /L PLT 139 x 109 /L Na+ 142 mmol/l K+ 6.1 mmol/l Urea 35.2 mmol/l Creatinine 720 µmol/l ALT 1024 U/l Albumin 32 g/l Alkaline Phosphatase 623 U/l Urine on suprapubic catheterization blood++ Which of the following is most likely to be responsible for his impaired conscious level?

1- Hepatic failure

**2- Renal failure**

3- Cerebral metastases

4- Stroke

5- Urinary sepsis

Q5312. You are considering using a TNFalpha antagonist in the treatment of a 45- year-old man with severe psoriasis. The patient wants to know more about this treatment and how it works. Which cells are mainly responsible for production of TNF alpha?

1- Neutrophils

2- B-lymphocytes

**3- Macrophages**

4- T-lymphocytes

5- Mast cells

Q5313. A 38-year-old man presents with progressive breathlessness, dry cough and difficulty in swallowing. He also notes that his hands become pale and painful when exposed to the cold and that his fingers are swollen and stiff. His blood pressure is 160/110 mmHg. Chest radiographs show patchy shadows in both mid-zones and bases. What diagnosis could best explain these findings?

1- Sarcoidosis

2- Limited cutaneous scleroderma

**3- Diffuse cutaneous scleroderma**

4- Rheumatoid arthritis

5- Sjögren's syndrome

Q5314. A 70-year-old man has been experiencing a right-sided headache and severe temporomandibular joint pain for the past week. He now presents with a sudden loss of vision in his right eye. What treatment is required urgently to avoid vision loss in the left eye?

1- Intraocular steroids

**2- Intravenous steroids**

3- Pilocarpine

4- Timolol

5- Sumatriptan

Q5315. A 36-year-old woman with a symmetrical polyarthritis comes to the clinic for review. She has been taking regular paracetamol and diclofenac but is still suffering from significant joint pains. On examination she has valgus deformity of both elbows, and evidence of active synovitis affecting her wrists, hands, knees and ankles. Investigations; Hb 11.9 g/dl WCC 8.9 x 109 /L PLT 222 x 10 9 /L Na+ 141 mmol/l K+ 4.3 mmol/l Creatinine 130 µmol/l Rheumatoid factor+ Which of the following is the most appropriate additional therapy?

1- Tramadol

**2- Methotrexate**

3- Low dose corticosteroids

4- Etanercept

5- Gold

Q5316. A 54-year-old patient was admitted with central crushing chest pain and had a troponin rise to 3.2µg/L with anterior ST depression. He has a past history of hypertension for which he takes ramipril 10mg, and smokes 20 cigarettes per day. He was recovering on the cardiology ward after angiography and stenting when he started suffering further central chest pain 3 days later. Again his ECG showed anterior ST depression. Investigations; Hb 13.1 g/dl WCC 7.8 x 109 /L PLT 201 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 120 µmol/l Which of the following is the most appropriate enzyme screen to look for further myocardial damage?

1- Troponin T

2- Troponin I

**3- CK**

4- LDH

5- AST

Q5317. At what CD4 count should antiretroviral treatment commence in asymptomatic HIV patients?

1- Below 600/mm3

2- Below 400/mm3

**3- Below 250/mm3**

4- Below 100/mm3

5- Below 50/mm3

Q5318. A 45-year-old lady who is taking a tapering dose of prednisolone for severe asthma presents with right hip pain which is so severe that she is unable to weight bear; apparently the pain came on very quickly. She smokes 20 cigarettes per day and takes fluticasone high dose inhaler, tiotropium, theophylline tablets and currently 5mg of prednisolone. In total she has had 4 courses of oral corticosteroids in the past year. On examination her BP is 142/87 mmHg. She has limitation particularly of hip flexion, internal and external rotation of the right hip. The left hip is normal. Investigations; Hb 12.3 g/dl WCC 8.7 x 109 /L PLT 201 x 109 /L Na+ 141 mmol/l K+ 4.3 mmol/l Creatinine 110 µmol/l Right hip x-ray sclerosis of the femoral head Which of the following is the most likely diagnosis?

1- Pathological fracture

2- Osteoporosis

3- Paget's disease

**4- Avascular necrosis**

5- Osteoarthritis

Q5319. A 16-year-old boy presents with a purpuric rash affecting his legs and buttocks. He also complains of joint pains, especially affecting his knees and ankles, abdominal pain and vomiting. You understand that he suffered an upper respiratory tract infection a few days before presenting to the GP. Investigations; Hb 12.1 g.dl WCC 5.6 x 109 /L PLT 234 x 109 /L ESR 35 mm/hr Na+ 140 mmol/l K+ 5.0 mmol/l Creatinine 120 µmol/l Urine blood+, protein+ Given the suspected diagnosis which of the following is the most likely finding on renal biopsy?

1- Glomerular IgG deposition

2- Microaneurysm formation

3- Necrotising granuloma formation

**4- Glomerular IgA deposition**

5- Glomerular sclerosis

Q5320. A 52-year-old man presents with an acute upper gastrointestinal (GI) haemorrhage, but has no further bleeding after the initial episode. Unfortunately upper GI endoscopy reveals a suspicious ulcer, which is biopsied. This reveals the presence of mucosa associated lymphoid tissue and Helicobacter pylori. What is the most appropriate initial treatment in this case?

1- High-dose proton-pump inhibitor therapy

**2- Heliobacter pylori eradication therapy**

3- Chemotherapy for lymphoma

4- Surveillance endoscopy in 3 months

5- Referral for surgery

Q5321. A patient presents with eye pain and diplopia of 2 days’ duration. On examination there is no proptosis, but a left sided VIth nerve palsy, a partial left IIIrd nerve palsy, and left Vth nerve sensory changes over the maxilla are present. What is the most likely site of the lesion?

**1- Cavernous sinus**

2- Orbital artery

3- Vertebral artery

4- Anterior cerebral artery

5- Middle cerebral artery

Q5322. A 46-year-old man is admitted with a tachycardia. He has no previous medical history of note, but admits to excessive use of alcohol and caffeine associated with a particularly stressful period at work during his job as a bond trader. On examination his BP is 122/80 mmHg, his pulse is 180/min. His chest is clear and there are no signs of cardiac failure. Investigations; Hb 12.1 g/dl WCC 5.6 x 109 /L PLT 190 x 109 /L Na+ 139 mmol/l K+ 4.8 mmol/l Creatinine 110 µmol/l ECG Narrow complex tachycardia, rate 180/min You try 3 and 6mg of adenosine IV with no effect. Which of the following is the most appropriate next management step?

**1- IV 12mg adenosine**

2- IV amiodarone loading

3- IV atenolol

4- IV verapamil

5- IV flecainide

Q5323. A 29-year-old missionary is admitted to the Emergency Department suffering from a rash and fever with associated diarrhoea. She has been working in Bangladesh and has returned to the UK to visit relatives with her 8 week old baby. You make a diagnosis of Typhoid fever and wish to commence antibiotic therapy. Which of the following antibiotics is the best choice, bearing in mind that she wishes to continue breast feeding?

1- Olfloxacin

2- Co-trimoxazole

**3- Ceftriaxone**

4- Ciprofloxacin

5- Chloramphenicol

Q5324. A 67-year-old woman presents with syncope. She has suffered two or three episodes of collapse during the past 6 months, the most recent whilst attending church on a Sunday morning. She has a history of hypertension which is currently managed with ramipril and bendroflumethiazide and dyslipidaemia treated with simvastatin. On examination her pulse is 40/min, blood pressure 100/50 mmHg. Her chest is clear and heart sounds are normal. You notice irregular cannon waves on examination of the JVP. Investigations; Hb 12.1 g/dl WCC 7.4 x 109 /L PLT 203 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 149 µmol/l Which of the following is the most likely diagnosis?

**1- Complete heart block**

2- Mobitz type 2 heart block

3- Sinus bradycardia

4- Junctional rhythm

5- Ventricular bigeminy

Q5325. A patient presents with multiple cutaneous nodules, predominantly on his trunk, but also on his hands and face. He also has a number of café-au-lait spots and the GP reports axillary freckling. The GP is concerned that he may have neurofibromatosis Type 1. Which of the following is usually associated with neurofibromatosis Type 1?

**1- A gene defect on chromosome 17**

2- Juvenile cataracts

3- Schwannomas

4- Hyperparathyroidism

5- Medullary carcinoma of the thyroid

Q5326. A 42-year-old man presents to his GP with symptoms of lower respiratory tract infection. This fails to clear after 2 weeks of oral antibiotics and unfortunately chest X-ray reveals a suspicious mass in the central region of the right lung. At bronchoscopy the tumour is noted to be particularly vascular. Histology reveals small polygonal cells with a finely granular eosinophilic cytoplasm, and the nuclei are small and round. There is no evidence of tumour metastasis. Which of the following represents the most likely diagnosis in this case?

1- Small-cell carcinoma of the bronchus

**2- Carcinoid tumour of the bronchus**

3- Squamous-cell carcinoma of the bronchus

4- Alveolar carcinoma

5- Adenocarcinoma of the bronchus

Q5327. You are asked to see a 32-year-old immigrant who complains of chronic cough and weight loss over the past few months. Examination of sputum reveals acid and alcohol fast bacilli (AAFBs) and tuberculosis is confirmed. You elect to begin treatment with isoniazid, rifampicin, ethambutol and pyrazinamide as he is from an area where high levels of drug resistance are present. Which of the following blood tests is most desirable before starting therapy?

**1- Liver function testing**

2- Serum calcium

3- Platelet count

4- Clotting

5- Haemoglobin

Q5328. You are doing a stint as the chemical pathology reviewer for the local hospital. You are doing random quality control on the results. Which one of the following results sets is most likely to be the result of an analytical error?

1- pH 7.38; pO2 13.2 kPa; pCO2 3.9 kPa; bicarbonate 17mmol/l

**2- pH 7.2; pO2 13.8 kPa; pCO2 3.0 kPa; bicarbonate 24 mmol/l**

3- pH 7.4; pO2 12.5 kPa; pCO2 5.4 kPa; bicarbonate 22 mmol/l

4- pH 7.35; pO2 9.6 kPa; pCO2 7.0 kPa; bicarbonate 32 mmol/l

5- pH 7.45; pO2 13.5 kPa; pCO2 3.4 kPa;

Q5329. A couple come to the Genetics clinic as they have had one child with Wiskott Aldrich syndrome who died of bleeding complications at the age of 12. They are now approaching their mid thirties and are interested in trying for a child again. They wonder if sex selection may help avoid having another child affected by the condition. What is the usual pattern of inheritance for Wiskott - Aldrich?

1- X-linked dominant

**2- X-linked recessive**

3- Autosomal dominant

4- Autosomal recessive

5- Y-linked

Q5330. You are referred a 68-year-old man who smokes 40 cigarettes per day and has suffered from a chronic cough for the past 6 months, increasingly associated with haemoptysis. He also has a dull ache on the left side of his chest, and his CXR reveals a left hilar mass suspicious of bronchial carcinoma. You are considering radical radiotherapy in this man. Which of the following is a relative contraindication to radical radiotherapy?

1- SVC obstruction

2- Tumour adjacent to the hilum

**3- Malignant pleural effusion**

4- Adenocarcinoma

5- FEV1 < 60%

Q5331. A diagnosis of diabetes mellitus was being considered in 32-year-old woman who was 16 weeks pregnant. Her body mass index (BMI) was 22 kg/m2 (18-25). A 75 g oral glucose tolerance test (OGTT) was reported as in the table: Time Plasma glucose concentration (fasting) (mmol/l) Normal range 0h < 6.0 Patient 0h 6.0 Normal 2 h < 11.1 Patient 2h 12.5 Which of following appropriate next step in management of this patient?

1- Glipizide therapy

**2- Soluble insulin**

3- Low calorie diet

4- Metformin therapy

5- Repeat OGTT in four weeks

Q5332. A 23-year-old man who lives with his male partner consults you for an opinion. He has suffered anal discharge and pruritis for the past 3 days. There are also some symptoms of dysuria. A urethral smear reveals intracellular diplococci. What is the most likely infective agent to fit with this clinical picture?

**1- Neisseria gonorrhoeae**

2- Chlamydia trachomatis

3- Treponema pallidum

4- Herpes simplex-type 1

5- Herpes simplex-type 2

Q5333. A 35-year-old patient who is usually physically fit, has no past medical history of note, and works as a fitness instructor presents to the clinic with polyuria and polydypsia, tiredness and lethargy. He is not on any regular prescription drugs but he does take ibuprofen and diclofenac on most days because of sports injuries. On examination he looks dehydrated, his BP is 105/55 mmHg. Investigations; Hb 13.8 g/dl WCC 6.7 x 109 /L PLT 210 x 109 /L Na+ 150 mmol/l K+ 3.0 mmol/l Creatinine 156 µmol/l Random glucose 9.0 mmol/l Urine osmolality 450 mosmol/kg (350 – 1000) Which of the following is the most likely diagnosis?

1- Diabetes insipidus

2- Psychogenic polydipsia

3- Hyperosmolar diabetic crisis

4- Proximal renal tubular acidosis

**5- Distal renal tubular acidosis**

Q5334. A 57-year-old man with ischaemic heart disease, and a recent transient ischaemic attack, is prescribed clopidogrel. How would the mechanism of action of this drug be best described?

1- Blocks glycoprotein IIb/IIIa receptors

2- Blocks thrombin receptors

3- Blocks thromboxane production

**4- Blocks platelet ADP receptors**

5- Potentiates antithrombin-III action

Q5335. A 70-year-old man comes to the clinic complaining of blue vision. He has chronic atrial fibrillation and hypertension but has been passed fit to take sildenafil by his doctor. On examination he looks well, his pulse is 74/min, atrial fibrillation, and his BP is 142/78 mmHg. Investigations; Hb 13.1 g/dl WCC 4.9 x 109 /L PLT 182 x 109 /L Na+ 142 mmol/l K+ 4.5 mmol/l Creatinine 105 µmol/l Which of the following is the most likely cause of his blue vision amongst the medications he has been taking?

1- Temazepam

**2- Sildenafil**

3- Digoxin

4- Bisoprolol

5- Amlodipine

Q5336. A 70-year-old man is admitted with pruritus, jaundice, and a 2 kg weight loss of duration two weeks. He had not drunk any alcohol for at least eight years. One month previously, he had completed a course of coamoxiclav, which had been prescribed by his general practitioner for sinusitis, and was also taking ibuprofen for hip osteoarthritis. Investigations reveal (normal range in brackets): Albumin 38 g/l (37-49) Bilirubin 200 mmol/l (1-22) Aspartate transaminase (AST) 150 IU/l (5-35) Alkaline phosphatase 200 IU/l (50-110) Abdominal ultrasound reveals gallstones, but no biliary duct dilatation What is the most likely cause of his jaundice?

1- Co-trimoxazole

**2- Co-amoxiclav**

3- Hepatitis B infection

4- Hepatitis C infection

5- Ibuprofen

Q5337. A 28-year-old woman comes to the clinic. She is 24 weeks pregnant with a male fetus. Her partner is in good health, but her father suffers from Haemophila A. What is the percentage chance of the male fetus suffering from Haemophilia A?

1- 100%

**2- 50%**

3- 33%

4- 25%

5- 0%

Q5338. A 54-year-old woman who suffers from systemic sclerosis is referred to the clinic with chronic diarrhoea. She has a previous history of chronic oesophageal reflux that has been managed with conservative measures such as raising the head of the bed. Based on the most likely cause of this diarrhoea, what would be the best initial treatment option?

**1- Metronidazole therapy**

2- Colestyramine therapy

3- Codeine phosphate therapy

4- Neomycin therapy

5- Imodium therapy

Q5339. A 20-year-old teacher presents with a 4-day history of general malaise, conjunctivitis and a cough. He is starting to develop a maculopapular rash on his face and upper trunk. What is the most likely diagnosis?

1- Parvovirus B19

**2- Measles**

3- Rubella

4- EBV

5- Primary HIV

Q5340. A 57-year-old with cardiac failure is being managed in the high dependency unit. The decision has ben made to commence inotropic support. Of the following drugs, which is most likely to cause significant tachycardia?

1- Noradrenaline

2- Dopamine

3- Dobutamine

**4- Adrenaline**

5- Phenylephrine

Q5341. A 30-year-old man presents with 3hrs of central crushing chest pain. He admits to regular cocaine use, including on the evening that he presents to the Emergency department. Other history of note includes smoking 10 cigarettes per day and a family history of mixed hyperlipidaemia. On examination his BP is 220/120 mmHg, but this falls to 180/80 mmHg after diamorphine. He has a sinus tachycardia of 110 beats per minute. He has been given 300mg of aspirin by the ambulance crew. Investigations; Hb 13.8 g/dl WCC 5.9 x 109 /L PLT 211 x 109 /L Na+ 141 mmol/l K+ 4.9 mmol/l Creatinine 110 µmol/l ECG Anterior ST elevation consistent with acute myocardial infarction Which of the following is the most appropriate way to manage him?

1- Abciximab

**2- Percutaneous coronary intervention**

3- Low molecular weight heparin

4- Streptokinase

5- rTPA

Q5342. A 32-year-old woman is reviewed 14 days after a live renal transplant from her sister. Initial studies on the transplanted kidney showed it to be functioning well. You examine her and she has mild tenderness over the transplant scar, but nil else of note. Her post operation notes show a very slight rise in temperature to 37.4oC the day after surgery. Investigations; Hb 11.4 g/dl WCC 9.8 x 109 /L PLT 201 x 109 /L Na+ 139 mmol/l K+ 4.4 mmol/l Creatinine 160 µmol/l (145 1 week earlier) Cyclosporin level 310ng/ml (normal<300) Renal ultrasound normal sized kidney Renal angiography blood flow appears normal within the transplant Which of the following is the most likely cause of the slight deterioration in her creatinine?

1- CMV infection

2- Acute rejection

3- Delayed graft rejection

4- Anastamotic stenosis

**5- Ciclosporin toxicity**

Q5343. A 37-year-old woman underwent a second kidney transplant, some 7 years after her first, but unfortunately the donor kidney never functioned. A biopsy revealed pathological features consistent with acute rejection associated with anti HLA antibodies. Which type of Immunoglobulin is expected to account for this process?

1- IgD

2- IgA

**3- IgG**

4- IgM

5- IgE

Q5344. A 56-year-old diabetic male had an anterior myocardial infarction 5 years ago. He is receiving aspirin 150 mg once daily and twice daily insulin. Baseline screen revealed a body mass index (BMI) of 34, blood pressure 150/90 mmHg , haemoglobin A1c (HbA1c) 6.9 %, serum cholesterol 3.6 mmol/l (normal < 5.1 mmol/l). Which of the following measures would delay deterioration in renal function?

1- Orlistat

2- Increase to 4—أ daily insulin

**3- Ramipril**

4- Simvastatin

5- Increase aspirin from 150 mg to 300 mg

Q5345. A 60-year-old man presents with difficulty fastening up the buttons on his coat when using his right hand. He tells you he had a car crash involving a rear shunt around 1 year earlier. On examination he has sensory loss affecting the medial aspect of his right arm around the elbow but the sensory supply to the hand appears intact. The intrinsic hand muscles are wasted on the right side. Where is the most likely lesion?

1- Radial nerve

2- Cervical nerve root C7

3- Ulnar nerve

4- Median nerve

**5- Thoracic nerve root T1**

Q5346. A 19-year-old girl with a history of Type 1 diabetes presents with confusion, hyperventilation and dehydration. On examination she is hyperventilating, smells of pear drops and has a BP of 95/50 mmHg with a pulse of 105/min. Arterial blood gas measurement reveals a pH of 7.2. You suspect that she has diabetic ketoacidosis (DKA). What is the primary cause of ketoacidosis in Type 1 diabetes?

1- Lipogenesis

**2- Lipolysis**

3- Gluconeogenesis

4- Glycolysis

5- Glycogenolysis

Q5347. A 55-year-old male patient presents arthralgia affecting his hands, wrists, elbows and knees. He has been living and working in Portugal where he runs a hotel and bar. Past medical history of note includes erectile dysfunction which is managed with sildenafil. He has no children and no partner at the current time. On examination he looks tanned, his BP is 139/72 mmHg, his BMI is 27. Investigations; Hb 11.0 g/dl WCC 8.7 x 109 /L PLT 181 x 109 /L Na+ 139 mmol/l K+ 4.4 mmol/l Creatinine 110 µmol/l ALT 132 U/l Alk P 160 U/l Bilirubin 76 µmol/l Fasting glucose 9.1 mmol/l Which of the following is the most likely diagnosis?

1- Type 2 diabetes

2- Wilson's disease

3- Pseudogout

4- SLE

**5- Haemochromatosis**

Q5348. A 40-year-old woman complains of pain and stiffness in the small joints of her hands especially in the mornings. An X-ray shows only soft tissue swelling, but an MRI reveals erosions at the metacarpophalangeal joints. Which of the following indicates a worse than average prognosis?

1- Anaemia occurring a year after onset

2- Negative IgM rheumatoid factor

3- Male patient

4- Positive IgG rheumatoid factor

**5- Gradual onset over a few months**

Q5349. A 24-year-old woman undergoes resection of the terminal ileum with fashioning of an ileostomy for Crohn’s disease. Some 2 weeks after surgery, she is making a good recovery, and is eating a highenergy, low-residue diet, but has a high ileostomy volume, necessitating intravenous fluid replacement. Her serum calcium concentration is 1.82 mmol/l, phosphate 1.28 mmol/l, alkaline phosphatase 82 U/l (normal < 150), albumin 30 g/l, creatinine 80 μmol/l. Prior to surgery, her serum calcium concentration was 2.18 mmol/l, albumin 36 g/l. What is the most likely cause of her hypocalcaemia?

1- Formation of insoluble calcium salts in the intestine

2- Hypoalbuminaemia

**3- Hypomagnesaemia**

4- Malabsorption of calcium

5- Malabsorption of vitamin D

Q5350. A 26-year-old who has developed a long-standing addiction to heroin which began 4 years earlier whilst travelling visits you for advice. He has tried going 'cold turkey' on a number of occasions but develops unacceptable restlessness, anxiety, vomiting and diarrhoea. He now has a child and is determined to stop. There is a place available on the local drug counselling scheme. Which of the following is the most appropriate prescription with respect to medically managing his withdrawal?

1- Buprenorphine

**2- Methadone**

3- Diazepam

4- Dihydrocodeine

5- Chlorpromazine

Q5351. A 59-year-old man is admitted with unstable angina. He has a history of Type 2 diabetes and a previous inferior myocardial infarction. His ECG shows anterior ST depression and he has ongoing chest pain despite nitrates. He goes for angioplasty and is treated with abciximab. Which of the following correctly describes the mode of action of abciximab?

1- Cycloxygenase inhibitor

2- Prostaglandin E inhibitor

**3- Glycoprotein 2b 3a inhibitor**

4- Phosphodiesterase inhibitor

5- Thromboxane A2 inhibitor

Q5352. You are reviewing a study which seeks to measure troponin I to estimate the level of cardiac myonecrosis. In which site in the cardiac myocyte is troponin present?

1- Mitochondria

**2- Adjacent to the thin myofilaments**

3- Adjacent to the thick myofilaments

4- Free within the cytoplasm

5- T-tubules

Q5353. A 56-year-old alcoholic is admitted to the Emergency department with a pyrexia and cough productive of green sputum. He admits to drinking around 8 pints of cider per day and an unspecified amount of gin. He has been admitted on a number of occasions with decreased consciousness and once previously with aspiration pneumonia. On examination he is pyrexial 38.2oC, with a BP of 105/60 mmHg, and has bilateral coarse breath sounds and crackles. Investigations; Hb 12.1 g/dl WCC 12.9 x 109 /L PLT 245 x 109 /L Na+ 140 mmol/l K+ 4.5 mmol/l Creatinine 140 µmol/l CXR Cavitating lesions involving the upper lobes Which of the following is the most likely diagnosis?

1- Tuberculosis

2- Mycoplasma

3- Legionella

4- Pneumococcus

**5- Klebsiella**

Q5354. A 70-year-old man with a history of extensive acute myocardial infarction 4 years earlier comes to the hospital with his wife. He has suffered 4 episodes of collapse over the past 6 months, the most recent that morning, when she witnessed slurred speech, confusion and weakness of his right arm and leg. On examination he has no chest pain, his BP is 145/82 mmHg, and he is not in cardiac failure. His apex beat is displaced to the left. Investigations; Hb 12.1 g/dl WCC 5.9 x 109 /L PLT 187 x 109 /L Na+ 142 mmol/l K+ 5.1 mmol/l Creatinine 148 µmol/l ECGST elevation in the anterior leads Which of the following is the most appropriate way to manage him?

1- Monitor on the CCU

2- Thrombolyse with TPA

3- Refer for immediate PCI

4- Arrange an urgent CT head

**5- Arrange a cardiac MRI**

Q5355. A 45-year-old man with previously diagnosed Type 2 diabetes presents to the Emergency room with severe central chest pain, nausea and sweating. He was riding his bike in an attempt to lose weight when the chest pain began. He also smokes 15 cigarettes per day and is hypertensive, managed with ramipril and amlodipine. On examination his BP is 155/95 mmHg, he is pale, sweaty and anxious. He has been given 300mg of aspirin by a passer-by. Investigations; Hb 13.2 g/dl WCC 5.9 x 109 /L PLT 209 x 109 /L Na+ 141 mmol/l K+ 4.9 mmol/l Creatinine 130 µmol/l Glucose 17.1 mmol/l ECG Inferior ST elevation Which of the following is the most appropriate intervention?

1- Low molecular weight heparin

2- Alteplase

3- Streptokinase

**4- Percutaneous coronary intervention**

5- Abciximab

Q5356. A 60-year-old man presents complaining of epigastric pain which radiates to his back, as well as nausea and vomiting for the past few weeks. He has lost 4kg in weight over the past 3 months. He drinks 4 pints of beer and a bottle of wine per day and smokes 20 cigarettes per day. On examination he looks thin, his BMI is 19 and he has mild epigastric tenderness only on palpation. Investigations; Hb 10.9 g/dl MCV 102 fl WCC 8.1 x 109 /L PLT 210 x 109 /L Na+ 141 mmol/l K+ 4.0 mmol/l Creatinine 90 µmol/l Upper GI endoscopy moderate oesophagitis Which of the following is the next most appropriate investigation?

1- Colonoscopy

**2- CT abdomen**

3- 24hr pH monitoring

4- Repeat endoscopy following acid suppression

5- ERCP

Q5357. A 60-year-old lady complains of a sensation of something crawling up her legs and then has an irresistible urge to move her legs just before falling asleep. She gets up several times per night, but finds the symptoms settle around 5am and she can then sleep until 11am. She has an Hb of 11.6 g/dl and is currently being treated by her GP for iron deficiency anaemia. Investigations; Hb 11.6 g/dl WCC 6.7 x 109 /L PLT 190 x 109 /L Na+ 141 mmol/l K+ 4.7 mmol/l Creatinine 142 µmol/l Which of the following is the most likely diagnosis?

1- Narcolepsy

2- Sleep apnoea syndrome

**3- Restless legs syndrome**

4- Nocturnal leg cramps

5- Peripheral neuropathy

Q5358. A 72-year-old presents to his GP with anorexia, weight loss and increasing lethargy. He also complains of Raynaud’s phenomenon and increasing headaches over the past few months. Apart from a history of hypertension there is no other significant past medical history. On examination his BP is 155/92 mmHg. You detect hepatosplenomegaly on examination of the abdomen. Investigations; Hb 10.2 g/dl WCC 11.1 x 109 /L PLT 104 x 109 /L Na+ 142 mmol/l K+ 4.9 mmol/l Creatinine 198 µmol/l Viscosity 2.9 mPa/s (1.5-1.72) Total protein 82 g/l (61-76) IgM paraprotein band Urate 0.62 mmol/l (0.23-0.46) Which of the following poses the most serious risk to this patient?

**1- Hyperviscosity syndrome**

2- Severe anaemia

3- Disseminated herpes zoster infection

4- Meningococcal sepsis

5- Invasive aspergillosis

Q5359. A 75-year-old woman has suffered 6 transient ischaemic attacks (TIAs) involving transient weakness and poor co-ordination affecting the left side of her body. She has a history of hypertension which is managed with ramipril and indapamide, but no other significant past medical history. On examination her BP is 155/90 mmHg, her pulse is 75/min and regular. There is a right carotid bruit. Investigations; Hb 12.8 g/dl WCC 6.1 x 109 /L PLT 209 x 109 /L Na+ 140 mmol/l K+ 4.5 mmol/l Creatinine 135 µmol/l Carotid Doppler 50% stenosis of right internal carotid artery Which of the following is the most appropriate way to manage her?

**1- Aspirin**

2- Warfarin

3- Clopidogrel

4- Carotid endarterectomy

5- Aspirin and dypridamole

Q5360. A 16-year-old boy comes to the clinic with his parents. He complains that he feels lethargic, particularly at the end of the day; this manifests by difficulty doing simple tasks like whistling, and he finds it difficult to carry things for his parents because of shoulder weakness. He is also embarrassed as he has a “bit of a gut” because his tummy muscles seem a little lax. Other past history of note is high frequency deafness picked up at a previous hearing check. On examination he does have mild proximal upper limb weakness and a “winged” aspect to both scapulae. The only other finding of note is weakness of ankle dorsiflexion. Investigations; Hb 13.1 g/dl WCC 6.7 x 109 /L PLT 212 x 109 /L Na+ 139 mmol/l K+ 4.3 mmol/l Creatinine 100 µmol/l CK 430 U/l (24 - 195) Given the likely diagnosis, which of the following is the strongest indicator of prognosis?

1- Level of CK

**2- Vital capacity**

3- Response to corticosteroid therapy

4- 12 lead ECG

5- FEV1

Q5361. The 3-year-old child of 12-week pregnant 25-year-old woman develops a typical chickenpox illness. The mother does not recall having had chicken pox herself. What do you advise the mother to do?

1- Avoid further contact with the child

**2- Test the mother for varicella-zoster IgG**

3- Take aciclovir as prophylaxis

4- Receive varicella-zoster immune globulin (VZIG) urgently

5- Consider termination of pregnancy

Q5362. You review a 67-year-old man with COPD. He has smoked 30 cigarettes per day for around the past 40 years. Pulmonary function tests indicate that he has a predominantly emphysematous picture. Which of the following is the most important factor in airflow limitation in severe emphysema?

1- Smooth muscle contraction

2- Large airways obstruction

3- Mucosal oedema

**4- Loss of elastic recoil**

5- Mucus plugging

Q5363. A 29-year-old IV heroin abuser is admitted to the Emergency department with a severe cough, fever and rigors. He says that he has suffered progressively increasing shortness of breath on exertion over the past few days. On examination he has a pyrexia of 37.9oC, he has a BP of 122/75 mmHg and a BMI of 17. There are mild crackles and wheeze on auscultation of the chest. Investigations; Hb 10.9 g/dl WCC 11.1 x 109 /L PLT 245 x 109 /L Na+ 141 mmol/l K+ 4.0 mmol/l Creatinine 130 µmol/l LDH 420 U/l (70-250) Sats 92% on air, 89% after walk test CXR Diffuse bilateral infiltrates Which of the following is the most likely diagnosis?

1- Tuberculosis

2- Endocarditis

3- Klebsiella pneumoniae pneumonia

**4- Pneumocystis jiroveci pneumonia**

5- Staphylococcus aureus pneumonia

Q5364. A 29-year-old woman with brittle asthma is admitted to the Emergency room with a viral exacerbation of her asthma. Her usual peak flow is around 490 l/min, and she is managed with a high dose seretide inhaler. On examination her BP is 145/80 mmHg, pulse is 105/min, regular. She has a respiratory rate of 40/min and looks exhausted. On auscultation you can hear wheeze and decreased air entry. Her peak flow is measured at 180 l/min. Investigations; Hb 13.1 g/dl WCC 8.1 x 109 /L PLT 249 x 109 /L Na+ 141 mmol/l K+ 3.9 mmol/l Creatinine 110 µmol/l paO2 10.5 kPa pCO2 6.4 kPa Her peak flow has not improved 30 mins after admission, despite salbutamol and atrovent nebulisers and IV hydrocortisone. You arrange review by the ITU registrar.Whist you are waiting for her visit, which of the following is the most appropriate next management step?

1- IV aminophylline

2- IV salbutamol

**3- IV magnesium**

4- Inhaled helium oxygen mixture

5- NIPPV

Q5365. A 55-year-old Caucasian man presents with a 2-year history of arthritis, fever, recurrent cough and pleuritic chest pain. He has spent the past few years working on a farm in the Netherlands and has just returned home to the UK. He has been feeling generally unwell and most recently he has developed diarrhoea and weight loss. On examination there is mild skin pigmentation and finger clubbing. On auscultation of the heart a pan-systolic murmur is heard. Investigations; Hb 12.1 g/dl WCC 10.5 x 109 /L PLT 183 x 109 /L Na+ 140 mmol/l K+ 4.0 mmol/l Creatinine 130 µmol/l ESR45 mm/hr Which of the following investigations would be most likely to confirm your clinical diagnosis?

1- Echo

2- Blood cultures

**3- Serology testing for coxiella**

4- Small bowel biopsy

5- Mesenteric angiogram

Q5366. A 72-year-old woman has recently returned from her 3 month winter holiday to the Spanish Riviera. Over the past few days she has suffered from increasing cough and breathlessness, other symptoms include a headache and diarrhoea. By the time she presented to the Emergency department with her daughter she was confused and incontinent of urine. On examination in the Emergency room she is pyrexial 38.4oC with a BP of 100/60 mmHg and a pulse of 105/min. She has bilateral wheeze on auscultation of the chest. Investigations reveal; Hb 13.1 g/dl WCC 13.2 x 109 /L PLT 130 x 109 /L Na+ 131 mmol/l K+ 4.5 mmol/l Creatinine 145 μmol/l Urine Protein +, blood + paO2 7.1 kPa paCO2 3.8 kPa Which of the following is the most likely diagnosis?

1- Urinary sepsis

2- Listeria monocytogenes

**3- Legionnaires disease**

4- Pneumococcal pneumonia

5- Meningococcal meningitis

Q5367. A patient presents with eye pain and diplopia of 2 days’ duration. On examination there is no proptosis, but a left sided VIth nerve palsy, a partial left IIIrd nerve palsy, and left Vth nerve sensory changes over the maxilla are present. What is the most likely site of the lesion?

**1- Cavernous sinus**

2- Orbital artery

3- Vertebral artery

4- Anterior cerebral artery

5- Middle cerebral artery

Q5368. A 62-year-old man presents with progressively worsening dementia. He has a history of hypertension and a previous myocardial infarction some 7 years earlier. His BP is 155/90 mmHg on examination, and his pulse is 65/min and regular. You send him to the psychiatrist who diagnoses him with Lewy Body Dementia. Which of the following features is most likely to be associated with Lewy Body dementia?

1- Absence of extrapyramidal symptoms

**2- Fluctuating mental state**

3- Poor concentration

4- Rapid onset

5- Auditory hallucinations

Q5369. A 70-year-old man became wheezy while walking uphill, and tripped hitting his left eye. He now complains of pain in this eye; the cornea is hazy, the globe feels very firm to palpation and there is a hyphaema obscuring most of the iris. Which of the following is the most appropriate treatment?

1- Examination under anaesthesia

2- Topical β-blockers

**3- Intravenous carbonic anhydrase inhibitors**

4- Topical anticholinergics

5- Anterior chamber paracentesis

Q5370. A 31-year-old woman who is 22 weeks pregnant is referred to the diabetes clinic with glycosuria. It is her first pregnancy. On examination her BP is 139/80 mmHg, her BMI is 32. She has no other past medical history of note. Investigations; Hb 11.9 g/dl WCC 5.9 x 109 /L PLT 178 x 109 /L Na+ 140 mmol/l K+ 4.9 mmol/l Creatinine 95 µmol/l Fasting glucose 9.2 mmol/l She monitors her post-prandial glucoses and you decide that dietary intervention alone is unlikely to be sufficient for her. She is not keen on insulin therapy. How would you plan to manage her sugars initially?

1- Persuade her to accept BD mixed insulin

2- Persuade her that a basal bolus regime is the best thing for her

3- Start low dose gliclazide

4- Start low dose glibenclamide

**5- Start metformin 500mg BD**

Q5371. A patient with liver cirrhosis develops metabolic alkalosis. What is the most likely pathological mechanism?

1- Bicarbonate loss due to ascites

**2- Reduced urea synthesis**

3- Increased gastric acid production

4- Reduced bicarbonate secretion from the pancreas

5- Reduced lactate formation in skeletal

Q5372. A 67-year-old man with chronic AF who has failed cardioversion is started on long term oral digoxin therapy by his GP. He is started at an initial dose of 250mcg daily. He wants to know why he has to take a higher dose at the beginning and why it takes a while to work?

**1- Volume of distribution**

2- Half-life

3- Absorption

4- Clearance

5- First-pass metabolism

Q5373. A 34-year-old obese woman with a history of polycystic ovarian syndrome (PCOS) comes to the clinic with tiredness, thirst and polyuria. She complains that she is unable to get pregnant, and that she has been trying for a baby with her partner for the past 3 years. On examination her BMI is 31, her BP is 155/90 mmHg. She also has acne and a pattern of hirsutism consistent with PCOS. Investigations; Hb 13.4 g/dl WCC 5.6 x 109 /L PLT 230 x 109 /L Na+ 139 mmol/l K+ 4.9 mmol/l Creatinine 110 µmol/l Fasting glucose 9.1 mmol/l Which of the following is the most appropriate therapy with respect to both her fertility and Type 2 diabetes?

1- Dietary advice

**2- Metformin monotherapy**

3- Pioglitazone monotherapy

4- Insulin

5- Gliclazide

Q5374. A 55-year-old man complains of nausea, loss of appetite and dyspepsia after meals for the last 2 weeks. He is a smoker and has a past history of pernicious anaemia. He is pale, cachexic and tender at the epigastrium. His skin is velvety and hyperpigmented at the neck and axillary folds. What is the diagnosis?

1- Tylosis

2- Pyoderma gangrenosum

**3- Acanthosis nigricans**

4- Chloasma

5- Lentigines

Q5375. Which organ lies anterior in direct contact with the left kidney without separation by visceral peritoneum?

1- Spleen

2- Left suprarenal

**3- Tail of the pancreas**

4- Left psoas muscle

5- Splenic flexure

Q5376. A 62-year-old man comes to the cardiology clinic for review. He has a history of mitral stenosis and presents with increased shortness of breath. His BP is 142/108 mmHg. On auscultation there is a loud first heart sound, an early diastolic murmur loudest at the apex, and an early diastolic murmur loudest at the left sternal edge. The second heart sound is loud. There are prominent V waves on examination of the JVP. Auscultation of the chest reveals evidence of bibasal inspiratory crackles and he has peripheral pitting oedema. What finding on examination suggests the possibility of another valvular leak?

1- Loud second heart sound

2- Early diastolic murmur at the apex

**3- Early diastolic murmur at the left sternal edge**

4- Loud first heart sound

5- Bibasal inspiratory crackles

Q5377. A 26-year-old man registers with a new GP and is noticed to have microscopic haematuria, so is referred to the renal clinic. You note on further questioning that his father had a history of deafness, but apparently his parents divorced and he has no further contact with his father and couldn’t comment on his health now. On examination his BP is elevated at 150/85 mmHg. Investigations; Hb 11.0 g/dl WCC 7.8 x 109 /L PLT 197 x 109 /L Na+ 141 mmol/l K+ 4.9 mmol/l Creatinine 190 µmol/l Urine blood + Which of the following is the most likely diagnosis?

