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# Chapter 1 Cardiology

Q1. In the consideration of cardiac tamponade, which of the following statements is most true?

1- Bradycardia is common

2- Early diastolic descent (y descent) is exacerbated

3- Pulsus paradoxus is pathognomonic

**4- Renal failure is a recognised complication**

5- The apex beat is always absent

Q2. A 65-year-old male presents with arthralgia and sleep disturbance following the introduction of simvastatin. He has a history of hypertension and ischaemic heart disease for which he is receiving aspirin, atenolol and eprosartan together with simvastatin 40 mg od which has been introduced in the last one month. Previously, he had been taking atorvastatin but this was changed to simvastatin after he complained of arthralgia. Investigations reveal: Creatine Phosphokinase (CP K) 156 iu/l(4

0- 170) Total Cholesterol 5.1 mmol/l (<5.2) LDL-Cholesterol 3.1 mmol/l (<2.6) Triglycerides 1.7 mmol/l (0.5-1.7) HDL-Cholesterol 1.2 mmol/l (0.7-1.7) Which is the most appropriate treatment for his lipid profile?

**1- Ezetimibe**

2- Fenofibrate

3- Nicotinic acid slow release

4- Omega-3 fatty acids

5- Rosuvastatin

Q3. A 68-year-old man has been very ill for months following the onset of chronic liver disease with hepatitis C infection. He experiences a sudden loss of consciousness and then exhibits hemiplegia on the right. A cerebral angiogram reveals lack of perfusion in the left middle cerebral artery distribution. The most likely cardiac lesion to be associated with this finding is?

1- Acute rheumatic fever

2- Left atrial myxoma

3- Libman-Sacks endocarditis

**4- Non-bacterial thrombotic endocarditis**

5- Paradoxical thromboembolus

Q4. A 67-year-old insulin dependent diabetic with a broad complex pulseless tachyarrhythmia (with a protected airway) has been defibrillated 3 times. He has just finished receiving 2 minutes of cardiopulmonary resuscitation and has received adrenaline. Which of the following is the next step in the management of the arrest?

1- Adrenaline 1 mg

**2- Amiodarone 300mg**

3- DC shock

4- Lidocaine 100mg

5- Removal of oxygen and then DC shock

Q5. Which of the following statements concering the treatment of acute myocardial infarction is correct?

1- A pansystolic murmur developing within the first 24 hours does not require further investigation.

2- Dipyridamole therapy reduces reinfarction within the first year.

3- Heparin is beneficial if given with streptokinase.

4- Prophylactic lidocaine given in the first 48 hours is effective in preventing ventricular fibrillation

**5- Treatment with a dihydropyridine calcium antagonist is associated with increased cardiovascular mortality.**

Q6. Angina due to an imbalance between O2 supply and demand without atherosclerosis would most likely be seen in which of the following circumstances?

**1- aortic regurgitation**

2- cardiac tamponade

3- pulmonary regurgitation

4- right heart failure

5- tricuspid regurgitation

Q7. A 57-year-old female school cleaner is undergoing investigation for breathlessness. All the following would be in keeping with a diagnosis of constrictive pericarditis except

**1- Elevated JVP with absent y descent**

2- Peripheral oedema

3- Orthopnoea

4- Ascites

5- Previous cardiac surgery

Q8. A 62-year-old male is admitted with an inferior myocardial infarction and receives thrombolysis, aspirin, atenolol, simvastatin and lisinopril. His ECG shows good ST segment resolution. The following day he develops some pain in the legs and a dusky discolouration of the lower limbs. On closer examination there is a diffuse petechial rash over the lower legs particularly the feet but all peripheral pulses are palpable. Investigations reveal: Haemoglobin 13.3 g/dl (12-16) Platelets 145 x 109 /L (140-450) White cell count 12.1 x 109 /L (4-10) Neutrophils 6.5 x 109 /L (2-7) Lymphocytes 3.5 x 109 /L (1-3.5) Eosinophils 1.2 x 109 /L (0.3-06) IgE antibody 3 mg/dl (<2mg/d l) Which of the following is the most likely cause for his current problems?

1- Allergic reaction to thrombolysis

2- Aspirin allergy

**3- Cholesterol emboli**

4- Peripheral vascular disease

5- Polyarteritis nodosa

Q9. A 29-year-old female presents with acute right sided weakness. She has one child aged 4 years and had two spontaneous abortions in the past. After the birth of her child she developed a DVT and required three months anticoagulation with warfarin. Examination revealed a right hemiparesis. A CT head scan showed a left middle cerebral artery territory infarct. What is the most likely finding on echocardiography?

1- Atrial septal defect

2- Bicuspid aortic valve

3- Left atrial myxoma

**4- Normal appearances**

5- Ventricular septal defect

Q10. A 59-year-old male has been discharged from hospital following an uncomplicated admission with myocardial infarction and treated with stenting. His therapy at discharge included aspirin 75 mg daily, ramipril 10mg daily, atenolol 50 mg daily and simvastatin 40 mg daily. On subsequent review, 1 month after discharge he is well and unaware of any chest pain. His blood pressure is 134/78 mmHg and he has a resting heart rate is 66 bpm. There are no abnormalities on auscultation of the heart or chest. Investigations reveal: Cholesterol 4.6 mmol/l Triglyceride 0.8 mmol/l Glucose 5.6 mmol/l U+E Normal Which of the following therapies added to his current treatment regime would be expected to reduce mortality still further?

1- Amlodipine

2- Ezetimibe

3- Furosemide

**4- Omega-3 fatty acids**

5- Vitamin E

Q11. A 55-year-old man presents with gynaecomastia. He is receiving receiving treatment for Heart failure and gastrooesopahageal reflux. Which of the following drugs that he takes is most likely to be responsible for his gynaecomastia?

1- Amiloride

2- Carvedilol

3- Furosemide

**4- Ranitidine**

5- Ramipril

Q12. A 60-year-old man had a myocardial infarction 6 weeks ago. He is taking aspirin 75 mg/day and metoprolol 50mg 2/day. During a routine follow-up Exercise Test he has a 20 beat run of non-sustained VT. He achieved stage 4 of the Bruce protocol and 92 % of his target heart rate. The non-sustained VT occurred halfway through Stage 2. ST segments were normal during the study. What is the definitive investigation?

1- Coronary angiography.

2- Echocardiogram.

**3- Electrophysiological study.**

4- Thallium exercise scan.

5- 24 hour Holter monitor.

Q13. A 34-year-old man presented for an insurance medical. He was symptom free, but clinical examination suggested a small ventricular septal defect. Which one of the following findings was most likely to have been present?

1- An early diastolic murmur

2- A short systolic murmur at the left sternal edge

3- A systolic murmur maximal at the apex

**4- A systolic murmur with thrill at the left sternal edge**

5- Fixed splitting of the second heart sound

Q14. A 75 year-old woman presents with a two month history of episodic loss of vision in her right eye. Her ECG was normal and carotid ultrasound reveal a 50% stenosis of the right internal carotid artery. What is the most appropriate treatment for this patient?

**1- Aspirin**

2- Carotid endarterectomy

3- Dipyridamole

4- Prednisolone

5- Warfarin

Q15. A 74-year-old woman with longstanding hypertension and rheumatoid arthritis presented with dyspnoea. On examination she was in atrial fibrillation and was normotensive. The jugular venous pressure was elevated. She had bilateral pitting lower limb oedema and ascites. Her echocardiogram showed normal left ventricular systolic function and bi-atrial enlargement. What is the most likely diagnosis?

**1- Constrictive pericarditis**

2- Hypertensive heart disease

3- Hypothyroidism

4- Lymphatic obstruction

5- Pulmonary fibrosis

Q16. A 70-year-old female is reviewed in clinic after having had an anterior MI. Her echo reveals some left ventricular impairment. You are contemplating the addition of a beta blocker to current therapy which consists of bendroflumethiazide, aspirin and simvastatin. Which of the following Beta blockers should be avoided?

1- Bisoprolol

2- Carvedilol

3- Metoprolol

4- Propranolol

**5- Sotalol**

Q17. A 75-year-old female is noted to have sustained hypertension with a blood pressure of 196/80 mmHg. Which of the following is the most appropriate strategy for this patient?

1- ACE inhibitors would be contra-indicated in association with a creatinine above 150 micromols/l (50-100)

2- Antihypertensive therapy would be associated with only a minor reduction in risk of stroke in this age group

**3- Beta blockers are less effective in this age group than in younger patients**

4- Doxazosin would be the most appropriate initial treatment for this patient

5- The patient would only require a nonpharmacological approach as diastolic blood pressure is normal

Q18. A 51-year-old man with type 2 diabetes and no previous history of CHD presents at annual review. Currently he is taking metformin 500 mg bd, aspirin 75 mg od, perindopril 4 mg od and simvastatin 20 mg od. He has a blood pressure of 140/72 mm/Hg. On examination, his blood pressure is 140/72 mmHg, he has background diabetic retinopathy and has a peripheral sensory neuropathy to light touch in the feet. Investigations reveal: HbA1c 7.1 % (<6) Total cholesterol 3.9 mmol/l (<5.2) Triglyceride 2.5 mmol/l (0.5-1.7) HDL-Cholesterol 0.8 mmol/l (0.7-1.7) LDL-Cholesterol 2.1 mmol/l (<2.6) Which is the most appropriate treatment for this man's dyslipidaemia?

1- Cholestyramine

2- Ezetimibe

**3- Fenofibrate**

4- No other treatment required

5- Rosuvastatin

Q19. A 69-year-old woman presented with an ulcer over the left ankle, which had developed over the previous 9 months. She had a history of right deep vein thrombosis five years previously. On examination she had a superficial slough-based ulcer, 6cms in diameter, over the medial malleolus with no evidence of cellulitis. Which one of the following is the most appropriate next investigation?

**1- ankle-brachial pressure index**

2- bacteriological swab of the ulcer

3- bilateral lower limb arteriogram

4- right leg venogram

5- venous duplex ultrasound scan

Q20. A 62-year-old man suffered a myocardial infarction six weeks ago. He was taking soluble Aspirin 75mg daily and Metoprolol 50mg twice a day. During a follow up exercise test he had a 20 beat run of nonsustained ventricular tachycardia. What is the next most appropriate investigation?

1- Coronary angiography

2- Echocardiography

**3- Electrophysiological study**

4- Thallium exercise scan

5- 24 hour Holter monitoring

Q21. Left atrial myxoma may be associated with all except

1- Sudden death

**2- A mid systolic click**

3- Systemic emboli

4- Left atrial dilatation

5- Adrenal hyperplasia

Q22. A 25-year-old female who is 20 weeks pregnant with her first child is admitted with palpitations. The ECG reveals a Supraventricular tachycardia and this self terminates 20 minutes after admission. Subsequently she has further runs of symptomatic SVT. What would be the most appropriate treatment for this patients paroxysmal supraventriculat tachycardia?

1- Amiodarone

2- Disopyramide

3- Flecainide

**4- Metoprolol**

5- Verapamil

Q23. Which one of the following is a recognised feature of abetalipoproteinaemia?

1- a high serum cholesterol

2- palmar xanthomas

3- advanced atherosclerotic vascular disease

**4- abnormal red blood cell morphology**

5- Severe mental retardation

Q24. A 14-year-old boy presents with hypertension. Which of the following statements concerning hypertension in the young is true?

1- Sodium nitroprusside is useful for the longterm treatment of severe cases.

2- Headache is the usual presenting feature.

3- It is defined as systolic blood pressure above the 99th centile for age.

**4- Abnormalities are frequently seen on DMSA scan.**

5- Aortic coarctation is the commonest secondary cause.

Q25. A 35-year-old male presents with chest pain on exertion. On examination she has yellow discolouration of her palmar creases and a diagnosis of remnant Hyperlipidaemia (type III hyperlipidaemi a) is made. What is the cause of this hyperlipidaemia?

1- Apo CIII homozygosity

**2- Apo E-2 homozygosity**

3- LCAT deficiency

4- LDL receptor deficiency

5- Lipoprotein lipase deficiency

Q26. A 4

3- year-old gentleman developes chest pain 7 minutes after fibreoptic bronchoscopy. The procedure had been performed without sedation following an intratracheal injection of 5 ml 2.5% cocaine solution and xylocaine spray to the pharynx for topical anaesthesia. ECG showed an evolving anterior myocardial infarction. Which of the following would you prefer for his management?

1- Beta blockers

**2- Nitrates**

3- Percutaneous transluminal coronary angioplasty

4- Thrombolysis with rt-PA

5- Thrombolysis with streptokinase

Q27. A 66-year-old man has developed chronic renal failure with a serum urea of 60 mmol/L and creatinine of 650 micromol/L. Auscultation of the chest reveals a friction rub over the cardiac apex. He is most likley to have a pericarditis that is termed?

1- Constrictive

**2- Fibrinous**

3- Hemorrhagic

4- Purulent

5- Serous

Q28. A 60-year-old man presents with an inferior MI and receives thrombolysis. 4 hours following initial presentation he becomes acutely breathless. His ECG demonstrates sinus tachycardia (rate 108bp m) with T wave inversion inferiorly. His ST segments are normal. On examination his JVP is elevated at 5 cm. Chest was clear to auscultation. Following 80 mg of Furosemide he deteriorates. His BP is now 80/60 and his urine output over the last 2 hours is 5 mls. What is the best investigative measure?

1- Arterial Blood Gases

2- Central Venous Pressure Monitoring

3- Chest X-Ray

4- Echocardiography

**5- Pulmonary Capillary Wedge Pressure Monitoring**

Q29. 75 year-old man with a history of anterior MI is taking amiodarone 400mg/day for history of VT. He has a prolonged QT interval on his ECG. What is the most appropriate management?

1- Admit to hospital for monitoring.

2- Atenolol.

3- Change amiodarone to flecainide.

4- Continue with amiodarone.

**5- Discontinue amiodarone immediately.**

Q30. A 62-year-old male who is being treated for stable angina presents with muscle aches and pains. He has been taking simvastatin 40 mg daily, atenolol 50 mg daily together with aspirin 75 mg daily for approximately two years. Recently he was admitted for an episode of acute coronary syndrome and a number of other therapies were added. You suspect a statin related myopathy and a CPK concentration is 820 iu/l (50-200). Which of the following is most likely to be responsible for the precipitation of his statin related myopathy?

1- Bisoprolol

2- Clopidogrel

**3- Diltiazem**

4- Omega-3 fatty acids

5- Spironolactone

Q31. Which of the following concerning congenital heart disease is correct?

1- ASD is the commonest malformation at birth

2- congenital complete heart block is usually associated with Anti-Ro antibodies in the mother

**3- Ebstein's anomaly is associated with maternal exposure to lithium carbonate**

4- Hypoplastic left heart syndrome is characterised by a large, dilated left ventricle

5- Osteogenesis imperfecta is associated with aortic stenosis

Q32. Which of the following may be responsible for a hypokalaemic hypertension

1- Non-classical congenital adrenal hyperplasia

2- Barter's syndrome

3- Diabetic nephropathy

**4- Liddle's syndrome**

5- Type IV renal tubular acidosis

Q33. A 27-year-old fit and healthy male has an ECG as part of his medical examination for employment as a pilot. The ECG reveals a delta waves indicating Wolf Parkinson White Syndrome. What is the most appropriate treatment for this patient?

1- Atenolol

2- Flecainide

3- Radio-frequency ablation

**4- Reassurance**

5- Verapamil

Q34. A 51-year-old businessman complains of dyspnoea on exertion. He recently returned from a business trip to the USA. He has distant heart sounds on auscultation of the chest. A chest radiograph reveals that there is a thin rim of calcification surrounding the cardiac outline. Which of the following conditions is most likely responsible for these findings?

1- Uraemia

**2- Tuberculosis**

3- Group B coxsackie virus

4- Sarcoidosis

5- Metastatic carcinoma

Q35. A 35-year-old shop worker presents with pain in her calves which develops after 50 yards of walking. The pain settles with rest. On examination she has yellow discolouration of her palmar creases. Her fasting lipid profile reveals: Cholesterol 9.6 mmol/l (less than 5) Triglycerides 7.3 mmol/l (less than 2) What is the likely diagnosis?

1- Chylomicronaemia

2- Familial hyperlipidaemia

3- Hypoalphalipoproteinaemia

**4- Type III hyperlipidaemia**

5- Type IV hyperlipidaemia

Q36. Which of the following findings is the most specific for a diagnosis of myocardial infarction?

1- an akinetic area of LV wall motion on ECHO

2- elevated cardiac enzymes

**3- evolution of Q waves on ECG**

4- history of severe chest pain

5- ST elevation on ECG

Q37. A 30-year-old intravenous drug abuser develops acute aortic regurgitation due to infective endocarditis. Which of the following is not typical of acute aortic regurgitation?

1- normal cardiac output

2- decrescendo diastolic murmur

3- hypotension

4- mitral valve pre-closure

**5- peripheral vasodilatation**

Q38. A 65-year-old female presents with a four hour history of fatigue and palpitations. On examination she is vomiting, and is noted to have a slight tremor, some lid lag and has an irregularly irregular pulse of 140 per minute, with some fine basal crackles. ECG confirms atrial fibrillation with a rate of approximately 130 per minute. Thyroid function tests show: Free T4 31.8 pmol/l (9-22) TSH 0.05 mu/l (0.5-4.5) Which of the following is the most appropriate initial treatment for this patient?

1- Anticoagulation

2- DC cardioversion

3- IV amiodarone

**4- IV digoxin**

5- IV Metoprolol

Q39. Which ONE of the following statements is true about the Austin Flint murmur?

1- It is associated with a loud first heart sound.

2- It is an early sign of aortic regurgitation

3- It can be distinguished from the murmur of mitral stenosis by absence of presystolic accentuation

**4- It is due to partial closure of the anterior leaflet of the mitral valve**

5- It does not occur in aortic incompetence secondary to an aortitis

Q40. A 75-year-old lady presents with sudden breathlessness and palpitations. On examination, she was observed to have an irregular heart beat with rate of 140 bpm, BP 150/84 and normal heart sounds. On auscultation of the chest, Fine basal crepitations are heard. An ECG confirms AF and an old inferior MI. She is anticoagulated with heparin and given diuretics. Her heart rate remains rapid. What is the most appropriate management of the lady's AF?

1- DCCV

**2- IV amiodarone**

3- IV betablocker

4- IV digoxin

5- Oral quinidine therapy

Q41. What is Troponin?

1- A component of thick filaments

**2- A component of thin filaments**

3- A myosin heavy chain

4- A myosin light chain

5- A substance produced by pulmonary vascular endothelium

Q42. In a normal heart, the oxygen saturation of a sample of blood taken from a catheter in the pulmonary capillary wedge position should be equal to a sample from which of the following?

1- coronary sinus

**2- femoral artery**

3- pulmonary artery

4- right atrium

5- right ventricle

Q43. A 29-year-old female with Turner syndrome is referred by the GP concerned about her blood pressure which he has found to be persistently elevated at between 14

0- 160/90 mmHg. On examination she is noted to have a blood pressure of 148/92 mmHg, with no radio-femoral delay and no murmur audible. Which of the following is the most liekely cause of her hypertension?

1- Coarctation of the aorta

**2- Essential hypertension**

3- Primary hyperaldosteronism

4- Renal artery stenosis

5- Single horsehoe kidney

Q44. A 29-year-old male is admitted with a one hour history of severe central chest pain associated with vomiting. It transpires that he used cocaine three hours ago. His Blood preesure is 142/74 mmHg and a pulse of 110 beats per minute regular. His ECG reveals 3 mm ST segment elevation in leads V2-5. Which of the following is the most appropriate treatment for this patient?

1- Abciximab

**2- Angiography +/- PTCA**

3- Isoket infusion

4- Low molecular weight heparin

5- Tissue plasminogen activator (rtP A)

Q45. A 60-year-old female presents with a 4 week history of low grade fever, dyspnoea and fatigue. Two months ago she received a prosthetic valve replacement for mitral regurgitation. On examination she has a temperature of 37.7oC. At trans-oesophageal echocardiography vegetations are seen. A clinical diagnosis of prosthetic valve endocarditis is made. Which of the following is the most likely causative organism?

1- Actinomycoses

2- Candida albicans

3- Enterococci

**4- Staphylococcus aureus**

5- Streptococcus viridans

Q46. A 55-year-old male with ischaemic heart disease is seen for review. He reports that he has developed some muscle aches and pains and you attribute this to a myalgia associated with simvastatin. His Creatinine kinase is within the normal range. However, his dyslipidaemia is still sub-optimal and you wish to add in a further agent. Which of the following agents would not be an appropriate additional therapy for this patient in view of his presentation?

1- Chloestyramine

2- Ezetimibe

**3- Gemfibrozil**

4- Nicotinic acid

5- Omega-3 fatty acids

Q47. Which of the following statements regarding B-type natriuretic peptide (BN P) , is correct?

1- BNP is synthesised predominantly in the cerebrovascular circulation

2- The stimulus for BNP release is increased ventricular pressure load

3- BNP synthesis is decreased by thyroid hormone

**4- BNP causes arterial and venous smooth muscle vasodilatation**

5- BNP augments sodium reabsorption in the kidney

Q48. A 60-year-old man takes atenolol for hypertension. Which of the following side effects is he most likely to be aware of two hours after taking atenolol?

**1- Fatigue**

2- Hesitancy of micturition

3- Nausea

4- Orthostatic hypotension

5- Somnolence

Q49. A 70-year-old male with a 5 year history of type II diabetes mellitus presents for annual review with a blood pressure of 188/88 mmHg. Clinical examination was normal. An ECG reveals evidence of left ventricular hypertrophy. Which one of the following drugs is the most appropriate treatment for this patient's hypertension?

1- Atenolol

2- Amlodipine

3- Bendroflumethiazide

4- Doxazosin

**5- Valsartan**

Q50. An 87-year-old woman was referred to clinic with a two-month history of alternating constipation and diarrhea, night sweats and fatigue. The patient was not sure if she had lost any weight. On examination she appeared thin and pale. Pulse 80/minute and regular. A systolic murmur was audible at the apex, radiating to the axilla. No diastolic murmurs were heard. Investigations Blood cultures: positive Transthoracic echocardiogram revealed a vegetation on the mitral valve What is the most likely causative organism in this case?

1- Coagulase-negative Staphylococcus

2- Staphylococcus aureus

**3- Streptococcus bovis**

4- Streptococcus mitis

5- Streptococcus viridans

Q51. A paper describes a new diagnostic test for myocardial infarction. You want to know what proportion of patients who are classified as not having had a myocardial infarction by the test will actually not have had a myocardial infarction. Which one of the following measurements would indicate this?

1- accuracy

**2- negative predictive value**

3- positive predictive value

4- sensitivity

5- specificity

Q52. A 40-year-old man received an orthotopic cardiac transplant 7 years ago to treat a dilated cardiomyopathy. Since that time he has been healthy, with no episodes of rejection or infection. Over the next year, however, he develops fatigue with exercise. He has worsening pedal edema and orthopnea. On physical examination, his vital signs are Temperature 36.3°C, Pulse 78, Respiratory rate 16, and BP 130/70 mm Hg. There are no murmurs, rubs, or gallops audible. Bibasilar crackles in the lungs are audible. Which of the following conditions is most likely to account for these findings?

1- Angiosarcoma

**2- Coronary arteriopathy**

3- Mitral valvular stenosis

4- Myocarditis

5- Pulmonary hypertension

Q53. A 17-year-old female presents after taking an overdose of her grandmother's medication. Investigations revealed: Serum potassium 6 mmol/L (3.5-4.9) Which one of the following drugs is the most likely cause of this abnormality?

1- Aspirin

2- Digoxin

3- Fluoxetine

4- Omeprazole

**5- Propranolol**

Q54. A 65-year-old was advised to start oral digoxin at a dose of 250 µg daily. His physician explained that the full effect of this treatment would not be apparent for at least a week. Which one of the following pharmacokinetic variables did the physician use to give this explanation?

1- bioavailablity

**2- half-life**

3- plasma protein binding

4- renal clearance

5- volume of distribution

Q55. Which of the following is first to rise following myocardial infarction?

1- Creatine Phosphokinase

2- CK-MB

3- Lactate dehydrogenase

**4- Myoglobin**

5- Troponin I

Q56. A 55-year-old man with Type 2 Diabetes Mellitus and Ischaemic Heart Disease has been researching the Internet! He asks your opinion on Laser Transmyocardial Revascularisation. Which of the following statements about this technique is true?

1- avoids the need for major surgery

**2- damages the endocardium**

3- involves destruction of coronary stenoses

4- is of particular use in severe proximal coronary artery disease

5- stimulates collateral vessel formation

Q57. Which of the following antiarrhythmic drugs may be used in the treatment of long QT syndrome?

1- Amiodarone

**2- Atenolol**

3- Flecainide

4- Propofanone

5- Sotalol

Q58. Elevation of the jugular venous pressure during inspiration is most likely to be found in which of the following situations?

1- a normal physical exam

2- cardiac tamponade

**3- constrictive pericarditis**

4- dilated cardiomyopathy

5- myocarditis

Q59. A 27-year-old woman presented with a history of sudden onset right-sided weakness and dysphasia lasting 8 hours. She had returned to the UK from Australia 2 days previously. There was no significant past medical history and physical examination was normal. Chest X-ray, ECG and a CT head scan were all normal. Which one of the following investigations is most likely to reveal the underlying cause of this episode?

1- Carotid doppler ultrasonography

2- Cerebral angiography

3- MRI of head

**4- Transoesophageal echocardiography**

5- Transthoracic echocardiography

Q60. A 45-year-old HIV-seropositive man attended the outpatient clinic for the results of a fasting serum lipid test. He had been diagnosed with HIV disease two years previously and was started on highly active antiretroviral therapy. One year after commencing antiretrovirals, his CD4 count had risen from 10 cells/ mm3 to 120 cells/ mm3 with an undetectable viral load. His current medications consisted of zidovudine, lamivudine lopinavir, aciclovir, fluconazole and co-trimoxazole. Fasting lipid profile revealed: Serum cholesterol 4.1 mmol/L (<5.2) Serum triglyceride 18.2 mmol/L (0.5 - 1.7) Which of the following medications is most likely to be responsible for these results?

1- Co-trimoxazole

2- Fluconazole

3- Lamivudine

**4- Lopinavir**

5- Zidovudine

Q61. A 65-year-old is investigated for dyspnoea and is shown to have an ejection fraction of 45% on echocardiography. How is left ventricular ejection fraction calculated?

1- Cardiac output/stroke volume

2- End systolic volume/end diastolic volume

3- End diastolic volume/end systolic volume

4- End diastolic volume/stroke volume

**5- Stroke volume/end diastolic volume**

Q62. A 45-year-old man is admitted with central crushing chest pain, sweating and vomiting of 1 hour duration. He is conscious with a pulse rate of 100bpm and a blood pressure of 200/125mmHg. An ECG shows > 2mm ST elevation in leads I, II, aVL and V2-6. CBC: normal, U & E: normal. Troponin T: 100ng/ml. Apart from the presence of xanthelasma (+) there are no other positive findings on clinical examination. He is given oxygen, aspirin, morphine and intravenous 5mg atenolol. What will you do next?

1- CABG

2- Nitroprusside infusion

**3- PTCA**

4- Trombolysis with rt-PA

5- Thrombolysis with streptokinase

Q63. A 74-year-old man presented with intermittent chest pain at rest. Which one of the following would most strongly suggest that the pain was due to myocardial ischaemia?

1- Associated dyspnoea

2- Coexistent claudication

3- Past history of cigarette smoking

**4- Radiation of pain to the jaw**

5- Relief of pain by sublingual nitrate

Q64. Which ONE of the following is associated with Marfan's syndrome?

1- Autosomal recessive inheritance

2- increased upper : lower body ratio

3- Mental retardation

4- Pulmonary stenosis

**5- Retinal detachment**

Q65. A randomised double-blind placebo controlled study of a cholesterol-lowering drug for the primary prevention of coronary heart disease was conducted. It had a fiveyear follow up period. The results showed an absolute risk of myocardial infarction in the group-receiving placebo during was 10 per cent. The relative risk reduction of those given the cholesterol lowering medication was 0.8. Approximately what number of patients will need to be treated with the drug for five years to prevent one myocardial infarction?

1- 10

**2- 13**

3- 15

4- 20

5- 23

Q66. Which of the following infections is least likely to cause myocarditis?

1- Coxsackie virus

2- Diphtheria

3- Chagas Disease

**4- Syphillis**

5- Toxoplasmosis

Q67. In Down syndrome, which is the commonest congenital heart defect?

1- Atrial septal defect

**2- Atrioventricular septal defect**

3- Patent ductus arteriosus

4- Tetralogy of Fallot

5- Ventricular septal defect

Q68. A 21-year-old man with Hypertrophic Cardiomyopathy presents in clinic with dizzy spells but has not had any syncopal episodes. Which of the following, if present, would be indicate an increased risk of sudden cardiac death?

1- Asymmetric septal hypertrophy with maximum wall thickness of 2.1 cm

**2- Blood Pressure drop of 20mmHg during peak exercise tolerance testing**

3- Left Ventricular Outflow Tract Gradient of 80 mmHg

4- Systolic Anterior Movement of the mitral valve on echocardiography

5- Worsening exertional angina

Q69. Which of the following compounds has a vasodilating effect?

1- Antidiuretic hormone

**2- Calcitonin**

3- Endothelin

4- Renin

5- Somatostatin

Q70. A 70-year-old woman is referred with hypertension. Despite lifestyle advice, her GP notes blood pressure recordings averaging 170/100 mmHg. She was commenced on an antihypertensive but one month later complains of symptoms suggestive of postural hypotension. Which one of the following is most likely to be responsible for this side effect?

1- amlodipine

**2- atenolol**

3- bendroflumethiazide

4- doxazosin

5- lisinopril

Q71. You are asked to see a patient in the Intensive Care Unit who is short of breath and tachycardic to rule out a cardiac cause of her symptoms. A right heart catheter reveals that the mixed venous O2 saturation is 70%; the pulmonary capillary wedge O2 saturation is 97%. The haemoglobin is normal and the patient is afebrile. Which of the following is the most appropriate statement that could be applied to her features?

1- her cardiac output is decreased

**2- her cardiac output is normal**

3- her heart is normal

4- she has high-output failure

5- she is in shock due to a non-cardiac cause

Q72. A 78-year-old female is referred by her GP with high blood pressure. Over the last three months her blood pressure is noted to be around 180/80 mmHg. She has a body mass index of 25.5 kg/m2 , is a non-smoker. There are no features to suggest a secondary cause for her hypertension. Which of the following is the most appropriate treatment for her blood pressure?

1- Alpha-Blocker

2- Angiotensin Converting Enzyme (AC E) Inhibitor

3- Angiotensin Blocker

4- Beta-blocker

**5- Calcium channel blocker**

Q73. A 23-year-old male presents with a deep vein thrombosis. He has no past medical history but his mother has suffered from deep vein thromboses. Which of the following is likely to be found on haematological assessment?

1- Factor V Leiden mutation

2- Protein S deficiency

3- Protein C deficiency

**4- Antithrombin deficiency**

5- Lupus anticoagulant

Q74. A post-marketing surveillance study of a new heart failure therapy to the market was carried out on 10,000 subjects who had completed clinical trials. Which one of the following most accurately reflects the information generated from such a study?

**1- Adverse events profile**

2- Cost benefit analysis

3- Cost effectiveness

4- Comparative therapeutic efficacy

5- Drug potency

Q75. A 60-year-old man's echocardiogram shows a dilated left ventricular cavity with the remainder of the other chamber sizes normal. The most likely diagnosis is which of the following?

**1- aortic regurgitation**

2- aortic stenosis

3- hypertensive heart disease

4- mitral regurgitation

5- mitral stenosis

Q76. Which of the following is true regarding the coronary circulation?

**1- Adenosine is an important mediator of metabolic vasodilation.**

2- Coronary blood flow is independent of myocardial oxygen consumption due to autoregulation.

3- Coronary blood flow within a normal range of blood pressure is primarily determined by perfusion pressure.

4- Increased myocardial O2 demand is met primarily by increasing O2 extraction.

5- The vasodilatory reserve of the epicardium and endocardium is equivalent under normal physiologic conditions.

Q77. A 24-year-old woman develops infective endocarditis involving the aortic valve. She receives a porcine bioprosthesis because of her desire to have children and not to take anticoagulant medication. After ten years, she must have this prosthetic valve replaced. Which of the following pathologic findings in the bioprosthesis has most likely led to the need for replacement?

**1- Calcification with stenosis**

2- Dehiscence

3- Infective endocarditis

4- Strut failure

5- Thrombosis

Q78. A 74-year-old patient with a history of ischaemic heart disease presents with shortness of breath. He is finding difficulty mobilising any further than around his home. An ECHO demonstrates an ejection fraction of approximately 20%. He is on maximal drug therapy for heart failure, and is not thought to have an infective chest exacerbation. The ECG demonstrates sinus rhythm, with a rate of 75/min and widened QRS complexes. What is the most appropriate treatment option?

1- Addition of Perhexiline therapy

2- Palliation as an inpatient with PRN morphine

3- Referral for implantable defibrillator

**4- Referral for biventricular pacing**

5- Referral for cardiac transplant

Q79. A 73-year-old male is referred with palpitations. On 24 hr ambulatory ECG monitoring he is shown to have paroxysmal atrial fibrillation and is treated with amiodarone. Through blockade of which of the following receptors is the antiarrhythmic effect of amiodarone most attributed?

1- Alpha receptors

2- Beta receptors

3- Calcium channels

**4- Potassium channels**

5- Sodium channels

Q80. A 35-year-old woman presents with fever, rigors, malaise and weight loss. She had undergone prosthetic valve replacement 1 month before. C3 level was reduced and echocardiography showed small vegetations. Which microorganism is most likely to be responsible for this?

1- Candida

2- Coxiella burnetii

3- Staphylococcus aureus

**4- Staphylococcus epidermidis**

5- Streptococcus viridans

Q81. A 70-year-old male is referred by his GP for management of recently diagnosed congestive heart failure. The patient has a history of poorly controlled hypertension. Over the last three months he has been aware of deteriorating shortness of breath, fatigue, and orthopnea. Over the last month he had been commenced on Digoxin (62.5 micrograms dail y) , Furosemide (80 mg dail y) , and amiloride 10 mg. On examination he has a pulse of 96 bpm regular, a blood pressure of 132/88 mmHg. His JVP was not raised, he had some scattered bibasal crackles on auscultation with a displaced apex beat in the anterior axillary line, 6th intercostal space. Auscultation of the heart revealed no murmurs and he had peripheral oedema to the mid tibia. Investigations showed: Serum sodium 144 mmol/L Serum potassium 3.5 mmol/L Serum urea 17 mmol/L Serum creatinine 175 umol/L Serum digoxin 0.7 ng/mL (therapeutic range 1.0-2.0) One month previously his urea had been 11 mmol/l and creatinine 110 micromol/l. An ECG reveals left ventricular hypertrophy and Chest X-ray shows cardiomegaly and calcified aorta. What is the most appropriate next step in management?

**1- Add an ACE inhibitor to the current regimen**

2- Add atenolol at a dose of 25mg daily

3- Increase digoxin to 0.25 mg daily

4- Increase furosemide to 80 mg twice daily

5- Maintain on current therapy.

Q82. A 75-year-old male is admitted with chest pain and dyspnoea. His troponin T is 0.5 (NR <0.02 ng/m l) . His pain subsides and he is generally well, although dyspnoea restricts his mobilisation. He is unable to manage the stairs, but can mobilise solely around the ward. Whilst being monitored his telemetry demonstrates short runs of non sustained ventricular tacchycardia, associated with lightheadedness. What is the next most appropriate investigation for this patient?

1- 24hr tape

2- Coronary angiography

**3- Echocardiography**

4- Electrophysiological studies

5- Outpatient Cardiology referral

Q83. A 60-year-old male with a 8 year history of type 2 diabetes is being treated with Metformin 1g bd and gliclazide 80 mg daily. He is obese, has gained weight over the last year and his HbA1c has deteriorated from 7.5 to 7.9%. His GP wishes to stop the gliclazide and treat him with Rosiglitazone. The patient wants to know the side effects of Rosiglitazone. Which of the following would be regarded as a typical side effect of Rosiglitazone therapy?

1- Acanthosis nigricans

**2- Fluid retention**

3- Lactic acidosis

4- Myositis

5- Photosensitivity rash

Q84. A 17-year-old girl was found collapsed and drowsy. Her 12-lead ECG showed a sinus tachycardia of 120 beats per minute with a corrected QT interval of 500 ms (normal <470). Which of the following drugs is the most likely cause of her presentation?

1- Amphetamine

**2- Diphenhydramine**

3- Glue sniffing

4- Methadone

5- Methanol

Q85. A 19-year-old woman presents to the clinic having had 5 blackouts over the last year, all while she is standing up. She gets warnings of blurred vision, nausea, feeling hot. She had been witnessed twice to have jerking of all limbs while she is unconscious. The attacks last 30-60 seconds. She recovers quickly after the attacks. She has never bitten her tongue or sustained any injuries. Physical examination and an ECG are normal. Her grandmother and sister suffer from epilepsy. Which of the following investigations is the most appropriate?

1- EEG

2- 24 hour ECG recording

3- CT brain

4- ECHO

**5- Tilt table test**

Q86. A 66-year-old insulin dependent diabetic with a treated potassium of 5.4 mmol/l (3.5-5) and palpitations develops pulseless ventricular tachycardia. The anaesthetist is supporting Airway and Breathing. Which of the following is the next step in his management?

1- Adrenaline 1mg

2- Amiodarone 300mg

3- Cardiopulmonary resuscitation 15:2 for 2 mins

**4- Defibrillation at 150J biphasic**

5- Praecordial thump

Q87. A 55-year-old female who had a long history of alcohol abuse presents with diarrhoea and back pain one month after having a pacemaker inserted. On examination she had a fever of 39°C and her abdomen was soft and non-tender. What is the most likely diagnosis?

1- Diverticulitis

2- Ischaemic colitis

3- Pancreatitis

4- Pseudomembranous colitis

**5- Staphylococcal discitis**

Q88. On auscultation of the heart of a 3

0- year-old female a loud first heart sound is heard. Which of the following may be responsible for thsi auscultatory feature?

1- a long preceding diastolic interval

**2- Atrial premature beat**

3- increrased pulmonary arterial pressure

4- increased systemic arterial pressure

5- rupture of a papillary muscle

Q89. A 35-year-old healthy woman has a faint systolic murmur on physical examination. An echocardiogram is performed, and she is found to have a bicuspid aortic valve. In explaining the meaning of this finding to her, the most appropriate statement is that?

**1- An aortic valve replacement is eventually likely to be required.**

2- Other family members are likely to have the same condition

3- She should be treated with a cholesterollowering agent

4- The problem resulted from past injection drug usage

5- This is one manifestation of an underlying autoimmune disease process

Q90. A 72-year-old man presents with an episode of collapse. He has had two similar episodes recently, each lasting about one minute. Four years ago he suffered an anterior myocardial infarction. On examination he was orientated and symptom-free with a regular pulse rate of 80 bpm, BP 140/80 mmHg and the apex beat was displaced to the left. There was an apical systolic murmur. There were no signs of trauma. ECG showed sinus rhythm, Q waves and ST segment elevation anteriorly without reciprocal depression. What is the diagnosis?

1- acute anterior myocardial infarction

2- cerebrocasvular accident

3- epileptic seizure

4- pulmonary embolism

**5- ventricular tachycardia**

Q91. A 50-year-old politician presented with a strange fluttering sensation in his chest, but no chest pain. The symptoms had lasted 24 hours. An ECG revealed atrial fibrillation with a ventricular rate of 130 beats per minute. Which one of the following drugs is most likely to restore sinus rhythm?

1- Adenosine

2- Bisoprolol

3- Digoxin

**4- Flecainide**

5- Verapamil

Q92. Which ONE of the following is true regarding acute pulmonary embolism?

1- a normal ECG excludes the diagnosis

2- embolectomy is more effective than thrombolysis in improving survival

3- Heparin is as effective as thrombolytic therapy

4- the presence of hypoxaemia is an indication for thrombolysis

**5- thrombolysis administered through a peripheral vein is as effective as through a pulmonary artery catheter**

Q93. A 55-year-old male presents with dysphagia, retrosternal discomfort and weight loss. Studies reveal achalasia. Which of the following is most likely to provide symptomatic relief?

1- Buscopan

2- Diazepam

3- Omeprazole

4- Nifedipine

**5- Surgical cardiomyotomy**

Q94. A 60-year-old man has a three month history of worsening dyspnoea. He has been healthy all his life with no major illnesses. His blood pressure is 118/92 mmHg, he has a murmur and has audible crackles at both bases. His serum glucose is 5.6 mmol/L. His total serum cholesterol is 4.8 mmol/L. The serum creatine kinase is not elevated. The most likely explanation for these findings is?

1- Alcoholic cardiomyopathy

2- Aortic dissection

**3- Calcified bicuspid aortic valve**

4- Mitral valve annulus calcification

5- Tricuspid valve endocarditis

Q95. A 45-year-old male type 1 diabetic with a number of complex diabetic gastrointestinal complications is noted to have a PR interval of 0.18s, a QRS duration of 0.1s and a QT interval of 0.48s on routine ECG. Which of the following drugs may be responsible?

1- Co-trimoxazole

2- Cimetidine

3- Domperidone

**4- Erythromycin**

5- Octreotide

Q96. A 44-year-old man has had no major medical problems throughout his life, except for arthritis pain involving all extremities for the past couple of years. He has had worsening orthopnoea and ankle oedema in the past six months. He is afebrile. There is no chest pain. A chest X-ray shows cardiomegaly with both enlarged left and right heart borders, along with pulmonary oedema. Laboratory test findings include sodium 139 mmol/L, potassium 4.3 mmol/L, urea 7 mmol/L creatinine 95 µmol/L, and glucose 8.6 mmol/L. Which of the following additional laboratory test findings is he most likely to have?

1- Anti-centromere antibody titer of 1:320

2- Erythrocyte sedimentation rate of 79 mm/Hr

3- Haemoglobin of 10.7 g/dL with MCV of 72 fL

**4- Serum ferritin of 3400 pmol/L**

5- Spherocytes in his peripheral blood smear

Q97. A 51-year-old woman has had several syncopal episodes over the past year. Each episode is characterized by sudden but brief loss of consciousness. She has no chest pain. She has no ankle edema. On brain MRI there is a 1.5 cm cystic area in the left parietal cortex. A chest X-ray shows no cardiac enlargement, and her lung fields are normal. Her serum total cholesterol is 6.5 mmol/L. Which of the following cardiac lesions is she most likely to have?

1- Cardiac amyloidosis

2- Ischemic cardiomyopathy

**3- Left atrial myxoma**

4- Mitral valve prolapse

5- Tuberculous pericarditis

Q98. A 17-year-old boy whose brother had hypertrophic cardiomyopathy was referred for a cardiological assessment. His echocardiogram confirmed the condition. Which one of the following echocardiographic features is the most important risk factor for sudden cardiac death?

1- A gradient of 10 mmHg across the left ventricular outflow tract

**2- Significant thickening of the intraventricular septum**

3- An enlarged left atrium

4- Systolic anterior motion of the mitral valve

5- The presence of mitral regurgitation

Q99. Which of the following concerning the use of intravenous bicarbonate in cardiorespiratory arrest is correct?

**1- exacerbates intracellular acidosis**

2- has a positive inotropic effect on ischaemic myocardium

3- improves oxygen release to the tissues

4- increases cerebral blood flow

5- reduces pre-existent hyperkalemia

Q100. A 72-year-old man presented following three episodes of transient loss of consciousness not associated with chest pain. There was a previous history of an anterior myocardial infarction. On examination his blood pressure was 140/80 mmHg and the apex beat was diffuse in character and displaced to the left. There were no neurological signs. The ECG showed sinus rhythm with occasional ventricular extrasystoles, deep anterior Q waves and ST segment elevation in leads V2 - V6, without reciprocal depression. Which one of the following would be the most appropriate initial course of action?

1- Administer tissue plasminogen activator

2- Arrange an electroencephalogram

3- Arrange immediate CT brain scan

**4- Observe in the coronary care unit**

5- Proceed to coronary arteriography

Q101. A 68-year-old woman was admitted to hospital with severe acute dyspnoea. She denied having any chest pain but said that she had become progressively breathless over the past three months. On examination her pulse was 120 beats per minute and regular. Her blood pressure was 95/55 mmHg and her jugular venous pressure was elevated to the angle of the jaw. Her heart sounds were normal. Auscultation of her chest revealved bilateral fine inspiratory crackles to the mid zones. She had haemorrhages in both fundi. Investigations revealed: Haemoglobin 5.6 g/dL (NR 11.5 - 16.5) Haematocrit 0.19 (NR 0.36 - 0.47) MCV 118 fL (NR 80 - 96) MCH 33.0 pg (NR 28 - 32) White cell count 3.4 x 109 /L (NR 4 - 11) Platelets 95 x 109 /L (NR 150 - 400) Serum Vitamin B12 Result pending Serum folate Result pending The ECG showed left bundle brach block, which had been documented previously She is given 80mg of intravenous furosemide which results in an excellent diuresis What is the next most appropriate immediate step in her management?

**1- Blood transfusion**

2- Bone marrow aspiration

3- Start intramuscular Vitamin B12 and oral folic acid

4- Start oral ferrous sulphate

5- Thrombolyse with t-PA

Q102. A 57-year-old male is admitted with acute dyspnoea dn chest pain. A PE is confirmed. Which of the following is a recognised feature of a significant pulmonary embolism?

1- reduced plasma lactate levels

**2- an increase in serum troponin levels**

3- an arterial pH less than 7.2

4- blood gases show increased pCO2 on air

5- normal D-dimer levels

Q103. A 14-year-old boy presents with fever. Which of the following might contribute to a diagnosis of rheumatic fever?

1- The finding of target lesions on the hands.

2- The finding of tender nodules in the fingertips.

**3- A prolonged PR interval on ECG.**

4- A CRP of 10.

5- Positive Romberg's sign.

Q104. A 66-year-old insulin dependent diabetic given ibuprofen for a knee injury is admitted with palpitations. His electrocardiogram shows a rate of 105 beats per min, with absent P waves and tall T waves. His Urea and Electrolytes show: Sodium 132 mmol/l (133-144) Potassium 6.4 mmol/l (3.5-5) Urea 11 mmol/l (3-8) Creatinine 180 micromol/l (50-100) In this scenario, which of the following is the most appropriate immediate management?

**1- Calcium Chloride 10mmol IV**

2- Calcium Resonium orally

3- Dextrose 50mls 50% with 10 units insulin

4- Dialysis

5- Furosemide 1mg/kg IV

Q105. A 16-year-old boy is admitted after a blackout at the dentist. His mother describes how he blacked out as the dentists began performing a filling and that he jerked his arms a few times and was then incontinent. He awoke after a minute or so and was oriented but nauseous.There were no similar episodes in the past and he is totally unaware of what happened. Examination was normal and his ECG was normal. Which one of the following is the most likely diagnosis?

1- Complex partial seizure

2- Pseudoseizure

3- Stokes-Adams attack

4- Tonic-clonic seizure

**5- Vasovagal syncope**

Q106. A 58-year-old male presents with acute dyspnoea following a convulsion. On examination his blood pressure was 240/120 mmHg and fundal examination reveals pailloedema with haemorrhages and cotton wool spots. His urea, electrolytes and creatinine are normal but chest X-ray reveals pulmonary oedema and cardiomegaly. Which one of the following is the most appropriate immediate treatment?

1- atenolol 50 mg orally

2- intravenous labetalol

**3- intravenous sodium nitroprusside**

4- nifedipine 5 mg sublingually

5- nifedipine LA 30 mg orally

Q107. A 59-year-old man is admitted with chest pain of 8 hours duration and has ST elevation inn the inferior leads on his admission ECG. An electrocardiogram from a previous clinic visit shows sinus rhythm two months ago. He has insulin dependent diabetes mellitus and chronic renal failure. Investigations reveal: Fasting plasma glucose 7.4 mmol/l (3.5-6) Sodium 137 mmol/l (134-144) Potassium 4.4 mmol/l (3.5-5)> Urea 10 mmol/l (3-8) Creatinine 200 micromol/l (50-100) Which of the following which represent an absolute contraindication to the use of thrombolysis?

1- Allergy to penicillin.

2- Gastro intestinal bleeding in last 3 months.