1- IgA nephropathy

2- Polycystic kidney disease

3- Goodpasture's syndrome

**4- Alport's syndrome**

5- Renal carcinoma

Q5378. A 25-year-old woman presents with nausea and lethargy. The GP has been treating her for essential hypertension with ramipril and her latest on treatment BP has been recorded at 149/89 mmHg. Other past history of note includes a symmetrical polyarthropathy which may be rheumatoid arthritis and a history of urinary tract infections as a child. On examination she looks pale and thin, her BP is 165/90 mmHg. There are bibasal crackles on auscultation of the chest. Investigations; Hb 10.4 g/dl WCC 6.7 x 109 /L PLT 179 x 109 /L Na+ 140 mmol/l K+ 5.9 mmol/l Creatinine 387 µmol/l USS renal tract no evidence of obstruction, left kidney smaller than the right with reduced renal parenchymal thickness Which of the following is the next most appropriate investigation?

1- Renal biopsy

2- MR angiography

**3- Micturating cystourethrogram**

4- CT abdomen

5- Autoimmune profile

Q5379. A 45-year-old woman is seen in the oncology clinic with end-stage carcinoma of the breast. She has failed various treatments and you are considering treating her with docetaxel. What is the mode of action of docetaxel?

1- Disrupting DNA

**2- Binding to microtubules**

3- Inhibiting mitochondrial energy production

4- Inhibiting RNA production

5- Inhibiting ribosome production

Q5380. A 54-year-old man presents with progressive cognitive impairment and personality change. He gives a history of a stroke 2 years before, which has left him with mild left hemiparesis, and prior to that had had several 'mini-strokes'. His brother has a similar history, in that he too had several strokes between the ages of 40 and 55. Their mother died at 60 of 'dementia' and his father's medical history is unknown. He has four children in their late twenties. His daughter suffers from migraine and had what seemed to be a transient ischaemic episode during her first pregnancy. Another son also has frequent headaches, sometimes with associated transient weakness of one side of his body. On examination, the patient has signs of left hemiparesis, generally brisk reflexes and upgoing plantars. He has an apraxic gait. His Mini-Mental State Examination score is 24/30 with slow responses. What possible unifying diagnosis should be considered when investigating his cognitive problem?

1- Mitochondrial encephalopathy with leucoencephalopathy and stroke-like features (MELAS)

**2- Cerebral autosomal-dominant arteriopathy with subcortical infarcts and leucoencephalopathy (CADASIL)**

3- Familial hemiplegic migraine

4- Autosomal-dominant form of cerebral amyloid angiopathy

5- Hyperhomocysteinaemia

Q5381. A 24-year-old man with a family history of congenital myotonic dystrophy visits you for advice about starting a family. He has the typical features of frontal male pattern balding and is beginning to develop features of muscle weakness. He has read on the internet about a phenomenon called "anticipation" which is associated with the condition. What does anticipation mean in this setting?

1- Symptoms develop which prevents fathering children

**2- Symptoms begin at an earlier stage in successive generations**

3- Symptoms are less severe in successive generations

4- Warning signs appear which can pre-date the main symptoms associated with the condition

5- Patients can anticipate the severity of their

Q5382. A 62-year-old woman is admitted with confusion and increased respiratory rate. She has been managed by her GP for shortness of breath and is taking ramipril and indapamide for hypertension and has a salbutamol inhaler. She came to the Emergency room with her daughter because of concerns that she was getting worse. On examination her BP is 112/62 mmHg, she has a pyrexia of 37.4oC. Pulse is 75/min and regular and heart sounds are normal. Auscultation of the chest reveals scattered crackles and wheeze. Investigations; Hb 13.1 g/dl WCC 9.2 x 109 /L PLT 201 x 109 /L Na+ 138 mmol/l K+ 4.5 mmol/l Bicarbonate 22 mmol/l Creatinine 130 µmol/l pO2 9.1 kPa pCO2 7.2 kPa pH 7.2 Which of the following is the most likely diagnosis?

**1- Acute respiratory acidosis**

2- Acute on chronic respiratory acidosis

3- Metabolic acidosis

4- Mixed metabolic and respiratory acidosis

5- Respiratory acidosis

Q5383. A 32-year-old woman presents to the clinic with tiredness. She has 3 children and a full time job and is finding it very difficult to hold everything together. There is no significant past medical history. On examination her BP is 145/80 mmHg, her BMI is 28. Investigations; Hb 12.4 g/dl WCC 6.7 x 109 /L PLT 204 x 109 /L Na+ 141 mmol/l K+ 4.9 mmol/l Creatinine 120 µmol/l Total cholesterol 5.0 mmol/l TSH 7.8 U/l Free T4 10.0 pmol/l (10-22) Free T3 3.4 pmol/l (5-10) Which of the following is the most likely diagnosis?

1- Hypothyroidism

2- Thyrotoxicosis

3- Thyroid hormone resistance

**4- Subclinical hypothyroidism**

5- TSH secreting tumour

Q5384. A 23-year-old South African woman who has recently started the oral contraceptive pill comes to the dermatology clinic. She is concerned as the skin on her hands and forearms has become increasingly fragile with a bullous rash. In addition she has increased pigmentation and some hair growth on her face. Investigations; Hb 12.2 g/dl WCC 8.1 x 109 /L PLT 284 x 109 /L Na+ 141 mmol/l K+ 4.9 mmol/l Creatinine 110 µmol/l ANA positive Which of the following is the most likely diagnosis?

1- Polycystic ovarian syndrome

2- Erythema multiforme

3- Hereditary coproporphyria

**4- Porphyria cutanea tarda**

5- SLE

Q5385. A patient with Parkinson's disease on treatment with L-dopa and a dopadecarboxylase inhibitor is experiencing troublesome tremor. Which drug would be most suitable to add to the treatment regimen?

1- Amantadine

**2- Procyclidine**

3- Selegiline

4- Propranolol

5- Ropinirole

Q5386. Altitudinal hemianopia is a cardinal feature in a patient who?

1- Denies the fact he is blind

2- Is 72 years old with macular degeneration

3- Is 70 years old with headache, vomiting and swelling of the optic disc

**4- Is a 74-year-old man with multiple cholesterol emboli on fundoscopy**

5- Has coarse facial features, large lips and

Q5387. A 17-year-old girl is admitted with a non-blanching rash suspicious of meningococcal septicaemia. According to her boyfriend she has had symptoms of a sore throat and head cold over the past few days, and over the past 12hrs has becoming increasingly drowsy and confused. The GP administered IV benzylpenicillin at home whilst awaiting the ambulance. On examination she is pyrexial 38.6°C, BP 95/60 mmHg, pulse 105/min, and has an extensive petechial rash consistent with meningococcal septicaemia, including over the area you are considering for lumbar puncture. She is drowsy and photophobic but you manage to get a view of her optic discs and she has evidence of papilloedema. Investigations; Hb 12.1 g/dl WCC 15.6 x 109 /L PLT 210 x 109 /L Na+ 138 mmol/l K+ 4.4 mmol/l Creatinine 134 µmol/l CT head slight ventricular enlargement Which of the following is the most appropriate way to confirm the diagnosis of meningococcus?

1- Blood culture

2- CSF microscopy and culture

3- Skin lesion culture

**4- PCR for meningococcus**

5- Meningococcal serology

Q5388. A 29-year-old man returns from a holiday in India complaining of fever, diarrhoea and dizziness on standing. He has eaten widely from a number of places during his holiday including some local meat and fish dishes from street food sellers. On examination he is pyrexial 38oC, looks dehydrated; BP is 120/70 mmHg with significant postural drop and pulse 98/min regular. He has abdominal tenderness, especially in the right iliac fossa. You also notice erythema nodosum. Investigations; Hb 14.3 g/dl WCC 12.3 x 109 /L PLT 200 x 109 /L Na+ 145 mmol/l K+ 3.2 mmol/l Creatinine 184 µmol/l Given the suspected diagnosis, which of the following is the most appropriate treatment for him?

1- Metronidazole

**2- Ciprofloxacin**

3- IV hydrocortisone

4- IV normal saline

5- Erythromycin

Q5389. A 72-year-old man presents to the clinic after referral from his GP with haematuria which he first noticed 2-3 weeks ago. On reflection a screening urine specimen taken 3 months earlier at the orthopaedic clinic was positive for blood and negative for protein. He has a history of hypertension controlled with amlodipine but is on no other medications. On examination his BP is 145/80 mmHg, otherwise clinical examination is unremarkable. Investigations; Hb 10.5 g/dl WCC 9.2 x 109 /L PLT 342 x 109 /L Na+ 140 mmol/l K+ 4.5 mmol/l Creatinine 149 µmol/l ESR 59 mm/hr Urine blood +++, protein - Renal Ultrasound unremarkable Abdominal x-raynormal Which of the following is the most appropriate next investigation?

1- ANCA

**2- Cystoscopy**

3- Renal biopsy

4- IVU

5- CT abdomen

Q5390. A 35-year-old man is referred with macroscopic haematuria on two occasions, he says that prior to the onset of the haematuria each time he suffered from a cold/ respiratory tract infection. He also has hypertension which is currently being monitored by the practice nurse. On the past 2 visits to the surgery his BP has been 155/92 mmHg, and 149/94 mmHg. On examination in the clinic his BP is 155/95 mmHg, cardiovascular, respiratory and abdominal examination is otherwise normal. Investigations; Hb 12.5 g/dl WCC 8.7 x 109 /L PLT 276 x 109 /L Na+ 140 mmol/l K+ 4.7 mmol/l Creatinine 110 µmol/l Urine blood +++, protein + Urine ultrasound normal sized kidneys, no sign of obstruction Which of the following is the most appropriate next investigation?

1- Cystoscopy

2- Abdominal CT

3- Urine culture

**4- Renal biopsy**

5- IVU

Q5391. A 23-year-old lady on anti-psychotic medication for schizophrenia is referred to the endocrine clinic by her GP. She complains of significant galactorrhoea, particularly when her breasts are stimulated during sexual intercourse with her boyfriend. Since starting medication she has been able to hold down a job and form a stable relationship, and she is reluctant to discontinue it. On examination her BP is 125/80 mmHg, physical examination including visual field testing is unremarkable, but you can express milk on stimulation of her breasts. Investigations; Hb 12.4 g/dl WCC 6.4 x 109 /L PLT 232 x 109 /L Na+ 140 mmol/l K+ 4.5 mmol/l Creatinine 110 µmol/l Prolactin 900 mU/l (normal < 360mU/l) FSH low LH low Which of the following is the most likely cause of her symptoms?

1- Microprolactinoma

2- Macroprolactinoma

3- Olanzapine

4- Clozapine

**5- Risperidone**

Q5392. A 50-year-old male comes to the clinic claiming his ears look large. He has 12 documented visits to medical services over the past year, all about this problem. On examination he is of completely normal appearance, with normal sized ears. This is explained to him, but he is absolutely insistent that they are too large. Apart from this he has no past medical history of note, and holds down a job running a small printing firm. Which of the following is the most likely diagnosis?

1- Somatisation disorder

**2- Body dysmorphia**

3- Obsessive compulsive disorder

4- Depression

5- Munchausen's disease

Q5393. A 30-year-old woman is admitted with a right sided hemiparesis. She returned two days earlier from visiting her sister in Australia. She has been generally well apart from occasional migraine headaches. Only medication of note is the progesterone-only contraceptive pill. On examination her BP is elevated at 152/89 mmHg and she has a right sided hemiparesis. You note that her right leg is swollen. Her flat mate tells you that she complained that the leg was aching just after she returned home. Investigations; Hb 12.4 g/dl WCC 6.1 x 109 /L PLT 210 x 109 /L Na+ 140 mmol/l K+ 4.9 mmol/l Creatinine 209 µmol/l ESR 10 mm/hr Which of the following investigations would be most helpful in revealing the cause of her stroke?

1- Carotid duplex

2- Right leg venogram

3- CT head

4- Abdominal ultrasound scan

**5- Echocardiography**

Q5394. A 54-year-old man with a history of obesity, Type 2 diabetes and hypertension presents to the clinic complaining of pain in his right 1st MTP joint. He takes orlistat, ramipril, indapamide, amlodipine and metformin and has been taking over the counter ibuprofen for intermittent bouts of the same pain that have occurred over the past 18 months. On examination he has a BP of 149/90 mmHg and a BMI of 31. He has pain, swelling and redness over the right first MTP joint. Investigations; Hb 13.1 g/dl WCC 5.9 x 109 /L PLT 229 x 109 /L Na+ 141 mmol/l K 4.4 mmol/l Creatinine 132 µmol/l X-ray reduced joint space and calcification Which of his drugs should be discontinued?

1- Ramipril

2- Amlodipine

**3- Indapamide**

4- Orlistat

5- Metformin

Q5395. A 67-year-old man presents with weakness and muscle aches. He has a history of hypertension and dyslipidaemia and is managed with ramipril and simvastatin. He also has COPD and is treated with a high dose seretide inhaler. You understand he was started by his GP on antibiotics a few days earlier for a lower respiratory tract infection. Investigations; Hb 12.1 g/dl WCC 9.4 x 109 /L PLT 272 x 109 /L Na+ 141 mmol/l K+ 5.9 mmol/l Creatinine 190 µmol/l CK 890 U/l (24-195) Which of the following is the antibiotic he is most likely to have been prescribed?

1- Doxycycline

2- Ciprofloxacin

3- Amoxycillin

4- Co-amoxyclav

**5- Clarithromycin**

# Chapter 26 Part II Cardiology

Q5396. A 28-year-old man presents with two episodes of collapse. His 24-hour tape reveals one episode of nocturnal paroxysmal suprvaventricular tachycardia (SVT). PR interval is 140 ms and the QT interval is normal. Echocardiography is unremarkable. Which of the following treatments is most appropriate in this case?

**1- Sotalol**

2- Flecainide

3- Amiodarone

4- Digoxin

5- Verapamil

Q5397. You review a 78-year-old woman who has collapsed while at morning service in church. This has been her third episode of collapse in recent months. On admission to the Emergency Department she is hypotensive at 105/70 and has a pulse rate of 38. Electrocardiogram (ECG) reveals atrial fibrillation with a ventricular rate of 40 beats per minute. There is a past medical history of hypertension and chronic obstructive airways disease. Medication includes seretide inhaler and ramipril for blood pressure. Review of previous casualty cards reveals one other documented bradycardic collapse and an admission with fast atrial fibrillation at a ventricular rate of 135. Which of the following represents the most appropriate long-term therapy for this lady?

1- Verapamil

2- Sotalol

3- Amiodarone

**4- Permanent pacemaker**

5- Digoxin

Q5398. An 88-year-old man is referred to the rapid access clinic by his general practitioner (GP) with a history of chest pain on exertion. This has been present on walking up hills over the last year. There have never been any symptoms at rest. There is a past medical history of mild hypertension and of a recent transient ischaemic attack. The patient is currently on aspirin 75 mg od, simvastatin 20 mg od and perindopril 2 mg od. On examination he appears well in himself. His blood pressure is recorded as 135/95 mmHg and heart rate is 75 beats/min. His heart sounds are normal and his chest is clear on auscultation. The resting electrocardiogram (ECG) shows normal sinus rhythm with left ventricular hypertrophy. The patient undergoes an exercise tolerance test. He achieves 90% of the predicted maximum heart rate at 7:00 minutes of exercise. The ECG record shows some ST depressions in the lateral leads at the end of exercise associated with slight chest discomfort. These resolve quickly into recovery. Which would be the most appropriate next step in this patient's management?

1- Referral for outpatient coronary angiogram

**2- Addition of bisoprolol**

3- Referral for stress echocardiography

4- Addition of nicorandil

5- Referral for thalium perfusion scan

Q5399. A 62-year-old accountant presents with history of pain in both calves. The pain starts after walking three blocks, is described as cramping and is relieved by rest. He has been a known hypertensive for the last 10 years, on atenolol 50 mg a day. He has a 40- pack year history of smoking but stopped 2 years ago. A treadmill exercise test done two years ago was normal. He does not have any other past medical history of note. On physical examination he has body mass index of 26, blood pressure of 125/75 mmHg, heart rate 75 beats/min, bilateral femoral bruits and absent dorsalis pedis pulses. Examination of the heart and respiratory system is normal. Lipid profile results show: Total cholesterol 5.6 mmol/l Low-density lipoprotein (LDL) cholesterol 3.5 mmol/l High-density lipoprotein (HDL) cholesterol 1.2 mmol/l Triglycerides 2.8 mmol/l The patient is advised to continue atenolol 50 mg a day, and is also started on aspirin 100 mg a day, cilostazol 100 mg twice a day, low fat diet and a supervised exercise training programme. On follow-up visit three months later his symptoms have improved and he is now able to walk five blocks without symptoms. A repeat lipid profile shows: Total cholesterol5.0 mmol/l LDL cholesterol 3.2 mmol/l HDL cholesterol 1.3 mmol/l Triglycerides 2.4 mmol/l Which of the following is the next best step in this patient's management?

**1- Start atorvastatin with a target LDL of less than 2.6 mmol/l**

2- Stop atenolol

3- Start angiotensin-converting enzyme inhibitor to keep blood pressure below 120/70 mmHg

4- Start nitroglycerine

5- Start simvastatin with a target LDL of less

Q5400. A 68-year-old lady who has had more that three readings of blood pressure (BP) 175/65 during the past month. She is obese with a body mass index of 34. On further questioning she admits to shortness of breath on minimal exercise. Which of the following would be the most appropriate initial therapy in this patient?

**1- Ramipril**

2- Atenolol

3- Bendrofluazide

4- Doxazosin

5- Nifedipine

Q5401. A 29-year-old man of no fixed abode is brought to the casualty department with 4- week history of haemoptysis, cough and shortness of breath. He denies any other medical problems but he is a known smoker of a pack a day and it is evident that he likes his alcohol but he does not admit to how much he drinks. He is sketchy about other details of his life but does admit to living on the streets since his late teens. The positive findings on clinical examination include tachycardia and tachypnoea, an increased JVP, ascites, hepatomegaly, peripheral oedema and decreased heart sounds. The ECG obtained from the patient is of low voltage and shows QRS complexes of alternating amplitude. In this patient, which of the following diagnosis would be the LEAST likely cause of this ECG appearance?

1- Infective endocarditis

**2- Mesothelioma**

3- Tuberculosis

4- HIV

5- Carcinoma of the lung

Q5402. A 69-year-old man is admitted to the emergency department with sudden onset of palpitations. The palpitations started 3 h ago, and are associated with shortness of breath, light-headedness and chest discomfort. He has had two similar episodes of palpitations in the last 2 months that have lasted only a few seconds. He had never sought any medical advice on these previous palpitations. His past medical history is unremarkable and he is not on any medication. On examination, he is dyspnoeic with a blood pressure of 102/55 mmHg, pulse rate of >>120/min and a respiratory rate of 28/min. His oxygen saturation on air is 90%, and his chest is clinically clear. His jugular venous pressure is not raised. First and second heart sounds are heard but you cannot appreciate if there is any murmur. The following results are obtained: Electrocardiogram (ECG) Heart rate of 188/min with a narrow QRS complex Chest X-Ray Normal How would you determine the underlying cardiac rhythm?

1- Give intravenous β-blocker

**2- Give rapid intravenous adenosine**

3- Ask patient to do a Valsalva manoeuvre

4- Give 100% oxygen

5- Give intravenous calcium channel blocker

Q5403. A 26-year-old male is referred by general practitioner for electrocardiogram (ECG) abnormality discovered on routine preemployment check up. The ECG reveals a prolonged QT interval of 0.52 s. The patient has no history of palpitations or syncope and has no family history of sudden cardiac death. The physical examination is unremarkable and blood chemistry shows normal levels of potassium and magnesium. The patient is not taking any drugs and leads a sedentary life. What is the best management for this patient?

1- Left stellate cardiac ganglionectomy

**2- Atenolol 50 mg a day**

3- Dual chamber pacemaker

4- Implantable cardioverter defibrillator (ICD)

5- Implantable cardioverter defibrillator plus

Q5404. A 32-year-old male is referred to outpatient clinic for evaluation of abnormal electrocardiogram (ECG) (Wolff-ParkinsonWhite syndrome), performed after a motor vehicle accident in which patient sustained minor chest trauma. He is asymptomatic and has never had any chest pain, shortness of breath, syncope or light-headedness. He does not remember any episode of unusual or prolonged palpitations. He has no family history of sudden death and no past medical history of note. He works as an accountant. What is the most appropriate step in this patient's management?

1- Holter monitoring

2- Amoidarone

3- Radiofrequency catheter ablation of accessory pathway

4- Surgical ablation of accessory pathway

**5- Observation**

Q5405. A 45-year-old smoker, presents to the emergency department, following a prolonged episode of chest discomfort lasting 3 h. His initial electrocardiogram (ECG) shows ST elevation in the chest wall leads. Thrombolysis therapy with tissue plasminogen activator is given on the advice of the cardiology team. The patient is admitted onto a coronary care bed and is discharged after an uneventful 5 day period. He represents after one month complaining of palpitations and dizziness. The ECG shows a broad complex tachycardia. Blood tests show: Haemoglobin (Hb) 14.2 g/dl White cell count (WCC) 7.8 x 109 /L Platelets 310 x 109 /L Na+ 140 mmol/l K+ 3.7 mmol/l Urea 6.0 mmol/l Creatinine 95 µmol/l Ca2+ 2.21 mmol/l Mg2+ 0.88 mmol/l A central line is inserted and the patient is loaded with amiodarone. His ECG reverts to sinus rhythm with anterior Q waves. An echocardiogram shows antero-septal hypokinesis with moderate left ventricular impairment. Which one of the following is the treatment of choice?

1- Amiodarone 200 mg tds

2- Amiodarone 200 mg od

3- Sotalol 80 mg bd

**4- Automated implantable cardiac defibrillator**

5- Mexiletine

Q5406. You review a 61-year-old man with type-2 diabetes mellitus who has recently moved to the area. He is known with hypertension and currently takes ramipril 10 mg and amlodipine 10 mg. His blood pressure is 155/80 mmHg in the clinic and he has documented microalbuminuria. What is an appropriate blood pressure target for this patient?

1- 145/85 mmHg

**2- 130/80 mmHg**

3- 140/90 mmHg

4- 135/85 mmHg

5- 125/75 mmHg

Q5407. A 26-year-old male is referred by general practitioner for electrocardiogram (ECG) abnormality discovered on routine preemployment check up. The ECG reveals a prolonged QT interval of 0.52 s. The patient has no history of palpitations or syncope and has no family history of sudden cardiac death. The physical examination is unremarkable and blood chemistry shows normal levels of potassium and magnesium. The patient is not taking any drugs and leads a sedentary life. What is the best management for this patient?

1- Left stellate cardiac ganglionectomy

**2- Atenolol 50 mg a day**

3- Dual chamber pacemaker

4- Implantable cardioverter defibrillator (ICD)

5- Implantable cardioverter defibrillator plus

Q5408. A 33-year-old female presents with a history of progressive dyspnoea of two weeks' duration sometimes associated with palpitations. She has also noticed increased swelling of her feet and abdomen and decreased effort tolerance. She denies any chest pain, fever, rhinorrhoea, sore throat or rash. She is pregnant in her 36th week of gestation and has no past medical history of note, does not take alcohol or any other drugs. Examination of the cardiovascular system during prenatal visits has been normal. Electrocardiogram (ECG) and chest X-ray performed a year ago during a preemployment check up were normal. Physical examination reveals pulse rate of 98/min, respiratory rate 22/min, blood pressure 110/60 mmHg, jugular venous distension, a summation gallop and bilateral inspiratory crackles up to one-third of the chest posteriorly. ECG shows sinus tachycardia and echocardiography reveals diffuse left ventricular (LV) hypokinesia with an ejection fraction of 25%. The patient is started on digoxin 0.125 mg per day, furosemide 60 mg twice daily and hydralazine 25 mg twice daily. Which of the following medications should be added to the above regimen?

**1- Heparin**

2- Carvedilol

3- Enalapril

4- Nitroglycerine

5- Methylprednisolone

Q5409. A general practitioner (GP) calls you up. He is asking for advice regarding a 52-yearold Caucasian man who came to his surgery complaining of chest pain, which was subsequently diagnosed as musculoskeletal in origin. During his initial assessment the patient's blood pressure was 170/100 mmHg and on subsequent checks it has remained around this level. He is an ex-smoker of 4 years. There is a strong family history of ischaemic heart disease and hypertension. He says that there is no evidence of left ventricular hypertrophy on his electrocardiogram (ECG) and his urine dipstick did not show proteinuria. The GP wants advice regarding treating his blood pressure. What is your advice to the GP?

1- You suggest treatment with a calcium channel inhibitor

2- You suggest a low salt diet and regular exercise and to recheck his blood pressure in 3 months' time

**3- You suggest treatment with an angiotensinconverting enzyme (ACE) inhibitor**

4- You suggest reassurance and a ‘do- nothing approach'

5- You suggest treatment with an angiotensin

Q5410. A 45-year-old male known to have idiopathic dilated cardiomyopathy and ejection fraction of 30% is evaluated in the clinic. He is on digoxin 0.125mg od, furosemide 40 mg bid and enalapril 10 mg bid. He is able to walk one block without symptoms and has no orthopnoea. He weighs 78 kg, pulse is 70 beats/min, jugular venous pulse (JVP) 2 cm above the sternal notch, both heart sounds normal with no murmur, chest is clear to auscultation and trace pedal oedema. He is started on carvedilol 3.125 mg bid. The patient comes to clinic next week and describes tiredness and mild orthopnoea. His JVP is 4 cm above the sternal notch; there are fine inspiratory rales at both bases and 1+ pedal oedema. What is the most appropriate next step in this patient's management?

1- Increase the dose of digoxin to 0.25 mg od

**2- Increase the dose of furosemide to 60 mg bid**

3- Stop carvedilol

4- Add hydrochlorothiazide 25 mg od

5- Stop carvedilol and increase enalapril to 15

Q5411. A 48-year-old female with a mitral valve prosthesis for the last 5 years presents with severe shortness of breath. The shortness of breath started a few days ago but has rapidly worsened for past 2 h. The patient had not taken her warfarin for past 5 days. On examination the patient is sitting up in the bed, pulse rate is 110/min, blood pressure 78/55 mmHg; jugular venous pulsations are seen up to the angle of the jaw, heart sounds are muffled and inspiratory crackles can be heard all over the chest. An urgent transthoracic echocardiography is ordered; though the visualisation is poor, it suggests a thrombus attached to the mitral prosthesis. What is the best management for this patient?

**1- Intravenous alteplase**

2- Intravenous heparin infusion

3- Immediate valve replacement

4- Transoesophageal echocardiography (TEE)

5- Check her international normalised ratio

Q5412. A 54-year-old publican is admitted with shortness of breath and increasing peripheral oedema. He has extremely limited exercise tolerance and is barely able to move around the pub. On examination he has signs of chronic liver disease and biventricular cardiac failure. His blood pressure is 110/70 mmHg, with a pulse of 85/min. You diagnose cardiomyopathy. He admits that he is unable to reduce his consumption of alcohol. Which of the following is the closest estimate of annual mortality associated with cardiomyopathy and moderate heart failure?

1- 5%

2- 10%

3- 15%

**4- 20%**

5- 30%

Q5413. A 55-year-old man presents to the emergency department with a severe headache. He gives a history of frequent headaches over the last year. There is no history of fevers, neck stiffness, or nausea but he does complain of some vague visual disturbances. There is no history of sick contacts. He has no past medical history of note. He is a smoker of 15 a day and he drinks about 30 units of alcohol a week. On examination he is found to be hypertensive with a blood pressure of 195/105 mmHg and a heart rate of 96 beats/min. Auscultation of his heart reveals normal heart sounds and the chest is clear. Abdominal palpation reveals no palpable masses or organomegaly. A bruit is heard over the left renal artery. There are flame-shaped haemorrhages and cotton-wool spots seen on fundoscopy. His electrocardiogram (ECG) shows sinus rhythm with left ventricular hypertrophy. A urine dipstick is positive for blood and protein. Which of the following would be the most appropriate management?

**1- Admission to hospital for blood pressure monitoring and control**

2- Oral nifedipine 10 mg, followed by short period of observation and disharge when blood pressure settles

3- Sublingual nifedipine 10 mg and discharge when the blood pressure settles

4- Simple analgesia for the headache, oral nifedipine 10 mg and discharge home with general practitioner (GP) review

5- Simple analgesia for the headache and

Q5414. A 26-year-old man was admitted to the emergency department with acute cardiac failure. Previously fit and well, his past medical history was unremarkable. He presented with a three-day history of central chest pain, fever and shortness of breath. Initially he had generalised muscle pains; he then developed chest pain and a cough productive of yellowish sputum. The chest pain radiated to his back and the shortness of breath was progressive. When he presented, he could not complete a sentence in one breath because of breathless. On examination, he was dyspnoeic, febrile and sweaty with a pulse rate of >100/min, respiratory rate of 32/min and a blood pressure was 81/43 mmHg. His jugular venous pressure was slightly raised at 4 cm. First, second and a third heart sounds were heard producing a gallop rhythm. Respiratory examination revealed widespread crackles and scattered rhonchi bilaterally. The following results were obtained: Blood gases on 100% oxygen: pH 7.50 p(O2) 15.10 kPa p(CO2) 3.43 kPa Bicarbonate 23.4 mmol/l Haemoglobin 15.8 g/dl Mean cell volume 88.6 fl Platelets 210 x 109 /L White cell count 18 x 109 /L - lymphocytosis Troponin T 12.4 Units (normal is < 0.01 Units) ECG Sinus rhythm with a right bundle branch block at a rate of 143/min. Chest X-ray Enlarged globular heart with evidence of pulmonary oedema Echocardiogram A small pericardial effusion with a normal left ventricular size but very poor global left ventricular function. The ejection fraction was 25% What is the most likely cause?

1- Bilateral pneumonia

**2- Acute anterior myocardial infarction**

3- Atypical pneumonia

4- Viral myocarditis

5- Pericardial tamponade

Q5415. A 55-year-old heavy smoker presented to the Emergency Department with severe anterior chest pain. An electrocardiogram (ECG) on admission revealed sensory threshold (ST) depression and he was started on aspirin and low molecular weight heparin. Six hours later he develops more severe pain and has ST elevation in leads V3 to V6. What is the management of choice?

1- Start him on β-blockade

2- Arrange urgent angiography +/- angioplasty and stenting

3- Start a IIb IIIa receptor antagonist

4- Start streptokinase

5- Start tenecteplase

Q5416. A 45-year-old smoker, presents to the emergency department, following a prolonged episode of chest discomfort lasting 3 h. His initial electrocardiogram (ECG) shows ST elevation in the chest wall leads. Thrombolysis therapy with tissue plasminogen activator is given on the advice of the cardiology team. The patient is admitted onto a coronary care bed and is discharged after an uneventful 5 day period. He represents after one month complaining of palpitations and dizziness. The ECG shows a broad complex tachycardia. Blood tests show: Haemoglobin (Hb) 14.2 g/dl White cell count (WCC) 7.8 x 109 /L Platelets 310 x 109 /L Na+ 140 mmol/l K+ 3.7 mmol/l Urea 6.0 mmol/l Creatinine 95 µmol/l Ca2+ 2.21 mmol/l Mg2+ 0.88 mmol/l A central line is inserted and the patient is loaded with amiodarone. His ECG reverts to sinus rhythm with anterior Q waves. An echocardiogram shows antero-septal hypokinesis with moderate left ventricular impairment. Which one of the following is the treatment of choice?

1- Amiodarone 200 mg tds

2- Amiodarone 200 mg od

3- Sotalol 80 mg bd

**4- Automated implantable cardiac defibrillator**

5- Mexiletine

Q5417. A 35-year-old man is being treated for end-stage cardiomyopathy following viral infection. His current medication includes aspirin, bisoprolol, ramipril and furosemide. There is still evidence of cardiac failure. Echocardiography 3 months earlier revealed an ejection fraction of only 31%. What other medication would you add to the above list?

1- Spironolactone

2- Digoxin

3- Bendrofluazide

4- Warfarin

**5- Bumetanide**

Q5418. A 50-year-old man comes to the cardiology clinic for follow-up. He has been annually followed up in the clinic for 10 years for his aortic stenosis. He informs you that his exercise tolerance has decreased. He gets some chest discomfort and dizziness on strenuous exertion. On examination, he is comfortable with a blood pressure of 125/85 mmHg, pulse of 76/min and regular. His jugular venous pulse is not raised and his chest is clinically clear. First and second heart sounds are heard and there is an ejection systolic murmur grade 3/6 in the aortic distribution. An echocardiogram reveals a gradient of 60 mmHg across the aortic valve. You explain to the patient that he will need a valve replacement. He would like to know the pros and cons of the different heart valves. Which one of the following statements is true of prosthetic heart valves?

1- Tissue valves last as long as metallic valves

2- Both tissue and metallic valves need anticoagulation for life

3- A tissue valve would be most suitable for this patient

4- Tissue valves last for 5 years on average

5- A metallic valve would be most suitable for

Q5419. A 56-year-old male presents to outpatient clinic for evaluation prior to his coronary angiography that is scheduled the next day. The patient has had diabetes mellitus for 8 years and is currently taking metformin 500 mg three times a day. He had suffered from recent onset of chest discomfort on exertion, and on a treadmill test was found to be positive for stress-induced ischaemia. He is currently taking aspirin 300 mg a day, clopidogrel 75 mg a day, atenolol 50 mg a day and fosinopril 10 mg a day. Physical examination reveals a pulse rate of 62 beats/min, blood pressure of 105/65 mmHg and jugular venous distension up to 2 cm above the sternal notch. The heart sounds are normal and chest is clear to auscultation. Electrocardiogram (ECG) reveals T wave inversion in leads I and aVL. Which of the following medications should be stopped prior to his coronary angiography?

1- Metformin

2- Aspirin

3- Clopidogrel

**4- Atenolol**

5- Fosinopril

Q5420. A 27-year-old lady who has recently arrived to the UK from India is referred to the cardiology department because of intermittent palpitations associated with dizziness. She describes the palpitations as fast and irregular with sudden onset and termination. She remembers a prolonged illness as a child but is unsure as to the nature of this. On examination she appears comfortable but underweight. Her pulse is 80 beats/min regular, the jugular venous pressure is not raised and there is no peripheral oedema. There is a rumbling diastolic murmur over the apex on auscultation of the heart and the chest is clear. An echocardiogram performed confirms the presence of rheumatic mitral stenosis. The patient is referred for a cardiothoracic opinion. Two weeks later, she attends the emergency department, feeling extremely unwell. On arrival she is found to be in fast atrial fibrillation with a rate of 130 beats/min a blood pressure of 90/60 mmHg and oxygen saturations of 92% on air. She is placed in the resuscitation area for closer monitoring. Which of the following would be the best pharmacological intervention?

1- Intravenous flecainide

2- Oral digoxin

3- Intravenous amiodarone through a central line

4- Intravenous esmolol

5- Intravenous digoxin

Q5421. A 26-year-old known asthmatic presents to the emergency department complaining of a fluttering in his chest. This started suddenly following the use of his salbutamol inhaler. He says that he usually feels his heart racing after using salbutamol but this usually settles after a couple of minutes. On this occasion the palpitations have lasted for 20 min and he is starting to feel uncomfortable. On arrival his heart rate is 190 beats/min and his blood pressure is 125/75 mmHg. Auscultation of his heart reveals no murmurs and his chest is clear. His electrocardiogram (ECG) shows a narrow complex regular tachycardia without any obvious P waves. Vagal manoeuvres are unsuccessful. A venous blood sample is taken and run through the blood gas machine. This shows: pH 7.39 Na+ 137 mmol/l K+ 4.2 mmol/l Which of the following would be the pharmacological agent of choice?

1- Intravenous (iv) flecainide

2- iv Digoxin

3- iv Adenosine

4- iv Labetalol

5- iv Verapamil

Q5422. A 56 year old Indian male presents with history of shortness of breath on exertion of three months' duration. For the last month he has been unable to walk one block without getting short of breath. He has also noticed swelling of his feet. On physical examination he has jugular venous distension, low volume pulse of 95/min, blood pressure 95/60 mmHg, a harsh ejection systolic murmur at the aortic area, left-sided third heart sound (S3) gallop and inspiratory crackles at both lung bases. He has been diabetic and hyperlipidaemic for the past 6 years and his medications include aspirin 100 mg a day, fosinopril 20 mg a day and metformin 850 mg three times a day. An echocardiogram is ordered that reveals severe left ventricular (LV) dysfunction with ejection fraction (EF) of 28%, a calcified aortic valve with a calculated aortic valve area of 0.6 cm2 and transaortic gradient of 30 mmHg. What is the next best step in this patient's management?

1- Aortic valve replacement (AVR)

2- Aortic balloon valvotomy

3- Discontinue fosinopril

4- Repeat echocardiography with dobutamine infusion

5- Add beta-blockers and diuretics with

Q5423. A 35-year-old man who has recently returned from a holiday abroad presents to the emergency department with a history of general malaise, weight loss and arthralgia. He also describes episodes of waking up at night feeling really hot. On close questioning he mentions visiting a tattooing parlour and having an erythematous skin rash around the tattoo site. On examination, he is found to be pyrexial at 38.1°C and tachycardic at 120 beats/min. On inspection there are petechial haemorrhages in his conjuctival and buccal membranes. Auscultation of his heart reveals no murmurs and his chest is clear. electrocardiogram (ECG) shows a sinus tachycardia with a PR interval of 220 ms. Urinary dipstick is positive for blood. Blood tests show: Haemoglobin (Hb) 14.1 g/dl White cell count (WCC) 15.6 x 109 /L Platelets 153 x 109 /L Na+ 136 mmol/l K+ 4.8 mmol/l Urea 5.0 mmol/l Creatinine 83 µmol/l C-reactive protein 135mg/dL Which of the following is the most likely diagnosis?

1- Pyelonephritis

2- Infective endocarditis

3- Viral haemorrhagic fever

4- Malaria

**5- Rheumatic fever**

Q5424. A 68-year-old man with a history of ankylosing spondylitis is referred to the cardiology department following the discovery of a diastolic murmur by the general practitioner (GP). He does not describe any chest pain or breathlessness but he has experienced some palpitations over the last six months. His blood pressure is 175/95 mmHg with a heart rate of 100 beats/min at rest. Clinical examination reveals a collapsing pulse, cardiac apex displaced to the anterior axillary line and a diastolic murmur. The chest is clear on auscultation and there is no peripheral oedema. Electrocardiogram (ECG) shows sinus rhythm with ventricular ectopics and left ventricular hypertrophy. Chest X-ray shows cardiomegaly with clear lung fields. An echocardiogram confirms the presence of aortic regurgitation with a dilated left ventricle and an ejection fraction of 50%. A 24-h ECG shows sinus rhythm with frequent ventricular ectopics that correspond to the patient's experienced palpitations. Which of the following is the management of choice in this case?

1- Ramipril

2- Bisoprolol

3- Antibiotic prophylaxis advice

4- Annual echocardiographic follow-up

5- Referral to the cardiothoracic team for

Q5425. A 66-year-old obese patient has been admitted to the coronary care unit 2 days ago following an anterior myocardial infarction. Aspirin, atenolol, ramipril, atorvastatin and prophylactic low-molecular weight heparin has been started. The patient has been pain free since thrombolysis and the latest electrocardiogram (ECG) shows Q waves across the anterior chest leads. You are fast bleeped to coronary care and on arrival the sister tells you that the patient has suddenly become extremely breathless but has no chest pain. He is hypotensive and tachycardic - blood pressure is 80/60 mmHg and heart rate 138 beats/min. Looking through his admission notes there was nil of note on examination and his chest X-ray showed only minimal basal pleural effusions. On examination, the patient is unwell and feels clammy to touch, you cannot see clearly his jugular venous pressure, and the apex beat is diffuse but not displaced. The heart sounds are difficult to hear, as the patient is so obese. There is very little to find on respiratory examination other than tachypnoea. The patient has passed 500 ml of urine over the last 10 h. The present ECG shows Q waves in the anterior chest leads but no ischaemia. There appears to be electrical alternans in the rhythm strip. What is the immediate management?

1- Give an immediate dose of intravenous furosemide and organise an urgent chest X-ray

2- Start intravenous inotropes and organise an urgent chest X-ray

**3- Immediate cardioversion with 200 J synchronised shock**

4- Start intravenous inotropes and organise for insertion of intra-aortic balloon pump

5- Start intravenous inotropes and urgent

Q5426. A 58-year-old male presents with history of left-sided chest pain on exertion. He has 30-pack year history of smoking. Physical examination reveals blood pressure (BP) 98/65 mmHg, pulse 88 beats/min, respiratory rate 14/min. There is a delayed carotid upstroke, sustained apex beat, normal first heart sound, the aortic component of the second heart sound is soft and 4th heart sound is audible. Investigations reveal: ECG Left ventricular hypertrophy Chest X-ray Normal Echocardiography Calcific aortic stenosis with valve s peak systolic gradient of 90 mmHg urface area of 0.5 cm2 and peak systolic gradient of 90 mmHg The patient undergoes coronary angiography that reveals 80% stenosis in the proximal left anterior descending (LAD) artery. Which of the following is the best management option for this patient?

1- Balloon aortic valvotomy plus angioplasty and stenting of the LAD

2- Angioplasty and stenting of the LAD followed by aortic valve replacement

3- AVR and bypass grafting of the LAD using the left internal mammary artery (LIMA)

4- AVR and LAD bypass grafting using saphenous vein graft

5- None of the above

Q5427. An 82-year-old man is admitted in hospital following a fall. His initial electrocardiogram (ECG) shows atrial fibrillation (AF) at a rate of 85 beats/min. During his admission he has a 24-h tape that shows AF throughout with occasional pauses, the longest of which is 3.5 s, and episodes of fast AF with a ventricular rate of 130-150 beats/min. Which of the following would be the treatment of choice?

1- Rate control with digoxin and anticoagulation with warfarin

**2- Implantation of a VVI permanent pacemaker and digoxin**

3- Implantation of a DDDR permanent pacemaker and digoxin

4- Rate control with bisoprolol and anticoagulation with warfarin

5- Rate control with bisoprolol and addition of

Q5428. A 30-year-old man is found to be hypertensive with a blood pressure of 165/95 mmHg during a routine work medical. On further examination by his general practitioner (GP) he is found to have a systolic murmur on auscultation. He is therefore referred for an echocardiogram that shows a hypertrophic left ventricle with a bicuspid aortic valve that is seen to open well with no significant pressure gradient across the valve. Which of the following investigations is most likely to provide the underlying diagnosis?

1- 24-h urinary cortisol

2- Urinary catecholamines

3- Renal ultrasound with Doppler

**4- Magnetic resonance imaging (MRI) of the thorax**

5- Plasma renin

Q5429. A 19-year-old man who was adopted soon after birth presents to the cardiology clinic for a consultation. He had attempted to trace his family and was informed by his blood relatives that his father died suddenly of a 'heart problem'. On examination he looks well but has a harsh systolic murmur which increases with the Valsalva manoeuvre and decreases with squatting. Echocardiography reveals ventricular hypertrophy, particularly of the septum, with increased ejection fraction. Outflow gradient measured by echocardiography is 35 mmHg. What is the treatment of choice in this patient if he was to develop symptoms of dyspnoea?

1- Cardiac myomectomy

2- Digoxin

**3- Beta-blockade**

4- Diuretic therapy

5- Nitrate therapy

Q5430. A 56-year-old male presents to outpatient clinic for evaluation prior to his coronary angiography that is scheduled the next day. The patient has had diabetes mellitus for 8 years and is currently taking metformin 500 mg three times a day. He had suffered from recent onset of chest discomfort on exertion, and on a treadmill test was found to be positive for stress-induced ischaemia. He is currently taking aspirin 300 mg a day, clopidogrel 75 mg a day, atenolol 50 mg a day and fosinopril 10 mg a day. Physical examination reveals a pulse rate of 62 beats/min, blood pressure of 105/65 mmHg and jugular venous distension up to 2 cm above the sternal notch. The heart sounds are normal and chest is clear to auscultation. Electrocardiogram (ECG) reveals T wave inversion in leads I and aVL. Which of the following medications should be stopped prior to his coronary angiography?

**1- Metformin**

2- Aspirin

3- Clopidogrel

4- Atenolol

5- Fosinopril

Q5431. A 33-year-old female presents with a history of progressive dyspnoea of two weeks' duration sometimes associated with palpitations. She has also noticed increased swelling of her feet and abdomen and decreased effort tolerance. She denies any chest pain, fever, rhinorrhoea, sore throat or rash. She is pregnant in her 36th week of gestation and has no past medical history of note, does not take alcohol or any other drugs. Examination of the cardiovascular system during prenatal visits has been normal. Electrocardiogram (ECG) and chest X-ray performed a year ago during a preemployment check up were normal. Physical examination reveals pulse rate of 98/min, respiratory rate 22/min, blood pressure 110/60 mmHg, jugular venous distension, a summation gallop and bilateral inspiratory crackles up to one-third of the chest posteriorly. ECG shows sinus tachycardia and echocardiography reveals diffuse left ventricular (LV) hypokinesia with an ejection fraction of 25%. The patient is started on digoxin 0.125 mg per day, furosemide 60 mg twice daily and hydralazine 25 mg twice daily. Which of the following medications should be added to the above regimen?

**1- Heparin**

2- Carvedilol

3- Enalapril

4- Nitroglycerine

5- Methylprednisolone

Q5432. A 54-year-old company director presents to the emergency department with an episode of retrosternal chest pain lasting 15 minutes while playing squash. There have been three similar previous episodes over recent months. He stopped smoking 3 years ago but has no other specific past medical history. Review 12 hours after presentation shows: ECGT wave inversion v4 - v6 creatine kinase 420 u/l Troponin T <0.03 Which of the following diagnoses fit best with this clinical picture?

1- non-cardiac chest pain

2- non-Q-wave myocardial infarction

3- Q-wave myocardial infarction

**4- stable angina**

5- unstable angina

Q5433. A 58-year-old female presents with history of fever of one week's duration associated with rhinorrhoea, headache and cough productive of yellowish sputum. The patient has had diabetes for 8 years complicated by painful peripheral neuropathy. Her present medications include gliclazide 40 mg twice daily, metformin 500 mg three times a day and amitriptyline 75 mg at bedtime. Physical examination reveals temperature 38°C, respiratory rate 18/min, blood pressure 110/70 mmHg, mild posterior pharynx erythema, tenderness over the maxillary sinus and fine inspiratory crackles at the right lung base. Investigations show: Chest X-ray Infiltrates at right lower zone White cell count 9 x 109 /L Haemoglobin 11 g/dl Reticulocyte count 6% Serum sodium 132 mmol/l Serum potassium 4 mmol/l Serum chloride 98 mmol/l Serum bicarbonate 22 mmol/l Serum bilirubin 40 mmol/l Which of the following drugs should be used to treat this patient?

1- Erythromycin

2- Levofloxacin

3- Amoxicilin/clavulanic acid

**4- Doxycycline**

5- Rifampicin

Q5434. A 55-year-old baker presents for evaluation of retrosternal chest pain on exertion of one month's duration. He is a known hypertensive and is taking atenalol 50 mg daily. He has 10 pack-year history of smoking. His electrocardiogram (ECG) at rest reveals left ventricular hypertrophy with strain pattern. Lipid profile and chest X-ray are normal. He subsequently undergoes thallium stress test that shows reversible ischaemia in the territory of the left anterior descending artery (LAD). He is commenced on aspirin and clopidogrel and he undergoes stenting of a mid-LAD lesion. On follow-up appointment 4 weeks later in clinic, he is well and asymptomatic. However, his blood pressure is 135/85 mmHg. What is the target blood pressure for this patient according to British Hypertensive Society guidelines?

1- Less than 140/90 mmHg

**2- Less than 130/80 mmHg**

3- Less than 120/80 mmHg

4- Less than 135/85 mmHg

5- Less than 150/90 mmHg

Q5435. A 55-year-old male is referred by general practitioner for evaluation of syncope, which occurred during his brisk morning walk. The patient is known to have hypercholesterolaemia and is taking simvastatin 20 mg od. He is a lifelong nonsmoker and has no family history of coronary artery disease. He weighs 72 kg and his height is 170 cm. His blood pressure (BP) is 110/90 mmHg, carotid pulse is slow rising and apex beat is palpable in 5th intercostals space. The first heart sound is normal, the second heart sound is soft; there is an ejection systolic murmur at the second left intercostal space, radiating to both carotids. Investigations reveal: Total cholesterol 6.4 mmol/l Low-density lipoprotein (LDL) 3.8 mmol/l High-density lipoprotein (HDL) 1.05 mmol/l Electrocardiogram (ECG) reveals left ventricular hypertrophy Chest X-ray is unremarkable Echocardiogram reveals mean aortic valve area of 0.5 cm2 and peak transvalvular gradient of 80 mmHg. What is the next best step in this patient's management?

1- Percutaneous aortic balloon valvulotomy

2- Aortic valve replacement

3- Treadmill stress test

**4- Coronary angiography**

5- Aggressive lipid-lowering therapy

Q5436. A 58-year-old female presents with history of fever of one week's duration associated with rhinorrhoea, headache and cough productive of yellowish sputum. The patient has had diabetes for 8 years complicated by painful peripheral neuropathy. Her present medications include gliclazide 40 mg twice daily, metformin 500 mg three times a day and amitriptyline 75 mg at bedtime. Physical examination reveals temperature 38°C, respiratory rate 18/min, blood pressure 110/70 mmHg, mild posterior pharynx erythema, tenderness over the maxillary sinus and fine inspiratory crackles at the right lung base. Investigations show: Chest X-ray Infiltrates at right lower zone White cell count 9 x 109 /L Haemoglobin 11 g/dl Reticulocyte count 6% Serum Sodium 132 mmol/l Serum Potassium 4 mmol/l Serum chloride98 mmol/l Serum Bicarbonate 22 mmol/l Serum bilirubin 40 mmol/l Which of the following drugs should be used to treat this patient?

1- Erythromycin

2- Levofloxacin

3- Amoxicilin/clavulanic acid

**4- Doxycycline**

5- Rifampicin

Q5437. A 58-year-old male presents with history of left-sided chest pain on exertion. He has 30-pack year history of smoking. Physical examination reveals blood pressure (BP) 98/65 mmHg, pulse 88 beats/min, respiratory rate 14/min. There is a delayed carotid upstroke, sustained apex beat, normal first heart sound, the aortic component of the second heart sound is soft and 4th heart sound is audible. Investigations reveal: ECG Left ventricular hypertrophy Chest X-ray Normal Echocardiography Calcific aortic stenosis with valve surface area of 0.5cm2 and peak systolic gradient of 90 mmHg The patient undergoes coronary angiography that reveals 80% stenosis in the proximal left anterior descending (LAD) artery. Which of the following is the best management option for this patient?

1- Balloon aortic valvotomy plus angioplasty and stenting of the LAD

2- Angioplasty and stenting of the LAD followed by aortic valve replacement (AVR)

**3- AVR and bypass grafting of the LAD using the left internal mammary artery**

4- AVR and LAD bypass grafting using saphenous vein graft

5- None of the above

Q5438. A 55-year-old man presents to emergency department with acute onset of crushing retrosternal chest pain that started 3 h ago. Other than hypertension, he has no past medical history of note. He has a pulse of 73 beats/min, blood pressure (BP) of 113/63 mmHg, jugular venous pulsation is seen up to 3 cm above the sternal notch and the chest is clear to auscultation. An electrocardiogram (ECG) shows ST segment elevation in leads V1 to V5. The patient receives chewable aspirin and thrombolytic therapy. Two hours after admission the ECG monitor shows seconddegree heart block. The patient has a heart rate of 58 beats/min and blood pressure of 105/60 mmHg and denies any symptoms. What is the best next step in this patient's management?

**1- Temporary transvenous pacemaker**

2- Atropine 0.5 mg

3- Temporary transcutaneous pacemaker

4- Angiography

5- No treatment required

Q5439. One week after a 71-year-old female patient presented with an acute myocardial infarction requiring thrombolysis, a routine ECG is performed. The patient is asymptomatic but on questioning of the nurses, it is reported that she has complained of occasional dizziness. The clinical examination findings are in concordance with the ECG findings, which shows a Mobitz type II block and an old anterior myocardial infarction. What would be the best management strategy in this patient?

1- Adrenaline (epinephrine)

2- Atropine

3- Temporary pacing

**4- Permanent pacing**

5- Amiodarone

Q5440. A 25-year-old male presents with history of ingestion of unknown quantity of digoxin. His pulse rate is 95/min and blood pressure 105/65 mmHg. His investigations reveal: Serum potassium 5.2 mmol/l Serum sodium 39 mmol/l Serum chloride 99 mmol/l Serum bicarbonate 22 mmol/l Serum Creatinine 99 mmol/l Serum digoxin 8.5 nmol/l Electrocardiogram (ECG) Sinus rhythm rate of 95/min and multiple premature ventricular beats The patient is administered charcoal and digoxin-specific Fab fragment. After 10 min the ECG monitor shows ventricular tachycardia (VT). The patient is dizzy and sweaty and his blood pressure drops to 85/55 mmHg. What is the most appropriate further treatment for this patient?

1- Synchronized direct current (DC) cardioversion

2- Asynchronized DC cardioversion

**3- Intravenous (iv) procainamide**

4- iv Amiodarone

5- iv Lidocaine

Q5441. A 38-year-old man presents to the emergency department in acute cardiac failure. He attends with his wife who reports that his only past medical history of note included lens dislocation and recurrent bilateral shoulder dislocation. He is very tall at 1.93 m in height and he is thin. On examination his blood pressure is 110/70 mmHg (equal in both arms), pulse 110/min, he is peripherally shut down and has pulmonary oedema. There are ejection systolic and short early diastolic murmurs over the aortic area. What diagnosis fits best with this clinical picture?

**1- Acute aortic regurgitation**

2- Chronic aortic regurgitation

3- Aortic stenosis

4- Acute left ventricular failure

5- Aortic dissection

Q5442. A 71-year-old man is referred to the rapid access clinic with exertional breathlessness over the last 2 months. A chest X-ray ordered by the general practitioner (GP) 3 weeks ago has been reported as consistent with a small degree of left ventricular failure. The GP has started the patient on furosemide 40 mg od with complete resolution of symptoms. On examination the patient looks well with a blood pressure of 135/85 mmHg and a heart rate of 65 beats/min. There is a loud ejection systolic murmur on auscultation of his heart that radiates to the carotids. The chest is clear on auscultation. On close questioning he denies any presyncopal episodes or any angina. There is no history of rheumatic fever in childhood and no recent history of pyrexial illnesses or dental procedures. The patient undergoes an echocardiogram that is reported as showing critical aortic stenosis with a valve area of 0.5 cm2 and a pressure gradient of 120 mmHg. The left ventricle shows concentric hypertrophy, with mild impairment of function. What is the most appropriate next step in the management?

1- Initiation of angiotensin-converting enzyme (ACE) inhibitor therapy in addition to the regular furosemide

2- Prophylactic antibiotic advice and arrangement for regular follow-up with repeat echocardiograms

3- Outpatient cardiothoracic referral

4- Urgent outpatient coronary angiogram

**5- Admission to hospital for inpatient coronary**

Q5443. A 48-year-old female with a mitral valve prosthesis for the last 5 years presents with severe shortness of breath. The shortness of breath started a few days ago but has rapidly worsened for past 2 h. The patient had not taken her warfarin for past 5 days. On examination the patient is sitting up in the bed, pulse rate is 110/min, blood pressure 78/55 mmHg; jugular venous pulsations are seen up to the angle of the jaw, heart sounds are muffled and inspiratory crackles can be heard all over the chest. An urgent transthoracic echocardiography is ordered; though the visualisation is poor, it suggests a thrombus attached to the mitral prosthesis. What is the best management for this patient?

**1- Intravenous alteplase**

2- Intravenous heparin infusion

3- Immediate valve replacement

4- Transoesophageal echocardiography (TEE)

5- Check her international normalised ratio

Q5444. You are called by a surgical colleague for pre-operative assessment of a 68-year-old male. The patient has been admitted with history of abdominal pain and diagnosed to have acute cholecystitis. He is posted for laparoscopic cholecystectomy next morning. The patient has been diabetic for 8 years, controlled with oral hypoglycaemic agents, and has non-proliferative diabetic retinopathy and microalbuminuria. He has never experienced chest pain, dyspnoea, orthopnoea or claudications. His heart rate is 76 beats/min and regular, blood pressure 145/85 mmHg, jugular venous pulse is seen up to 3 cm above the sternal notch, both heart sounds are normal and there is no pedal oedema. Investigations reveal: Complete blood count Normal Electrocardiogram (ECG) Normal Chest X-ray Normal Hemoglobin A1c 6.5% Total cholesterol 5.1 mmol/l Low-density lipoprotein (LDL) 2.9 mmol/l High-density lipoprotein (HDL) 1.05 mmol/l An echocardiography shows an ejection fraction of 55 % and no regional wall motion abnormalities Which of the following drugs should be started prior to surgery?

1- Atenolol

2- Captopril

3- Simvastatin

4- Enalapril

5- Hydrochlorothiazide

Q5445. A 55 year old Indian male known to have ankylosing spondylitis is referred by his general practitioner for evaluation of a murmur. The patient has no history of chest pain, orthopnoea, paroxysmal nocturnal dyspnoea, pedal oedema or abdominal swelling. He is a lifelong non-smoker, has no family history of premature coronary artery disease and his lipid profile is normal. Apart from ankylosing spondylitis, he has no other past medical history of note. He takes no medications apart from occasional diclofenac for his back pain. Examination of cardiovascular system reveals, blood pressure 140/50 mmHg, bounding pulses at a rate of 88 beats/min, no jugular venous distension, apex beat at the 6th intercostals space that is diffuse and hyperdynamic, and a diastolic murmur at the left sternal edge. The lung fields are clear to auscultation and there is no pedal oedema. An echocardiogram reveals sever aortic regurgitation (AR) and an ejection fraction (EF) of 45%. What is the most appropriate management for this patient?

1- Start nifedipine and repeat echocardiography after 6 months

2- Start enalapril and repeat echocardiography after 6 months

3- Start enalapril and repeat echocardiography after 3 months

4- Aortic valve repair

**5- Aortic valve replacement**

Q5446. An 18-year-old college student presents with history of ingestion of 30 tablets of digoxin. On arrival his pulse rate is 44/min and regular, blood pressure 95/55 mmHg, no jugular venous distension, normal heart sounds and clear chest. He receives atropine 0.5mg intravenous (iv) and his pulse rate increases to 58/min, and blood pressure improves to 105/60 mmHg. The patient is admitted to the coronary care unit, a nasogastric tube is placed and 75 g charcoal is administered through it. His investigations reveal: Serum Potassium 4.8 mmol/l Serum sodium 139 mmol/l Serum chloride 99 mmol/l Serum Bicarbonate 22 mmol/l Serum creatinine 99 µmol/l Serum digoxin 8.5 nmol/l Electrocardiogram (ECG) Sinus bradycardia at rate of 55/min After half an hour the patient feels dizzy and heart rate drops to 45/min; another iv atropine 0.5 mg improves his heart rate to 55/min and symptoms resolve. What is the most appropriate further treatment for this patient?

1- Isoproterenol infusion

2- Adrenaline infusion

3- Transcutaneous pacemaker

4- Temporary transvenous pacemaker

**5- Digoxin-specific Fab fragment**

Q5447. A 72-year-old man is referred to the cardiology clinic because of two syncopal episodes over the past month. Both episodes have happened while he had been up doing some chores around the house. His past medical history is unremarkable and he is not on any medication. His physical examination is essentially normal and there is no postural drop in his blood pressure. Full blood count, urea and electrolytes, liver function tests, thyroid function tests, lipids, echocardiography and the tilt test are all within normal limits. What would you advise this gentleman?

**1- Sit down whenever he feels dizzy**

2- He needs a computed tomography (CT) scan of his chest

3- He needs an angiogram

4- He needs a CT scan of his head

5- He needs Dopplers of his carotids

Q5448. A 54-year-old publican is admitted with shortness of breath and increasing peripheral oedema. He has extremely limited exercise tolerance and is barely able to move around the pub. On examination he has signs of chronic liver disease and biventricular cardiac failure. His blood pressure is 110/70 mmHg, with a pulse of 85/min. You diagnose cardiomyopathy. He admits that he is unable to reduce his consumption of alcohol. Which of the following is the closest estimate of annual mortality associated with cardiomyopathy and moderate heart failure?

1- 5%

2- 10%

3- 15%

**4- 20%**

5- 30%

Q5449. A 68-year-old man with a history of ankylosing spondylitis is referred to the cardiology department following the discovery of a diastolic murmur by the general practitioner (GP). He does not describe any chest pain or breathlessness but he has experienced some palpitations over the last six months. His blood pressure is 175/95 mmHg with a heart rate of 100 beats/min at rest. Clinical examination reveals a collapsing pulse, cardiac apex displaced to the anterior axillary line and a diastolic murmur. The chest is clear on auscultation and there is no peripheral oedema. Electrocardiogram (ECG) shows sinus rhythm with ventricular ectopics and left ventricular hypertrophy. Chest X-ray shows cardiomegaly with clear lung fields. An echocardiogram confirms the presence of aortic regurgitation with a dilated left ventricle and an ejection fraction of 50%. A 24-h ECG shows sinus rhythm with frequent ventricular ectopics that correspond to the patient's experienced palpitations. Which of the following is the management of choice in this case?

1- Ramipril

2- Bisoprolol

3- Antibiotic prophylaxis advice

4- Annual echocardiographic follow-up

**5- Referral to the cardiothoracic team for**

Q5450. A 75-year-old retired accountant is on warfarin 4 mg a day that was started a year ago when he had a stroke and was found to have chronic atrial fibrillation. His only other medication is amlodipine 10 mg a day for isolated systolic hypertension. He now presents with history of minor gum bleeding of one day's duration. On examination he appears well and has a blood pressure of 165/85 mmHg with no postural drop, a pulse rate of 73/min and respiratory rate of 18/min. The rest of his physical examination is unremarkable except for mild right-sided hemiparesis. His international normalised ratio (INR) is found to be 9. What is the most appropriate next step in the management of this patient?

1- Stop warfarin and restart when the INR is less than 5

2- Stop warfarin and administer fresh-frozen plasma 10 ml/kg

**3- Stop warfarin and administer phytomenadione (vitamin K1) 5 mg oral**

4- Stop warfarin and administer phytomenadione 5 mg intravenous

5- Stop warfarin and administer prothrombin

Q5451. A 62-year-old accountant presents with history of pain in both calves. The pain starts after walking three blocks, is described as cramping and is relieved by rest. He has been a known hypertensive for the last 10 years, on atenolol 50 mg a day. He has a 40- pack year history of smoking but stopped 2 years ago. A treadmill exercise test done two years ago was normal. He does not have any other past medical history of note. On physical examination he has body mass index of 26, blood pressure of 125/75 mmHg, heart rate 75 beats/min, bilateral femoral bruits and absent dorsalis pedis pulses. Examination of the heart and respiratory system is normal. Lipid profile results show: Total cholesterol 5.6 mmol/l Low-density lipoprotein (LDL) cholesterol 3.5 mmol/l High-density lipoprotein (HDL) cholesterol 1.2 mmol/l Triglycerides 2.8 mmol/l The patient is advised to continue atenolol 50 mg a day, and is also started on aspirin 100 mg a day, cilostazol 100 mg twice a day, low fat diet and a supervised exercise training programme. On follow-up visit three months later his symptoms have improved and he is now able to walk five blocks without symptoms. A repeat lipid profile shows: Total cholesterol 5.0 mmol/l LDL cholesterol 3.2 mmol/l HDL cholesterol 1.3 mmol/l Triglycerides 2.4 mmol/l Which of the following is the next best step in this patient's management?

**1- Start atorvastatin with a target LDL of less than 2.6 mmol/**

2- Stop atenolol

3- Start angiotensin-converting enzyme inhibitor to keep blood pressure below 120/70 mmHg

4- Start nitroglycerine

5- Start simvastatin with a target LDL of less

Q5452. A 28-year-old woman presents with worsening breathlessness. An echocardiogram performed suggests increased pressures in the right heart chambers. She subsequently undergoes a right and left heart catheter study for further assessment. The following blood oxygen saturation data are collected: Sample siteOxygen saturations (%) Inferior vena cava62 Superior vena cava56 Right atrium58 Right ventricle 80 Pulmonary artery82 Arterial saturation 97 These results are more consistent with:

1- Normal heart

2- Patent foramen ovale

3- Ventricular septal defect (VSD) with no significant shunting

4- Atrial septal defect (ASD)

**5- VSD with significant left to right shunt**

Q5453. A 58-year-old female presents with history of fever of one week's duration associated with rhinorrhoea, headache and cough productive of yellowish sputum. The patient has had diabetes for 8 years complicated by painful peripheral neuropathy. Her present medications include gliclazide 40 mg twice daily, metformin 500 mg three times a day and amitriptyline 75 mg at bedtime. Physical examination reveals temperature 38°C, respiratory rate 18/min, blood pressure 110/70 mmHg, mild posterior pharynx erythema, tenderness over the maxillary sinus and fine inspiratory crackles at the right lung base. Investigations show: Chest X-ray Infiltrates at right lower zone White cell count 9 x 109 /L Haemoglobin 11 g/dl Reticulocyte count 6% Serum sodium 132 mmol/l Serum potassium 4 mmol/l Serum chloride 98 mmol/l Serum bicarbonate 22 mmol/l Serum bilirubin 40 mmol/l Which of the following drugs should be used to treat this patient?

1- Erythromycin

2- Levofloxacin

3- Amoxicilin/clavulanic acid

**4- Doxycycline**

5- Rifampicin

Q5454. A 72-year-old retired policeman comes to the cardiology clinic for follow-up for his heart failure. He had been hospitalised for the fourth time in 4 months for congestion. His left ventricular ejection fraction is 22% (normal is 55%-75%). Shortness of breath interrupts sleeping and any physical activity he tries to engage in. He has chronic coronary artery disease and had quadruple bypass 3 years ago. He is on maximal medication for his heart failure and is being followed up in an advanced heart failure programme. He expresses a willingness to try anything to feel better. Which one of the following would be the best advice you would offer this gentleman?

1- Heart transplantation

**2- Left ventricular assist device (LVAD)**

3- Nothing more can be done for him

4- Artificial heart

5- Home oxygen

Q5455. A 27-year-old woman who is 24 weeks into her first pregnancy is referred by her general practitioner (GP) to the cardiology department complaining of palpitations. There is no past medical history of note and she is on no medications. On examination there is a systolic murmur and a fixed splitting of the second heart sound. Her 12-lead electrocardiogram (ECG) shows left axis deviation with a right bundle branch block. What is the most likely diagnosis?

1- Aortic stenosis

**2- Ostium primum atrial septal defect**

3- Ostium secundum atrial septal defect

4- Mitral valve prolapse

5- Pulmonary stenosis

Q5456. A 30-year-old lady who is 16 weeks pregnant presents to her general practitioner (GP) complaining of palpitations. A resting electrocardiogram (ECG) is reported as partial right bundle branch block (RBBB) with right axis deviation. Clinical examination reveals a heaving precordium with a split second heart sound and no added murmurs. What is the most likely diagnosis?

1- Mitral valve prolapse

2- Pulmonary hypertension

**3- Ostium secundum atrial septal defect (ASD)**

4- Ventricular septal defect

5- Ostium Primum ASD

Q5457. A 47-year-old woman is referred for an opinion with atrial fibrillation. On examination she has a small volume pulse, distended jugular veins, left parasternal lift, a tapping apex impulse, and there is a loud first heart sound and a mitral early- to middiastolic murmur. There also appears to be a mid-diastolic tricuspid murmur. What diagnosis fits with this clinical picture?

1- Mitral stenosis

2- Atrial septal defect

3- Tricuspid regurgitation

**4- Lutembacher's syndrome**

5- Eisenmenger's syndrome

Q5458. A 70-year-old man was admitted to the emergency department with central chest pains, which had started three hours earlier. The pain was crushing in nature, radiating to both arms and associated with nausea and vomiting. He has a past medical history of angina, hypertension and type II diabetes. He is on the following medications: glyceryl trinitrate (GTN) spray prn, amlodipine 10 mg od, atorvastatin 40 mg nocte, metformin 500 mg tds and aspirin 75 mg od. On examination, he was sweaty with a blood pressure of 155/95 mmHg, pulse of 98/min and regular. His respiratory rate was 24/min and his chest was clinically clear. His jugular venous pulse was just visible, first and second heart sounds were heard with no added murmurs. The following results are obtained: Electrocardiogram (ECG) ST elevation of 3 mm in V1-V4, with reciprocal ST depression in the inferior leads. Haemoglobin 15.8 g/dl Mean cell volume 88.6 fl Platelets 240 x 109 /l White cell count 14.1 x 109 /l Sodium 141 mmol/l Potassium 3.8 mmol/l Urea 7.1 mmol/l Creatinine 121 µmol/l A bolus infusion of tenecteplase was given together with diamorphine and metoclopramide. The patient was pain free and haemodynamically stable for 2 h when he suddenly developed recurrent chest pain. His blood pressure become unrecordable and he went into profound shock with electromechanical dissociation. Resuscitative measures were started but the patient died within a few minutes. What is the most likely complication?

**1- Ventricular free wall rupture**

2- Extension of the infarct

3- Acute mitral regurgitation

4- Ruptured ventricular septum

5- Pulmonary embolism

Q5459. A 27-year-old man is referred to the emergency department by his general practitioner (GP) after having collapsed at home. This event had happened earlier in the day while he was sitting on the couch listening to music. He does not remember having any chest pains or shortness of breath. He just passed out and this was the first time it had ever happened. He has never had any serious illness in the past and his family history is unremarkable. He is not on any medication and he is not allergic to any medication. On examination, he is alert, comfortable, his blood pressure is 125/70 mmHg and his pulse is 74/min and regular. First and second heart sounds are heard and there is no murmur. His chest is clear. His central nervous system and abdomen are normal. His full blood count and biochemistry are normal. Electrocardiogram (ECG) shows ST elevation in V1–V3 and right bundle branch block (RBBB). Chest X-ray is normal. Echocardiography shows normal echo findings. Troponin T is <0.01 iu (normal is <0.01 iu). What is the likely diagnosis?

1- Early repolarisation variant

2- Acute anterior myocardial infarction

3- Arrhythmogenic right ventricular dysplasia (ARVD)

**4- Brugada syndrome (BrS)**

5- Primary pulmonary hypertension

Q5460. A 66-year-old man was admitted with infective endocarditis with Streptococcus faecalis, and treated with intravenous antibiotics for 3 weeks. He had a prosthetic metallic aortic valve put in 3 years ago for significant aortic stenosis. Repeated blood cultures are negative, and inflammatory markers have returned to near normal after three weeks of antibiotics. The latest transoesophageal echocardiogram (after the 3 weeks of antibiotics) has revealed some tiny vegetations on the prosthetic aortic valve. How should this patient be managed?

1- Continue intravenous antibiotics for another week

**2- Discharge the patient**

3- Change to oral antibiotics for another two weeks

4- Do a trans-thoracic echocardiogram

5- Replace the metallic aortic valve

Q5461. You have been resuscitating a 70- year-old patient with asystole for the last 7 min. There is only you (the senior house officer (SHO)), the junior house officer (HO) and a nurse assisting you. You decide to intubate the patient, but since the patient has not been fasted, you ask your HO to apply the cricoid pressure. While you are trying to intubate, the HO asks you how much pressure he should apply on the cricoid. How much pressure should the HO apply on the cricoid?

1- Very light

**2- Similar to the pressure applied to stop a nose bleed**

3- Enough to occlude the radial pulse

4- As hard as possible

5- Not hard enough to break the cricoid

Q5462. A 72-year-old retired policeman comes to the cardiology clinic for follow-up for his heart failure. He had been hospitalised for the fourth time in 4 months for congestion. His left ventricular ejection fraction is 22% (normal is 55%-75%). Shortness of breath interrupts sleeping and any physical activity he tries to engage in. He has chronic coronary artery disease and had quadruple bypass 3 years ago. He is on maximal medication for his heart failure and is being followed up in an advanced heart failure programme. He expresses a willingness to try anything to feel better. You advise this gentleman that he could be a candidate for a left ventricular assist device (LVAD) and you explain to him the benefits of this new invention. He would like to know if there is evidence that the LVAD does improve symptoms and outcome in his condition. Which of the following best describes the evidence relating to outcome and clinical status in patients with LVADs?

1- No clinical trial has been conducted

2- There are only observational studies

3- Experimental studies have been done

**4- Some clinical trials have been carried out**

5- There is scanty evidence

Q5463. You see a 20-year-old man in clinic who has been referred for investigation of mild heart failure for which his general practitioner prescribed furosemide 40 mg twice daily. This resulted in some improvement in symptoms. On examination the patient appears well. He has a sinus tachycardia of 110 beats/min and blood pressure is 120/85 mmHg. Chest examination reveals mild coarse crepitations at both lung bases. You also note that he has hypertrophied calves, but examination of his lower limbs reveals proximal muscle weakness and weakness of plantar flexion. Reflexes are normal. The patient has had a trans-thoracic echocardiogram which showed a dilated left ventricle with global hypokinesia and an ejection fraction of <50%. Blood results are shown below. Haemoglobin (Hb) 12.6 g/dl (13-18) White cell count (WCC) 8 x 109 /L (4-11 x 109 ) Urea 6 mmol/l (2.5-7.5) Creatinine 90 mmol/l (60-110) Potassium 3.8 mmol/l (3.5-4.9) Sodium 140 mmol/l (137-144) Chloride 100 mmol/l (95-107) Creatine kinase 2100 U/l (24-195) What is the most likely diagnosis?

1- Viral myocarditis

2- Fascioscapulohumeral muscular dystrophy

**3- Becker muscular dystrophy**

4- Duchenne's muscular dystrophy

5- Myotonic dystrophy

Q5464. A 16-year-old congenitally deaf girl is brought into the accident and emergency department following an episode of collapse which occurred while playing tennis. She had fallen to the ground unconscious and spontaneously recovered consciousness a couple of minutes later. The previous week she had begun a course of clarithromycin for a chest infection. When you see her, her vital signs are stable and examination of the cardiovascular and respiratory systems are unremarkable. An electrocardiogram (ECG) is performed which reveals sinus rhythm with a rate of 70/min, a P-R interval of 0.15 s, a QRS interval of 0.11 s and a corrected QT interval of 0.48 s. What is the most likely diagnosis?

1- Romano-Ward syndrome

**2- Jervell-Lange-Nielsen syndrome**

3- Wolff-Parkinson-White syndrome

4- Lown-Ganong-Levine syndrome

5- Brugada syndrome

Q5465. You are a member of the haematology team at your hospital. A 63-yearold man has been admitted to your ward with recurrent heart failure. He has an exercise tolerance of no more than 10 steps on flat ground and severe limitations of his daily living. This has been the fourth episode in the last 9 months. His medications have been changed since his initial presentation and now he is taking bumetanide 3 mg daily, spironolactone 50 mg daily, carvedilol 25 mg twice daily, digoxin 0.625 mg daily, calcichew D3 forte, fosamax 70 mg once weekly, aspirin 75 mg daily and ramipril 10 mg daily. A chest X-ray clearly shows bilateral pleural effusions with cardiomegaly and upper lobe venous diversion. His electrocardiogram (ECG) on admission is shown below. An echocardiogram reports poor left ventricular function with an ejection fraction less than 35%. His blood tests are as follows: Sodium 130 mmol/l Potassium 5 mmol/l Urea 10.3 mmol/l Creatinine 173 mmol/l Haemoglobin (Hb) 12.7 g/dl White cell count (WCC) 6.3 x 109 /L Platelet count 350 x 109 /L You have been asked to refer the patient to the local cardiologist for further management. What question would you ask the cardiologist?

1- Is there a need for long term oxygen therapy (LTOT)?

2- Is he a suitable candidate for heart transplant?

3- Is an implantable cardiac defibrillator device (ICD) needed in this situation?

**4- Does he meet criteria for cardiac resynchronisation therapy (CRT)?**

5- Does he fulfil criteria for a left ventricular

Q5466. You are called by an obstetrician for evaluation of a 39-year-old Thai female in her 39th week of gestation. She is planned to undergo Caesarean section because of fetal distress. On examination she appears an averagely built lady with body mass index of 27, heart rate of 95 beats/min, blood pressure (BP) 132/78 mmHg and respiratory rate of 18/min. She has no jugular venous distension; her apex beat is in 5th intercostals space, midclavicular line, has a mid-systolic click and a late systolic murmur at apex radiating towards axilla. The rest of her physical examination is unremarkable except for gravid uterus. She has no past medical history of note except for a history of skin wheals and pruritis following ingestion of amoxicillin. The symptoms resolved after treatment with chlorpheniramine maleate. Which of the following is the best regimen for endocarditis prophylaxis in this patient?

1- Ampicillin 2 g intravenous (iv) 30 min before operation

2- Vancomycin 1 g iv 60 min before operation

3- Clindamycin 600 mg iv 30 min before operation

4- Erythromycin 500 mg iv 30 min before procedure

**5- No prophylaxis required**

Q5467. A 75-year-old male presents to the emergency department with a history of sudden onset of chest pain one hour ago. The pain is sharp, severe, radiates to the back and is associated with sweating. He is known to have had hypertension for the past 8 years and is taking indapamide 1.5 mg/day. Physical examination reveals blood pressure of 145/75 mmHg, heart rate of 92/min and respiratory rate of 22/min. Heart sounds are normal and lung fields are clear to auscultation. Electrocardiogram (ECG) shows sinus tachycardia and left ventricular hypertrophy by voltage criteria. Chest X-ray reveals a widened mediastinum. An urgent magnetic resonance angiography reveals dissection of the aorta distal to the left subclavian artery. Which of the following is the most appropriate next step in management of this patient?

**1- Begin intravenous labetolol**

2- Begin intravenous sodium nitroprusside

3- Begin intravenous hydralazine

4- Begin intravenous labetolol and sodium nitroprusside

5- Urgent referral for surgery

Q5468. A 45-year-old Bulgarian man is admitted via the emergency department. He has had a recent history of chronic cough, haemoptysis and weight loss. For the past few days he has suffered increasing shortness of breath, lethargy and exercise intolerance. On examination he looks unwell, he is thin and emaciated, his pulse is 105/min and his blood pressure is 100/60 mmHg. Jugular venous pressure (JVP) is markedly elevated and heart sounds are quiet and muffled; the palpable pulse pressure appears to decrease on inspiration. The electrocardiogram reveals small complexes, and the heart shadow looks globular on X-ray. Which of following stems represents the best management of this case?

1- Intravenous furosemide

2- Sodium nitroprusside

**3- Pericardial drainage**

4- Bronchoscopy

5- Antibiotic therapy

Q5469. A 27-year-old female in 12th week of pregnancy is referred for evaluation of progressively worsening exercise intolerance, fatigue and dyspnoea. On physical examination she has a respiratory rate of 20/min, blood pressure 120/90 mmHg and pulse rate of 91/min. She has jugular venous distension, left parasternal heave, loud pulmonary component of the second heart sound, a pan-systolic murmur at the left sternal border and pedal oedema up to the knees. Investigations reveal: White cell count 8 x 109 /L Haemoglobin 16.7 g/dl Platelets 150 x 109 /L Electrocardiogram (ECG)Right atrial and right ventricular hypertrophy Lung perfusion scintigraphy No perfusion defects Pulmonary function test Mild restrictive defect and moderate decrease in diffusion capacity of carbon monooxide Echocardiography: Severe pulmonary hypertension with right ventricular systolic pressure of 80 mmHg and tricuspid regurgitation Intravenous injection of microbubbles does not show any intracardiac shunting. Which of the following is most appropriate management step in this patient?