**3- History of haemorrhagic stroke.**

4- Ischaemic stroke 12 months ago

5- On warfarin therapy

Q108. Which one of the following is the most likely mechanism by which Aspirin exerts its beneficial effects in patients with coronary artery disease?

1- anti-inflammatory action

**2- cyclo-oxygenase inhibitation**

3- glycoprotein IIB/IIIA receptor inhibitation

4- inhibitation of binding of adenosine diphosphonate to its platelet receptor

5- structural changes in platelets

Q109. A 65-year-old male attends clinic complaining of breathlessness. He has endstage cardiac failure due to dilated cardiomyopathy. Currently he takes Furosemide, Lisinopril and Cardvedilol. Which one of the following drugs should be added to his current therapy?

1- Diltiazem

**2- Digoxin**

3- Isosorbide Mononitrate

4- Nicorandil

5- Vitamin C

Q110. A 52-year-old male presents with a 3 week history of fevers, deteriorating breathlessness and fatigue. Two years ago he underwent prosthetic valve replacement for a calcified bicuspid aortic valve. On examination he has a temperature of 37.7oC and four nailfold infarcts. Vegetations are demonstrated through trans-oesophageal echocardiography. Which of the following is the most likely causative organism?

1- Candida spp.

2- Enterococcus

3- Staphylococcus aureus

4- Staphylococcus epidermidis

**5- Streptococcus viridans**

Q111. A 35-year-old woman presented with a history of intermittent light-headedness. Clinical examination and 12-lead ECG were normal. Which of the following, if present on a 24 hour Holter ECG tracing, would be the most clinically important?

1- Atrial premature beats.

2- Profound sleep-associated bradycardia.

**3- Supraventricular tachycardia.**

4- Transient Mobitz type 1 atrioventricular block.

5- Vertricular premature beats.

Q112. A 65-year-old African man with a known history of hypertension presents with ankle oedema after taking an antihypertensive prescribed by his General Practitioner. He is now found to have a Blood Pressure of 160/100 mmHg. Which of the following would be the preferred drug for this patient?

1- Amlodipine

2- Atenolol

**3- Bendromethiazide**

4- Ramipril

5- Verapamil

Q113. A 30-year-old man presents with a history of transient loss of consciousness and palpitations. His ECG shows ventricular tachycardia. Which of the following treatments should be avoided?

1- adenosine

2- amiodarone

3- DC cardioversion

4- flecainide

**5- verapamil**

Q114. A 45-year-old female presents with a two day history of fever and joint pains. She has a past history of hypertension for which she is receiving anti-hypertensives. On examination she has a temperature of 38 oC, a facial rash and slight swelling with tenderness of the wrist and ankle joints. Which of the following anti-hypertensives is most likely to be responsible for her presentation?

1- Alpha-methyldopa

2- Bendroflumethiazide

**3- Hydrallazine**

4- Minoxidil

5- Phenoxybenzamine

Q115. A 34-year-old male presents with episodes of breathlessness on exertion. Examination reveals a loud P2 and fixed splitting of the second sound. Which of the following may be responsible for these signs?

**1- Excess maternal alcohol consumption**

2- Homocystinuria

3- 47 XXY karyotype

4- Maternal chicken pox infection

5- Maternal thalidomide therapy

Q116. A 70-year-old man is admitted with an acute Q-wave inferior Myocardial Infarction. On day 5, he suddenly develops pulmonary oedema and a loud systolic murmur. Which of the following would be the most useful in establishing a diagnosis?

1- chest X-ray

2- coronary arteriography

3- ECG

**4- right heart catheterisation and oximetry**

5- serum cardiac enzymes

Q117. A 40-year-old male attends for a consultation after discovering that his brother has been diagnosed with a familial hypertrophic obstructive cardiomyopathy. Which screening method should he be offered?

1- Coronary Angiograms

2- Exercise ECG

3- Genetic testing

**4- Transthoracic Echocardiogram**

5- Transoesophageal Echocardiogram

Q118. A 58 year-old male is admitted with a blood pressure of 210/120 and episodic runs of ventricular tachycardia. Investigations confirm the presence of a right adrenal phaeochromocytoma. Which one of the following would be the most appropriate initial therapy?

1- Amiodarone

2- Atenolol

3- Lidocaine

**4- Phenoxybenzamine**

5- Propofenone

Q119. Which of the following statements are true of coronary artery anatomy?

**1- Right bundle branch block in acute anterior myocardial infarction suggests obstruction prior to the first septal branch of the left anterior descending coronary artery**

2- the posterior descending artery is usually a branch of the circumflex artery

3- The sinus node is supplied by a branch of the right coronary in over 90% of subjects.

4- The AV node is supplied by the left anterior descending coronary artery.

5- The left main stem is about 4 cm long

Q120. Left axis deviation is seen on the ECG in which of the following conditions?

**1- atrioventricular canal defects.**

2- Ebstein's anomaly.

3- large ventricular septal defect.

4- patent ductus arteriosus.

5- tetralogy of Fallot.

Q121. A 72-year-old man is admitted with fast atrial fibrillation but is receiving treatment with digoxin. An inadequate dose is suspected. A sample of blood is drawn six hours after the last dose of digoxin and a plasma concentration is requested. Which of the following factors explains the six hour wait before measuring the digoxin concetration?

1- enterohepatic circulation

2- the rate of absorption

3- the rate of clearance

**4- the rate of distribution**

5- the rate of elimination

Q122. A 26-year-old man is noted to have cyanosis of the lower limbs and clubbing of the toes but not the fingers. Which of the following statements is true?

**1- He has Eisenmenger's syndrome.**

2- He has coarctation of the aorta.

3- He is likely to have a loud continuous 'machinery' murmur below the left clavicle.

4- He is likely to need urgent surgery.

5- He has had a Blalock shunt operation.

Q123. A publication reports the outcome of a new statin therapy in a placebo controlled primary prevention of ischaemic heart disease in a diabetic population. 1000 patients were randomised to receive the new therapy and 1000 allocated to placebo. The study was completed over a five year period. In the placebo group there were 150 myocardial infarcts and in the group treated with the new statin there were 100 myocardial infarcts. What is the number needed to treat to prevent one MI over the course of this study?

1- 10

**2- 20**

3- 30

4- 40

5- 50

Q124. A publication reports the outcome of a new statin therapy in a placebo controlled primary prevention of ischaemic heart disease in a diabetic population. 1000 patients were randomised to receive the new therapy and 1000 allocated to placebo. The study was completed over a five year period. In the placebo group there were 150 Myocardial infarcts and in the group treated with the new statin there were 100 infarcts. What is the relative risk reduction of MI afforded by statin therapy?

1- 15%

2- 25%

**3- 33%**

4- 40%

5- 50%

Q125. A 62-year-old man has experienced substernal chest pain upon exertion with increasing frequency over the past 1 year. An electrocardiogram shows T wave inversion in the anterolateral leads at rest. He has a total serum cholesterol of 7.0 mmol/l. On angiography, he has an 85% narrowing of the left anterior descending artery. Which of the following events is most likely to occur in this patient?

1- A systemic artery embolus from thrombosis in a peripheral vein.

2- A systemic artery embolus from a left atrial mural thrombus.

3- Pulmonary embolism from a left ventricular mural thrombus

**4- A systemic artery embolus from a left ventricular mural thrombus.**

5- Pulmonary embolism from thrombosis in a peripheral vein.

Q126. In a trial of a new drug the following results were obtained: improved not improved treatment group 44 16 placebo group 36 26 Which of the following statements regarding the statistical analysis or interpretation of the trial is true?

1- A Student t-test could be used.

2- Pearson's coefficient of linear regression would be an appropriate significance test.

**3- The data could be evaluated using the Chisquared test.**

4- The numbers are too small to draw any conclusions.

5- The results so obviously show the benefit of treatment that statistical analysis is not required.

Q127. With regard to cardiac troponins, which ONE of the following statements is correct?

1- Elevated plasma troponin concentrations are specific markers of ischaemic heart disease

2- Plasma troponin concentrations are typically elevated three weeks after an acute myocardial infarction

3- Plasma troponin concentrations are typically reduced in subjects with atrial fibrillation

4- The specificity of troponins for myocardial injury is similar to that of creatine kinaseMB

**5- The clinical role of troponins is to rule out acute myocardial infarction in patients presenting with chest pain**

Q128. A 64-year-old man is admitted with a right femoral neck fracture following a fall. Also seen in the radiograph of the pelvis are several prominent calcified vessels. What is the most appropriate next step in management of this finding?

1- Anticoagulate with heparin

**2- Ignore it**

3- Order a pulmonary ventilation-perfusion scan

4- Request a serum troponin test

5- Start the patient on a nitrate infusion

Q129. Whilst attending the cardiology clinic, the staff nurse measures the blood pressure of a 6

**1- year-old man, and finds that it is 183/100 mmHg sitting and 190/105 standing. He has a heart rate of 81/minute, with an irregularly irregular rhythm. On auscultation of the heart, there are no murmurs, but he has bibasilar crackles on chest examination. Which of the following pathological findings is most likely to be present?**

**1- Left ventricular hypertrophy**

2- Left atrial myxoma

3- Occlusive coronary atherosclerosis

4- Cor pulmonale

5- Mitral regurgitation

Q130. Which of the following lipid abnormalities are most likely to be detected in a diabetic patient?

1- Elevated HDL concentrations

2- Elevated LDL concentrations

3- Large buoyant LDL molecules

4- Reduced triglycerides concentrations

**5- Small dense LDL molecules**

Q131. A 72-year-old man noted to have a systolic murmur undergoes an echocardiogram which demonstrates aortic stenosis. Which of the following is associated with a poor prognosis in this patient?

1- Aortic regurgitation

2- Cardiomegaly on chest X-ray

**3- Clinical features of left ventricular failure**

4- ECG evidence of left ventricular hypertrophy

5- severe valvular calcification on echocardiogram

Q132. A 68 year-old woman with atrial fibrillation is admitted for DC cardioversion. The procedure resulted in successful restoration of sinus rhythm. Which one of the following drugs would be most likely to maintain sinus rhythm following this procedure?

**1- amiodarone**

2- digoxin

3- diltiazem

4- sotalol

5- verapamil

Q133. A 25-year-old previously healthy woman has worsening fatigue with dyspnoea, palpitations, and fever over the past one week. Her vital signs on admission to the hospital show Temperature 38.9°C Respiratory rate 30/min Pulse 105 bpm and BP 95/65 mmHg. Her heart rate is irregular. An ECG shows diffuse ST-T segment changes. A Chest X-ray shows mild cardiomegaly. An echocardiogram shows slight mitral and tricuspid regurgitation but no valvular vegetations. Her troponin I is 12 ng/mL (NR<0.04). She recovers over the next two weeks with no apparent sequelae. Which of the following laboratory test findings best explains the underlying etiology for these events?

1- ANCA titer of 1:80

2- Anti-streptolysin O titer of 1:512

3- Blood culture positive for Streptococcus, viridans group

**4- Coxsackie B serologic titer of 1:160**

5- Total serum cholesterol of 9.6 mmol/l

Q134. An 80 year-old male presented with palpitations of 5 hours duration. One month previously he suffered weakness of the right arm and problems with his speech which resolved within 4 hours. He was taking no medication. On examination, he was stable with a pulse of 135 beats per minute which was confirmed to be atrial fibrillation on ECG. He had a blood pressure of 112/80 mmHg, appeared clinically euthyroid. Within one hour he reverted to sinus rhythm spontaneously. Echocardiogram was normal but a 24 hour ECG revealed three episodes of atrial fibrillation each lasting around ten minutes. Which one of the following is the most appropriate initial treatment for this patient?

1- Amiodarone

2- Aspirin

3- atenolol

4- digoxin

**5- warfarin**

Q135. A 70-year-old man with dilated cardiomyopathy remains symptomatic in NYHA class 2 due to chronic heart failure. On examination his pulse is 90 regular, BP 140/90, heart sounds normal, chest auscultation did not reveal any abnormalities. He is currently taking Lisinopril 30 mg OD and Furosemide 80 mg OD. What is the best treatment option?

1- Amiodarone

**2- Carvedilol**

3- Digoxin

4- Spironolactone

5- Valsartan

Q136. A previously well 60-year-old lady is admitted with an Acute Anterior Myocardial Infarction. A random blood glucose concentration was found to be 12.1 mmol/L (<6.7). What is the optimal management of her blood sugar?

1- Diet

2- Gliclazide

**3- Intravenous insulin plus dextrose**

4- Metformin

5- Subcutaneous insulin

Q137. Which of the following regarding the anatomy of the heart is true?

**1- The aortic valve is tricuspid.**

2- The ascending aorta is entirely outside the pericardial sac.

3- The left atrial appendage is identified readily by transthoracic echocardiography.

4- The pulmonary trunk lies anterior to the ascending aorta.

5- The right atrium is posterior to the left atrium.

Q138. A 41 year male on routine risk factor screening is noted to have a blood pressure of 146/86 mm/Hg. His investigations reveal: Fasting plasma glucose 5.8 mmol/l 3.5-6 Total cholesterol 6.2 mmol/l <5.2 Triglyceride 12.8 mmol/l 0.5-1.7 HDL-Cholesterol 0.8 mmol/l 0.7-1.7 Which is the most appropriate treatment for his lipid profile?

1- Ezetimibe

2- Fenofibrate

**3- Nicotinic acid slow release**

4- Rosuvastatin

5- Simvastatin

Q139. A 70-year-old male with a history of syncope and hypertension is found to have runs of non-sustained ventricular tachycardia during telemetry. Investigations show a serum magnesium of 0.4 mmol/l (0.75-1). Which one of the following is most likely to be responsible for this biochemical abnormality?

1- Chronic renal failure

**2- Diuretic therapy**

3- Elevated PTH concentrations

4- Hyperphosphataemia

5- Treatment with antacids

Q140. Cyanosis is a typical feature of which of the following conditions:

1- Patent ductus arteriosus.

2- Ventricular septal defect.

**3- Total anomalous pulmonary venous drainage.**

4- Atrial septal defect

5- Mitral atresia.

Q141. A 65-year-old male is admitted with a two hour history of central chest pain associated with sweating and nausea. A myocardial infarction is supected. Which of the following is an indication for thrombolytic therapy?

1- 1mm ST elevation in leads V2-4

**2- 1mm ST elevation in leads II, III and aVF.**

3- 2mm ST depression in leads V2-4

4- T wave inversion in lead V3-5

5- Q waves in leads V2-4

Q142. A 73-year-old male with type 2 diabetes requires improved glycaemic control. He also suffers from heart failure which is controlled with diuretic and ACEis. Which of the following hypoglycaemic agents is contraindicated in this patient?

1- Acarbose

2- Glipaizide

3- Netaglinide

4- Repaglinide

**5- Rosiglitazone**

Q143. In a patient presenting with aortic stenosis, which of the following findings would be most helpful in establishing a diagnosis of congenital bicuspid valve as the etiology?

1- age

2- calcified leaflets

3- commissural fusion on ECHO

4- negative history for rheumatic fever

**5- systolic ejection click**

Q144. A 32-year-old female who is 14 weeks pregnant in her third pregnancy is found to have a blood pressure of 152/88 mmHg. There are no other abnormalities of note on examination. She has a BMI of 33.3 kg/m2 and urinalysis is otherwise normal. An ECG reveals left ventricular hypertrophy. What is the most likely aetiology of her elevated blood pressure?

**1- Essential Hypertension**

2- Pre-eclampsia

3- Pregnancy induced hypertension

4- Secondary hypertension

5- White coat (Factitou s) hypertension

Q145. A randomised, double-blind, placebo controlled trial of a cholesterol lowering drug in the primary prevention of coronary heart disease is reported. 1000 subjects are treated with the active drug, and 1000 are given placebo. They are followed up over a five year period and 100 individuals in the placebo group and 80 in the treatment group suffer a myocardial infarction. What is the annual percentage risk of myocardial infarction in the group treated with placebo?

1- 0.5%

**2- 2%**

3- 5%

4- 8%

5- 10%

Q146. A 78-year-old diabetic female presented with a two day history of melena and dizziness. She had taken an unknown analgesic four days previously. On examination she was pale with a pulse of 90 beats per minute, a blood pressure of 100/65 mmHg and a lower midline scar from an operation for intermittent claudication three months previously. Investigations revealed: haemoglobin 8 g/dL (13.0-18.0) faecal occult blood strongly positive upper gastrointestinal tract endoscopy: normal What is the most likely cause of her upper gastrointestinal haemorrhage?

**1- aorto-enteric fistula**

2- gastric erosions

3- gastric ulcer

4- Mallory-Weiss syndrome

5- Oesophageal varices

Q147. A 38-year-old woman with a 10 year history of type 1 diabetes attends for annual review. She has background diabetic retinopathy, microalbuminuria with a urine Albumin:Creatinine ratio of 4.8 mg/dl (<3 mg/d l) . Currently, she takes basal bolus insulin four times daily and lisinopril. She is a nonsmoker, has a BMI of 30 kg/m2 and a blood pressure of 124/70 mm/hg. Investigations reveal: Hba1c 7.3% <6 Total Cholesterol 5.2 mmol/l <5.2 Triglyceride 1.9 mmol/l 0.5-1.7 LDL-Cholesterol 3.3 mmol/l <2.6 HDL-Cholesterol 1.3 mmol/l 0.7-1.7 Which would be the most appropriate treatment for this patient's lipid profile?

1- Ezetimibe

2- Fenofibrate

3- No treatment required

4- Omega-3 fatty acids

**5- Simvastatin**

Q148. Which of the following is true regarding the action of Clopidogrel?

1- It inhibits cyclo-oxygenase

**2- It is an ADP receptor antagonist**

3- It is a glycoprotein IIb/IIIa inhibitor

4- It is a selective factor Xa inhibitor

5- It is Hydroxymethyl Coenzyme A inhibitor

Q149. An 18-year-old man had repeated episodes of breathlessness and palpitations, lasting about 20 minutes and resolving gradually. There were no abnormal physical signs. What is the most likely cause of these features?

1- Drug abuse

**2- Panic disorder**

3- Paroxysmal supraventricular tachycardia

4- Personality disorder

5- Thyrotoxicosis

Q150. A 65-year-old woman is diagnosed as having subacute bacterial endocarditis and appropriate antibiotic therapy started. Which of the following investigation is the most useful in order to monitor her response to antibiotics?

1- Serum bactericidal activity

2- Serial blood cultures

**3- Serum C-reactive protein concentration**

4- Serial full blood count, monitoring the white cell count

5- Serial transthoracic echocardiography

Q151. A 28-year-old man who is known to have Hypertrophic Cardiomyopathy has an out of hospital cardiac arrest and is successfully resuscitated. What is the most appropriate mode of treatment?

1- Alcohol Septal Ablation

2- Amiodarone

3- Beta Blocker

**4- Implantable Defibrillator**

5- Myomectomy

Q152. A 17-year-old female is found to have a cardiac murmur characterized by a midsystolic click. An echocardiogram reveals mitral insufficiency with upward displacement of one leaflet. There is also aortic root dilation to 4 cm. She has a dislocated right ocular crystalline lens. She dies suddenly and unexpectedly. The medical examiner finds a prolapsed mitral valve with elongation, thinning, and rupture of chordae tendineae. A mutation involving which of the following genes is most likely have be present in this patient?

1- Beta-myosin

2- CFTR

3- FGFR

**4- Fibrillin**

5- Spectrin

Q153. Which of the following is true regarding mitral stenosis?

1- it is tolerated well in pregnancy

2- there is characteristically a low wedge pressure

3- in AF, the opening snap disappears

**4- The opening snap is not heard when the mitral valve is heavily calcified**

5- Doppler U/S is usually inaccurate in determining severity

Q154. A middle aged woman presents with new onset palpitations. She also commented that she had lost weight recently despite an increased appetite. Examination reveals a goitre and a degree of exophthalmos. During physical examination, she fell unconscious. Blood pressure was 70/40 mmHg. Electrocardiogram revealed atrial fibrillation with rapid ventricular response. What is the appropriate immediate management?

1- Anticoagulation

2- Carbimazole

**3- DC cardioversion**

4- Intravenous amiodarone

5- Intravenous propanolol

Q155. A 67-year-old man presents with sudden onset atrial fibrillation (ventricular rate of 150/minut e) . His serum creatinine concentration was 250 umol/L (70-110). What is the main factor that determines the choice of loading dose of digoxin in this patient?

1- Absorption

2- Apparent volume of distribution

3- Lipid solubility

4- Plasma half-life

**5- Renal clearance**

Q156. A 65-year-old man is referred with abnormal liver function and undergoes a liver biopsy. Which of the following count against hepatic cirrhosis?

1- Fibrous septa formation

**2- Granuloma formation**

3- Liver cell necrosis

4- Nodular regeneration

5- Subendothelial fibrosis

Q157. In the consideration of cardiac tamponade, which of the following statements is most true?

1- Bradycardia is common

2- Early diastolic descent (y descen t) is exacerbated

3- Pulsus paradoxus is pathognomonic

**4- Renal failure is a recognised complication**

5- The apex beat is always absent

Q158. A 55-year old man presented with angina pectoris. His pain was relieved by Buccal Glyceryl Trinitrate 5mg. His discharge medication was Isosorbide Mononitrate 20mg bd. Which factor accounts for the dose difference between these two formulations?

**1- Absorption**

2- First pass metabolism

3- Lipid solubility

4- Phase II (conjugatio n) metabolism

5- Plasma clearance

Q159. A 60-year-old woman with a two year history of diet controlled type 2 diabetes was admitted with an acute myocardial infarction. She received thrombolysis together with an insulin infusion. Investigations revealed a fasting glucose of 12 mmol/l together with a cholesterol of 6.6 mmol/l. Which of the following is the most appropriate treatment for her subsequent glycaemic control?

1- diet and exercise

2- Gliclazide

3- Metformin

4- Rosiglitazone

**5- subcutaneous insulin**

Q160. A 16-year-old female attends casualty 15 hours after ingesting approximately 30g of Paracetamol and 2g of Dihydrocodeine. On examination, she is drowsy with a Glasgow Come 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

Q161. A 15-year-old female presents following a sore throat with chest pain, fever, and a skin rash. Examination reveals a diastolic murmur. Her ASO titre is elevated. Which of the following is a major criterion for the diagnosis of Rheumatic fever?

1- Fever

2- Raised ESR

**3- Polyarthritis**

4- Migratory erythema

5- Prolonged PR interval

Q162. A 52-year-old sales representative is admitted with an inferior myocardial infarction. He receives thrombolysis and makes an uneventful recovery. He is discharged on atenolol, aspirin and atorvastatin. He enquires how long after his MI must he wait before he is able to drive?

1- One week

2- Two weeks

**3- Four weeks**

4- Three months

5- Six months

Q163. A 58-year-old man has had an enlarging abdomen for several months. He has experienced no abdominal or chest pain. On physical examination he has a non-tender abdomen with no masses palpable, but there is a fluid thrill. An abdominal Ultrasound Scan shows a large abdominal fluid collection with a small cirrhotic liver. A chest X-ray shows a globally enlarged heart. Which of the following conditions is most likely to be present?

**1- Dilated cardiomyopathy**

2- Lymphocytic myocarditis

3- Myocardial amyloid deposition

4- Nonbacterial thrombotic endocarditis

5- Severe occlusive coronary atherosclerosis

Q164. A previously well 27-year-old woman presents with a history of transient ischaemic attack affecting her right side and speech. She had returned to the United Kingdom from a holiday in New Zealand two days previously. On examination there was nothing abnormal to find. An ECG, chest X-ray, CT brain scan and routine haematology and biochemistry were all normal. What is the most likely underlying abnormality?

1- atrial myxoma

2- carotid artery stenosis

3- embolus from paroxysmal atrial fibrillation

**4- patent foramen ovale**

5- subarachnoid haemorrhage

Q165. A 69-year-old man is treated for chest infection. He has been on a stable dose of warfarin for the last six months as a treatment for atrial fibrillation, with INR recordings between 2-2.5. However, his most recent INR was 5. Which one of the following drugs that has recently been started is likely to be responsible for the increased INR.

**1- Clarithromycin**

2- Co-dydramol

3- Digoxin

4- Rifampicin

5- Temazepam

Q166. A 69-year-old woman admitted for a surgical procedure is noted to have a soft systolic murmur at the left sternal edge. Her ECG and chest X-ray were normal and transthoracic echocardiography revealed a small posterior pericardial effusion with normal valves. Which of the following would be the most appropriate next step in this patient's management?

1- A diagnostic Pericardial aspiration

2- mammography

3- purified Protein derivative test for tuberculosis

**4- reassurance**

5- right heart catheterisation

Q167. A publication reports the outcome of a new statin therapy in a placebo controlled primary prevention study of ischaemic heart disease in a diabetic population. 1000 patients were randomised to receive the new therapy and 1000 allocated to placebo. The study was completed over a five year period. In the placebo group there were 150 Myocardial infarcts and in the group treated with the new statin there were 100 infarcts. What is the annual percentage of myocardial infarction in the diabetic population treated with placebo?

1- 1%

**2- 3%**

3- 5%

4- 7%

5- 10%

Q168. A study reports on the results of a large study of the primary prevention of stroke in a diabetic population using a new antiplatelet agent versus aspirin. The results of the study reveal that over a 5 year period the incidence of stroke in the aspirin treated group is 3% compared to a rate of 1.5% in the group treated with the new antiplatelet agent (p<0.001). What is the relative risk reduction in stroke associated with the new drug?

1- 1.5%

2- 15%

3- 30%

4- 40%

**5- 50%**

Q169. A 30-year-old man presented with a history of transient loss of consciousness and palpitation. His ECG showed ventricular tachycardia. Which one of the following treatments should be avoided?

1- Adenosine

2- Amiodarone

3- DC cardioversion

4- Flecainide

**5- Verapamil**

Q170. A 40-year-old female with mitral stenosis consults for advice regarding operative procedures. In which of the following circumstances would antibiotic prophylaxis of infective endocarditis be required?

1- Cardiac catheterisation

2- Caesarian section

**3- Dental scaling**

4- Removal of a lipoma

5- Termination of pregnancy

Q171. A 27-year-old woman complained of palpitations, breathlessness and chest pain, radiating to the left arm. These symptoms had developed six weeks previously, after she had witnessed her father dying from a myocardial infarction. In the past 10 years she had been investigated for abdominal pain, headaches, joint pains, and dyspareunia, without serious cause being found for these symptoms. What is the most likely diagnosis?

1- Depressive episode

2- Factitious disorder

3- Generalized anxiety disorder

4- Obsessive compulsive disorder

**5- Somatization disorder**

Q172. A 16-year-old male presents with acute severe asthma. On examination his peripheral pulse volume fell during inspiration. Which one of the following is the most likely explanation for this clinical sign?

1- The cardiac effect of high dose beta agonist bronchodilator drugs

2- A falling heart rate on inspiration

3- Myocardial depression due to hypoxia

4- Peripheral vasodilatation

**5- Reduced left atrial filling pressure on inspiration**

Q173. A 70-year-old woman with established aortic stenosis attends for annual review. Which one of the following factors is the most important in deciding the timing of surgery?

1- Aortic valve gradient of 50 mmHg

2- Left ventricular hypertrophy

3- Valvular calcification

**4- The Patient's symptomatology**

5- The intensity of the murmur

Q174. A 54-year-old man presents with central crushing chest pain. Examination is normal. 12-lead ECG shows ST segment elevation in leads II, III, aVF and ST depression in V1, V2 and V3. Which coronary artery is occluded?

1- Circumflex

2- Left Anterior Descending

3- Left Main Stem

4- Obtuse Marginal

**5- Right Coronary Artery**

Q175. Which of the following anti-microbials is associated with prolongation of the QT interval?

1- Co-amoxiclav

2- Gentamicin

3- Cefuroxime

**4- Erythromycin**

5- Isoniazid

Q176. A 57-year-old man develops deep venous thrombosis during a hospitalization for prostatectomy. He exhibits decreased mental status with right hemiplegia, and a CT scan of the head suggests an acute cerebral infarction in the distribution of the left middle cerebral artery. A chest X-ray reveals cardiac enlargement and prominence of the main pulmonary arteries that suggests pulmonary hypertension. His serum troponin I is <0.4 ng/mL. Which of the following lesions is most likely to be present on echocardiography?

1- Coarctation of the aorta

2- Dextrocardia

3- Pulmonary stenosis

4- Tetralogy of Fallot

**5- Ventricular septal defect**

Q177. During auscultation of the heart you discover a wide fixed splitting of the second heart sound. In which of the following conditions does this occur?

**1- an uncomplicated ASD**

2- Fallot's tetralogy

3- aortic stenosis

4- Right Bundle Branch Block

5- constrictive pericarditis

Q178. A 65-year-old male with left ventricular systolic dysfunction was dyspnoeic on climbing stairs but not at rest. The patient was commenced on Ramipril and Furosemide. Which one of the following drugs would improve the patient's prognosis further?

1- Amiodarone

2- Digoxin

3- Diltiazem

**4- Metoprolol**

5- Isosorbide Mononitrate

Q179. A 17-year-old girl is short in stature for her age. She has not shown any changes of puberty. She has a webbed neck. Her vital signs include Temperature 36.6? Respiratory rate 18/min Pulse 75 bpm and BP 165/85 mmHg. On physical examination, she has a continuous murmur heard over both the front of the chest as well as her back. Her lower extremities are cool with poor capillary filling. A chest radiograph reveals a prominent left heart border, no oedema or effusions, and rib notching. Which of the following pathologic lesions best explains these findings?

**1- Constriction of the aorta past the ductus arteriosus**

2- Lack of development of the spiral septum and partial absence of conus musculature

3- Shortening and thickening of chordae tendineae of the mitral valve

4- Single large atrioventricular valve

5- Supravalvular narrowing in the aortic root

Q180. A 65-year-old man has longstanding stable heart failure treated with furosemide and enalapril. He complains of swelling in his left knee and his GP treats him with Celecoxib, a cyclo-oxygenase-2 (COX-2) inhibitor. Two weeks later the patient has increasing breathlessness and ankle oedema. Which one of the following effects of celecoxib is the most likely to explain his symptoms?

1- decreased absorption of furosemide from the gut

2- decreased myocardial contractility

3- reduced effective action of enalapril

4- the onset of anaemia

**5- the onset of fluid retention**

Q181. A 50-year-old male is admitted with a 3 hour history of central chest pain sweating and nausea. He has no relevant past medical history although his father died of an MI at the age of 48 and he is a smoker of 5 cigarettes per day. He currently takes no medication. He is seen in the morning on the consultant ward round 12 hours after admission and his pain has now settled. Examination reveals no specific abnormality and his ECG is normal. Which of the following investigations would be most appropriate for this patient?

1- Coronary Angiography

2- Echocardiography

3- Endoscopy

4- Exercise ECG

**5- Troponin T**

Q182. Concerning complete atrioventricular septal defects which of the following statements is true?

**1- are seen frequently in patients with trisomy 21**

2- frequently have aortic valve insufficiency

3- have a normal mitral valve structure

4- include a coronary sinus atrial septal defect

5- include a perimembranous ventricular septal defect

Q183. A 60-year-old male diabetic presents to clinic for advice on prevention of a further heart attack after having sustained a myocardial infarction five years previously. He takes metformin 500 mg tds, bendroflumethiazide 2.5 mg daily and asprin 150 mg daily. His body mass index was 33.5 kg/m2 , with a pulse of 82 beats per minute regular and a blood pressure of 152/92 mmHg. His cholesterol concentration is 3.3 mmol/l (< 5.5). What is the most appropriate strategy for this patient?

1- 24 hour ambulatory ECG

2- Atorvastatin

3- Increase aspirin from 150 mg to 300 mg daily

4- Orlistat

**5- Ramipril**

Q184. A study reveals an immediate rise in blood pressure following infusion of a hormone in normal volunteers. Which of the following is the most likely hormone used in this study?

1- angiotensin I

**2- angiotensin II**

3- atrial natriuretic peptide (AN P) 4- brain natriuretic peptide (BN P) 5- prolactin

Q185. Which ONE of the following is a contraindication to thrombolysis?

1- age over 75 years

2- the presence of atrial fibrillation

3- asthma

**4- pregnancy**

5- background diabetic retinopathy

Q186. A 19-year-old girl presents with recurrent episodes of loss of conciousness. Over the last two years she has had blackouts which last approximately 2 minutes. They typically occur when she is standing. These have occurred more frequently over the last week. The last episode was witnessed by her boyfriend who noted that she collapsed without any abnormal movements. On coming round she was rather drowsy initially but generally fine and recovered relatively quickly. What is the most likely diagnosis?

1- Addison's disease

2- Atonic seizures

3- Cardiac syncope

4- Complex partial seizures

**5- Vasovagal syncope**

Q187. A 65-year-old woman undergoes temporary pacing due to complete heart block following acute myocardial infarction. Which coronary artery is most likely to have been occluded?

1- Anterior descending

2- Circumflex

3- Left main coronary

4- Obtuse marginal

**5- Right coronary**

Q188. Which of the following investigations is used to monitor the treatment of infective endocarditis?

1- Blood culture

**2- C Reactive Protein**

3- Echocardiography

4- Erythrocyte Sedimentation Rate

5- Serum bactericidal titres of antibiotics

Q189. A 70-year-old male was receiving amiodarone 200 mg daily for intermittent atrial fibrillation. However, he was aware of tiredness and lethargy. He appeared clinically euthyroid with no palpable goitre. Investigations revealed: Serum Free T4 23pmol/L (9-26) Serum total T3 0.8 nmol/L (0.9-2.8) Serum TSH 8.2 mU/L (<5) Which of the following statements would explain these results?

1- Abnormal thyroxine binding globulin

**2- Amiodarone-induced hypothyroidism**

3- 'sick euthyroid' syndrome

4- Spontaneous hypothyroidism

5- TSH secreting pituitary adenoma

Q190. You wish to calculate a patients ejection fraction as the patient complains of dyspnoea. Which of the following echocardiographic measures would be mandatory?

1- Aortic valve peak velocity

2- Pulse wave of mitral inflow

**3- Left ventricular end diastolic diameter**

4- M-mode of the mitral valve

5- M-mode of the aortic valve

Q191. An elderly man with a history of asthma, congestive heart failure, and peptic ulcer disease is admitted with bronchospasm and rapid atrial fibrillation. He recieves frequent nebulised salbutamol and IV digoxin loading, his regular medications are continued. 24 hours after admission his serum potassium is noted to be 2.8 mmol/l. Which of his medications is most likely to have caused this abnormality.

1- Digoxin

2- ACE inhibitor

**3- Salbutamol**

4- Ranitidine

5- Spironolactone

Q192. A 16-year old girl was incidentally found to have delta wave on ECG suggestive of WolffParkinson-White syndrome. There was no tachycardia and she was asymptomatic. What is the next step in management?

1- Beta-blocker therapy

2- Electrophysiological study and provocation of arrhythmia

3- Radiofrequency catheter ablation of the bypass tract

**4- Reassurance**

5- Repeat ECG

Q193. A 55-year-old woman has had worsening shortness of breath for several years. She now has to sleep sitting up on two pillows. She has difficulty swallowing. There is no history of chest pain. She is afebrile. Recently, she suffered a stroke with left hemiparesis. A chest X-ray reveals a near-normal left ventricular size with a prominent left atrial border. Which of the following conditions is most likely to account for these findings?

1- Aortic coarctation

2- Cardiomyopathy

3- Essential hypertension

4- Left renal artery stenosis

**5- Mitral valve stenosis**

Q194. A 74-year-old man presented with acute pain, pallor and absent pulses in his right leg. Investigations revealed an embolus in his femoral artery. What is the most likely source of this embolus?

1- marantic endocarditis

2- paradoxical emboli

3- rheumatic endocardial vegetations

4- right ventricular thrombi

**5- thrombi from an atheromatous aorta**

Q195. A 65-year-old female presents with heart failure. Her echocardiogram shows a restrictive cardiomyopathy but with structurally normal valves. Which one of the following is the most likely cause?

**1- amyloidosis**

2- coxsackie infection

3- Down's syndrome

4- Marfan's syndrome

5- Turner's syndrome

Q196. A 72-year-old woman presented with acute severe chest pain with an ECG revealing ST segment elevation in leads II, III and aVF. She was treated with thrombolysis but two days later became acutely unwell. Examination revealed a loud systolic murmur at the apex which radiated into the axilla with associated pulmonary oedema. What is the most likely diagnosis?

1- Acute left ventricular failure

2- Cardiogenic shock

3- pericarditis

**4- Ruptured papillary muscle**

5- Ventricular septal defect

Q197. A 21 year-old woman has a history of palpitations and light headedness. ECG shows short PR interval and inferior Q waves. Her symptoms improve with atenolol 25 mg/day but she has had two short episodes of similar symptoms in the previous 24 hours. What is the long-term management of choice?

1- Anticoagulation.

2- Oral amiodarone.

3- Oral digoxin.

4- Increase the dose of atenolol.

**5- Radiofrequency ablation.**

Q198. A 56-year-old male with left ventricular systolic dysfunction was dyspnoeic on climbing stairs but not at rest. The patient was commenced on ramipril and furosemide. Which one of the following drugs would improve the patient's prognosis?

1- Amiodarone

2- Amlodipine

**3- Bisoprolol**

4- Digoxin

5- Nitrate therapy

Q199. A 58-year-old man presents with sudden onset chest pain. He has a known history of ischaemic heart disease. ECG shows ST segment elevation in V1-V5 without reciprocal depression. In which territory is the infarction most likely to have take place?

**1- Anterior**

2- Inferior

3- Lateral

4- Inferio-lateral

5- Posterior

Q200. A 65-year-old man presents with severe central crushing chest pain. ECG shows evidence of an inferior myocardial infarction. He receives TPA, Heparin and Aspirin. Four hours after initial presentation, he starts feeling dizzy and breathless. His pulse is 40 bpm regular, BP 80/50. Heart sounds are soft and chest clear to auscultation. ECG shows 2:1 AV block with T wave inversion inferiorly. IV atropine was administered but had no effect. What is the next most important treatment?

1- IV Dopamine.

2- IV Isoprenaline.

3- Insert a permanent pacemaker.

**4- Insert a temporary pacemaker.**

5- Monitor his progress.

Q201. A 29-year-old female attends A&E complaining of acute onset of palpitations. She is attached to a cardiac monitor and her pulse rate is 180bpm. She is warm and well perfused, her BP is 135/80 mmHg, respiratory rate 20/min, oxygen saturation 100% on air and on auscaltation her chest is clear with no evidence of cardiac failure. ECG shows a narrow complex tachycardia. Carotid massage and valsalva manoeuvre have failed to attenuate the rhythm disturbance. What is the appropriate initial management?

1- DC Cardioversion

**2- IV Adenosise**

3- IV Amiodarone

4- IV Digoxin

5- IV Magnesium

Q202. A 48-year-old male is referred with impotence. He has a history of angina, hypertension and type 2 diabetes. Which one of the following drugs that he takes would present a contra-indication to him be able to receive Sildenafil?

1- Aspirin

2- Bendroflumethiazide

**3- Isosorbide Mononitrate**

4- Lisinopril

5- Metformin

Q203. A 72-year-old man with type II diabetes mellitus presented following the sudden onset of palpitations. An ECG revealed rapid atrial fibrillation. He was commenced on Amiodarone but the atrial fibrillation persisted. Which of the following has been shown to be of greatest benefit in reducing his future risk of vascular events?

**1- Anticoagulation**

2- Aspirin

3- Continuation of Amiodarone

4- DC cardioversion

5- Digoxin

Q204. A 63-year-old man presents with recurrent pleural effusions. His Chest X-ray is shown. On examination in clinic his hands showed the following. What is the diagnosis?

1- Chronic Mucocutaneous Candidiasis

2- Iron defeciency

3- Ochronosis

4- Polychondritis

**5- Yellow Nail Syndrome**

Q205. A 63-year-old male is admitted with a 30 minute history of central chest pain associated with nausea and sweating. His ECG reveals ST elevation in leads II, III and aVF. Which of the following coronary arteries is most likely to be occluded?

1- Circumflex artery

2- Left anterior descending artery

3- Obtuse marginal artery

4- Posterolateral artery

**5- Right coronary artery**

Q206. A 42 year-old male admitted with dyspnoea is noted to have a murmur suggestive of mitral stenosis. The presence of which of the following clinical signs suggests that the mitral valve is mobile?

1- fourth heart sound

2- loud second heart sound

**3- opening snap**

4- a soft first heart sound

5- a third heart sound

Q207. A 62-year-old male undergoes cardioversion for idiopathic atrial fibrillation. Post-procedure he was shown to be in sinus rhythm. Medication at admission included Warfarin digoxin and atenololwhich he had been taking for the last six weeks. Which of the following agents should he continue to take until he is seen in clinic in six weeks time.

1- Aspirin

2- Atenolol

3- Digoxin

4- Sotalol

**5- Warfarin**

Q208. A 76-year-old woman presented with an acute myocardial infarction. The ECG showed ST segment elevation in leads II, III and a VF. Which coronary artery is most likely to be occluded?

1- Circumflex artery

2- Diagonal branch of the left anterior descending artery

3- Left anterior descending artery

4- Left Coronary artery

**5- Right coronary artery**

Q209. A 60-year-old man with a past history of controlled hypertension presents with acute onset weakness of his left arm, that resolved over 12 hours. He had suffered two similar episodes over the last three months. Examination reveals a blood pressure of 132/82 mmHg and he is in atrial fibrillation with a ventricular rate of 85 per minute. CT brain scan is normal. What is the most appropriate management?

1- amiodarone

2- aspirin

3- digoxin

4- dipyridamole

**5- warfarin**

Q210. A 65-year-old male is admitted to the coronary care unit with an acute inferior myocardial infarction. There are no contraindications to thrombolysis and he receives streptokinase with good resolution of ECG changes. Three days later examination is normal, with a blood pressure of 134/76 mmHg. Results reveal a total cholesterol of 4.8 mmol/L (normal <5.2). Which one of the following drugs does not have good evidence for reducing future morbidity and mortality?

1- Aspirin

2- Atenolol

3- Simvastatin

**4- Nifedipine**

5- Ramipril

Q211. A 34-year-old male presents with palpitations. The ECG shows a slurred upstroke in the QRS complexes in the chest leads. What is the treatment of choice?

1- Amiodarone

2- Aspirin

3- Diltiazem

**4- Radiofrequency ablation**

5- Warfarin

Q212. A 50-year-old man is admitted with cardiogenic shock due to an acute myocardial infarction. His urine output drops over the next few days. His serum urea increases to 18 mmol/L, with creatinine of 300 micromol/L. Urinalysis reveals no protein or glucose, a trace blood, and numerous hyaline casts. Several days later, he develops polyuria and his serum urea and creatinine falls. Which of the following pathologic findings is most likely to be seen in his kidneys?

1- Fusion of podocyte foot processes

2- Glomerular crescents

3- Hyperplastic arteriolosclerosis

4- Mesangial immune complex deposition

**5- Patchy tubular necrosis**

Q213. A 26-year-old professional footballer collapses while playing football. He is rushed to the Accident and Emergency Department, and is found to be in ventricular tachycardia. He is defibrillated successfully and his 12 lead ECG demonstrates normal sinus rhythm, without ST segment changes. Ventricular tachycardia recurs and despite prolonged resuscitation, he dies. What is the most likely diagnosis?

1- Aortic stenosis

2- Cocaine intoxication

**3- Hypertrophic cardiomyopathy**

4- Myocardial infarction

5- Pulmonary embolism

Q214. A 40-year-old man attending a routing screening has a blood pressure of 166/100 mmHg. Two weeks later his blood pressure was 150/90 mmHg. He does not smoke. He drinks 35 units alcohol / week. His body mass index (BM I) is 31.5 kg/m2 (20 - 25). What is the best management strategy?

1- amlodipine

2- atenolol

3- bendroflumethiazide

4- enalapril

**5- lifestyle advice**

Q215. A patient presents with atrial fibrillation and later they revert to sinus rhythm. Under which of the following circumstances is the patient more likely to remain in sinus rhythm?

1- age > 75 years old

2- been commenced on warfarin

3- left atrium size > 6 cm on ECHO

**4- short history of AF**

5- ventricular rate on presentation of 130 bpm

Q216. A 59-year-old male presents with a 1 hour history of central crushing chest pain.. He is known to be diabetic, hypertensive and is a non-smoker. On examination his pulse rate is 90 beats/min, blood pressure 130/85 mmHg, S1 S2 are audible with no murmurs. There is no evidence of cardiac failure. An ECG is performed. Which of the following would be an indication for thrombolysis?

1- Right bundle branch block

2- Supraventricular tachycardia

**3- ST elevation of 2mm in V4-V6**

4- ST depression of 2mm in leads II,III, avF

5- Atrial fibirillation >150min-1

Q217. A 50-year-old man with hypertension already on furosemide, ramipril and digoxin is found to poor left ventricular function on echocardiogram. Which antihypertensive should be added?

**1- Carvedilol**

2- Diltiazem

3- Doxazosin

4- Hydrallazine

5- Nifedipine

Q218. Primary prevention trials for the treatment of hypercholesterolaemia reveal a reduction in all cause mortality following treatment with which of the following?

1- Fibrates

2- Fish Oils

3- Nicotinic acid

4- Resins

**5- Statins**

Q219. A 17-year-old woman loses consciousness whilst out jogging one afternoon. She has had similar blackouts over the last two to three years which have all occured during exertion. There is no family history of note. She is taken to Accident and Emergency, where a chest Xray, CT brain scan, FBC, and biochemistry are all normal. Her ECG shows changes of left ventricular hypertrophy and broad Q waves. An echocardiogram reveals left ventricular and septal hypertrophy, small left ventricle, and reduced septal excursion. The septum has a "ground glass" appearance. Which of the following conditions is she most likely to have had?

1- Diabetes mellitus

**2- Hypertrophic cardiomyopathy**

3- Rheumatic heart disease

4- Systemic lupus erythematosus

5- Viral myocarditis

Q220. A 70-year-old woman has a history of dyspnoea and palpitations for six months. An ECG at that time showed atrial fibrillation. She was given digoxin, diuretics and aspirin. She now presents with two short-lived episodes of altered sensation in the left face, left arm and leg. There is poor coordination of the left hand. ECHO was normal as was a CT head scan. What is the most appropriate next step in management?

**1- anticoagulation**

2- carotid endarterectomy

3- clopidogrel

4- corticosteroid treatment

5- no action

Q221. A 35-year-old lady at 14 weeks gestation is found to have a blood pressure of 160/100 mmHg. Her father's known to have hypertension. Electrocardiogram?emonstrates features of left ventricular hypertrophy. What is the most likely diagnosis?

1- Eclampsia

**2- Essential hypertension**

3- Pre-eclampsia

4- Pregnancy-induced hypertension

5- Renal hypertension

Q222. A 16-year-old male is brought to emergency admissions with alcohol intoxication. An initial ECG reveals atrial fibirillation but a repeat ECG after 12 hours when he has sobered up, shows sinus rhythm. An echocariogram is normal. What is the most appropriate management for this patient?

1- Aspirin for 3 months

2- Bisoprolol for 3 months

**3- Lifestyle advice**

4- Sotalol for one month

5- Warfarin for one month

Q223. A 60-year-old woman is admitted with sudden onset of chest pain and is diagnosed with an acute myocardial infarction. Her acute illness is complicated by low blood pressure and poor tissue perfusion for several days. Her serum lactate becomes elevated. Her serum urea and creatinine are noted to be increasing. Day 1 Day 2 Day 3 urea (mmol/ L) 8 22 30 creatinine (mmol/ L) 116 140 200 Granular and hyaline casts are present on microscopic urinalysis. The renal lesion that is most likely to be present in this situation is?

**1- Acute tubular necrosis**

2- Minimal change disease

3- Nodular glomeruloscerosis

4- Pyelonephritis

5- Renal vein thrombosis

Q224. A 74-year-old man has had increasingly severe, throbbing headaches for several months, centered on the right. There is a palpable tender cord-like area over his right temple. His heart rate is regular with no murmurs, gallops, or rubs. Pulses are equal and full in all extremities, BP is 110/85 mmHg. A biopsy of this lesion is obtained, and histologic examination reveals a muscular artery with lumenal narrowing and medial inflammation with lymphocytes, macrophages, and occasional giant cells. He improves with a course of high-dose corticosteroid therapy. Which of the following laboratory test findings is most likely to be present with this disease?