1- Warfarin, bosentan and induction of labour at 32 weeks of pregnancy

2- Heparin, bosentan and Caesarean section at 32 weeks of pregnancy

3- Warfarin, furosemide and Caesarean section at 32 weeks of pregnancy

4- Heparin, furosemide and Caesarean section at 32 weeks of pregnancy

**5- Termination of pregnancy**

Q5470. A 56-year-old male presents to outpatient clinic for evaluation prior to his coronary angiography that is scheduled the next day. The patient has had diabetes mellitus for 8 years and is currently taking metformin 500 mg three times a day. He had suffered from recent onset of chest discomfort on exertion, and on a treadmill test was found to be positive for stress-induced ischaemia. He is currently taking aspirin 300 mg a day, clopidogrel 75 mg a day, atenolol 50 mg a day and fosinopril 10 mg a day. Physical examination reveals a pulse rate of 62 beats/min, blood pressure of 105/65 mmHg and jugular venous distension up to 2 cm above the sternal notch. The heart sounds are normal and chest is clear to auscultation. Electrocardiogram (ECG) reveals T wave inversion in leads I and aVL. Which of the following medications should be stopped prior to his coronary angiography?

**1- Metformin**

2- Aspirin

3- Clopidogrel

4- Atenolol

5- Fosinopril

Q5471. A 68-year-old man with a history of ankylosing spondylitis is referred to the cardiology department following the discovery of a diastolic murmur by the general practitioner (GP). He does not describe any chest pain or breathlessness but he has experienced some palpitations over the last six months. His blood pressure is 175/95 mmHg with a heart rate of 100 beats/min at rest. Clinical examination reveals a collapsing pulse, cardiac apex displaced to the anterior axillary line and a diastolic murmur. The chest is clear on auscultation and there is no peripheral oedema. Electrocardiogram (ECG) shows sinus rhythm with ventricular ectopics and left ventricular hypertrophy. Chest X-ray shows cardiomegaly with clear lung fields. An echocardiogram confirms the presence of aortic regurgitation with a dilated left ventricle and an ejection fraction of 50%. A 24-h ECG shows sinus rhythm with frequent ventricular ectopics that correspond to the patient's experienced palpitations. Which of the following is the management of choice in this case?

1- Ramipril

2- Bisoprolol

3- Antibiotic prophylaxis advice

4- Annual echocardiographic follow-up

**5- Referral to the cardiothoracic team for**

Q5472. A 48-year-old female with a mitral valve prosthesis for the last 5 years presents with severe shortness of breath. The shortness of breath started a few days ago but has rapidly worsened for past 2 h. The patient had not taken her warfarin for past 5 days. On examination the patient is sitting up in the bed, pulse rate is 110/min, blood pressure 78/55 mmHg; jugular venous pulsations are seen up to the angle of the jaw, heart sounds are muffled and inspiratory crackles can be heard all over the chest. An urgent transthoracic echocardiography is ordered; though the visualisation is poor, it suggests a thrombus attached to the mitral prosthesis. What is the best management for this patient?

**1- Intravenous alteplase**

2- Intravenous heparin infusion

3- Immediate valve replacement

4- Transoesophageal echocardiography (TEE)

5- Check her international normalised ratio

Q5473. A 45-year-old smoker, presents to the emergency department, following a prolonged episode of chest discomfort lasting 3 h. His initial electrocardiogram (ECG) shows ST elevation in the chest wall leads. Thrombolysis therapy with tissue plasminogen activator is given on the advice of the cardiology team. The patient is admitted onto a coronary care bed and is discharged after an uneventful 5 day period. He represents after one month complaining of palpitations and dizziness. The ECG shows a broad complex tachycardia. Blood tests show: Haemoglobin (Hb) 14.2 g/dl White cell count (WCC) 7.8 x 109 /L Platelets 310 x 109 /L Na+ 140 mmol/l K+ 3.7 mmol/l Urea 6.0 mmol/l Creatinine 95 µmol/l Ca2+ 2.21 mmol/l Mg2+0.88 mmol/l A central line is inserted and the patient is loaded with amiodarone. His ECG reverts to sinus rhythm with anterior Q waves. An echocardiogram shows antero-septal hypokinesis with moderate left ventricular impairment. Which one of the following is the treatment of choice?

1- Amiodarone 200 mg tds

2- Amiodarone 200 mg od

3- Sotalol 80 mg bd

**4- Automated implantable cardiac defibrillator**

5- Mexiletine

Q5474. A 30-year-old man is found to be hypertensive with a blood pressure of 165/95 mmHg during a routine work medical. On further examination by his general practitioner (GP) he is found to have a systolic murmur on auscultation. He is therefore referred for an echocardiogram that shows a hypertrophic left ventricle with a bicuspid aortic valve that is seen to open well with no significant pressure gradient across the valve. Which of the following investigations is most likely to provide the underlying diagnosis?

1- 24-h urinary cortisol

2- Urinary catecholamines

3- Renal ultrasound with Doppler

**4- Magnetic resonance imaging (MRI) of the thorax**

5- Plasma renin

Q5475. A 19-year-old college student presents with history of three episodes of transient loss of consciousness over the past 2 months. All three episodes happened while the patient was standing and were preceded by a feeling of nausea, warmth and lightheadedness. He regains consciousness shortly after the collapse but he continues to feel nauseated and fatigued for about 15 min. There is no past medical history of note. His father had died of myocardial infarction at age of 60 years. His physical examination is unremarkable and there is no orthostatic hypotension. Investigations reveal normal electrocardiogram (ECG), chest X-ray, complete blood count and electrolytes. An echocardiogram is normal as well. What is the most appropriate next step in evaluation of this patient?

1- Computed tomography (CT) of the head

2- Electroencephalogram (EEG)

3- 24-hour electrocardiogram (ECG) monitoring

4- Exercise electrocardiography

**5- Tilt table test**

Q5476. A 55-year-old male is referred by general practitioner for evaluation of syncope, which occurred during his brisk morning walk. The patient is known to have hypercholesterolaemia and is taking simvastatin 20 mg od. He is a lifelong nonsmoker and has no family history of coronary artery disease. He weighs 72 kg and his height is 170 cm. His blood pressure (BP) is 110/90 mmHg, carotid pulse is slow rising and apex beat is palpable in 5th intercostals space. The first heart sound is normal, the second heart sound is soft; there is an ejection systolic murmur at the second left intercostal space, radiating to both carotids. Investigations reveal: Total cholesterol6.4 mmol/l Low-density lipoprotein (LDL) 3.8 mmol/l High-density lipoprotein (HDL) 1.05 mmol/l Electrocardiogram (ECG) reveals left ventricular hypertrophy. Chest X-ray is unremarkable. Echocardiogram reveals mean aortic valve area of 0.5 cm2 and peak transvalvular gradient of 80 mmHg. What is the next best step in this patient's management?

1- Percutaneous aortic balloon valvulotomy

2- Aortic valve replacement

3- Treadmill stress test

**4- Coronary angiography**

5- Aggressive lipid-lowering therapy

Q5477. A 26-year-old male is referred by general practitioner for electrocardiogram (ECG) abnormality discovered on routine preemployment check up. The ECG reveals a prolonged QT interval of 0.52 s. The patient has no history of palpitations or syncope and has no family history of sudden cardiac death. The physical examination is unremarkable and blood chemistry shows normal levels of potassium and magnesium. The patient is not taking any drugs and leads a sedentary life. What is the best management for this patient?

1- Left stellate cardiac ganglionectomy

**2- Atenolol 50 mg a day**

3- Dual chamber pacemaker

4- Implantable cardioverter defibrillator (ICD)

5- Implantable cardioverter defibrillator plus

Q5478. A 45-year-old lorry driver presents to the emergency department with central crushing chest pain. His initial electrocardiogram (ECG) shows ST elevations in leads V2-V5. The patient is thrombolysed and admitted to the coronary care unit. Following an uneventful 5-day period he is discharged home on aspirin 75 mg, atenolol 50 mg, ramipril 2.5 mg and atorvastatin 10 mg. He would like to know when he can go back to work. Which of the following statements is correct?

1- He has to stop driving, inform the Driver and Vehicle Licensing Agency (DVLA) and return for an exercise tolerance test in 6 weeks on the current regime

**2- He has to stop driving, inform the DVLA and return for an exercise tolerance test in 6 weeks after he has stopped his atenolol for 48 h**

3- He has to stop driving, inform the DVLA and return for an exercise tolerance test in 6 weeks after he has stopped all his medications for 48 h

4- He has to stop driving, inform the DVLA and return for a modified exercise tolerance test in 6 weeks after he has stopped all his medications for 48 h

5- He can return to driving in one month

Q5479. A 33-year-old female presents with a history of progressive dyspnoea of two weeks' duration sometimes associated with palpitations. She has also noticed increased swelling of her feet and abdomen and decreased effort tolerance. She denies any chest pain, fever, rhinorrhoea, sore throat or rash. She is pregnant in her 36th week of gestation and has no past medical history of note, does not take alcohol or any other drugs. Examination of the cardiovascular system during prenatal visits has been normal. Electrocardiogram (ECG) and chest X-ray performed a year ago during a preemployment check up were normal. Physical examination reveals pulse rate of 98/min, respiratory rate 22/min, blood pressure 110/60 mmHg, jugular venous distension, a summation gallop and bilateral inspiratory crackles up to one-third of the chest posteriorly. ECG shows sinus tachycardia and echocardiography reveals diffuse left ventricular (LV) hypokinesia with an ejection fraction of 25%. The patient is started on digoxin 0.125 mg per day, furosemide 60 mg twice daily and hydralazine 25 mg twice daily. Which of the following medications should be added to the above regimen?

**1- Heparin**

2- Carvedilol

3- Enalapril

4- Nitroglycerine

5- Methylprednisolone

Q5480. A 45-year-old Bulgarian man is admitted via the emergency department. He has had a recent history of chronic cough, haemoptysis and weight loss. For the past few days he has suffered increasing shortness of breath, lethargy and exercise intolerance. On examination he looks unwell, he is thin and emaciated, his pulse is 105/min and his blood pressure is 100/60 mmHg. Jugular venous pressure (JVP) is markedly elevated and heart sounds are quiet and muffled; the palpable pulse pressure appears to decrease on inspiration. The electrocardiogram reveals small complexes, and the heart shadow looks globular on X-ray. Which of following stems represents the best management of this case?

1- Intravenous furosemide

2- Sodium nitroprusside

**3- Pericardial drainage**

4- Bronchoscopy

5- Antibiotic therapy

Q5481. A 32-year-old accountant presents to the emergency department with a history of palpitations of half an hour's duration. He is known to have Wolff-Parkinson-White (WPW) syndrome, that was discovered during a routine electrocardiogram (ECG) for preinsurance check up. He has been asymptomatic till now and has not been receiving any prophylactic anti-arrythmics. His blood pressure is 120/88 mmHg, pulse rate 160/min and respiratory rate 18/min. The rest of the physical examination is unremarkable. ECG reveals a narrow complex supraventricular tachycardia with ventricular rate of 175/min. Which of the following should be used to terminate the tachycardia?

**1- Intravenous (iv) verapamil**

2- iv Digoxin

3- iv Propranolol

4- iv Procainamide

5- None of the above

Q5482. A 67-year-old lady was admitted to the emergency department with central chest pains that had started 3 h earlier. The pain was crushing in nature, radiating to both arms and associated with nausea and vomiting. She has a past medical history of angina, hypertension and type II diabetes. She is on the following medications: glyceryl trinitrate (GTN) spray prn, amlodipine 10 mg od, atorvastatin 40 mg nocte, metformin 500 mg tds and aspirin 75 mg od. On examination, she was sweaty with a blood pressure of 155/95 mmHg, pulse of 98/min and regular. Her respiratory rate was 24/min and her chest was clinically clear. Her jugular venous pulse was just visible, first and second heart sounds were heard with no added murmurs. The following results were obtained: Electrocardiogram (ECG)ST elevation of 3 mm in V1–V4, with reciprocal ST depression in the inferior leads Haemoglobin 13.8 g/dl Mean cell volume 88.6 fl Platelets 240 × 109 /l White cell count 14.1 × 109 /l Sodium 141 mmol/l Potassium 3.8 mmol/l Urea 7.1 mmol/l Creatinine 121 µmol/l A bolus infusion of tenecteplase was given together with diamorphine and metoclopramide. Over the next 30 min, she suddenly started becoming progressively hypotensive with a blood pressure on 72/53 mmHg, pulse of 124/min sinus rhythm. Auscultation of her chest revealed a pansystolic murmur loudest at the lower left sternal edge associated with an audible third heart sound. The following result is obtained from an urgent echocardiogram: Hyperdynamic left ventricular function, muscular ventricular septal defect, dilated right ventricle and moderate tricuspid regurgitation. What is the most immediate need for this lady?

1- Insertion of an intra-aortic balloon pump

**2- Immediate surgery**

3- Diuretics

4- Inotropes

5- After load reduction

Q5483. A 28-year-old woman presents with worsening breathlessness. An echocardiogram performed suggests increased pressures in the right heart chambers. She subsequently undergoes a right and left heart catheter study for further assessment. The following blood oxygen saturation data are collected: Sample site Oxygen saturations (%) Inferior vena cava 62 Superior vena cava 56 Right atrium 58 Right ventricle 80 Pulmonary artery 82 Arterial saturation 97 These results are more consistent with:

1- Normal heart

2- Patent foramen ovale

3- Ventricular septal defect (VSD) with no significant shunting

4- Atrial septal defect (ASD)

**5- VSD with significant left to right shunt**

Q5484. A 23-year-old man is admitted as an emergency from a nightclub. He presents with new onset atrial fibrillation with a ventricular rate of 130. His systolic blood pressure is only 95 and he is electrically cardioverted. His sinus rhythm electrocardiogram (ECG) shows a pulse rate (PR) interval of 100 ms and a slurred onset of the QRS complex (delta wave). What is the long-term treatment of choice in this patient?

1- Digoxin

2- Amiodarone

3- Sotalol

**4- Radiofrequency ablation of the accessory pathway**

5- Cardioversion for symptomatic arrhythmias

Q5485. You are working as an expedition doctor on a climbing trip to the Andes. A 38- year-old man is brought down rapidly from the mountain to base camp. On arrival at the medical tent he is on oxygen but has obvious pulmonary oedema and is distressed. Which of the following agents represents the next most appropriate intervention for this man?

1- Furosemide iv

2- Hydrocortisone iv

**3- Nifedipine**

4- Acetazolamide

5- High concentration O2

Q5486. A 32-year-old male is referred to outpatient clinic for evaluation of abnormal electrocardiogram (ECG) (Wolff-ParkinsonWhite syndrome), performed after a motor vehicle accident in which patient sustained minor chest trauma. He is asymptomatic and has never had any chest pain, shortness of breath, syncope or light-headedness. He does not remember any episode of unusual or prolonged palpitations. He has no family history of sudden death and no past medical history of note. He works as an accountant. What is the most appropriate step in this patient's management?

1- Holter monitoring

2- Amoidarone

3- Radiofrequency catheter ablation of accessory pathway

4- Surgical ablation of accessory pathway

**5- Observation**

Q5487. You are the heart failure senior house officer (SHO). A fellow medical SHO in endocrinology has asked you to review a 53- year-old patient who has been admitted for closer monitoring of her diabetic treatment. Since her hospitalisation, her diabetes has been well controlled but she has become more breathless. On speaking to the patient, she has become more dyspnoeic over the last 3 months with ankle oedema and orthopnoea with severe reduction in exercise tolerance to flat ground only. Her past medical history includes hypertension and ischaemic heart disease. Her medications include aspirin 75 mg daily, ramipril 2.5 mg twice daily, simvastatin 10 mg nocte, bendroflumethiazide 2.5 mg mane and actrapid 15 units three times daily. On examination, she is hypertensive, blood pressure is 165/100 mmHg, heart rate 98 beats/min regular. The jugular venous pressure is raised, the apex beat is not displaced and the heart sounds are normal with no added sounds. There are fine inspiratory crepitations at both bases of the lung posteriorly and there is pitting oedema up to the shins. Her recent full blood count and renal function are within normal ranges. Haemoglobin A1c (HbA1c) is 9.2%. Blood sugar ranges have been between 6.7 and 8.2 mmol/l. A chest X-ray has been reported as showing evidence of heart failure. An echocardiogram shows diastolic dysfunction and concentric left ventricular hypertrophy with an ejection fraction of 40%. What changes to her medications would you suggest to your colleague?

1- Increase the ramipril to 5 mg twice daily and add in diltiazem modified release 200 mg daily

2- Increase the ramipril to 5 mg twice daily and add in atenolol 25 mg daily

3- Change the bendroflumethiazide to furosemide 40 mg daily and add in digoxin 0.125 mg daily

4- Change the bendroflumethiazide to furosemide 40 mg daily and add in spironolactone 100 mg daily

**5- Change the bendroflumethiazide to**

Q5488. A 76-year-old lady with known rheumatoid arthritis presents with a 3-month history of breathlessness. There is no past medical history of ischaemic heart disease or hypertension and she denies any history of chest pains. She has been on celecoxib for her arthritis up to a year ago when she was switched to ibuprofen. She has also been on methotrexate for the last 15 years. On examination she is found to have a blood pressure of 100/70 mmHg with a heart rate of 125 beats/min and irregular. Her jugular venous pressure (JVP) is raised at 5 cm and there is bipedal oedema to the mid-calf. Her heart sounds are normal and her chest is clear on auscultation. electrocardiogram (ECG) shows atrial fibrillation with normal complexes. A chest Xray reveals a small left-sided pleural effusion but normal-sized heart. An echocardiogram shows normal-sized ventricles with speckled myocardium. There is bi-atrial enlargement with no significant valvular pathology. Which of the following medications is contraindicated in this case?

**1- Digoxin**

2- Bisoprolol

3- Atenolol

4- Metoprolol

5- Carvedilol

Q5489. A 45-year-old woman presents with breathlessness and palpitations. On examination there is a left parasternal heave. Her heart sounds are normal and her chest is clear. The resting electrocardiogram (ECG) shows atrial fibrillation with right axis deviation. An echocardiogram confirms dilated right heart chambers. The following data are collected during a left and right heart catheterisation study: Sample site Oxygen saturations (%) Inferior vena cava 62 Superior vena cava 58 Right atrium 78 Right ventricle 79 Pulmonary artery 81 Arterial saturation 98 Which of the following is the most likely diagnosis?

**1- Atrial septal defect**

2- Ventricular septal defect

3- Patient ductus arteriosus

4- Ebstein's anomaly

5- Pulmonary stenosis The findings of a parastermal heave on examination in combination with the right axis deviation are consistent with right ventricular volume overload. The cardiac catheterisation data show a step up in oxygen saturations at the level of the right atrium. This signifies the presence of a left to right shunt at the level of the atrium, making an atrial septal defect the most likely diagnosis. Which of the following should be part of the management plan on this patient prior to any intervention?

**1- Loading with amiodarone**

2- Direct current cardioversion and electrophysiological studies Correct answer

3- Coronary angiography

4- Cardiac magnetic resonance imaging (MRI)

Q5490. A 28-year-old woman is referred by the casualty department after suffering an attack of paroxysmal atrial fibrillation. The casualty officer noticed that she had a midsystolic murmur loudest in the pulmonary area and fixed splitting of the second heart sound. He also noticed that the pulmonary arterial tree appeared particularly prominent on chest X-ray. He was concerned about a valve defect. The electrocardiogram reveals right bundle-branch block and right-axis deviation. What diagnosis fits best with this clinical picture?

1- Mitral regurgitation

2- Mitral stenosis

3- Ventricular septal defect

4- Atrial septal defect

**5- Subacute bacterial endocarditis**

Q5491. A 53-year-old man was referred to the cardiology clinic by his general practitioner (GP) for an abnormal pulse. The man had gone to see his GP for a regular check-up when he was found to have an abnormal heart rhythm. His past medical history was unremarkable and he was not on any medication. He does not smoke and takes about 7 units of alcohol a week. On examination, he was comfortable with a blood pressure of 125/65 mmHg, pulse of 68/min and irregularly irregular. His jugular venous pressure was not raised and his chest was clinically clear. He had a variable S1 but no murmurs. Full blood count, urea and electrolytes, thyroid function tests, liver function tests, lipids and echocardiogram were all essentially within normal limits. Electrocardiogram (ECG) showed atrial fibrillation Which one of the following medications would you start this patient on?

1- Warfarin

2- Clopidogrel

3- Enoxaparin

4- Statin

5- Aspirin

Q5492. A 26-year-old male is referred by general practitioner for electrocardiogram (ECG) abnormality discovered on routine preemployment check up. The ECG reveals a prolonged QT interval of 0.52 s. The patient has no history of palpitations or syncope and has no family history of sudden cardiac death. The physical examination is unremarkable and blood chemistry shows normal levels of potassium and magnesium. The patient is not taking any drugs and leads a sedentary life. What is the best management for this patient?

**1- Left stellate cardiac ganglionectomy**

2- Atenolol 50 mg a day

3- Dual chamber pacemaker

4- Implantable cardioverter defibrillator (ICD)

5- Implantable cardioverter defibrillator plus

Q5493. A 55-year-old female, diabetic for 5 years and a smoker for 10 years, presents with a history of retrosternal chest pain. The ECG shows deep T-wave inversions in V1 to V5; her cardiac enzymes are elevated. The patient is treated in the coronary care unit with aspirin 300 mg OD, propranolol 20 mg TID, captopril 12.5 mg TID, atorvastatin 40 mg OD and low molecular weight heparin subcutaneously. The patient makes an uneventful recovery. A subsequent stress test shows reversible ischaemia in the anterior wall. She undergoes coronary angiography that shows 80% stenosis of the left anterior descending coronary artery (LAD), which is then stented. The patient is discharged home with clopidogrel in addition to her medications as listed above. She presents again two days later with substernal chest pain; the ECG now shows ST elevation in V2 to V5. On examination she is sweaty and anxious; BP 90/55 mmHg; heart rate 92 bpm; respiratory rate 22/min. What is the next best step in management?

1- Intravenous (IV) abciximab and immediate transfer to Cardiac Catheterisation L

2- IV dobutamine to raise the BP above 100 mmHg systolic, and then IV administration of tissue plasminogen activator

3- Immediate IV administration of tPA

4- Immediate angiography +/- angioplasty

5- Emergency coronary artery bypass grafting

Q5494. You are a care of the elderly senior house officer. The emergency department registrar refers an 80-year-old man to you, who presented with light-headedness and palpitations. He gives a 2-year history of palpitations associated with dizziness that can occur any time during the day. He cannot identify any associated aggravating or alleviating factors. There is a history of hypertension and benign prostatic hypertrophy. His current medications are bendroflumethiazide 2.5 mg daily, atenolol 100 mg daily and tamulosin 0.4 mg daily. The presentation electrocardiogram (ECG) shows sinus rhythm with a rate of 56 beats/min. A lying and standing blood pressure shows 5 mmHg systolic variation. You decide to admit this man for observations and you ask the nurses to keep this man on cardiac telemetry. The following morning you review the overnight rhythm strips and are surprised to find the above traces. What is the next step in your management?

1- Continue on current medication and add in digoxin

2- Reduce the dose of atenolol and discharge patient with a 6-week follow- up appointment

3- Stop the atenolol and discharge patient with a 6-week follow- up appointment

4- Reduce the dose of atenolol and arrange for in-patient 24 h ECG monitoring

**5- Reduce the dose of atenolol and refer for a**

Q5495. A 27-year-old male comes to the emergency department complaining of palpitations. In the past year, he has had some occasional palpitations only lasting a few seconds. This particular episode is different because it has been going on for about 45 min. He also complains of some slight shortness of breath but no dizziness. He was diagnosed with Wolff-Parkinson-White (WPW) syndrome a year ago when he presented with similar symptoms. On examination, he is apprehensive, his pulse is 130/min and his blood pressure 125/70 mmHg. His chest is clinically clear. His urea and electrolytes and full blood count are normal. Chest X-ray is unremarkable. Electrocardiogram (ECG) shows narrow complex tachycardia with heart rate of 134/min. You give him 6 mg of adenosine without response. You repeat the adenosine at 6 mg, then 12 mg and then 18 mg all without a response. What is the next appropriate immediate step in his management?

1- DC cardioversion

**2- Intravenous (IV) flecainide**

3- IV verapamil

4- Infusion of amiodarone

5- Digoxin

Q5496. A 73-year-old female who is known to suffer from peptic ulcer disease presents to the emergency department complaining of a 6 h history of epigastric pain. She initially felt this was a bout of severe indigestion but called an ambulance after she started becoming short of breath. On arrival in the department her blood pressure is 100/60 mmHg, heart rate 120/min and she appears clammy and sweaty. Her heart sounds are normal and there are some basal crackles on auscultation of her chest. A 12-lead electrocardiogram (ECG) shows ST elevation of 1 mm in leads I and aVL with ST depression of 2 mm and a dominant R wave in leads V1-V3. Which of the following actions offers the greatest prognostic benefit in this case?

1- Thrombolytic therapy with streptokinase

**2- Emergency coronary angiography with a view to primary intervention**

3- Thrombolytic therapy with tissue plasminogen activator

4- Single immediate dose of clopidogrel 300 mg

5- Administration of intravenous esmolol

Q5497. You are the heart failure senior house officer (SHO). A fellow medical SHO in endocrinology has asked you to review a 53- year-old patient who has been admitted for closer monitoring of her diabetic treatment. Since her hospitalisation, her diabetes has been well controlled but she has become more breathless. On speaking to the patient, she has become more dyspnoeic over the last 3 months with ankle oedema and orthopnoea with severe reduction in exercise tolerance to flat ground only. Her past medical history includes hypertension and ischaemic heart disease. Her medications include aspirin 75 mg daily, ramipril 2.5 mg twice daily, simvastatin 10 mg nocte, bendroflumethiazide 2.5 mg mane and actrapid 15 units three times daily. On examination, she is hypertensive, blood pressure is 165/100 mmHg, heart rate 98 beats/min regular. The jugular venous pressure is raised, the apex beat is not displaced and the heart sounds are normal with no added sounds. There are fine inspiratory crepitations at both bases of the lung posteriorly and there is pitting oedema up to the shins. Her recent full blood count and renal function are within normal ranges. Haemoglobin A1c (HbA1c) is 9.2%. Blood sugar ranges have been between 6.7 and 8.2 mmol/l. A chest X-ray has been reported as showing evidence of heart failure. An echocardiogram shows diastolic dysfunction and concentric left ventricular hypertrophy with an ejection fraction of 40%. What changes to her medications would you suggest to your colleague?

1- Increase the ramipril to 5 mg twice daily and add in diltiazem modified release 200 mg daily

2- Increase the ramipril to 5 mg twice daily and add in atenolol 25 mg daily

3- Change the bendroflumethiazide to furosemide 40 mg daily and add in digoxin 0.125 mg daily

4- Change the bendroflumethiazide to furosemide 40 mg daily and add in spironolactone 100 mg daily

**5- Change the bendroflumethiazide to**

Q5498. A 32-year-old accountant presents to the emergency department with a history of palpitations of half an hour's duration. He is known to have Wolff-Parkinson-White (WPW) syndrome, that was discovered during a routine electrocardiogram (ECG) for preinsurance check up. He has been asymptomatic till now and has not been receiving any prophylactic anti-arrythmics. His blood pressure is 120/88 mmHg, pulse rate 160/min and respiratory rate 18/min. The rest of the physical examination is unremarkable. ECG reveals a narrow complex supraventricular tachycardia with ventricular rate of 175/min. Which of the following should be used to terminate the tachycardia?

**1- Intravenous (iv) verapamil**

2- iv Digoxin

3- iv Propranolol

4- iv Procainamide

5- None of the above

Q5499. A 32-year-old male is referred to outpatient clinic for evaluation of abnormal electrocardiogram (ECG) (Wolff-ParkinsonWhite syndrome), performed after a motor vehicle accident in which patient sustained minor chest trauma. He is asymptomatic and has never had any chest pain, shortness of breath, syncope or light-headedness. He does not remember any episode of unusual or prolonged palpitations. He has no family history of sudden death and no past medical history of note. He works as an accountant. What is the most appropriate step in this patient's management?

1- Holter monitoring

2- Amoidarone

3- Radiofrequency catheter ablation of accessory pathway

4- Surgical ablation of accessory pathway

**5- Observation**

Q5500. A 63-year-old male with ischaemic cardiomyopathy presents for a follow-up visit. He has been diabetic for the last 5 years and had an anterior myocardial infarction 4 years ago. Subsequent coronary angiography revealed three-vessel disease and he underwent coronary artery bypass grafting. One year ago he was admitted with a history of palpitations, and electrocardiogram (ECG) showed atrial fibrillation but no ST segment changes. Serial cardiac enzymes were normal and echocardiography showed an ejection fraction of 23%. He was started on amiodarone and warfarin. Other medications include aspirin 160 mg/day, carvedilol 25 mg twice daily, fosinopril 20 mg/day, furosemide 40 mg twice daily, digoxin 0.25 mg/day and pravastatin 40 mg/day. Over the last one year he has had two recurrences of atrial fibrillation. Physical examination reveals a regular pulse of 68/min and no evidence of fluid retention. electrocardiogram (ECG) shows sinus rhythm. Review of Holter monitor shows no evidence of atrial fibrillation but two episode of non-sustained ventricular tachycardia (VT) each lasting 4 s and a few premature ventricular beats. The patient had no symptoms during the period of Holter monitoring. Thyroid function tests, complete blood count, urea and electrolytes are normal, and his digoxin level is in the therapeutic range. What is the next best step in management of this patient?

1- Discontinue warfarin

2- Discontinue warfarin and amiodarone

3- Discontinue warfarin, amiodarone and digoxin

**4- Refer the patient for electrophysiological study**

5- Discontinue amiodarone

Q5501. A 54-year-old Indian immigrant presents to emergency department with rapidly progressive dyspnoea of three hours’ duration. He is a known hypertensive on atenolol 50 mg a day and hyperlipidaemic on simvastatin 20 mg a day. The patient states that he had a similar episode in India 4 months ago. On examination he appears breathless and is using accessory muscles of respiration. His blood pressure is 185/110 mmHg, heart rate 114/min and respiratory rate 28/min. He has raised jugular venous pressure (JVP), summation gallop and inspiratory crackles all over the chest. Other investigations reveal: Electrocardiogram (ECG)Sinus tachycardia with left ventricular hypertrophy and strain pattern Chest X-ray Bilateral pulmonary venous congestion PH 7.38 p(CO2) 32 mmHg p(O2) 75 mmHg O2 saturation 93% White cell count 14 × 109 /l Haemoglobin 12 g/dl Platelets 188 × 109 /l What is the most likely cause of this patient’s symptoms?

1- Pulmonary embolism

2- Community-acquired pneumonia

**3- Myocardial ischaemia**

4- Acute aortic regurgitation

5- Bilateral renal artery stenosis

Q5502. A 30-year-old man is found to be hypertensive with a blood pressure of 165/95 mmHg during a routine work medical. On further examination by his general practitioner (GP) he is found to have a systolic murmur on auscultation. He is therefore referred for an echocardiogram that shows a hypertrophic left ventricle with a bicuspid aortic valve that is seen to open well with no significant pressure gradient across the valve. Which of the following investigations is most likely to provide the underlying diagnosis?

1- 24-h urinary cortisol

2- Urinary catecholamines

3- Renal ultrasound with Doppler

**4- Magnetic resonance imaging (MRI) of the thorax**

5- Plasma renin

Q5503. A 55 year old Indian male known to have ankylosing spondylitis is referred by his general practitioner for evaluation of a murmur. The patient has no history of chest pain, orthopnoea, paroxysmal nocturnal dyspnoea, pedal oedema or abdominal swelling. He is a lifelong non-smoker, has no family history of premature coronary artery disease and his lipid profile is normal. Apart from ankylosing spondylitis, he has no other past medical history of note. He takes no medications apart from occasional diclofenac for his back pain. Examination of cardiovascular system reveals, blood pressure 140/50 mmHg, bounding pulses at a rate of 88 beats/min, no jugular venous distension, apex beat at the 6th intercostals space that is diffuse and hyperdynamic, and a diastolic murmur at the left sternal edge. The lung fields are clear to auscultation and there is no pedal oedema. An echocardiogram reveals sever aortic regurgitation (AR) and an ejection fraction (EF) of 45%. What is the most appropriate management for this patient?

1- Start nifedipine and repeat echocardiography after 6 months

2- Start enalapril and repeat echocardiography after 6 months

3- Start enalapril and repeat echocardiography after 3 months

4- Aortic valve repair

**5- Aortic valve replacement**

Q5504. A 75-year-old retired accountant is on warfarin 4 mg a day that was started a year ago when he had a stroke and was found to have chronic atrial fibrillation. His only other medication is amlodipine 10 mg a day for isolated systolic hypertension. He now presents with history of minor gum bleeding of one day's duration. On examination he appears well and has a blood pressure of 165/85 mmHg with no postural drop, a pulse rate of 73/min and respiratory rate of 18/min. The rest of his physical examination is unremarkable except for mild right-sided hemiparesis. His international normalised ratio (INR) is found to be 9. What is the most appropriate next step in the management of this patient?

1- Stop warfarin and restart when the INR is less than 5

2- Stop warfarin and administer fresh-frozen plasma 10 ml/kg

**3- Stop warfarin and administer phytomenadione (vitamin K1) 5 mg oral**

4- Stop warfarin and administer phytomenadione 5 mg intravenous

5- Stop warfarin and administer prothrombin

Q5505. You have been called to the ward to review a patient who had suddenly changed condition. You quickly browse through the medical notes of the patient while walking up to his bed. He is a 60-year-old gentleman who was admitted the previous day with an acute coronary syndrome. His troponin was 0.03 iu (normal range is <0.01 iu) and his admission electrocardiogram (ECG) showed an ST segment depression of 1.0 mm in the inferior leads. He was started on aspirin 300 mg start, glyceryl trinitrate (GTN) spray prn and enoxaparin 80 mg bd. His full blood count and urea and electrolytes are within normal limits. When you examine him, he is dyspnoeic, his pulse is 140/min and his blood pressure (BP) is 90/45 mmHg. His chest is clinically clear and he is on high-flow oxygen (15 l). You give him 6 mg of adenosine without any response. You repeat the same dose of 6 mg and then increase it to 12 mg. With the 12 mg dose, the heart rate (HR) on the monitor slows down to 105/min. A 12-lead ECG is taken at the same time. ECG shows flutter waves best seen in the inferior leads and V1. After a couple of minutes, the HR shoots back to 150/ min. You recheck his BP that is still low at 94/50 mmHg. The patient starts complaining of chest tightness. How would you control this man's tachycardia?

**1- DC cardioversion**

2- Intravenous (IV) flecainide

3- Digoxin

4- Verapamil

5- Beta-blockers

Q5506. You are a gastroenterology senior house officer (SHO). A cardiothoracic SHO has called you asking for some advice. A 70-yearold man has been admitted as an elective patient for aortic valve replacement. A recent echocardiogram reported severe calcific aortic stenosis with a gradient of 110 mmHg across the valve and a valve area of 0.6 cm2. Routine blood tests have shown this man to have microcytic hypochromic anaemia. Over the past 5 years the patient has undergone several gastric endoscopies and colonoscopies in search of an underlying cause of his anaemia. However, on each occasion nothing was found. The patient is taking lansoprazole and iron tablets. The SHO asks whether further gastroenterology intervention is needed prior to valvular surgery. What is your advice to the SHO?

**1- Give a blood transfusion and replace the aortic valve. No further gastro-endoscopies are needed**

2- Give a blood transfusion and arrange for a selective mesenteric angiogram before valvular surgery

3- Give a blood transfusion and cancel the valve surgery, as the patient is too high risk

4- Give a blood transfusion, prescribe additional ranitidine and organise a further endoscopy

5- Refer to a haematologist for bone marrow

Q5507. A 52-year-old man with type-2 diabetes receives a coronary artery stent having suffered a sub-endocardial myocardial infarction. Six months later he re-presents with worsening chest pain. On reviewing the notes you see that the stent was uncoated. In studies, What percentage of uncoated stents re-stenose in type-2 diabetes patients by month six?

1- 10%

2- 20%

3- 80%

4- 30%

**5- 45%**

Q5508. A novice house officer asks for advice about an ECG recording he has made on a young 20-year-old female patient admitted unconscious after having taken a paracetamol overdose. The ECG showed sinus rhythm but with a P axis of +120 degrees and prominent QRS amplitudes in the right leads that diminish in size over the left precordial leads. No other abnormalities were noted. After seeing the ECG the registrar becomes interested in examining the patient. Which of the following statements is TRUE with regards to the probable diagnosis in this case?

1- The male to female ratio is 10:1

**2- Kartagener's syndrome is a known association**

3- The ECG is corrected with reversal of the limb leads

4- Wolff-Parkinson-White syndrome commonly occurs in these patients

5- Life expectancy is often reduced

Q5509. You are the supervising senior house officer in tilt table testing. A 24-year-old man arrives for his appointment. He gives a history of syncope without any preceding symptoms. You perform the tilt test and as suspected it is negative. You decide to review the electrocardiogram (ECG) performed by the general practitioner (GP), after which you take a more thorough history of events. Following this, you organise an echocardiogram and make a follow-up appointment in the cardiology clinic. Four weeks later he comes to see you in clinic. He gives a 4-year history of syncope of unknown cause. So far his investigations reveal a normal echocardiogram, tilt test and his ECG is as shown below. He is not on any medications or takes any recreational drugs. There is no known family history of cancers or ischaemic heart disease but he reports that his father and grandfather had died in their sleep. Both of them were in their 50s. No cause was found. What is the next step in investigating his syncopal episodes?

1- Intravenous amiodarone infusion with continuous ECG

2- 24-hour sleep studies with ECG monitoring

**3- Intravenous ajmaline with electrophysiological testing**

4- Cardiac magnetic resonance imaging

5- Referral for an Implantable ECG Loop

Q5510. A 65-year-old man known to have rheumatoid arthritis presents with a 2-month history of breathlessness and orthopnoea. He initially presented to his general practitioner (GP) who diagnosed a chest infection and prescribed a course of antibiotic treatment that had helped his breathlessness. But his symptoms soon returned. He comes to see you today in clinic. He gives no history of rheumatic fever, tuberculosis or chest pains. His only medication is codydramol for pain relief. On examination, you find classical arthritic small joint changes with distended neck veins (see below). He is breathless at rest and has normal heart sounds with ascites and ankle oedema. There are bibasal lung crepitations posteriorly. You arrange admission for this man. His blood tests are normal, an electrocardiogram (ECG) shows sinus rhythm and a lateral chest X-ray is shown below. An echocardiogram reports global bi-ventricular failure with gross bi-atrial dilatation. There is a high-intensity echo signal around the heart. He is treated as heart failure with intravenous furosemide and fluid restriction and he has a good response. What further investigation is needed to make a diagnosis?

1- Left heart catheterisation and myocardial biopsy

2- Left and right heart catheterisation with pressure studies

3- Left and right heart catheterisation with venous blood sampling

4- Rheumatoid factor titre and Mantoux testing

**5- Surgical pericardial biopsy**

Q5511. A 73-year-old male presents to the emergency department complaining of central chest and back pain. This has started suddenly 2 h ago and is getting progressively worse. There is a past medical history of hypertension for which he is on bendrofluazide and perindopril. He denies any history of angina in the past. On examination his blood pressure is 110/30 mmHg and his heart rate is 120 beats/min. There is a diastolic murmur on auscultation of his heart and reduced air entry in the bases of his lungs bilaterally. An electrocardiogram (ECG) performed in the resuscitation area show ST elevations in leads II,III and aVF. A chest X-ray shows an enlarged heart with a small left-sided pleural effusion. Which of the following would be the most appropriate next step in the management?

1- Initiation of thrombolytic therapy with streptokinase

2- Fluid resuscitation and admission to the coronary care unit

3- Urgent computerised tomography of the chest with contrast

**4- Bedside echocardiogram and urgent cardiothoracic review**

5- Urgent cardiology referral for primary

Q5512. A 19-year-old college student presents with history of three episodes of transient loss of consciousness over the past 2 months. All three episodes happened while the patient was standing and were preceded by a feeling of nausea, warmth and lightheadedness. He regains consciousness shortly after the collapse but he continues to feel nauseated and fatigued for about 15 min. There is no past medical history of note. His father had died of myocardial infarction at age of 60 years. His physical examination is unremarkable and there is no orthostatic hypotension. Investigations reveal normal electrocardiogram (ECG), chest X-ray, complete blood count and electrolytes. An echocardiogram is normal as well. What is the most appropriate next step in evaluation of this patient?

1- Computed tomography (CT) of the head

2- Electroencephalogram (EEG)

3- 24-hour electrocardiogram (ECG) monitoring

4- Exercise electrocardiography

**5- Tilt table test**

Q5513. A 72-year-old man comes for a review in the cardiology clinic. He had an inferolateral myocardial infarction that was thrombolysed 4 weeks ago. He had recovered uneventfully and was discharged on the fifth day post-myocardial infarction (MI). Now he comes to your clinic and he is asymptomatic. On examination his blood pressure is 135/80 mmHg and his pulse is 30/min and regular. Electrocardiogram (ECG) shows sinus bradycardia with RR interval of 2.0 seconds, Q waves in leads II, III, aVF, V5-V6. Echocardiogram is normal. What would you do for this patient?

1- Insert a permanent pace-maker

2- Give atropine

3- Give isoprenaline

4- Give adrenaline

**5- Do nothing**

Q5514. A 26-year-old male is referred by general practitioner for electrocardiogram (ECG) abnormality discovered on routine preemployment check up. The ECG reveals a prolonged QT interval of 0.52 s. The patient has no history of palpitations or syncope and has no family history of sudden cardiac death. The physical examination is unremarkable and blood chemistry shows normal levels of potassium and magnesium. The patient is not taking any drugs and leads a sedentary life. What is the best management for this patient?

1- Left stellate cardiac ganglionectomy

**2- Atenolol 50 mg a day**

3- Dual chamber pacemaker

4- Implantable cardioverter defibrillator (ICD)

5- Implantable cardioverter defibrillator plus

Q5515. A 23-year-old female presents to the emergency department with collapse. She was playing tennis when she suddenly fell to the ground and lost consciousness for a short period of time. She had a very brief period of palpitations and then everything just blacked out. This is second episode of collapse. The first one happened about a year ago when she suddenly collapsed while lying in bed. Extensive investigations were carried out the first time she had collapsed but none revealed anything diagnostic. The investigations included; electrocardiogram (ECG), 24-h ECG monitor, echocardiography, chest X-ray (CXR), routine full blood count (FBC) and biochemistry, which were all normal. There is no past medical history of any serious illness apart from syncope. She is not on any medication. On examination, she is alert, her blood pressure is 120/65 mmHg and pulse 70/min and regular. Cardiovascular, respiratory, nervous and abdominal examinations are all normal. FBC and blood biochemistry are all unremarkable. ECG reveals QT prolongation: QTc 0.49 s. CXR is normal. How would you manage this young lady?

1- Electrophysiological studies

2- Start her on amiodarone

**3- Start on a beta-blocker**

4- Start her on a calcium channel blocker

5- Insert a pacemaker

Q5516. A 33-year-old female presents with a history of progressive dyspnoea of two weeks' duration sometimes associated with palpitations. She has also noticed increased swelling of her feet and abdomen and decreased effort tolerance. She denies any chest pain, fever, rhinorrhoea, sore throat or rash. She is pregnant in her 36th week of gestation and has no past medical history of note, does not take alcohol or any other drugs. Examination of the cardiovascular system during prenatal visits has been normal. Electrocardiogram (ECG) and chest X-ray performed a year ago during a preemployment check up were normal. Physical examination reveals pulse rate of 98/min, respiratory rate 22/min, blood pressure 110/60 mmHg, jugular venous distension, a summation gallop and bilateral inspiratory crackles up to one-third of the chest posteriorly. ECG shows sinus tachycardia and echocardiography reveals diffuse left ventricular (LV) hypokinesia with an ejection fraction of 25%. The patient is started on digoxin 0.125 mg per day, furosemide 60 mg twice daily and hydralazine 25 mg twice daily. Which of the following medications should be added to the above regimen?

**1- Heparin**

2- Carvedilol

3- Enalapril

4- Nitroglycerine

5- Methylprednisolone

Q5517. You are in the clinic reviewing a 27- year-old man who just had a tilt test. This young man has been seen in the clinic over the last couple of months being investigated for falls. This usually occurs when he is standing for a several minutes. He suddenly feels light-headed, sweaty, nauseated, an awareness of his heart racing and then falls to the ground. After he falls to the ground, he recovers quite rapidly. All the investigations that have been done so far have been normal and these include: full blood count, urea and electrolytes, chest X-ray, electrocardiogram, 24-h holter monitor, and an echocardiogram. Results of a tilt test show bradycardia and hypotension occurred simultaneously and these responses occurred in association with symptoms. How would you manage this young man?

**1- Beta-blockers**

2- Permanent pacing

3- Do nothing

4- Calcium channel blockers

5- Electrophysiology studies

Q5518. You are called by an obstetrician for evaluation of a 39-year-old Thai female in her 39th week of gestation. She is planned to undergo Caesarean section because of fetal distress. On examination she appears an averagely built lady with body mass index of 27, heart rate of 95 beats/min, blood pressure (BP) 132/78 mmHg and respiratory rate of 18/min. She has no jugular venous distension; her apex beat is in 5th intercostals space, midclavicular line, has a mid-systolic click and a late systolic murmur at apex radiating towards axilla. The rest of her physical examination is unremarkable except for gravid uterus. She has no past medical history of note except for a history of skin wheals and pruritis following ingestion of amoxicillin. The symptoms resolved after treatment with chlorpheniramine maleate. Which of the following is the best regimen for endocarditis prophylaxis in this patient?

1- Ampicillin 2 g intravenous (iv) 30 min before operation

2- Vancomycin 1 g iv 60 min before operation

3- Clindamycin 600 mg iv 30 min before operation

4- Erythromycin 500 mg iv 30 min before procedure

**5- No prophylaxis required**

Q5519. You are called by an obstetrician for evaluation of a 39-year-old Thai female in her 39th week of gestation. She is planned to undergo Caesarean section because of fetal distress. On examination she appears an averagely built lady with body mass index of 27, heart rate of 95 beats/min, blood pressure (BP) 132/78 mmHg and respiratory rate of 18/min. She has no jugular venous distension; her apex beat is in 5th intercostals space, midclavicular line, has a mid-systolic click and a late systolic murmur at apex radiating towards axilla. The rest of her physical examination is unremarkable except for gravid uterus. She has no past medical history of note except for a history of skin wheals and pruritis following ingestion of amoxicillin. The symptoms resolved after treatment with chlorpheniramine maleate. Which of the following is the best regimen for endocarditis prophylaxis in this patient?

1- Ampicillin 2 g intravenous (iv) 30 min before operation

2- Vancomycin 1 g iv 60 min before operation

3- Clindamycin 600 mg iv 30 min before operation

4- Erythromycin 500 mg iv 30 min before procedure

**5- No prophylaxis required**

Q5520. You are called by an obstetrician for evaluation of a 39-year-old Thai female in her 39th week of gestation. She is planned to undergo Caesarean section because of fetal distress. On examination she appears an averagely built lady with body mass index of 27, heart rate of 95 beats/min, blood pressure (BP) 132/78 mmHg and respiratory rate of 18/min. She has no jugular venous distension; her apex beat is in 5th intercostals space, midclavicular line, has a mid-systolic click and a late systolic murmur at apex radiating towards axilla. The rest of her physical examination is unremarkable except for gravid uterus. She has no past medical history of note except for a history of skin wheals and pruritis following ingestion of amoxicillin. The symptoms resolved after treatment with chlorpheniramine maleate. Which of the following is the best regimen for endocarditis prophylaxis in this patient?

1- Ampicillin 2 g intravenous (iv) 30 min before operation

2- Vancomycin 1 g iv 60 min before operation

3- Clindamycin 600 mg iv 30 min before operation

4- Erythromycin 500 mg iv 30 min before procedure

**5- No prophylaxis required**

Q5521. A 54-year-old company director presents to the emergency department with an episode of retrosternal chest pain lasting 15 minutes while playing squash. There have been three similar previous episodes over recent months. He stopped smoking 3 years ago but has no other specific past medical history. Review 12 hours after presentation shows: ECGT wave inversion v4 - v6 creatine kinase 420 u/l TroponinT <0.03 Which of the following diagnoses fit best with this clinical picture?

1- non-cardiac chest pain

2- non-Q-wave myocardial infarction

3- Q-wave myocardial infarction

**4- stable angina**

5- unstable angina

Q5522. A 50-year-old man comes to the cardiology clinic for follow-up. He has been annually followed up in the clinic for 10 years for his aortic stenosis. He informs you that his exercise tolerance has decreased. He gets some chest discomfort and dizziness on strenuous exertion. On examination, he is comfortable with a blood pressure of 125/85 mmHg, pulse of 76/min and regular. His jugular venous pulse is not raised, and his chest is clinically clear. First and second heart sounds are heard and there is an ejection systolic murmur grade 3/6 in the aortic distribution. An echocardiogram reveals a gradient of 32 mmHg across the aortic valve. How should this patient be managed?

1- Continue yearly follow-ups

2- 6-monthly follow-ups

3- Discharge him from the clinic

4- Start him on digoxin

**5- He needs replacement of the aortic valve**

Q5523. A 74-year-old lady is referred by her general practitioner (GP) to the emergency department for worsening shortness of breath. She is a known patient with dilated cardiomyopathy that has been stabilised on medication. She is on furosemide 80 mg od, bisoprolol 5 mg od, ramipril 10 mg od, aspirin 75 mg od, and atorvastatin 80 mg nocte. On examination she is dyspnoeic, her blood pressure is 120/60 mmHg and pulse 92/min, regular. She has grossly swollen oedematous legs and her jugular venous pressure is raised. On auscultation, first and second heart sounds are heard, and there is a grade III pan-systolic murmur radiating to the axilla. Auscultation of her chest reveals bibasal crackles. Results of investigations are: Haemoglobin (Hb) 12.1 g/dl Mean corpuscular volume (MCV) 86 fl White cell count (WCC) 8 x 109 /L Platelets 288 x 109 /L Sodium 141 mmol/l Potassium 3.0 mmol/l Urea 8.1 mmol/l Creatinine 131 µmol/l Chest X-ray shows an enlarged heart and bilateral small pleural effusions. Electrocardiogram (ECG) reveals a left bundle branch block (LBBB). What would be the most appropriate step in her immediate management?

1- Start her on digoxin

2- Start her on dobutamine

**3- Start her on spironolactone**

4- Urgent echocardiography

5- Increase the dose of furosemide

# Chapter 27 Part II Gastroenterology

Q5524. A 28-year-old woman is admitted to hospital with acute, severe abdominal pain and vomiting. She had been for a night out with her friends and had consumed approximately 8 units of alcohol. Her friends said that she had been acting strangely all night and seemed disoriented. The patient was unable to give an adequate history, but her friends stated that she had been previously fit and well and that she was not on any regular medication. They were adamant that she had not taken any illicit drugs and were unsure about her family history. On examination she was unwell, restless and agitated. She was disoriented in time, place and person and was expressing some paranoid ideas. Her temperature was 37.8oC, pulse 120/min and regular, blood pressure 166/92 mmHg, oxygen saturation 96% on air. Cardiorespiratory examination was normal. She had a tense abdomen with generalised tenderness and scanty bowel sounds. She did not co-operate well with neurological examination but there were no obvious focal signs. Her pupils were equal and reactive to light, but fundoscopy was not possible due to her agitation. She had no visible rashes. Investigation results are below: Haemoglobin (Hb) 13.8 g/dl White cell count 14.0 x 109 /L Platelets 350 x 109 /L Mean corpuscular volume (MCV)96 fl Na+ 142 mmol/l K+ 3.6 mmol/l Urea 10.2 mmol/l Ca2+2.32 mmol/l Creatinine 100 µmol/l C-reactive protein (CRP) 42 mg/l Bilirubin 26 mmol/l Aspartate transaminase (AST) 62 IU/l Alkaline phosphatase 90 IU/l Gamma-glutamyl transferase 78 IU/l Amylase520 IU/l Electrocardiogram (ECG)Sinus tachycardia Urinalysis Protein + Erect chest radiographNormal Abdominal radiographNormal What is the most likely diagnosis?

1- Wilson's disease

2- Acute pancreatitis

3- Ruptured ectopic pregnancy

**4- Acute intermittent porphyria**

5- Sepsis from urinary tract infection

Q5525. A 62-year-old man is seen in the gastroenterology clinic with a 9-month history of abdominal discomfort and bloating, associated with loose stools that are difficult to flush away and weight loss of 1 stone. He also describes a general deterioration in his health over the last few years with malaise, arthralgia and depression. Recently, he had been more unsteady on his feet and was having problems with co-ordination. He had no significant past medical history, was on no regular medication and had not been abroad recently. He did not smoke or drink alcohol. On examination he was thin with areas of abnormal cutaneous pigmentation and scattered lymphadenopathy. There was no jaundice or finger clubbing. Cardiorespiratory examination was unremarkable. His abdomen was soft, with mild generalised tenderness and no masses. On neurological examination he had evidence of cerebellar ataxia. Investigation results are below: Haemoglobin (Hb) 11.5 g/dl White cell count 6.0 x 109 /L Platelets470 x 109 /L Mean corpuscular volume (MCV) 90 fl Erythrocyte sedimentation rate (ESR) 40 mm/h Na+ 136 mmol/l K+ 3.5 mmol/l Urea 5.2 mmol/l Ca2+ 1.98 mmol/l Creatinine 120 µmol/l Bilirubin 15 µmol/l Alkaline transferase (ALT) 40 IU/l Alkaline phosphatase 120 IU/l Gamma-glutamyl transferase 50 IU/l Glucose (random) 5.6 mmol/l What is the most likely diagnosis?

1- Carcinoid syndrome

**2- Whipple's disease**

3- Pancreatic carcinoma with brain metastases

4- Coeliac disease

5- Haemochromatosis

Q5526. A 32-year-old man is seen with a long history of anaemia. He denies haematemesis or melaena. His past medical history includes an episode of intussusception 1 year ago. He has been investigated previously with an upper gastrointestinal endoscopy and a colonoscopy which are normal. Lower duodenal biopsies are normal. He has since been started on iron tablets. On examination, the only significant findings are melanin spots on his buccal mucosa and fingers. Investigation results are below: Haemoglobin (Hb)9.1 g/dl Whole blood count (WBC) 6.0 × 109 /l Platelets 192 × 109 /l Mean cell volume (MCV)71 fL Ferritin 3 µg/l A barium meal and follow through is abnormal and an enteroscopy shows multiple hamartomatous polyps What is the most likely diagnosis?

1- Gardner's syndrome

**2- Peutz-Jeghers syndrome**

3- Cowden syndrome

4- Familial adenomatosis polyposis

5- Pseudopolyps

Q5527. At a routine company medical, it transpires that a solderer, who is otherwise fit and well and has no significant past medical history, has an alcohol intake of 4 pints of beer a day and has been doing so for about 2 years. He is not on any medications and is a non-smoker. The conscientious doctor decides to do some routine laboratory tests and some of the results are shown below: Hb 12.5 g/dl WCC 7 x 109 /L PLT 220 x 109 /L MCV 105 fl Gamma GT 40 U/l AST 350 U/l ALT 411 U/l ALP 218 U/l Based on these results, what is the most likely diagnosis in this patient?

**1- Alcoholic fatty liver**

2- Isocyanate exposure

3- Cirrhosis

4- Previous hepatitis A infection

5- Gilbert's syndrome

Q5528. A 31-year-old gentleman who recently emigrated from China had some routine blood work by his GP. His hepatitis B screen came back showing that HBs antibody and hepatitis B IgG core antibody are positive. Anti-HBe is positive. The GP immediately referred the patient up to your clinic and before doing this sent some liver function tests. Bloods: Bilirubin 112 µmol/l alanine aminotransferase (ALT ) 42 U/l alkaline phosphatase (ALP) 67 U/l albumin 36 g/l The patient seems to be in good health. What is the most appropriate management of this patient?

1- Elective liver biopsy

2- HIV test

3- Start interferon therapy

4- Start combined lamivudine and interferon therapy.

**5- Discharge the patient back to the GP**

Q5529. A 52-year-old man presented with an attack of acute upper abdominal pain associated with vomiting. On examination he had epigastric tenderness and guarding. Serum amylase was 1300 IU/l. He was treated with intravenous antibiotics, fluids and analgesia. His pain settled and he made a good recovery and was discharged from hospital several days later. Eight weeks later he was readmitted with malaise and persistent abdominal pain. On examination he had a low-grade pyrexia and there was a tender mass palpable in the upper abdomen. Investigation results are below: Haemoglobin (Hb) 11.2 g/dl White cell count 14 x 109 /L Platelets 390 x 109 /L Mean corpuscular volume (MCV) 82 fl C-reactive protein (CRP) 200mg/l Na+ 137 mmol/l K+ 4.3 mmol/l Urea 4.8 mmol/l Creatinine 120 µmol/l Ca2+ 2.50 mmol/l Bilirubin 22 µmol/l Alkaline phosphatase 160 IU/l Gamma-glutamyl transferase 78 IU/l Aspartate transaminase (AST) 42 IU/l Amylase 1000 IU/l What is the most likely diagnosis?

**1- Pancreatic pseudocyst**

2- Pyogenic liver abscess

3- Chronic pancreatitis

4- Recurrent attack of acute pancreatitis

5- Pancreatic carcinoma

Q5530. A 64-year-old woman is admitted to hospital with recurrent vomiting. She has been diabetic since the age of 14 years. She usually vomits several times in the evening and the vomitus often contains undigested residues of her morning meal. Apart from her insulin she also takes a statin, and angiotensinconverting enzyme (ACE) inhibitor. Examination is unremarkable other than hypertension. She was given a two week course of erythromycin by her general practitioner (GP) for a chest infection, which she finished a week ago. During her hospitalisation she has an upper gastrointestinal endoscopy, oesophageal manometry and a barium swallow, all of which are reported as normal. Her blood results are outlined below. Urea 9.0 mmol/l Creatinine 140 µmol/l Sodium 140 mmol/l Potassium 3.0 mmol/l Chloride85 mmol/l Blood glucose 8.0 mmol/l Haemoglobin A1c (HbA1c) 9.4% What is the most likely cause of the vomiting?

1- Drug toxicity

2- Renal failure

**3- Gastroparesis**

4- Addison's disease

5- Bulimia nervosa

Q5531. A 72-year-old heavy smoker presents with indigestion, which is now complicated by progressive dysphagia first to solids such as toast and now to liquids as well. Bloods taken by his general practitioner (GP) suggest iron deficiency anaemia and his viscosity is elevated. On examination he has palpable lymph nodes in the left supraclavicular fossa, and wheeze throughout both lung fields. Which of the following would be the investigation of choice in this patient?

**1- Upper gastrointestinal (GI) endoscopy**

2- Barium swallow

3- Chest X-ray

4- Bronchoscopy

5- Computed tomography (CT) scan of the thorax endoscopy The presence of dysphagia and the enlarged left supraclavicular nodes raises the possibility of upper GI carcinoma, most likely oesophageal. As such, the investigation of choice would be upper GI endoscopy with biopsy. Carcinomas of the oesophagus may be squamous or adenocarcinomas; there is an association with smoking, alcohol consumption, ingestion of nitrate-containing foods, Plummer-Vinson syndrome, and chronic gastro-oesophageal reflux disease. Incorrect Unfortunately, biopsy of a suspicious lesion reveals a squamous cell carcinoma in the middle third of the oesophagus. Which of the following represents the treatment of choice in this patient?

**1- Chemotherapy**

2- Radiotherapy Correct answer

3- Surgical excision

4- Photodynamic therapy

5- Immunotherapy

Q5532. A 26-year-old man is referred for investigation of profuse, watery diarrhoea that had been going on for the past 6 weeks. He had lost one stone in weight over this time, even though his appetite remained good. He had not seen any blood or mucus in the stool and had no abdominal pain, distension or vomiting. Apart from lethargy, he had no other symptoms. He had no significant past medical history and took no regular medication. He did not smoke and drank 10 units of alcohol per week. There was no relevant family history. He had recently spent a year in Australia, travelling back through South East Asia, but had returned home over 6 months ago. His general practitioner had tried him on several antidiarrhoeal agents that had not worked, and multiple stool cultures had come back negative. On examination he was thin, but not wasted. There was no lymphadenopathy, jaundice or clubbing. His abdomen was soft and nontender with no masses, and normal bowel sounds. Digital rectal examination was normal. Investigation results are below: Haemoglobin (Hb) 10 g/dl White cell count 3.4 x 109 /L Platelets 260 x 109 /L Mean corpuscular volume (MCV) 102 fl Erythrocyte sedimentation rate (ESR) <10 mm/h Na+ 137 mmol/l K+ 4.3 mmol/l Urea 5.2 mmol/l Creatinine 100 mmol/l C-reactive protein 8 mg/l Ca2+ 1.90 mmol/l Bilirubin 14 mmol/l Alkaline phosphatase 60 IU/l Gamma-glutamyl transferase 48 IU/l Aspartate transaminase (AST) 22 IU/l Albumin 30 g/l Serum anti-endomysial antibodies negative Colonoscopy No abnormality seen, good views to terminal ileum Small bowel barium follow through Normal Abdominal ultrasound scan Normal What would be the next most useful investigation to establish the cause of the diarrhoea?

1- Serum gastrin level

**2- HIV test**

3- Hydrogen breath test

4- Radio-isotope-labelled white cell scan

5- 24 h urinary 5-hydroxyindoleacetic acid (5-

Q5533. A 32-year-old chef from Pakistan presents with abdominal pain, abdominal swelling and weight loss. His blood test shows elevated alkaline phosphatase and alanine transaminase enzyme levels. He has clinically detectable ascites. A diagnostic tap was performed which shows the below results: Total ascites white cell count 150/ml (< 500/ml) Serum-ascites albumin gradient 21 g/L (< 11g/L) What is the most likely cause of his ascites?

1- Tuberculous peritonitis

2- Peritoneal carcinomatosis

3- Pancreatic ascites

4- Biliary ascites

**5- Acute portal vein thrombosis**

Q5534. A previously fit 68-year-old farmer presents with a 4-week history of intermittent abdominal pain, anorexia and lethargy. He has just returned from a trip to Egypt to visit his granddaughter. He started feeling unwell when he was out there. He admits to have lost a lot of weight over the last 6 months. He normally takes aspirin, bendrofluazide and glicazide. He does not drink any alcohol. On examination, he looks unwell, jaundiced and flushed. Temperature is 37.2°C. There is generalised abdominal tenderness and massive hepatomegaly. His blood tests are as below: Haemoglobin (Hb) 11.0 g/dl Whole blood count (WBC) 14.0 x 109 /L Platelets 152 x 109 /l Mean cell volume (MCV) 90 fL International normalised ratio (INR) 1.2 Na+ 132 mmol/l K+ 3.7 mmol/l Urea 6.8 mmol/l Creatinine 78 µmol/l Bilirubin 99 µmol/l Alanine aminotransferase (ALT) 80 U/l (5-35) Alkaline phosphatase (ALP) 230 U/l (30-150) Gamma GT (GGT) 189 Albumin 36 glL Ultrasound scan shows multiple hypoechoic lesions in the liver and a computed tomography scan (CT) of the abdomen is arranged (Figure 9). Figure 9: CT scan of abdomen What is the most likely diagnosis?

1- Carcinoid tumour and liver metastases

2- Hepatic abscesses

3- Haemangiomas

**4- Pancreatic carcinoma and liver metastases**

5- Schistosomiasis

Q5535. A 32-year-old woman presents to the emergency department with a sudden onset of severe central abdominal pain and profuse vomiting. She had also passed several loose stools, but these had not been associated with any blood or mucus. She had no other symptoms. On examination, she was pyrexial and tachycardic with generalised abdominal tenderness. She had eaten in a Chinese buffet restaurant 3 h prior to the onset of symptoms. Apart from a neutrophil leucocytosis, her full blood count and serum biochemistry were normal. What is the most likely causative organism?

1- Campylobacter jejuni

2- Escherichia coli 0157:H7

**3- Bacillus cereus**

4- Staphylococcus aureus

5- Listeria monocytogenes

Q5536. A 77-year-old lady is seen with a 3-h history of cramping abdominal pain, bloody diarrhoea and abdominal distension. The blood is dark and looks mixed with the stool. She has previously been relatively well. She has a history of atrial fibrillation for which she takes warfarin. She also has hypertension and is on a diuretic. She stopped smoking 2 years ago and she occasionally drinks a sherry at night. On examination, she is in pain and has a mild fever, temperature 37.6°C Her pulse is 100 and irregular and blood pressure is 124/76 mmHg. Her abdomen is distended with generalised tenderness on palpation. Abdominal X-ray (AXR) - mild diffuse bowel dilatation. Bloods: whole cell count (WCC) 17.2 x 109 /L haemoglobin (Hb) 10.1 g/dl mean corpuscular volume (MCV) 84.3 fl platelets 531 x 109 /L INR 1.8 A barium enema is requested which demonstrates thickening of the bowel wall with some evidence of thumb printing. What is the most likely diagnosis?

1- Acute duodenal ulcer

2- Diverticulitis

3- Mesenteric venous thrombosis

**4- Ischaemic colitis**

5- Crohn's colitis

Q5537. A 57-year-old school teacher is found to have abnormal liver function tests at a health screening. Other than tiredness and occasional gritty eyes that she attributes to age she is well. She is postmenopausal and takes hormone replacement therapy (HRT) but no other medication. She smokes 12 cigarettes per day but takes no alcohol. There is nothing to find on examination. Some of her blood results are shown below: Albumin 40 g/l (37-49) Alanine aminotransferase (ALT) 14 U/l (5-35) Alkaline Phosphatase 300 U/l (45-105) AMApositive >1:40 Anti-dsDNA weakly positive Bilirubin 12 mmol/l (1-22) High-density lipoprotein (HDL) cholesterol 4.0 mmol/l (>1.55) Liver-kidney microsomal antibody (anti-LKM) negative Liver transaminase (AST) 10 U/l (1-31) Low-density lipoprotein (LDL) cholesterol 4.0 mmol/l (<3.36) Plasma thromboplastin (PT) 12 s (11.5-15.5) Smooth muscle antibody (SMA) negative Which of the following would be an appropriate next step?

1- Liver biopsy

**2- Ursodeoxycholic acid**

3- Referral for liver transplant assessment

4- Azathioprine

5- Withdrawal of HRT

Q5538. A 45-year-old man presents with a recent change in bowel habits. He had a colonoscopy which was normal. He is still concerned about colorectal cancer as a colleague has recently been diagnosed with metastatic colorectal cancer. He would like some advice on prevention. Which of the following lifestyle measures is least likely to protect against colorectal carcinoma?

1- Plant-based diet

2- Lifelong physical activity

**3- Dietary supplement with micronutrient**

4- Stop smoking

5- Increase fish consumption rather than

Q5539. A 57-year-old school teacher is found to have abnormal liver function tests at a health screening. Other than tiredness and occasional gritty eyes that she attributes to age she is well. She is postmenopausal and takes hormone replacement therapy (HRT) but no other medication. She smokes 12 cigarettes per day but takes no alcohol. There is nothing to find on examination. Some of her blood results are shown below: Albumin 40 g/l (37-49) Alanine aminotransferase(ALT) 14 U/l (5-35) Alkaline Phosphatase 300 U/l (45-105) AMApositive >1:40 Anti-dsDNA weakly positive Bilirubin 12 mmol/l (1-22) High-density lipoprotein (HDL) cholesterol 4.0 mmol/l (>1.55) Liver-kidney microsomal antibody (anti-LKM) negative Liver transaminase (AST) 10 U/l (1-31) Low-density lipoprotein (LDL) cholesterol 4.0 mmol/l (<3.36) Plasma thromboplastin (PT) 12 s (11.5-15.5) Smooth muscle antibody (SMA) negative Which of the following would be an appropriate next step?

1- Liver biopsy

**2- Ursodeoxycholic acid**

3- Referral for liver transplant assessment

4- Azathioprine

5- Withdrawal of HRT

Q5540. A 37-year-old social worker is referred to you with a long history of diarrhoea and abdominal discomfort. She was diagnosed with irritable bowel syndrome 10 years ago and takes mebeverine, peppermint tablets and Gaviscon. She is a vegetarian and rarely drinks or smokes. Examination of all systems is normal. Her blood tests show macrocytic anaemia. An upper gastrointestinal endoscopy reveals oesophagitis, hypertrophy of the gastric body and multiple duodenal ulcers. What is the most likely diagnosis?

1- Untreated peptic ulcer disease

2- Dyspepsia overlapped with irritable bowel syndrome

**3- Zollinger-Ellison syndrome**

4- Pernicious anaemia

5- Somatostatinoma

Q5541. A 66-year-old man is under investigation for recurrent fevers, and arthralgia. He has had episodes of fevers over the last 4 years associated with seronegative non-destructive arthropathies. Episodes have been characterised by elevated C-reactive protein (CRP) and have responded to antibiotics. Blood cultures have been persistently negative. On this admission the patient complains of persistent diarrhoea and weight loss over the last 6 months as well as myalgia. His wife has noticed that he has become more forgetful of late. On examination he is pale and thin and auscultation reveals a systolic murmur in the aortic area. Central nervous system (CNS) examination shows signs of mild ataxia. Some investigation results are outlined below. Bilirubin 10 µmol/l (1-22) Aspartate transaminase (AST) 16 u/l (1-31) Alkaline transferase (ALT) 21 u/l (5-35) Albumin 29 g/l (37-49) CRP82 Erythrocte sedimentation rate (ESR) 76 mm/h Haemoglobin (Hb) 11.5 g//dl White cell count (WCC) 10 x 109 /L Platelets 300 x 109 /L Synovial fluid: No crystals No organisms Endoscopy: Normal appearance of oesophagus and stomach Slightly thickened duodenal wall Histology of the duodenum: Lipid deposition in the lamina propria with foamy macrophages noted containing PASstaining sickle-like inclusion bodies What is the most likely diagnosis?

1- Histoplasmosis

**2- Whipple's disease**

3- Mycobacterium avium-intercellelare

4- H. pylori infection

5- Sickle cell crisis

Q5542. A 42-year-old woman presents with pins and needles in her hands and feet. She incidentally describes weight loss and offensive smelling stool. She has a history of diverticular disease and anaemia. She is a non-smoker and non-drinker. She eats red meat. On examination, the power and tone in her legs are normal. There are exaggerated knee jerks and absent ankle jerks. Joint position and vibration sense are absent below her ankles. The plantar responses are extensor. Investigation results: Haemoglobin (Hb) 10.3 g/dl Whole blood count (WBC) 5.0 x 109 /L Platelets 142 x 109 /l Mean cell volume (MCV) 107 fL Bilirubin 32 µmol/l Alanine aminotransferase (ALT) 22 U/l (5-35) Alkaline phosphatase (ALP) 45 U/l (30-150) Albumin 35 glL Blood film Macrocytosis and hypersegmented neutrophils Ferritin 46 µg/l (4-120) Serum B12 80 ng/l (160-900) Folate 50 µg/l (3-20) Schilling test: Oral labelled Vitamin B12 secreted in urine: Pre intrinsic factor 3% Post intrinsic factor 4% What is the most likely diagnosis?

1- Terminal ileal Crohn's disease

2- Chronic pancreatitis

**3- Bacterial overgrowth**

4- Pernicious anaemia

5- R-Binder deficiency

Q5543. A 32-year-old nurse presents with irondeficiency anaemia. She prefers mainly white meat and fish, but claims that her diet is varied enough. There is frequent diarrhoea. On examination her body mass index (BMI) is 22. Some blood results are shown below: haemoglobin Hb 10.4 g/dl mean cell volume (MCV) 80 fl (76-96) serum ferritin 14 µg/l (15-300) serum folate 1.4 µg/l (2-11) albumin 34g/l (37-49) IgG 15 g/l (6-13) IgA 3.8 g/l (0.8-3.0) IgM 2.6 g/l (0.4-2.5) Small bowel follow-through is suggestive of subtotal villous atrophy. What is the most likely diagnosis?

1- Coeliac disease

2- Crohn’s disease

**3- Whipple’s disease**

4- Dietary vitamin and mineral deficiency

5- Ulcerative colitis

Q5544. A 44-year-old man presents with a 10-month history of pain in his lower back, hips, ankles and feet. He has tried osteopathy, acupuncture and diclofenac, but had no relief. He has also been feeling increasingly tired and breathless on walking up steep inclines. He had lost 10 kg in the last 6 months despite eating reasonable meals. He had no dysphagia, change in bowel habit or night sweats. He smokes 30 cigarettes/day and drinks two pints of beer 3x week. His past history includes hypothyroidism for which he takes thyroxine and his mother is tabletcontrolled diabetic. On examination, his clothes fit loosely and he looks pale. He has no clubbing or lymphadenopathy. He had normal cardiac, chest and abdominal examinations. On joint examination there was pain when moving each joint but no obvious focus of the pain. CXR - normal, fibre optic bronchoscopy (FOB) positive. Bloods: Sodium 136 mmol/l Potassium 3.8 mmol/l urea 4.6 mmol/l creatine 71 µmol/l calcium (corrected) 1.82 mmol/l Albumin 26 g/l whole cell count (WCC) 6.5 x 109 /L haemoglobin (Hb) 7.1 g/dl mean corpuscular volume (MCV) 71.2 fl platelets 512 x 109 /L INR 1.5 parathyroid hormone (PTH) 251 pmol/l (0.9- 5.4) What is the most likely diagnosis?

1- Crohn's disease

2- Metastatic caecal carcinoma

3- Coeliac disease

4- Whipple disease

5- Intestinal lymphangiectasis

Q5545. A 17-year-old art student is referred with the following blood results. He recently had a upper respiratory tract infection. His mother has autoimmune hepatitis. His last travel was 4 months ago to Brazil for a school trip. Physical examination is normal. He is concerned that he may have the same liver disorder as his mother. Liver function test results: Bilirubin (unconjugated) 57 µmol/l Alanine aminotransferase (ALT) 20 U/l (5-35) Alkaline phosphatase (ALP) 75 U/l (30-150) Gamma GT (GGT) 34 What is the most likely diagnosis?

1- Infectious mononucleosis

2- Cytomegalovirus hepatitis

**3- Gilbert's syndrome**

4- Chronic active hepatitis

5- Criggler Najjar Type II

Q5546. You are asked to review a 29-year-old man who has been admitted with bright red haematemesis, which occurred after a bout of vomiting. He had been out with friends on a stag party and consumed 12 pints of beer. Upper gastrointestinal (GI) endoscopy proves unremarkable and haemoglobin (Hb) is stable at 12.5 g/dl the morning after admission, there is no sign of circulatory compromise. There have been no previous similar episodes. Which of the following stems represents the best course of action for this patient?

1- Refer for coeliac axis angiography

2- Refer for surgical opinion

**3- Send home**

4- Give one-month course of omeprazole

5- Arrange colonoscopy

Q5547. As the medical registrar, you are asked for an opinion by the surgical house officer on a 72- year-old woman who is 24 hours post abdominal aneurysm repair. All the other members of the surgical team are occupied in theatre at the present time. The patient is complaining of severe constant abdominal pain, mainly localised to the right iliac fossa, but on examination no abdominal signs are elicited. Apart from hypertension, she has no other significant past medical history. The patient is tachycardic and has a blood pressure of 95/61 mmHg. Urgent bloods, including ABG, are requested as well as an AXR. Fluid replacement is commenced. The AXR is reported by the duty registrar as showing a gasless abdomen. The relevant blood results are outlined below: Hb 18.0 g/dl WCC 14 g/dl Platelets 420 x 109 /L Amylase 270 U/l pH 7.31 pa(CO2) 3.5 kPa pa(O2) 14.0 kPa Standard bicarbonate 12mmol/l (normal range 22-28 mmol/l) The patient undergoes a single contrast barium assessment the next day. The provisional report suggests that there is thumbprinting of the bowel walls. On the basis of these results, what is the most likely diagnosis?

1- Acute pancreatitis

**2- Acute ischaemic colitis**

3- Ulcerative colitis

4- Crohn's disease

5- Acute bowel obstruction

Q5548. A 55-year-old bank worker presents to his GP after her husband noticed that her eyes were mildly yellow. She had a hysterectomy over twenty years ago for endometriosis and had required a blood transfusion at the time. She does not drink alcohol, has no history of foreign travel and is otherwise reasonably well, though has noticed increasing lethargy over the past six months. She has no other past medical history and is not on any medications: ALT 50 iu/l (normal 5-30 iu/l) AST 65 iu/l (normal 10-40 iu/l) Bilirubin 30 µmol/l (normal < 20 µmol/l ALP 120 u/l (normal 25-115 iu/l) You suspect a diagnosis of hepatitis C. Which of the following is true?

1- Treatment of hepatitis C if indicated involves oral ribavirin and interferon alpha

2- The severity of liver damage due to the hepatitis is reflected in the blood transaminase levels

**3- The sequelae of chronic hepatitis due to hepatitis C are similar to the sequelae of chronic hepatitis due to hepatitis B**

4- The gold standard test for hepatitis C is PCR for hepatitis C DNA

5- Treatment of hepatitis C is based on clinical

Q5549. A 35-year-old woman is referred to you for the investigation of anaemia discovered when she attended her regular blood donation session.. She feels fit and well apart from feeling tired occasionally which she attributes to the stress of her high-powered job. On specific questioning she denies weight loss or dyspepsia and there is no change of bowel habit. She is not pregnant and has noticed no change in her menses. She is slightly concerned as her father died of colorectal cancer at the age of 55 years. Some initial investigations are outlined below. Haemoglobin (Hb) 10.0 g//dl Mean corpuscular volume (MCV) 75 fl White cell count (WCC) 10 x 109 /L Mean corpuscular haemoglobin (MCH) 22 pg Platelets 300 x 109 /L Ferritin 12 mg/l B12 450 ng/l Serum folate 7 µg/l Which of the following is an appropriate next step?

**1- Prescription of ferrous sulphate and 3- month review**

2- Upper gastrointestinal (GI) endoscopy

3- Barium enema

4- Colonoscopy

5- Blood film

Q5550. A 35-year-old Israeli student was admitted to hospital on a number of occasions with abdominal and joint pain and fever. Previous medical history included apendicectomy and choecystitis. Pain was often associated with constipation that became diarrhoea when the pain resolved. Clinical examination revealed a pyrexia of 38.5°C with generalised rebound tenderness in the abdomen and diminished bowel sounds. Bilateral swollen knees were noted and clear fluid was aspirated from each joint. Computed tomography (CT) examination was unremarkable. Tests revealed: Bilirubin 10 µmol/l (1-22) Aspartate transaminase (AST) 16 u/l (1-31) Alkaline transferase (ALT) 21 u/l (5-35) Albumin 40 g/l (37-49) C-reactive protein (CRP) 72 mg/l Erythrocyte sedimentation rate (ESR) 50 mm/h Haemoglobin (Hb) 13.5 g//dl White cell count (WCC) 10 x 109 /L Platelets 300 x 109 /L CEA Normal α-fetoprotein (AFP) Normal Synovial fluid: No crystals No organisms Neutrophils 80/ml Urinalysis protein +++ Urinary porphyrins Normal What is the most likely diagnosis?