1- Anti-double stranded DNA titer of 1:1024

**2- Erythrocyte sedimentation rate of 110 mm/hr**

3- HDL cholesterol of 0.6 mmol/L

4- pANCA titer of 1:160

5- Rheumatoid factor titer of 80 IU/mL

Q225. A 59-year-old man who was active all his life develops sudden severe anterior chest pain that radiates to his back. Within minutes, he is unconscious. He has a history of hypertension, but a recent treadmill test had revealed no evidence for cardiac disease. Which of the following is the most likely diagnosis?

1- Acute myocardial infarction

2- Group A streptococcal infection

3- Pulmonary embolus

4- Right middle cerebral artery embolus

**5- Tear in the aortic intima**

Q226. A 52-year-old male with a five year history of type 2 diabetes is diagnosed with ischaemic heart disease and has recently commenced simvastatin 40mg daily as his cholesterol was 6.2 mmol/l. He re-attends complaining of various muscle aches and pains and you find that his liver function tests are deranged with elevated alkaline phosphatase. You stop the simvastatin and his symptoms subside but his cholesterol remains elevated at 6.3 mmol/l. Which of the following is the most appropriate strategy to treat his hypercholesterolaemia?

1- Bezafibrate

**2- Ezetimibe**

3- No treatment required

4- Rosuvastain 10 mg daily

5- Simvastatin 20 mg daily

Q227. A 52-year-old male attends a well man clinic. On review of his history he has a strong family history of ischaemic heart disease and is a smoker of 10 cigarettes per day and drinks approximately 20 units of alcohol per week. On examination, he is obese with a BMI of 32 kg/m2 and has a blood pressure of 152/88 mmHg. His investigations reveal that he has a fasting plasma glucose of 10.5 mmol/l, HbA1c of 7.8% and his cholesterol concentration is 5.5 mmol/l. Which of the following would be expected to be most effective in reducing his cardiovascular risk?

1- Improve glycaemic control with Metformin

2- Improve hypertensive control with Ramipril

3- Reduce cholesterol with Simvastatin

**4- Stop smoking**

5- Weight loss with Xenical

Q228. A 55-year-old male attends for an insurance medical review. He has a family history of ischaemic heart disease and has been feeling tired of late. Investigations reveal: Total Cholesterol 6.8 mmol/l HDL cholesterol 0.9 mmol/l Triglycerides 2.2 mmol/l Free Thyroxine 10 mmol/l (9-22) TSH 22.5 mu/l (0.5-5) What is the most appropriate treatment for this man's dyslipidaemia?

1- Atorvastatin

2- Ezetimibe

3- Gemfibrozil

4- 3-Omega fish oils

**5- Thyroxine**

Q229. A new antihypertensive drug needs to be investigated to establish its relative potency. Which of the following techniques is most appropriate for this purpose?

**1- bioassay**

2- case-control study

3- double-blind, randomized, placebo controlled study

4- postmarketing surveillance

5- sequential trial

Q230. A 40-year-old male with type 2 diabetes has difficult to control hypertension. He is currently being treated with atenolol, amlodipine and Ramipril but his blood pressure remains consistently above 170/100. Examination reveals grade II hypertensive retinopathy. His investigations reveal: Sodium 144 mmol/l Potassium 3.1 mmol/l Urea 5.5 mmol/l Creatinine 100 micromol/l Glucose 7.9 mmol/l HbA1c 7% ECG left ventricular hypertrophy Which diagnosis should be considered as a cause of his resistant hypertension?

**1- Conn's syndrome (primary hyperaldosteronis m) 2- Cushing's syndrome**

3- Phaeochromocytoma

4- Primary hyperparathyroidism

5- Renal artery stenosis

Q231. A 70-year-old man was referred by his GP with difficult to treat hypertension. He had longstanding hypertension which had been well controlled over many years but recently he was found to have a blood pressure of 190/110 mmHg which proved resistant to additional treatment. He was generally asymptomatic and complied with medication. Investigations showed normal U+Es. Which one of the following is the most likely cause?

1- Chronic pyelonephritis

2- Conn's syndrome (primary hyperaldosteronis m) 3- Phaeochromocytoma

4- Polycystic kidney disease

**5- Renovascular disease**Q232. A 48-year-old female with a three year history of type 2 diabetes presents at annual review. Despite optimisation of her oral hypoglycaemic therapy she has gained approximately 5 kg in weight over the last year and her HbA1c has deteriorated. She is also treated with Ramipril, Bendroflumethiazide, Amlodipne but her blood pressure remains difficult to control with a recording of 172/102 mmHg. On examination, she has developed abdominal striae, thin skin is noticeable with bruising and she also has a proximal weakness. A diagnosis of Cushing's syndrome is suspected. What is the most appropriate investigation for this patient?

1- 9 am ACTH concentration

2- 9 am cortisol concentration

**3- 24 hour urine free cortisol concentration**

4- Chest X-ray

5- CT scan adrenals

Q233. A 63-year-old male is being reviewed for hypertension associated with type 2 diabetes. Currently he receives aspirin 75mg daily, atenolol 50 mg daily and atorvastatin 20 mg daily. His blood pressure is consistently around 160/92 mmHg. What antihypertensive therapy would you add to improve this patient's hypertensive control?

1- Alpha-methyl dopa

2- Bendrofulazide

3- Doxazosin

4- Moxonidine

**5- Ramipril**

Q234. A 24-year-old girl with Down syndrome is found to have a systolic murmur on clinical examination. What is the most common cardiac defect seen in patients with Down syndrome that may explain this murmur?

**1- Endocardial cushion defect**

2- Mitral regurgitation

3- Patent ductus arteriosus

4- Secundum atrial septal defect

5- Ventricular septal defect

Q235. A 65-year-old man has been stable on the general medical ward following an admission with acute coronary syndrome several days previously. His drug history consists of aspirin, enalapril and GTN spray. He has developed dyspnoea over the last few hours. On examination he has a raised JVP and crackles to his mid zones. His ECG shows a rate of 140 bpm in atrial fibrillation. Which of the following is the most appropriate management?

1- IV amiodarone

2- IV digoxin

3- IV flecainide

4- Observe and screen for MI

**5- Synchronised DC cardioversion**

Q236. A 48-year-old man presents with acute coronary syndrome. On examination he has palmar crease xanthoma. Which of the following is the most likely diagnosis of his lipid abnormalities?

1- Familial combined hyperlipidaemia

2- Familial hypercholesterolaemia

3- Familial hypertriglyceridaemia

4- Lipoprotein lipase deficiency

**5- Remnant hyperlipidaemia**

Q237. A 50-year-old woman is found to have reversed splitting of the second heart sound. This is found in which one of the following conditions?

1- Atrial septal defect

2- Mild aortic regurgitation

**3- Patent ductus arteriosus**

4- Right bundle branch block (RBB B) 5- Ventricular septal defect (VS D)

Q238. A 45-year-old man presents with a rash. On examination you find he has eruptive xanthoma. Which of the following is the most likely diagnosis?

1- Familial combined hyperlipidaemia

2- Familial hypercholesterolaemia

**3- Familial hypertriglyceridaemia**

4- Hyperlipidaemia associated with nephrotic syndrome

5- Remnant hyperlipidaemia

Q239. A 55-year-old man presented to the Emergency department with sudden breathlessness. He is sweaty and obviously short of breath. He is a smoker with a past history of hypertension. There are crackles on inspiration at both his lung bases and his CXR shows upper lobe venous diversion and perihilar shadowing. His ECG shows sinus tachycardia only and his cardiac enzymes, when they return the next day, are normal. His symptoms resolved quickly with oxygen and furosemide. Which of the following conditions is the most likely explanation of this presentation?

1- Hypertrophic obstructive cardiomyopathy

2- Myocardial infarction

3- Phaeochromocytoma

4- Pulmonary embolism

**5- Renal artery stenosis**

Q240. On physical examination a 65-year-old man is found to have pulsus alternans where there is regular alternation of the force of his radial pulse. Which of the following conditions is the most likely diagnosis?

1- Aortic stenosis

2- Cardiac tamponade

3- Hypertrophic obstructive cardiomyopathy

4- Mixed aortic valve disease

**5- Severe left ventricular failure**

Q241. A 60-year-old woman has a systolic murmur. As part of the evaluation you listen to the murmur during a Valsalva manoeuvre and the murmur becomes louder. Which of the following systolic murmurs becomes louder with a Valsalva?

1- Aortic stenosis

**2- Hypertrophic obstructive cardiomyopathy**

3- Mitral flow murmur

4- Mitral regurgitation

5- Ventricular septal defect

Q242. A 60-year-old man presents with features of left ventricular failure. He is comfortable at rest but ordinary physical activity results in fatigue and shortness of breath. Which of the following New York Heart Association's classifications best match the severity of this man's disease?

1- Normal

2- NYHA Class I

**3- NYHA Class II**

4- NYHA Class III

5- NYHA Class IV

Q243. Closure of the tricuspid valve is marked by which of the following features of the jugular venous waveform?

1- a wave

**2- c wave**

3- v wave

4- x descent

5- y descent

Q244. A 60-year-old woman with ischaemic heart disease is seen for review. She reports that she has developed symmetrical muscle aches and pains and you attribute this to a myalgia associated with simvastatin. Her Creatinine kinase is within the normal range. However, her dyslipidaemia management is still sub-optimal and you wish to add in a further agent. Total Cholesterol 5.5 mmol/L LDL Cholesterol 3.8 mmol/L HDL Cholesterol 1.3 mmol/L Triglycerides 1.4 mmol/L You plan to continue the statin treatment. Which of the following agents would be the most appropriate additional therapy for this patient?

1- Chloestyramine

**2- Ezetimibe**

3- Gemfibrozil

4- Nicotinic acid

5- Omega-3 fatty acids

Q245. A 58-year-old man with a history of schizophrenia on thioridazine is found to have episodes of Torsades de Pointes ventricular tachycardia. His blood pressure is 110/70. Which of the following is the most appropriate management?

1- IV betablocker

2- IV lidocaine

**3- IV magnesium**

4- Overdrive pacing

5- Synchronised DC cardioversion

Q246. On physical examination of a 42-year-old man you find a 'jerky' pulse. Which of the following conditions is most associated with a 'jerky' pulse?

1- Aortic stenosis

2- Cardiac tamponade

**3- Hypertrophic obstructive cardiomyopathy**

4- 'Mixed' aortic valve disease

5- Severe left ventricular failure

Q247. A 65-year-old man has an ejection systolic murmur and narrow pulse pressure on clinical examination. There is no history of chest pain, breathlessness or syncope. An ECHO confirms aortic stenosis and shows an aortic valve gradient of 40 mmHg. There is good left ventricular function. Which of the following management options is the most appropriate choice in this case?

1- Anticoagulation

2- Aortic valvuloplasty

**3- Cardiology outpatient review**

4- Routine aortic valve replacement

5- Urgent aortic valve replacement

Q248. On auscultation of a patient's heart you hear a 'pan-systolic murmur'. With which of the following conditions is this murmur associated?

1- Aortic regurgitation

2- Coarctation of the aorta

3- Mitral stenosis

4- Pulmonary stenosis

**5- Ventricular septal defect**

# 

# Chapter 2 Basic Science

Q249. Which of the following statement regarding the internal jugular vein and relations is true?

1- Originates at the sphenoid sinus

2- Lies medial to the common carotid artery

3- Passes posterior to the internal carotid artery

**4- On the right side crosses the first part of the subclavian artery**

5- The right internal jugular is usually smaller than the left

Q250. During a neurological examination of the upper limb you attempt to elicit the 'triceps reflex.' You place the patient's arm across the chest, with the elbow flexed at 90'. The triceps tendon is struck with the tendon hammer. Which nerve (and its nerve roo t) are you testing?

1- Median nerve C6

2- Median nerve C7

3- Radial nerve C5

4- Radial nerve C6

**5- Radial nerve C7**

Q251. Which of the following organs is in direct contact with the anterior surface of the left kidney, without being separated from it by visceral peritoneum?

1- Duodenum

2- Jejunum

**3- Pancreas**

4- Spleen

5- Stomach

Q252. A 35-year-old male is struck on the lateral aspect of his right knee by the bumper of a car travelling at low velocity. On examination he is unable to dorsiflex the ankle, evert the foot and extend the toes. There is loss of sensation of the dorsum of the foot. He is most likely to have damaged which structure?

**1- Common peroneal nerve**

2- Deep peroneal nerve

3- Saphenous nerve

4- Sural nerve

5- Tibial nerve

Q253. Which one of the following biochemical abnormalities would fit with a diagnosis of Bartter's syndrome?

1- Hyperchloraemia

2- Hyperkalemia

3- Hypernatraemia

4- Hyperphosphataemia

**5- Hypokalemia**

Q254. Leukotrienes:

1- Are formed from the cyclooxygenase pathway

2- Are synthesized by fibroblasts

3- Decrease vascular permeability

4- Leukotriene D4 has been identified as SRS-A which causes bronchial wall smooth muscle relaxation

**5- Stimulate mucus secretion**

Q255. A 43-year-old female presents with weight gain and menstrual irregularities. Her BMI is 29 kg/m2 , blood pressure is 150/90 mmHg and Urinalysis shows + glucose. Which of the following investigations is most likely to confirm the diagnosis?

**1- 24 hour urine cortisol**

2- Aldosterone

3- HbA1c

4- Prolactin

5- Plasma testosterone

Q256. Which of the following is most likely be associated with hyperkalaemia?

1- Cushing's syndrome

2- Beta adrenergic stimulation

3- Mannitol

**4- Cyclosporin**

5- Bartter's syndrome

Q257. An Afro-Carribean male aged 48 years presents with gradual onset of exertional dyspnoea, non productive cough, malaise, weight loss and polyarthralgia. Schirmers test indicates a dry eye. X-ray of the hand shows punched out osteopenic lesions. Which of the following investigation is unlikely to be helpful in establishing the diagnosis of this condition:

1- Serum calcium

2- Serum phosphorus

3- Urea and electrolytes

**4- Thallium Scan**

5- Quantitative Immunoglobulins.

Q258. Metabolic alkalosis is characteristically found in which of the following?

1- An infusion of sodium chloride

2- Ileostomy

3- Mineralocorticoid deficiency

**4- Pyloric stenosis**

5- Salicylate poisoning

Q259. A 65-year-old man with a past history of myocardial infarction 4 years earlier was admitted with sudden onset shortness of breath, decreasing exercise tolerance and pedal oedema. He takes lansoprazole, aspirin, furosemide and lisinopril. Which of the following laboratory test would identify the reason for his acute presentation?

**1- Brain natriuretic peptide**

2- Clotting screen

3- C-reactive protein

4- Full blood count

5- Urea and electrolytes

Q260. A 75-year-old man presents with a long history of shortness of breath and ankle oedema. His serum biochemistry shows sodium 122 mmols/l and potassium of 2.9 mmols/l. He now complains of weakness. Which of the following is likely to explain the above biochemical picture?

1- Addison's Disease

2- Nephrotic syndrome

3- Primary hyperaldosteronism

4- SIADH

**5- Diuretic therapy**

Q261. Lipoprotein lipase deficiency is associated with:

1- Abetalipoproteinaemia

2- Combined hyperlipidaemia

3- Familial combined hyperlipidaemia

4- Familial Hypercholesterolaemia

**5- Marked Hypertriglyceridaemia**

Q262. Which of the following stimulate the generation of cyclic AMP as the second messenger?

1- Nitric Oxide

2- Rosiglitazone

3- Tissue Necrosis Factor (TN F) alpha

**4- Cholera toxin**

5- Growth hormone

Q263. Which of the following statements is true concerning gamma glutamyl transferase?

**1- Increased GGT is found in 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 the liver

5- Serum activity is typically elevated in pregnancy

Q264. A 72-year-old man is found to have the following biochemistry: calcium 1.98 mmol/l (2.2-2.6) phosphate 0.55 mmol/l (0.8-1.5) alkaline phosphatase 450 IU/l (50-110) Which of the following is the most likely explanation for his biochemistry?

1- Osteoporosis

**2- Osteomalacia**

3- Pagets Disease

4- Tertiary Hyperparathyroidism

5- Renal failure

Q265. A new treatment for osteoarthritis has been developed and shown to be effective in animal models plus its effects in small numbers of patients appears promising. However, there are some concerns with regard to possible hepatoxicity but no cases have been observed in studies thus far. Which is the most appropriate next step in this drug's development?

1- case control study

**2- double blind randomised placebo controlled study**

3- Drug development should be suspended due to the hepatoxicity

4- open label study

5- single blind randomised placebo controlled study

Q266. What is a likely explanation for the high prevalence of cystic fibrosis in European populations?

1- Most of the disease genes are hidden in heterozygotes.

2- The locus has a high mutation rate.

3- Many different mutations can cause cystic fibrosis.

4- Inbreeding is common among Europeans.

**5- Heterozygotes may have an advantage because of increased resistance to cholera.**

Q267. Which of the following is typically elevated in Gauchers disease?

**1- Acid phosphatase**

2- Alkaline phosphatase

3- Amylase

4- Glucocerebrosidase

5- Lipase

Q268. Where does RNA splicing occur?

1- cytoplasm

2- endoplasmic reticulum

3- mitochondria

**4- nucleus**

5- ribosome

Q269. In meiosis which of the following is true?

1- DNA replication occurs during meiosis 1.

2- At the beginning of meiosis 2, each cell contains 23 single chromosomes.

3- Anaphase lag results in one of the 2 daughter cells receiving an extra part of one chromosome.

**4- Non-disjunction at mitosis (meisois 2) results in mosaicism.**

5- The incidence of Down's Syndrome due to translocation increases with increasing maternal age.

Q270. Which of the following is true of autosomal dominant breast cancer?

**1- It is characterized by loss of heterogeneity**

2- It accounts for nearly half of all breast cancer cases in the United States

3- It can be detected by hybridization with a single oligonucleotide probe

4- Penetrance is close to 100%, with nearly all gene carriers developing breast cancer by age 80

5- Autosomal dominant breast cancer affects females but not males

Q271. Which of the following is characteristically inherited in an autosomal recessive manner?

1- Achondroplasia

2- Adult polycystic kidney disease

3- C1 esterase deficiency

4- Familial hypercholesterolaemia

**5- Friedreich's ataxia**

Q272. A 17-year-old male presented with episodes of low back pain. On clinical examination he is tall and has features of Marfan syndrome. You refer him for echocardiography and he asks why it is needed. Which of the following is the most common abnormality seen in people with Marfan syndrome?

1- Bicuspid aortic valve

2- Coarctation of the aorta

**3- Dilation of the aortic sinuses**

4- Mitral valve prolapse

5- Primum atrial septal defect

Q273. A 16-year-old profoundly deaf boy on holiday in the UK from Denmark presents with recurrent episodes of syncope and is found to have a long QT interval on his ECG. His faxed medical records indicate that he has Jervell and Lange Nielsen Syndrome. Which of the following genes is affected in this condition?

1- CACNA1c gene

2- Caveolin 3 related gene

3- Human Ether-a-go-go related gene

**4- KCNQ1 gene**

5- SCN5A gene

Q274. A 29-year-old male presents to you seeking advice regarding starting a family. He has common variable immunodeficiency and wants to know what is the risk of passing this on to his children?

**1- less than 5%**

2- 25%

3- 33%

4- 50%

5- over 70%

Q275. Which ONE of the following statements regarding X-linked diseases is correct?

**1- Can occur with equal severity in males and females**

2- Include G6PD deficiency, ornithine transcarbamylase deficiency, hypophosphataemic rickets and von Willebrands disease

3- Do not show anticipation

4- Are usually associated with male infertility

5- Are not usually associated with immune deficiency

Q276. A 35-year-old male presents with oral and genital mucocutaneous ulcerations associated with polyarthritis affecting the lower limbs. He is currently on warfarin for an recent episode of pulmonary embolism. Which of the genetic association is most commonly associated with his condition:

1- HLA A3

**2- HLA B5**

3- HLA B27

4- HLA DR3

5- HLA DR2

Q277. Which of the following is a polygenic disorder?

**1- Ankylosing spondylitis**

2- Erythropoietic porphyria

3- Fragile X syndrome

4- Huntington's disease

5- Pendred's syndrome

Q278. Transcription RNA (tRN A) has three bases specific for a particular amino acid with which it binds to messenger RNA (mRN A) . This specific area of tRNA is called the

**1- anticodon**

2- codon

3- exon

4- intron

5- transposon

Q279. With respect to lipoprotein transport and metabolism in the body, the following statements are correct EXCEPT:

**1- Chylomicrons are synthesized in the liver.**

2- HDL is assembled in the extracellular space.

3- Arterial walls contain cells with LDL receptors.

4- VLDL transformation to LDL occurs in the liver.

5- Cholesterol is required for the formation of red blood cell membranes.

Q280. Which of the following are found in eukaryotic AND prokaryotic cells?

1- Chromosomes

2- Introns

3- Linear DNA

4- Nuclear membrane

**5- Ribosomes**

Q281. A 17-year-old male who appears tall and thin for his age, presents with a high arch palate, chest wall deformities and livedo reticularis. Which of the following is also associated with this syndrome?

1- Autosomal Dominance

**2- Methionine accumulation**

3- Osteopetrosis

4- Positive Guthrie test

5- Upward dislocation of the lens

Q282. Which one of the following conditions is DNA analysis the most useful diagnostic test?

1- Adult polycystic kidney disease

2- Down's syndrome

**3- Huntington's chorea**

4- Hypertrophic Obstructive Cardiomyopathy

5- Klinefelter's syndrome

Q283. Mutation in which of the following is associated with Alport's syndrome?

1- Collagen type 1 gene

**2- Collagen type 5 gene**

3- Fibrillin- gene

4- FMR-1 gene

5- Type II procollagen gene

Q284. Which of the following is NOT true regarding the polymerase chain reaction:

1- It is used to amplify DNA but not RNA

**2- The amount of DNA required makes it unsuitable for early prenatal diagnosis**

3- Synthetic short DNA primers which flank the sequence of interest are required to initiate the amplification

4- It utilizes the thermostable properties of Taq DNA polymerase

5- It can be used to detect the presence of viral DNA in human disease

Q285. Which of the following disorders is characterised by an autosomal recessive mode of inheritance?

1- Achondroplasia

**2- Congenital Adrenal Hyperplasia**

3- Familial hypercholesterolaemia

4- Hereditary Haemorrhagic Telangiectasia

5- Huntington's disease

Q286. Mutation in which of the following is associated with Ehler-Danlos syndrome?

**1- Collagen type 1 gene**

2- Collagen type 5 gene

3- Fibrillin- gene

4- FMR-1 gene

5- Type II procollagen gene

Q287. Which of the following is true regarding chromosomes?

1- Down's syndrome is most commonly due to an extra copy of chromosome 21 inherited from the father.

2- A Fetus with triploidy will have 47 chromosomes

3- Heterochromatin is mostly composed of active genes

**4- The normal human karyotype contains 22 pairs of autosomes**

5- Telomeres provide the point of attachment to the mitotic spindle

Q288. Which of the following conditions is most likely to be detectable by growth monitoring?

1- Hyperthyroidism

**2- Hypothyroidism**

3- Pseudohypoparathyroidism

4- XYY Syndrome

5- Insulin dependent diabetes mellitus

Q289. Which molecule is produced in the nucleus, matures in the cytoplasm, binds to the ribosome and initiates protein synthesis?

**1- messenger RNA**

2- ribosomal RNA

3- RNA nucleotide

4- RNA polymerase

5- transfer RNA

Q290. A 22-year-old female is diagnosed with cystinuria following recurrent episodes of renal colic. Which of the following is characteristic of cystinuria?

1- Autosomal dominant inheritance

2- Premature coronary artery disease

3- Cataracts

4- Cystine deposition within the liver

**5- Radio-opaque renal calculi**

Q291. Which one of the following conditions is a polygenic disorder?

**1- Amyotrophic lateral sclerosis**

2- Congenital adrenal hyperplasia

3- Friedreich's ataxia

4- Huntington's disease

5- Klinefelter's syndrome

Q292. Restriction enzymes:

**1- Cut DNA**

2- Join two pieces of DNA together

3- Synthesize DNA

4- Degrade DNA

5- Are involved in cell cycle arrest

Q293. The level of cellular telomerase activity will affect:

1- The rate of cell growth

2- Cell death

**3- The number of cell divisions a cell is capable of undergoing**

4- Cell survival

5- RNA synthesis

Q294. The Polymerase Chain Reaction (PC R) is used to amplify small amounts of DNA for further analysis. First the DNA double helix must be split into two strands. This is achieved by

1- alkali solution

2- centrifugation

3- DNA polymerase

**4- heating to nearly 100°C**

5- viral reverse transcriptase

Q295. Which of the following disroders is characterised by an autosomal dominant mode of inheritance?

1- Beta-thalassaemia

2- Cystic fibrosis

**3- Marfan syndrome**

4- Wilson's disease

5- Xeroderma Pigmentosa

Q296. Parents of a 6-year-old boy present concerned that their son may be carrying the gene for Huntingtons disease. The father was diagnosed with the disease at age 32. The mother has been genetically screened and is not a carrier of the gene. What the likelihood is of their son suffering with Huntingtons disease?

1- 0 risk

**2- 1 in 2**

3- 1 in 4

4- 1 in 8

5- 3 in 4

Q297. Restriction enzymes:

**1- Cut DNA**

2- Join two pieces of DNA together

3- Synthesize DNA

4- Degrade DNA

5- Are involved in cell cycle arrest

Q298. The Polymerase Chain Reaction (PC R) is used to amplify small amounts of DNA for further analysis. First the DNA double helix must be split into two strands. This is achieved by

1- alkali solution

2- centrifugation

3- DNA polymerase

**4- heating to nearly 100°C**

5- viral reverse transcriptase

Q299. Which one of the following conditions is a polygenic disorder?

**1- Amyotrophic lateral sclerosis**

2- Congenital adrenal hyperplasia

3- Friedreich's ataxia

4- Huntington's disease

5- Klinefelter's syndrome

Q300. Which molecule is produced in the nucleus, matures in the cytoplasm, binds to the ribosome and initiates protein synthesis?

**1- messenger RNA**

2- ribosomal RNA

3- RNA nucleotide

4- RNA polymerase

5- transfer RNA

Q301. Which of the following is true regarding chromosomes?

1- Down's syndrome is most commonly due to an extra copy of chromosome 21 inherited from the father.

2- A Fetus with triploidy will have 47 chromosomes

3- Heterochromatin is mostly composed of active genes

**4- The normal human karyotype contains 22 pairs of autosomes**

5- Telomeres provide the point of attachment to the mitotic spindle

Q302. Which of the following disroders is characterised by an autosomal dominant mode of inheritance?

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2- Cystic fibrosis

**3- Marfan syndrome**

4- Wilson's disease

5- Xeroderma Pigmentosa

Q303. The level of cellular telomerase activity will affect:

1- The rate of cell growth

2- Cell death

**3- The number of cell divisions a cell is capable of undergoing**

4- Cell survival

5- RNA synthesis

Q304. A 22-year-old female is diagnosed with cystinuria following recurrent episodes of renal colic. Which of the following is characteristic of cystinuria?

1- Autosomal dominant inheritance

2- Premature coronary artery disease

3- Cataracts

4- Cystine deposition within the liver

**5- Radio-opaque renal calculi**

Q305. Transcription RNA (tRN A) has three bases specific for a particular amino acid with which it binds to messenger RNA (mRN A) . This specific area of tRNA is called the

**1- anticodon**

2- codon

3- exon

4- intron

5- transposon

Q306. Which ONE of the following have their own self replicating DNA?

1- Golgi body

2- Lysosomes

**3- mitochondria**

4- Peroxisome

5- Rough Endoplasmic Reticulum

Q307. A Plasmid is best described as

1- a recombinant section of DNA

2- a small viral particle

**3- bacterial DNA separate from the chromosome**

4- consist of multiple copies of a single gene

5- having multiple origins of replication [25]

Q308. A 28-year-old lady presents with multiple café-au-lait spots. A diagnosis of neurofibromatosis type 1 is made. What is true of the NF1 gene?

1- Inherited in a recessive fashion

2- Inherited in an X-linked fashion

**3- On chromosome 17**

4- On mitochondrial genome

5- Related to NF2 gene

Q309. Mutation in which of the following is associated with Marfan's syndrome?

1- Collagen type 1 gene

2- Collagen type 5 gene

**3- Fibrillin- gene**

4- FMR-1 gene

5- Type II procollagen gene

Q310. It has been suggested that cystic fibrosis (autosomal recessiv e) has a high prevalence in some populations because heterozygotes are resistant to the effects of chloride-secreting diarrhea. This is best described as an example of

1- Mutation

2- Gene flow

3- Genetic drift

**4- Natural selection**

5- Linkage disequilibrium

Q311. Which of the following abnormalities is associated with short stature?

**1- 45, XO karyotype**

2- 47, XXY karyotype

3- 47 XYY karyotype

4- fragile X syndrome

5- homocystinuria

Q312. A 17-year-old female is affected by an inherited disorder. She has two brothers who are unaffected. She has two sisters both are affected. Her father is affected but not her mother. What is the mode of inheritance?

1- Autosomal Dominant [50]

2- Autosomal Recessive

3- Mitochondrial

**4- X-linked Dominant**

5- X-linked Recessive

Q313. Benign Essential Tremor:

1- Is present characteristically at rest

2- Occur with lesion in sub thalamus

3- Occur in liver disease

**4- Alchohol improves the tremor**

5- Is autosomal recessive in inheritance

Q314. You would be likely to observe the lowest heritability score in

1- Cystic fibrosis

2- Spina bifida

3- Cleft lip/palate

**4- Mumps**

5- Congenital heart disease

Q315. In X-linked recessive inheritance, which of the following is true?

1- The male to female ratio is 2:1.

2- Each son of a female carrier has a 1:4 risk of being affected.

3- Each daughter of a female carrier has a 1:4 risk of being a carrier.

**4- Daughters of affected males will all be carriers.**

5- The family history is often positive since new mutations are rare.

Q316. A 59-year-old woman has had insulin dependent diabetes mellitus for over two decades. The degree of control of her disease is characterized by the laboratory finding of a HbA1c of 10.1%. She complains of repeated episodes of abdominal pain following meals. These episodes have become more frequent and last for longer periods over the last couple of months. On physical examination, there are no abdominal masses and no organomegaly of the abdomen, and she has no tenderness to palpation. Which of the following findings is most likely to be present:

1- Ruptured aortic aneurysm

2- Hepatic infarction

**3- Mesenteric artery occlusion**

4- Acute pancreatitis

5- Chronic renal failure

Q317. Regarding the genetics of bronchial asthma

1- Mendelian recessive inheritance

2- Leukotriene concentrations are influenced by genetic factors

3- Similar concordance in monozygotic and dizygotic twins

4- Genetic linkage is to a single chromosome 13

**5- There is a contribution from HLA alleles**

Q318. A 65-year-old man has IgG paraproteinaemia with plasma cells in his bone marrow aspirate. Which of the following is most likely with his underlying condition?

1- Renal failure is the commonest cause of death

2- Sclerotic bone lesions are characteristic

3- Biphosphonates are first line therapy for the treatment of associated hypercalcaemia

**4- Treatment with interferon alpha improves survival**

5- bone resorption is due to increased osteoblast activity

Q319. In idiopathic thrombocytopaenic purpura there antibodies directed at which of the following?

1- ADP receptor

2- Antithrombin III

3- ATP receptor

**4- Glycoprotein IIb/IIIa complex**

5- Platelet-activating factor

Q320. Which one of the following statements regarding T cells in their recognition of antigen is correct:

1- By TcR interaction with antigen in the extracellular fluid.

2- As conformational epitope at the cell surface.

3- As linear peptide sequences bound covalently to self MHC class I or class II at the cell surface.

**4- Derived from protein only**

5- Only when presented by "professional" antigen presenting cells.

Q321. Which one of the following is correct concerning Mast cells?

1- Do not contain heparin

**2- Degranulation releases lytic enzymes and inflammatory mediators from storage granules**

3- Are lipophilic cells involved in inflammatory and immune responses

4- Cross-linkage of surface IgA molecules by antigen may cause an anaphylactic reaction

5- Depletion of circulating mast cells can cause mastocytosis

Q322. Which of the following statements is true of Xenotransplantation?

**1- is the transfer of organs between species**

2- is the transfer of tissue grown in-vitro

3- has not yet been performed in humans

4- requires a close HLA match

5- is characterised by a vigorous early cell - mediated immune response

Q323. A 50-year-old African American woman presents with episodic toe and finger problems characterized by pallor, cyanosis, suffusion and pain of the fingers and toes in response to cold. She later develops difficulty in swallowing and dyspnoea. Which of the following immunological investigations is the most specific for this lady's condition:

1- Topoisomerase I

2- Anticentromere antibody

**3- Antitopoisomerase I (Scl-70) antibody**

4- Rheumatoid factor

5- Anti-ds DNA antibody

Q324. Which of the following statements concerning the thymus is true?

1- The majority of cortical thymocytes express either CD4 or CD8.

2- CD4/CD8 double positive cells are eliminated by a process of negative selection.

3- A proportion of alpha/beta+ thymocytes undergo isotype switching to produce gamma/delta+ T cells.

**4- Thymocytes whose TcR bind with high affinity to self Ag/MHC complexes are clonally deleted.**

5- Mature thymocytes express surface IgM and IgD.

Q325. A 16-year-old female develops an urticarial reaction and is suspected of peanut allergy yet measurement of peanut-specific IgE antibodies on RAST testing is within the normal range. Which of the following would be the next most appropriate investigation?

1- C1 esterase concentrations

2- No other test necessary diagnosis can be secured on history

3- Food provocation testing

4- Mast cell degranulation testing

**5- Skin prick testing**

Q326. Deficiency of T-cells is found in

**1- Wiscott-Aldrich syndrome**

2- hereditary angio-oedema

3- chronic granulamatous disease

4- Chediak-Higashi syndrome

5- congenital agammaglobulinaemia

Q327. Which of the following cell types have a prime role in recognizing and destroying virus infected cells in an HLA class I-restricted manner.

1- Macrophages

2- B cells

3- Dendritic cells

4- Platelets

**5- CD8+ T lymphocytes**

Q328. The Mantoux reaction is an example of which type of hypersensitivity reaction ?

1- Type I hypersensitivity

2- Type II hypersensitivity

3- Type III hypersensitivity

**4- Type IV hypersensitivity**

5- Humoral Immune Response

Q329. Which of the following would be most in keeping with a diagnosis of ploymyalgia rheumatica?

1- raised creatinine kinase

**2- increased alkaline phosphotase**

3- sudden loss of vision in one eye

4- shoulder and pelvic girdle pain in 40-yearold man

5- erythema nodosum

Q330. Which of the following suggests a diagnosis of Hurler's Syndrome rather than Hunter's Syndrome?

1- X-linked inheritance

2- Mental retardation

3- Skeletal abnormalities

**4- Cloudy cornea**

5- Cardiomyopathy

Q331. A 26-year-old man presented with exertional thigh cramps. He described his urine turning to burgundy colour especially after prolonged exertion. Investigations in the recent past had excluded presence of any significant ischaemic or inflammatory condition affecting his lower limbs. On examination, pulse was 74 beats per minute, blood pressure was 122/66 mmHg, heart sounds were normal and there was no organomegaly found on abdominal examination. Investigations: serum urea 4.6 mmol/L (2.5-7.5) serum creatinine 88 µmol/L (60-110) serum corrected Calcium 2.32 mmol/L (2.

2- 2.6) serum phosphate 0.92 mmol/L (0.8-1.4) serum creatine kinase 76 U/L (24-195) urine tested positive for myoglobulin What is the next most appropriate investigation?

1- bone marrow examination for gauchers cells

2- kidney biopsy

3- liver biopsy

**4- muscle biopsy**

5- urine for porphyrins

Q332. A 24-year-old man presented with exertional thigh cramps. He described his urine turning to burgundy colour especially after prolonged exertion. Investigations in the recent past had excluded presence of any significant ischaemic or inflammatory condition affecting his lower limbs. On examination, his pulse was 74 beats per minute, blood pressure was 122/66 mmHg, heart sounds were normal and there was no organomegaly found on abdominal examination. Investigations: <>td 1.3 mmol/L (0.8-1.4) serum urea 4.4 mmol/L (2.5-7.5) serum creatinine 88 µmol/L (60-110) serum corrected calcium 2.32 mmol/L (2.

2- 2.6) serum phosphate serum creatine kinase 88 U/L (24-195) urine tested positive for myoglobulin What is the most likely diagnosis?

1- acute intermittent porphyria

2- alkaptonuria

3- gauchers disease

**4- glycogen storage disease**

5- multiple myeloma

Q333. A 78-year-old man who lives alone and prepares his own food is found to have numerous ecchymotic hemorrhagic areas around his hair follicles. The hairs are fragmented and several hematomas are present in the muscles of the arms and legs. Except for the absence of teeth, the rest of the physical examination is unremarkable. Laboratory examination reveals a normal Prothrombin time, APTT and full blood count is normal except for a hematocrit of 28%. Deficiency of which of the following is most likely to explain this patients presentation?

1- Folate

2- Vitamin A

**3- Vitamin C**

4- Vitamin K

5- Zinc

Q334. Which of the following is a characteristic feature of acute intermittent porphyria?

1- autosomal recessive inheritance

2- excessive faecal protoporphyrin excretion

**3- excessive urinary porphobilinigoen during an acute attack**

4- hypernatraemia during attacks

5- photosensitivity

Q335. Proteins known as cyclins:

1- Regulate the menstrual cycle

**2- Are differentially expressed throughout the cell cycle**

3- Regulate antibody production

4- Regulate the cycling of receptors between the cell surface and the cytoplasm

5- Regulate DNA transcription

Q336. Phosphorylation of protein tyrosine residues is associated with:

**1- Cell signalling pathways**

2- Protein degradation

3- Alzheimer's disease

4- Protein synthesis

5- Creutzfeldt-Jacob Disease

Q337. Apoptosis is the process of programmed cell death and occurs in cells that have damaged DNA. A mediator of this process is a tumour suppressor gene that inhibits mitosis and promotes apoptosis. This gene is:-

1- bcl-2

2- caspases

3- fas (CD95)

**4- p53**

5- ras

Q338. Which of the following organelles contains enzymes responsible for the digestion of constituents of cells and tissues?

1- endoplasmic reticulum

2- Gogli apparatus

**3- lysosomes**

4- microtubules

5- mitochondria

Q339. Apoptosis is induced by:

**1- Activation of caspases**

2- The MAP kinase pathway

3- DNA synthesis

4- Antibodies

5- Necrosis

Q340. Northern blotting is a technique that can be used to detect:

1- Antibodies

2- DNA

**3- RNA**

4- Protein

5- Plasmids

Q341. Which of the following statements regarding messenger RNA (mRN A) is correct?

1- mRNA never contains introns.

2- mRNA is translated into proteins in the nucleus.

3- mRNA contains the bases cytosine and thymine.

**4- reverse transcriptase uses mRNA as a template to produce complementary DNA.**

5- mRNA is used in the Southern blotting technique.

Q342. Which of the following statements regarding myosin is correct?

1- It drives smooth muscle contraction

2- Forms filaments in a pentameric array with two heavy chains and three light chains

**3- myosin heavy chain mutations are associated with development of familial hypertrophic cardiomyopathy**

4- Contains an cAMP-binding sites

5- Has no function when not part of a filament

Q343. In a study of elderly patients with atrial fibrillation, patients receiving warfarin (n= 6000), 6% had strokes or died as a consequence of stroke, whereas in subjects treated with aspirin (n = 8000), 9 % had stroke or death from a stroke over the 3 year study period (p=0.001). The risk of stroke in an untreated population with atrial fibrillation over this time was 12%. Which of the following percentages is the approximate annual incidence of stroke in the treated population in this study?

**1- 2.6%**

2- 3.3%

3- 5.5%

4- 6.9%

5- 7.7%

Q344. A new rapid test is developed for the screening of Malaria. Blood from 200 patients were analysed by the gold standard laboratory technique and by the new method. There were 100 positive results with the gold standard technique but there were only 50 positive results using the new technique. Approximately which of the following values reflects the negative predictive value of the new technique?

1- 33%

2- 50%

**3- 66%**

4- 75%

5- 90%

Q345. A researcher compared the mean scores for nausea on a rating scale between standard therapy and a new drug in the treatment of chemotherapy induced nausea. Which one of the following is the most appropriate statistical test?

1- Chi-square test

2- Paired T-test

3- Life table analysis (log rank tes t) 4- Pearson correlation

**5- Unpaired T-test**

Q346. A cohort study of 7,500 patients aimed to find out whether the use of olive oil in cooking has an impact on cardiovascular disease. Approximately half the patients used olive oil in cooking and half used animal fat. Which of these is a disadvantage of a cohort study?

1- It is not possible to measure the incidence/risk of a disease

2- They are susceptible to recall bias; there is a differential ability of patients to remember exposure to a risk factor

3- They are not suitable when exposure to risk factors is rare

4- They can only provide information about one outcome

**5- When the outcome of interest is rare a very large sample size is needed.**

Q347. Which of the following statements is correct regarding standard error of the mean (SE M) and standard deviation (S D) ?

1- Standard error of mean is calculated by taking the square root of the standard deviation of the sample means

2- Standard deviation invariably falls with increasing sample size

3- Standard error of mean increases with sample size

**4- if standard deviation is greater than the mean the distribution is negative**

5- Student's t test is a non-parametric test

Q348. Statistical independence may be assumed in which of the following circumstances?

1- Successive measures taken on the same individual.

**2- Stratified sampling from a target population.**

3- Two matched individuals in a case control study.

4- Response to antibiotics of children with otitis media who have a CRP of above 100.

5- Diagnosis of pyloric stenosis by ultrasound scan in patients attending a tertiary referral centre.

Q349. In a study of elderly patients with atrial fibrillation, patients receiving warfarin (n= 6000)were found to have a rate of stroke of 6% whereas subjects treated with aspirin (n = 8000)had a stroke rate of 9.9% over the 3 year study period (p=0.001). The risk of stroke in an untreated population with atrial fibrillation over this time was 12%. To what do these numbers relate?

1- Absolute risk

**2- Incidence**

3- Odds risk

4- Prevalence

5- Relative risk

Q350. In significance testing which of these statements is correct?

1- A Type I error is to reject the alternative hypothesis when it should be accepted.

2- A Type II error is to accept the alternative hypothesis when it should be rejected.

**3- The probability associated with a Type I error is the significance level.**

4- The significance level is determined at the end of a significance test.

5- The significance level is always set to 5%.

Q351. An experienced group of surgeons report on a randomised placebo-controlled trial comparing a particular carotid surgery technique as compared to a sham operation. Their study concludes that 'using this advanced surgical technique reduces the risk of stroke from 4.3% to 3.8% (p<0.05)'. What has this study proved about the surgical procedure?

1- Acceptability

2- Effectiveness

**3- Efficacy**

4- Safety

5- Usefulness

Q352. Which of the following statements is true regarding statistical interpretation of data?

**1- The incidence equals the number of newly affected individuals divided by the number of people at risk for the disease for a given duration.**

2- The prevalence is readily distinguished from the incidence in relation to cancers.

3- The mortality rate is a kind of cumulative prevalence rate.

4- The cumulative incidence rate is usually given over a 10 year period.

5- The prevalence rate is defined as the total number of cases divided by the total number in the population.

Q353. A trial is proposed to see whether excess alcohol use is a risk factor for osteoporosis. It is decided to perform a case-control study rather than a cohort study. Which of these is an advantage of a casecontrol study?

1- It can provide information on a wide range of outcomes

2- It is possible to measure the incidence of a disease directly

3- It is possible to study exposure to factors that are rare

**4- It is relatively quick, cheap and easy to perform**

5- The time sequence of events can be assessed

Q354. A new antiplatelet agent has been proven to reduce the risk of stroke in a year from 10% in patients treated with conventional treatment to 6% in patients treated with conventional treatment plus the new agent. The cost of this new drug is ?00 per month. How much extra would a hospital need to spend to prevent one stroke.

1- ?200

2- ?000

3- ?8000

**4- ?0000**

5- ?00000

Q355. In a study of 26000 females, 1300 subjects were found to have either overt or subclinical hypothyroidism. Within this group, the risk of demonstrating either overt or subclinical hypothyroidism was therefore 5%. What is the best descriptive term of this 5% risk?

1- Absolute risk

2- Incidence

**3- Prevalence**

4- Relative risk

5- Specificity

Q356. A randomised double-blind placebo controlled study of a cholesterol-lowering drug in the primary prevention of coronary heart disease was conducted over a five-year follow up period. The absolute risk of myocardial infarction in the group-receiving placebo during this time was 10 per cent. The relative risk of those given the cholesterol lowering medication was 0.8. What number of patients will need to be treated with active drug for five years to prevent one myocardial infarction?

1- 20

2- 40

**3- 50**

4- 80

5- 100

Q357. In a study to find out if concentration of drug X is related to weight, subjects were given 500 mg of the drug and serum levels were measured two hours later. Which of the following is the best statistical test to evaluate the results?

1- Student's paired t-test

2- Chi squared test

3- Student's unpaired t-test

**4- Log regression analysis**

5- Pearsons coefficient

Q358. Which of the following would invalidate the use of the unpaired t test in the comparison of mean drug concentrations between two groups of subjects?

1- Insufficient statistical power

**2- Non-normal distribution of data**

3- small standard error

4- small sample size

5- unequal sample sizes in both groups

Q359. In a study of 950 subjects with a BMI below 25, a new serological marker for coeliac disease was assessed against the gold standard test of jejunal biopsy. The following results were obtained: Test positive Test negative Biopsy positive 40 10 Biopsy negative 60 840 What is the sensitivity of this test?

1- 40%

2- 55%

3- 66%

**4- 80%**

5- 93%

Q360. A new test is developed for the diagnosis of HIV. Blood from 10,000 patients were analysed by the gold standard technique and by the new method. There were 100 positive results with the gold standard technique but there were 150 positive results using the new technique. Approximately which of the following values reflects the positive predictive value of the new technique.

1- 33%

2- 50%

**3- 66%**

4- 75%

5- 90%

Q361. A new rapid test is developed for the screening of Leptospirosis. Blood from 100 patients were analysed by the gold standard laboratory technique and by the new method. There were 20 positive results with the gold standard technique but there were 40 positive results using the new technique. Approximately which of the following values reflects the positive predictive value of the new technique?

1- 33%

**2- 50%**

3- 66%

4- 75%

5- 90%

Q362. In a double blind controlled trial assessing the impact of a new antihypertensive in the treatment of stroke versus conventional antihypertensive therapy in the secondary prevention of stroke, the authors report an absolute annual risk reduction in the incidence of stroke of 0.5% and a relative risk reduction of 20%(p=0.032). The cost of the new treatment is £100 more expensive per year than conventional therapy. What would be the cost of implementing the new therapy for each stroke prevented?

1- ?000

2- ?000

3- ?0,000

4- ?0,000

**5- ?0,000**

Q363. A study of the intellectually handicapped was performed. The 112 subjects, put through program A, showed an increase in their mean IQ score of 6 points. The 115 subjects, put through program B, showed an increase in their mean IQ score of 4. The p value was >0.05. Which of the following is true:

1- the numbers are too large for a Student ttest

2- the study demonstrates the usefulness of program A

3- the distribution of individual values is not important

**4- even though the difference between the means is not significant it would be appropriate to calculate confidence intervals**

5- the above results would be found by chance in less than 1:20

Q364. A publication describes a new diagnostic test for myocardial infarction. You want to know what proportion of patients with a confirmed myocardial infarction will be identified by the test. Which one of the following measurements would indicate this?

1- Accuracy

2- Negative predictive value

3- Positive predictive value

**4- Sensitivity**

5- Specificity

Q365. In a study of 1000 subjects with adrenal incidental tumours, a new serological marker for adrenal carcinoma was assessed against formal histology. The following results were obtained: Test positive Test negative Histology positive 40 10 Histology negative 50 900 To what does the specificity approximate?

1- 50%

2- 60%

3- 70%

4- 80%

**5- 90%**

Q366. A letter to a medical journal suggested that an established antidepressant may cause photosensitivity. The manufacturer wished to set up a study to determine rapidly and efficiently whether this was a true association. Which one of the following techniques is most appropriate?

1- A case control study

2- A dose ranging study

3- A double blind, randomised, placebo controlled study

**4- A meta-analysis**

5- A sequential trial

Q367. In a study of blood pressures in a specific ethnic population, the researcher is concerned that his spread of blood pressures is larger than that described in the general population. Which of the following terms most appropriately describes the spread of blood pressures?

1- Mean

2- Median

3- Mode

**4- Standard deviation**

5- Standard error of the mean

Q368. A large multi-centre secondary prevention study reports a reduction in the annual incidence of recurrent subarachnoid haemorrhage from 10% in a medically treated group versus 6% in the group treated with medical therapy plus radiological intervention (p<0.005). The cost of the new treatment is ?000 per patient. In the first year of treatment, what would be the predicted additional cost of preventing a single recurrent subarachnoid haemorrhage?

1- ?000

2- ?2000

3- ?0000

**4- ?5000**

5- ?0000

Q369. In a primary prevention study of stroke comparing a newantihypertensive with conventional antihypertensive therapy, the number of patients who had a stroke over the study period was 200 in group 1 with the new therapy (n=5200) versus 250 with conventional therapy (n=4750). Which of the following is the approximate odds ratio for the new therapy?

1- 0.25

2- 0.5

**3- 0.75**

4- 1

5- 1.5

Q370. A clinical investigation examined the effectiveness of a new test for diagnosing Pancreatic carcinoma. The sensitivity was reported as 70%. Which one of the following statements is correct?

1- 70% of people will be correctly classified as having or not having the disease

2- 70% of people with an abnormal test result will have the disease

3- 70% of people with a normal test result will not have the disease

**4- 70% of people with the disease will have an abnormal test result**

5- 70% of people with the disease will have a normal test result

Q371. A publication assesses a new diagnostic test for thyroid cancer. Which of the following terms would reflect the number of cases of thyroid cancer correctly identified by this new test?

1- accuracy

2- negative predictive value

3- positive predictive value

**4- Sensitivity**

5- Specificity

Q372. A study is designed to test the accuracy of faecal occult blood testing in excluding a certain type of bowel cancer. Faecal occult bloods are compared to a gold standard which consists of a battery of tests and pathological diagnosis. In the study 200 prospective patients undergo faecal occult blood testing and are followed up with the other investigations. The results showed that malignancy was present in 100 patients but the faecal occult blood testing was positive in only 90 patients. Approximately which of the following values reflects the negative predictive value of the faecal occult blood testing in this study?

1- 33%

2- 50%

3- 66%

4- 75%

**5- 90%**

Q373. In a study of 1000 patients with autoimmune hepatitis, a new serological test for the disease was assessed against diagnostic liver biopsy. The following results were obtained: Test positive Test negative Histology positive 80 20 Histology negative 100 800 To what does the sensitivity of the new test approximate?

1- 50%

2- 60%

3- 70%

**4- 80%**

5- 90%

Q374. Adequate randomisation can be assumed in which of the following circumstances?

1- All consecutive patients attending a tertiary referral centre.

2- A sample using healthy volunteers.

3- A sample of those judged to be appropriate for inclusion in the study.

4- A sample based on a family cluster.

**5- A stratified random sample.**

Q375. A study was performed to assess the usefulness of a new autoantibody test for the detection of suspected Hashimoto's disease. The test was undertaken in 1000 subjects who complained of tiredness and all test results were compared with FNA biopsy results which provided a gold standard for the diagnosis of Hashimoto's disease. The following table lists the results: Antibody +ve Antibody –ve Total Hashimoto's disease confirmed at FNA 35 15 50 No evidence of disease at FNA 30 920 950 Approximately, what is the sensitivity of the antibody test for the detection of Hashimoto's disease?

1- 50%

2- 60%

**3- 70%**

4- 80%

5- 90%

Q376. A study of an established antihypertensive agent against placebo reports that the risk of death due to cardiac causes is lower on treatment. It gives 5-year mortality due to cardiac causes as 12% on placebo and 8% on treatment. The authors conclude that 'a 33% reduction in cardiac deaths is seen with treatment'. The figure '33%' represents which of the following?

1- Absolute Risk Reduction

2- Control Event Rate

3- Experimental Event Rate

4- Number Needed to Treat

**5- Relative Risk Reduction**

Q377. In a trial of statin therapy in the secondary prevention of ischaemic heart disease, therapy is shown to reduce cardiovascular mortality from 12% to 8% over the 5 years duration of the study. In comparison with standard therapy, what is the number of patients that need to be treated to prevent one death over five years?

1- 5

2- 10

3- 20

**4- 25**

5- 50

Q378. In a study assessing two different antiplatelet agents in the prevention of stroke, 10,000 subjects were randomised to receive either the standard therapy or the new therapy. Over the study period of five years, the side effect of major gastrointestinal bleeding was 3% in the standard therapy group compared with 2% in the new therapy group. Which of the following is the absolute risk reduction associated with the new therapy in major GI bleeds?

**1- 1%**

2- 3%

3- 10%

4- 15%

5- 33%

Q379. Suppose you are attempting to find a diseasecausing gene, and you have identified a number of families in which the disease is transmitted. If you have no knowledge of the gene product and no reasonable candidate locus, which of the following would be the first technique you would be most likely to use?

**1- Linkage analysis**

2- DNA sequencing

3- Single strand conformation polymorphism (SSC P) analysis

4- Denaturing gradient gel electrophoresis (DGG E) 5- Fluorescence in situ hybridization (FIS H)

Q380. Which of the following genetic mutation is responsible for Marfan's syndrome?

1- Collagen

2- Elastin

**3- Fibrillin**

4- Mircrofilament

5- Microtubule

Q381. Which of the following does N-acetylcysteine replenish?

1- Cystathionine

2- Cytochrome P450

3- Glucuronyl transferase

**4- Glutathione**

5- Sulfatase

Q382. In one gene mapping technique, denatured DNA from metaphase chromosomes is hybridized with a radioactively labeled probe. This DNA is then exposed to film to reveal the approximate chromosomal location of the DNA in the probe. Which technique does this best describe?

1- Southern blotting

**2- In situ hybridization**

3- Somatic cell hybridization

4- Fluorescence in situ hybridization

5- Single strand conformation polymorphism (SSC P) analysis

# Chapter 3 Emergency medicine

Q383. OnExamination - Emergency medicine Which one of the following is a recognised treatment option in poisoning?

1- ethanol for isopropyl alcohol poisoning

2- glucagon for cocaine poisoning

3- methylene blue for cyanide poisoning

4- N-acetylcysteine in paraquat poisoning

**5- pralidoxime in sarin (nerve ga s) poisoning**

Q384. OnExamination - Emergency medicine You have been called to the ward by the senior nurse, to review a repeat Calcium result. The repeat result is 3.9 mmol/l (2.2 - 2.6), the previous result 4 hours earlier was 3.2. The patient has a disseminated malignancy with an unknown primary. Which of the following statements is most correct when considering the hypercalcaemia of malignancy?

1- NSAIDs are indicated for bone pain in this patient

2- Bisphosphonates inhibit osteoblast function thereby lowering calcium

3- A prolonged QT interval is associated with hypercalcaemia

**4- On neurological examination, hyporeflexia may be exhibited**

5- Calcitonin is of greater benefit than bisphosphonates in the treatment of hypercalcaemia of malignancy

Q385. OnExamination - Emergency medicine A 64-year-old woman presented 10 hours after ingestion of 12g of Quinine Sulphate. Which of the following is the most common characteristic clinical feature in this situation?

**1- Blindness**

2- Bradycardia

3- Hyperacusis

4- Hyperglycaemia

5- Hypotension

Q386. OnExamination - Emergency medicine A 40 year-old man suffers an intracerebral infarction. Which of the following features in this patient would not be considered as a risk factor for his stroke?

1- Blood Pressure 156/72 mmHg

2- Cocaine use

3- Mitral valve prolapse

**4- Plasma cholesterol of 6.5 mmol/l**

5- Smoker of 5 cigarettes per day

Q387. OnExamination - Emergency medicine A 76-year-old woman is admitted with right pleuritic chest pain and breathlessness. She had surgery 2 months previously for fracture of right femur following a fall. She has a pyrexia of 38 oC. Her CXR shows a little right basal shadowing. Her serum D-dimers are normal at 120. White cell count is 14 x 109 /L. What is the most appropriate next step?

1- Blood cultures

2- Blood gases

3- Spiral CT chest

**4- Start intravenous antibiotics**

5- Ventilation-perfusion scan

Q388. OnExamination - Emergency medicine In most cardiac arrest situations 1mg of adrenaline (epinephrin e) is given intravenously every 3 minutes. What is the correct volume and concentration of the adrenaline?

1- 0.1ml of 1 in 100

2- 1ml of 1 in 1000

3- 10ml of 1 in 1000

4- 1ml of 1 in 10,000

**5- 10ml of 1 in 10,000**

Q389. rate of 35/min, a pulse of 120 beats per min, a blood pressure 110/70 mmHg, oxygen saturations of 90% and a Peak Expiratory Flow rate < 50% predicted. The Emergency Medical Services have administered salbutamol 5mg (twic e) and face mask oxygen. Which of the following is the most appropriate next action in this patient?

1- Arterial blood gas analysis

2- Intensive care referral

3- Oxygen 35%

4- Prednisolone 40mg

**5- Salbutamol 5mg and ipratroprium bromide 0.5mg**

Q390. OnExamination - Emergency medicine A 25-year-old is admitted on the medical intake. She is 10 weeks post partum and has been generally unwell for 2 weeks with malaise sweats and anxiety. On examination she is haemodynamically stable, and clinically euthyroid. TFTs show the following: Free T4 33 pmol/L (9-23) Free T3 8 nmol/L (3.5-6) TSH <0.02 mU/L (0.5-5) What is the appropriate management?

1- Carbimazole 40mg/day

2- Lugols Iodine

**3- Propranolol 20mg tds**

4- Propylthiouracil 50mg/tds

5- Radioactive iodine therapy

Q391. , a pulse rate of 110 bpm and blood pressure of 100/70 mmHg. Abdominal examination reveals ascites. An urgent endoscopy reveals small oesophageal varices, without evidence of bleeding but an oozing portal hypertensive gastropathy. Which of the following measures would be the most appropriate treatment for this patient?

1- endoscopic banding

**2- endoscopic injection of adrenaline**

3- endoscopic injection of ethanolamine

4- oral propranolol

5- intravenous vitamin K

Q392. OnExamination - Emergency medicine An 80-year-old male presented with acute right-sided weakness. Examination revealed minimal right facial weakness, impaired elevation of the right shoulder, with relatively preserved right hand strength. There was global weakness in the right leg which appeared to be maximal in the foot. Which of the following arteries is most likely to have been affected?

**1- Anterior cerebral artery**

2- Lenticulostriate artery

3- Middle cerebral artery

4- Posterior cerebral artery

5- Posterior communicating artery

Q393. OnExamination - Emergency medicine Which of the following reactions is involved in the metabolism of paracetamol under normal conditions?

1- cytochrome p450 dependent oxidation

2- hydrolysis

**3- conjugation to glucuronic acid**

4- conjugation to glutathione

5- acetylation

Q394. OnExamination - Emergency medicine Which of the following percentages most accurately reflects the mortality associated with the modern management of diabetic ketoacidosis?

1- 0.5%

2- 1%

**3- 2-3%**

4- 5-6%

5- 8-10%

Q395. ?

1- Pupillary constriction

**2- heart rate of 60 beats per minute**

3- QRS duration of 120 ms (<100)

4- respiratory rate of six breaths per minute

5- convulsions

Q396. rate of 35/min, a pulse of 120 beats per min, blood pressure 110/70 mmHG, Peak Expiratory Flow rate < 50% predicted. The Emergency Medical Services have administered salbutamol 5mg (twic e) , Ipratroprium 0.5mg and face mask oxygen. His arterial blood gas reveals: pH 7.42 (7.35-7.45) paCO2 5.0 kPa (4.5-5.9) paO2 22 kPa (10.5-13.2kP a) Base excess -2 SpO2 98 Which of the following is the most appropriate action for this man?

1- Chest X-ray

**2- Intensive care referral**

3- Ipratroprium

4- Magnesium 1-2 g

5- Oxygen 35 %

Q397. OnExamination - Emergency medicine A 70-year-old male presents with haematemesis and malaena. His presenting blood pressure is 80/46 mmHg, with a heart rate of 114 bpm. He is known to have idiopathic cirrhosis, and there is mild encephalopathy. You fluid resuscitate him with colloid, blood, FFP and dextrose. Which of the following is the next best step in management?

1- Ciproflaxacin

2- Oral beta-blockers

3- OGD

**4- Glypressin**

5- Lactulose

Q398. of confusion with headaches. On examination she is confused, with a Glasgow Coma Scale of 13 and a temperature of 39.5oC. She has nuchal rigidity and photophobia. CSF examination reveals a glucose of 0.5 mmol/l, a white cell count of 2500 per mm and Gram positive Cocci in pairs. Which of the following is correct?

1- The most likely infective organism is Staphylococcus aureus

2- The organism is likely to be penicillin resistant.

3- Rifampicin should be given to close contacts.

**4- Nerve deafness would be a common complication in this case.**

5- A characteristic rash would be expected.

Q399. OnExamination - Emergency medicine Which of the following features would be expected in acute tubular necrosis?

1- Heavy proteinuria on urinalysis

2- Red cell casts on urinalysis

3- Urine plasma osmolality ratio is more than 1:1

**4- Urinary sodium concentration greater than 30 mmol/l**

5- Creatinine clearance would be expected to be normal 1 year after the initial insult.

Q400. OnExamination - Emergency medicine A 24-year-old man presents to the Accident & Emergency department and complains of shortness of breath. Before his Chest X-ray is taken he tells the casualty officer that he is known to have an 'azygous lobe'. What region of the Chest X-ray would expect to see an 'azygous lobe'?

1- left lower zone

2- left mid zone

3- left upper zone

4- right lower zone

**5- right upper zone**

Q401. OnExamination - Emergency medicine In malignant hyperpyrexia:

1- A mortality rate of 20% may be expected

2- Elevation of serum creatine kinase and myoglobinuria is diagnostic

**3- Muscle biopsy may be histologically normal**

4- The only available specific treatment is sodium dantrolene, which has a neutral pH

5- The predisposing gene is thought to be on chromosome 9

Q402. OnExamination - Emergency medicine A 17-year-old woman presented 6 hours after taking 30g of Paracetamol. Which of the following factors is most likely to predict an increased risk of hepatotoxicity from the Paracetamol?

**1- Anorexia nervosa**

2- Consumption of 20 units of alcohol since taking the Paracetamol

3- Gilbert's disease

4- Ingestion of Amitriptyline with the Paracetamol

5- Smoking 20 cigarettes per day

Q403. of drug overdose. He is known to be repeatedly admitted with similar episodes of self-harm. On this occaision he is drowsy and has prominent hypersalivation. Which of the following agents, found on his person, is the likely cause?

**1- Chlormethiazole**

2- Cocaine

3- Dosulepin

4- L-dopa

5- Solvent cannister

Q404. of seizures but has not had any of the last two years and is well controlled on valproate. He also informs you that she has been gaining weight recently and has also had erratic menses which the neurology clinic attribute to the valproate. Her pulse is 110/min, blood pressure is 160/90 mmHg and her urinalysis reveals 3+ proteinuria. After Airway, Breathing and circulation, the immediate drug therapy should be:

1- Diazepam 10mg

2- Lorazepam 2mg

**3- Magnesium 2 grams**

4- Nil

5- Phenytoin 1000mg

Q405. OnExamination - Emergency medicine An 18 year-old woman presents thirty hours after taking about 50 Paracetamol tablets (25 g) . Which of the following tests measured at this time point would be most helpful in determining the outcome?

**1- ALT concentration**

2- Bilirubin concentration

3- Creatinine concentration

4- Paracetamol concentration

5- prothrombin time

Q406. OnExamination - Emergency medicine These are the blood gas results obtained from a 20-year-old female admitted to hospital. hydrogen ion concentration 35 nmol/L (35-45) pH 7.45 (7.35-7.45) pCO2 6.8 kPa (4.6-5.9) bicarbonate 32 mmol/L (22 - 26) Which of the following is the most likely cause of this patient's acid-base derangement?

1- Amitriptyline overdose

2- Cushing's syndrome

3- Hepatic failure

**4- Pregnancy**

5- Salicylate poisoning

Q407. OnExamination - Emergency medicine An 18-year-old female 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 steroids 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

Q408. included hypertension and progressive cognitive decline. On examination she was pyrexial, had livedo reticularis and a blood pressure of 180/100 mmHg. Examination of the abdomen revealed no masses but there was tenderness in the left flank. Investigations revealed: haemoglobin 12.9 g/dL (11.5-16.5) white cell count8.7 x 109 /L (4-11) platelet count 83 x 109 /L (150-400) serum creatinine 106 umol/L (60-110) urine dipstick analysis: " blood+++ " protein+ Which one of the following tests is most likely to be positive?

**1- anticardiolipin antibody**

2- antiglomerular basement membrane antibody

3- antimitochondrial antibody

4- antineutrophil cytoplasmic antibody

5- antistreptolysin O antibody

Q409. of breathlessness. He was a nonsmoker. On examination, his temperature was 36.7°C, with a respiratory rate of 20 breaths per minute and normal breath sounds to auscultation and a pulse of 92 bpm. Arterial blood gases on air showed: pH 7.51 (7.36 - 7.44) pO2 8.4 kPa (11.3 - 12.6) pCO2 4.0 kPa (4.7 - 6.0) What is the most likely diagnosis?

1- atypical pneumonia

2- fibrosing alveolitis

3- hysterical hyperventilation

4- inhaled foreign body

**5- pulmonary thromboembolism**

Q410. OnExamination - Emergency medicine A 17-year-old male presents to A+E after an overdose of alcohol and paracetamol. He complained of abdominal discomfort and an intravenous infusion of N-Acetylcysteine was commenced. 15 minutes later he developed breathlessness, reported feeling flushed and developed a tachycardia.

1- A disulfiram-like (antabus e) reaction has occurred

2- The patient has had a panic attack

3- The patient has developed pulmonary oedema

4- The patient has received an overdose of NAcetylcysteine

**5- The patient has received N-Acetylcysteine previously**

Q411. OnExamination - Emergency medicine A 19-year-old woman became breathless while travelling on an aeroplane. Which one of the following features most strongly supports a diagnosis of acute hyperventilation related to a panic disorder?

**1- Carpal spasm.**

2- Finger paraesthesiae.

3- Hypotension.

4- Light-headedness.

5- Loss of conciousness

Q412. OnExamination - Emergency medicine A 28-year-old female, three days post-partum develops severe headache associated with seizures. During her pregnancy her blood pressure had been mildly elevated in the third trimester. On examination, she had a GCS of 15 but was slightly confused and drowsy. Her temperature was 37.5°C, she had mild nuchal rigidity but neurological examination was otherwise normal. What is the most likely diagnosis?

1- Bacterial meningitis

**2- Cortical vein thrombosis**

3- Eclampsia

4- Intracerebral haemorrhage

5- Subarachnoid haemorrhage

Q413. . He is given 50ml of 50% dextrose and he slowly recovers over the next 1 hour. A serum cortisol concentration later returns as 800nmol/l (120-600). Which of the following would be the most relevant investigation for this man?

1- Chest x-ray

2- CT head scan

3- Electrocardiogram

**4- Prolonged 72 hour fast**

5- Short synacthen test

Q414. OnExamination - Emergency medicine A 30-year-old man is admitted three hours after taking an overdose of amitriptyline and diazepam. On examination he was drowsy with a Glasgow Coma Scale of 8, he had a pulse of 140 beats per minute, a blood pressure of 114/88 mmHg and dilated pupils. His oxygen saturation was 90% on room air. What is the most appropriate initial action for this patient?

1- activated charcoal

2- CT head scan

**3- ECG**

4- IV atenolol

5- IV flumazenil

Q415. ing to hang herself. She becomes agitated and insists that she wants to go home immediately. You judge that she is at high risk of suicide. Which of the following is the most appropriate course of action for this patient?

**1- Call the duty psychiatrist, and with other staff in the A&E department attempt to restrain her under Common Law until they arrive.**

2- Ask her to sign a 'discharge against medical advice' form and let her go.

3- Call the duty psychiatrist, but let the patient go if she insists and the duty psychiatrist does not arrive in time to see her.

4- Detain her under section 5(2) of the Mental Health Act.

5- Call the hospital security services, restrain her and sedate her.

Q416. of skin rash to Penicillin documented in his medical notes. He has adverse prognostic features and a CURB score of 4. What would be an appropriate empirical antibiotic choice?

1- Augmentin and Clarithromycin

2- Augmentin and Gentamycin

**3- Cefotaxime and Erythromycin**

4- Cefuroxime and Metronidazole

5- Ciprofloxacin and Clarithromycin

Q417. rate of 32 breaths per minute, a pulse of 120 beats per minute, a blood pressure of 100/60 mmHg, and a peak expiratory flow rate of 250 litres per minute. Auscultation of the heart and chest was normal. The Chest X-ray was normal and blood gases on air showed: pH 7.35 (7.36 - 7.44) PaO2 6.0kPa (11.3 - 12.6) PaCO2 3.9 kPa (4.7 - 6.0) Serum bicarbonate 20 mmol/l (20 - 28) She was started on high flow oxygen. What is the most important next treatment?

1- amoxicillin intravenously

2- aminophylline intravenously

3- intravenous fluids

**4- low molecular weight heparin**

5- nebulised salbutamol

Q418. failure during an episode of acute pancreatitis and was thought to have developed adult respiratory distress syndrome (ARD S) . Which of the following would support a diagnosis of ARDS?

1- High pulmonary capillary wedge pressure

**2- High protein pulmonary oedema**

3- Hypercapnia

4- Increased lung compliance

5- Normal chest X-ray

Q419. OnExamination - Emergency medicine A 52-year-old schoolteacher attends with weight loss and sweats.She is clinically thyrotoxic with a diffuse goitre. Subsequent investigations show: Free T4 40 pmol/L (9-23) Free T3 9.8 nmol/L (3.5-6) TSH 6.1 mU/L (0.5-5) A repeat TFT is similar. What is the most appropriate investigation for this patient?

1- FNA of thyroid gland

**2- MRI scan pituitary gland**

3- Radio-isotope uptake scan of thyroid gland

4- Repeat TFT checking for antibody interferance

5- Thyroid auto antibodies

Q420. of Grave's disease presents to the Emergency department with palpitations, anxiety and fine tremor of both hands. ECG shows rapid atrial fibrillation with ventricular rate of 160 to 180/min. His blood pressure was 110/80 mmHg. TSH was 0.01 mIU/L (N0.17-4.2) and Free T4 60.3 pmol/L (N13-23). What is the immediate management for this patient?

1- Carbimazole

2- DC cardioversion

3- Digoxin

**4- Propanolol**

5- Warfarin

Q421. normal, Serum albumin 34 g/L (37-49), Urine dipstick proteinuria + Which is the most appropriate investigation that you would request next for this patient?

1- 24 hour urinary protein estimation.

2- Abdominal ultrasound.

3- Plasma protein electrophoresis.

4- Urinary albumin: creatinine ratio.

**5- Urinary B-human chorionic gonadotrophin test (B-HC G)**

Q422. of alcohol abuse presents with a two day history of deteriorating confusion. On examination he is drowsy, has a temperature of 39oC, a pulse of 110 beats per minute, a small amount of ascites and has features of a left side hemiparesis. What is the most likely diagnosis?

**1- Cerebral abscess**

2- Cerebro-vascular accident

3- Hepatic encephalopathy

4- Wernicke's encephalopathy

5- Sub-dural haematoma

Q423. OnExamination - Emergency medicine A 54-year-old male with Child's grade C hepatic encephalopathy presents with haemetemesis. Which of the following is the most appropriate immediate therapy?

1- IV Desmopressin

2- IV Isoket

3- IV Omeprazole

4- IV Propranolol

**5- IV Somatostatin**

Q424. OnExamination - Emergency medicine A 19-year-old female type 1 diabetic is admitted with diabetic ketoacidosis. Which of the following is most appropriate concerning the use of a bicarbonate infusion?

1- No benefit from using a bicarbonate infusion.

**2- Commence a bicarbonate infusion at pH less than 7.**

3- Commence a bicarbonate infusion with a standard bicarbonate concentration below 5 mmol/l (NR 22-26).

4- Commence bicarbonate infusion with a potassium concentration above 6 mmol/l.

5- Commence a bicarbonate infusion with a ketone concetration above 5 mmol/l (NR les than 1)

Q425. of weight loss and receives thyroxine for hypothyroidism which was diagnosed five years ago. On examination she appeared unwell, with a temperature of 37.5C and her blood pressure was 100/50 mmHg. Investigations revealed: sodium 130 mmol/L (137-144) potassium 4.8 mmol/L (3.5-4.9) urea 7.6 mmol/L (2.5-7.5) glucose 2.7 mmol/L (3.0-6.0) freeT4 9 pmol/l (10-22) TSH 1 mu/l (0.5-5) Which one of the following given intravenously would be the most appropriate initial management?

1- Cefuroxime

2- 10% Dextrose infusion

3- Glucagon

**4- Hydrocortisone**

5- Tri-iodothyronine

Q426. OnExamination - Emergency medicine A 31-year-old female with pulmonary hypertension complains of increasing shortness of breath. She is 36 weeks gestation in her first pregnancy. Which of the following statements is correct?

1- Chest X-ray is contraindicated

2- Elevated D-dimers rule out PE

3- Enoxaparin dose should be halved in pregnancy

4- Nifedipine is contraindicated in pregnancy

**5- Risk of maternal mortality in patients with pulmonary hypertension is 30%**

Q427. OnExamination - Emergency medicine A patient has just received intravenous ceftazidime. They immediately become flushed and wheezy, with a blood pressure of 80/40 mmHg. Which of the following is the most appropriate immediate management for this patient?

1- Chlorphenamine 10mg IV

2- Epinephrine 0.2mls of 1:1000 IV

3- Epinephrine 0.5mg IV

**4- Epinephrine 0.5mg i.m.**

5- Hydrocortisone 100mg i.v.

Q428. of cerebral haemorrhage is admitted with a cough, worsening breathlessness and right pleuritic chest pain. He is also mildly pyrexial. His ventilation-perfusion scan reveals several areas of ventilation/perfusion mismatches in the right lower zone. What is the most appropriate line of management?

1- aspirin therapy

2- antibiotics

**3- inferior vena cava filter**

4- low molecular weight heparin treatment

5- warfarin treatment

Q429. OnExamination - Emergency medicine A 17-year-old girl presents following an overdose of Paracetamol, her parents having found her with empty packets of paracetamol. She states that she has taken 100 tablets, three hours earlier. Which is the most appropriate step in this patient's management?

1- administer oral activated Charcoal 50g

**2- give N-Acetylcysteine intravenously**

3- Measure plasma Paracetamol concentration

4- Transfer to young person's psychiatric unit immediately

5- take no immediate action

Q430. OnExamination - Emergency medicine A 38-year-old man experiences sudden deterioration after being admitted to the Intenxive Care Unit because of severe pneumococcal pneumonia and septic shock. Arterial blood gas analysis reveals pH of 7.2, paO2 of 90mmHg, paCO2 of 35mmHg and HCO3-of 16mEq/L. Which one of the following changes will be found in this patient?

1- Hyperventilation leading to the increase in CO2 concentration

2- Increase production of HCO3-

3- Increased renal excretion of HCO3-

**4- Raised hydrogen ions level in the blood**

5- Respiratory acidosis

Q431. rate of 8 breaths per minute, a heart rate of 52 beats per minute and her blood pressure was 84/62 mmHg. Her pupils are small but are reactive to light, muscle tone is reduced and plantar responses are flexor. Which of the following is she most likely to have taken in overdose?

1- Diazepam

**2- Dihydrocodeine**

3- Diphenhydramine

4- Ecstasy (MDM A) 5- Methanol

Q432. OnExamination - Emergency medicine A 50-year-old male who is well known to the casualty department attends inebriated. He has an alcoholic encephalopathy with a Glasgow Coma Scale of 13. He is jaundiced, describes no symptoms, but is mildly short of breath. You are presented with his blood results: Haemoglobin 7.4 g/dl (12 - 16 g/d l) White cell count 10.1 x 109 /L (4 - 10 x 109 / L) Platelets 137 x 109 /L (140-400 x 109 / L) Sodium 133 mmol/l (133 - 144 mmol/ L) Potassium 3.7 mmol/l (3.5 - 5 x 109 / L) Urea 12 mmol/l (3 - 8 x 109 / L) Creatinine 113 micromol/l (50–100 µmol/ L) AST 124 (5 - 40) Alkaline Phosphatase 224 (50 - 110) Total Protein 54 g/l (60 - 80g/ L) Bilirubin 63 micromol/l (

3- 18 µmol/L ) Cholesterol 15.3 mmol/l (<5.5 mmol/ L) Triglycerides 7.2 mmol/l (<2.2mmol/ L) Blood film Profound spherocytosis Which of the following is the most appropriate treatment for this patient?

1- IV Steroids

2- Oesophago-gastro-duodenoscopy

3- MRI pancreas

**4- Supportive therapy**

5- Urgent laporotomy

Q433. OnExamination - Emergency medicine A 62-year-old male attends A+E with a severe nose bleed. He is known to have alcoholic cirrhosis. His investigations reveal: haemoglobin 10.9 g/dL (13.0-18.0) white cell count 5 x 109 /L (4-11) platelet count 60 x 109 /L ( 150-400) prothrombin time 17.5s (11.5-15.5) APPT 42s (30-40) fibrinogen 0.7 g/L (1.8-5.4) What is the most appropriate blood product for this patient?

**1- Cryoprecipitate**

2- Factor VIII

3- Platelets

4- Prothrombin complex concentrate

5- whole blood

Q434. OnExamination - Emergency medicine A 70-year-old female is admitted 12 hours after taking an overdose of aspirin. Investigations revealed: Serum sodium 138 mmol/L (137-144) Serum potassium 5.9 mmol/L (3.5-4.9) Serum bicarbonate 14 mmol/L (20-28) Serum urea 18.1 mmol/L (2.5-7.5) Serum creatinine 238 umol/L (60-110) Serum salicylate 1120 mg/L (8 mmol/ L) What is the most appropriate treatment of this patient?

**1- Haemodialysis**

2- Haemofiltration

3- Intravenous sodium bicarbonate.

4- Peritoneal dialysis.

5- Urine alkalinization.

Q435. OnExamination - Emergency medicine A precordial thump:

1- Can be given following an unwitnessed cardiac arrest

2- Should be administered after a warning has been given to the patient

3- Can be delivered up to twice during a cardiac arrest

**4- Delivers approximately 10 Joules of energy**

5- Should be aimed at the position of V4 on the anterior chest wall

Q436. of malaise and headache. On the day of admission the headache had become more intense and was associated with pain in her neck. Her husband reported that she had also been febrile and confused at times. She had previously been well and had no significant past medical history. On examination, she was febrile 38.1oC, looked unwell and was photophobic. Kernig's and Brudzinski's signs were positive. The fundi were normal with no evidence of papilloedema. Following a normal CT scan a lumbar puncture was performed and CSF analysis showed: White cells 200/mm3 Red cells 2/mm3 CSF protein 0.9 g/L CSF glucose 1.6 mmol/L Plasma glucose 5.3 mmol/L What is the most likely causative organism?

1- Eschericia coli

2- Listeria monocytogenes

3- Mycobacterium tuberculosis

**4- Streptococcus pneumoniae**

5- Streptococcus pyogenes

Q437. OnExamination - Emergency medicine A youth worker, aged 40, presents to Accident and Emergency with vomiting. On detailed questioning, he statesthat he hastaken about 36 paracetamol tablets 2 hours previously. He is vomiting profusely with a BP of 90/60 mmHg. Which of the following measures would be the most appropriate immediate step in the management of this patient?

1- Paracetamol levels

2- Oral methionone

3- IV N-acetyl cysteine

**4- IV fluids**

5- Coagulation screen

Q438. . Which one of the following features indicates a poorer prognosis?

1- Fatigue

2- Mediastinal mass of 3cm

**3- Night sweats**

4- Pruritis

5- Recent Epstein-Barr virus infection

Q439. OnExamination - Emergency medicine A 16-year-old girl presented with fever, headache and photophobia. Investigations revealed: Cerebrospinal fluid examination Opening pressure 260 mm H20 (50-180) Total protein 0.8 g/L (0.15-0.45) Glucose 4.2 mmol/L (3.3-4.4) White cell count 60 per ml (<5) Lymphocytes 90% (60-70) " Plasma glucose 6.4 mmol/L (3.0-6.0) What is the most likely diagnosis?

1- Bacterial meningitis

2- Cryptococcal meningitis

3- Tuberculosis meningitis

4- Viral encephalitis

**5- Viral meningitis**

Q440. OnExamination - Emergency medicine A 70 year-old male is admitted with haematemesis. He is currently being treated with warfarin for atrial fibrillation and his INR retrurns as 10. Which of the following is the most appropriate immediate treatment of his INR?

1- cryoprecipitate

**2- fresh frozen plasma**

3- intravenous vitamin K

4- oral vitamin K

5- recombinant Factor VIII concentrate

Q441. OnExamination - Emergency medicine An 81 year-old female is admitted following a seizure although her relatives state that prior to this she had been increasingly confused, unsteady and unable to look after herself over the last 2-3 weeks. On examination she was drowsy and had a temperature of 37.5?, and a blood pressure of 192/108 mmHg. She had a mixed aphasia, with a mild right hemiparesis. What is the most likely diagnosis?

1- Acute cerebral infarction

2- Acute intracerebral hemorrhage

3- Cerebral abscess

**4- Chronic subdural haematoma**

5- Glioblastoma

Q442. ventricular fibrillation or pulseless ventricular tacchycardia?

1- Adenosine

**2- Amiodarone**

3- Bretyllium

4- Lidocaine

5- Magnesium

Q443. OnExamination - Emergency medicine A 22-year-old female develops a wheeze and extensive rash whilst eating a Chinese takeaway. On examination, she has extensive wheeze and stridor, with urticaria covering her upper and lower limbs and trunk. Her BP is 80/45 mmHg. What is the likely diagnosis?

1- C1 Esterase Deficiency

2- Food poisoning

3- Idiopathic urticaria

4- Monosodium glutamate syndrome

**5- Peanut allergy**

Q444. OnExamination - Emergency medicine A 65 year-old male presents with acute severe headache, ataxia and vomiting. Six hours later he became drowsy. On examination he had left horizontal nystagmus, a partial left sixth cranial nerve palsy and extensor plantar responses. His blood pressure was 188/110 mmHg. What is the most likely cause for this deterioration?

**1- brain stem herniation**

2- cerebral oedema

3- dehydration

4- malignant hypertension

5- non-convulsive status epilepticus

Q445. OnExamination - Emergency medicine 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**

Q446. OnExamination - Emergency medicine A 60-year-old male is brought to casualty in the early hours of the morning after being found unconscious in the street. On examination, he was drowsy but localised to painful stimuli. There was no evidence of head injury or meningism. Investigations revealed: sodium 134 mmol/L (137-144) potassium 4.0 mmol/L (3.5-4.9) urea 4.0 mmol/L (2.5-7.5) creatinine 80 micromol/L (60-110) glucose 4.5 mmol/L (3.0-6.0) chloride 100 mmol/L (95 - 107) bicarbonate 25 mmol/L (20 - 28) plasma osmolality 385 mosmol/Kg (278 - 305) What is the most likely explanation for his presentation?

1- diazepam poisoning

**2- ethanol poisoning**

3- methanol poisoning

4- phenobarbitone poisoning

5- Phenytoin poisoning

Q447. of fever and increasing confusion. On examination he was febrile 39.5?. A generalized erythematous rash, covering most of his body, was observed. He also had a paronychial infection of his right index finger, with lymphangitis extending caudally and with axillary lymphadenopathy. His heart rate was measured at 120 beats per minute with a blood pressure of 80/60 mmHg. What is the most likely diagnosis?

1- Hantavirus infection

2- Leptospirosis

3- Orf

**4- Staphylococcal toxic shock syndrome**

5- Stevens-Johnson syndrome

Q448. infarct. Which of the following is the most likely diagnosis?

1- Hypertension

2- Kawasaki syndrome

3- Patent foramen ovale

**4- Systemic lupus erythematosus**

5- Thrombotic thrombocytopaenic purpura

Q449. OnExamination - Emergency medicine A 16-year-old man is brought to the Accident and Emergency department with a GCS (Glasgow Coma Scal e) rating of 3/15. Within 10 minutes he regained consciousness with a GCS of 15/15, is sitting up and talking. What is he likely to have taken?

**1- Inhaled solvent glue**

2- Smoked heroine

3- Smoked marijuana

4- Snorted cocaine

5- Taken ecstacy

Q450. OnExamination - Emergency medicine A 26-year-old woman presented in acute shock at 35 weeks of pregnancy with profuse vaginal bleeding. She had suffered two previous miscarriages. She had a pulse of 110 beats per minute, blood pressure of 110/84 mmHg and no foetal heart sounds were audible. Investigations revealed: Haemoglobin 9.5 g/dL Platelets 66 x 109 /L Prothrombin time 21 sec (Control 11.5 - 15.5) APTT 52 sec (Control 30 - 40) Fibrinogen 0.5 g/L (NR 2 - 4) What is the most appropriate next step in management?

1- antithrombin III infusion

**2- fibrinogen replacement infusion (cryoprecipitat e) 3- intravenous heparin**

4- platelet transfusion

5- transfusion of two units group O Rhesus D negative blood

Q451. OnExamination - Emergency medicine A 70-year-old man was admitted with pallor, light-headedness and loss of energy. On the day prior to admission he had reported loose dark stools. Examination revealed a pulse of 110 per minute and a blood pressure of 106/70 mmHg. Investigations revealed: Haemoglobin 7.2 g/dL (14-18) MCV 72 fL. (78-96) White cell count 11.3 x 109 /L (4-11) Platelet count 480 x 109 /L (150-400) What is the most appropriate next step in his management?

1- Barium meal

**2- Blood transfusion**

3- Endoscopy

4- Parenteral iron infusion

5- Proton pump inhibitor therapy

Q452. OnExamination - Emergency medicine A 70-year-old man underwent emergency surgery for an acute abdomen. Following surgery he was noted to have become oliguric. Investigations revealed the following: sodium 121 mmol/L (137-144) potassium 6.6 mmol/L (3.5-4.9) chloride 92 mmol/L (95-107) Urea 17.2 mmol/l (3-8) Creatinine 250 micromol/L (60-110) Arterial blood gas pH 7.16 Standard Bicarbonate 15.6 (21-27) What is the calculated anion gap for this patient?

1- 5 mmol/L

2- 10 mmol/L

3- 15 mmol/L

**4- 20 mmol/L**

5- 25 mmol/L

Q453. OnExamination - Emergency medicine These are the blood gas results obtained in a 20-year-old female admitted to hospital. hydrogen ion concentration 35 nmol/L (35-45) pH 7.45 (7.35-7.45) pC02 6.8 kPa (4.6-5.9) bicarbonate 32 mmol/L (22 - 26) Which one of the following is a recognised cause of this acid-base disorder?

1- Amitriptyline overdose

2- Cushing's syndrome

3- hepatic failure

**4- pregnancy**

5- salicylate poisoning

Q454. wheeze throughout the chest. She is given IV Hydrocortisone, 100% oxygen and 5mg of nebulised salbutamol. What is the next best option?

1- Oral prednisolone

2- IV Augmentin

**3- IV Magnesium**

4- IV Potassium

5- IV Theophylline

Q455. OnExamination - Emergency medicine An anxious 22-year-old female with a high respiration rate has the following arterial blood gas results: pH 7.27 (7.35-7.45) pCO2 2.6 KPa (3.5-5.5) Base excess -12 mmol/l What is the interpretation of the acid-base status?

1- Combined metabolic and respiratory acidosis

2- Combined metabolic and respiratory alkalosis

**3- Metabolic acidosis with some compensatory respiratory alkalosis**

4- Respiratory acidosis with some compensatory metabolic alkalosis

5- Respiratory alkalosis with some compensatory metabolic acidosis

Q456. OnExamination - Emergency medicine A 20-year-old man presented after ingesting a drug at a party. Investigations revealed: serum creatine kinase 10,000 IU/L (24-195) Which one of the following drugs is most likely to have been responsible?

**1- "Ecstasy" (MDM A) 2- Cannabis**

3- Diazepam

4- Gamma hydroxybutyrate (GH B) 5- Ketamine

Q457. OnExamination - Emergency medicine A 17-year-old girl underwent emergency splenectomy after a domestic accident. Which one of the following organisms is most likely to cause life-threatening infection in the future?

1- Actinomycosis

2- Haemophilus influenzae

3- Pseudomonas aeruginosa

4- Staphylococcus aureus

**5- Streptococcus pneumoniae**

Q458. OnExamination - Emergency medicine A 44-year-old male with Child's grade C cirrhosis presented with haematemesis. Which one of the following drugs, administered intravenously, would be the most appropriate, immediate, treatment?

1- Isosorbide dinitrate.

2- Omeprazole.

3- Propranolol

**4- Somatostatin**

5- Tranexamic acid.

Q459. OnExamination - Emergency medicine Which of the following would be expected features of a LEFT Posterior cerebral artery occlusion :

**1- a right homonymous hemianopia**

2- internuclear ophthalmoplegia

3- Wernicke's aphasia

4- pure aphasia (i.e. without alexi a) 5- decerebrate state

Q460. OnExamination - Emergency medicine A 19-year old girl has been brought to A & E by her friends following a night out at a party. Her friends comment that she has been talking by herself about 'irrelevant things'. She seems agitated and restless. On examination, her reflexes are increased and an ECG demonstrates ventricular ectopics. What kind of substance abuse do you suspect at this point?

1- Alcohol

2- Barbituate

3- Cannabis

**4- Ecstasy**

5- Glue sniffing

Q461. of treated hypothyroidism, presented following an episode of vomiting and collapse. There was a short history of weight loss. On examination she had a temperature of 37.7C, a blood pressure of 80/40 mmHg and vitiligo. Which one of the following, given intravenously, would be the most appropriate initial management?

1- 10% dextrose infusion

2- Cefotaxime

3- Fludrocortisone

**4- Hydrocortisone**

5- tri-iodothyronine

Q462. OnExamination - Emergency medicine A 22-year-old man suffers a deep laceration to the forearm resulting in transection of the median nerve. Following this injury, the nerve will undergo which of the following pathological processes?

1- Chronic inflammation

2- Coagulative necrosis

3- Fibrinoid necrosis

4- Segmental demyelination

**5- Wallerian degeneration**

Q463. of watering of her left eye. Over the preceding 3 days she had developed facial pain and swelling. On examination she is well, afebrile, has a watering left eye, and a red, tense, tender swelling between the side of the nose and just below the left inner canthus. What is the diagnosis?

**1- Acute dacrocystitis**

2- Orbital cellulitis

3- Sinusitis

4- Erysipelas

5- Epiphora

Q464. OnExamination - Emergency medicine A 19-year-old girl presents with an overdose of Paracetamol. Which of the following statements is correct?

1- Acetylcystine should routinely be given if the presentation is within the first 12 hours of overdose.

2- Because she is over the age of 6, she is unlikely to develop significant toxicity.

**3- Liver function tests should be monitored.**

4- The mortality in those with an AST of >350 IU/L is 4%.

5- Hospitalisation will be needed for at least 5 days.

Q465. of IV drug abuse, presents 12 hours after taking an overdose of 480 mg of codeine and 30 g of paracetamol. His blood pressure is 100/60 mmHg and he has pin-point pupils. What is the most appropriate management for this patient?

1- 500ml 10% glucose IV over 4 hours

2- 1 litre normal saline IV over 6 hours

3- IV naloxone

4- IV flumazanil

**5- start N-acetylcysteine**

Q466. OnExamination - Emergency medicine A 42-year-old female is admitted following an overdose of Diazepam and alcohol. On examination she was unconscious with a core temperature of 34.5°C and a blood pressure of 110/80 mmHg. Investigations reveal: Creatinine 242 micromol/L (60-100) AST 500 U/L (0-40) Gamma GT 35 U/L (<50) " urine microscopy no cells or organisms " urine dipstick analysis blood+++ " Ultrasound abdomen normal Which one of the following is the most likely cause of these findings?

1- Associated Paracetamol poisoning

2- Chronic renal failure

3- Dehydration

4- Hypothermia

**5- Rhabdomyolysis**

Q467. OnExamination - Emergency medicine A 55-year-old male presented six hours after taking an overdose of Lithium tablets which had been prescribed for a bipolar affective disorder. On examination he was tremulous, had suffered a convulsion and had a Glasgow coma scale of 12/15. His serum lithium concentration was 5.0 mmol/L (0.5 - 1.0) What is the most appropriate management of this patient?

1- Activated charcoal

2- Forced alkaline diuresis

3- Furosemide 100 mg intravenously twice daily

**4- Haemodialysis**

5- Measure lithium concentration in 2 hours

Q468. OnExamination - Emergency medicine A 24-year-old man presented twelve hours after an overdose of dihydrocodeine 1.2 g and paracetamol 30 g. He had pinpoint pupils, a Glasgow Coma Scale score of 14 and a blood pressure of 100/60 mmHg. Which one of the following is the most appropriate management?

1- 500ml of 10% glucose intravenously over four hours.

2- Intravenous Flumazenil.

3- Intravenous Naloxone.

**4- Intravenous N-acetylcysteine.**

5- Oral activated charcoal.

Q469. of ulcerative colitis is treated for an acute exacerbation which settles following an alteration of his medication. 6 weeks after discharge he is re-admitted with sepsis and his results show: haemoglobin 10.5 g/dL (11-16) white cell count 2.0 x 10 9 /L (4-11) platelets 90 x 109 /L (150-400) Which one of the following drugs is most likely to be the cause of his pancytopaenia?

**1- Azathioprine**

2- Mesalazine

3- Metronidazole

4- Pamidronate

5- Prednisolone

Q470. ptase concentration confirmed an acute allergic reaction. Later, it transpired that she had developed allergic reactions at her dentist and had developed frequent episodes of wheezing when assisting at sterile procedures. What is the most likely diagnosis?

1- allergy to anaesthetic induction agents

2- allergy to local anaesthetic agents

**3- Latex allergy**

4- pressure urticaria

5- systemic mastocytosis

Q471. OnExamination - Emergency medicine Seventeen of twenty-four passengers on a Nile cruise develop bloody diarrhoea on the third day. Which of the following organisms is the likely cause?

1- Giardia lamblia

2- Vibrio cholerae

**3- Shigella dysenterae**

4- Schistosoma mansonii

5- Entamoeba histolytica

Q472. OnExamination - Emergency medicine A 40-year-old man presents with acute weakness and palpitations. Investigations reveal: Sodium 143 mmol/L (137 - 144) Potassium 8.0 mmol/L (3.5-4.9) Urea 35 mmol/L (2.5 - 7.5) Creatinine 450 umol/L (60 - 110) Bicarbonate 5 mmol/L (20 - 28) What is the best immediate therapy?

**1- intravenous calcium gluconate**

2- intravenous dextrose and insulin

3- intravenous sodium bicarbonate

4- nebulised salbutamol

5- rectal calcium resonium

Q473. OnExamination - Emergency medicine A 24-year-old law student attends with visual loss affecting the right eye. She reports a constant headache for the last 3 months, and absence of menses for 6 months. On examination her visual acuity in the right eye is 6/24, with slight constriction of the temporal field in that eye but she has no other neurological deficit. She is afebrile and haemodynamically stable. What is the diagnosis?

1- Glaucoma

2- Migraine

3- Multiple sclerosis

**4- Pituitary tumour**

5- Pregnancy

Q474. OnExamination - Emergency medicine An 18 year-old woman presents with an acute pulmonary embolism in the ninth week of pregnancy. 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

Q475. of profuse vomiting and over the last two hours had developed left sided chest pain and dyspnoea. On examination he had a pulse of 110 beats per minute regular and a blood pressure of 168/90 mmHg. On palpation, he had crepitus over the left supraclavicular region and neck, reduced heart sounds and left basal sided crackles plus some dullness to percussion over the right base of the chest. What is the most likely diagnosis?

1- Aortic dissection

2- Aspiration pneumonia

**3- Oesophageal rupture**

4- Perforated peptic ulcer

5- Pneumothorax

Q476. OnExamination - Emergency medicine Which of the following forms of pulmonary embolism is the commonest cause of secondary pulmonary hypertension?

1- Air embolism (Caisson's diseas e) 2- Fat embolism

3- Massive pulmonary embolism (e.g., saddle embolis m) 4- Multiple small recurrent pulmonary embolism

5- Paradoxical embolism

Q477. OnExamination - Emergency medicine A 75-year-old man was admitted after been found collapsed in a garden shed surrounded by a number of empty containers. On clinical examination the patient had small pupils, a heart rate of 50 beats per minute, and was frothing at the mouth. What is the most likely diagnosis?