**1- Familial Mediterranean fever**

2- Tuberculous peritonitis

3- Spontaneous bacterial peritonitis

4- Hepatocellular carcinoma

5- Acute intermittent porphyria

Q5551. A 55-year-old man was found on the street by the police. He complains of right upper quadrant pain and anorexia. He works at a building site but has recently lost his job. On examination, he smells very strongly of alcohol. He is tanned with icteric sclera. His temperature is 37.6°C. There is spider naevi and palmar erythema. Heart sounds and chest examination are unremarkable. Abdominal examination reveals dull flanks and a tender hepatomegaly with a soft hepatic bruit. There is no focal neurology but a hepatic flap is present. Investigation results are as below: Haemoglobin (Hb) 12.1 g/dl White blood count (WBC) 17.0 x 109 /L Platelets 80 x 109 /l Mean cell volume (MCV) 103 fL International normalised ratio (INR) 1.6 Na+ 132 mmol/l K+ 3.3 mmol/l Urea 1.7 mmol/l Creatinine 70 µmol/l Albumin 35 glL Bilirubin 102 µmol/l Alanine aminotransferase (ALT) 45 U/l (5-35) Aspartate aminotransferase (AST) 100 U/l (10-40) Alkaline phosphatase (ALP) 156 U/l (30-150) Ferritin 987 µg/l Hepatitis and autoimmune serology Negative What is the most likely diagnosis?

1- Hepatoma

**2- Alcoholic hepatitis**

3- Choledocholithiasis

4- Spontaneous bacterial peritonitis

5- Haemochromatosis

Q5552. Correct A 28-year-old woman presents to the gastroenterology clinic complaining of intermittent diarrhoea and constipation. Full blood count and viscosity were normal. Flexible sigmoidoscopy was unremarkable. What is the next most appropriate management step?

1- Full colonoscopy

2- Barium enema

3- Wheat-free diet

**4- High-fibre diet**

5- Caffeine supplementation

Q5553. A young male patient with known alcoholic cirrhosis presents saying that he has had black foul smelling stool after a week of binge drinking. He has had two such episodes. He has never had melaena before, but on ultrasound one year ago he was found to have mild splenomegaly and has had drainage of ascites recently. He is refusing an oesophageo-gastro-duodenoscopy (OGD) as he had a 'bad experience' before. However he will have other investigations as necessary and will have an OGD if you can determine that he has had an upper gastrointestinal bleed. Which of the following would you use to confirm an upper gastrointestinal (GI) bleed?

1- Repeat ultrasound abdomen

2- Serum urea: creatinine ratio

3- Serial haemoglobin measurements

**4- Insert a nasogastric tube (NGT)**

5- Measure lying and standing blood pressure You can aspirate blood from the stomach to confirm a bleed. Raised urea and postural drop may just be related to dehydration, which is common in alcoholics who tend not to drink fluids except alcohol. Alcohol is also a mild diuretic which worsens any dehydration. Haemoglobin may not have dropped in an acute bleed. Worsening splenomegaly or ascites will confirm postural hypertension and a risk of varices but will not give a definite result. It is determined the patient has had an upper gastrointestinal bleed and his blood tests come back showing a low haemoglobin. He is appropriately transfused with four units, with no harmful side-effects. You repeat his blood tests to check that he has his incremented his haemoglobin as expected. Which of the following blood test results might you expect to see?

1- Lowered calcium

2- Lowered potassium

3- High magnesium

**4- High phosphate**

5- Mildly raised albumin Answer Alcoholics often have low magnesium and phosphate and albumin due to malnutrition. Low albumin may also reflect poor liver synthetic function. After a blood transfusion, potassium is elevated due to the red blood cell haemolysis in the transfusion. Calcium may be lowered unless citrate free blood is used. His haemoglobin should increment by about 4 g/dl. If it does not it suggest he is continuing to bleed or may be haemolysing due to splenomegaly or he may have early disseminated intravascular haemolysis. The patient asks about his prognosis. He is currently alert and orientated. He has no signs of infection. A repeat ultrasound shows a small shrunken cirrhotic liver with a large amount of ascites and spleen measures 14 cm. Serum bilirubin 110 خ1/4mol/l, serum albumin 28 g/l. You determine that his Child Pugh's grade is C. Which of the following is true?

1- Child Pugh criteria includes prothrombin time (PT)

2- Child Pugh's criteria A predicts a life expectancy of about five years

3- The size of the liver relative to the spleen is helpful in prognosis prediction

**4- Raised serum sodium is a bad prognostic feature**

5- Child Pugh grading only applies to alcoholic

Q5554. You review a 27-year-old man who has recently moved house and is referred by his GP for investigation of jaundice. His blood results reveal raised conjugated bilirubin with normal haptoglobins. He is liver biopsied. Review of the biopsy reveals a number of dark granules within the hepatocytes. What diagnosis fits best with this clinical picture?

**1- Dubin-Johnson syndrome**

2- Crigler-Najjar syndrome type I

3- Crigler-Najjar type II

4- Gilbert's syndrome

5- Haemolytic anaemia

Q5555. A 17-year-old female is sent to you for assessment, as she is profoundly depressed. She has features of anhedonia and anorexia over the last 6 months. Before this, she has always been an excellent student and has many friends. She has no known medical problems but her mother has a history of schizophrenia. She does not smoke or drink and both she and her parents deny that she has used drugs. On examination, she is well dressed but does not keep eye contact. She tells you that she is hearing second person auditory hallucinations and has done so for 3 months. She has an expressionless face and when writing a sentence she has small cramped handwriting. Her gait is slow and there is some increased tone in her right arm. Bloods: Albumin 36 g/l alanine aminotransferase (ALT) 201 U/l alkaline phosphatase (ALP) 121 U/l bilirubin 28 µmol/l What is the most likely diagnosis?

1- Abuse of clozapine

2- Chronic abuse of LSD

3- Ganser's disease

4- Othello's syndrome

**5- Wilson's disease**

Q5556. A 60-year-old retired teacher presents with an itchy rash on her trunk and elbows. She has a 20-year history of coeliac disease and claims to be on a gluten-free diet. She had a thyroidectomy 10 years ago. She drinks two cans of beer per day. On examination, she has xanthelasma and excoriation marks on her body. There are no stigmata of chronic liver disease. The rest of the physical examination is normal. Her blood tests show Haemoglobin (Hb) 10.7 g/dl Whole blood count (WBC) 3.7 x 109 /L Platelets 148 x 109 /l Mean cell volume (MCV) 76 fL Bilirubin 29 µmol/l Alanine aminotransferase (ALT) 308 U/l (5-35) Alkaline phosphatase (ALP) 1063 U/l (30-150) Gamma GT (GGT) 520 Albumin 36 glL Erythrocyte sedimentation ratio 81 mm/hr Lactate dehydrogenase 459 U/l Anti-smooth muscle antibody (ASMA) Negative Anti-mitochondrial antibody (AMA) Positive (1 in 80) Ultrasound scan of liver Normal What is the most appropriate treatment?

1- Penicillamine

**2- Ursodeoxycholic acid**

3- Phenobarbitone

4- Corticosteroids

5- Azathioprine

Q5557. A 59-year-old man presents to his GP complaining of difficulty in swallowing. This problem had initially been for solids and the patient had thought it was related to his episodes of heart burn, but he has recently started having problems swallowing liquids as well. Consequent to this problem, he has lost about 8 kg of weight in the last 2 months. His other symptoms include pain in the retrosternal area and bouts of coughing at night. He is otherwise fit and well and apart from taking self medication in the form of Gaviscon for heartburn, he is on no other medications. He is a smoker of a pack of cigarettes per day and has been for about 20 years. Which of the following imaging investigations would be LEAST useful in this patient?

1- Barium swallow

2- Oesophagogastroduodenoscopy

3- Abdominal and chest CT scans

**4- Bronchoscopy**

5- Endoscopic ultrasound

Q5558. A 36-year-old woman with a 15-year history of severe ileo-colonic Crohn's disease is admitted for assessment and management of a severe flare-up of her disease. Her symptoms are severe lower abdominal pain, diarrhoea, weight loss and lethargy. She has also recently developed a vesico-colic fistula. She is currently taking mycophenolate mofetil (MMF) which had been controlling her symptoms for the last few months, but was now losing its efficacy. Her treatment history consists of multiple courses of steroids which, when tapered off resulted in severe disease recurrence. She also failed on azathioprine and 6-mercaptopurine and an elemental diet. She had an ileal segmental resection with end-to-end anastomosis 8 years ago and a strictuloplasty more recently. Her blood tests show a normochromic normocytic anaemia, leucocytosis, elevated erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) and a low albumin. What is most appropriate next line in management?

1- Oral ciclosporin

**2- Intravenous infliximab**

3- Total colectomy with ileo-anal pouch formation

4- Alpha-interferon therapy

5- Intravenous cyclophosphamide

Q5559. A 31-year-old previously fit and healthy lady is knocked over by a cyclist on the pedestrian crossing. She is admitted to hospital and has an abdominal computed tomography scan. This shows that the spleen and liver are normal except for a cyst in the pancreas. The cyst shows features of serous cystadenoma. Which of the following is the most appropriate management?

**1- Do nothing**

2- Annual computed tomography scan

3- Resection of cyst alone

4- Resection of tail of pancreas

5- Resection of whole pancreas

Q5560. A 60-year-old lady undergoes investigation after presenting with intermittent diarrhoea alternating with constipation over a period of several months. In addition she complains of cramping abdominal pains. Her weight is steady. Her general practitioner has checked her routine bloods: haemoglobin is 9.8 g/dl, erythrocyte sedimentation rate 20 mm/h and electrolytes and liver function tests are normal. A view obtained at colonoscopy is shown below: Image courtesy of Dr Hans Bjorknas, Gastrolab, Vasa, Finland. What is the most likely cause of the anaemia?

1- Vitamin B12 deficiency

2- Vitamin B12 and folate deficiency

**3- Iron deficiency**

4- Folate deficiency

5- Ferritin deficiency

Q5561. A 59 lady presents who is is undergoing investigations in hospital for an episode of diarrhoea, rectal blood loss, and abdominal pain. Her barium enema is shown below. Image courtesy of Ian Maddison, London South Bank University What is the most likely diagnosis?

**1- Ulcerative colitis (UC)**

2- Crohn's disease

3- Coeliac disease

4- Diverticulosis

5- Colonic carcinoma

Q5562. A 65-year-old man is seen in clinic after he presents to his general practitioner (GP) with a year's history of tiredness, and is found to be anaemic. He has no previous medical history and takes no medication. He reports no weight loss and denies a change in bowel habit. He has a varied diet including red meat. There is nothing to find on examination. Blood tests taken by the primary physician are shown below. Haemoglobin (Hb) 11.5 g//dl Mean corpuscular volume (MCV) 70 fl White cell count (WCC) 10 x 109 /L Mean corpuscular haemoglobin (MCH) 20 pg Platelets 300 x 109 /L Ferritin 10 mg/l B12 500 ng/l Serum folate 9 µg/l Which of the following investigations should not be requested?

1- Urinalysis

2- Upper gastrointestinal (GI) endoscopy

3- Barium enema

**4- Faecal occult blood**

5- Anti-endomysial antibody

Q5563. A 25-year-old art student is brought into the casualty department by her flatmates following one cupful of haematemesis. She has been vomiting earlier that day after an alcohol binge over the weekend. There is no past medical problem and she is on the oral contraceptive pill. She drinks 15 units of alcohol per week, mainly during the weekends. Her mother suffers from primary biliary cirrhosis. On examination, her heart rate is 82/minute and her blood pressure is 124/70 mmHg. There is mild epigastric discomfort. The rest of the examination is normal. Her blood tests are as below: Haemoglobin (Hb) 12.0 g/dl Whole blood count (WBC) 6.0 x 109 /L Platelets 192 x 109 /l Mean cell volume (MCV) 85 fL International normalised ratio (INR) 1.1 Na+ 133 mmol/l K+ 3.2 mmol/l Urea 6.0 mmol/l Creatinine 61 µmol/l Bilirubin 14 µmol/l Alanine aminotransferase (ALT) 24 U/l (5-35) Alkaline phosphatase (ALP) 140 U/l (30-150) Gamma GT (GGT) 104 Albumin 38 glL Upper gastrointestinal endoscopy shows no source of bleeding. There is no evidence of blood in the oesophagus, stomach or duodenum. What is the most appropriate step of management?

1- Check autoantibody screen

2- Liver ultrasound

3- High dose proton-pump inhibitor for 4 weeks

4- Repeat endoscopy in 2 weeks

**5- Discharge home with General Practitioner**

Q5564. A 42-year-old Russian immigrant with haemophilia A is admitted after a road traffic accident. He is transfused with four units of blood and given recombinant factor VIII concentrate. The ward doctor notices on reviewing his routine bloods that his alanine aminotransferase (ALT) is raised at 140. He otherwise appears well. What diagnosis fits best with this clinical picture?

1- Hepatitis A

2- Hepatitis B

**3- Hepatitis C**

4- Hepatitis E

5- Transfusion reaction

Q5565. A 45-year-old man presents with a 6-month history of progressive intermittent dysphagia to both solids and liquids, and a persistent productive cough. He is a long-term smoker but other wise is fit and well -he reports no significant weight loss. Clinical examination is unremarkable and an upper gatrointestinal endoscopy report from another hospital is normal. He undergoes oesophageal manometry the results of which are outlined below: Lower oesophageal sphincter resting pressure 60 mmHg (17-36) Residual lower oesophageal sphincter relaxing pressure 12 mmHg (<8) Peristalsis: Proximal amplitude 80 mmHg (33-91) Proximal duration 3 s (2.0-3.6) Distal amplitude 0 mmHg (64-154) Distal duration Absent (2.9-5.1) What is the most likely diagnosis?

1- Scleroderma

2- Nutcracker oesophagus

3- Diffuse oesophageal spasm

4- Carcinoma of the oesophagus

**5- Achalasia**

Q5566. A 46-year-old man is admitted from clinic with dysphagia and weight loss. Over the last few months he has found that it has been progressively harder to swallow solids. He was able to swallow them but he had to regurgitate them about 30 minutes later. Over the last few weeks he has been having increasing difficulty with fluids. He has previously been in good health and never smoked. He drinks half a bottle of wine on the weekends and the only other history of note has been long-term dyspepsia for which he uses antacids. On examination, there is nothing to find except some mild tenderness on palpation in the epigastric area. Barium swallow - oesophagus appears dilated and the distal oesophagus is narrowed. Oesophageal manometry - incomplete relaxation of the lower oesophageal sphincter in response to swallowing with high resting pressure. Absent oesophageal peristalsis. What is the most likely diagnosis?

**1- Achalasia**

2- Oesophageal cancer

3- Plummer-Vinson syndrome

4- Oesophageal candidiasis

5- Gastro-oesophageal reflux disease

Q5567. A 23-year-old man is seen in clinic with a 2 month history of abdominal pain, 6-kg weight loss and intermittently he noticed dark urine which lasted for a few days. He also has noticed night sweats, which soak his nightclothes. He is otherwise well, does not smoke and drinks a couple of pints on the weekend. On examination, he looks well and has no jaundice, clubbing or lymphadenopathy. He has 4-cm non-tender hepatomegaly and the rest of his examination is normal. Bloods: whole cell count (WCC) 6.7 x 109 /L haemoglobin (Hb) 13.5 g/dl Platelets 379 x 109 /L alanine aminotransferase (ALT) 61 U/l bilirubin 21 µmol/l alkaline phosphatase (ALP) 245 U/l γ-glutamyl transferase (GGT) 256 U/l albumin 36 g/l serum electrophoresispolyclonal gammopathy auto-antibodies (ANA) 1 : 64 c-ANCA negative p-ANCA 1 : 320 Abdominal ultrasound-hepatomegaly noted, no bile duct dilatation. What is the most likely diagnosis?

1- Primary biliary cirrhosis

**2- Primary sclerosing cholangitis**

3- Chronic active hepatitis

4- Polyarteritis nodosa

5- Hydatid disease

Q5568. A 54-year-old woman has chronic autoimmune hepatitis. She is managed on prednisolone and azathioprine. You review her in clinic and notice that she has worsening of her jaundice with a rising bilirubin and increasing ascites. You admit her; the nurses call you to see her urgently the following morning as she has become increasingly drowsy. Her blood pressure is 100/50, with pyrexia of 38.2. What is your next most appropriate investigation?

1- Computed tomography (CT) head

2- Electroencephalograpm (EEG)

3- Blood cultures

4- Lumbar puncture

**5- Peritoneal tap for microscopy and culture**

Q5569. A 35-year-old hospital phlebotomist develops a needle stick injury at work. She is normally fit and well and does not drink any alcohol. She is unfortunately found to have abnormal blood results and later on develop an extrahepatic manifestation of her disease. Blood test results: Hepatitis B surface Antigen positive Hepatitis B e Antigen positive Hepatitis C antibody negative Retroviral test negative Alanine aminotransferase (ALT) 56 U/l (5-35) Which of the following manifestations is least likely to be associated with her illness?

1- Maculopapular rash

2- Guillain--Barrè syndrome

3- Membranoproliferative glomerulonephritis

**4- Cryoglobulinaemia**

5- Polyarteritis nodosa

Q5570. A 26-year-old woman presents with a 3-day history of progressively worsening abdominal distension, severe epigastric pain, nausea and vomiting. She was previously fit and well with no significant past medical history and the only medication she took was the oral contraceptive pill. There was no relevant family history. She smoked 10 cigarettes per day and drank approximately 12 units of alcohol per week. On examination she was unwell, drowsy and deeply jaundiced. She was apyrexial. Her heart sounds were normal, her chest was clear to auscultation and she had peripheral oedema. Her abdomen was distended with shifting dullness and tender hepatomegaly. There were no focal neurological signs. Investigation results are below: Haemoglobin (Hb) 13.0 g/dl White cell count 13.0 x 109 /L Platelets 200 x 109 /L Mean corpuscular volume (MCV)82 fl Na+ 132 mmol/l K+ 4.8 mmol/l Urea 7.2 mmol/l Creatinine 120 µmol/l Bilirubin 120 µmol/l Alkaline phosphatase 410 IU/l Aspartate transaminase (AST) 900 IU/l Gamma-glutamyl transferase 850 IU/l Albumin 24 g/l Prothrombin time 30 s Ascitic fluid analysis Straw coloured Protein content 35g/l Neutrophil count 80 cells/mm3 Gram stain No organisms seen Amylase 100 IU/l Which investigation should be performed next?

1- Serum alpha-fetoprotein

**2- Colour flow Doppler ultrasound of the hepatic vasculature**

3- Liver biopsy

4- Anti-mitochondrial antibody

5- Serum caeruloplasmin

Q5571. A 58-year-old man is referred for investigation of dysphagia. This had been gradually worsening over the last year, but was intermittent in nature and was for both solids and liquids. He also described the frequent regurgitation of old food several hours after eating. Recently he had been experiencing occasional episodes of severe retrosternal chest pain. He denied weight loss and heartburn. He had no significant past medical history and was on no regular medication. He was a non-smoker and rarely drank alcohol. A full clinical examination was entirely normal, as was his full blood count, urea and electrolytes and liver function tests. A chest radiograph and barium swallow were also reported as being within normal limits. He underwent upper gastrointestinal endoscopy which showed some old food in the oesophagus but no other abnormality. Which of the following investigations should be performed next?

**1- Oesophageal manometry**

2- Computed tomography (CT) scan of the abdomen

3- Endoscopic ultrasound scan

4- Double contrast barium meal

5- 24 h intraluminal oesophageal pH

Q5572. A 60-year-old woman is seen in the cardiology outpatient with a new murmur. She also describes intermittent episodes of flushing and diarrhoea for the last 4 months. She has a history of hay fever and complains of intermittent wheeziness which she has never had before. On examination, the blood pressure and jugular venous pressure are normal. There is a diastolic murmur in the pulmonary area which increases with inspiration. Her chest is clear. There is a palpable liver edge with right upper quadrant tenderness. Neurological examination is normal. Which of the following investigations is most appropriate?

1- Fasting gut hormones

2- Thyroid function test

3- Urinary catecholamines

**4- Urinary 5-hydroxyindoleacetic acid (HIAA)**

5- Urinary serotonin

Q5573. A 35-year-old man is admitted to hospital after collapsing at home. He gives a threemonth history of watery diarrhoea with occasional nocturnal incontinence for which he is being investigated in the outpatient department. He has no history of foreign travel, and other family members are well. He takes no regular medication and is a nonsmoker. On examination he is thin and clinically dehydrated. Some baseline investigations are outlined below. Urea 20.0 mmol/l Creatinine 100 µmol/l Sodium 140 mmol/l Potassium2.0 mmo/l Blood glucose 5.0 mmol/l HCO3 15 mmol/l Arterial blood gases (on air): pa(O2) 12.6 kPa pa(CO2) 3.5 kPa pH 7.31 Computed tomography (CT) of the abdomen Normal Upper gastrointestinal endoscopy and duodenal biopsyNormal gastric pH 6.5 Barium follow-through Normal Plasma chromogranin A60 u/l (normal<20) Urinary 5-hydroxyindoleacetic acid (5-HIAA) 60 µmol/24 h What is the likely diagnosis?

1- Addison's disease

**2- Vasoactive intestinal peptide (VIP)oma**

3- Gastrinoma

4- Carcinoid tumour

5- Insulinoma

Q5574. A 31-year-old female presents with a 2-week history of bloody diarrhoea and a 1-day history of severe abdominal pain. She is known to have ulcerative colitis with poor compliance with her medications. She is currently having 12 bowel motions per day. On examination, she is pale, febrile, temperature 38.6°C and has a pulse of 120/min and blood pressure (BP) of 90/60 mmHg. Her abdomen is very tender and abdominal X-ray (AXR) shows that her transverse colon is 6.1 cm in diameter. Which of the following is best therapy in the acute setting?

1- Fluid resuscitation and intravenous hydrocortisone and infliximab

2- Fluid resuscitation and immediate surgery to perform a total colectomy

3- Fluid resuscitation, intravenous metronidazole and per rectal mesalazine

**4- Fluid resuscitation, intravenous and rectal hydrocortisone**

5- Fluid resuscitation, intravenous antibiotics

Q5575. A 78-year-old man is referred to the gastroenterology clinic for investigation of abdominal pain and weight loss which had been going on for several months. He described the pain as peri-umbilical, severe and colicky in nature and it usually came on 30-60 min after eating. He also had intermittent diarrhoea and several episodes of altered blood mixed with the stool. There was no associated vomiting. His past medical history included angina, a myocardial infarction and several transient ischaemic attacks. He smoked 10 cigarettes per day and did not drink alcohol. On examination he was thin and hypertensive with a regular pulse. A left carotid bruit was audible. His heart sounds were normal and chest was clear. His abdomen was soft and non-tender with no masses, and normal bowel sounds. Rectal examination was normal. He had a mild normocytic anaemia, but other than that, his full blood count and serum biochemistry were normal. His inflammatory markers were not raised. What is the most appropriate investigation to establish the diagnosis?

1- Colonoscopy

**2- Mesenteric angiography**

3- Small bowel barium follow through

4- Computed tomography (CT) of the abdomen

5- Oesophagogastroduodenoscopy

Q5576. A 54-year-old businessman is brought in by ambulance from the airport with sudden onset excruciating upper abdominal pain radiating to his back following a flight. He has had recurrent vomiting during the whole of his flight. He has a history of hiatus hernia but no history of cardiac problems. He drinks ten units of alcohol per week. On examination, he is dyspnoeic and cyanosed. Blood pressure is equal on both arms and there is no radialradial delay. His saturation is 88% on high flow oxygen. Heart sounds are normal. On chest examination, there is reduced air entry and dullness to percussion on the left side. There is marked epigastric tenderness and rigidity. His pain fails to improve with morphine or pethidine. Amylase and cardiac enzymes are within normal range. Electrocardiography demonstrates sinus tachycardia but no other abnormalities. Chest radiography shows a left pleural effusion. Which of the following is the most likely diagnosis?

1- Dissecting thoracic aneurysm

2- Aspiration pneumonia

3- Acute pancreatitis

4- Perforated duodenal ulcer

**5- Boerhaave's syndrome**

Q5577. A 26-year-old man with human immunodeficiency virus (HIV) infection presents with spiking temperature, right upper quadrant pain and abnormal liver function tests. He has a low CD4 count. Ultrasound scan and computed tomography scan are normal. Blood tests show: Haemoglobin (Hb) 12.0 g/dl Whole blood count (WBC) 4.0 x 109 /L Platelets 151 x 109 /l International normalised ratio (INR) 1.0 Bilirubin20 µmol/l Alanine aminotransferase (ALT) 37 U/l (5-35) Alkaline phosphatase (ALP) 380 U/l (30-150) Gamma GT (GGT) 189 Albumin 35 glL What is the most appropriate intervention?

1- Broad spectrum antibiotics

2- Liver biopsy

3- Magnetic resonance cholangiopancreatography (MRCP)

**4- Endoscopic retrograde cholangiopancreatography (ERCP)**

5- No intervention

Q5578. A 50-year-old Asian male, who presented with a 3-week history of jaundice, dies in hospital after an acute upper gastrointestinal bleed. Post mortem is carried out. His liver appearance is shown below: What is the most likely diagnosis?

1- Multiple amoebic liver abscesses

2- Alcoholic fatty liver

3- Hepatocellular carcinoma

4- Hepatic fibrosis

**5- Hepatic cirrhosis**

Q5579. A 66-year-old lady is seen in clinic with a 3- month history of watery diarrhoea 5-10 times a day. She is otherwise in reasonable health but takes regular non-steroidal antiinflammatory drugs for her osteoarthritis. She also takes omeprazole. She has the watery diarrhoea regardless of whether she eats or not. She has no associated abdominal pain or vomiting and she has no blood mixed in with the stool. She has lost 5 kg in weight. On examination, she looks well and is afebrile. Her abdomen is soft with no organomegaly. Bloods: sodium 141 mmol/l potassium 3.4 mmol/l creatine 68 µmol/l albumin 35 g/l whole cell count (WCC) 6.4 x 109 /L C-reactive protein (CRP) 10 µg/l erythrocyte sedimentation rate (ESR) 16 mm/h stool microscopy leucocytes present, no organisms seen C difficile toxin negative colonoscopy normal appearance macroscopically - increased cellular infiltrate in the lamina propria What is the most likely diagnosis?

1- Crohn's colitis

2- Ulcerative colitis

**3- Microscopic colitis**

4- Giardiasis

5- Amyloidosis

Q5580. A 79-year-old woman presents with a 3- month history of intermittent jaundice and right upper quadrant pain. She drinks minimal alcohol and is a non-smoker. She suffers from mild dementia. She had an emergency surgery many years ago but she is not able to remember what it was for. On examination, she is mildly icteric. There is no lymphadenopathy. There is a visible scar on the abdomen. Her blood tests are as below: Bilirubin 101 µmol/l Alanine aminotransferase (ALT) 54 U/l (5-35) Alkaline phosphatase (ALP) 370 U/l (30-150) Gamma GT (GGT) 240 What is the most likely operation she has had in the past?

1- Partial gastrectomy for gastric ulcer

**2- Ileal resection for Crohn's disease**

3- Right hemicolectomy for caecal carcinoma

4- Left lobectomy of the liver for carcinoid tumour

5- Jejunal resection for gastrointestinal

Q5581. A 54-year-old businessman is brought in by ambulance from the airport with sudden onset excruciating upper abdominal pain radiating to his back following a flight. He has had recurrent vomiting during the whole of his flight. He has a history of hiatus hernia but no history of cardiac problems. He drinks ten units of alcohol per week. On examination, he is dyspnoeic and cyanosed. Blood pressure is equal on both arms and there is no radialradial delay. His saturation is 88% on high flow oxygen. Heart sounds are normal. On chest examination, there is reduced air entry and dullness to percussion on the left side. There is marked epigastric tenderness and rigidity. His pain fails to improve with morphine or pethidine. Amylase and cardiac enzymes are within normal range. Electrocardiography demonstrates sinus tachycardia but no other abnormalities. Chest radiography shows a left pleural effusion. Which of the following is the most likely diagnosis?

1- Dissecting thoracic aneurysm

2- Aspiration pneumonia

3- Acute pancreatitis

4- Perforated duodenal ulcer

Q5582. A 46-year-old GP presents with a 10-day history of jaundice and pruritus. There is no previous history of use of pharmaceuticals. Her initial liver function tests are reported below: bilirubin 286µmol/l aspartate aminotransferase (AST) 456 U/l γ-glutamyltransferase (GT) 392 U/l Which investigation is most likely to confirm the likely clinical diagnosis?

1- Abdominal computed tomography (CT)

2- Abdominal ultrasound

3- Liver magnetic resonance imaging (MRI)

4- Endoscopic retrograde cholangiopancreatography (ERCP)

5- Liver biopsy

Q5583. A 39-year-old man with a 20-year history of alcohol misuse is being investigated as an outpatient. He undergoes endoscopy and is found to have three columns of oesophageal varices that occlude the lumen. On questioning he denies any previous episodes of malaena or haematemesis. He admits to still drinking 7-10 cans of lager per day. Physical examination reveals stigmata of chronic liver disease and moderate ascites. There is no evidence of encephalopathy. Some of his initial blood results are outlined below. Bilirubin 45 µmol/l (1-22) AST 80 u/l (1-31) ALT 35 u/l (5-35) Albumin 30 g/l (37-49) Haemoglobin (Hb) 15.0 g//dl White cell count (WCC) 6.5 x 109 /L Platelets 120 x 109 /L Prothrombin time (PT) 23 s (11.5-15.5) Which of the following is the best treatment option?

1- trans-jugular intrahepatic porto-systemic shunt (TIPSS)

2- Sclerotherapy to varices

3- Liver transplantation

4- Banding ligation of varices

**5- Propanalol**

Q5584. A 46-year-old GP presents with a 10-day history of jaundice and pruritus. There is no previous history of use of pharmaceuticals. Her initial liver function tests are reported below: bilirubin 286 µmol/l aspartate aminotransferase (AST) 456 U/l γ-glutamyltransferase (GT) 392 U/l Which investigation is most likely to confirm the likely clinical diagnosis?

1- Abdominal computed tomography (CT)

2- Abdominal ultrasound

3- Liver magnetic resonance imaging (MRI)

4- Endoscopic retrograde cholangiopancreatography (ERCP)

**5- Liver biopsy**

Q5585. A 46-year-old man complains of acute epigastric pain radiating to his back. This is associated with vomiting. The pain is improved when he sits forward. He drinks half a bottle of whisky per day. On examination, he is mildly pyrexial. He looks jaundiced and unwell. He is tachycardic and slightly hypotensive. There is generalised tenderness of the abdomen. There is no guarding or rebound rigidity. Bowel sounds are normal. Electrocardiography, erect chest and abdominal radiography are normal. Abdominal ultrasonography shows a small liver, normal bile ducts and minimal fluid around the pancreas Which of the following is an indicator of poor prognosis for his condition?

1- paO2 = 9.5 kPa

2- Serum albumin = 34 g/l

**3- Serum calcium = 1.91 mmol/l**

4- Aspartate aminotransferase = 98 iu/l

5- Serum creatinine = 150 mmol/l

Q5586. A 72-year-old woman presents with a long history of dysphagia for both liquids and solids. Food occasionally gets stuck, but this is relieved by drinking large volumes of fluid. Chest X-ray reveals a dilated lower oesophagus with a fluid level behind the heart. Barium swallow shows gradual narrowing of the distal end of the oesophagus, 'swan-necking'. Endoscopy reveals food residue in the distal oesophagus. Which of the following would represent the most appropriate initial medical treatment in this patient?

1- Atenolol

**2- Nifedipine**

3- Ramipril

4- Propanolol

5- Doxasosin This patient has achalasia, a condition which can present at any age, of unknown aetiology, and which results in failure of relaxation of the lower oesophageal sphincter and oesophageal dilatation. Medical treatments include calcium channel antagonists such as nifedipine or nitrate donors such as isosorbide dinitrate. She discusses her condition with her friend, who informs her that she is at increased risk of oesophageal carcinoma. Which of the following best represents her increased risk of oesophageal carcinoma?

1- A 15% increase in adenocarcinoma over 25 years

**2- A 7% increase in adenocarcinoma over 25 years**

3- A 15% increase in squamous cell carcinoma over 25 years

4- A 25% increase in squamous cell carcinoma over 25 years

5- A 7% increase in squamous cell carcinoma

Q5587. This chest radiograph is from a 36-year-old man who presented with severe abdominal pain and shock. What is the most likely diagnosis?

**1- Ulcerative colitis**

2- Acute pancreatitis

3- Acute cholecystitis

4- Ischaemic bowel

5- Diverticulitis

Q5588. A 32-year-old Scottish woman presents to outpatients after noticing the whites of her eyes changing colour. She is 36 weeks pregnant with her first child. She feels well in herself has no relevant past medical history other than a transient episode of jaundice in her late teens and takes no medication. There is no history of recent travel. Clinical examination reveals icteric sclerae and excoriations on the upper arms. Blood tests reveal: Bilirubin 150 µmol/l (1-22) Alkaline transferase (ALT) 40 u/l (5-35) Alkaline phopsphatase (ALP) 600 u/l (45-105) Albumin 40 g/l (37-49) Urinalysis Bilirubin +++ Haemoglobin (Hb) 11.0 g/dl White cell count (WCC) 5.0 x 109 /L Platelets 350 x 109 /L Prothrombin time (PT) 17 s (11.5-15.5) What is the most likely diagnosis?

1- Pre-eclampsia

2- HELLP syndrome (haemolysis, elevated liver enzymes and low platelets)

**3- Cholestasis of pregnancy**

4- Hepatitis E

5- Acute fatty liver of pregnancy

Q5589. A 30-year-old lady is seen in clinic. She has a history of nose bleeds and has also recently undergone investigation of anaemia. These lesions are seen on examination What is the most likely diagnosis?

1- Systemic lupus erythematosus

2- Systemic sclerosis

**3- Hereditary haemorrhagic telangiectasia (HHT)**

4- Ataxia-telangiectasia

5- CREST syndrome (Calcinosis, Raynaud's

Q5590. A 36-year-old woman is admitted to the emergency department complaining of worsening nausea and vomiting, general malaise and anorexia. She is 36 weeks pregnant with her first child. On examination there is pain in the epigastrium and right upper quadrant of the abdomen on palpation. Investigations reveal: Alkaline transferase (ALT) 420 U/l Bilirubin 85 µmol/l Albumin 27g/l Prothrombin time and activated partial thromboplastin time Prolonged Haemoglobin (Hb) 10.1g/dl White cell count (WCC) 13.2 x 109 /L Platelets 75 x 109 /L Which of the following diagnoses fits best with this clinical picture?

1- Hepatitis A

2- Cholecystitis

3- Intrahepatic cholestasis of pregnancy

**4- Fatty liver of pregnancy**

5- Hyperemesis gravidorum This condition presents with nausea and vomiting and pain in the epigastrium or right upper quadrant of the abdomen. Mean gestational age at presentation is 37 weeks, although it may occur in the 28-42 week range. Abnormal investigations include hypoglycaemia, raised ammonia levels, elevated aminotransferase levels, elevated white cell count, low albumin and disseminated intravascular coagulation in up to 75%. Ultrasound is the best imaging modality and allows other conditions such as cholecystitis to be excluded. Which of the following represents the treatment of choice for this condition?

1- Increase oral fluid intake and discharge

2- Intravenous (iv) fluid and glucose supplementation

3- Delivery of the fetus

**4- Dietary protein restriction**

5- Avoidance of drugs with hepatic

Q5591. A 46-year-old man is seen in neurology outpatients after being referred with disinhibited behaviour of 2 months duration. His family tells you that he passes urine in public and the police have brought him home on two occasions recently. He has been losing weight for the last year and was previously 110 kg, now weighing 92 kg. He has diarrhoea and his family tell you it smells bad and is difficult to flush. The patient complains of pain in his right knee, left ankle and lower back. On examination, he looks pale and has angular cheilitis. He has a distended abdomen with some shifting dullness but no palpable organomegaly. His palmomental reflex is positive. The right knee and left ankle are both swollen with minimal tenderness and a good range of movement. Bloods: Sodium 134 mmol/l Potassium 4.1 mmol/l urea 4.8 mmol/l creatine 45 µmol/l calcium (corrected) 1.74 mmol/l albumin 27 g/l whole cell count (WCC) 6.5 x 109 /L haemoglobin (Hb) 9.2 g/dl mean corpuscular volume (MCV) 78.2 fl platelets 512 x 109 /L INR 1.4 computed tomography (CT) brainnormal scan \* oesophago-gastro duodenoscopy (OGD) is performed and duodenal biopsy demonstrates expanded villi containing macrophages staining positive with periodic acid-Schiff stain. What is the most likely diagnosis?

1- Hartnups disease

2- Coeliac disease

3- HIV enteropathy and dementia

4- Tropical sprue

**5- Whipple disease**

Q5592. A 30-year-old lady in her third trimester of pregnancy presents with deranged liver enzymes and right upper quadrant pain. This is her first pregnancy and she is normally fit. There are no risk factors for hepatitis. There is no family history of liver disorders and she is not on any regular medications. She underwent a liver biopsy. Which of the following is not a histological feature of pregnancy-related liver disease?

1- Microvesicular fatty change

2- Sinusoidal fibrin deposition

3- Subcapsular haematoma

**4- Periportal fibrosis**

5- Hepatic infarction

Q5593. A 72-year-old woman presents with a long history of dysphagia for both liquids and solids. Food occasionally gets stuck, but this is relieved by drinking large volumes of fluid. Chest X-ray reveals a dilated lower oesophagus with a fluid level behind the heart. Barium swallow shows gradual narrowing of the distal end of the oesophagus, 'swan-necking'. Endoscopy reveals food residue in the distal oesophagus. Which of the following would represent the most appropriate initial medical treatment in this patient?

1- Atenolol

**2- Nifedipine**

3- Ramipril

4- Propanolol

5- Doxasosin

Q5594. She discusses her condition with her friend, who informs her that she is at increased risk of oesophageal carcinoma. Which of the following best represents her increased risk of oesophageal carcinoma?

1- A 15% increase in adenocarcinoma over 25 years

2- A 7% increase in adenocarcinoma over 25 years

3- A 15% increase in squamous cell carcinoma over 25 years

4- A 25% increase in squamous cell carcinoma over 25 years

**5- A 7% increase in squamous cell carcinoma**

Q5595. A 20-year-old man presents with bloody diarrhoea and abdominal pain. On examination he is unwell with a temperature of 38.6°C, heart rate of 130 beats/min, pallor and diffuse abdominal tenderness. His abdomen is distended. His abdominal X-ray is shown below: Image courtesy of Nicholas Oldnall, X Ray 2000. What would your immediate management be?

1- Immediate laparotomy

**2- High-dose intravenous (iv) steroids**

3- Observation and iv fluids

4- iv Antibiotics

5- Azathioprine

Q5596. A 35-year-old patient has had ulcerative colitis (UC) throughout his bowel for 11 years. He has seen on the Internet that people with ulcerative colitis have an increased risk of cancer and wishes to discuss this with his GP. He has not had any weight loss or additional bloody diarrhoea. The GP measures his carcino-embryonic antigen level (CEA). Which of the following is most correct in his case?