1- Creosote poisoning.

2- Glyphosate poisoning.

**3- Organophosphorus poisoning.**

4- Paraquat poisoning.

5- Pyrethroid poisoning.

Q478. OnExamination - Emergency medicine An 18-year-old woman is admitted after taking drugs at a night-club. Which of the following features suggest she had taken Ecstasy (MDM A) ?

**1- A pyrexia of 40°C**

2- hypernatraemia

3- hypokalaemia

4- metabolic acidosis

5- respiratory depression

Q479. of vomiting. Over the last 3 months she has also been aware of a 6kg weight loss. On examination, she is pale, has a temperature of 38.5 C, blood pressure of 90/60 mmHg and pulse rate of 130 in sinus rhythm. The chest is clear on auscultation but she has a diffusely tender abdomen with no guarding. Her BM reading is 2.5. Initial biochemistry is as follows: Sodium 124 mmol/l (134 - 144 mmol/ L) Potassium 6.0 mmol/l (3.5 - 5.5 mmol/ L) Urea 7.5 mmol/l (3 - 8 mmol/ L) Creatinine 78 µmol/l (50 - 100 µmol/ L) Glucose 2.0 mmol/l (3.5 - 6 mmol/ L) What is the probable diagnosis?

1- Abdominal migraine

2- Acute appendicitis

3- Acute cholecystitis

**4- Addison's disease**

5- Insulinoma

Q480. of chronic anxiety presents with a 3 day history of severe left temporal headache radiating from the eye to the scalp. She had also experienced discomfort during eating. Which one of the following drugs should be given to this patient while awaiting the results of diagnostic tests?

1- Acyclovir

2- Carbamazepine

3- Diclofenac

**4- Prednisolone**

5- Sumatriptan

Q481. OnExamination - Emergency medicine A 16 year-old girl is brought to A+E after having taking drugs at a rave. Which of the following suggests that she has taking Ecstasy (MDM A) ?

1- hypernatraemia

2- metabolic acidosis

3- Pin-point pupils

**4- Pyrexia**

5- respiratory depression

Q482. rate was 30 per minute, her heart rate was 120 beats per minute and a peak expiratory flow rate(PEF R) was 30% of the predicted value. Her blood gas analysis on air shows: paO2 9 kPa (11.3-12.6) paCO2 3.5 kPa (4.7-6.0) After the administration of oxygen and corticosteroids what is the most appropriate next step in management?

1- Intravenous Aminophylline

2- Intravenous Salbutamol

3- Ipratropium Bromide via oxygen-driven nebuliser

**4- Salbutamol via oxygen-driven nebuliser**

5- Salmeterol via breath-actuated inhaler

Q483. OnExamination - Emergency medicine In adult basic life support the correct ratio of chest compressions to ventilations is:

1- 5 to 1

2- 8 to 1

3- 10 to 1

4- 15 to 2

**5- 30 to 2**

Q484. rate of 36/min. Chest x-ray shows left basal consolidation. Results show: Sodium 140 mmol/l (133-144) Potassium 4.0 mmol/l (3.5-5.5) Urea 10.2 mmol/l (3-8) Creatinine 96 micromol/l (50-100) Which of the following is not part of the CURB score?

1- Blood urea concentration

2- Confusion

**3- Consolidation on chest-x-ray**

4- Hypotension

5- Tachypnoea

Q485. OnExamination - Emergency medicine Which of the following would be expected to reduce maternal mortality when given in eclampsia?

1- Insulin and dextrose infusion

2- Low dose dopamine infusion

**3- Magnesium infusion**

4- Phenytoin infusion

5- Salbutamol infusion

Q486. rate of 32/min, with a blood pressure of 85/55mmHg. Which of the following combination of features are not necessarily an indication for urgent hospital admission?

1- BP of 85/55 mmHg and respiratory rate of 32/min

2- Confusion and BP of 85/55mmHg

**3- Pyrexia of 38.0oC and serum urea of 7.5 mmol/l**

4- Respiratory rate of 32 and blood urea of 7.5 mmol/l

5- BP of 85/55 mmHg and urea of 7.5 mmol/l

Q487. presents to A & E, distressed and cyanosed. Arterial blood gases reveal a pH 7.2, paO2 55 mmHg and paCO2 60 mmHg. He is given high concentration oxygen together with a salbutamol nebulizer. Intravenous hydrocortisone is also given. The patient becomes even worse with poorer breathing effort although pulse oximetry showed SaO2 of 93%. What is the cause of patient deterioration?

1- Constriction of bronchioles in response to salbutamol nebulizer

**2- High concentration oxygen administration**

3- Pulmonary artery relaxation causing mismatch between perfusion and ventilation

4- Pulmonary vein relaxation causing mismatch between perfusion and ventilation

5- Reaction to IV hydrocortisone

Q488. rate of 40/min. Chest x-ray shows left basal consolidation. Results show: Sodium 143 mmol/l (133-144) Potassium 3.8 mmol/l (3.5-5.5) Urea 9.2 mmol/l (3-8) Creatinine 85 micromol/l (50-100) Her CURB score is documented and she is admitted to hospital with severe pneumonia. Which of the following would count towards her CURB score?

1- Consolidation on Chest X-Ray

2- Oxygen saturation

3- Peak expiratory flow rate

**4- Raised blood urea**

5- Temperature

Q489. OnExamination - Emergency medicine In considering the management of convulsions select the correct statement from the list below.

1- If the fit lasts longer than 5 minutes, then PR diazepam should be given.

2- Phenobarbitone is a useful therapy in school age children.

3- Paraldehyde is best given intramuscularly.

**4- Hypoglycaemia should always be considered.**

5- When associated with fever, antibiotics should always be given to cover the possibility of meningitis.

Q490. of malaise, diarrhoea and a 6kg weight loss. On examination there is lymphadenopathy and oesophageal candidiasis. What is the likely diagnosis?

1- Infectious mononucleosis

**2- HIV**

3- Hodgkins lymphoma

4- Sarcoid

5- Toxoplasmosis

Q491. OnExamination - Emergency medicine A 55-year-old homeless male was found stuporose and smelling of alcohol. Observations in A&E reveal a core temperature of 34oC, a pulse of 50 bpm and blood pressure of 116/80 mmHg. Dipstick urine analysis shows Blood +++. Some of his investigations are listed: Creatinine 320 µmol/L (60-110) Gamma GT 40 U/L (10-40) AST 550 U/L (1-40) LDH 1500 U/L (10-250) " Urine microscopy no cells or organisms What is the most likely cause of the raised serum creatinine concentration?

1- Chronic renal failure

2- Dehydration

3- Hypothermia

4- Paracetamol poisoning

**5- Rhabdomyolysis**

Q492. of poorly controlled hypertension. On examination there was nystagmus to the left, ataxia of the left limbs and gait ataxia. What is the most likely diagnosis?

**1- acute cerebellar haemorrhage**

2- basal ganglia haemorrhage

3- pontine haemorrhage

4- subdural haemorrhage

5- temporal lobe haemorrhage

Q493. rate is 28 breaths per minute and the peak expiratory flow rate 120L/min (predicted 480 L/min. What is the most appropriate treatment for this patient?

1- Intravenous aminophylline.

2- Intravenous salbutamol

**3- Nebulized salbutamol**

4- Oral salbutamol

5- Oral theophylline

# Chapter 4 Endocrinology

Q494. A 20-year-old man with asthma was found to be hypertensive. Investigations revealed: Serum sodium 144 mmol/L (137-144) Serum potassium 2.4 mmol/L (3.5-4.9) Serum bicarbonate 30 mmol/L (20-28). Which one of the following is the most likely diagnosis?

1- Bartter's syndrome

2- Coarctation of the aorta

3- Congenital Adrenal Hyperplasia

**4- Conn's Syndrome**

5- Inhaled Salbutamol therapy

Q495. A 33-year-old female presents with a one year history of galactorrhoea and amenorrhoea. She informs you that she does not want to become pregnant. On examination there is galactorrhoea to expression and visual fields are normal to confrontation. Investigations confirm the diagnosis of a macroprolactinoma, with a prolactin concentration of 10,500 mu/l (50-500) and MRI of the pituitary revealing a 1.5 cm tumour with some suprasellar extension. What is the most appropriate treatment for this woman?

**1- Cabergoline therapy**

2- Combined oral contraceptive

3- Pituitary surgery

4- Somatostatin analogue therapy

5- Stereotactic pituitary irradiation

Q496. Which of the following statements concerning transferrin is correct?

1- Transferrin levels fall during pregnancy

2- Transferrin binds ferrous iron

3- In the absence of anaemia, transferrin is 80% saturated with iron

4- Levels are elevated in haemochromatosis

**5- Levels are elevated in patients on the oral contraceptive pill**

Q497. A 55-year-old male presents with anorexia and weight loss of 12 months duration. Over this year he has had two deep vein thromboses and had the last whilst his INR was 2. He remains on long-term warfarin therapy with an INR above 2.6. Examination reveals that he is pigmented and has a postural drop in his blood pressure of 15 mmHg. Investigations are as follows: sodium concentration 131 mmol/l potassium 5.0 mmol/l INR 3.0 A Short synacthen test reveals a baseline cortisol concentration at time 0 of 120 nmol/l which rises to 155 nmol/l after 30 minutes (Normal response >550 nmol/ l) . Which single diagnosis would explain this patient's illness?

1- Addison's disease

**2- Anti-phospholipid syndrome**

3- Autoimmune Polyendocrine Syndrome (Schmidt's diseas e) 4- Protein S deficiency

5- Pituitary infarction

Q498. A 21-year-old woman is known to suffer from anorexia nervosa. Which of the following metabolic disturbances would be a characteristic finding?

1- a decrease in Cortisol levels

2- an increase in LH levels

3- hyperkalaemia

**4- impaired glucose tolerance**

5- raised androgen levels

Q499. Causes of hypoadrenalism include:

**1- Hughes' syndrome (anti-phospholipid antibod y) 2- MEN type 2a**

3- VonHippel-Lindau

4- Pendred's syndrome

5- McArdle's syndrome

Q500. Which ONE of the following oncerning Insulin is correct?

1- acts via a similar mechanism as steroid receptors

2- causes an increased glucose-protein transport on the endoplasmic reticulum

**3- can be detected in the lymph**

4- interacts with the nuclear membrane

5- is synthesised in the alpha cells of islets of Langerhans

Q501. Which of the following is not a feature of Zinc deficiency?

1- dwarfism

2- geophagia

3- hepatosplenomegaly

**4- hypertelorism**

5- hypogonadism

Q502. Which of the following is correct concerning Nitric Oxide:

1- Is synthesised principally by the vascular smooth muscle

2- Acts via cAMP as the second messenger

3- Is manufactured from Glycine

4- Is inactivated by superoxide dismutase

**5- Inhibits platelet aggregation**

Q503. Primary hyperparathyroidism may occur in association with the following conditions

1- Chronic renal failure

2- Vitamin D deficiency

**3- Gastrinoma**

4- Autoimmune polyendocrine syndrome

5- Sjogren's syndrome

Q504. Which of the following techniques would be most useful in the differential diagnosis between ectopic Cushing's syndrome and pituitary dependent Cushing's disease.

1- Urine free cortisol

2- High dose Dexamethasone suppression test

3- ACTH concentrations

**4- Inferior petrosal sinus sampling**

5- CRF test

Q505. Which of the following suggests a poorer prognosis for thyroid cancer.

1- Papillary thyroid cancer with cervical node involvement.

**2- Male sex.**

3- Age less than 30.

4- Cold nodule on thyroid uptake scan

5- High TSH concentration

Q506. A 40-year-old man is undergoing investigation for acromegaly. MRI of the pituitary fossa is normal, but a routine chest x-ray reveals a large centrally based mass. The patient is a non-smoker. What is the most likely type of this lung tumour?

1- Squamous cell

2- Small cell

**3- Carcinoid**

4- Large cell

5- Adenocarcinoma

Q507. During routine investigation of a healthy couple for primary subfertility, semen analysis reveals azoospermia. On examination of the male there are no abnormalities on general examination and testicular examination shows a normal testicular volume. Investigations reveal: LH 5.1 iu/l (2-10) FSH 4.3 iu/l (2-10) Testosterone 15.3 nmol/l (9-30) Which of the following is the most likely cause of his azoospermia?

1- Androgen insensitivity

**2- Genital tract obstruction**

3- Idiopathic testicular failure

4- Kallman's Syndrome

5- Sperm autoimmunity

Q508. A 36-year-old male with insulin-dependent diabetes mellitus of three years duration presented with decreased libido and erectile dysfunction since diagnosis. No abnormalities were noted on genital examination. Investigations revealed: plasma testosterone 6.0 nmol/L (9 - 35) plasma follicle stimulating hormone 1.0 u/L (1-8) Which of the following investigations is most appropriate next step?

1- autonomic function testing

2- Doppler studies of penile artery

3- Nerve conduction studies

**4- Serum ferritin**

5- Serum prolactin

Q509. A 55-year-old female undergoes a DEXA scan which reveals a bone mineral density T score of -2.55 at the hip and lumbar spine. Which of the following may contribute to such a result?

1- Acromegaly

2- Delayed menopause

3- Hypothyroidism

**4- Myeloma**

5- Obesity

Q510. Which of the following is NOT associated with hyponatraemia and hyperkalaemia?

1- Acute hypoadrenalism

**2- Carbenoxolone therapy**

3- Co-Amilofruse therapy

4- Congestive cardiac failure.

5- Type IV renal tubular acidosis

Q511. Which of the following is a glycoprotein hormone?

1- Growth hormone releasing hormone

2- Cortisol

3- Thyrotropin releasing hormone (TR H) 4- Thyrotropin (TS H) 5- Oxytocin

Q512. A 25-year-old nurse presents with fatigue, tremulouseness and a 7kg weight loss over the past one month. On examination she has a tachycardia but no other abnormal findings. Thyroid function tests show: free thyroxine 40 pmol/L (10-23) TSH <0.01 mU/L (0.5-5.0) Which one of the following would confirm the diagnosis of thyroiditis?

1- Elevated free T3 concentration

2- Failure of TSH to rise following IV TRH

3- High titre of thyroid peroxidase antibodies

**4- Negligible 4 hour radioiodine thyroid uptake**

5- Raised ESR

Q513. A 24-year-old female presents with a two week history of polyuria and polydipsia together with frequent nocturia. Investigations show Serum Sodium 144 mmol/l (133-144) Serum Potassium 3.3 mmol/l (3.5-5) Serum Calcium 2.6 mmol/l (2.2-2.6) Plasma glucose 6.8 mmol/l (3.5-5.5) Serum Osmolality 310 mosmol/l (275-295) What is the diagnosis?

1- Diabetes Insipidus

2- Diabetes Mellitus

**3- Drug abuse**

4- Primary hyperparathyroidism

5- Primary polydipsia

Q514. Which of the following is true of radioactive iodine (131 I) therapy?

1- Causes hypothyroidism in 90% of treated patients within 3 months

**2- Causes a deterioration in ophthalmopathy in patients with Graves disease**

3- Is associated with a subsequently increased risk of infertility

4- Is associated with an increased risk of thyroid lymphoma

5- Is the preferred treatment in amiodarone induced thyrotoxicosis

Q515. A 17-year-old boy is brought to clinic as his parents are concerned regarding possible delayed puberty. He was otherwise well, played sports regularly and academic performance was good. His height was 1.7m and weight was 70kg. On examination he had small penis and testes, absent pubic hair, but no other abnormalities. Investigations revealed: Serum testosterone 4 nmol/L (9-35) Plasma follicle stimulating hormone (FS H) 1 U/L (1-7) Plasma luteinising hormone (L H) 1 U/L (1-10) Plasma prolactin 300 mU/L (<450) Plasma TSH 2 mU/L (0.5-5) Which one of the following is the most likely cause?

1- Constitutional delay

2- Hypopituitarism

3- Hypothyroidism

**4- Kallman's syndrome**

5- Klinefelter's syndrome

Q516. A 29-year-old female presents with headaches. She is noted to be hypertensive with a blood pressure of 180/100 mmHg and initial investiagtions reveal a hypokalaemia of 2.9 mmol/l. On closer questioning she is found to consume a large quantity of licquorice. Inhibtion of which enzyme is responsible for the pseudohyperaldosteronism associated with Liquorice.

1- 5 alpha-reductase

2- 21 Hydroxylase

**3- 11 betaHydroxysteroid dehydrogenase (11 bHS D) 4- 17 alpha hydroxylase (17aO H) 5- 11 beta hydroxylase (11 bO H)**

Q517. A 60-year-old man is admitted with a productive cough with flecks of blood in his sputum. Chest X-ray reveals a mass lesion in the right mid zone. Investigations reveal: sodium 110 mmol/L (137-144) potassium 4.0 mmol/L (3.5-4.9) bicarbonate 24 mmol/L (20-28) urea 3.0 mmol/L (2.5-7.5) creatinine 80 umol/L (60-110) Which of the following findings suggest a diagnosis of the syndrome of inappropriate ADH (SIAD H) secretion?

1- Presence of ascites

2- Plasma osmolality 236 mosmol/kg (278- 305)

3- urine flow rate 20 mL/hour

4- urine osmolality 250 mosmol/kg (350-1000)

**5- urine sodium 110 mmol/L**

Q518. A 54-year-old male who is a HGV driver and has a 10 year history of type 2 diabetes is seen on annual review. His glycaemic control is poor with a HBA1c of 10.5% on maximal oral hypoglycaemic therapy. You suggest switching to insulin but he refuses to do this as he would lose his HGV licence. He also refuses to inform the DVLA himself, what is the most appropriate action in this case?

**1- Continue to review patient in clinic and accept that he continues to drive.**

2- Discharge him from clinic as there is nothing more that you can do.

3- Inform the DVLA even if the patient withholds his consent.

4- Inform his employer that he must stop driving and suggest administrative work.

5- Tell his next of kin that they should inform the DVLA that he is no longer fit to drive.

Q519. Which of the following features would be expected on lipid analysis in a 57-year-old female with two year history of primary biliary cirrhosis?

1- A lipaemic appearance of the serum would be expected.

2- is treated with clofibrate therapy

3- is characteristically associated with tendon xanthomas

**4- is characteristically associated with palmar xanthomas**

5- No evidence of a dyslipidaemia would be expected with this short a duration of disease

Q520. Which of the following statements is correct concerning the relationship betweenType 2 Diabetes and colonic cancer?

1- The increased risk of colorectal cancer in diabetes is related to BMI

2- The increased risk of colorectal cancer in diabetes is related to total cholesterol

**3- Increased concentrations of C-peptide are a marker of increased colorectal cancer risk**

4- Insulin treatment increases recurrence-free survival after treatment of colonic cancer

5- Type 1 diabetes has similar risks of colonic cancer as does type 2 diabetes

Q521. A 25-year-old female presents with weight gain, oligomenorrhoea and primary infertility. She has a history of bipolar disorder for which she takes Lithium. On examination she has a BMI of 32 kg/m2 . Investigations reveal: Free T4 6.4 nmol/l (9-23) TSH 42 mu/l (0.5 - 5) Prolactin 980 mu/l (50-450) What is the most appropriate treatment for this patient?

1- Cabergoline

2- Cabergoline plus thyroxine

3- Metformin

**4- Thyroxine**

5- Stop Lithium

Q522. A 60 year female presents with vague aches and pains and has a family history of osteoporosis. She is 10 years post-menopausal but has not taken any female HRT. Dual energy X-ray absorptiometry (DEX A) is requested. Which of the following values of bone mineral density measured by DEXA would signify osteopaenia at a measured site?

1- A T score of -2.6

**2- A T score of -1.8**

3- A Z score of -2.0

4- A z score of -1.5

5- A T score of -0.9

Q523. A 60 year female presents with vague aches and pains and has a family history of osteoporosis. She is 10 years post-menopausal but has not taken any female HRT. Dual energy X-ray absorptiometry (DEX A) is requested. Which of the following values of bone mineral density measured by DEXA would signify osteopaenia at a measured site?

1- A T score of -2.6

**2- A T score of -1.8**

3- A Z score of -2.0

4- A z score of -1.5

5- A T score of -0.9

Q524. Which ONE of the following is true concerning Antidiuretic hormone (AD H) ?

**1- Carbamazepine potentiates it's release**

2- Ethanol potentiates it's release

3- It circulates in the blood bound to neurohypophysin

4- It is a cyclic octapeptide

5- It is synthesised in the posterior pituitary

Q525. A 47-year-old schoolteacher presents to her GP with fatigue. The GP noted her to be hypercalcaemic with an albumin of 39 g/l, globulin 28g/l and Ca ++ of 2.80. Which of the following statements is true?

1- 24 hour urinary calcium assay is of no use at all.

2- Primary hyperparathyroidism will be diagnosed only if the PTH is at least three times the normal range.

3- Modern assays for PTH and PTHrp should may cross-react so that assays are unreliable.

**4- The patient could have surgery if renal stones are found on ultrasound**

5- The most likely diagnosis is myeloma.

Q526. Osteomalacia may be expected in

1- Sarcoidosis

2- Auto-immune adrenalitis

3- Pseudo-hypoparathyroidism

4- Pernicious anaemia

**5- Mercury poisoning**

Q527. A 73-year-old female is diagnosed with Cushing's disease. Which of the following is correct?

1- Adrenalectomy would be the treatment of choice.

2- op-DDD is a treatment if unfit for surgery

**3- Ketoconazole may be used as a treatment if unfit for surgery**

4- Recurrence of Cushing's disease after transphenoidal surgery is less than 5%

5- yttrium implantation is an effective treatment

Q528. A 28-year-old female is referred with a three month history of tiredness and weakness. On examnation, pulse is 82 bpm and blood pressure is 128/72 mmHg. No specific abnormalities are evident on examination of the cardiovascular, respiratory, abdominal or neurological systems. Investigations reveal: Serum Sodium 142 mmol/l (134-144) Serum Potassium 3.0 mmol/l (3.5-5) Serum Urea 4.2 mmol/l (3-8) Serum Creatinine 82 µmol/l (50-100) Serum Chloride 73 mmol/l (95-107) Plasma Glucose 5.5 mmol/l (3.5-5.5) Urinary chloride 60 mmol/l (20 - 350) Which of the following is the likely diagnosis?

1- Bartter's syndrome

2- Conn's syndrome

**3- Drug ingestion**

4- Liddle's syndrome

5- Non classical Congenital adrenal hyperplasia

Q529. A previously fit 47-year-old male presents with lower back pain from a vertebral collapse due to osteoporosis. Which of the following investigations would be the most appropriate for this man?

1- oestrogen concentration

2- prostate-specific antigen concentration

3- prolactin concentration

**4- testosterone concentration**

5- thyroid function tests

Q530. The thyroid hormone receptor is:

1- A gated ion channel

2- A cell surface receptor

3- A cytoplasmic protein

4- A G-protein coupled receptor

**5- A nuclear receptor**

Q531. Which ONE of the following is a recognised feature of achondroplasia?

1- Autosomal recessive inheritance

**2- May be diagnosed radiologically at birth**

3- Increased liability to pathological fractures

4- Shortened spine

5- Subfertility

Q532. A 70-year-old woman is referred by a with a breast lump. She was asymptomatic but her investigations reveal: Corrected calcium 2.72 mmol/L (2.2 - 2.6) Phosphate 0.80 mmol/L (0.8-1.4) Alkaline phosphatase 110 U/L (20 - 95) PTH concentration 5.1 pmol/L (0.9-5.4) What is the most likely diagnosis?

1- bony metastases

2- chronic vitamin D excess

3- ectopic PTH related peptide (PTHr p) secretion

4- multiple myeloma

**5- primary hyperparathyroidism**

Q533. Which of the following is true concerning a 6

8- year-old male with type 2 diabetes diagnosed with type IV renal tubal acidosis?

1- Aminoaciduria would be expected.

**2- Fludrocortisone treatment is effective**

3- Increased Glomerular filtration rate is expected.

4- Increased urinary bicarbonate would be expected.

5- Normal renal handling of K+ and H+

Q534. Adult growth hormone deficiency is confirmed by:

1- A low IGF-1 concentration

2- An undetectable random Growth hormone concentration.

3- Suppression of GH below 2 mU/l (1.3 microg/ l) with an oral glucose tolerance test

**4- A peak growth hormone concentration of 6 mU/l (2 microg/ l) with insulin induced hypoglycaemia**

5- A low IGF binding protein-3 (IGFBP3) concentration

Q535. Which of the following concerning Diabetic retinopathy is correct?

1- Is unusual in type 2 diabetic patients

2- Improved glycaemic control is more effective than hypertensive control in reducing progression of disease.

**3- Normal visual acuity is seen in Proliferative retinopathy.**

4- Progression may be reduced statin therapy

5- Soft exudates are a feature of background retinopathy.

Q536. A 65-year-old male undergoes a CT headscan after falling from a ladder and knocking himself out. The CT report reveals that he has a 1.3 cm macroadenoma which does not encroach upon the optic chiasm. On recovery he is perfectly well and examination is entirely normal, including full viusal fields to confrontation. Investigations reveal normal thyroid function, testosterone concentration and short synacthen test results. His prolactin concentration is 550 mu/l (NR 50-450). What is the most appropriate treatment for this patient?

1- Advise trans-sphenoidal hypophysectomy

2- Arrange pituitary radiotherapy

**3- Arrange serial imaging**

4- No further investigation/treatment required

5- Treat with Cabergoline

Q537. A 30-year-old female who is 24 weeks pregnant presents with a blood pressure on three separate occasions of approximately 160/110 mmHg. Her liver function tests show: Aspartate transaminase 150U/L (5-45) Alkaline Phosphatase 213U/L (50-120) Bilirubin 31µmol/L (0-18) Which antihypertensive is indicated?

1- Atenolol

2- Irbesartan

**3- Labetalol**

4- Methyldopa

5- Ramipril

Q538. A 73-year-old woman presented with thirst and polyuria of six months duration. She had suffered several episodes of lower back pain. She was on no medication. On examination she looked well, had a dorsal kyphosis and a blood pressure of 170/95 mmHg. Investigations revealed: erythrocyte sedimentation rate 15 mm/1st hour (0-30) serum urea 11.9 mmol/L (2.5-7.5) serum creatinine 175 umol/L (60-110) serum albumin 40 g/L (37-49) serum total calcium 2.98 mmol/L (2.2-2.6) What is the most likely cause of this lady's hypercalcaemia?

1- Metastatic breast cancer

2- Myeloma

3- Osteoporosis

**4- Primary hyperparathyroidism**

5- Sarcoidosis

Q539. Which of the following is a cause of the syndrome of inappropriate ADH secretion:

1- Bumetanide

**2- Fluoxetine**

3- Dexamethasone

4- Carbenoxolone

5- Lithium

Q540. The peroxisome proliferator activated receptor gamma (PPAR gamm a)

1- Is a G-protein coupled receptor

**2- Is activated by free fatty acid as the endogenous ligand**

3- Is antagonised by thiazolinediones

4- Is a member of the Cytokine receptor superfamily

5- Is antagonised by Low density Lipoprotein (LD L) .

Q541. A 19-year-old female is concerned following exposure to meningococcal meningitis. Her flatmate contracted meningococcal meningitis and she now wants preventative treatment. She is generally well without any past medical history. She takes Logynon as a contraceptive agent and uses a salbutamol inhaler infrequently. Which prophylactic anti-microbial treatment would you select?

1- Clarithromycin

**2- Ciprofloxacin**

3- Augmentin

4- Doxycycline

5- Rifampicin

Q542. A 60-year-old patient with metastatic breast carcinoma for attends the clinic. She complains of pain in the jaw and ulceration within the oral cavity, which has persisted for 4 weeks following a dental extraction. She has had a course of antibiotic therapy for suspected secondary infection of the ulceration. On examination there is ulceration within the oral cavity, which extends as far as the underlying mandible. Which of the following drugs is likely to be responsible for her presentation?

1- Anastrozole

2- Diclofenac.

3- Prednisolone

4- Tamoxifen

**5- Zoledronic acid**

Q543. Which of the following is a feature of pseudohypoparathyroidism?

1- Increased urinary phosphate and cAMP with PTH infusion

2- Low serum PTH

3- Low serum calcium and low serum phosphate

**4- Low serum calcium and high serum phosphate**

5- Shortened 2nd and 3rd metacarpals

Q544. A 22-year-old woman presented with a 5-year history of hirsuitism with her having noticed coarse dark hair under her chins. Being a teacher in a primary school, these symptoms are very distressing for her. She has tried local measures such as shaving and applying depilatory creams but without lasting success. Her periods are irregular with oligomennorhea. She attained menarche at the age of 14-years. She has not yet conceived and has had a coil fitted for contraception. She takes 5mg diazepam at night. On examination, she had a BMI of 24. She had coarse, dark hair over her chin, lower back and inner thighs. She does not have galactorrhea to expression and there were no other clinical features to suggest cushings. Investigations during the follicular phase: serum androstenedione10.1 nmol/L (0.6-8.8) serum dehydroepiandrosterone sulphate 11.6 µmol/L (3-12) serum 17-hydroxyprogesterone 18.6 nmol/L (1-10) serum oestradiol 380 pmol/L (200-400) serum testosterone 2.6 nmol/L (0.5-3) plasma luteinising hormone 3.3 U/L (2.5-10) plasma follicle-stimulating hormone 3.6 U/L (2.5-10) What is the next most appropriate investigation?

1- 24 hour urinary free cortisol

2- CT scan of adrenals

3- GnRH test

**4- short synacthen test with 17 hydroxy progesterone**

5- ultrasound scan of ovaries

Q545. Which of the following hormones acts through cyclic AMP as the second messenger?

1- insulin

2- Oestradiol

**3- PTH**

4- TRH

5- tri-iodothyronine

Q546. A 42-year-old male presents with tiredness and central weight gain, two years after having undergone pituitary surgery for a nonfunctional pituitary tumour. He has otherwise recovered from his pituitary surgery well, has been found to have complete anterior hypopituiatrism and is receiving stable replacement therapy with testosterone monthly injections, thyroxine and hydrocortisone. On examination there are no specific abnormalities, his vision is 6/9 in both eyes and he has no visual field defects. From his notes you see that he has gained 8kg in weight over the last six months and his BMI is 31 kg/m2 . His blood pressure is 122/72 mmHg. Thyroid function tests and testosterone concentrations have been normal. A postoperative MRI scan report shows that the pituitary tumour has been adequately cleared with no residual tissue. Which of the following is the likely cause of his current symptoms?

1- Aldosterone deficiency

2- Depression

3- DDAVP deficiency

**4- Growth hormone deficiency**

5- Somatisation disorder

Q547. Which of the following is true of IGF-1 concentrations

1- Concentrations are reduced in pregnancy

2- Concentrations are elevated in hepatic cirrhosis

3- Concentrations are usually elevated in adult growth hormone deficiency

**4- Concentrations are reduced in starvation**

5- Concentrations are elevated in diabetes mellitus

Q548. A 50-year-old man presents with a diagnosis of acromegaly but has normal visual fields. Which of the following is the most appropriate treatment for this patient?

1- Bromocriptine

2- Cabergoline

3- Radiotherapy

4- Somatostatin analogue therapy

**5- Trans-sphenoidal hypophysectomy**

Q549. A 39-year-old female presents with polyuria and is passing 4 litres of urine per day. She was recently started on a new medication Serum sodium 128 mmol/l Plasma osmolality 272 mosmol/l (275-290) Urine osmolality 380 mosmol/l (350-1000) Which of the following drugs was prescribed?

1- Aspirin

**2- Fluoxetine**

3- Furosemide

4- Lithium

5- Metoprolol

Q550. With which of the following is hyperprolactinaemia associated?

1- Cabergoline therapy

2- Depression

**3- Fluoxetine therapy**

4- Hyperthyroidism

5- Sheehan's syndrome

Q551. A 19-year-old male presents with concerns regarding his pubertal development. On examination he is 1.8 m tall, thin and has little pubic and axillary hair. Both testes are approximately 5 mls in volume (Normal 15ml s) . No other abnormalities are encountered. Investigations reveal: LH 3.3 mu/l (3-10) FSH 5.5 mu/l (3-10) Testosterone 5.5 nmol/l (9-30) Which of the following is the most likely diagnosis?

1- Anorexia nervosa

2- Craniopharyngioma

**3- Kallmann syndrome**

4- Klinefelter's syndrome

5- Primary testicular failure

Q552. Which of the following statements regarding bariatric surgery is correct?

1- Bariatric surgery is contraindicated in adolescents

2- Is indicated in patients with a BMI <35 kg/m2

3- Is associated with a significant postoperative mortality

**4- Is associated with nutritional deficiencies**

5- Reduces cardiovascular mortality

Q553. An 18-year-old woman presented with a history of 15 kg weight loss in the previous four months. She has been amenorrheic for some months. On examination she had fine lanugo hair and a blood pressure of 110/60 mmHg. Which one of the following laboratory results would support the most likely clinical diagnosis?

1- High plasma follicle stimulating hormone concentration

2- Low plasma testosterone concentration

3- High serum ferritin concentration

**4- Normal plasma cortisol concentration**

5- Suppressed thyroid stimulating hormone concentration

Q554. A 16-year-old girl is diagnosed with Turner's syndrome. Which of the following autoimmune conditions is most commonly associated with Turner's?

1- Addison's disease

2- Autoimmune hepatitis

**3- Hashimoto's thyroiditis**

4- Sjogren's syndrome

5- Vitamin B12 deficiency

Q555. A 48-year-old lady has obesity with a BMI of 37 kg/m2 and her waist measurement is 115 cm (very hig h) . She gained most of the weight about 10 years ago and since that time she has tried many different forms of diet and weight-loss clubs. Although she enjoys swimming she is finding it harder to keep up her exercise and walking is restricted to a few hundred metres because of foot pain. On further questioning her diet is quite reasonable consisting of about 1800 KCal per day. She eats breakfast, bases her meals on starchy foods, eats plenty of fibre and at least five portions of vegetables or fruit per day. Which of the following management strategies according to NICE guidance on obesity (published December 2006) would be advisable for this lady?

**1- Diet and physical activity, consider drugs**

2- Extended period, very low calorie diet

3- General advice on healthy weight and lifestyle

4- Referral for bariatric surgery

5- Referral to specialist obesity service

Q556. A 17-year-old female attends clinic complaining of hirsuitism and oligomennorhoea. Which of the following would be most suggestive of a diagnosis of Polycystic Ovarian Syndrome?

**1- Increased androstenedione concentration**

2- Increased insulin concetration

3- Increased Prolactin concetration

4- Increased FSH concetration

5- Increased Sex Hormone binding globulin (SHB G) concentration

Q557. Which of the following cell types are linked with the substance they synthesize ?

1- Gastric chief cells - Intrinsic factor

2- Islet A cells - somatostatin

**3- Islet B cells - amylin**

4- Islet D cells - pancreatic polypeptide

5- Islet F cells - glucagon

Q558. A 52-year-old female presents with tiredness. There are no specific abnormalities noted on examination, but investigations reveal a T4 of 21.1 (NR 9.8 - 23), a T3 of 5.2 pmol/l (NR 3.3 - 5.5) and a TSH of 0.05 mU/l (NR 0.1 - 5 mU/ l) . Thyroid autoantibody titres are all undetectable. These results suggest a diagnosis of

1- DeQuervain's thyroidits

2- Sick euthyroid syndrome

**3- Solitary toxic nodule**

4- Graves' disease

5- Hashimoto's thyroiditis

Q559. Which of the following suggests a diagnosis of familial combined hyperlipidaemia (FCH L) rather than heterozygous familial hypercholesterolaemia (F H) ?

1- Tendon xanthomas

**2- Presence of glucose intolerance**

3- Strong family history of premature coronary artery disease

4- Presence of arcus senilus

5- Absence of hyperuricaemia

Q560. An 80 year-old male presents with a brief history of weakness and giddiness, following an episode of diarrhoea. He has been taking bendroflumethiazide for the last 3 years. On examination, his pulse is 100 beats per minute with a blood pressure of 130/80 mmHg (lyin g) and 100/70 mmHg (standin g) . Investigations reveal: Sodium 120 mmol/L Potassium 5.5 mmol/L Urea 13 mmol/L Creatinine 130 umol/L random plasma glucose 13 mmol/L What is the most likely cause of the hyponatraemia?

1- Bendroflumethiazide

2- Diarrhoea

3- Hyperglycaemia

4- Inappropriate secretion of antidiuretic hormone

**5- Renal tubular acidosis**

Q561. A type 2 diabetic patient being treated with gliclazide, presents with sweating and dizziness. He is on treatment for hypertension, atrial fibrillation, joint pain and indigestion. Blood glucose was 1.9 mmol/L. Which of the following drugs is responsible?

**1- Aspirin**

2- Atenolol

3- Digoxin

4- Fluconazole

5- Ranitidine

Q562. A 40-year-old man was found to have acromegaly. What is the most likely cause of death if treatment is unsuccessful?

1- Colorectal carcinoma

2- Diabetic nephropathy

3- Gastric carcinoma

**4- Left ventricular failure**

5- Increased intracranial pressure

Q563. Which one of the following is a feature of the VIPoma syndrome?

1- Alkalosis

2- Hypoglycaemia

**3- Hypokalaemia**

4- Increased gastric acid seceretion

5- Provocation of VIP release by somatostatin

Q564. A 39-year-old male presents with gynaecomastia. Which of the following is the most likely cause of his gynaecomastia?

1- Congenital adrenal hyperplasia

2- Prolactinoma

3- Hypopituitarism

4- Hypothyroidism

**5- Seminoma**

Q565. A 32-year-old woman presented with a six week history of 7kg weight loss and heat intolerance. Investigations revealed: Free T4 45 pmol/L (10-22) TSH <0.05 mU/L (0.5-5) Which of the following features would support a diagnosis of Graves' disease?

1- Family history of Radio-iodine treatment

2- Lid lag

3- Multinodular goitre

**4- Pretibial myxoedema**

5- Unilateral exophthalmos

Q566. Oral therapy with which of the following may cause galactorrhoea?

1- Bromocriptine

2- Cabergoline

3- Spironolactone

4- Cimetidine

**5- Domperidone**

Q567. A 36-year-old male presents with lethargy. He takes no medication and has generally been otherwise well. Examination reveals that he is obese with a BMI of 36.4 kg/m2 and a blood pressure of 120/72. There are no abnormalities of the cardiovascular, respiratory or abdominal systems. Investigations reveal a sodium of 141 mmol/l, a potassium of 2.8 mmol/l, a urea of 5.6 mmol/l and a creatinine of 76 mmool/l. What is the most likely diagnosis.

1- Conn's syndrome

2- Apparent mineralocorticoid excess

3- Cushing's syndrome

4- Hypokalaemic periodic paralysis

**5- Bartter's syndrome**

Q568. A 33-year-old female presents with tiredness and lethargy. Five years previously she had undergone a frontal surgery for a craniopharyngioma following presentation with amenorrhoea and headache. Postoperatively she developed seizures and was treated with sodium valproate. She was demonstrated to be hypopituitary and receives hydrocortisone, thyroxine, oestrogen replacement therapy and desmopressin. Which of the following investigations would you select to confirm a growth hormone deficiency.

1- IGF-1 concentration

2- Insulin tolerance test

3- Clonidine test

4- L-dopa test

**5- GHRH/Arginine test**

Q569. A 64-year-old male presents with difficulty in micturition. He is diagnosed with benign prostatic hyperplasia and elects to receive finasteride. Production of which of the following hormones would be selectively inhibited?

1- Testosterone

2- Dihydroepiandrostenedione sulphate (DHEA S) 3- Androstenedione

**4- Dihydrotestosterone (DH T) 5- IGF-1**

Q570. A 37-year-old female presents with galactorrhoea. She has a history of dyspepsia for which she receives omeprazole. Examination reveals a BMI of 23.5 kg/m2 and a small amount of galactorrhoea to expression. Investigations show a prolactin concentration of 850 mU/l (NR 50 - 500 mU/ l) , an oestradiol of 88 pmol/l (NR 130 - 500), a LH of 3.2 mU/l (NR 3.5 - 8) and a FSH of 2.8 mU/l (NR 3 - 8). What disorder should be considered?

1- Addison's disease

2- Hyperthyroidism

**3- MEN type 1**

4- Drug-induced hyperprolactinaemia

5- Hypothyroidism

Q571. Which of the following is associated with a GH secreting pituitary tumour

**1- Gs alpha subunit mutation**

2- Pit-1 mutation

3- H-ras mutation

4- Rb 1 mutation

5- p53 mutation

Q572. Which of the following is not a recognised association of acromegaly?

1- Pseudogout

2- Hypertension

3- Goitre

4- Elevated serum phosphate levels

**5- Reduced serum prolactin levels**

Q573. Which of the following antibodies are typically found in auto-immune adrenalitis (Addison's diseas e)

1- Anti-rho antibody

2- Anti-peroxidase antibody

**3- Anti-21hydroxylase antibody**

4- Anti-nuclear antibody

5- Anti-tryptophan hydroxylase antibody

Q574. In randomised clinical studies, postmenopausal hormone replacement therapy

1- Reduces cardiovascular mortality.

2- Causes regression of coronary plaques.

3- Increases plasma LDL concentrations.

**4- Increases plasma triglycerides**

5- Reduces the incidence of stroke

Q575. A chromophobe adenoma of the pituitary would be expected in which of the following

1- Cushing's disease

2- Acromegaly

**3- Non-functioning pituitary tumour**

4- TSH secreting tumour

5- Prolactinoma

Q576. A 35-year-old woman presents with episodic sweats associated with hunger. She was otherwise well, and had gained some weight recently. Investigations reveal normal urea and electrolytes, liver function tests and full blood count. An overnight fasting plasma glucose is 3.8 mmol/l ( NR 3-6). What is the most appropriate investigation for this patient?

1- 24 hour ECG recording

**2- 72 hr fast**

3- fasting insulin and C-peptide concentrations

4- MR scan of pancreas

5- Short synacthen test

Q577. A 35-year-old man presents with left loin pain and haematuria. He comments that he has had three episodes of similar symptoms in the past. On examination, he is afebrile and has mild pallor. Investigations show: Sodium 140 mmol/L (135 -145) Potassium 3.0 mmol/L (3.5 5) Chloride 115 mmol/L (95 105) Bicarbonate 12 mmol/L (22 30) Calcium 2.5 mmol/L (2.2 2.6) Urea 19 mmol/L (2.5 7.5) Urinalysis pH 6.5, protein 1+, RBC 1+, White cell count 1+ What is the most likely diagnosis?

1- Bartter's syndrome

2- Conn's syndrome

**3- Renal tubular acidosis type 1**

4- Renal tubular acidosis type 2

5- Renal tubular acidosis type 4

Q578. A 18 year-old girl presents with anxiety and palpitations. Her mother had been treated for an overactive thyroid gland having received radioiodine and was now on Thyroxine replacement therapy. On examination she had a pulse of 104 bpm with a fine tremor and lid lag. There was no goitre palpable. Investigations revealed: serum Free T4 33 pmol/L (10-20) plasma thyroid stimulating hormone (TS H) <0.05 (0.5-4.5) serum antithyroid peroxidase (anti TP O) titre 40 IU/L (<50) What is the most likely cause of her symptoms?

1- factitious thyrotoxicosis

2- familial hyperthyroglobulinaemia

3- Hashitoxicosis

**4- Graves' disease**

5- Riedel's thyroiditis

Q579. A 52-year-old woman presents with tiredness and weight gain. She is confirmed to have autoimmune thyroiditis. Which of the following tumours is she at increased risk of developing?

1- Anaplastic carcinoma of the thyroid

2- Follicular carcinoma of the thyroid

3- Medullary carcinoma of the thyroid

4- Papillary carcinoma of the thyroid

**5- Thyroid lymphoma**

Q580. A 60 year-old male with diet controlled type 2 diabetes mellitus is commenced on metformin due to deteriorating glycaemic control. Which of the following is true regarding metformin?

1- It often causes hypoglycaemia

2- It is safe in patients with renal impairment

3- It may cause metabolic alkalosis

**4- It is contra-indicated in patients suffering a myocardial infarction**

5- It does not require any functioning pancreatic islet cells for its action

Q581. A 22-year-old woman presented with hirsuitism and oligomenorrhea for the last

5- years. She is an accountancy trainee and does not want to conceive at least for the next couple of years. She is very anxious about her irregular menses and is especially worried as her mother was diagnosed with uterine cancer recently. Examination is essentially normal apart from coarse dark hair being noticed under her chins and over her lower back. Investigations during the follicular phase: serum androstenedione 10.1 nmol/L (0.6-8.8) serum dehydroepiandrosterone sulphate 11.6 µmol/L (3-12) serum 17-hydroxyprogesterone 5.6 nmol/L (1-10) serum oestradiol 220 pmol/L (200-400) serum testosterone 3.6 nmol/L (0.5-3) serum sex hormone binding protein 32 nmol/L (40-137) plasma luteinising hormone 3.3 U/L (2.5-10) plasma follicle-stimulating hormone 3.6 U/L (2.5-10) What is the most appropriate treatment?

**1- combined OCP**

2- finasteride

3- metformin

4- progesterone only pill

5- spironolactone

Q582. A 40-year-old female who has been prescribed thyroid replacement therapy has routine thyroid function tests. On examination she appeared clinically euthyroid with no abnormal findings. Her TFTs revealed: TSH 3.2 mU/L (0. 35 - 5.0) Total T4 20 nmol/L (55 - 144) Free T4 2.6 pmol/L (9 - 24) Total T3 2.5 nmol/L (0. 9 - 2.8) 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

Q583. A 44-year-old female presents with features suggestive of Cushing's syndrome. Initial investigations reveal a 24 hr Urine free cortisol concentration of 350 nmol/day (NR <250). Which is the most appropriate investigation of this patient's suspected Cushing's syndrome?

1- ACTH concentration

2- 9am and Midnight cortisol

3- High dose dexamethasone suppression test

**4- Low dose dexamethasone suppression test**

5- Short synacthen test

Q584. Which of the following is associated with Congenital Adrenal Hyperplasia?

1- Delayed puberty

2- Hypopigmentation

3- Hyporeninaemia

4- Persistent Wolffian duct

**5- Premature epiphyseal closure**

Q585. Which of the following is a characteristic feature of familial hypercholesterolaemia?

**1- Autosomal dominant inheritance**

2- elevated chylomicrons

3- hypertriglyceridaemia

4- increased expression of LDL receptors

5- Palmar xanthomas

Q586. A 35-year-old female is found to have a solitary mass on the chest x-ray. Biopsy confirms this to be a carcinoid tumour of the lung. Which of the following are likely to be associated with this lesion?

**1- Cushing's syndrome**

2- Hyponatraemia

3- Pellagra

4- Pulmonary hypertension

5- Carcinoid syndrome

Q587. A 17 year-old girl presents with vomiting and her investigations show: sodium 120 mmol/L (137 - 144) potassium 3.0 mmol/L (3.5-4.9) urea 2.2 mmol/L (2.5 - 7.5) urine sodium 2 mmol/L urine osmolality 700 mosmol/kg (350 - 1000) What is the most likely diagnosis?

1- Addison's disease

**2- bulimia nervosa**

3- diuretic abuse

4- syndrome of inappropriate antidiuretic hormone secretion

5- water intoxication

Q588. A 26-year-old man presented with polydipsia and polyuria for the last 2 years. Investigations: serum urea 8.4 mmol/L (2.5-7.5) serum creatinine 108 µmol/L (60-110) serum corrected calcium 2.82 mmol/L (2.

2- 2.6) serum phosphate 0.73 mmol/L (0.8-1.4) plasma parathyroid hormone 6.8 pmol/L (0.9-5.4) Which of the following mechanisms is responsible for the hypophosphatemia observed?

1- increased deposition of calcium phosphate crystals in soft tissues

2- increased gastrointestinal secretion of phosphates

3- increased renal tubular secretion of phosphates

4- reduced gastrointestinal absorption of phosphates

**5- reduced renal tubular reabsorption of phosphates**

Q589. A 32-year-old woman treated with hydrocortisone 10 mg in the morning and 10 mg in the evening for Addison's disease, presents to the clinic with poor compliance. She feels that the hydrocortisone upsets her stomach and wants to switch to enteric coated Prednisolone. What would be the appropriate corresponding daily dose of prednisolone?