1- CEA is a useful screening test for bowel cancer in his case

2- His prognosis from colonic cancer is the same as a patient without ulcerative colitis

3- His risk of colonic cancer is 30-40 times greater than a patient without colitis

4- If cancer is present he is likely to notice this by a change in symptoms from his ulcerative colitis presentation

**5- On endoscopy, mucosal dysplasia seen on**

Q5597. A 45-year-old banker is referred by his general practitioner with abnormal liver function tests. He had a heart attack 2 years ago and is regularly seen in the diabetic clinic for poor glycaemic control. He currently takes metformin, atenolol and atorvastatin. He drinks socially and smokes ten cigarettes per day. There is no history of blood transfusion or drug abuse. On examination he is overweight and there is an enlarged nontender liver. Ultrasound scan of the liver is reported as showing generalised hypoechogenic appearance with no focal lesions. His blood test results are as below: Haemoglobin (Hb) 13.0 g/dl White blood count (WBC) 8.0 x 109 /L Platelets 240 x 109 /L Mean cell volume (MCV) 83 fL International normalised ratio (INR) 1.1 Na+ 136 mmol/l K+ 3.7 mmol/l Urea 9.0 mmol/l Creatinine 90 µmol/l Albumin 39 glL Alanine aminotransferase (ALT) 96 U/l (5-35) Aspartate aminotransferase (AST) 70 U/l (10- 40) Alkaline phosphatase (ALP) 135 U/l (30-150) Hepatitis and autoimmune serology Negative Ferritin Normal What is the most likely diagnosis?

1- Drug-induced hepatitis

**2- Non-alcoholic steatohepatitis**

3- Alcoholic-induced hepatitis

4- Chronic active hepatitis

5- Amyloidosis

Q5598. A 35-year-old man is being investigated for recurrent gastric and duodenal ulceration diagnosed at endoscopy. He has suffered from bouts of abdominal pain and intermittent diarrhoea although his weight is stable. Some of his investigations are outlined below. Basal acid secretion 20 mEq/h (1-5) Fasting gastrin 200 pg/ml (<100) Secretin test: Basal gastrin 200pg/ml Post-secretin 500pg/ml Which of the following are responsible for the elevated gastrin levels?

1- Omeprazole therapy

2- Pernicious anaemia

**3- Gastrinoma**

4- H. pylori infection

5- Carcinoma of the stomach

# Chapter 28 Part II Neurology

Q5599. A 21-year-old woman presents to her GP complaining of headaches and occasional greying of vision, worse upon awakening. She also suffers from occasional dizziness and nausea but which are independent of the headache. She is otherwise fit and well and the only medication she takes is the oral contraceptive pill. On examination, she is noted to be overweight. General examination is normal but on ophthalmoscopy she is noted to have bilateral but asymmetrical optic disc swelling. A computed tomography (CT) scan of the head is performed, which rules out the presence of a space-occupying lesion, followed by a lumbar puncture, which shows a high opening pressure but which is otherwise normal in colour and clarity. The results from the laboratory investigations on the cerebrospinal fluid (CSF) are all within normal limits as are her routine blood tests. Which of the following treatments is not indicated in the medical management of this patient?

1- A strict regime of weight loss

2- Discontinuation of her use of the oral contraceptive pill

3- Oral acetazolamide

4- A short course of oral corticosteroids

**5- Aspirin**

Q5600. A 65-year-old woman was admitted to the medical wards with subacute progressive headache and first seizure. Computerised tomography (CT) scanning revealed a contrast enhancing supratentorial mass, with little surrounding oedema. She was commenced on oral steroid and transferred to the neurosurgical wards for biopsy. She returns to the medical wards with a diagnosis of grade III anaplastic astrocytoma not suitable for surgical resection. She and her family are keen for aggressive management and wish to discuss further treatment options. What is the most appropriate further therapy for this patient?

1- Whole-brain irradiation

2- Chemotherapy with PCV combination (procarbazine, methyl-1-(2-chloroethyl)-1- nitrosourea (CCNU), and vincristine)

3- Chemotherapy with temozolamide

**4- Stereotactic radiotherapy**

5- Intravenous dexamethasone

Q5601. 65-year-old woman with a past history of hypertension presents with transient visual obscurations of the right eye, followed by progressive loss of vision over the last 6 days. She has some vague discomfort of the right eye. On examination acuity is 6/36 in the affected eye, and 6/12 in the left eye. Pupillary reactions are normal. The fundoscopic appearance is shown below: What is the most likely diagnosis?

1- Papilloedema due to space-occupying lesion

2- Papilloedema due to benign intracranial hypertension

3- Branch retinal vein occlusion

**4- Central retinal vein occlusion (CRVO)**

5- Central retinal artery occlusion

Q5602. A 16-year-old girl is brought to the casualty department by her concerned mother. The patient has been complaining of severe diffuse back pain for 3 days which has not been relieved with regular analgesics. Over the last 48 hours, she has also had a rapid onset of weakness in both her legs to the extent that she is unable to lift her legs off the bed. She is not known to suffer from any other medical conditions but she has had a number of upper respiratory tract infections in the preceding weeks. She is on no medications. The only past medical history of note is that she had an episode of meningitis 4 years previously from which she recovered well and was discharged from hospital 2 months later. On examination, she is noted to have normal sensation but reduced power in both her legs. The reduction in power is symmetrical. Her tendon reflexes are absent but she has normal abdominal reflexes. Examination of her cranial nerves confirms that she has weakness of eye closure but fundoscopic appearance of the optic nerves appears normal. No other cranial nerve abnormalities were elicited. She is not dyspnoeic, has no fever and is not tachycardic. Routine investigations are performed in the casualty department, including a lumber puncture (LP). The results of the LP show slightly raised protein levels and normal cell counts. Her serum white cell count is 11 x 109 /L. Based on this patient’s history and the laboratory results, what would be the most appropriate investigation to perform at this stage to direct further management?

1- Gadolinium-enhanced MRI of the lumbosacral spine

2- Antibody screen

3- Pregnancy test

**4- Forced vital capacity measurement**

5- Nerve conduction studies

Q5603. A 17-year-old girl presents to the emergency department, brought by her parents as she has been acting strangely over the last 6 months. Her parents are particularly concerned about her going out without her parent’s permission and drinking alcohol. Her parents have noticed her walking has become progressively more unsteady and they often have difficulty understanding what she is saying. Her mother has depression and her father suffers from epilepsy. On examination she has slurred speech, coarse nystagmus to lateral gaze bilaterally, and an ataxic gait. The rest of her neurological examination is normal. What is the most likely diagnosis?

1- Alcohol-related cerebellar disease

2- Friedreich’s ataxia

**3- Phenytoin toxicity**

4- Hypothyroidism

5- Spinocerebellar ataxia

Q5604. A right-handed smoker is referred by his general practitioner for assessment of likely stroke. His wife describes a sudden onset of left-sided weakness and bumping into objects on the left. On examination you note left-sided motor weakness sensory inattention and a possible field defect. The patient’s agitation prevents you from characterising the field effect further. You admit him to the wards and organise brain imaging. While awaiting imaging he is assessed by the neuro-ophthalmology team and visual fields are formally plotted. What visual field defect do you expect?

1- Macular sparing homonymous hemianopia

2- Non-congruent homonymous hemianopia with no macular sparing

3- Bitemporal hemianopia

**4- Inferior quadrantanopia**

5- Superior quadrantanopia

Q5605. A 21-year-old man presented with a 7-month history of difficulty gripping things. He complained of finding it particularly difficult in the cold weather. He had lost contact with his father but he remembered him having similar problems. On examination he had a bilateral ptosis with weakness of the facial muscles. He also had difficulty opening his eyes quickly. Limb examination revealed distal weakness in both hands with difficulty opening and closing both hands quickly. What is the most likely diagnosis?

1- Myopathy, encephalopathy, lactic acidosis and stroke-like episodes (MELAS)

2- Becker’s muscular dystrophy

**3- Myotonic dystophy**

4- Polymyositis

5- Duchenne’s muscular dystrophy

Q5606. A 30-year old woman is seen in the emergency department with an excruciating throbbing left-sided headache which is mainly orbital and temporal in location. She complains of photophobia, and is curling up into a ball to try to stop it getting worse. Her left eye is red and tearful. She also has a runny nose. She has no past medical history of note, but has been experiencing recurrent episodes of this headache. Each episode lasts between 5 and 25 min, and may come on at any time. She has been experiencing at least 12 episodes each day. What treatment is most likely to be effective for this patient?

1- High-flow oxygen

2- Metoclopramide

**3- Indomethacin**

4- Amitriptyline

5- Codeine phosphate

Q5607. A 67-year-old man is brought to the accident and emergency department, having previously presented to the local police station. He is a lifelong smoker with troublesome gout, but otherwise has no past medical or family history. He describes a sudden onset loss of memory for recent events. He remained alert and was still able to drive to the police station. On question you note amnesia for recent events. He seems perplexed by what has happened to him, and continually asks 'Where am I?'. Neurological examination is unremarkable; there is no evidence of head injury. Blood testing including biochemistry, toxicology and inflammatory markers is normal. He is admitted to the ward and a computerised tomography (CT) brain performed, this is reported as normal. The next day his memory has improved substantially and he is allowed home. You see him at clinic the next week. He admits to mild memory problems for 2 days post discharge, but now feels his memory is back to normal. He asks you for prognostic information. What information do you give him regarding prognosis?

**1- The condition is unlikely to occur again**

2- His cognitive functioning will decline in a stepwise manner

3- He should not drive

4- He may suffer migraine

5- Genetic testing is available for the

Q5608. A 73-year-old man known to be suffering from small-cell lung cancer is bought to his GP by his daughter since she is concerned that her father has grown considerably weaker and she feels he may not be able to cope alone at home. On further questioning, the patient does report problems with walking up stairs or bending his legs to dress in the mornings and that has got progressively worse over the last few months. He also reports problems with a dry mouth and swallowing, as if the food gets stuck in his throat. On examination, the patient is mildly cachectic. Neurological examination confirms weakness of the muscles of the thighs and hips. Abnormal lower-limb reflexes were also observed. Given the likely clinical diagnosis, which of the following observations would help distinguish this syndrome from true myasthenia gravis?

**1- Involvement of the autonomic nervous system**

2- Hyperreflexia

3- Marked response to edrophonium

4- Facilitation shown on testing of several muscle groups

5- Involvement of the respiratory and

Q5609. A 24-year-old male jockey had recently bought a new pair of boots and a saddle for his horse. He had a long history of low back pain and his general practitioner (GP) had given him analgesics on and off. He had just returned from an exhausting horse race, in which his horse had won. As he got down from the saddle, he felt an excruciating pain in his right leg and he was not able to walk. On examination he had a right foot drop and the evertors and dorsiflexors of the right ankle were 2/5 and inversions of both ankles were 5/5. The straight leg-raising test was 80o on both sides. Tendon reflexes were normal. Pinprick was dulled over the right foot. What is the most likely diagnosis?

1- Right L5 radiculopathy

**2- Right common peroneal nerve palsy**

3- Right lumbar plexopathy

4- Right femoral nerve palsy

5- Right sural nerve palsy

Q5610. A 28-year-old man is admitted as an emergency through casualty. He has had a ‘thunderclap’ headache associated with nausea. He volunteers that this is the worst headache he has suffered in his life and rates it 11 out of 10 on a scale. He has no significant medical history and is on no regular medications. His pulse, blood pressure, and temperature are all normal. He is difficult to examine because he is restless and unco-operative due to the pain. However he does not appear to have significant neck stiffness. There are no haemorrhages seen on fundoscopy. After you have examined him, his girlfriend approaches you. She appears embarrassed but eventually tells you that the headache happened as they were having sexual intercourse and the pain began immediately after her boyfriend had an orgasm. A computed tomography (CT) of the brain is performed which does not demonstrate any evidence of haemorrhage The most likely diagnosis is:

1- trigeminal neuralgia

2- cluster headache

3- functional or ‘non-organic’ head pain

**4- subarachnoid haemorrhage**

5- benign coital headache

Q5611. A 23-year-old secretary in a law firm presents with a one-day history of left-sided facial weakness. She first noticed this when she was putting her make-up on in the morning. She has noticed increased sensitivity to noise in her left ear. She is very anxious because two years ago she had some problems with her vision and was told that multiple sclerosis was a possibility. At this time she declined further investigation when it was offered. She has type-1 diabetes mellitus but no other medical history and is taking only insulin and the combined oral contraceptive pill. On examination she has a lower motor neuron lesion of the left VII (facial) nerve with Bell’s phenomenon and some difficulty closing her left eye. There is no objective hearing loss, and no sensory signs. Examination of the auditory meatus and canal is unremarkable. The remainder of the neurological examination is normal, besides some subjective numbness over the dorsum of her right foot. The next management step in her care should be:

1- urgent computed tomography (CT) brain scan

2- magnetic resonance imaging (MRI) of brain and C-Spine

3- visual evoked potentials

**4- eye patch and artificial tears**

5- 80 mg oral prednisolone for five days

Q5612. A 22-year-old woman presents to the emergency department after a single tonic–clonic seizure lasting 5 min witnessed by her husband. A compute tomography (CT) brain scan at the time is normal as are her electrolytes, calcium and magnesium. As an outpatient she has a normal electroencephalogram (EEG) and a normal magnetic resonance imaging (MRI) brain scan. She decides not to start any antiepileptic medication. When is the next time that the patient could possibly drive?

1- Never

2- 6 months

3- 3 years

4- Now

**5- 1 year**

Q5613. A 45-year-old gentleman is referred to a neurologist with a 5-day history of flu-like symptoms, diplopia, and facial weakness. He complains of diplopia worse on left lateral gaze, but has also noticed a tilting of the print while reading a newspaper. He cannot fully close his eye on the left side and has noticed a similar problem with his right eye. He is a diet-controlled diabetic, but has no other medical history. He is on no regular medication, and has recently come back four weeks ago from a camping holiday in New England, USA with his wife. On examination he is alert and orientated. His temperature is 37.2°C, blood pressure 140/85 mmHg, pulse 85/min and blood glucose monitoring level 5.2. No rash is found. Fundoscopy is normal, and pupils are equal and reactive to light. There is oculoparesis affecting the left eye on left lateral gaze and on depression in adduction. There is also evidence of bilateral facial weakness and bilateral bells phenomena, and an area of anaesthesia over the left cheek. The peripheral nervous system examination is normal, however he complains of arthralgia in his left knee on testing knee flexion. Lumbar puncture reveals: Opening pressure 14 cmH2O (8–15) Cerebrospinal fluid (CSF) protein 1.1 g/l (0.15–0.45 g/l) CSF white cell count 90 cells/ml (80% lymphocytes) (0–5) CSF Glucose 3.6 mmol/l (3.3–4.4) CSF oligoclonal bands Present Plasma glucose 5.5 mmol/l (3.0–6.0) Serum oligoclonal bands Negative Magnetic resonance scan of the brain shows punctate periventricular white matter lesions. What is the likely diagnosis for this patient pending further investigations?

1- Multiple sclerosis

2- Guillain–Barré syndrome

3- Pontine lesion

**4- Neuroborreliosis (Lyme disease)**

5- Diabetes-related mononeuritis multiplex

Q5614. A 74-year old man is seen in clinic with a history of worsening memory problems and confusion. His wife had noted that his sleep was becoming more disturbed as he complains of vivid nightmares and visual hallucinations. Over the past few weeks he had found it increasingly difficult to dress and undress himself, and his mobility has deteriorated. On examination, he is bradykinesic with a resting tremor and rigidity affecting his arms and legs. His Mini-Mental-State Examination (MMSE) is 18/30. What is the diagnosis?

1- Parkinson’s disease

2- Pick’s disease

3- Vascular dementia

**4- Lewy body disease**

5- Alzheimer’s disease

Q5615. An otherwise fit-and-well 36-yearold woman was running along the rail station platform to catch her train when suddenly, according to eye witnesses, she stopped, grabbed the back of her head and collapsed, started shaking and became unconscious. On questioning of her close family, they report that she is a smoker and apart from the occasional headache, she had no other illnesses and was not on any other medication. An urgent computed tomography (CT) brain scan confirmed the diagnosis of subarachnoid haemorrhage. Which of the following treatment modalities is not normally instituted as a means of preventing secondary cerebral ischaemia in such patients?

1- Close monitoring and control of the blood pressure

2- Maintaining adequate hydration of the patient to prevent hypovolaemia

3- The use of a calcium antagonist, eg nimodipine

**4- Administration of aspirin to prevent platelet activation**

5- Early surgical intervention to clip the

Q5616. A 12-year-old boy with severe learning difficulty since birth is brought to the outpatient clinic by his carer. The carer relates the story. The boy's behaviour has been increasingly challenging over the last few months. He has taken to watching latenight television and falling asleep in a chair. In the morning it is difficult for the carers to wake him and he remains drowsy and irritable for some time. Frequently he is found to have been incontinent through the night. He is unable to partake in activities as he complains of headache and muscle pains. The carer has only recently started working with the child and he is unaware of past medical history. Physical examination is unremarkable. Initial blood testing including serum glucose, thyroid function and Creactive protein is normal. What investigation would best aid treatment decisions?

1- Renal tract ultrasound

2- Computerised tomography (CT) brain

**3- Video electroencephalogram**

4- Toxicology screen

5- Urine microscopy and culture

Q5617. A 41-year-old Asian man is seen in the emergency department with a history of generalised headache, polydipsia and polyuria. Prior to admission he developed sudden onset weakness affecting his left arm and leg and had had three generalised seizures en route in the ambulance. His wife who accompanied him said he had become increasingly confused in the last few days and was sleeping more often. He had a history of hypertension treated with bendrofluazide and had recently seen his general practitioner, complaining of bone pain affecting his back and knees. He smoked 30 cigarettes per day. On examination he appeared confused and dehydrated. His blood pressure was 110/70 mmHg; pulse was 89/min and temperature 37.8°C. There was evidence of a right LMN (lower motor neurone) facial nerve palsy and both eyes were red and inflamed. Fundoscopy and the remaining cranial nerves appeared normal. On examination of the peripheral nervous system, there was a leftsided hemiparesis with left extensor plantar and brisk reflexes. The reflexes on the right however revealed a mute plantar with depressed reflexes at the ankle and knee. This patient had a computerised tomography scan brain, which revealed a right anterior circulation infarct. Chest X-ray showed hilar lymphadenopathy with fibrotic changes throughout both lung fields. Blood test results revealed: Haemoglobin 13.4 g/l White cell count (WCC) 11.0 × 109 /l Platelets 395 × 109 /l Na+ 157 mmol/l K+ 3.5 mmol/l Urea 25.5 mmol/l Creatinine 239 µmol/l Calcium 3.9 mmol/l Glucose 5.8 mmol/l Plasma osmolality 450 mosmol/kg (278–305) Urine osmolality 250 mosmol/kg (350–1000) cANCA (cytoplasmic ANCA (Anti-neutrophil cytoplasmic antibodies) negative Lumbar puncture revealed: Opening pressure 18 cmH2O (5–18) Cerebrospinal fluid (CSF) protein 2.3 g/l (0.15–0.45) CSF WCC 120 cells/ml (90% lymphocytes) (? 5) CSF red cell count 5 cells/ml (? 5) CSF glucose 3.4 mmol/l (3.3–4.4) CSF culture Negative CSF cytology Negative Oligoclonal bands Positive Serum OCB (oligoclonal bands)Negative CSF angiotensin-converting enzymeNormal In view of the above findings, what is the likely diagnosis in this patient?

1- Tuberculous meningitis

2- Wegener’s granulomatosis

3- Small cell lung carcinoma and leptomeningeal involvement

4- Cerebral lymphoma

**5- Neurosarcoidosis**

Q5618. A 45-year-old woman presented with a 6-month history of difficulty swallowing. She had been well until 18 months ago when she had noticed she could not hear as well in her left ear. Shortly after this she noticed she could hear her heart beating loudly in her left ear. These problems had continued over the last year and a half but in the last 6 months she had also noticed problems swallowing, particularly liquids. Her husband had commented that over the same time period her voice was much hoarser than it had been previously. On examination she had a hoarse voice, wasting of the sternocleidomastoid and trapezius on the left and a decreased gag reflex. Rinne’s test showed AC > BC on the right, BC > AC on left (AC = air conduction, BC = bone conduction); Weber’s test lateralised to the left ear. The rest of the neurological examination was normal. What is the most likely diagnosis?

1- Multiple sclerosis

2- Carcinomatous meningitis

3- Acoustic neuroma

4- Motor neurone disease

**5- Glomus jugulare tumour**

Q5619. A 21-year-old man has recently been diagnosed with Becker's muscular dystrophy. Appropriate genetic counselling is arranged for the patient, but in informing him about his disease condition, which of the following statements is true for his condition?

1- The condition affects males and females equally

**2- Cardiomyopathy is less frequent in patients with Becker’s muscular dystrophy compared with Duchenne’s muscular dystrophy**

3- The lifespan of a patient with Becker’s muscular dystrophy is similar to that of a patient with Duchenne’s muscular dystrophy

4- Both Becker’s and Duchenne’s muscular dystrophy have a similar age of onset

5- Calf pseudohypertrophy and contractures

Q5620. A 45-year-old woman complained of feeling shaky all the time. She thought it had started just after losing her job when she noticed her hands became shaky whenever she was doing something. She had become particularly anxious since losing her job as she had not been able to find work since. She also mentioned that her mother had had similar problems with shakiness for many years. On examination she had a tremor in both arms that was present when holding the arms outstretched but was not there at rest. Tone was normal in all four limbs and gait was normal. There were no other neurological abnormalities on examination. What is the best initial management for this patient?

1- Levodopa

**2- Propranolol**

3- Paroxetine

4- Ropinirole

5- Benzhexol

Q5621. An otherwise fit-and-well 36-yearold woman was running along the rail station platform to catch her train when suddenly, according to eye witnesses, she stopped, grabbed the back of her head and collapsed, started shaking and became unconscious. On questioning of her close family, they report that she is a smoker and apart from the occasional headache, she had no other illnesses and was not on any other medication. An urgent computed tomography (CT) brain scan confirmed the diagnosis of subarachnoid haemorrhage. Which of the following treatment modalities is not normally instituted as a means of preventing secondary cerebral ischaemia in such patients?

1- Close monitoring and control of the blood pressure

2- Maintaining adequate hydration of the patient to prevent hypovolaemia

3- The use of a calcium antagonist, eg nimodipine

**4- Administration of aspirin to prevent platelet activation**

5- Early surgical intervention to clip the

Q5622. A 21-year-old student at home during the holidays is brought to the Emergency Department by her parents. She was initially complaining of headache and photophobia but over the last couple of hours her parents have noticed that she has become increasingly drowsy. On examination she has a fever of 38 C but no evidence of a rash. She has enlarged cervical lymph nodes but auscultation of the chest was clear. Following routine blood investigations, a computed tomography (CT) scan of her head is performed, which excluded a mass lesion and raised intracranial pressure. A lumbar puncture was subsequently performed and the cerebrospinal fluid (CSF) results are shown below: appearanceclear cellsmononuclear predominantly cell count 452/ml ( 5/ml) Glucose 3.9 mmol/l (3.3-4.4 mmol/l) plasma glucose 5.1 mmol/l protein 0.53 g/l (0.15-0.45 g/l) What diagnosis would best fit this clinical picture?

1- Herpes simplex encephalitis

**2- Coxsackie meningitis**

3- Meningococcal meningitis

4- Pneumococcal meningitis

5- Tuberculous meningitis

Q5623. A 54-year-old man is referred by his GP to the local Neurology Department for intractable headaches for the last 3 months, more recently associated with a constant feeling of nausea. The patient's family have also been concerned since they have noticed that the patient has become increasingly forgetful recently. The patient has otherwise been well apart from mild hypertension controlled by dietary modifications. The only other notable finding in his history is that he worked at a petrochemical plant for 24 years. Routine laboratory investigations were normal and negative for an underlying infective or metabolic process. Imaging studies performed on the patient showed an irregularly shaped hypodense mass with a surrounding ring of cerebral edema located in the left temporal lobe. These findings were consistent with a diagnosis of glioma. Which of the following clinical signs would have localised this lesion to the temporal lobe?

1- A superior ipsilateral quadrantanopia

**2- A superior contralateral quadrantanopia**

3- Asterognosis

4- Dysdiadochokinesis

5- Ipsilateral deafness

Q5624. A 45-year-old man is referred with poor appetite, difficulty sleeping and low mood. His wife divorced him last year on grounds of unreasonable behaviour. On further questioning he also admits to hearing voices telling him that he is useless. What is the most likely diagnosis?

**1- depression**

2- personality disorder

3- manic depression

4- schizophrenia

5- phobic anxiety

Q5625. An 18-year-old man is assessed in the resuscitation suite. He presented with sudden onset headache and collapse. Emergency computerised tomography (CT) brain confirms subarachnoid blood. On general examination you note meningism. He does not respond to his name. On applying left supraorbital pressure, he lets out a cry, opens his eyes and assumes a hemiplegic posture. Pupils are midline and reactive. Plantars bilaterally upgoing. On completing your physical examination you notice that he is repeating bizarre phrases and has opened his eyes. He again assumes a hemiplegic posture with supra-orbital pressure. You discuss with the on call neurosurgical team, who ask about his present Glasgow Coma Score. What is this patient's Glasgow Coma Scale (GCS)?

1- 11

**2- 10**

3- 9

4- 8

5- GCS measurement is not appropriate

Q5626. A 29-year-old man presents to the Accident and Emergency Department complaining of progressive weakness of both legs that has been getting progressively worse over the last 2 weeks. The weakness appears to be symmetrical in both legs. He is also complaining of pain in his lower back and buttocks. He has noticed that the left side of his face has become weak and this is evident in his speech, as the left mouth does not move properly. On further questioning, he reports that he has recently recovered from a flu-like illness. Recent infection with which one of the following organisms could have caused a similar clinical picture?

1- Hepatitis A

**2- Hepatitis B**

3- Salmonella

4- Shigella

5- Yersinia

Q5627. An 88-year-old woman presents to the medical outpatient department for assessment. She describes episodic loss of consciousness, which is increasing in frequency. Attacks are stereotyped and consist of a feeling of lightheadedness followed by collapse to the ground. Attacks are always on standing and as such she has had to attend the accident and emergency department on several occasions with lacerations and bruising from the fall. She believes loss of consciousness is for seconds only and does not occur with all attacks. She has been incontinent of urine on at least one occasion, but otherwise feels well after the attacks. There are no witnesses at the consultation to provide a collateral history. She has no past medical history and is no regular medication. Her general practitioner has already organised some tests: Ambulatory electrocardiogram (ECG) monitorsinus rhythm throughout Electroencephalogram (EEG) runs of 8–12 cycles/s potentials, most marked over the occipital cortex Given the EEG findings she has been commenced on oral phenytoin. This has had no effect on the attack frequency or severity. What further investigation would you request?

1- Cerebrospinal fluid examination

2- Computerised tomography (CT) brain

3- Serum phenytoin levels

**4- Tilt-table testing**

5- Serum glucose after a 48-h fast

Q5628. A 19-year-old university student presented with progressive unsteadiness of walking over the previous year. She had been otherwise well apart from recent difficulty hearing her lecturer in classes. She took no prescription medication but had occasionally taken cocaine during her first year of college. She drank up to 30 units of alcohol per week and smoked 10 cigarettes a day. Her parents were both well but she remembers her father’s sister having problems with her walking before she died. Examination revealed normal tone and power throughout all four limbs. Reflexes were normal in the upper limbs but decreased at the knees and absent at the ankles. Coordination was normal in all four limbs but her gait was ataxic. Sensation in the upper limbs was normal but there was decreased vibration sense and proprioception to the ankles bilaterally. What is the most likely diagnosis?

1- Ataxia telangiectasia

**2- Friedreich’s ataxia**

3- Multiple sclerosis

4- Dentatorubropallidoluysian atrophy

5- Vitamin B12 deficiency

Q5629. As the medical registrar, you are called to see an 83-year-old female patient on the surgical wards who is recovering from a total hip replacement operation and who has gradually become increasingly confused over the last 24 h. Her past medical history is significant for type II diabetes and hypertension. You are not able to hold a conversation with her, since she appears to be disorientated in time and place with perseveration of speech. She keeps complaining that she can see ants crawling over her body. Examination of her chest and cardiovascular systems appear normal. Routine blood tests are performed and an electrocardiogram (ECG) is requested. She is apyrexial. Which of the following is least likely to be the cause of this patient's symptoms?

1- Urinary tract infection

2- Opiate analgesia

3- Hypoglycaemia

**4- Transient ischaemic attack**

5- Myocardial infarction

Q5630. A 28-year-old man is seen in casualty in the early hours of the morning. He has presented with a week’s history of progressive weakness of his arms and legs preceded by pins and needles in his feet and hands. He describes the weakness as ‘creeping up me’. In the last day he has also developed weakness in his face and describes difficulty making expressions. He also complains of slurring of his speech and difficulty swallowing food. He has recently returned from a six-month trip to India and the Far East. He suffered several bouts of diarrhoea, the last of which was around four weeks ago. At this point he had noticed blood in his stool. He has no significant previous medical history and is on no regular medications On examination he has bilateral lower motor neurone VII nerve weakness. He has dysarthria. There are no other significant cranial nerve signs. However, peripherally he has reduced power more marked distally than proximally with reduced ankle jerks and knee jerks bilaterally. Plantar responses are mute. Sensory examination reveals only subjective though consistent reduced soft touch, and pinprick sensation. What are the most sensible initial management steps?

1- admission to hospital awaiting further investigations, preferably to a neurology ward bed if one is available

2- admission to hospital following intravenous immunoglobulin administration

3- admission to an acute medical bed with two-hourly spirometry awaiting further investigations

**4- admission to a bed with cardiac monitoring, and two-hourly spirometry awaiting further investigations**

5- discharge from hospital with urgent

Q5631. A 24-year-old man is admitted via the Emergency Department. He was found in the street acting in a peculiar way. He has one previous admission for heroin overdose and has been living in a hostel. On admission he appeared acutely confused and drowsy. computed tomography (CT) scan reveals evidence of obstructive hydrocephalus cerebrospinal fluid (CSF) reveals a lymphocytic picture with 700 cells per mm cubed CSF glucose low CSF protein 1.5g/l What diagnosis fits best with this clinical picture?

1- Neisseria meningitis

2- Viral meningitis

3- Cryptococcal meningitis

4- Pneumococcal meningitis

**5- Tuberculous meningitis**

Q5632. During the examination of an elderly confused and non-coherent man who was brought to casualty by a concerned neighbour, you notice that he has bilateral small pupils, which do not appear to react to light. Under the circumstances, it is difficult to judge their response to accommodation. Which of the following conditions may not account for the pupillary appearance in this patient?

1- Opiate analgesia

**2- Acute alcohol intoxication**

3- Pilocarpine eye drops for glaucoma

4- Diabetes mellitus

5- Old age

Q5633. A 19-year-old secretary presents with a 1-year history of progressive slowness of walking and tremor in his arms. He was sacked from his job after his line manager complained of an increasing number of mistakes at work, a general lack of motivation, and irritable nature. In his family history, his mother is alive and well, his father committed suicide in his early forties, and he has one younger sister who is alive and well. On examination, he is noted to be in an unkempt state with decreased facial expression. His Mini-Mental State Examination score was 22 out of 30. Tone was increased in the limbs with decreased speed and amplitude of repetitive fine finger movements. An action tremor was also noted. Which one of the following tests is most likely to establish the diagnosis in this case?

1- A levodopa challenge test

2- Molecular genetic analysis in the gene coding for superoxide dismutase 1

**3- Molecular genetic analysis for CAG repeats chromosome 4p16.3**

4- Molecular genetic analysis to identify a mutation in the gene coding for dystrophin

5- Free serum copper, total serum copper,

Q5634. A 42-year-old woman presents 12 hours after a sudden onset occipital headache, which began suddenly during sexual intercourse. Computed tomography (CT) scan is unremarkable; lumbar puncture reveals evidence of xanthochromia. Her blood pressure on admission is 145/95. What is the most appropriate management for this patient?

1- Reassurance and discharge

2- Commence aspirin therapy

3- Commence angiotensin-converting enzyme (ACE) inhibitor therapy and discharge

**4- Consider referral for magnetic resonance angiography**

5- Commence triptane therapy

Q5635. A 25-year-old African-Caribbean woman presented with progressively deteriorating mobility over the last five years. She had been in the UK for the last 3 years, having previously lived in Jamaica. She originally complained of back pain and then started to drag her feet while she was walking which resulted in a number of falls. In the last 2 years she had a regular urge to pass urine and had been incontinent twice. She was also constipated over the same period. She said that her partner had also been suffering from similar problems. On examination, her cranial nerves and upper limbs were normal. Lower limb examination revealed increased tone bilaterally, pyramidal distribution weakness of both limbs and increased reflexes throughout with upgoing plantars. Coordination was normal but there was a sensory level at T10. What is the most likely diagnosis?

1- Neurosyphilis

**2- Tropical spastic paraparesis**

3- Multiple sclerosis

4- Hereditary spastic paraparesis

5- Systemic lupus erythematosus

Q5636. A 40-year-old lady who has had insulin-dependent diabetes mellitus (IDDM) for 15 years and who underwent resection of carcinoma of the left breast five years ago was brought to the emergency department with history of sudden painful spasms of the lower limbs. She also noticed progressive stiffness of her limbs for the past four weeks. On examination she was alert. Her cranial nerves were normal. Gait was unusual with lumbar lordosis and taut paraspinal and lower limb muscles. There was no weakness of the limbs; tendon reflexes could not be assessed well. Planters were flexors. What is the most likely diagnosis?

1- Tetanus

2- Dystonia

**3- Stiff person syndrome**

4- Neuroleptic malignant syndrome

5- Machado–Joseph disease

Q5637. A 53-year-old man is referred by his general practitioner with a tremor affecting his left wrist and hand. This has been present for the past 8 months and is present intermittently but seems to worsen with stress or anxiety. He also reports feeling generally fatigued and low in mood. He has noticed a subtle decrease in dexterity and lack of co-ordination with activities such as playing golf. On examination, he is noted to have a simple oscillating tremor of the left hand, which is present at rest. The same tremor is noticed with the arms outstretched. Assessment of tone reveals cogwheeling in the distal left upper limb. Examination of his gait demonstrates small steps with reduced arm swing of the left upper limb with postural instability on tests of retropulsion. Which of the following therapeutic strategies is most appropriate in this case?

1- Entacapone 200 mg three times daily

2- Amantadine 100 mg twice daily

3- Propranolol 80 mg twice daily

4- Co-Careldopa 100 mg three times daily

**5- Cabergoline 1 mg daily**

Q5638. A 38-year-old woman presents with weakness and paraesthesia of her right leg. Thirteen months previously she had been investigated for sudden-onset loss of vision in left eye with associated left-sided pyramidal weakness. Visual evoked potentials confirmed delay on the left side; spinal fluid electrophoresis revealed oligoclonal bands; magnetic resonance imaging (MRI) of the brain and cervical spinal cord showed periventricular areas of high attenuation. She was treated with steroids, made a good recovery and has been symptom free until now. She asks about prognosis; which feature in her history is most associated with a poorer outcome?

**1- Pyramidal symptoms as part of initial presentation**

2- Optic neuritis as part of the initial presentation

3- Female sex

4- Young age at onset

5- Minimal change on imaging

Q5639. A 38-year-old woman presents with weakness and paraesthesia of her right leg. Thirteen months previously she had been investigated for sudden-onset loss of vision in left eye with associated left-sided pyramidal weakness. Visual evoked potentials confirmed delay on the left side; spinal fluid electrophoresis revealed oligoclonal bands; magnetic resonance imaging (MRI) of the brain and cervical spinal cord showed periventricular areas of high attenuation. She was treated with steroids, made a good recovery and has been symptom free until now. She asks about prognosis; which feature in her history is most associated with a poorer outcome?

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2- Optic neuritis as part of the initial presentation

3- Female sex

4- Young age at onset

5- Minimal change on imaging

Q5640. A 22-year-old man with no past medical history presents to the neurology clinic complaining of muscle pain. He describes severe bilateral cramping calf pain on minimal exercise. This has been present since his late teens and as such he has avoided exercise. Recently he has attended the local gym to try and lose weight, but attempts at exercise have been hampered by the pain. He does note that if he perseveres with exercise the pain settles. He has noticed passing dark urine in the evenings following a prolonged bout of exercise. What investigation will be most useful in this patient?

1- Lumbar spine magnetic resonance imaging (MRI)

2- Lower limb angiogram

3- Creatine kinase

**4- Muscle biopsy**

5- Provocative exercise test

Q5641. A 55-year-old woman presented with a 3-year history of recurrent falls. The majority of the falls had been backwards and she had injured her head multiple times. Her walking had become progressively slower over the last 3 years and she had particular difficulty with turning. She had also recently developed problems with vision which she described as blurred. She had been depressed for many years and had been taking amitriptyline for over 5 years. The only other medication she had been taking was enalapril for hypertension. On examination of her cranial nerves she had difficulty with downgaze but a full range of eye movements with the ‘doll’s head’ manoeuvre. She had axial rigidity with symmetrically increased tone in both upper limbs. Power, reflexes and co-ordination were normal as was sensation. She had decreased arm swing on walking with a stooped festinating gait. What is the most likely diagnosis?

1- Wilson’s disease

2- Drug-induced parkinsonism

3- Dementia with Lewy Bodies

4- Multiple system atrophy

**5- Progressive supranuclear palsy**

Q5642. A 65-year-old man complained of a limp in his right leg that had developed over the last few months, associated with pain down the front of his leg. On examination of his lower limbs he had normal tone, weakness of knee extension, foot inversion and foot dorsiflexion on the right but full power in other groups, a decreased knee reflex on the right but all other reflexes were present with downgoing plantars. Sensation to pin prick and light touch was decreased over the medial part of the right calf. Which nerve root on the right side is affected?

1- L2

2- L3

**3- L4**

4- L5

5- S1

Q5643. A 32-year-old woman presents to the emergency department with a sudden onset left-sided hemiparesis and left facial weakness. In the emergency department she was noted to be confused and drowsy. Prior to the event she had been out shopping with her sister when she had started to develop one of her migraine attacks and vomiting. Her past medical history included troublesome migraine with aura for which she was taking pizotifen and sumatriptan, and impaired glucose tolerance diagnosed several years ago. She had recently visited her general practitioner (GP), complaining of progressive weakness in her legs and was being investigated for possible epilepsy. On examination she had short stature and was postictal and drowsy. Her temperature was 37.3°C, blood pressure 135/75 mmHg, pulse 88/min and body mass index 11.2. There was evidence of a left UMN (upper motor neurone) seventh cranial nerve palsy. Fundoscopy was normal. On examination of the peripheral nervous system, there was evidence of proximal muscle wasting of the thighs and arms, and associated left-sided pyramidal tract signs. All left sided reflexes were pathologically brisk and the left plantar response was extensor. There was no myoclonus. She was investigated with blood tests and a magnetic resonance imaging (MRI)/MRV (MR venogram) brain scan. Blood tests revealed: Haemoglobin 12.5g/dl White cell count 11 × 109 /l Platelets 245 × 109 /l Glucose 11.4 mmol/l Na+ 135 mmol/l K+ 3.3 mmol/l Urea 6.4 mmol/l Creatinine 128 µmol/l Lactate 3.0 mmol/l (0.6–1.8) MRI brain scan showed several areas of cortical high signal intensity abnormality on T2-weighted imaging particularly in the occipital lobes. No intracranial haemorrhage or space-occupying lesion detected. MRV was normal In light of the current findings, what is the most likely diagnosis for this patient?

1- Hemiplegic migraine

2- Cerebral venous thrombosis

**3- MELAS (mitochondrial encephalomyopathy, lactic acidosis and stroke-like episodes)**

4- Right anterior circulation infarct

5- CADASIL (cerebral autosomal dominant

Q5644. A 63-year-old plumber was referred to neurology clinic for investigation of difficulty in walking. His wife reported that he has been more irritable over the past 6 months and become increasingly forgetful, often missing appointments, losing personal items, and having difficulties remembering contents of recent conversations. More recently, he has accused his neighbours of continuously watching his house and is now reluctant to go outdoors alone. His general practitioner recently prescribed flupentixol tablets to help him relax. On examination, his blood pressure was 148/78 lying, 112/72 standing. Bedside cognitive tests demonstrated a Mini-Mental State Examination score of 18 out of 30 with deficits in orientation, concentration and recall. Facial expression was reduced. Examination of eye movements demonstrated mild limitation of upgaze. Tone was increased in the limbs with symmetrical reflexes and bilateral down-going plantars. There was impairment of rapid alternating finger movements and evidence of micrographia. Gait demonstrated shuffling steps with reduced arm-swing. Which one of the following therapeutic strategies is most appropriate for this patient?