1- 4mg daily

**2- 5mg daily**

3- 7mg daily

4- 10mg daily

5- 15mg daily

Q590. A 34-year-old man presents with a six month history of tiredness, weight gain and cold intolerance. On examination he appeared hypothyroid and had a firm goitre. Investigations reveal: Free T4 6 pmol/L (10-22) TSH 55 mU/L (0.4-5.0) What is the most likely diagnosis in this patient?

1- De Quervain's thyroiditis

**2- Hashimoto's thyroiditis**

3- Iodine deficiency

4- Penderd's syndrome

5- primary atrophic hypothyroidism

Q591. A 55 year-old female complaining of vague tiredness is found to have a serum corrected calcium concentration of 2.9 mmol/l. Examination was unremarkable. Which of the following results confirms the suspected diagnosis of primary hyperparathyroidism?

1- High normal 1,25-dihydroxyvitamin D concentration

2- High normal 24 hour urinary calcium concentration

**3- High normal plasma parathyroid hormone concentration**

4- Low normal plasma phosphate concentration

5- Low normal serum 25-hydroxyvitamin D concentration

Q592. In which of the following conditions would it be expected to find an elevated plasma total cortisol concentration?

1- congenital adrenal hyperplasia

2- patients on long-term benzodiazepine therapy

3- patients taking prednisolone

**4- pregnancy**

5- primary aldosteronism

Q593. A 45-year-old man presents with headaches and low libido. He is found to be hypopituitary. The CT scan shows a pituitary tumour with suprasellar extension. Which of the following structures is likely to be compressed?

1- Abducens nerve

2- Hypothalamus

3- Occulomotor nerve

4- 3rd Ventricle

**5- Optic nerve**

Q594. A 26-year-old man presented with polydipsia and polyuria for the last 2 years. Investigations: serum urea 8.4 mmol/L (2.5-7.5) serum creatinine 108 µmol/L (60-110) serum corrected calcium 2.82 mmol/L (2.

2- 2.6) serum phosphate 0.73 mmol/L (0.8-1.4) plasma parathyroid hormone 6.8 pmol/L (0.9-5.4) Which of the following is directly responsible for his increased intestinal calcium reabsorption?

**1- 1,25 dihydroxy vitamin D**

2- 25 hydroxy vitamin D

3- calcitonin

4- hypophosphatemia

5- parathyroid hormone

Q595. Which of the following is true concerning oral hypoglycaemic agents?

1- Acarbose promotes insulin secretion in response to meals

2- Chlorpropamide induces liver enzymes

3- Glibenclamide is excreted unchanged by the kidney

4- Gliclazide inhibits gluconeogenesis

**5- Metformin inhibits hepatic gluconeogenesis**

Q596. A 51-year-old woman presented with nocturia and Pruritis vulvae. Investigations revealed: urine dipstick analysis glucose 2% Which one of he following would most reliably confirm a diagnosis of diabetes mellitus?

1- Elevated glycated haemoglobin concentration

2- Fasting plasma glucose of 6.7 mmol/L (3.0- 6.0)

3- 50g oral glucose tolerance test

4- Random plasma glucose of 8.3 mmol/L

**5- Two hour post-prandial plasma glucose of 12 mmol/L (<11.1)**

Q597. Which one of the following statements applies to an infant with undiagnosed congenital hypothyroidism.

**1- they may be asymptomatic**

2- haemolytic jaundice occurs

3- they may later have early acceleration of bone age and short stature at maturity

4- gastrointestinal disturbances, especially diarrhoea may develop

5- Tachyarrhythmias may occur.

Q598. Maturity onset diabetes of the young (MOD Y) is due to which of the following:

1- BRCA1 and BRCA2 (breast cance r) gene products

2- HOX (homeobo x) gene family

3- Leptin mutations

4- Stargardt's disease mutations

**5- Glucokinase mutations**

Q599. Useful therapy for improving fertility in Polycystic ovarian syndrome include

1- Cyproterone acetate

2- Ethinyl oestradiol

**3- Metformin**

4- Glibenclamide

5- Spironolactone

Q600. A 56-year-old male presents with a 5 year history of increased sweats and change in shoe size. Examination reveals prognathism and macroglossia, with large hands. Blood pressure is 180/94 mmHg but visual field examination is full to confrontation. Which of the following tests would be diagnostic?

**1- Oral glucose tolerance test**

2- TRH test

3- Insulin tolerance test

4- Pituitary MRI

5- IGF-1 concentration

Q601. A 17-year-old female who is 16 weeks pregnant reports that her elder brother has vitamin D reisistant rickets. What is the most likely mode of inheritance of this condition?

1- Autosomal dominant

2- Autosomal dominant with incomplete penetrance

3- Autosomal recessive

**4- X-linked dominant**

5- X-linked recessive

Q602. Which of the following is a characteristic feature of primary hyperaldosteronism?

1- Gross oedema

2- Hyponatraemia

**3- Muscular weakness**

4- Oliguria

5- Vitiligo

Q603. A 40-year-old female, with no prior history of thyroid disease, presents with a 5 day history of an acutely painful, left-sided goitre. Clinically she appeared euthyroid, and was apyrexial. Investigations revealed the following haemoglobin 13.0 g/dL white cell count 7.0 x 109 /L platelet count 200 What is the most likely diagnosis?

1- De Quervain's thyroiditis

**2- Haemorrhage into a cyst**

3- Hashimoto's thyroiditis

4- Staphylococcal abscess

5- Thyroid carcinoma

Q604. A 42-year-old male with a 15 year history of type 1 diabetes presents with a two month history of deteriorating pain and stiffness of the right shoulder. On examination he has painful limitation of internal rotation and can abduct the right arm to only 90 degrees. Flexion is relatively unimpaired. There is some weakness of movement of that shoulder with slight wasting of shoulder muscles. He has some reduced vibration sensation in both hands. Which of the following is the most likely diagnosis?

**1- Adhesive capsulitis**

2- Brachial plexopathy

3- Calcium pyrophosphate arthropathy

4- Diabetic arthropathy

5- Rheumatoid arthritis

Q605. A 29-year-old female student nurse presents with a discrete thyroid swelling. An isotope scan reveals it to be a "cold nodule". She has scattered local cervical lymphadenopathy. What is the likely diagnosis?

1- Anaplastic carcinoma

2- Graves disease

3- Medullary carcinoma

**4- Papillary carcinoma**

5- Subacute thyroiditis

Q606. A 38-year-old man presented with intermittent severe headaches. He was prescribed Spironolactone 50mg and Bendroflumethiazide 2.5mg daily for hypertension. On examination his pulse was 112 beats per minute, with regular rhythm, and blood pressure was 190/110 mmHg. Investigations revealed: serum sodium 132 mmol/L (137-144) serum potassium 3.4 mmol/L (3.5-4.9) serum urea 7.0 mmol/L (2.5-7.5) Which one of the following is the most useful investigation in establishing the diagnosis?

1- A 24 hour urinary 5-hydroxyindoleacetic acid concentration

**2- A 24 hour urinary catecholamine concentration**

3- A 24 hour urinary free cortisol concentration

4- A radionuclide hippuran renogram

5- The serum aldosterone: rennin ratio

Q607. A 53-year-old woman presented asking for treatment to prevent osteoporosis. She was one year post-menopausal, is aware of flushes at night and has a family history of osteoporosis. Which one of the following therapies would be most appropriate?

1- Calcium and vitamin D supplements

2- Continuous oestrogen

3- Cyclical etidronate and calcium

**4- Cyclical oestrogen and progestogen**

5- Vitamin D supplements

Q608. A 45-year-old woman presents to A+E complaining of a sever headache and vomiting for 12 hours. She was previously well and takes no medication. On examination, her temperature was 37.5C, her pulse rate was 110 beats per minute and her blood pressure was 95/60 mmHg. There was some neck stiffness and there was a right third nerve palsy with papillary involvement. Her initial investigations show. Haemoglobin 13.6 g/dl White cell count 14.5 x 109 /L Platelets >450 x 109 /L Sodium 122 mmol/l (137-144 mmol/ L) Potassium 5.2 mmol/L (3.5-4.9 mmol/ L) Urea 4.6mmol/l (3.0-6.5mmol/ l) Creatinine 85 µmol/l (60-125 µmol/ l) Random cortisol 150 nmol/L (200-700 nmol/ L) TSH 1.1 mU/L (0.4-5 mU/ L) Free T4 9 pmol/L (10-22 pmol/ L) Prolactin 350 (<450mU/ L) What is the most likely diagnosis?

1- Encephalitis

2- Migraine

3- Meningitis

**4- Pituitary apoplexy**

5- Subarachnoid Haemorrhage

Q609. In the treatment of Congenital Adrenal Hyperplasia, which of the following statements is correct?

1- Hydrocortisone may be administered once daily

2- Preferred treatment in children is prednisone

**3- Efficacy of treatment is best monitored by 17-OH progesterone and androstenedione levels**

4- Renin activity levels are of no clinical use in treatment monitoring

5- Hypotension, hyperkalaemia and hyperreninaemia suggest that the dose of mineralocorticoid should be reduced

Q610. Growth hormone deficiency is noted in:

1- Turner's syndrome

2- Constitutional short stature

3- Laron's syndrome

**4- Sheehan's syndrome**

5- Chronic renal failure

Q611. A 70 year-old female is diagnosed with anaplastic thyroid cancer. What is the most likely consequence of this cancer?

1- Brain metastases

2- Hypercalcaemia from bony metastases

3- Liver metastases

4- Lung metastases

**5- Upper airways obstruction**

Q612. Which of the following is regarded as a physiological effect of thyroid hormones?

1- Decrease gluconeogenesis

**2- Enhance inslin sensitivity**

3- Reduce myocardial oxygen demand

4- Reduce nerve conduction

5- Reduce oxidation of fatty acids in tissues

Q613. A 51-year-old man is found to have bilateral breast enlargement. He says that this is normal for him and that he has not noted any change in years. He shaves infrequently and has scant pubic hair. Which of the following is most likely to be present?

**1- 47, XXY karyotype**

2- History of antidepressant drug therapy

3- Increased risk for breast carcinoma

4- Increased testosterone levels

5- Seminoma of the testis

Q614. An 18-year-old female with polycystic ovary syndrome was prescribed Metformin. What is the most important pharmacological action of Metformin in this situation?

1- Increasing insulin levels

2- Increasing luteinising hormone levels

3- Increasing oestradiol levels

**4- Increasing peripheral glucose uptake**

5- Increasing gluconeogenesis

Q615. A 51-year-old district nurse presented with a history of near fainting episodes, which were promptly relieved by eating chocolates. At her last hospital admission, her simultaneous blood results were as follows: plasma glucose 1.8 mmol/L serum insulin 58 pmol/L (<21) c-peptide undetectable What is the most likely diagnosis?

1- alcohol induced hypoglycaemia

**2- exogenous insulin administration**

3- growth hormone deficiency

4- insulinoma

5- sulfonylurea induced hypoglycaemia

Q616. A 30-year-old female presents with mild galactorrhoea. Biochemistry reveals an elevated prolactin of 1200 mu/l (NR 50-450) and an oestradiol concentration of 100 pmol/l (NR 130-450). Which of the following is the likely cause?

1- Addison's disease

2- Hyperthyroidism

**3- Non-functioning pituitary tumour**

4- Sheehan's syndrome

5- Post-cranial irradiation for acute lymphocytic leukaemia as a child

Q617. A patient is receiving treatment with recombinant human growth hormone. Which of the following is a recognised side effect of GH therapy?

1- Prostatic hypertrophy

2- Melanoma

**3- Benign intra-cranial hypertension**

4- Prolongation of the QT interval

5- Osteoporosis

Q618. Leptin

1- Is synthesised in the hypothalamus

2- Reduces Basal metabolic rate

3- Acts upon the adipocyte

**4- Produces satiety**

5- Plasma concentrations correlate directly with lean body mass.

Q619. A 47-year-old female of Asian origin presents with a long history of deteriorating weakness and fatigue. Of late, she has difficulty ascening stairs at home need to crawl up them. She has a six year history of type 2 diabetes mellitus and is treated with Metformin and Gliclazide. Initial X-rays reveal healing clavicular fractures, and a superior pubic rami fracture. Her investigations show: Calcium2.2 mmol/l (2.2 - 2.5mmol/ l) Phosphate 0.7 mmol/l (0.

8- 1.5mmol/ l) Alkaline Phosphatase 212 iu/l (50 - 110IU/ L) AST 30 iu/l (5 - 40IU/ l) Urea 12 mmol/l (3 - 8mmol/ l) Creatinine 67 µmol/l (50 – 100 µmol/ L) HbA1c 11.0% (4 - 6%) What is the likely diagnosis?

1- Advanced diabetic renal disease

2- Diabetic amyotrophy

3- Hypoparathyroidism

4- Osteoporosis

**5- Vitamin D deficiency**

Q620. A 55-year-old female who received radioactive iodine over five years ago presents for annual thyroid function assessment. She is well and takes no medication. Her results reveal: Free Thyroxine 13.2 pmol/l (9.8 - 23) TSH 16 mU/l (0.5-4.5 mU/ l) Total cholesterol 6.8 mmol/l (<5 mmol/ l) Plasma triglycerides 2.2 mmol/l (<2 mmol/ l) What is the most appropriate treatment for this patient's dyslipidaemia?

1- Cholestyramine

2- Fibrate therapy

3- Hormone replacement therapy

4- Statin therapy

**5- Thyroxine**

Q621. Which of the following has a known association with phenylketonuria?

1- Presentation in the second year of life with absence seizures.

2- The association of red hair and brown eyes.

3- Normal development.

**4- Musty odour.**

5- Response of some patients to piridoxine.

Q622. A 35 year-old woman presented with a five year history of weight gain associated with a one year history of amenorrhoea. Over this time she had also noticed hirsuitism and had been trying to conceive. On examination, she had a BMI of 32 kg/m2 , a pulse was 84 beats per minute, and a blood pressure of 154/100 mmHg. Features suggestive of Cushing's syndrome were also noted. Which of the following would be the most useful initial investigation?

**1- 24 hour urinary free cortisol concentration**

2- Combined 9am ACTH concentration and serum cortisol concentration

3- Midnight cortisol concentration

4- Serum sodium and potassium concentrations

5- The 1mg overnight dexamethasone suppression test

Q623. Which of the following is a likely presenting feature of Cushing's syndrome

1- Lichen planus

2- Mononeuritis multiplex

3- Polymyositis

**4- Necrosis of the femoral head**

5- Diabetes insipidus

Q624. A 53-year-old female with surgically treated acromegaly is receiving treatment?ith Octreotide?herapy due to persistently elevated growth hormone concentrations following surgery. What is the mechanism of action of Octreotide?

1- Inhibition growth hormone receptor

2- Inhibition of dopamine D2 receptor

3- Inhibition of IGF-1 receptor

4- Inhibition of GHRH receptor

**5- Stimulation of the somatostatin receptor**

Q625. A 63-year-old male with a five year history of diet controlled type 2 diabetes presents with deteriorating glycaemic control and is started on treatment to control his hyperglycaemia. Then, later, he presents with dyspnoea and orthopnoea. He is diagnosed with left ventricular failure. Which of the following drugs used in the control of his hyperglycaemia may have contributed to this episode of heart failure?

1- Glibenclamide

2- Glimiperide

3- Insulin glargine

4- Metformin

**5- Rosiglitazone**

Q626. A 70 year-old female presents with a six month history of frontal headaches and weight loss. On examination a bitemporal hemianopia was noted. Which of the following suggest the diagnosis of a pituitary tumour?

1- 9am cortisol concentration of 350 nmol/L (200 - 700)

2- LH concentration of 44 uL (>30)

**3- Prolactin concentration of 580 mU/L (50- 550)**

4- Random growth hormone concentration 1.2 mU/L (< 1)

5- TSH concentration of 3.8 mU/L (0.5 - 4.5)

Q627. A 38-year-old male presents with concerns relating to obesity. What is the average daily energy used by a male of this age?

1- 1500 kcal

2- 2000 kcal

**3- 2500 kcal**

4- 3000 kcal

5- 3500 kcal

Q628. A 32-year-old female presents with a 2 month history of agitation, menstrual irregularity and weight loss. Examination reveals a tremor and a palpable goitre with a bruit. Which of the following would most likely be present in this patient:

1- Thyroid microsomal antibodies

2- Thyroid peroxidase antibodies

**3- TSH receptor stimulating antibodies**

4- TSH receptor inhibiting antibodies

5- Anti-thyroglobulin antibody

Q629. Low uptake of 123I on the thyroid uptake scan would be an expected finding in:

1- A solitary toxic nodule

2- A multi-nodular toxic goitre

3- Amiodarone induced thyrotoxicosis type 1

**4- DeQuervain's thyroiditis**

5- Graves' thyrotoxicosis

Q630. A 32-year-old woman presents with a four month history of amenorrhoea. She takes no specific therapy. She has two children and her husband has has a vasectomy. Examination reveals an obese individual but no other abnormality. Investigations reveal: Serum oestradiol 100 pmol/L (NR 130 - 500) Serum LH 2.1 mU/L (NR 3.0 - 6.6) Serum FSH 2.2 mU/L (NR 3.3 - 10.1) Serum prolactin 800 mU/L (NR 50 - 500) Serum testosterone 2.1 pmol/L (NR < 3.0) Which investigation is the most appropriate?

1- Insulin tolerance test

2- Pregnancy test

3- 17 hydroxy-progesterone

4- Urine free cortisol concentration

**5- Magnetic resonance imaging (MR I) of the pituitary**

Q631. A 17 year-old male student presents with a three week history of thirst, polyuria, balanitis and weight loss. What is the most appropriate next investigation?

1- 75 g glucose tolerance test

2- Fructosamine concentration

3- HbA1c

**4- Random plasma glucose concentration**

5- Urinary ketones

Q632. A 53-year-old female presents with a four month history of weight gain, episodic sweats and shakiness which occur during episodes of fasting and is relived by eating chocolate bars. She informs you that she has a friend who is a nurse and has provided her with a glucose meter. During one of these episodes the glucose concentration was recorded at 2.8 mmol/l. On examination she has a body mass index of 30.2 kg/m2 , has a pulse of 82 bpm and a blood pressure of 144/86 mmHg. No other abnormalities are noted. Which of the following is the most appropriate next investigation for this woman?

**1- 72 hour fast**

2- Fasting insulin and c-peptide measurement

3- MRI pancreas

4- Oral glucose tolerance test

5- Sulphonylurea measurement

Q633. On routine screening of a 50-year-old woman who complained of tiredness, she is found to be hypercalcaemic. She is being treated for manic depression, and cardiac failure. Which of the following is most likely to be the cause of the raised calcium?

1- ACE Inhibitor therapy

2- Furosemide therapy

**3- Lithium therapy**

4- Seroxat treatment

5- Vitamin D deficiency

Q634. A 57-year-old male diabetic requests Sildenafil for erectile dysfunction. Which of the following are contraindicated with Sildenafil?

1- Carbamazepine

2- Carvedilol

3- Indomethacin

**4- Nicorandil**

5- Valsartan

Q635. A 58-year-old male presents with a six month history of marked sweating. Examination reveals large hands, feet and coarse facial features. His blood pressure is 172/102 mmhg. What is the explanation for the excessive sweating in this man?

1- Increased Catecholamine secretion

2- Increased bradykinin release

3- Reduced sex hormone secretion

**4- Sweat gland hypertrophy and hyperplasia**

5- Organomegaly with increased thermogenesis

Q636. A 17 year-old female is referred following a visit to the dentist where marked erosion of her teeth was noted. She was entirely asymptomatic and her only medication was the oral contraceptive pill. On examination her blood pressure was 110/70 mmHg and her body mass index was 21.5 kg/m2 (18 - 25). Investigations sodium 135 mmol/l potassium 2.1 mmol/l bicarbonate 42 mmol/l urea 2.6 mmol/L corrected calcium 2.08 mmol/ alkaline phosphatase 201 iu/l (50-110) What is the most likely diagnosis?

**1- Bulimia nervosa**

2- Conn's syndrome

3- Laxative abuse

4- Pregnancy

5- Primary hypoparathyroidism

Q637. A 46-year-old male presents passing 4-5 litres of urine per day, after commencing a new drug. Serum sodium 142 mmol/l Plasma osmolality 295 mosmol/l (275-290) Urine osmolality 280 mosmol/l (350-1000) What drug was prescribed?

1- Carbamazepine

2- Chlorpropamide

3- Fluoxetine

4- Furosemide

**5- Lithium**

Q638. A 45-year-old male is found to have a 2cm right adrenal adenoma which was noted coincidentally following abdominal CT scan performed for investigation of abdominal pain. There are no abnormalities on examination and the patient is quite well with a blood pressure of 122/84 mmHg. Urine catecholamines are normal, urine free cortisol normal and plasma renin activity:aldosterone ration is normal. Which is the most appropriate management step for this patient?

1- Arrange PET scan

2- Arrange adrenalectomy

3- Characterise further with MRI

**4- Repeat imaging in 6 months**

5- Reassure and discharge

Q639. A 17 year female presents with tingling and muscle cramps. There is no other past medical history of note. Investigations reveal Creatinine 68 micromol/L (50-100) calcium1.76 mmol/L (2.2-2.6) albumin 38 g/L (37-49) Which one of the following investigations is most likely to confirm the diagnosis?

1- Alkaline phosphatase concentration

2- CT brain scanning

**3- PTH concentration**

4- Urine calcium concentration

5- Vitamin D concentration

Q640. Which of the following statements are true of primary hyperparathyroidism?

1- It is associated with hypocalciuria due to elevated PTH levels.

2- PTH is secreted in a pulsatile manner from the posterior pituitary and acts through PTH receptors on parathyroid cell membranes

**3- It is usually caused by an adenoma of a single parathyroid gland.**

4- It progresses to tertiary hyperparathyroidism with time.

5- It is associated with bone resorption by PTH to restore depressed serum calcium levels to normal.

Q641. Which of the following is typically found in Pendred's syndrome

1- Mental retardation

**2- Sensorineural deafness**

3- Thyroid agenesis

4- Thyrotoxicosis

5- Cataract

Q642. A 16-year-old male with a day history of malaise, weakness and vomiting. He was diagnosed with Insulin dependent diabetes mellitus 3 years previously. Which ONE of the following supports a diagnosis of diabetic ketoacidosis:

1- Abdominal pain at onset

**2- A serum standard bicarbonate of 10 mmol/l (NR 22-26)**

3- A random serum glucose 14 mmol/l (NR 4.5-6-4)

4- Decreased appetite in the past few days

5- Shallow respirations

Q643. A 28-year-old female presents in the 24th week of pregnancy with profound tiredness and anxiety. Examiantion reveals a tremor, a pulse of 100 beats per minute and a soft bruit heard over the thyroid gland. Thyroid function tests show: Free T4 32.9 pmol/l (NR 9.8 - 23.1) TSH 0.04 mu/l (NR 0.5 - 4) Which of the following treatments would you select for this patient?

1- Radioactive iodine therapy

**2- Carbimazole**

3- Lithium

4- Propanolol

5- Potassium perchlorate

Q644. A 26-year-old man with a past history of parathyroid surgery presented with galactorrhoea. Investigations: plasma follicle-stimulating hormone 4.2 U/L (1-7) plasma luteinising hormone 5.6 U/L (1-10) plasma prolactin 1654 mU/L (<360) plasma thyroid-stimulating hormone 3.8 mU/L (0.4-5) insulin-like growth factor 1 33.4 nmol/L (7.

5- 37.3) Which of the following is the most likely diagnosis?

**1- MEN type 1**

2- MEN type 2a

3- MEN type 2b

4- Polyglandular syndrome type 1

5- Polyglandular syndrome type 2

Q645. A 55-year-old female presents with episodic sweats and tremors which are are relieved by glucose. She has gained approximately 6 kg in weight of late and drinks approximately 10 units of alcohol weekly. Her investigations show normal Full Blood Count, Normal Urea and electrolytes and a fasting plasma glucose concetration of 4 mmol/l (3-6). What is the most appropriate investigation for this patient?

**1- 72 hour fast**

2- CT scan of pancreas

3- EEG

4- Insulin and C-peptide concentration

5- Oral glucose tolerance test

Q646. Which of the following is a feature of Cushing's syndrome?

1- Fibrous dysplasia

**2- Vertebral collapse**

3- Calcium pyrophosphate arthropathy

4- Osteomalacia

5- Osteoarthritis

Q647. An 17-year-old female presented with a one year history of secondary amenorrhoea. She had been prescribed Temazepam and Dihydrocodeine previously. On examination she had galactorrhoea to expression. Her prolactin concentration was 6000 mu/l (NR 50-450). Pregnancy test was negative. What is the most likely diagnosis?

1- Drug-induced hyperprolactinaemia

2- Non functioning pituitary tumour

**3- Pituitary microadenoma**

4- Polycystic ovarian syndrome

5- Turner's syndrome

Q648. A 16-year-old female with Addison's disease is intolerant of her hydrocortisone treatment which she takes at a dose of 20mg in the morning and 10mg in the evening. Which of the following doses of prednisolone would provide an equivalent daily dose as her hydrocortisone?

1- 5mg

**2- 7.5mg**

3- 10mg

4- 12.5mg

5- 15mg

Q649. A diagnosis of diabetes mellitus is being considered in 32-year-old woman who is 16 weeks pregnant. Her body mass index (BM I) was 22 kg/m2 (18 - 25). A 75g oral glucose tolerance test was reported as follows Time Plasma glucose concentration Normal range 0 hr 6.0 mmol/l 3.0-6.0 2hr 12.5 mmol/l <11.1 Which of the following is the most appropriate next step in the management of this patient?

1- Glipizide therapy

**2- Insulin therapy**

3- Low calorie diet

4- Metformin therapy

5- Repeat OGTT in four weeks

Q650. A 16-year-old female presents with hypertension and increasing weight. Which of the following features would be most suggestive of Cushing's syndrome rather than simple obesity?

1- Abdominal striae

2- Acanthosis Nigricans

3- Buffalo Hump (interscapular fat pa d) 4- Moon face

**5- Proximal myopathy**

Q651. A 45-year-old woman presents with excessive hair growth on her face, chest and lower abdomen. Which of the following may be associated with her condition?

1- Cyproterone

2- Hypoadrenalism

**3- Minoxidil**

4- Moxonidine

5- Valproate

Q652. A previously fit 30-year-old male presents with a two months history of weight loss, tiredness and nausea. Investigations show: Haemoglobin 10.5 g/dL MCV 88 fL White cell count 6.0 x 109 /L Platelets 450 x 109 /L Serum sodium 130 mmol/L Serum potassium 5.7 mmol/L Serum urea 3.0 mmol/L Serum creatinine 78 umol/L Serum total T4 55 nmol/L (NR 50-150) Serum TSH 8 mU/L (NR 0.2-5.5) Which of the following is the most useful diagnostic investigation?

1- anti-thyroid peroxidase antibody titre

2- insulin tolerance test

3- free thyroxine concentration

**4- short synacthen test**

5- TRH test

Q653. A 26-year-old woman presents with episodes of dizziness mainly on standing. Her biochemical profile shows hyperkalaemic acidosis. Which underlying condition is she most likely to have?

1- Cushing's syndrome

**2- Addison's disease**

3- Conn's syndrome

4- Type 1 renal tubular acidosis

5- Bulimia nervosa

Q654. A 15-year-old girl was admitted eight hours after taking an overdose of Diazepam 30mg and Methotrexate 400mg, which her mother had been prescribed for rheumatoid arthritis. On examination her Glasgow Coma Score was 10. Which one of the following is the most appropriate immediate action?

**1- Assess respiratory function**

2- Perform immediate gastric lavage

3- Treat with activated charcoal

4- Treat with folinic Acid

5- Urgent liver function tests

Q655. A 54-year-old female presented with a neck swelling which has been more noticeable over the previous four months. Examination revealed a moderate goitre and clinically she appeared euthyroid. Investigations revealed: T4 13.1 pmol/l (NR 9.8 - 23) TSH 5.3 mU/l (NR 0.5 - 4 mU/ l) anti -microsomal antibodies positive What is the most likely explanation of this patient's goitre?

1- Graves' disease

**2- Hashimoto's thyroiditis**

3- DeQuervain's thyroiditis

4- Multi-nodular goitre

5- Anaplastic thyroid carcinoma

Q656. A 48-year-old woman presents to her GP with Cushingoid facies and hyperpigmentation of the skin on her face and chest. She has smoked 20 cigarettes per year for 30 years. Examination reveals no gross abnormalities. Her chest X-ray reveals a 2 cm irregularly shaped mass in the right upper lobe, in proximity to the mediastinum. A CT guided needle biopsy of the lung lesion is performed. Which would be the most likely cytologic finding?

1- Adenocarcinoma

2- Benign bronchial adenoma

3- Bronchoalveolar cell carcinoma (BA C) 4- Small cell (oat cel l) carcinoma

5- Squamous cell carcinoma

Q657. A 45-year-old woman presents to the clinic with a three month history of sweats and weight gain of 7kg. Her sweats tend to be worse in the morning and with exercise and she often feels light headed. On examination she has a BMI of 30 kg/m2 but no abnormality is noted. Urinalysis negative. What is the likely diagnosis?

1- Acromegaly

2- Diabetes mellitus

**3- Insulinoma**

4- Phaeochromocytoma

5- Primary ovarian failure

Q658. Following factors decrease large intestinal motility:

1- Parasympathetic activity

**2- Anticholinergic agents**

3- Gastric Distension

4- CCK-PZ

5- Laxatives.

Q659. A 47-year-old male presents with marked shortness of breath which has deteriorated over the last two weeks. On examination he has a hard, irregular thyroid mass and has some difficulty breathing. There appears to be no retrosternal extension and he appears clinically euthyroid. What is the most likely diagnosis?

**1- Anaplastic carcinoma of thyroid**

2- Bleed into a thyroid nodule

3- Follicular thyroid carcinoma

4- Medullary thyroid carcinoma

5- Multinodular goitre

Q660. An 80 year-old woman with type 2 diabetes mellitus is referred with weakness. She had been taking bendroflumethiazide, digoxin and tolbutamide. On examination she had a temperature of 37.8C, a pulse of 98 bpm in atrial fibrillation, and a blood pressure of 118/72 mmHg. Investigations show: Sodium 121 mmol/L (137 - 144) Potassium 3.3 mmol/L (3.5 - 4.9) Urea 4.8 mmol/L (2.5-7.5) Creatinine 83 micromol/L (60 - 110) Glucose 15.2 mmol/L (3.0 - 6.0) chest X-ray normal What is the most likely cause for the hyponatraemia?

1- Addison's disease

**2- bendroflumethiazide (bendroflumethiazid e) 3- hyperglycaemia**

4- syndrome of inappropriate secretion of antidiuretic hormone

5- tolbutamide

Q661. A 45-year-old male presents with sweats and change in appearance. A diagnosis of acromegaly is confirmed with failure to suppress GH concentrations on an oral glucose tolerance test. MRI reveals a 0.5 cm microadenoma of the pituitary. Which of the following is the most appropriate therapeutic option for this patient?

1- Dopamine agonist therapy

2- Depot somatostatin analogue

**3- Pituitary surgery**

4- Short acting somatostatin analogue

5- Stereotactic pituitary irradiation

Q662. In active acromegaly with associated diabetes mellitus which of the following findings would be expected?

1- Diabetes mellitus is due to an auto-immune process

2- Growth hormone concentrations are suppressed with hyperglycaemia

3- IGF-1 concentrations are low

**4- There is insulin resistance**

5- Treatment with a somatostatin analogue is contra-indicated

Q663. A 60-year-old female was prescribed thyroxine 150 ? daily for hypothyroidism. She was clinically hypothyroid and no goitre was present. Investigations revealed: serum total T4 68 nmol/L (NR 55-145) serum total T3 0.5 nmol/L (NR 0.9-2.5) serum TSH 70 mU/L (NR 0.5-4) Which of the following would be the next step in her management?

1- Investigation for TSH secreting pituitary tumour

2- Measurement of free thyroxine concentration

**3- Questioning of the patient about compliance**

4- She has sick euthyroid syndrome, no further investigation required

5- Thyroid ultrasound scan

Q664. A 16-year-old female weighing 80kg presents with a six month history of excessive weight gain and weakness. On examination she had central obesity with abdominal striae, a blood pressure of 178/96 mmHg and proximal muscle weakness. Urinalysis showed glucose ++. What is the most appropriate initial investigation for this patient?

1- 9am plasma cortisol concentration

**2- 24 hour urinary free cortisol concentration**

3- ACTH concentration

4- a 1mg overnight dexamethasone suppression test

5- a short synacthen test

Q665. A 30 year-old female presents with a one year history of galactorrhoea. She has being receiving treatment for hay fever, depression, obesity and dyspepsia. Her investigations reveal: Full Blood Count normal Urea and electrolytes normal Prolactin 820 mU/L (< 360) free thyroxine (T4) 18.3 pmol/L (10-22) TSH concentration 2.1 mU/L (0.4 - 5) Which one of the following drugs is most likely to explain these findings?

1- Astemizole

**2- Metoclopramide**

3- Paroxetine

4- Ranitidine

5- Sibutramine

Q666. A 45-year-old female attends clinic complaining of tiredness. She is hypothyroid and takes thyroxine 150 micrograms daily. Which of the following is the most useful test for assessing the appropriateness of thyroid hormone replacement in primary hypothyroidism?

1- Free T3 and T4 concentrations

2- Skin biopsy

3- Thyroid binding globulin

4- Total T3 and T4

**5- TSH**

Q667. Which one of the following types of thyroid cancer in a 45-year-old woman has the worst prognosis following optimal treatment?

1- Papillary cancer with cervical lymph node metastases

2- Follicular cancer with bone metastases

**3- Anaplastic cancer in a long standing goitre**

4- Medullary cancer as part of the MEN type II syndrome

5- Thyroid lymphoma

Q668. A 16-year-old female patient is refered with primary amenorrhoea. Investigations reveal a 46 XY karyotype. Which of the following concerning the condition is true?

1- A diagnosis of Turner's syndrome is likely

2- It is likely that her mother received Carbimazole for thyrotoxicosis during pregnancy

3- Low testosterone and oestradiol concentrations would be expected

**4- The diagnosis is likely to be testicular feminisation syndrome**

5- The diagnosis is Noonan's syndrome

Q669. A 60-year-old female presents with recentonset dyspnoea and noisy breathing. Her chest X-ray showed right deviation of the trachea due to a retrosternal goitre. Which of the following tests is most useful in the assessment of airflow obstruction due to the goitre?

**1- flow volume curve**

2- forced expiratory flow volume in one second

3- forced vital capacity

4- peak expiratory flow rate

5- residual volume

Q670. An 16-year-old man presents with polyuria and polydipsia. Which of the following may confirm the diagnosis of diabetes mellitus?

1- A random plasma glucose of >7.5 mmol/L

2- A finding of 3+ ketonuria

3- An HbA1c of 7.0%

**4- A fasting plasma glucose of 7.5 mmol/L**

5- A plasma glucose of 10.2 mmol/l 2 hours after 75 grams of oral glucose.

Q671. A 32-year-old female is being investigated for tinnitus by the ENT department and undergoes an MRI scan. The scan is normal except for a pituitary tumour of 0.9cm confined to the pituitary fossa. Thyroid function tests, prolactin, LH, FSH and estradiol concentrations are all normal. Which of the following would be the most appropriate management approach for this patient?

1- Pituitary biopsy

**2- Reassure and continued observation**

3- Transphenoidal hypophysectomy

4- Treat with dopamine agonist therapy

5- Stereotactic pituitary irradiation

Q672. A 53-year-old male is suspected of having acromegaly. Which of the following is the best investigation to confirm the diagnosis?

1- 9am growth hormone concentrations

2- An insulin tolerance test with growth hormone concentrations

**3- Glucose tolerance test with growth hormone concentrations**

4- Growth hormone releasing hormone test

5- insulin-like growth factor-1 (IGF-1)

Q673. Which of the following is associated with Congenital Adrenal Hyperplasia?

1- Delayed puberty

2- Hypopigmentation

3- Hyporeninaemia

4- Persistent Wolffian duct

**5- Premature epiphyseal closure**

Q674. A 16-year-old girl is noted to have persistent polyuria in excess of 4 litres per day whilst recovering from a head injury she sustained in a road traffic accident. Investigations reveal: potassium 4.1 mmol/L (3.5-4.9) calcium2.4 mmol/L (2.2-2.6) glucose 5.6 mmol/L (3.0-6.0) Which one of the following is the most effective method of confirming the diagnosis?

1- autoantibodies to vasopressin neurones

2- MRI of the hypothalamus and pituitary

3- therapeutic trial of low dose DDAVP

4- vasopressin concentration

**5- water deprivation test**

Q675. A 45-year-old woman presents with a 1 year history of weight gain and intermittent sweating. What is the most likely diagnosis?

1- Carcinoid syndrome

2- Hypothyroidism

**3- Insulinoma**

4- Lymphoma

5- Phaeochromocytoma

Q676. A 17-year-old boy has learning difficulties and is seen in the genetics clinic as his maternal uncles also had learning difficulties. Examination reveals that the patient has large ears and large testes. What is the most likely genetic diagnosis?

1- 47 XYY

2- Acromegaly

**3- Fragile X syndrome**

4- Klinefelter's syndrome

5- Mosaic Down's syndrome

Q677. A 30-year-old man had a blood pressure of 150/100 mmHg. Clinical examination was normal. Which one of the following would suggest secondary hypertension?

**1- 24 hour urinary protein excretion of 1.6g (<0.2)**

2- A Creatinine clearance of 90 mL/min (70- 140)

3- Left ventricular hypertrophy criteria on the ECG

4- The presence of arteriovenous nipping on fundoscopy.

5- Serum potassium of 3.9 mmol/L (3.5-4.9)

Q678. In the treatment of Congenital Adrenal Hyperplasia, which of the following statements is correct?

1- Hydrocortisone may be administered once daily

2- Preferred treatment in children is prednisone

**3- Efficacy of treatment is best monitored by 17-OH progesterone and androstenedione levels**

4- Renin activity levels are of no clinical use in treatment monitoring

5- Hypotension, hyperkalaemia and hyperreninaemia suggest that the dose of mineralocorticoid should be reduced

Q679. A 17-year-old girl complains of feeling tired and lethargic for the last 6 months. She also has generalized abdominal discomfort and constipation. She denies depression but her performance at school has deteriorated this year. Examination shows a pale and thin young woman. Her blood pressure is 110/60 mmHg. Hb 13.4 g/l WBC 4.8 x 109 Platelet 290 x 109 ESR 37mm/hr Na 131mM (135-144) K 2.7mM (3.4-4.5) Urea 3.0mM (3-7) Creat 90mM (50 - 100) Bicarbonate 35mM (20-28) Alkaline phosphotase 90iu/l (50-110) Bilirubin 12 (0-17) AST 30 iu/l (5-40) Albumin 36 g/l (33-44) CXR normal Which of the following is the most likely underlying diagnosis?

1- Cushings syndrome

2- Conns syndrome

3- Addisons disease

**4- Anorexia nervosa**

5- Phaechromocytoma

Q680. A 79-year-old female suffers a fracture neck of femur following a fall at home. Investigations are normal but her X-ray shows the bones to be rather 'thin'. It is assumed that she is osteoporotic and she is started on alendronate therapy. Which of the following is correct concerning this drug.

1- Enhances vitamin D action on bone

2- Increases absorption of calcium

3- Increases osteoblast activity

4- Increases the action of oestrogen on bone

**5- Inhibits osteoclast activity**

Q681. A 39-year-old female presents with polyuria and is passing 4 litres of urine per day. She was recently started on a new medication Serum sodium 144 mmol/l Plasma osmolality 299 mosmol/l (275-290) Urine osmolality 210 mosmol/l (350-1000) Which of the following drugs was prescribed?

1- Aspirin

2- Fluoxetine

3- Glibenclamide

**4- Lithium**

5- Metoprolol

Q682. A 32-year-old woman with known hypothyroidism is admitted to hospital. Her Blood pressure is 86/53 mmHg and her pulse 100 bpm. Investigations reveal: Serum sodium 126 mmol/l (133-145) Serum potassium 5.8 mmol/l (3.5-5.0) Serum glucose 3.0 mmol/l (3.5-6.0) What is the most appropriate investigation?

1- Anti-thyroglobulin antibody

2- Plasma insulin concentration

3- Random serum cortisol concentration

**4- Short synacthen test**

5- Urine and plasma osmolality

Q683. An 18-year-old male presented with delayed pubertal development. He had always noted an impaired sense of smell. Examination revealed that his height was on 90th centile and his weight on the 90th centile. His external genitalia showed a small penis with testicular volumes of 3 mL bilaterally and no pubic hair. Investigations revealed: LH concentration 1.0 U/L (1-10), FSH concentration 1.0 U/L (1-7), Serum testosterone 3.0 pmol/L (9-35), Free T4 19 pmol/L (10-22), TSH 3.0 mU/L (0.4-5), CT scan reported as normal. What is the most likely diagnosis?

1- Constitutional delay of puberty

**2- Kallmann's syndrome.**

3- Klinefelter's syndrome.

4- Noonan's syndrome.

5- Prader-Willi syndrome.

Q684. Which of the following statements is true of Type 2 Diabetes Mellitus?

1- 20% of patients develop macrovascular complications within 10years of diagnosis

2- Drug treatment is associated with a 25% reduction in microvascular complications compared with diet alone.

3- A single fasting plasma glucose above 8 mmol/l is diagnostic of diabetes.

4- Type 2 diabetes is associated with being underweight

**5- Metformin is the preferable treatment in the obese patient with type 2 diabetes**

Q685. Which of the following doses of prednisolone is equivalent in its glucocorticoid potency to 20mg of hydrocortisone.

1- 2 mg

**2- 5 mg**

3- 10 mg

4- 15 mg

5- 20 mg

Q686. An elderly asthmatic lady on treatment with high dose prednisolone, complains of a 4 week history of right hip pain. She comments that recently she seems to be developing more facial hair and adds that she has also been diagnosed with high blood pressure and diabetes. On examination she is noted to be unable to weight bear on the right side. What is the most likely cause of her hip pain?

**1- Avascular necrosis of femoral head**

2- Dislocation of the hip joint

3- Fracture neck of femur

4- Gout

5- Osteoarthritis of the hip joint

Q687. A 35-year-old male presents with weakness and tiredness. He is noted to be hyertensive. Electrolytes show a hypokalaemia and a hypomagnesaemia. What investigation would you select for this patient?

1- Colonoscopy

**2- Plasma renin toaldosterone ratio**

3- Serum amylase

4- Serum calcium

5- Oral glucose tolerance test

Q688. Testosterone

**1- Is a steroid hormone**

2- Acts via cell surface receptors

3- Acts via g-protein second messengers

4- Is manufactured through the breakdown of oestradiol

5- In the circulation is mostly bound to albumin

Q689. A 42-year-old man being investigated for diabetes and impotence is noted to have the following results: Alanine aminotransferase 30 U/L (5-35) Aspartate aminotransferase 22 U/L (1-31) Fasting plasma glucose 7.4 mmol/L (3.0-6.0) Ferritin 500 ug/L (15-300) Which one of the following would be the next most appropriate investigation?

1- bone marrow smear and iron stain

2- liver biopsy

3- Red cell protoporphyrins

4- serum transferrin receptors

**5- transferrin saturation**

Q690. A diagnosis of diabetes mellitus is being considered in 32-year-old woman who is 16 weeks pregnant. Her body mass index (BM I) was 22 kg/m2 (18 - 25). A 75g oral glucose tolerance test revealed: Time Plasma glucose concentration 0 hr 6.0 mmol/l (3.0-6.0) 2hr 12.5 mmol/l (<11.1) Which of the following is the most appropriate step in the management of this patient?

1- Low calorie diet

2- Glipizide therapy

3- Metformin therapy

4- Repeat her oral glucose tolerance test in four weeks

**5- Insulin therapy**

Q691. A 64-year-old female is diagnosed with osteoporosis and is receiving treatment with Raloxifene. What is raloxifene?

1- A synthetic oestrogen

2- A bisphosphonate

3- An androgenic steroid

4- A selective androgen receptor modulator (SAR M) 5- A selective oestrogen receptor modulator (SER M)

Q692. Side effects of recombinant human growth hormone therapy include:

1- Proliferative retinopathy

2- Aplastic anaemia

3- Leukaemia

4- Creutzfeldt-Jacob disease

**5- Benign Intracranial hypertension**

Q693. Non-alcoholic steatohepatitis is associated with which of the following?

1- A benign course in all cases

2- Alcohol abuse

**3- Insulin resistance**

4- Normal lever of liver enzymes

5- Viral hepatitis

Q694. A 70-year-old female who is receiving amiodarone for paroxysmal atrial fbrillation presents with tiredness and weight loss. Investigations reveal: C-reactive protein 6 mg/L (<10) free Thyroxine 38 pmol/L (10-22) TSH <0.05 mU/L (0.5-4.5) Which is the most appropriate treatment for this patient?

**1- Carbimazole**

2- Lithium therapy

3- Prednisolone

4- Radioiodine therapy

5- thyroidectomy

Q695. Which of the following best describes the mode of action of alendronate?

**1- inhibits osteoclast activity**

2- promotes bone matrix calcification

3- promotes collagen synthesis

4- promotes renal absorption of calcium

5- stimulates osteoblast activity

Q696. A 32 year-old woman presents with a one year history of secondary amenorrhoea. She had been prescribed temazepam and dihydrocodeine. On examination she had galactorrhoea. Her serum prolactin was noted to be 6000 mU/l (<450 mU/ l) . What is the most likely diagnosis?

1- Drug-induced hyperprolactinaemia

2- Hypothyroidism

3- Pituitary dependent Cushing's disease

**4- Pituitary microadenoma**

5- Stress

Q697. A 62-year-old woman presents with stridor associated with a retro-sternal goitre. What is the most appropriate investigation of her airways obstruction?

1- FEV1/FVC ratio

**2- Flow-volume loop**

3- Peak Expiratory Flow Rate

4- Spirometry

5- Transfer factor

Q698. A 44-year-old man presents with new onset bilateral gynaecomastia. He has been diagnosed with Zollinger-Ellison syndrome in the last year. He underwent normal puberty at age 14. Which of the following is the most likely cause of this mans gynaecomastia?

**1- Cimetidine**

2- Famotidine

3- Lanzoprazole

4- Rabeprazole sodium

5- Ranitidine

Q699. A 26-year-old female presents with a six weeks history of galactorrhoea. She has no other symptoms but takes medication for contraception, dyspepsia and migraine. Examination reveals slight galactorrhoea with expression from both breasts but is otherwise normal. Investigations show: " Prolactin 915 mU/L (< 450) Which one of the following drugs may be responsible?

1- Codeine phosphate

**2- Metoclopramide**

3- Omeprazole

4- Oral contraceptive pill

5- Sumatriptan

Q700. A 36-year-old man attends clinic with his wife after failing to conceive after 10 years of marriage. Examination reveals that he his tall, thin and has bilateral gynaecomastia. Investigations show high levels of urinary gonadotrophins. What is the most likely diagnosis?

1- Andropause

2- Gaucher's disease

**3- Kleinfelter's syndrome**

4- Marfan syndrome

5- Noonan's syndrome

Q701. A 17-year-old female is referred with a six month history of amenorrhoea and weight loss, for which no organic cause can be found. Which of the following features would support a diagnosis of anorexia nervosa?

1- Delusions of poisoning

2- Hypotrichosis

3- Hypergonadotrophic hypogonadism

**4- Delsuion of being overweight**

5- Watery diarrhoea

Q702. A 55-year-old obese man with Type 2 DM is uncontrolled on diet alone. Which of the following oral hypoglycaemic therapies functions through improving insulin sensitivity

1- acarbose

2- glimiperide

3- glipizide

4- repaglinide

**5- rosiglitazone**

Q703. Which of the findings listed below is true of Acromegaly?

1- A random growth hormone concentration may be diagnostically useful.

2- It is unusual for the pituitary fossa to be enlarged.

3- Pituitary hormones other than growth hormone are rarely affected.

**4- The majority of patients demonstrate an abnormal glucose tolerance test.**

5- Growth hormone concentrations are suppressed to normal by bromocriptine therapy.

Q704. An 18 year-old girl receives radioactive iodine as treatment of thyrotoxicosis. Which of the following is the most likely longterm complication of this treatment?

1- hypoparathyroidism

**2- hypothyroidism**

3- increased risk of developing cancer

4- recurrent laryngeal nerve damage

5- osteoporosis

Q705. In the treatment of osteoporosis, which of the following best describe the drug Raloxifene?