1- Oral levodopa challenge

2- Trial of oral ropinirole

3- Trial of oral fludrocortisone

**4- Stop flupenthixol**

5- Trial of oral olanzapine

Q5645. A 50-year-old publican is admitted with poor short-term memory. He admits to drinking up to eight pints per day. He tells a quite fanciful story about his activities that day. He has mild anaemia with a mean corpuscular volume (MCV) of 108. Which of the following is the treatment of choice in this case?

**1- Thiamine**

2- Aspirin

3- Vitamin B12

4- Glucose iv

5- Iron supplementation

Q5646. A softly speaking 67-year-old widower visits his GP complaining of a resting tremor in one hand that has become progressively more noticeable over the last few months. He has also found getting dressed in the mornings to be particularly difficult due to a lack of co-ordination. On further questioning, he reports that he 'feels tired all the time' and admits to feeling depressed and lonely. On examination, the patient has a relatively expressionless face with a paucity of blinking. A fine resting tremor of the left hand is noted. Examination of the patient's wrists shows rigidity of movement on flexion and extension. Mental examination is normal. Observing the patient walking shows the left arm not to swing fully and the left foot mildly scraping the floor. Given this clinical presentation, which one of the following conditions could cause a similar clinical picture?

1- Bazin’s disease

2- Bornholm disease

3- Menetrier’s disease

**4- Wilson’s disease**

5- Whipple’s disease

Q5647. A 58-year-old man is referred to a neurologist with a 3-month history of clumsiness and weakness affecting the right arm. He has noticed significantly reduced dexterity in the hand and fingers and weakness of grip. He has not noticed any reduced sensation in the right hand/forearm. He has a past medical history of asthma, osteoarthritis affecting the hands and knees and hypertension. He is a smoker of 20 cigarettes per day and drinks 18 units of alcohol per week. On exmaination he has a slim build and there is evidence of muscle wasting affecting the right dorsal interossei, and right thenar muscles. Fasciculations are detected. Tone is slightly reduced in the right arm and power is significantly reduced on testing right finger flexion/extension, thumb abduction and opposition and wrist flexion/extension. Proximal muscle groups have preserved power. Reflexes are asymmetrically depressed on the right, however sensation appears intact. Lower limb examination appear normal. Chest and abdominal examination are both normal The patient is investigated with magnetic resonance of the cervical spine, which shows evidence of degenerative joint disease affecting C3–6 vertebrae. Lumbar puncture reveals: Cerebrospinal fluid (CSF) protein 0.4 g/l (0.15–0.45) CSF white cell count 4 cells/ml (?5) CSF red cell count 1 cell/ml (?5) CSF Glucose 3.8 mmol/l (3.3–4.4) Electromyogram shows fasciculations affecting small muscles of the right hand/forearm. No fasciculations are detected proximally or in the unaffected left arm. Nerve conduction studies show patchy block of motor nerve conduction innervating fasciculating muscles. Sensory conduction is normal. Given the above findings, what is the likely diagnosis in this patient?

1- Chronic inflammatory demyelinating neuropathy (CIDP)

2- Motor neurone disease

3- Cervical myelopathy secondary to degenerative joint disease

**4- Multifocal motor neuropathy (MMN)**

5- Right ulnar nerve palsy

Q5648. A 22-year old man, unemployed since he dropped out of school early, presented to the emergency department with an acute right-sided hemiparesis. His mother said that he had been admitted to a general hospital 3 years ago for chest pain. She however did not have the details of this admission. He smokes cigarettes whenever he can afford it. On examination he had a malar flush and livido reticularis on his shins. He was 1.8 m in height and had kyphoscoliosis. Mini-mental scale score was 24/30. A mild right-sided facial paresis and pyramidal weakness of the right-sided limbs was noted. Speech and the sensory system were normal. What is the most likely underlying diagnosis?

1- Marfan’s syndrome with dissection of left internal carotid artery

2- Fibromuscular dysplasia with stroke

3- Moya Moya disease

**4- Homocystinuria**

5- Chronic rheumatic heart disease with

Q5649. A 52-year-old builder presents to his general practitioner having developed weakness of his right hand. He complains of reduced grip, which he has noticed significantly while at work. His symptoms have come on over a period of months following an accident when he fell from some scaffolding. More recently he has noticed some slight weakness and pain of his right shoulder, particularly when trying to lift building materials above his head. He has a history of asthma and is a smoker of 40 cigarettes per day. He complains that his breathing has been steadily worsened over the last few weeks particularly when lying in bed. On examination he is of slim build. Chest examination is normal and there is a full range of movement at the neck. There is evidence of dorsal interossei wasting over the right hand. In addition there is evidence of wasting affecting the thenar eminence. Tone is reduced at the right wrist and elbow, and triceps jerk is absent. The bicep and supinator jerks are present with re-enforcement. On examination of power, there is significantly reduced right wrist extension, finger flexion and extension and opposition of the thumb. There is some slight weakness affecting right shoulder abduction, but rhomboid testing is normal. There is some reduced sensation affecting the right middle, ring and little finger and the medial aspect of the forearm. The rest of the neurological examination is normal Chest X-ray shows hyperinflated lung fields and slightly raised right diaphragm. Electromyogram/nerve conduction studies show: Fibrillation potentials and positive waves affecting small muscles of right hand and wrist extensors Sensory nerve action potentials absent No abnormalities in the left arm In view of the above history and findings, what is the likely location of the lesion in this patient?

1- Ulnar nerve palsy

2- C8, T1 root lesion

**3- Brachial plexopathy**

4- Anterior horn cell disease

5- High cervical myelopathy

Q5650. A 26-year-old man recently arrived in the UK from New York attends the accident and emergency department. He has a past history of insulin-dependant diabetes mellitus. He describes a few days of fever, headache and myalgia. Admission was prompted by worsening headache and back pain. While waiting in the medical receiving unit he becomes progressively drowsier. Examination revealed flaccid paralysis and depressed tendon reflexes. He was reviewed by the intensive care team and arrangements were made for ventilation. A computerised tomography (CT) brain is performed that is normal. Cerebrospinal fluid examination: Protein 0.9 g/l (<0.45 g/l) Glucose4 mmol/l White cell count (WCC) 28/ mm3 (mostly lymphocytes) Blood testing: Haemoglobin (Hb) 15 g/dl (13–18) Platelets 600 x 109 /L (150–400 x 109 ) WCC 12 x 109 /L (4–11 x 109 ) Sodium 136 mmol/l (137–144) Potassium 4.7 mmol/l (3.5–4.9) Urea 7 mmol/l (2.5–7.5) Creatinine 120 μmol/l (60–110) Glucose 6 mmol/l What is the most likely infective process?

1- Lyme disease

**2- West Nile disease**

3- Human immunodeficiency virus

4- Tuberculosis

5- Lassa fever

Q5651. A 32-year-old painter presented with a two-day history of sudden-onset occipital headache associated with nausea and vomiting. The next day his right hand became weak for a few hours. On the same day he had an episode of sensory disturbance in his right upper limb consisting of tingling in his hand that spread up the arm to his shoulder over the next minute and lasted two minutes in total. On the day of admission he had a similar episode of sensory disturbance lasting 30 s in total. On examination he had bilateral papilloedema, no neck stiffness and an otherwise normal neurological examination. What is the most likely diagnosis?

1- Migraine

2- Viral meningitis

**3- Venous sinus thrombosis**

4- Embolic transient ischaemic attack (TIA)

5- Carotid dissection

Q5652. A 19-year-old man is referred to the Neurology Out-patients' Department by his GP who suspects that he may have neurofibromatosis. The family history of the man is unavailable since he was adopted. He is of short stature and has mild learning difficulties. He also suffers from mild hypertension. Which of the following combinations of criteria would establish a diagnosis of neurofibromatosis type 1 (NF1) in this patient?

1- Six or more café-au-lait macules >5 mm and axillary freckling

2- Six or more café-au-lait macules >15 mm and the presence of a juvenile cataract

3- Two or more neurofibromas of any type and a Lisch nodule

**4- Sphenoid dysplasia and two or more Lisch nodules**

5- Renal artery stenosis and freckling in the

Q5653. A 40-year-old woman is admitted with a history of unsteadiness and slurring of speech. This has worsened over a period of three months. In addition, she complains of a tremor affecting her right hand and diplopia on right lateral gaze. She has a past history of breast carcinoma treated with radiotherapy and rheumatoid arthritis. She is a smoker of 30 cigarettes a day and takes regular diclofenac for her arthritis. On examination she is dysarthric and feelst nauseated. Fundoscopy is normal, however there is marked horizontal nystagmus and evidence of a right VIth nerve palsy. There also appears to be some mild facial weakness on the right side. On testing hearing with the Weber's test, a louder tone is heard in the left ear. On conducting the Rinne test, both ears are normal. On examination of the upper limb, there is a right intention tremor and dysdiadochokinesis. Tone, power and reflexes are normal. On examination of the lower limb, tone, power and reflexes are normal, however she appears to walk with a broadbased gait and is leaning to the right. Breast examination, chest and abdomen are entirely normal. Blood tests reveal: Haemoglobin 11.3 g/dl White cell count (WCC) 9.8 × 109 /l Platelets 243 × 109/l Na+ 134 mmol/l K+ 3.6 mmol/l Urea 6.7 mmol/l Creatinine 108 µmol/l Calcium 2.4 mmol/l Lumbar puncture: Opening pressure 13 cm H2O (5-18) Protein 0.67 g/l (0.15-0.45) WCC 3 cells/ml (<5) Red cell count (RCC) 2 cells/ml (<5) Glucose 3.2 mmol/l (3.3-4.4) Blood glucose 5.8 mmol/l (3.0-6.0) Oligoclonal bands Present Serum oligoclonal bands Present Magnetic resonance scan shows a calcified lesion broadly attached to the petrous part of the temporal bone In view of the above history and findings, what is the likely cause of this patient's symptoms?

1- Primary progressive multiple sclerosis

2- Recurrent breast carcinoma with cerebral metastases

**3- Meningioma of the cerebellar pontine angle**

4- Cerebellar paraneoplastic syndrome

5- Brainstem infarction

Q5654. A 67-year-old carpenter was reviewed in an out-patient clinic complaining of weakness in his arms and 'twitching' of his thighs. His symptoms started 8 months ago when he noticed difficulties shelving heavy objects in his garage. Three weeks ago, he noticed weakness affecting his left hand. His children have noticed that his speech has become slurred and that he is uncharacteristically tearful. He has lost 5 kg in weight in the past year. He has smoked ten cigarettes a day for the past 25 years and drinks 5 pints of cider a week. On examination, cranial-nerve examination was unremarkable. Fasciculation was noted over both scapular regions with wasting of the small muscles of the right hand. Power was reduced in all muscle groups of the right upper limb. Examination of the lower limbs demonstrated fasciculation over the quadriceps bilaterally with difficulty rising from a low chair. Reflexes were symmetrically brisk with bilateral extensor plantars. Examination of co-ordination and sensation was grossly normal. Which one of the following investigations is most likely to establish the diagnosis?

1- Cerebrospinal fluid cytology

2- Anti-Hu antibody

3- Magnetic resonance imaging cervical spine

**4- Nerve-conduction studies and electromyography**

5- Quadriceps muscle biopsy

Q5655. A 26-year-old laboratory technician underwent vaccination for hepatitis B. Two weeks later she developed pain over her left shoulder and this gradually subsided over the next week. She however noticed increasing weakness of the left upper limb for which she came to consult at the neurology clinic. On examination the left supra- and infraspinati, rhomboids, deltoid, biceps and supinator were all 3/5 in power. Small muscles of the hand were 5/5. The left supinator and biceps jerks were hypoactive. There was no other deficit. What is the most likely anatomical level of the lesion?

1- Musculocutaneous nerve palsy

2- C5 radiculopathy

**3- Upper brachial plexitis**

4- Axillary nerve palsy

5- Erb’s Duchenne palsy

Q5656. A 34-year-old man complained of a 6-month history of feeling depressed and a feeling of people following him wherever he goes. He had previously been well and been taking no prescription medication, although he admits to smoking cannabis intermittently since being a teenager and more frequently in the last 6 months. The onset of the illness was not long after hearing that his father had committed suicide 10 months ago. On neurological examination he had infrequent facial grimacing and writhing limb movements. Tone, power and reflexes were all normal. Cranial nerve examination was normal apart from slowed saccadic eye movements and difficulty maintaining tongue protrusion. Which would be the most appropriate test to make the diagnosis?

1- Blood film

2- Urine toxicology screen

**3- Genetic testing**

4- Magnetic resonance imaging (MRI) of the brain

5- Copper studies

Q5657. A 66-year-old man presented with a one-year history of difficulty walking, finding it particularly difficult to turn around. He had also been complaining that his right arm seemed stiffer, with worsening of his handwriting in recent months and his wife commented that his right arm appeared to move uncontrollably at times. His wife had also noticed he had been having difficulty over the same period with getting his words out and occasionally said words incorrectly. On examination his higher mental function was normal apart from difficulties with speech – he had some word-finding difficulties and his speech was at times effortful with the occasional wrong word. Cranial nerve examination was normal. However, limb examination revealed increased tone in his right arm and leg with difficulty of fine finger movements on the right. Power was normal throughout as were his reflexes, co-ordination and sensation. What is the most likely diagnosis?

**1- Corticobasal degeneration**

2- Progressive supranuclear palsy

3- Wilson’s disease

4- Dementia with Lewy bodies

5- Multiple system atrophy

Q5658. A 30-year-old rugby player is admitted to the emergency department with an enlarging swelling of the neck. He had been involved in a particularly bad rugby tackle three days ago. Since then he has noticed swelling occurring over the left side of his neck and some weakness affecting the left shoulder, although he has attributed this to a muscle strain. What worries him most is a specific problem with swallowing, which has come on within the last 48 h. He is a fit man with no known history and is not taking any regular medication. On examination he has a large hard swelling over the left lateral aspect of the neck. There is evidence of a left Horner’s syndrome. Examination of the cranial nerves reveals reduced palatal elevation on the left and weakness of shoulder elevation on the left. Sensation and ocular movements are intact. Examination of the peripheral nervous system does not reveal any abnormalities. In view of the above findings, what is the likely diagnosis in this man?

1- Intracranial carotid artery dissection

2- Extracranial vertebral artery dissection

**3- Extracranial carotid artery dissection**

4- Lateral medullary syndrome

5- Intracranial vertebral artery dissection

Q5659. A 23-year-old airline stewardess presented to her general practitioner complaining of severe headaches and blurring of her vision. She is on medication for treatment of facial acne and also takes the oral contraceptive pill. On examination, her weight is 70 kg, height 152 cm, and blood pressure 136/82. There is evidence of bilateral papilloedema. Which one of the following is the most appropriate next step?

1- Stop oral contraceptive pill

2- Referral for urgent neurosurgical advice

3- Anticoagulation with intravenous heparin then oral warfarin

4- Lumbar puncture

**5- Brain magnetic-resonance venography**

Q5660. An 18-year-old female patient was brought to the emergency department by her mother for the evaluation of episodic unawareness that had troubled her for the past couple of years. During the spells, she would stare, and would seem stupefied. She could also have some fluttering of her eyelids. The episode would end in few minutes; and she would be normal again. However, for the past one year she had also been experiencing a few sudden shock-like contractions of her limbs, in the early morning. These features were intriguing for the family. A day before the present consultation, she lost consciousness for the first time and had jerky movements of the limbs that continued for a couple of minutes. There was no family history of note. Electroencephalogram (EEG) revealed bursts of 4–6 Hz irregular polyspike activity. What is the most likely diagnosis?

1- Variant Creutzfeldt–Jakob disease

2- Subacute sclerosing panencephalitis

**3- Juvenile myoclonic epilepsy**

4- Rasmussen encephalitis

5- Hysterical seizures

Q5661. A 44-year-old male patient presented to the neurology clinic with progressive heaviness of lower limbs of 6 months’ duration. He had lost 10 kg weight. He has consumed 10 units of alcohol each month for the past 3 years and smokes 10 cigarettes daily. He did not feel that his food habits had changed. His cranial nerves were unremarkable. Upper limbs were normal for power, and tone. A fine tremor of the outstretched arms could be appreciated. Power of both iliopsoas and glutei was 3/5; quadriceps were wasted and 4/5. Tendon reflexes were brisk universally. Pulse rate was 120/min, blood pressure 150/70 mmHg. Investigations revealed: Haemoglobin (Hb) 14 g/dl White blood count (WBC) 9 × 109 /l Urea6 mmol/l Alkaline transferase (ALT) 35 U/l CPK 60 U/l Thyroid-stimulating hormone (TSH) 0.02 mU/l Sodium 133 mmol/l What is the most likely diagnosis?

**1- Basedow paraplegia**

2- Paraneoplastic myopathy

3- Cauda equina syndrome

4- Lumbar plexopathy

5- Astrocytoma of the dorsal cord

Q5662. A 21-year-old woman is referred by her general practitioner for investigation of sensory symptoms. She describes a subacute onset of burning pain at the top of her leg. On examination you note a body mass index of 38. There is an area of subjective reduced sensation to pinprick on her anterior left thigh. Otherwise examination is unremarkable. What drug therapy may help this condition?

1- Acetazolamide

2- Oral steroid

3- Interferon beta

**4- Sibutramine hydrochloride**

5- Fluoxetine

Q5663. A 50-year-old man is referred by the general surgical outpatient team for assessment. He has been investigated over two years for abdominal pain and loose stool. Upper and lower endoscopy and plain computerised tomography (CT) of the abdomen were unremarkable. An initial diagnosis of irritable bowel syndrome was made. Since then he has been treated in the community for depression. On returning to the outpatient clinic today he has deteriorated with marked weight loss, obvious cognitive impairment and abnormal facial movement. On examination he is drowsy with borderline pyrexia. Enlarged axillary, cervical and femoral nodes are noted. Eye examination reveals upgaze palsy and pendular oscillation of both eyes, with each eye movement there is concurrent jaw contraction. Which investigation would confirm the likely diagnosis?

1- Urinary porphorinogens

2- Vitamin E assay

3- HIV test

**4- Jejunal biopsy**

5- Electroencephalogram

Q5664. A 47-year-old man attends the neurology clinic. He first presented to the clinic 20 years ago with classical migraine that was difficult to control. In the last 5 years he has had three admissions with stroke, and a prolonged admission to the psychiatry ward for treatment resistant depression. He has a family history of migraine, and early-onset cerebrovascular and ischaemic heart disease. On formal mental state testing he performs poorly. Magnetic resonance image (MRI) brain shows a number of subcortical infarcts. He has none of the classical risk factors for cerebrovascular disease. This man has a recognised stroke syndrome, what is the genetic inheritance?

1- X-linked

2- Mitochondrial

3- Trinucleotide repeat

**4- Autosomal dominant**

5- Autosomal recessive

Q5665. A 61-year-old woman presented with difficulty lifting her right arm in the air. Her problems had started shortly after being discharged from hospital three weeks previously following an uncomplicated laparoscopic cholecystectomy. She had suddenly developed severe pain in her right shoulder that was excruciating and continuous despite taking regular paracetamol and codeine phosphate. The pain had slowly improved over the next few weeks, but when it had settled she realised that she could not lift her right arm up. On examination there was wasting around the shoulder girdle and weakness of shoulder abduction on the right. There was also winging of the scapula on the same side, but power in other muscle groups was normal. There was a patch of sensory loss over the outer aspect of the upper arm on the right. What is the most likely diagnosis?

1- Axillary nerve palsy

2- C5 root compression

3- Cervical myelopathy

**4- Brachial neuritis**

5- Syringomyelia

Q5666. You assess two new patients in the cerebrovascular clinic. Mrs X is a 68-year-old woman, with background hypertension. She has had one episode of presumed left amaurosis fugax one week previously. Carotid doppler ultrasound scanning shows a 76% stenosis of the left carotid. Mr Y is a 74-year-old man, with stable angina and peripheral vascular disease. Three days previously he had a transient episode of dysphasia lasting 20 min. Carotid doppler ultrasound scanning shows a 75% stenosis of the left carotid. Who would benefit most from carotid endarterectomy?

1- Mrs X

**2- Mr Y**

3- Mrs X and Mr Y would derive equal benefit

4- Neither patient would benefit

5- A computerised tomography (CT) scan of

Q5667. You assess a 28-year-old woman in the outpatient clinic. She was diagnosed with myasthenia gravis 3 years ago and initially improved with oral anticholinesterase and immunosuppresion. In the last few months she has worried about a return of her symptoms despite compliance with medication. She describes generalised lethargy worst at the end of the day and occasional diplopia. On systemic enquiry she admits weight gain and ankle oedema. On general examination you note palmar erythema, and resting tachycardia. What is first-line management?

1- Thyroid function testing and autoantibodies

2- Echocardiogram

3- Computerised tomography (CT) chest

**4- Human chorionic gonadotrophin assay**

5- Rheumatoid factor assay

Q5668. A 39-year-old man is referred to the neurology outpatients with a history of several episodes of neurological dysfunction. The first of these dates back to two years ago when he had a subacute hemiparesis affecting his right side. This lasted for several weeks before resolving. He was so frightened by this that he did not seek medical advice. About six months ago he presented with painful loss of visual acuity in his left eye. This was treated by the ophthalmologists and resolved after around 10 days. Unfortunately he has now suffered an episode of vertigo, which started just over two weeks ago with dizziness and vomiting initially put down to labyrinthitis by his doctor. On examination he has a pale left optic disc. There is evidence of an afferent papillary defect. On examination of the eye movements his right eye fails to adduct when following a visual target across the midline. At the same time he has nystagmus in the left eye. This failure of adduction improves when the left eye is covered. There are no other cranial nerve abnormalities. Peripheral nervous system examination reveals moderately increased tone in all four limbs with some non-sustained beats of ankle clonus at both ankles. The plantars are downgoing bilaterally. There is some unsteadiness on tandem gait examination. Romberg’s test is negative. A set of investigations have been carried out: erythocyte sedimentation rate (ESR) 32 mm/Hr rheumatoid factor positive Magnetic resonance imaging of the brain shows two white matter lesions adjacent to the corpus callosum and in the periventricular region. cerebrospinal fluid analysis: protein 0.3 g/dl glucose (CSF/serum) 4.6 mmol/l/ 7.8 mmol/l cells < 1 white blood cell and < 1 red blood cell per mm3 oligoclonal band analysis negative Visual evoked potentials demonstrate marked latency and are reported as being grossly abnormal. The treatment that should be considered at this stage is:

1- intravenous methylprednisolone 500 mg/day for three days

**2- beta-interferon 1a, 6 million units intramuscular weekly**

3- azathioprine 100 mg /day

4- methotrexate 7.5 mg once per week

5- none pending further investigations

Q5669. A 57-year-old Caucasian female with type-2 diabetes accompanied by her daughter presents to the emergency department complaining of a headache and right-sided weakness. The daughter became increasingly concerned after the patient started to become confused and her speech became slurred. The patient is on some medications for her diabetes but the daughter does not know the names. Apart from the diabetes, the daughter is not aware of any other medical problems suffered by her mother but she knows that there have been difficulties with the control of the diabetes. On examination, the patient is tachycardic, pyrexial and has a mental score of 5/10. Communication with her is difficult due to dysphasia. Neurological examination confirms the presence of right-sided weakness. Cardiovascular and respiratory examinations are normal. Apart from routine bloods, a CXR and an ECG, an urgent CT scan of the head is requested. The CT without contrast shows a lesion in the right frontoparietal area, and with contrast, a ring enhancement pattern is seen. What is the underlying diagnosis?

1- Cerebral metastases

2- Tuberculoma

**3- Cerebral abscess**

4- Cerebrovascular accident due to thrombosis

5- Cerebrovascular accident due to

Q5670. A 63-year-old plumber was referred to a neurology clinic for investigation of difficulty in walking. His wife reported that he has been more irritable over the past 6 months and become increasingly forgetful, often missing appointments, losing personal items, and having difficulties remembering contents of recent conversations. More recently, he has accused his neighbours of continuously watching his house and is now reluctant to go outdoors alone. His general practitioner recently prescribed flupentixol tablets to help him relax. On examination, his blood pressure was 148/78 lying, 112/72 standing. Bedside cognitive tests demonstrated a Mini-Mental State Examination score of 18 out of 30 with deficits in orientation, concentration, and recall. Facial expression was reduced. Examination of eye movements demonstrated mild limitation of upgaze. Tone was increased in the limbs with symmetrical reflexes and bilateral down-going plantars. There was impairment of rapid alternating finger movements and evidence of micrographia. Gait demonstrated shuffling steps with reduced arm swing. Which one of the following investigations is most likely to establish the diagnosis?

1- Magnetic resonance imaging brain

2- Anal-sphincter electromyography

3- Fluoridopa positron emission tomography brain

**4- Cortical brain biopsy**

5- Blood film and serum lead level

Q5671. A 73-year-old man known to be suffering from small-cell lung cancer is bought to his GP by his daughter since she is concerned that her father has grown considerably weaker and she feels he may not be able to cope alone at home. On further questioning, the patient does report problems with walking up stairs or bending his legs to dress in the mornings and that has got progressively worse over the last few months. He also reports problems with a dry mouth and swallowing, as if the food gets stuck in his throat. On examination, the patient is mildly cachectic. Neurological examination confirms weakness of the muscles of the thighs and hips. Abnormal lower-limb reflexes were also observed. Given the likely clinical diagnosis, which of the following observations would help distinguish this syndrome from true myasthenia gravis?

**1- Involvement of the autonomic nervous system**

2- Hyperreflexia

3- Marked response to edrophonium

4- Facilitation shown on testing of several muscle groups

5- Involvement of the respiratory and

Q5672. A 48-year-old woman is seen in the neurology clinic with a progressive history over many months of unsteadiness and numbness affecting both feet. In addition she has also noticed wasting of her lower legs and her skin has become shiny and tight. She has been steadily losing weight for quite some time and has become increasingly tired and lethargic within the last few months. She has a past medical history of irritable bowel disease, hypothyroidism and has attended dermatology clinics in the past for a vesicular skin rash. On examination she is pale and thin. Examination of the cranial nerves reveals no abnormalities. Upper limb examination reveals normal tone, power and reflexes. Lower limb examination reveals wasting over both anterior compartments of the lower leg, with atrophic skin changes. Tone is bilaterally reduced at the ankle and knee and both plantar responses are mute. Reflexes are diminished at the ankle and knee bilaterally. There is some weakness of dorsiflexion and plantar flexion and her gait is markedly ataxic. Romberg’s test is positive. Sensory examination reveals reduced sensation to all modalities extending to both knees. Abdominal examination reveals a tympanic abdomen with no palpable masses. Magnetic resonance imaging scan shows cerebellar atrophy and scattered white matter changes Nerve conduction studies reveal a sensorimotor axonal neuropathy Blood tests show: Haemoglobin 9.8 g/dL Mean corpuscular volume 102 fl (80–96) White cell count 4.8 × 109 /l Platelets 237 × 109 /l Na+ 134 mmol/l K+ 3.4 mmol/l Urea6.2 mmol/l Creatinine 108 µmol/l Cholesterol 2.6 mmol/l Calcium 1.77 mmol/l Albumin 24 g/l Alkaline phosphatase 126 U/l (45–105) Prothrombin time 15.9 s (11.5–15.5 s) Thyroid-stimulating hormone 4.0 mU/l (0.4– 5.0) Thyroxine 160 nmol/l (58–174) Glucose 4.5 mmol/l (3.0–6.0) Erythrocyte sedimentation rate5 mm (0–20 mm/1st hour) What is the underlying diagnosis in this patient?

1- Subacute combined degeneration of the cord

2- Multiple systems atrophy

3- Paraneoplastic syndrome

**4- Coeliac disease**

5- Sjögren’s syndrome

Q5673. A 58-year-old woman has been treated for a first presentation of myasthenia gravis. Symptoms were of diplopia and ptosis. Investigations revealed: increased jitter and block on single-fibre electromyography; negative auto-antibodies including antiacetylcholine receptor (AChR) antibody and anti-muscle-specific kinase (MuSK) antibody; normal thymus, and no mass lesion on computerised tomography (CT) chest; forced vital capacity 75% predicted. Symptoms are now well controlled on oral therapy. She has been studying internet articles on surgical treatment of myasthenia and asks about surgical thymectomy. What advice do you give her regarding thymectomy?

1- Thymectomy may worsen symptoms in the short term but should prevent relapse

2- Thymectomy will ease symptoms, but anaesthetic risk is too great for surgery at present

**3- Thymectomy is unlikely to improve symptoms**

4- A biopsy is first needed to confirm thymoma

5- Further imaging with positron emission

Q5674. A 30-year-old man is referred urgently to the neurology outpatient clinic. He has a complex past medical history, but unfortunately his previous notes are not available to you. You gather that he was involved in a road traffic accident when a child and required emergency neurosurgery following skull fracture. During the rest of his childhood he required hormone replacement injection and regular assessment by a paediatric endocrinologist. In adult life he has been well, and compliant with thyroxine and hydrocortisone therapy. He presented to his general practitioner six months ago with weight loss and insomnia. This occurred on a background of worsening self-neglect and mood change. He was commenced on fluoxetine to little effect. He then presented to a general medical clinic with clumsiness and diplopia. A period of inpatient investigation did not reveal a cause for his symptoms. In clinic today you note global cognitive impairment and emotional lability. He has multidirectional nystagmus and severe ataxia. Motor examination reveals globally increased tone with myoclonic jerks. Investigations to date reveal: Computerised tomography of the brain No abnormality Lumbar puncture Normal biochemistry and cell count Thyroid function Euthyroid Haematinics Normal What is the next investigation of choice?

1- VDRL (Venereal Disease Research Laboratory - Syphilis serology)

2- Short synacthen test

3- Brain biopsy

**4- Electroencephalography**

5- HIV test

Q5675. A 66-year-old retired soldier presents to the clinic for assessment of difficulty walking. He describes 2 years of progressive gait disturbance, commenting that he often falls at night or on uneven surfaces. You note he had defaulted from previous clinic appointments. He admits that today’s attendance was prompted by newonset double vision. Review of his case sheet reveals an episode of admission to the army hospital with fever, arthralgia, headache and neck stiffness. At that time a provisional diagnosis of viral meningitis was made. He is due to see the urology team for investigation of urinary symptoms. On examination you note irregular tonic pupils, lower limb areflexia, extensor plantar responses and loss of vibration sense to the hips. You admit the patient for further investigation. Haemoglobin (Hb) 15.2 g/dl White cell count (WCC) 6 x 109 /L Platelets 500 x 109 /L Estimated sedimentation rate (ESR) 60 mm in 1st hour Serum B12 concentration 500 pmol/l (160– 900) Cerebrospinal fluid (CSF) examinationclear colourless fluid Opening pressure 18 mmHg (6–20) Protein 0.8 g/l (<0.45 g/l) WCC 30/mm2 , mostly lymphocytes Venereal Disease Research Laboratory (VDRL) slide test negative Oligoclonal bands negative What further test would you perform?

1- Magnetic resonance image (MRI) lumbar spine

2- Anti-neutrophil cytoplasmic antibody

3- Schilling test

**4- Treponema pallidum haemagglutination**

5- CSF polymerase chain reaction (PCR) for

Q5676. A 26-year-old right-handed woman is referred to the urgent neurology clinic. She describes an orbito-temporal left-sided headache that is ‘throbbing’ in character. The headache lasts around 10 min, but can occur up to 25 times a day, with no pattern. The headache is associated with eye watering and nasal stuffiness. She denies past medical or family history. Neurological examination is normal. At the end of the consultation she experiences a headache, during which you note left ptosis, conjunctival injection, lacrimation and unilateral sweating. A computerised tomography of the brain is performed that day, which is normal. What is the most effective therapy for this headache syndrome?

**1- Indomethacin**

2- Sumatriptan

3- Carbamazepine

4- Topical beta-blocker to the eye

5- Prednisolone

Q5677. A 42-year-old right-handed migraneur is admitted to hospital having developed paraesthesia affecting her left arm. This came on suddenly during a migrainous attack while out shopping. The paraesthesia appeared to affect the entire left arm and in the last few hours had spread to involve the left side of the face. She had had a similar episode several months ago whereby she developed some right-sided leg and arm weakness while at work. The weakness lasted several minutes and subsequently abated. At the time she was also having one of her migraines. She has a long-standing history of migraines, which typically start with a prolonged aura and fortification spectra. Other then migraines, for which she has been taking pizotifen, she has no other past medical history. Her sister also suffers from migraines, and her mother has a history of dementia in her 50s. She is a non-smoker and drinks minimal alcohol. On examination she was orientated but apathetic. Her blood pressure was 130/65 mmHg, pulse 62/min, and temperature 36.2°C. There were no carotid bruits and heart sounds were entirely normal. There was reduced sensation to all modalities over the left side of the face extending to the vertex and the entire left arm. Tone and reflexes appeared intact; however handgrip was reduced on the left due to numbness. The lower limb appeared entirely normal. Magnetic resonance (MR) scan showed bilateral, multifocal, T2/FLAIR (fluid attenuated inversion recovery ) hyperintensities in the deep white matter. MR Spinal cord was normal. Lumbar puncture revealed: Opening pressure 14 cmH20 (5–18) Cerebrospinal fluid (CSF) protein 0.40 g/l (0.15–0.45) CSF white cell count 4 cells/ml (? 5) CSF red cell count 2 cells/ml (? 5) CSF Glucose 3.2 mmol/l (3.3–4.4) CSF oligoclonal bands Negative CSF lactate 1.5 mmol/l (1–2) In view of the above findings, what is the likely diagnosis for this patient?

1- Binswanger’s disease

**2- CADASIL (cerebral autosomal dominant arteriopathy with subcortical infarcts and leucoencephalopathy)**

3- Complex migraine

4- Multiple sclerosis

5- Mitochondrial disease (MELAS)

Q5678. A 16-year-old male presented to the hospital with heaviness of the left upper and lower limbs of one day’s duration. He was known to have had high blood pressure from the age of 10 years and was taking irregular treatment. He could not participate in school sports since early childhood since he would get severe sharp burning pain in his limbs on running. On examination there was neither lymph node enlargement nor clubbing. There were red macules and papules around the umbilicus, which partially blanched on pressure. Blood pressure was 150/100 mmHg. He was alert and his cognition was normal. Fundi revealed arteriovenous nipping and soft exudates. Central nervous system examination revealed mild left-sided upper motor neurone facial palsy and a mild leftsided hemi paresis with no sensory or cerebellar deficit. Investigation results are shown below: Haemoglobin (Hb) 10 g/dl White blood count (WBC) 6 × 109 /l Blood urea 8.5 mmol/l Creatinine 270 μmol/l Computerised tomography of the head (plain) Hypo dense lesion in the right subcortical white matter What is the most likely diagnosis?

1- Fibromuscular dysplasia

2- MELAS (mitochondrial myopathy, encephalopathy, lactic acidosis, and stroke-like episodes)

3- Homocystinuria

**4- Fabry’s disease**

5- Mc Ardle’s disease

Q5679. A 30-year-old male attends the outpatient clinic. He has an obsession with washing his hands and spends up to one hour doing this each morning and evening. He says he feels that he is dirty. He is also concerned about security and checks the doors at home a number of times before leaving the house. On examination he was of low mood. He is slowed up in speech but coherent. Which of the follow diagnoses fit best with this clinical picture?

1- acute schizophrenia

2- major depressive illness

**3- obsessive–compulsive disorder**

4- manic–depressive disorder

5- anxiety neurosis

Q5680. A 65-year-old man was seen by a psychiatrist as he had developed apprehensiveness, fretfulness and irritability. He was thought to have agitated depression and a selective serotonin reuptake inhibitor (SSRI) was initiated. However over the next 8 months he developed falls, which would occur abruptly, and intermittent sudden involuntary closure of eyes. He was noticed to have difficulty in swallowing and his speech had become slurred. He fell abruptly again, resulting in bruises over his knees and face and hence he was brought to the Accident and Emergency Department. What is the most likely diagnosis?

1- Drug-induced parkinsonism

2- Parkinson’s disease

3- Narcolepsy

4- Tabes dorsalis

**5- Progressive supranuclear palsy**

Q5681. A 52-year-old man presented with a 3-week history of confusion and difficulty remembering where he had put things in the house. He had recently had to ask his wife to drive him to work as he could no longer remember how to get there. The admission to hospital was precipitated by a generalised tonic–clonic seizure at home, witnessed by his wife, lasting 2 min. He was apyrexial with otherwise normal general observations. Respiratory, cardiovascular and abdominal examinations were normal. Cognitive examination was difficult because of his confusion but the rest of the neurological examination was normal. Initial investigations showed: Sodium 128 mmol/l Potassium 4.2 mmol/l Urea 7.5 mmol/l Creatinine 110 mmol/l Haemoglobin (Hb) 13.2 g/dl White cell count (WCC) 10.5 × 109 /l Platelets 255 × 109 /l What is the most likely diagnosis?

1- TB meningitis

**2- Limbic encephalitis**

3- Wernicke–Korsakoff syndrome

4- Subdural haematoma

5- Alzheimer’s disease

Q5682. A 56-year-old man presented with a 3-year history of progressive leg weakness with particular problems walking up the stairs. This was associated with intermittent pains in his thighs anteriorly. In the previous year he had also noticed problems unscrewing lids from jars, which he felt was due to his grip being generally weaker. He had been well otherwise with no recent weight loss or other symptoms. Examination revealed wasting of the forearms and the quadriceps with distal weakness in the upper limb, and proximal weakness in the lower limb. Reflexes were present with downgoing plantars. Sensation and co-ordination were normal. What is the most likely diagnosis?

1- Myotonic dystrophy

2- Motor neurone disease

3- Addison’s disease

**4- Inclusion body myositis**

5- Polymyositis

Q5683. A 26-year-old woman presented with progressive unsteadiness of gait and blurred vision over a 2-week period. The day before admission she became very drowsy although rousable. Her partner said she had been previously well apart from a recent viral illness a few weeks ago. On examination she was mildly confused and drowsy. Her observations were normal and cardiovascular, respiratory and abdominal examinations were unremarkable. She had decreased upgaze and abduction bilaterally, but her other cranial nerves were normal. Limb examination was normal apart from brisk reflexes throughout and upgoing plantars. What is the most likely diagnosis?

1- Bacterial meningitis

2- TB meningitis

**3- Bickerstaff’s encephalitis**

4- Herpes simplex encephalitis

5- Limbic encephalitis

Q5684. You review the MRI scans of a 42- year-old man who presents with a 15-month history of chronic lower back pain. The scan looks very abnormal with signal enhancement within the spinal cord, which appears to extend from T12 to L3. There is less signal enhancement in the vertebral bodies relative to the cord. What diagnosis fits best with this clinical picture?

1- Osteomyelitis

2- Metastasis within the spinal cord

3- Vertebral fracture

4- Chronic disc prolapse

**5- Ependymoma**

Q5685. As the medical registrar, you are called to see an 83-year-old female patient on the surgical wards who is recovering from a total hip replacement operation and who has gradually become increasingly confused over the last 24 h. Her past medical history is significant for type II diabetes and hypertension. You are not able to hold a conversation with her, since she appears to be disorientated in time and place with perseveration of speech. She keeps complaining that she can see ants crawling over her body. Examination of her chest and cardiovascular systems appear normal. Routine blood tests are performed and an electrocardiogram (ECG) is requested. She is apyrexial. Which of the following is least likely to be the cause of this patient's symptoms?

1- Urinary tract infection

2- Opiate analgesia

3- Hypoglycaemia

**4- Transient ischaemic attack**

5- Myocardial infarction