1- A Bisphosphonate

2- A Calcium Receptor Modulator

3- An Estrogen

4- A PTH receptor agonist

**5- A Selective Estrogen Receptor Modulator**

Q706. A 21-year-old male is referred to the endocrine clinic with poorly developed secondary sexual characteristics. The only relevant finding on history is that he has a very poor sense of smell. On examination he has no axillary or pubertal hair, a 3cm penis and testicular volumes of approximately 5mls bilaterally. Smell test reveals that he is unable to distinguish acetone and coffee. Investigations reveal: Testosterone 4 nmol/L (10-30) Prolactin 380 mU/L (< 450) FSH 2.1 iu/L (1-7) LH 1.5 iu/L (1-10) What is the most likely diagnosis?

1- 5-alpha reductase deficiency

2- Craniopharyngioma

**3- Kallman's syndrome**

4- Klinefelter's syndrome

5- Microdeletion of the Y chromosome

Q707. A 60-year-old man presents with inspiratory stridor with a Chest X-ray revealing compression of the trachea by a retrosternal goitre. Which of the following investigations is the most useful to assess the severity of his airways obstruction?

**1- flow/volume loop**

2- forced expiratory volume

3- forced vital capacity

4- peak expiratory flow rate

5- residual volume

Q708. In a study, healthy volunteers are given 50 mls of 50% dextrose solution by one of two routes. Route A is intravenous and Route B is via a nasogastric tube. Every 15 minutes the plasma insulin level and glucose is measured and plotted on a graph. Which of the following statements would best describe the likely results comparing Route A to Route B in this experiment?

1- insulin higher, glucose higher in Route A

2- insulin higher, glucose higher in Route B

3- insulin higher, glucose lower in Route A

**4- insulin higher, glucose lower in Route B**

5- insulin and glucose the same in Route A and Route B

Q709. A 62-year-old female with a six year history of type 2 diabetes attends for annual review. Her HbA1c is 10%. Into what average plasma glucose concentration does her HbA1c translate?

1- 7.5 mmol/l

2- 10 mmol/l

3- 12.5 mmol/l

**4- 15.5 mmol/l**

5- 19 mmol/l

Q710. A type 1 diabetic displays typical symptoms of hypoglycaemic unawareness. Which of the following statements regarding hypoglycaemic unawareness is correct?

1- Glucose sensing occurs in the locus caeruleus

2- Recurrent hypoglycaemia is most commonly associated with poor diabetic control

3- Recurrent hypoglycaemia has no long term consequences on higher cerebral function

4- D Selective beta-blockers are an important cause of hypoglycaemia unawareness

**5- Alcohol inhibits gluconeogenesis in patients with hypoglycaemia unawareness**

Q711. A 26-year-old female with no previous history of diabetes presents with a first episode of diabetic ketoacidosis. There is no evidence of infection but she has recently commenced a new medication. Which of the following drugs is implicated in precipitating diabetic ketoacidosis?

**1- Olanzapine**

2- Omeprazole

3- Progestogen only contraceptive pill

4- Sodium valproate

5- Venlafaxine

Q712. A 22-year-old female student presents acutely unwell with vomiting and dehydration. She has a two month history of weight loss and thirst. Investigations confirm a diagnosis of diabetic ketoacidosis with a glucose of 29.3 mmol/l (3.5-5.5), a pH of 7.12 (7.35-7.45) on blood gas analysis and urinalysis reveals +++ ketones. What percentage of Type 1 diabetics are initially diagnosed following presentation with diabetic ketoacidosis?

1- 5%

2- 10%

3- 15%

**4- 25%**

5- 40%

Q713. A 70-year old type 2 diabetic for 20 years is referred to the clinic because of poor glycaemic control despite recent dietetic input. He has a history of previous 2 myocardial infarctions, and gets exert ional angina at 50 yards. He has previously had angioplasty to both his lower limbs and despite this has a claudication distance of 40 yards. He is in New York heart failure class 2-3. Additionally he has diabetic maculopathy, and distal sensory neuropathy. His home blood monitoring readings are 10-15 before breakfast His current treatment includes Metformin 500mg tds, Glimepiride 4m daily, Insulin glargine 20units at night. Perindopril 8mg od, Furosemide 80mg daily, Aspirin 75mg daily, Atorvastatin 20mg daily. On examination his BMI is 30, with a BP of 140/70mmHg. HbA1c 9.2% fasting glucose 13.4 mmol/l (3.5-6) Creatinine 130 miromol/l (50-100) Liver function Normal. What is the most appropriate strategy to improve his glycaemic control?

1- Add prandial insulin (eg Novorapi d) tds

2- Add premixed insulin (eg humalog 25) bd and stop Lantus

3- Add Rosiglitazone 4mg daily

4- Substitute metformin with Avandamet 4/500mg bd

**5- Up titrate the dose of Insulin glargine**

Q714. A 62-year-old type 2 diabetic for 10 years attends for his annual review. His home blood glucose levels are 7-10 pre breakfast, he remains overweight despite following his diet and being regularly active, unfortunately he still smokes 10 cigarettes a day. His medication includes Metformin 850mg tds, Glicalzide 160mg bd, Simvastatin 40mg od, Aspirin 75mg od, Ramipril 10mg od. On examination his blood pressure is 145/85mmHg with a BMI of 31.2, he has background diabetic retinopathy, with a distal sensory neuropathy. His pre clinic biochemistry is as follows. HbA1c 8.5% (<6%) Fasting glucose 10.5mmol/l (3.5-6) Serum creatinine 190 µmol/l (50-100) eGFR 40ml/min/1.73m2 Total Cholesterol 5.5 mmol/l (<5.5) LDL cholesterol 3.2 mmol/l (<4) HDL cholesterol 0.95 mmol/l (1-2) Urine albumin creatinine ratio 10mg/mmol What is the appropriate intervention?

1- Add insulin glargine to current treatment

2- Add Novorapid tds and insulin glargine

3- Add Rosiglitazone 4mg/day

4- Stop Gliclazide and Metformin and use insulin glargine.

**5- Stop Metformin and commence insulin glargine**

Q715. A 52-year-old male with a history of dyslipidaemia and hypertension attends the surgery for a 75g oral glucose tolerance test (OGT T) as part of his cardiovascular risk assessment and screening for type 2 diabetes. He is overweight with a BMI of 29 kg/m2 , his blood pressure is 135/85 mmHg on a combination of Amlodipine and Perindopril. His venous plasma OGTT result is as follows. 0 minutes 6.3 120 minutes 10.4 Which of the following do these results suggest?

1- Impaired fasting glucose (IF G) 2- Impaired fasting glucose and impaired glucose tolerance

3- Impaired glucose tolerance (IG T) 4- Normal glucose tolerance.

5- Type 2 diabetes

Q716. When considering diabetic retinopathy which of the following statements is most accurate:

1- Microaneurysms represent sacular dilatation of retinal arterioles

2- Hard exudates represent calcium deposites in the retina

**3- Cotton wool spots represent infarcts of the nerve fibre layer of the retina**

4- Haemorrhages close to the fovea are not potentially sight threatening

5- Laser photocoagulation is applied directly to new vessels to destroy them

Q717. A 32-year-old male physical education teacher has a 3 year history of type 1 diabetes. At the last annual review, his HbA1c was 6.8% but he complains of hypoglycaemic events particularly during exercise. He has been commenced on the insulin analogue - Lispro insulin. Compared with conventional short-acting insulins what is the advantage of insulin analogue therapy?

1- Significant improvement in HbA1c

**2- Reduces post-prandial glucose concentrations**

3- Reduces the incidence of long-term diabetic complications

4- Reduces the incidence of hypoglycaemic events

5- Longer duration of action

Q718. A 50-year-old man with a history of Diabetis Mellitus and hypertension attends an ophthalmic clinic for regular assessment. On fundoscopy he is diagnosed to have preproliferative diabetic retinopathy. Which of the following is characteristic of preproliferative diabetic retinopathy?

1- New vessels at the disc

2- Microaneurysms

3- Hard Exudates

**4- Venous Beading**

5- Macular Odema

Q719. A 43-year-old male is diagnosed with diabetic nephropathy. If this patient had type 1 diabetes his chances of progressing to End Stage Renal Disease (ESR D) would be approximately 50%. What percentage of type II diabetics with diabetic nephropathy would be expected to progress to ESRD?

**1- 15%**

2- 30%

3- 45%

4- 50%

5- 55%

Q720. A 72-year-old male presents with a 2 month history of weight loss and weakness. Examination reveals a BMI of 24.5 kg/m2 and a blood pressure of 146/90 mmHg. Examination of the lower limbs reveals a bilateral weakness of knee extension. He is unable to rise from the squatting position. There is absence of the knee reflex but the ankle reflexes are preserved and both plantars are flexor. There are no abnormalities on sensory examination. Which of the following tests may be diagnostic?

1- Vitamin B12 concentration

2- Thyroid function test

**3- Oral glucose tolerance test**

4- Urine free cortisol concentration

5- Vitamin D concentration

Q721. A 64-year-old retired Caucasian solicitor attends the surgery. He is overweight and takes little exercise. He has been treated for hypertension for 5 years and is controlled on 5mg of Ramipril. He also takes 20mg of Simvastatin for hypercholesterolaemia. A 75g oral glucose tolerance test was recently performed and gave a result consistent with impaired glucose tolerance (IG T) with a 2 hour plasma glucose concentration of 9.3mmol/l. The patient is keen to know what would be his risk of developing type 2 diabetes. What do you tell him?

1- 6% over 6 years

2- 10% over 6 years

**3- 33% over 6 years**

4- 60% over 6 years

5- 100% over 6 years

Q722. A 45-year-old man with Type 2 Diabetes is being treated with Exenatide. Which of the following would be a recognised adverse effect of his treatment?

1- Hyperglycaemia

2- Hypertension

3- Peripheral oedema

4- Renal impairment

**5- Weight loss**

Q723. A 32-year-old male with type 1 diabetes undergoes a 24 hour urine collection. Which of the following urine albumin concentrations signify microalbuminuria?

1- 10 mg/day

**2- 50 mg/day**

3- 500 mg/day

4- 1g/day

5- 3.5 g/day

Q724. A 23-year-old woman with type 1 diabetes of three years duration, presents for annual review with weight loss. She had normal menstrual cycles and bowel habit was unchanged. On examination her BMI was 23 kg/m2 and investigations revealed a haemoglobin of 7 g/dl and a MCV of 69 fl. Which of the following is the most likely diagnosis?

1- anorexia nervosa

2- beta-thalassaemia minor

3- Bacterial overgrowth

**4- coeliac disease**

5- Crohn's disease

Q725. A 17-year-old type 1 diabetic presents for annual review. He takes three times daily short acting insulin with evening dose long acting insulin. His glycaemic control is good as reflected by an HbA1c of 6.5%. He seeks advice regarding his ability to pursue a future career. Which one of the following occupations would he be able to pursue?

1- A chef in the army catering corps

2- A steward on board a cruise liner

3- A oil rig engineer

4- A police officer

**5- An airline steward**

Q726. You are consulted by a 52-year-old man with type 2 diabetes diagnosed for 1 year. His blood pressure is 156/88 mmHg, his cholesterol is 5.3mmol/l, he has a BMI of 29 and does not smoke. His HbA1c is 7.9%, he currently takes only Metformin 500mg bd. The single intervention most likely to reduce his overall risk of microvascular and macrovascular events is:

1- Statin therapy

2- Sulphonylurea therapy

**3- Antihypertensive therapy**

4- Weight reduction

5- Aspirin therapy

Q727. A 45-year-old male presents concerned about his risk of developing diabetes. His family history reveals that his mother and maternal uncle are both diabetic. On examination, his blood pressure is 130/82 mmHg, his BMI is 30.8 kg/m2 . His investigations reveal: Fasting cholesterol 5.2 mmol/l (<5.2) Triglycerides 1.4 mmol/l (0.8-1.5) HDL cholesterol 1.0 mmol/l (0.9-1.4) Fasting glucose 6.2 mmol/l (3.5-6) Which of this man's observations fulfills the criteria for the diagnosis of the metabolic syndrome?

1- Blood pressure of 130/82 mmHg

2- BMI of 30.2 kg/m2

**3- Fasting plasma glucose of 6.2 mmol/l**

4- HDL concentration of 1 mmol/l

5- Triglyceride concentration of 1.4 mmol/l

Q728. A 75-year-old man is admitted with a blood sugar of 40 mmol/l and lobar pneumonia and dies despite treatment. Post-mortem examination reports the presence of amyloid polypeptide on pancreatic histology. This would suggest

**1- that he has type 2 diabetes**

2- that he has type 1 diabetes

3- that he has diabetes secondary to amyloidosis

4- that he has chronic pancreatitis as a cause of diabetes

5- this can be a non-specific finding

Q729. A 54 year-old male presents with progressive pins and needles and numbness in both feet which have deteriorated over the last six months. He has a 10 year history of Type 2 diabetes mellitus and had cervical spondylosis for which he underwent surgery 8 years ago. He also confessed to drinking approximately 40 units of alcohol weekly. On examination he had a mild bilateral weakness of foot dorsiflexion, both ankle reflexes were absent and plantar responses were flexor. There was absent sensation to light touch to mid-shin level with loss of joint position sensation in the toes and absent vibration sensation below the hips. He had a marked sensory ataxia and pseudoathetosis of upper limbs. He had no evidence of a retinopathy and urinalysis was normal. What is the most likely diagnosis?

1- Alcohol-induced neuropathy

2- Central lumbar disc prolapse

3- Cervical cord compression

4- Diabetic peripheral neuropathy

**5- Vitamin B12 deficiency**

Q730. A 49-year-old male attends regarding a concern over the future development of obesity. He has read on the internet about the metabolic syndrome and its association with diabetes. He wonders if he has this diagnosis. Which of the following is a specific criteria in the diagnosis of the metabolic syndrome?

1- A body mass index of 32 kg/m2

2- A family history of type 2 diabetes

3- A fasting plasma glucose of 5.9 mmol/l (NR 3.5-6)

4- A total cholesterol of 6.2 mmol/l (NR less than 6)

**5- A waist circumference of 104 cm (41 inche s)**

Q731. Which of the following is a metabolic effect of exenatide?

1- accelerates gastric emptying

2- improves insulin sensitivity

3- inhibits insulin release

4- promotes gluconeogenesis by the liver

**5- suppresses appetite**

Q732. According to the new revised criteria for diagnosing diabetes in an asymptomatic patient

1- A single fasting venous plasma glucose concentration of > 7 mmol/l can be used to diagnose diabetes

**2- Two separate fasting venous plasma glucose concentration of > 7 mmol/l is diagnostic of diabetes**

3- 75 gm oral glucose test is mandatory for diagnosing diabetes

4- A fasting venous plasma concentration of < 6.9 can be ignored

5- Impaired glucose tolerance is signified by a venous glucose concentration of ?7 mmol and > 11.1 mmol

Q733. A 52-year-old man with a history of diabetes mellitus presented with hepatomegaly. Investigations revealed: Albumin 30 g/L (35-45) Total bilirubin 22 umol/L (10-22) Alkaline Phosphatase 134 iU/L (50-110) ALT 90iU/L (10-40) gamma-glutamyl transferase 125 iU/L (10-50) Ferritin 1450 microg/L (15-400) Which of the following features would be most suggestive of a diagnosis of haemochromatosis?

**1- Chondrocalcinosis**

2- Gynaecomastia

3- Migratory polyarthritisD myxoedema

4- Myxoedema

5- Rash

Q734. An 85-year-old woman with diabetes mellitus presented with sudden onset of wild flinging movements of the left arm which disappeared during sleep. What is the most likely explanation?

**1- Contralateral subthalamic nucleus infarction**

2- Focal motor seizures

3- Hypoglycaemia

4- Ipsilateral caudate nucleus infarction

5- Ipsilateral cerebellar infarction

Q735. A 56-year-old female is noted to have hepatomegaly. Six years ago she was diagnosed with diabetes mellitus and takes metformin 500 mg tds and gliclazide 80mg bd. She drinks approximately 15 units of alcohol weekly amd stopped smoking 10 years ago. On examination she has a BMI of 36.2 kg/m, no stigmata of liver disease are evident but she has 6 cm hepatomegaly. Investigations reveal: Total bilirubin 11 umol/L (NR 1 - 22) Alkaline phosphatase 145 IU/L (NR 45 - 105) AST 100 IU/L (NR 1 -31) ALT 150 IU/L (NR 5 - 35) Albumin 40 g/L (NR 37 - 49) Ferritin 434 mg/L (NR 15 - 300) Ultrasound of the abdomen reveals an echobright appearance of the liver and gallstones in the gallbladder. What is the most cause of her liver disease?

1- Alcoholic liver disease

2- Drug induced hepatitis

3- Gallstone disease

4- Haemochromatosis

**5- Non-alcoholic steatohepatitis (NAS H)**

Q736. A 57-year-old man attends the outpatient clinic. He has been a type 2 diabetic for 7 years having been diagnosed following after an acute myocardial infarction at 50 years of age. His diabetic was deteriorating with blood glucose readings of 9-12 at home despite following a diet and taking regular exercise. Another practitioner commenced him on Rosiglitazone. His current treatment is Metformin 850tds, Rosiglitazone 4mg, Aspirin 75mg/day, Carvedilol 12.5mg bd, Ramipril 10mg od, Furosemide 80mg daily, Simvastatin 40mg/day. On examination he is overweight with a BMI of 29, his BP is 128/74mmHg with pulse rate of 63min-1 he has no heart murmurs there is some pitting oedema in the lower limbs. Auscltation reveals a clear chest with no evidence of pulmonary oedema. He is obese with no organomegaly. His ECG shows sinus rhythm with poor r wave progression. His Hba1c checked in the clinic is 8.5%. What is the most appropriate way to treat his glycaemic control.

1- Add Gliclazide 80mg bd

2- Increase Rosiglitazone to 8mg daily

3- Stop metformin and use Avandamet (combination of Metformin & Rosiglitazon e) 4- Substitute Rosiglitazone with Pioglitazone 15mg daily

**5- Substitute Rosiglitazone with Glilazide 80mg bd**

Q737. A 40-year-old diabetic presnts with deteriorating thirst and nocturia. He has been diagnosed with diabetes mellitus 5 years ago and is now taking maximal Metformin and Gliclazide yet his HbA1c is 10.9%. You want to change him to insulin but he informs you that he is employed as a lorry driver. What would be the impact of converting him to insulin on his Heavy Goods Vehicle licence?

1- Can keep his HGV licence

2- Can regain his HGV licence if after six months he does not have any hypoglycaemic episodes

3- Can regain his HGV licence after one year without hypoglycaemic episodes

4- Temporary suspension of his HGV licence until established on stable doses of insulin

**5- Will lose his HGV licence indefinitely whilst treated with insulin**

Q738. An overweight, 60-year-old female with an 8 year history of type 2 diabetes mellitus presents with deteriorating glycaemic control. She takes gliclazide 160 mg twice daily. Investigations reveal: Sodium and potassium normal serum urea 10 mmol/L (2.5 - 7.5) serum creatinine 160 µmol/L (60 - 110) serum alanine transaminase 31 U/L (5 - 35) serum aspartate transferase 30 U/L (1 - 31) HbA1C 9.0% (3.8 - 6.4) Which of the following would be most appropriate additional therapy for improved glycaemic control?

1- Acarbose

2- guar gum

3- metformin

4- repaglinide

**5- rosiglitazone**

Q739. A 26-year-old male with a three year history of type 1 diabetes presents with fever, vomiting and is dehydrated. He has a sodium concentration of 148 mmol/l, a potassium of 3.3 mmol/l, a urea of 24 mmol/l, a glucose of 33 mmol/l and a pH of 7.18. What would be the typical total body water deficit associated with his diabetic ketoacidosis?

1- 1 litre

2- 3 litres

**3- 6 litres**

4- 8 litres

5- 10 litres

Q740. A 33-year-old type 1 diabetic male presents with a two day history of pain, swelling and redness in his left middle finger. This began after he pricked his finger in the garden whilst pruning a bush. His diabetic control has been quite reasonable with a HbA1c of 7.1% on basal bolus insulin consisting of Lispro tds and Humulin I in the evenings. On examination he has a painful, red and swollen middle finger with the redness extending to the metacaropophalangeal joint. He is diagnosed with cellulites. What is the most appropriate treatment for this patient?

1- Admit to hospital for IV antibiotics

2- Oral flucloxacillin only

3- Oral metronidazole only

4- Oral penicillin V only

**5- Oral pencillin V and flucloxallin**

Q741. A 35 year-old woman with type 1 diabetes mellitus presents for annual assessment. Which one of the following features on fundoscopy would require urgent referral to an ophthalmologist?

1- asteroid bodies

**2- hard exudates in the macular region**

3- intraretinal microvascular abnormalities

4- scattered microaneurysms

5- soft exudates

Q742. An asymptomatic 56-year-old man with a family history of type 2 diabetes was found to have a fasting venous glucose of 6.5 mmol/l. Which of the following relating to his further investigation is correct?

1- He has impaired glucose tolerance

2- This does not need further investigation

3- He should be investigated further by another fasting venous sampling

**4- He should undergo a 75 gm oral glucose tolerance test.**

5- He should be treated with oral hypoglycaemics in the first instance

Q743. To which of the following drug classes do the oral hypoglycaemic agents, Rosiglitazone and Pioglitazone belong?

1- A Perixisome Proliferator Activating Receptor (PPA R) -alpha agonist

**2- A Peroxisome Proliferator Activating Receptor (PPA R) -gamma agonist**

3- A Sulphonylurea

4- A Biguanide

5- An alpha-Glucosidase inhibitor

Q744. A 37-year-old female with type 2 diabetes and obesity requests help with regard to weight loss. She has tried to lose weight with dietary manoeuvres but has succeeded in losing only 3kg over the last year. She is currently receiving no treatment. On examination her BMI is 33.5 kg/m2 and her blood pressure is 142/84 mmHg. Her most recent HbA1c is 6.9%. She asks whether there are any pharmacological therapies that may be appropriate for assisting with weight reduction. Which of the following agents is appropriate for assisting with weight loss in this patient?

1- Dexfenfluramine

2- Metformin

**3- Orlistat (Xenica l) 4- Phentermine**

5- Sibutramine (Reducti l)

Q745. A 63 year female with a 12 year history of hypertension and diabetes has been treated with metformin 1g bd, Gliclazide 80 mg bd, Rosuvastatin 10mg daily, Ramipril 10 mg daily, aspirin 75 mg daily and amlodipine 10 mg daily for the last two years. At annual review her blood pressure is 138/82 mmHg, fundi reveal background diabetic retinopathy, foot pulses are normal but she has evidence of a peripheral sensory loss to the ankles in both feet. Her results show a HbA1c of 7.2% (NR <6.5), a urea of 12.5 mmol/l (NR 3-7), creatinine of 176 micromol/l and cholesterol of 4.8 mmol/l. Which of the following drugs should be withdrawn?

1- Aspirin

2- Gliclazide

**3- Metformin**

4- Ramipril

5- Rosuvastatin

Q746. A 60-year-old male who was previously fit and well presented with a six week history of blurring of vision. His investigation revealed a fasting plasma glucose of 12.9 mmol/L (3.0 - 6.0). What is the most likely cause of his blurred vision?

1- Cataract

2- Maculopathy

**3- Osmotic changes in the lens**

4- Proliferative diabetic retinopathy

5- Retinal vein thrombosis

Q747. An 18-year-old man develops thirst, weight loss and polyuria. Investigations confirm that he has type 1 diabetes and is treated with basal bolus insulin. He is keen to know what limitations this diagnosis imposes on career opportunities. Which of the following professions would he not be able to pursue?

1- Ambulance control centre worker

2- Civil engineer

3- Milkman

4- Physical Education instructor

**5- Policeman**

Q748. With respect to lipoprotein transport and metabolism in the body, the following statements are correct EXCEPT:

1- Arterial walls contain cells with LDL receptors.

2- Cholesterol is required for the formation of red blood cell membranes.

**3- Chylomicrons are synthesized in the liver.**

4- HDL is assembled in the extracellular space.

5- VLDL transformation to LDL occurs in adipose tissue.

Q749. A 45-year-old man presents with an ulcer on his right foot. He has a twenty year history of type 1 diabetes and currently uses mixed insulin twice daily. On examination he has a small ulcer of approximately 2 cm diameter on the outer aspect of his right big toe. His peripheral pulses are all palpable but he has a peripheral neuropathy to the mid shins. The ulcer has an erythematous margin and is covered by pus. What is the most likely infective organism?

1- Escherichia coli

2- MRSA

3- Pseudomonas aeruginosa

**4- Staphylococcus aureus**

5- Streptococcus pyogenes

Q750. A 42-year-old male presents with polyuria and polydipsia. He is a non-smoker and drinks approximately 12 units per week. He is employed as a taxi driver. On examination he has a BMI of 33.4 kg/m2 , a blood pressure of 132/82 mmHg with all other aspects of the cardiovascular examination normal. Investigations confirm a diagnosis of diabetes mellitus with a fasting blood glucose concentration of 12.1 mmol/l. His HbA1c is 9% and total cholesterol is 5.8 mmol/l. What is the most appropriate initial treatment for this patient?

**1- Diet and lifestyle advice**

2- Gliclazide

3- Metformin

4- Orlistat

5- Simvastatin

Q751. A 42-year-old man being investigated for diabetes and impotence is noted to have the following results: Alanine aminotransferase 30 U/L (5-35) Aspartate aminotransferase 22 U/L (1-31) Fasting plasma glucose 7.4 mmol/L (3.0-6.0) Ferritin 500 ug/L (15-300) Which one of the following would be the next most appropriate investigation?

1- bone marrow smear and iron stain

2- liver biopsy

3- red cell protoporphyrins

4- serum transferrin receptors

**5- transferrin saturation**

Q752. A 30-year-old lady with long standing Type I diabetes presents with a 3 month history of pain and stiffness of the right shoulder. Passive and active movements of the shoulder are equally restricted. What is the most likely diagnosis?

1- Rheumatoid arthritis

2- Osteoarthritis

3- Calcific tendinitis

4- Pyrophosphate arthropathy (pseudogou t) 5- Adhesive capsulitis

Q753. A 35-year-old woman is noted to have ++ glycosuria by his GP. Her BMI is 35 kg/m2 (1

8- 25) and a fasting plasma glucose is 7.4 mmol/L (3.0-6.0). Which one of the following measures would be most effective in reducing her insulin resistance?

1- Glibenclamide

2- Insulin

3- Metformin

**4- Weight loss**

5- Repaglinide

Q754. Inhaled insulin is approved for the treatment of diabetes. In which of the following should inhaled insulin be avoided?

1- Autoimmune disease

2- Depression

3- Obesity

4- Peripheral vascular disease

**5- Smokers**

Q755. A 55-year-old obese man with Type 2 Diabetes Mellitus is uncontrolled on diet alone. Which antidiabetic therapy would increase insulin sensitivity in this patient?

1- Acarbose

2- Gliclazide

3- Glimiperide

4- Repaglinide

**5- Rosiglitazone**

Q756. A 44-year-old woman with type 1 diabetes mellitus has not attended the diabetic clinic for 5 years. Examination shows no abnormalities. Investigations show: Haemoglobin 9 g/dL MCV 94 fL Haematocrit 28% HbA1c 10.1% A blood smear shows normochromic, normocytic anaemia Which of the following is the most likely cause?

1- acute blood loss

2- chronic lymphocytic leukaemia

**3- erythropoietin deficiency**

4- microangiopathic haemolysis

5- sideroblastic anaemia

Q757. A 33-year-old woman with an eighteen year history of type I diabetes mellitus presents with proteinuria. She is a smoker of 20 cigarettes daily. Examination reveals a blood pressure of 155/95 mmHg. Investigations reveal: serum cholesterol 7.6 mmol/L (<5.2) HbA1c 8.3% (3.8 - 6.4) 24 hour urinary protein excretion 1.5 g (< 0.2) Which intervention is most likely to retard the development of renal failure?

1- bendroflumethiazide

2- improve glycaemic control with HbA1c <7%

**3- lisinopril**

4- simvastatin

5- stop smoking

Q758. A 45-year-old female attends the diabetic annual review clinic. Her body mass index has increased over the year to 33.3. How do you calculate body mass index?

1- Height/Weight

2- Height/(Weigh t) 2

3- Weight/Height

**4- Weight/(Heigh t) 2**

5- Weight/? Height

Q759. A 33-year-old type 1 diabetic male presents with a two day history of pain in his left hand, fever and a rash. This began after he pricked his finger in the garden whilst pruning a bush. His diabetic control has been quite reasonable with a HbA1c of 7.1% on basal bolus insulin consisting of Lispro tds and Humulin I in the evenings. On examination he has a painful, red and swollen middle finger with the redness extending to the metacaropophalangeal joint. He is diagnosed with cellulites and is prescribed antibiotics. What is the most likely infective organism?

1- Escherichia coli

2- Klebsiella

3- MRSA

4- Pseudomonas aeruginosa

**5- Streptococcus pyogenes**

Q760. A 53-year-old male presents with a 3 month history of polyuria with polydipsia. Which of the following measurements would confirm a diagnosis of diabetes mellitus?

1- A fasting plasma glues of 6.5 mmol/l

**2- A fasting plasma glucose of 7.5 mmol/l**

3- A plasma glucose of 10 mmol/l at the end of an oral glucose tolerance test

4- A random glucose of 10.5 mmol/l

5- A urine dipstick analysis showing +++ glucose

Q761. A 59-year-old woman has had insulin dependent diabetes mellitus for over two decades. The degree of control of her disease is characterized by the laboratory finding of a HbA1c of 10.1%. She complains of repeated episodes of abdominal pain following meals. These episodes have become more frequent and last for longer periods over the last couple of months. On physical examination, there are no abdominal masses or organomegaly and no tenderness to palpation. Which of the following findings is most likely to be present?

1- Acute pancreatitis

2- Chronic renal failure

3- Hepatic infarction

**4- Mesenteric artery occlusion**

5- Ruptured aortic aneurysm

Q762. A 17-year-old girl is admitted with a 2 day history of rigors due to a urinary tract infection. On examination she appears unwell, has a Body Mass Index of 31 kg/m2 , a temperature of 39°C; examination is otherwise normal. Initial biochemistry revealed: Potassium 4 mmol/L (3.5-5) Urea 7 mmol/L (2.5-7) Glucose33 mmol/L (3.0-6.0) pH 7.3 (7.36-7.44) Standard bicarbonate 14 mmol/l Base deficit -10 urinalysis negative for ketones Which one of the following is the best initial treatment for her hyperglycaemia?

1- Metformin

2- Metformin plus Gliclazide

3- Rosiglitazone

**4- Sliding scale IV insulin infusion**

5- Subcutaneous insulin mixture

Q763. A 60-year-old lady with dyslipidaemia, hypertension and angina has recently been diagnosed with impaired glucose tolerance. Clinically she is obese with a BMI of 32 kg/m2 , her blood pressure is 140/80mmHg. She is aware that having impaired glucose tolerance is a risk factor for type 2 diabetes and would like to discuss strategies to attenuate this risk. Which of the following has been shown to best reduce the incidence of type 2 diabetes in individuals with IGT?

1- Acarbose 100mg tds

2- Gliclazide

**3- Intensive lifestyle change**

4- Metformin 850mg bd

5- Pioglitazone 15mg daily

Q764. A 32-year-old lady presented with episodes of polydipsia and polyuria for the last 6 months. Investigations: serum urea 8.1 mmol/L (2.5-7.5) serum creatinine 92 mol/L (60-110) serum corrected calcium 2.85 mmol/L (2.

2- 2.6) serum phosphate 0.75 mmol/L (0.81.4) plasma parathyroid hormone 6.2 pmol/L (0.9-5.4) Which of the following is directly responsible for his increased reabsorption of calcium in the distal tubule of the kidney?

1- 1,25 dihydroxy vitamin D

2- 25 hydroxy vitamin D

3- calcitonin

4- hypophosphatemia

**5- parathyroid hormone**

# Chapter 5 Gastroenterology

Q765. A 75-year-old male presents with a two month history of dyspnoea, weight loss and generalised lethargy. Past medical history included a previous left-sided hemiparesis due to stroke for which he took aspirin and perindopril. Examination revealed residual left sided hemiparesis together with a pale and slightly jaundiced appearance. Investigations show: Haemoglobin 5 g/dL (13-16.5) MCV 109 fL (80-96) White cell count 2 x 109 /L ( 4-11) Platelets 45 x 109 /L ( 150-400) Urinalysis: Increased urobilinogen What is the next most appropriate investigation?

1- Bone marrow aspirate

2- Direct antiglobulin test

3- Endoscopy

4- Serum haptoglobins

**5- Vitamin B12 concentration**

Q766. A male teacher who is 31 years of age, attends clinic with his partner who tells you that he has memory problems. The only other symptom is intermittent diarrhoea over the preceding 4 months. He has limited vertical eye movements and exhibits rhythmic simultaneous eye and mouth movements. Which pathogen is most likely to be the cause of his symptoms?

1- Clostridium botulinum

2- HIV

3- Prion protein

4- Salmonella enteritidis

**5- Tropheryma whippleii**

Q767. A 19-year-old student presents with weight loss and blood loss per rectum. You organise a flexible sigmoidoscopy. Which of the following histological features would favour a diagnosis of Crohn's disease and not ulcerative colitis?

1- Crypt abscesses

2- Metaplastic polyp formation

3- Goblet cell mucus depletion

**4- Lymphocyte infiltrate of the lamina propria**

5- Caseating granulomata

Q768. A 30-year-old woman presents with jaundice and her investigations reveal: Haemoglobin 9.0 g/dL (11-16) reticulocyte count 180 x 109 /L (25-85) serum bilirubin 50 umol/L (1-20) Her blood film reveals the presence of spehrocytes. Which of the following is the next most useful investigation?

1- abdominal ultrasound scan

**2- direct antiglobulin test**

3- glucose-6-phosphate dehydrogenase activity

4- haemoglobin electrophoresis

5- red cell osmotic fragility

Q769. A 30-year-old caucasian male presents with a six month history of weight loss, abdominal pain, and diarrhoea. On examination you note finger clubbing. Which of the following diagnoses is least likely.

1- Crohn's disease

2- Ulcerative colitis

3- Coeliac disease

4- Whipple's disease

**5- Ileo-caecal TB**

Q770. A 45-year-old woman is diagnosed with a duodenal ulcer. Which one of the following is the most sensitive test for detecting current infection with Helicobacter pylori?

1- A gastric fundal biopsy.

2- Culture of a gastric biopsy.

**3- The (13 C) urea breath test.**

4- The presence of Helicobacter pylori serum antibodies.

5- The urease test on gastric biopsy.

Q771. Which of the following is true of Spontaneous bacterial peritonitis?

1- A survival rate of over 50% is expected at one year

2- Gentamicin is the treatment of choice

**3- is characteristically caused by aerobic bacteria.**

4- is diagnosed by culture of ascitic fluid.

5- is due to intestinal perforation

Q772. A 52-year-old male is admitted with vomiting and acute epigastric abdominal pain which radiates through to his back. Investigations confirm severe acute pancreatitis. Which of the following figures most accurately reflect the mortality associated with severe acute pancreatitis?

1- Less than 5%

2- Approximately 10%

**3- Approximately 20%**

4- Approximately 30%

5- Approximately 40%

Q773. Which of the following is correct regarding infection with Salmonella typhi

1- children are particularly likely to become carriers

**2- most carriers are female**

3- faecal culture is almost always positive during the first week of illness

4- relapse does not occur if antibiotics are taken for 2 weeks

5- vaccinated individuals who develop the disease will have a mild illness

Q774. A patient is refered to hepatology department for possible treatment of Hepatitis B. He has stigmata of chronic liver disease. There is portal hypertension and ascites. His INR is 2.2 and albumin 25g/L. HBsAg and HBeAg positive. Hepatitis C screen is negative. What will you suggest for treatment?

1- Beta interferon

**2- Lumivudine alone**

3- Lumivudine plus interferon

4- Ribavarin alone

5- Ribavarin plus interferon

Q775. Which of the following is true of Gilbert's syndrome?

1- inheritance is autosomal dominant

2- serum conjugated bilirubin levels are elevated

3- serum bilirubin levels are decreased by fasting

**4- serum bilirubin levels are decreased by liver enzyme inducers**

5- there is bilirubinuria

Q776. An 81 -year-old frail ضعيف man admitted with a stroke becomes increasingly drowsy after receiving nasogastric feeding for five days. Which biochemical abnormality is the most likely cause of his drowsiness?

1- hyperglycaemia

2- hypermagnesaemia

3- hypernatraemia

4- hypocalcaemia

**5- hypophosphataemia**

Q777. A 75-year-old patient presents with watery diarrhoea. He is passing large volumes of watery diarrhoea, approximately 3litres a day, with no noticeable blood. It has been present for approximately 5 months and is gradually becoming more frequent. It often wakes him at night with the urge to defecate. Liver function tests, calcium and urea and electrolytes are normal. Stool microscopy and culture are normal, and clostridium difficile toxin is negative. A flexible sigmoidoscopy is organised, and the investigator reports to you that the large bowel appears normal. Which of the following treatments may this patient benefit from?

1- Gluten free diet

2- High fibre diet

3- Low residue diet

**4- Oral cholestyramine**

5- Oral prednisolone

Q778. With respect to liver cirrhosis which of the following statements is correct?

1- In end-stage cirrhosis, liver transplantation is associated with 20% 5 year survival

**2- The final common pathway of hepatic fibrosis is mediated by the hepatic stellate cell**

3- Tumour necrosis factor is an antiinflammatory effector in fibrotic liver injury

4- Transforming growth factor is a potent promoter of the fibrogenic response by hepatocytes

5- Endothelin causes dilatation of the sinusoids, thus decreasing portal hypertension

Q779. A 17-year-old girl is commenced on nasogastric feeding due to severe anorexia nervosa. Five days later she becomes increasingly confused. On examination she was apyrexial, appeared appropriately hydrated, with a pulse of 98 bpm and blood pressure 96/60 mmHg. Which one of the following investigations should be requested forthwith?

1- Arterial blood gases

**2- Phosphate**

3- Serum Calcium

4- Serum Magnesium

5- Vitamin B concentrations

Q780. A 32-year-old man develops profuse diarrhoea with mucus and blood. Biopsies from the flexible sigmiodoscopy shows evidence of ulcerative colitis. Which of the following is true of the condition?

1- mesalazine therapy is associated with infertility in males

2- pseudopolyps on sigmoidoscopic examination have premalignant potential

3- topical 5-aminosalicylic acid are less effective than topical steroids in proctitis

**4- colectomy may produce regression of gall bladder disease**

5- goblet cells are unaffected in the mucosa

Q781. Which of the following statements regarding the genetic and immunological basis of Coeliac Disease is correct?

1- 50% of patients are HLA-DQ 2 or HLA-DQ 8 positive.

2- alpha-gliadin specific CD8 cells can be identified in the intestinal wall of untreated patients with coeliac disease

3- Cow's milk proteins may precipitate an immune-related enteropathy indistinguishable from coeliac disease.

**4- Tissue Transglutaminase generates the antigenic epitopes present in alpha-gliadin.**

5- TNF-?plays a critical role in the inflammatory response in the intestinal wall of patients with untreated celiac disease.

Q782. Which of the following statements concerning iron metabolism is correct?

**1- Approximately 0.1% of body iron circulates in the plasma**

2- Approximately 90% of dietary iron is absorbed in the intestine

3- The main route of excretion is the liver

4- The serum ferritin concentration is reduced characteristically following surgery

5- The transferrin content of intestinal mucosal cells is high when body iron stores are high

Q783. A 46-year-old man with a family history of haemochromatosis presented to outpatients for advice. Investigations revealed. serum ferritin 453ug/L (15-300) serum iron 29 umol/L (12-30) serum iron binding capacity 46 umol/L(45-75) iron saturation 63 per cent (20-50) What is the most appropriate next step in management?

**1- arrange for DNA analysis**

2- begin a venesection programme

3- monitor his serum ferritin regularly

4- take no action unless the iron saturation exceeds 90 per cent

5- undertake a liver biopsy

Q784. Which of the following conditions may give a false/positive sweat test?

1- Conn syndrome

2- Hyperthyroidism

3- Hyperparathyroidism

4- Obesity

**5- Glucose-6-phosphatase dehydrogenase deficiency**

Q785. A middle-aged woman presents with recent changes in bowel habit. She is investigated as a case of sporadic colonic carcinoma. What is the mechanism of its tumorogenesis?

1- APC gene mutation

2- ?-catenin suppression

**3- Down-regulation of p27**

4- K-ras suppression

5- p53 upregulation

Q786. A 48-year-old man with malaise and abdominal pain is found to have a raised serum bilirubin of 60 microM. The provocation test with intravenous nicotinic acid is positive. What is the best course of action?

1- Corticosteroid

2- Sphincterotomy with endoscopic retrograde cholagiopancreatography (ERC P) 3- Cholestyramine

**4- Reassure patient**

5- Ursodeoxycholic acid

Q787. With respect to gastric carcinoma, which of the following statements is true?

1- Incidence of distal stomach tumours is increasing

2- Aspirin use is a risk factor for gastric carcinoma

3- Helicobacter pylori infection is not associated with gastric carcinoma

**4- Endoscopic ultrasonography is superior to conventional CT scanning for local tumour staging**

5- Early diagnosis of gastric carcinoma results in a 5 year survival rate of 20%

Q788. A 29-year-old male presents with symptoms of severe gastro-oesophageal reflux. Which one of the following is most useful in assessing the role of surgery?

1- cardiac sphincter manometry

2- gastric emptying study

3- intragastric pH monitoring off therapy

**4- oesophageal motility study**

5- oesophageal pH monitoring on therapy

Q789. A 60-year-old man presents with a 5 day history of lower abdominal pain and diarrhoea. He has a history of chronic obstructive airways disease and has had numerous acute infective exacerbations over the last 3 months. On examination he was dehydrated, with a temperature of 38.6 C, a blood pressure of 102/72 mmHg and has a distended, tender abdomen. Which of the following is the most appropriate investigation for this patient?

1- Chest X-ray

**2- Plain abdominal X-ray**

3- Sigmoidoscopy and biopsy

4- Stool microscopy

5- Ultrasound scan of the abdomen

Q790. 49-year-old woman presents with a 6 month history of pruritus. Examintation reveals jaundice, xanthelasma, scratch marks, vitiligo and 3cm hepatomegaly. She was afebrile. Liver function tests reveal raised bilirubin, alkaline phosphatase, gamma glutamyl transferase and mildly elevated alanine transaminase and aspartate transaminase. Which of the following conditions will be most likely found in this woman?

1- Constipation

2- Haemolysis

3- Lymphadenopathy

**4- Vitamin A deficiency**

5- Vitamin B complex deficiency

Q791. A new diagnostic test for malabsorption has been analysed and the results have yielded the following 2x2 contingency table. Disease present Yes No +ve test 0.9 0.1 -ve test 0.2 0.8 Applying this test to a case of chronic diarrhoea from a patient group where the prevalence of malabsorption is known to be 20% (probability = 0.2) What is the probability of a patient having malabsorption if they have a positive test?

1- 0.16

2- 0.24

3- 0.48

**4- 0.64**

5- 0.8

Q792. Which of the following statements regarding lactose intolerance is correct?

1- Lactose is degraded to glucose and fructose by lactase

2- Lactose intolerance is commonest in white Northern Europeans

3- Lactose intolerance is best diagnosed with a methane breath test

**4- Rotavirus infection may precipitate the diagnosis of lactose intolerance**

5- Lactose intolerance is treated by glucose and galactose replacement therapy

Q793. A 43-year-old male presents with weight loss and watery diarrhoea. Investigations reveal hypokalaemia with a pancreatic mass. Which of the following would support the diagnosis of a VIPoma?

**1- Achlorhydria**

2- Hypoglycaemia

3- Increased Pancreatic polypeptide

4- Migratory erythema

5- Pellagra

Q794. A 36-year-old man presents with a 16 week history of indigestion. Five years previously he had been treated for a duodenal ulcer. Investigations reveal: Fasting gastrin 120 pmol/L (<55) Which one of the following statements regarding gastrin is correct?

1- It acts upon the G cells of the stomach

2- It inhibits the secretion of pancreatic bicarbonate

3- It is produced by the alpha cells of the pancreatic islets

4- It is produced by the parietal calls of the stomach

**5- Its release is stimulated by gastric luminal peptides**

Q795. A 70-year-old woman presented with a history of pancreatitis and persistent diarrhoea. She also gave a history of osteoporosis and had had a deep vein thrombosis. Which one of the following drugs will become less effective after she starts taking Cholestyramine to relieve intolerable itching?

1- Aspirin

2- Folic Acid

3- Thiamine

**4- Vitamin D**

5- Warfarin

Q796. A 40-year-old single man returned from holiday in Europe with mild bloody diarrhoea which had lasted for two weeks. He had lost 2.5 kg in weight, had occasional lower abdominal cramping discomfort and a painful swelling of his left knee. What is the most likely diagnosis?

1- amoebiasis

**2- campylobacter infection**

3- Crohn's disease

4- gonococcal septicaemia

5- ulcerative colitis

Q797. A 65-year-old woman presented with a malabsorption syndrome. She had a past history of radiotherapy for cervical cancer. Small intestine biopsy reveals - villous atrophy and crypt hypertrophy, chronic inflammatory cell infiltrate of the lamina propria together with increase in intra-epithelial lymphocytes. What is the most likely diagnosis?

1- Bacterial overgrowth

**2- Coeliac disease**

3- Crohn's disease

4- Mesenteric ischaemia

5- Radiation enteropathy

Q798. A 52 year-old male presents with general deterioration. He drinks approximately 25 units of alcohol each week and is a smoker of 5 cigarettes daily. Examination reveals that he is jaundiced, has numerous spider naevi on his chest and he has a temperature of 37.2°C. Abdominal examination reveals hepatosplenomegaly. Investigations reveal: Bilirubin 200 micromol/L (1-22) Alkaline phosphatase 550 iu/l (45 - 105) AST 258 iu/l (1 - 31) Albumin 25 g/L (37 - 49) hepatitis B virus surface antigen positive hepatitis B virus e antigen negative hepatitis B virus DNA undetectable What is the most likely diagnosis?

1- Alcoholic liver disease

2- Autoimmune chronic active hepatitis

3- Carcinoma of the pancreas

**4- Chronic hepatitis B infection**

5- Chronic hepatitis D (delt a) infection

Q799. A 78 year-old female with hip osteoarthritis presents with altered bowel habit. She undergoes a sigmoidoscopy and rectal biopsy shows normal epithelium and pigment-laden macrophages in the lamina propria. What is the most likely cause of these findings?

1- Diverticular disease

**2- laxative abuse**

3- mesenteric ischaemia

4- Non-steroidal anti-inflammatory drugs

5- Ulcerative colitis

Q800. A 45-year-old female develops profuse watery diarrhoea with lower abdominal pain 7 days after undergoing laparoscopic cholecystectomy. What is the most likely diagnosis?

1- Abdominal sepsis

2- Bile acid diarrhoea

3- Campylobacter gastroenteritis

**4- Pseudomembranous colitis**

5- Pseudo-obstruction

Q801. A 55-year-old male is admitted with vomiting. He has a long history of alcohol abuse, appears slightly jaundiced and is dishevelled and unkempt. He was started on an intravenous glucose infusion and Diazepam and he symptomatically improved. One day later he becomes confused, developed vomiting, diplopia and was unable to stand. What is the most likely diagnosis?

1- Benzodiazepine intoxication

2- Delirium tremens

3- Hepatic encephalopathy

4- Subdural haematoma

**5- Vitamin B deficiency**

Q802. A 53-year-old woman with rheumatoid arthritis was referred with iron deficiency anaemia. Endoscopy revealed several superficial antral erosions, with small bowel biopsy showing mild villous blunting, apopotic bodies, occasional eosinophils and mild increase in chronic inflammatory cells. Colonoscopy was reported as normal. What is the most likely cause of these findings?

1- coeliac disease

2- Crohn's disease

**3- non-steroidal anti-inflammatory drug therapy**

4- small bowel lymphoma

5- Whipple's disease

Q803. A 35-year-old woman with a history of recurrent anaemia was noted to have target cells and Howell-Jolly bodies on a blood film examination. Investigations revealed: Haemoglobin 7.0 g/dL (11.3-16.5) MCV 77 fl (80-96) MCH 26.2 pg (28-32) Serum B12 140 ug/L (160-760) Red cell folate 95 ug/L (160-640) Serum ferritin 10 ug/L (15-300) What disease specific antibody is most likely to be present?

**1- Anti-endomysial**

2- Anti-gastric parietal cell

3- Anti-glutamic acid decarboxylase

4- Anti-intrinsic factor

5- Antimitochondrial

Q804. A 22-year-old man presented to casualty one week after returning from a six month visit to Pakistan. He complained of fever, rigors and headache. On examination he was febrile (38 C) with a blood pressure of 115/65 mmHg, and a pulse of 100/minute. His abdomen was tender in the right upper quadrant. Investigations showed: Hb 11.0 g/dL WBC 15.5 x 109 /L Neutrophils 13.5 x l09/l Platelets 350 x 109 /L Blood film No malaria parasites seen Alk Phos 450 iU/L AST 50 iU/L CRP 88 mg/L Stool culture Negative Chest x-ray: Small right pleural effusion noted Which of the following investigations would be of most diagnostic value?

1- Hepatitis E serology

2- Sigmoidoscopy

3- Stool microscopy for ova, cysts and parasites

4- Typhoid serology

**5- Ultrasound scan of the abdomen**

Q805. A group of construction workers presented to the accident and emergency department with diarrhoea, flushing, sweating and a hot mouth. They fell ill minutes after eating lunch in the staff canteen. They admitted that they had eaten tuna fish and wine. What is the likely cause of food poisoning?

1- Clostridium perfringens

2- Heavy metal

3- Mushroom

**4- Scrombotoxin**

5- Staphylococcus aureus

Q806. A previously well 40-year-old man is admitted with a single haematemesis after taking 300 mg of aspirin five hours previously. On examination, pulse was 120/min with a blood pressure of 110/75 rmHg (lyin g) and 90/60 mmHg (standin g) . Respiratory and abdominal examination was otherwise normal. His haemoglobin concentration returned as 7 g/dL (13.0 - 16.5. What is the most likely cause of his haemetemesis?

1- Angiodysplasia

2- Duodenal ulcer

3- Gastric cancer

**4- Gastric erosions**

5- Oesophagitis

Q807. A 52-year-old man with a diagnosis as a child of coeliac disease had been asymptomatic despite poor dietary compliance. He presents with a one month history of intermittent, colicky, central abdominal pain and 3 kilogram weight loss and positive faecal occult bloods. What is the most appropriate investigation?

1- Anti-endomysial antibody.

**2- Colonoscopy.**

3- CT scan of abdomen.

4- Distal duodenal biopsy.

5- Small bowel enema.

Q808. A 70 year-old man is admitted with pruritus, jaundice and a 2kg weight loss of two weeks duration. He had not drank any alcohol for at least eight years. One month ago, he had completed a course of Co-Amoxiclav which had been prescribed by his GP for sinusitis and was also taking Ibuprofen for hip osteoarthritis. Investigations reveal: Albumin 38 g/L (37-49) Bilirubin 200 umol/L (1-22) AST 200 iu/L (5-35) Alkaline Phosphatase 200 iu/l (50-110) Abdominal ultrasound reveals gallsones but no biliary duct dilatation What is the most likely cause of his jaundice?

1- Cholangio-carcinoma

**2- Co-Amoxiclav**

3- Hepatitis B infection

4- Hepatitis C infection

5- Ibuprofen

Q809. Which statement is true concerning iron?

1- Iron absorption is mainly in the distal jejunum.

2- Parenteral iron is indicated if the haemoglobin level is not raised within 3 days by oral iron.

3- Sustained release preparations are useful if larger doses are required.

**4- 200mg iron sulphate has more elemental iron than an equal dose of iron gluconate.**

5- Absorption is prevented by ascorbic acid.

Q810. A 32 year-old woman with Crohn's Disease has a history of a right hemicolectomy for ileocolonic disease. Since the operation she has had frequent diarrhoea but no blood in the stools. Investigations show: ESR 10 PLT 240 serum CRP 7 ( < 10) Which is the best treatment?

**1- Cholestyramine**

2- Mesalazine

3- Metronidazole

4- Omeprazole

5- Prednisolone

Q811. Reflux oesophagitis of gastric contents

1- is a cause of asthma

2- can be improved by Helicobacter pylori eradication

**3- Occurs during transient relaxation of the lower oesophageal sphincter**

4- Is neutralised by bicarbonate secreted by the oesophageal mucosa

5- Can be excluded by a normal appearance at endoscopy

Q812. A 24-year-old woman has ingested an unknown quantity of Paracetamol tablets 4 hours ago. She now presents with nausea, vomiting, anorexia and right subchondral pain. Which of the following features suggest that she should be transferred to the liver unit?

1- ALT 800 units/L

2- Blood glucose 5 mmol/L

3- Heart rate 120 BPM

**4- pH 7.25**

5- Systolic BP 100 mmHg

Q813. A 40 year-old man is referred with gastrooesophageal reflux disease (GOR D) . Which of the following concerning GORD is correct?

1- Acid suppressant therapy should not be given continuously

2- Endoscopy is mandatory

3- In the presence of Barrett's oesophagus, the risk of future malignancy can be assessed endoscopically without biopsy

4- Oesophageal pH monitoring is a good guide to therapy

**5- Symptoms do not correlate with mucosal status at endoscopy**

Q814. Which ONE of the following statements is true of autoimmune hepatitis:

1- It usually presents as an acute hepatitis

2- It rarely presents before 20 years of age

**3- It may be associated with keratoconjunctivitis sicca**

4- It is associated with hypogammaglobulinaemia

5- It rarely interferes with menstruation except in later stages

Q815. Which of the following is most commonly associated with the development of pseudomembranous colitis?

**1- Cefuroxime**

2- Ciprofloxacin

3- Co-trimoxazole

4- Erythromycin

5- Flucloxacillin

Q816. Which one of the following organs is in direct contact with the anterior surface of the left kidney, without being separated from it by peritoneum?

1- Duodenum

2- Jejunum

**3- Pancreas**

4- Spleen

5- Stomach

Q817. A 42-year-old female with Ulcerative Colitis is found to have anti-smooth muscle antibodies. Which is the next most appropriate test for this patient?

1- Abdominal Ultrasound

2- Colonoscopy

3- Full blood count

4- Liver biopsy

**5- Liver function tests**

Q818. A 67-year-old man with known aortic valvular disease is admitted with deteriorating dyspnoea. Investigations show: haemoglobin 9 g/dL (12-16) MCV 70 fL (80-96) upper gastrointestinal tract endoscopy: normal duodenal biopsy: normal Which one of the following investigations is most likely to provide the diagnosis?

1- Barium enema

**2- colonoscopy**

3- CT abdomen

4- mesenteric angiography

5- small bowel enema

Q819. A 24-year-old woman had ulcerative colitis for seven years and was prescribed mesalazine 1.5 g per day. She smoked 20 cigarettes per day and was 10 weeks pregnant. She complained of worsening symptoms with six bloody stools per day. Which one of the following statements is correct?

**1- Azathioprine is contraindicated.**

2- Initiation of an elemental diet risks fetal malnutrition.

3- Oral corticosteroids are contraindicated.

4- Oral mesalazine therapy should be withdrawn.

5- Termination of the pregnancy is advisable.

Q820. A 28-year-old lady develops abdominal pain, jaundice and ascites worsening over a week. She drinks ten units of alcohol each week and takes the oral contraceptive pill. Which of the following findings would make a diagnosis of hepatic vein thrombosis (BuddChiari syndrom e) MOST likely?

1- alanine aminotransferase of 345 U/L (5 - 35)

2- acute liver failure

3- ankle oedema

4- ascites fluid protein of 38 g/L

**5- tender enlarged liver**

Q821. A 30 year-old male presents with acute, profuse, watery diarrhoea with some blood after returning from a holiday in Tanzania. He had been taking oral rehydration salts. Which one of the following is the most appropriate treatment?

**1- Ciprofloxacin**

2- Loperamide

3- Metronidazole

4- Prednisolone

5- Vancomycin

Q822. A 17-year-old student returns from a backpacking trip to Nepal with a two-week history of offensive diarrhoea and weight loss. What is the most likely infective organism?

1- Escherichia coli 0157

**2- Giardia intestinalis (G.lambli a) 3- Shigella flexneri**

4- Salmonella typhi

5- Yersinia enterocolitica

Q823. Which of the following concerning the conjugation of bilirubin is correct?

**1- is catalysed by a glucuronyl transferase**

2- occurs in the Kupfer cells of the liver

3- is increased by valproate

4- is inhibited by rifampicin

5- is impaired in Dubin-Johnson syndrome

Q824. A 51-year-old man was brought to Accident and Emergency for loose stools. He was dehydrated, weak and in shock. He had previously been complaining of large stool volumes for a 1 month period. Stool colour was normal. There was no history of laxative abuse and no significant past medical history. What is the most likely diagnosis?

1- Carcinoid syndrome

2- Diabetic diarrhoea

3- Gastrinoma

4- Systemic mastocytosis

**5- VIPoma**

Q825. A 68-year-old male presents with alcoholic cirrhosis complicated by mild ascites. Which of the following features is likely in this patient?

1- Increased serum sodium

2- Increased vascular resistance

3- Reduced urinary potassium excretion

4- Reduced renin concentrations

**5- Reduced urinary sodium excretion**

Q826. A 26-year-old presents in the first trimester of her first pregnancy (six weeks gestatio n) for an ante-natal check, she feels well. Blood tests show a Bilirubin of 40 µmol/l the other LFT's are completely normal. The most likely diagnosis is:

**1- Gilbert's syndrome**

2- Primary biliary cirrhosis

3- Primary sclerosing cholangitis

4- Dubin-Johnson syndrome

5- Cholestasis of pregnancy

Q827. A 52-year-old woman presented with history of worsening dysphagia over many years. Recently there had been episodes of illdefined central chest discomfort and nocturnal cough. What is the most likely diagnosis?

**1- achalasia**

2- Barrett's oesophagus

3- motor neurone disease

4- oesophageal carcinoma

5- pharyngeal pouch

Q828. A 50-year-old woman with a long history of alcohol abuse is prescribed Phenytoin for epilepsy. Examination was normal except for a liver edge. Her full blood count reveals haemoglobin 10.0 g/dL (13-18) MCV 122 fL (80-96) white cell count 2.2 x 109 /L ( 4-11) platelet count 85 x 109 /L ( 150-400) What is the most likely explanation for these results?

1- Alcoholic liver disease

2- Aplastic anaemia

**3- Folic acid deficiency**

4- Hypothyroidism

5- Vitamin C deficiency

Q829. A 42-year-old female presents with tiredness. Her investigations reveal: Haemoglobin 7.8 g/dl (11. 5 - 16.5) MCV 72 fL (80 - 96) white cell count 7.6 x 109 /L (4 - 11) platelet count 350 x 109 /L (150 - 400) serum ferritin 8 µg/L (15 - 300) She was commenced on oral iron therapy and one month later her haemoglobin concentration was 8. 0 g/dl. What is the most likely cause of the failure of her haemoglobin to respond to this treatment?

1- coeliac disease

2- folate deficiency

3- inadequate dosage of iron

**4- poor compliance with therapy**

5- sideroblastic anaemia

Q830. Which of the following is activated by Cholera toxin?

**1- Adenylate cyclase**

2- Guanlyate cyclase

3- Peroxisome proliferator receptor (PPA R) gamma

4- Sodium/potassium ATPase

5- The glucose-sodium transporter

Q831. A 55 year-old woman presents with lethargy, diarrhoea together with joint pains and intermittent fever. These symptoms have developed over the six months during which time she has lost 6 kg in weight. Supraclavicular lymphadenopathy is noted. What is the most likely diagnosis?

1- bacillary dysentery

2- campylobacter infection

3- Coeliac disease

4- giardiasis

**5- Whipple's disease**

Q832. A 24-year-old man with chronic diarrhoea and malabsorption is suspected of having coeliac disease. A jejunal biopsy is taken. Which of the following findings would be expected in coeliac disease?

1- Shows leaf-shaped villi

2- Shows flattening of the crypts

**3- Appearances may resemble severe tropical sprue**

4- Shows fissures penetrating into the submucosa

5- Characteristically shows epithelial cells distended with fat globules

Q833. A 65 year-old male presents with a four month history of diarrhoea with pale stools and weight loss. Relevant results show: Calcium 1.8 mmol/L (2.2-2.6) Alkaline phosphatase 350 U/L (45-105) What is the most likely diagnosis?

1- coeliac disease

2- Giardia lamblia infection

**3- pancreatic carcinoma**

4- Small Intestinal bacterial overgrowth

5- Whipple's disease

Q834. A 50-year-old male with a history of alcohol excess, presents with a 2 week history of confusion. Which of the following strongly suggests a diagnosis of Korsakoff's psychosis?

1- delusional jealous beliefs

2- epileptic seizures

3- impaired long term memory

**4- inventing recent events**

5- visual hallucinations

Q835. A 20-year-old woman was referred for investigation of iron deficiency anaemia. Her mother died aged 28 years from colonic carcinoma complicating Peutz-Jeghers syndrome. Which is the most likely mode of inheritance of Peutz-Jeghers syndrome?

**1- Autosomal dominant**

2- Autosomal recessive

3- Mitochondrial

4- Polygenic

5- X-linked dominant

Q836. Which one of the following require urgent referral for upper endoscopy?

1- A 45-year-old male with a one month history of persistent dyspepsia.

2- A 56-year-old male with a one month history of dyspepsia and a pulsatile central abdominal mass

**3- A 73-year-old male with a three month history of dyspepsia which has failed to respond to a course of proton pump inhibitors**

4- A 35-year-old male who has a history of waterbrash and dyspepsia which has responded to a course of ranitidine but since stopping has recurred.

5- A 62-year-old male with a three month hiotory of unexplained weight loss, tenesmus and a right abdominal mass.

Q837. A 28-year-old male presents with a four day history of profuse bloody diarrhoea after returning from a holiday in the Far East. Which of the following regarding his illness is true?

1- a negative amoebic fluorescent antibody test excludes a diagnosis of acute amoebic dysentry

2- Cysts to Entamoeba histolytica in the stools confirms a diagnosis of acute amoebic dysentry

3- cholera is a likely diagnosis

4- Giardiasis is a likely diagnosis

**5- shigellosis is a likely diagnosis**

Q838. Which of the following is NOT true of a patient with ascites due to liver cirhosis:

1- Spontaneous bacterial peritonitis is a recognised feature

**2- The usual source of the ascitic fluid is mainly from the exudation from the surface of the liver**

3- Hepatic intrasinusoidal pressure is elevated

4- Urinary sodium concentration is usually less than 10 mmol/l

5- Cardiac output is often elevated

Q839. A 55-year-old female is referred by her GP with abnormal liver function tests. She is overweight but otherwise well. Liver biopsy is reported as showing evidence of non-alcoholic steatotic hepatitis(NAS H) . Which of the following statements is correct concerning NASH?

1- Commoner in males than females

2- Is treated with urso-deoxycholic acid

**3- Is associated with insulin resistance**

4- Is treated with Rosiglitazone

5- The majority of patients will develop cirrhosis

Q840. A study comparing contrast CT colonography with the reference technique of colonoscopy for large bowel carcinoma reveals the following data in 400 patients: CT Positive CT Negative Colonoscopy Positive 30 10 Colonoscopy negative 20 340 Which one of the following most accurately describes the performance of CT versus colonoscopy for the diagnosis of large bowel cancer?

1- There are 340 false negatives

2- There are 370 false negatives

3- There are 10 false positives

**4- There are 20 false positives**

5- There are 20 true negatives

Q841. A 54-year-old woman presented with an eighteen month history of chest pain and dysphagia for both solids and liquids. She smokes 20 cigarettes per day and drinks 16 units of alcohol per week. Clinical examination was normal. What is the most likely diagnosis?

**1- Achalasia.**

2- Bronchial neoplasm.

3- Oesophageal neoplasm.

4- Oesophageal web.

5- Pharyngeal pouch.

Q842. A 36-year-old man presented with a three day history of bloody diarrhoea. He was apyrexial and mildly icteric. Investigations revealed: Haemoglobin 10.5 g/dL (13.0-18.0) White cell count 19 x 109 /L (4-11) Platelets 70 x 109 /L (150-400) Serum urea 12.5 mmol/L (2.5-7.5) Serum aspartate aminotransferase 90 IU/L (

**1- 31) Prothrombin time 12s (11.5-15.5) Blood film fragmented red cells What is the most likely cause of his illness?**

**1- Escherichia coli 0157 colitis**

2- Ischaemic colitis

3- Leptospirosis

4- Salmonella enterocolitis

5- Ulcerative colitis

Q843. Ten individuals are admitted to casualty with profuse vomiting after attending a retirement dinner in a chinese restaurant. They all ate at roughly 7 pm and became ill at roughly midnight. Nine ate a mixture of dishes except one female who ate vegetarian dishes with her rice. What is the most likely infective organism?

1- Salmonella enteriditis

2- Staphylococcus aureus

3- Escherichia coli

4- Clostridium perfringens

**5- Bacillus cereus**

Q844. A 24-year-old woman who has a long history of ulcerative colitis and takes Mesalazine 3g per day discovers that she is 10 weeks pregnant. She is also a smoker of 15 cigarettes daily. She now presents with a deterioration of symptoms with six bloody stools per day. Which one of the following statements is correct?

**1- Azathioprine would be contraindicated**

2- Initiating an elemental diet predisposes to foetal malnutrition

3- Mesalazine therapy should be withdrawn

4- Steroid therapy is contraindicated

5- Termination of the pregnancy is advised

Q845. A 55 year-old man on no current treatment for his quiescent ulcerative colitis is found to have an ESR of 95 mm/hr. Investigations show: Haemoglobin 13.2 g/L WCC 4.5 PLT 160 Corrected Calcium 2.58 IgG 25 (6-13) IgA 1.8 (0.9-3) IgM 1.6 (0.4-2.2). What is the most appropriate next investigation?

1- Bone marrow trephine and aspiration.

2- Isotope bone scan.

**3- Plasma immunoelectrophoresis.**

4- Rectal biopsy.

5- X-Ray Skeletal survey.

Q846. A 35-year-old obese Afrocarribean lady presents with mild jaundice. She claims to be a teetotaler المسكرات عن ممتنع and her BMI is 30 kg/m2 . Investigations reveal the following results. Haemoglobin 14g/dL U+Es normal Bilirubin 25 µol/L (2-18) AST 140IU/L (5-40) Alanine transaminase 155 IU/L (5-40) ALP 160 IU/L (50-110) Random blood glucose 11.2 mmol/l (3.5-6) Hepatitis A IgG positive Hepatitis B and C screening negative Anti-nuclear antibodies 1:16 titre Ultrasound Abdomen reveals Hyperechogenic hepatic parenchyma Liver Biopsy reveals lesions suggestive of alcoholic liver disease On review of her notes, liver function tests performed 6 months previously showed similar values. Which of the following is the most likely diagnosis?

1- Alcoholic liver disease

2- Autoimmune hepatitis

**3- Non-alcoholic steatohepatitis**

4- Primary biliary cirrhosis

5- Viral hepatitis

Q847. A 61-year-old man has a 2 cm adenoma removed from his sigmoid colon. The biopsy results confirm an adenocarcinoma in situ with moderately differentiated dysplastic cells. The pathology report confirms total excision with clear resection margins. What is the most appropriate follow up management for this patient?

1- Annual carcinoembryonic antigen (CE A) 2- Chemotherapy

3- No follow up

**4- Regular follow up with colonoscopy**

5- Regular follow up with no colonoscopy

Q848. A 47-year-old man presents with confusion and drowsiness. A diagnosis of hepatic encephalopathy is suspected and treatment with lactulose is begun. Which of the following concerning lactulose is true?

1- Absorbed from the gut

2- Causes hypermagnesaemia

3- Contraindicated in diabetes mellitus

**4- Inhibits proliferation of ammonia-forming organisms in the gut**

5- Reduces absorption of spironolactone

Q849. Which of the following statements regarding jejunal biopsy is correct?

1- Electron microscopy is necessary to confirm the presence of villous atrophy

2- Sub-total villous atrophy is diagnostic of gluten-sensitive enteropathy and is not found in other conditions

3- It is contra-indicated over the age of 70 years

4- In tropical countries apparently healthy people have a mucosal structure which would be regarded as abnormal in Europe

**5- It can be used to diagnose Whipple's disease**

Q850. A 43-year-old female presents with abdominal pain and watery diarrhoea. She is taking ibuprofen for joint pains, and has been previously investigated for infertility. She was given a proton pump inhibitor by her GP for 6 weeks with no relief of her symptoms. Investigations: Haemoglobin 12.2g/dl Calcium 2.86mmol/l Albumin 42g/l Phosphate 0.8mmol/l CRP 10mg/l Endoscopy multiple small duodenal ulcers H. pylori negative What is the likely diagnosis?

1- Crohn's disease

2- Cushing's Syndrome

3- NSAID induced PUD

**4- Multiple endocrine neoplasia**

5- Small Bowel Lymphoma

Q851. A 51-year-old male labourer presents with a haematemesis. Which of the following features would categorise him into a high risk group?

1- A blood pressure of 134/88 mmHg

2- A pulse of 90 beats per minute

3- A plasma glucose of 7.2 mmol/l

**4- A history of ischaemic heart disease**

5- His age

Q852. A 19-year-old student presents with a fifteen week history of diarrhoea. He has lost 2 kg in weight, and has no recent travel abroad. A smear of a duodenal biopsy reveals many trophozoites. What is the best treatment option?

1- Ciprofloxacin

2- Gluten free diet

**3- Metronidazole**

4- Prednisolone

5- Quinine

Q853. A 29-year-old man presents with anaemia, bleeding tendency, diarrhoea and abdominal pain. Examination reveals a palpable mass in the right lower quadrant and anal skin tags. What is the most likely underlying condition?

1- chronic pancreatitis

2- coeliac disease

**3- crohn's disease**

4- intestinal lymphoma

5- ulcerative colitis

Q854. A woman had lunch at a Chinese restaurant. In the evening she presented with diarrhoea and vomiting. There was no fever. Which of the following is the likely cause of food poisoning in her case?

**1- Bacillus cereus**

2- Clostridium perfringens

3- Escherichia coli

4- Staphylococcus aureus

5- Yersinia enterocolitica

Q855. Which of the following is the commonest cause of traveller's diarrhoea?

**1- Escherichia coli**

2- Entamoeba histolytica

3- Giardia lamblia

4- Shigella flexneri

5- Yersinia enterocolitica

Q856. Which ONE statement is true regarding the treatment of iron deficiency anaemia:

1- iron is absorbed in the distal jejunum

**2- absorption of iron is increased by ascorbic acid**

3- sustained release iron is a useful way of giving larger doses

4- ferrous sulphate 200mg has less elemental iron than the same dose of ferrous gluconate

5- parenteral iron is indicated when the anaemia responds slowly to oral iron

Q857. A 65-year-old man was investigated for weight loss and dyspepsia. Endoscopic examination revealed an ulcerated lesion in the stomach and biopsy revealed the presence of a low grade mucosa-associated lymphoma with Helicobacter pylori. Further investigation with CT of chest and abdomen were normal as were bone marrow aspirate and trephine. What is the best treatment option for this patient?

**1- Eradication therapy for Helicobacter pylori**

2- IV chemotherapy

3- Oral chlorambucil

4- Partial gastric resection

5- Radiotherapy

Q858. A 24-year-old woman was referred with tiredness and intermittent bloody diarrhoea and a past history of cerebral venous thrombosis. On examination, the sclera of the right eye was inflamed, and multiple mouth ulcers were noted. At the colonoscopy, which confirmed colitis, two large vulval ulcers were noted. Which is the most likely diagnosis?

**1- Behcet's disease.**

2- Crohn's disease.

3- HIV infection

4- Syphilis

5- Ulcerative colitis.

Q859. Which ONE of the following statements regarding colon cancer is correct:

1- In non-familial cases, gene mutations in the cancer cells are unusual

2- In familial cases the inheritance pattern is typically autosomal recessive

3- It occurs most commonly in the ascending colon

4- It is a characteristic feature of the PeutzJegher syndrome

**5- In familial polyposis coli the increased cancer risk is due to inheritance of a mutated suppressor gene**

Q860. A 40-year-old man has a history of left-sided Crohn's colitis. Though, previously treated with steroids and mesalazine, he has had several relapses in the past year. The last relapse, treated with high doses of steroids, was complicated by gastric bleeding. Investigations show: Haemoglobin 10.8 g/L (13.0-18.0) MCV 76 fL (80-96) MCH 24 pg (28-32) WBCs 10 x 109 /L (4-11) Platelets 400 x 109 /L (150-400) Serum total protein 70 g/L (61-76) Serum albumin 30 g/L (37-49) Serum CRP 30 mg/L(<10) Abdo X-ray normal Which of the following is the most appropriate management?

1- A trial of oral metronidazole for three months.

2- Total colectomy with ileostomy construction.

3- Total colectomy with pouch construction.

**4- Treatment with azathioprine.**

5- Treatment with oral budesonide.

Q861. A 58-year-old man complains of tiredness, fever, weight loss, arthralgia and diarrhoea. Jejunal biopsy reveals flattened mucosa containing periodic acid-Schiff (PA S) positive macrophages. What is the most likely diagnosis?

1- coeliac's disease

2- tuberculosis

3- tropical sprue

4- parasitic infection

**5- whipple's disease**

Q862. A 48-year-old woman complains of pruritis, steatorrhoea and bruising. On examination, she is jaundiced, pigmented with spider naevi and hepatosplenomegaly. What is the most likely underlying diagnosis?

1- autoimmune hepatitis

**2- primary biliary cirrhosis**

3- alcoholic liver disease

4- alpha-1 antitrypsin deficiency

5- Wilson's disease

Q863. A 35-year-old woman with alcoholic cirrhosis is admitted with deteriorating encephalopathy and abdominal discomfort. An ascitic tap revealed a polymorphonuclear cell count of 350 cells per mm3. Which of the following is the most appropriate therapy?

1- Intravenous amoxicillin

**2- Intravenous cefotaxime**

3- Intravenous metronidazole

4- Oral neomycin

5- Oral norfloxacin

Q864. A 69-year-old male is seen in Outpatients. He reports weight loss of 1 stone over 3 months but his history is otherwise unremarkable. On examination his abdomen is soft with no palpable masses. A PR examination is normal. His blood tests show: Haemoglobin 8.0g/dl (12-16) MCV 70fl (85-95) Which of the following is the most appropriate investigation for this patient?

1- Abdominal X-ray and colonoscopy

2- CT scan of the abdomen and upper GI endoscopy

3- Sigmoidoscopy upper GI endoscopy

4- Ultrasound scan of abdomen and colonoscopy

**5- Upper GI endoscopy and colonoscopy**

Q865. In the diarrhoea associated with cholera toxin, there is activation of which of the following enzyme systems?

**1- Adenylate cyclase.**

2- ATP.

3- Guanylate cyclase.

4- Na-glucose co-transporter.

5- Na+/K+ ATPase pump.

Q866. Which of the following statements is correct of hepatitis C virus infection?

1- Cell cultures of virus are routinely used to assess response to drug therapy

2- High antibody titres are an indication for therapy

3- Less than 5% of cases lead to chronic infection

4- More likely to be transmitted by the sexual route than hepatitis B virus

**5- Treatment with ribavirin and interferon alpha is more effective than interferon alpha alone**

Q867. A 33-year-old man with chronic hepatitis C is admitted with general deterioration. He has missed many of his previous outpatient appointments and currently is not receiving any treatment. On examination he is generally unwell with a temperature of 37.8C, blood pressure of 110/72 mmHg and appears jaundiced. His investigations reveal: Serum Na 133 mmol/l Serum potassium 4.3 mmol/l Serum Urea 21 mmol/l Serum Creatinine 336 micromol/l bilirubin 78 micromol/l (10-20) AST 92 iu/l (10-40) Alk Phosphatase 267 (50-100) Albumin 30 (33-42) Urine sodium 15 mmol/l What is the likely diagnosis?

1- Abdominal tuberculosis

2- Hepatocellular carcinoma

**3- Hepatorenal syndrome**

4- Mixed essential cryoglobulinaemia

5- Spontaneous bacterial peritonitis

Q868. A 16-year-old boy with cystic fibrosis presents with abdominal pain. Which of the following is most likely to be the cause?

1- Ulcerative colitis

2- Irritable Bowel Syndrome

3- Pyelonephritis

**4- Meconium Ileus Equivalent Syndrome**

5- Renal Calculi

Q869. A 25-year-old man, who had a long history of heavy alcohol intake is admitted with nausea and frequent vomiting four hours after a meal in a restaurant. During review in the A+E he vomits a cupful of blood. What is the cause of his haemetemesis?

1- duodenal ulceration

2- Haemorrhagic Gastritis

**3- Mallory-Weiss tear**

4- oesophageal varices

5- oesophagitis

Q870. A routine ultrasound at 18 weeks gestation in a diabetic mother reveals a male foetus with an endocardial cushion defect. Other abnormalities include increased nuchal thickening and a "double bubble" sign. Which of the following conditions is most likely to have contributed to this set of findings:

1- Maternal use of ACE inhibitor

2- Marfan syndrome

3- Maternal folate deficiency

**4- Trisomy 21**

5- Congenital syphilis

Q871. An 80-year-old female presents with confusion associated with a chest infection. She received standard treatment, and four days later she developed green, then bloody diarrhoea. Which of the following organisms is most likely to be responsible for her diarrhoea?

1- Campylobacter jejuni

**2- Clostridium difficile**

3- Escherichia coli 0157

4- Methicillin-resistant Staphylococcus aureus

5- Vancomycin-resistant enterococcus

Q872. 45-year-old gentleman presents with dyspepsia of 5 months duration and loss of weight. Examination reveals mild pallor and slight epigastric tenderness. Gastroscopy reveals 5-mm posterior ulcer in the first part of duodenum and 2-cm mass on lesser curve of the stomach. Biopsy of the mass reveals mucosa-associated lymphoid tumour confined to gastric mucosa. He has tested positive for H. pylori infection. Which of the following treatment options will be appropriate for him?

1- Chemotherapy 2- H. Pylori eradication

3- Proton pump inhibitor

4- Radiotherapy

5- Surgery

Q873. A 63-year-old patient with known alcohol related cirrhosis presented with ascites, abdominal tenderness and peripheral oedema. A diagnostic tap revealed a neutrophil count of 400/ mm3 (normal <250mm3). Which of the following would be of most immediate benefit?

1- fluid restriction and a no added salt diet

**2- intravenous antibiotics**

3- oral spironolactone

4- therapeutic paracentesis

5- trans-jugular intrahepatic porto-systemic shunt

Q874. Which of the following statments is characteristic of acute hepatitis B infection?

1- Most patients present with splenomegaly.

2- It confers immunity to hepatitis A.

3- It commonly presents with distal joint arthritis.

**4- There is increased infectivity in the presence of the Hep B e antigen.**

5- Pruritis is an important early symptom.

Q875. A 58-year-old man presents to your clinic with dysphagia for solids for the past three months. He also complains of weight loss and loss of appetite. There is no other past medical history, apart from symptoms of indigestion and heartburn for the past five years. He regularly takes Gaviscon and Rennie tablets. He is a heavy smoker and a regular drinker. He undergoes endoscopy, which reveals a small tumour at the lower end of the oesophagus. What is the most likely aetiological cause for the tumour?

1- Alcohol

**2- Barrett's oesophagus**

3- Helicobacter pylori

4- Oesophageal candidiasis

5- Oesophageal pouch

Q876. An asymptomatic 40-year-old female underwent an abdominal ultrasound scan as part of a clinical trial and was noted to have gallstones but entirely normal liver function tests. Which one of the following is the most appropriate management?

1- Chenodeoxycholic acid

2- Laparoscopic cholecystectomy

3- Lithotripsy

**4- Observation**

5- Ursodeoxycholic acid

Q877. A 50-year-old ex-footballer with a long history of alcohol excess presents with epigastric pain. Which of the following suggests a diagnosis of peptic ulceration rather than chronic pancreatitis?

1- Back pain

2- Exacerbation with alcohol

3- Loose stool

**4- Relieved by food**

5- Weight loss

Q878. A 60-year-old woman with known alcoholic liver cirrhosis presents with vague abdominal pains, malaise and nausea. She has been abstinent since she was diagnosed eight months ago. On examination she had moderate ascites and mild, generalised abdominal tenderness. Investigations Haemoglobin 11.2 g/dL (11.5 - 16.5) WCC 15 x 109 /L (4 - 11) prothrombin time 21 s (<15 s) serum albumin 28 g/L (37 - 49) serum total bilirubin 56 µmol/L (1 - 22) ascitic fluid protein 26 g/L ascitic fluid amylase normal ascitic fluid white cell count 500 x 109 /L What is the most likely reason for her current problem?

1- hepatic vein thrombosis

2- pancreatic pseudocyst rupture

3- portal vein thrombosis

4- primary liver cancer

**5- spontaneous bacterial peritonitis**

Q879. A 32-year-old female presents with pruritis and jaundice. She is 30 weeks gestation in her first pregnancy. Two weeks earlier she had been treated by the ENT surgeons after presenting to A+E with intractable nose bleeds. The Liver Function Tests are shown below: ALT 72 U/L (5-40) Alkaline phosphatase 700 U/L (30-110) Bilirubin 80 µmol/L (1-18) Serum bile acids 100 times normal titre. Which of the following statements is correct concerning this patient?

1- ALP does not increase in a normal pregnancy

**2- Maternal hepatic blood flow does not increase in pregnancy**

3- Treatment options include IV N-acetyl cystine

4- Varices are diagnostic of liver disease in pregnancy

5- Viral hepatitis is the likely diagnosis

Q880. Which of the following is most likely to be reversible following venesection in a 45-yearold male with haemochromatosis?

1- Arthropathy

**2- Cardiomyopathy**

3- Cirrhosis

4- Diabetes Mellitus

5- Hypopituitarism

Q881. A 56-year-old man from Thailand presented with abdominal pain and a mass in the right upper quadrant. He reported that he had been diagnosed with viral hepatitis several years previously. Investigations showed: Serum alpha-fetoprotein 13,500 IU/L (< 10) What is the most likely underlying viral infection?

1- Hepatitis A virus

**2- Hepatitis B virus**

3- Hepatitis C virus

4- Hepatitis D virus

5- Hepatitis E virus

Q882. Which of the following is true concerning a hepatitis E infection?

1- It can be transmitted with hepatitis B.

2- It is a recognised cause of chronic liver disease.

3- CT scan of the liver with contrast shows diagnostic appearances.

4- The incidence of chronic liver disease is reduced by administration of alpha interferon.

**5- It does not result in a carrier state.**

# Chapter 6 Haematology

Q883. A 20-year-old man presented to hospital two days after returning from visiting his family in Bangladesh. Within a day of his return to the UK, he suddenly developed profuse watery diarrhoea. He says there had been an outbreak of diarrhoea in his family's village in the week before his return. Stool culture revealed a growth of Vibrio cholerae. Which one of the following blood types is associated with the greatest susceptibilty to severe cholera?

1- Blood Group A

2- Blood Group AB

3- Blood Group B

**4- Blood Group O**

5- Rhesus -ve

Q884. A 36-year-old female who is on warfarin after suffering a deep vein thrombosis, presents with an INR of 8.2 and a conjunctival haemorrhage. The blood pressure is 125/55 mmHg, heart rate is 65 bpm and the ECG reveals a normal sinus rhythm. Which of the following is the most appropriate treatment for this patient?

1- FFP

2- Factor VII

**3- Oral vitamin K 1mg**

4- Prothrombin complex concentrate

5- Stop warfarin only

Q885. A 72-year-old male presents with a five day history of cough, dyspnoea and fever. His chest X-ray shows a left basal consolidation. His Full Blood Count shows: Haemoglobin 11 g/dL (13.0-16.5) White cell count 30 x 109 /L (4-11) Neutrophils 10 x 109 /L (2-7) Lymphocytes 20 x 109 /L (1-4) Monocytes 1 x 109 /L (0-0.8) Eosinophils 0.4 x 109 /L (0.04-0.4) Basophils 0.1 x 109 /L (0-0.1) Which one of the following is the most appropriate test to establish the diagnosis?

1- Bone marrow aspirate

2- Bone marrow cytogenetics

3- CT abdomen

**4- Immunophenotyping of white cells**

5- Sputum cytology and AFB

Q886. An 84-year-old woman presented with tiredness. On examination, she was anaemic but had no palpable splenomegaly. Investigations revealed a haemoglobin of 9.7 g/dL (11.5 - 16.5). She was commenced on oral iron therapy for one month and her haemoglobin remained unchanged. Further investigations revealed: MCV 102 fL (80 - 96) blood film marked anisopoikilocytosis serum ferritin 70 ug/L(15 - 300) Vitamin B12 280 ng/L (160 - 760) red cell folate 230 ug/L (160 - 640) serum urea 9.1 mmol/L (2.5-7.5) serum creatinine 150 umol/L (60 - 110) What is the most likely diagnosis?

1- aplastic anaemia

2- anaemia due to renal disease

3- hypothyroidism

4- iron deficiency anaemia

**5- sideroblastic anaemia**

Q887. A 26-year-old man presents with dark urine, especially in the early morning. Further investigations show that he has haemoglobinuria and haemolytic anaemia. A diagnosis of paroxysmal nocturnal haemoturia is made. What is the likely mechanism underlying this condition?

1- aberrant fusion of 2 genes

2- impaired protein degradation

3- over expression of cellular oncogene

**4- post-translational modification**

5- telomere shortening

Q888. Concerning immune cell antigen receptors, which of the following statements is false?

1- Affinity maturation of the B-cell receptor is an important process initiated during the primary immune response

2- IgD are surface receptors of B-lymphocytes

**3- In normal individuals T- lymphocytes with Tcell receptors (TC R) that recognize autoantigens are all deleted to prevent autoimmunity**

4- TCRs with different antigen specificities can be co-expressed on a single T lymphocytes

5- The antigen specificity of the T-cell receptor is generated during development

Q889. In porphyria, which of the following is least likely to precipitate an acute attack:

1- Menstruation

**2- Aspirin**

3- Phenytoin

4- Thiopentone

5- Starvation

Q890. Anti-neutrophilic cytoplasmic autoantibodies:

1- positive only in Wegener's syndrome associated with renal disease

2- cause neutropenia in SLE

**3- present in inflammatory bowel disease**

4- increased in systemic lupus erythematosus

5- ANCA positive glomerulonephritis characteristically causes nephrotic syndrome

Q891. A 28-year-old pregnant woman is being treated for a deep vein thrombosis with unfractionated heparin. A recent blood test shows: Haemoglobin 9.8 g/dL White Cell Count 9.5 x 109 /L Platelets 35 x 109 /L What would be the best course of action for this woman?

1- Change to hirudin

2- Change to low molecular weight heparin

3- Change to warfarin

**4- Danaparinoid**

5- No change in treatment and observe

Q892. A 53-year-old woman presents with a six month history of recurrent facial and tongue swelling. She associated the attacks with consuming certain food additives and with contact with some cosmetics and cleaning fluids. Her only regular medication was hormone replacement therapy. Investigations reveal: total serum IgE 145 kU/L (0-120) serum C3 105 mg/dL (65-190) serum C4 35 mg/dL (15-50) What is the most likely diagnosis?

1- C1 esterase inhibitor deficiency

2- chemical intolerance

**3- food allergy**

4- idiopathic angioedema

5- mastocytosis

Q893. A 78-year-old female who is on warfarin for atrial fibrillation presents with melaena. The blood pressure is 90/60 mmHg and the heart rate 100 bpm. Investigations show: Haemoglobin 9g/l (12-16) MCV 87 fl (83-95) INR 7.2 A PR examination confirms melaena. Which is the best option for correcting the coagulopathy?

1- FFP

2- IV Vitamin K

3- Stop warfarin and give IV Vitamin K

**4- Stop warfarin and give IV Vitamin K and Prothrombin complex concentrate**

5- Stop warfarin

Q894. A 25-year-old female with a history of type 1 Von Willebrand's disease is referred for an opinion. She is to have a cervical cone biopsy and the admitting team are concerned about her clotting. You find that she has a past history menorrhagia and has had two dental extractions as an adolescent that were uncomplicated. What is the most useful test to assess her bleeding tendency?

1- Activated partial thromboplastin time

2- Bleeding time

**3- Plasma factor VIII activity**

4- Platelet aggregation

5- Prothrombin time

Q895. Which of the following statements is true of sickle cell disease?

1- a painful shoulder joint will respond to intra-articular corticosteroid injection

2- oral iron supplements are required

3- symptoms of anaemia are usually limiting when Hb equals 8 g/dl

**4- there is often an inability to concentrate urine**

5- the spleen is frequently enlarged

Q896. A 75-year-old man has a history of Chronic Lymphocytic Leukaemia. He has had treatment with several courses of chemotherapy and has now been admitted to hospital with pneumonia. His past medical history revealed that he had suffered several previous upper respiratory tract infections over the previous six months. Which of the following components of his immune system is likely to be deficient?

1- Complement

**2- Immunoglobulin G**

3- Macrophages

4- Mast cells

5- T lymphocytes

Q897. A patient with end stage renal disease is receiving haemodialysis and erythropoietin. Which of the following does Erythropoietin therapy cause?

1- Benign intracranial hypertension

2- Myositis

3- Hypotension

**4- Seizures**

5- Osteoporosis

Q898. Which of the following statements is most true regarding polycythaemia rubra vera (PR V) ?

**1- The diagnosis of PRV is based on a high red cell mass, normal oxygen saturations and splenomegaly**

2- PRV may be characterised by a raised packed cell volume and decreased plasma volume

3- PRV is often associated with hypertension and smoking

4- PRV is usually associated with a high haemoglobin, but with neutropenia and thrombocytopenia

5- Venesection treatment will improve long term survival rates

Q899. Which if the following is the mechanism of action of warfarin?

1- Activation of gamma-glutamyl carboxylase

2- Chelation of calcium

3- Inhibition of activated factor X

**4- Inhibition of vitamin K epoxide reductase**

5- Inhibition of vitamin K-dependent carboxylase

Q900. A 24-year-old female student presented with fever and rigors for two days, fatigue, headache especially retro-orbital and diarrhoea. In particular she complained of a weakness of the left side of her face and drooping of the lip. She had recently returned from a sabbatical in Uganda four weeks previously. She was febrile (39.9 C) , had a mild left facial nerve palsy, lymphadenopathy in her axillae and groin and she had an erythematous, maculopapular rash. Laboratory investigations showed. Hb 12.0 g/dL (11.5-16.5) WBC 3.0 x 109 /L (4-11) Platelets 150 x 109 /L (150-400) Blood film Lymphopaenia, some atypical lymphocytes seen Which of the following is the most likely diagnosis?

**1- Acute HIV infection (seroconversion illnes s) 2- Dengue fever**

3- Infectious mononucleosis

4- Typhoid fever

5- Viral hepatitis

Q901. An 80-year-old woman has a three month history of progressive numbness and unsteadiness of her gait. On examination, there is a mild spastic paraparesis, with brisk knee reflexes, ankle reflexes are present with reinforcement, extensor plantars, sensory loss in the legs with a sensory level at T10, impaired joint position sense in the toes, and loss of vibration sense below the iliac crests. Investigations were as follows:- haemoglobin 12.2 g/dl (12-16) MCV 95 fl (85-95) What is the most likely diagnosis?

1- anterior spinal artery occlusion

**2- dorsal meningioma**

3- multiple sclerosis

4- subacute combined degeneration of the cord

5- tabes dorsalis

Q902. A 56-year-old female presents at the general practitioner with weakness. A full blood count reveals a haemoglobin concentration of 10.5 g/dl and an mean cell volume of 104 fl, but no other abnormality. Which of the following may account for this?

1- Hormone replacement therapy

2- Thyrotoxicosis

3- Ulcerative colitis

4- Zollinger-Ellison syndrome

**5- Scurvy**

Q903. A 75-year-old male is admitted with tiredness and lethargy and is found to have an enlarged right supraclavicular mass. Past medical history reveals that he had been developed acrocyanosis, six months previously and two months ago had been admitted with a chest infection for which he was treated with Co-Amoxiclav. Investigations reveal: blood film red cell auto-agglutination direct antiglobulin test positive cold agglutinin test positive What is the most likely diagnosis?

1- Bronchial carcinoma

2- Drug-induced haemolysis

3- Mycoplasma pneumoniae infection

**4- non-Hodgkin's lymphoma**

5- Paroxysmal cold haemoglobinuria

Q904. Whilst being investigated for infertility, a 3

0- year-old woman is noted to have some bruising on her limbs with a palpable spleen on abdominal examination. Investigations reveal: Haemoglobin 10. 0 g/dL (11. 5 - 16.5) White cell count 110 x 109 /L (4 - 11) Neutrophils 60 x 109 /L (1.5 -7) Lymphocytes 2 x 109 /L (1.5 - 4) Monocytes 0.8 x 109 /L (0 - 0. 8) Eosinophils 0.3 x 109 /L (0. 04 - 0.4) Basophils 0.7 x 109 /L (0 - 0. 1) Myelocytes 40 x 109 /L Myeloblasts 4 x 109 /L Platelet count 900 x 109 /L (150 - 400) What is the most likely diagnosis?

1- Acute myeloid leukaemia

2- Acute promyelocytic leukaemia

**3- Chronic myeloid leukaemia**

4- Essential thrombocythaemia

5- Myelofibrosis

Q905. Which of the following conditions is most likely to be associated with thrombocytopenia?

1- haemophilia A

2- hereditary haemorrhagic telangiectasia

**3- pernicious anaemia**

4- porphyria

5- uraemia

Q906. A 40-year-old man presents with bleeding gums and ease of bruising. His only medication is omeprazole for dyspepsia. Investigations show: Haemoglobin 12.5 g/dL ( 13.0-16.5) MCV 90 fl (83-95) Platelets 20 x 109 /L ( 150-400) Blood film: occasional giant platelets Prothrombin time 13.5s (11.5-15.5) What is the most likely diagnosis?

1- Amegakaryocytic thrombocytopenia

2- Disseminated intravascular coagulation

3- Drug-induced thrombocytopenia

**4- Immune thrombocytopenia**

5- Thrombotic thrombocytopenic purpura

Q907. An eighty-year-old man presents with tiredness and weakness. A diagnosis of myelodysplastic syndrome is suspected. Which of the following statements regarding myelodysplastic syndrome is correct?

1- Absence of ring sideroblasts on the blood film excludes myelodysplasia as a diagnosis

2- Cytotoxic chemotherapy is likely to be part of his treatment

**3- He is more likely to die from an infection than from leukaemic transformation**

4- If blast cells constitute 1% of the total white cells, this signifies leukaemic transformation.

5- On a blood film, neutrophils typically show toxic granulation

Q908. Which of the following is a proto-oncogene?

**1- The N-Myc gene**

2- The WT1 (first Wilm's tumou r) gene

3- The Retinoblastoma gene

4- The WT2 (second Wilm's tumou r) gene

5- The BCRabI translocation (Philadelphia chromosom e)

Q909. Which of the following haematological disorders is inherited as an autosomal recessive condition?

1- Antithrombin III deficiency

2- Protein C deficiency

3- Glucose-6-phosphate dehydrogenase deficiency

**4- Pyruvate kinase deficiency**

5- Acute intermittent porphyria

Q910. A patient presents with acute promyelocytic leukaemia. What is the likely mechanism underlying leukaemogenesis?

**1- aberrant fusion of 2 genes**

2- impaired protein degradation

3- over expression of cellular oncogene

4- post-translational modification

5- telomere shortening

Q911. A patient who received total body irradiation for the treatment of Hodgkin's Lymphoma develops Graft Versus Host Disease (GVH D) . Which of the following blood products is likely to have caused this?

1- Cryoprecipitate

2- FFP

3- Frozen deglycerolized red blood cells

4- Immunoglobulin

**5- Packed red blood cells**

Q912. A 17-year-old girl with mild Von Willebrand's disease is scheduled for dental extraction. A previous dental extraction resulted in bleeding that had required two unit transfusion. What is the most appropriate treatment prior to dental surgery?

1- Cryoprecipitate

**2- DDAVP**

3- Fresh frozen plasma

4- High purity factor VIII concentrate

5- Recombinant factor VIII concentrate

Q913. A 70-year-old male is diagnosed with multiple myeloma and is treated with melphalan and prednisolone. Which of the following when added to this chemotherapeutic regime would be expected to improve survival?

1- Cyclosporin

2- Interferon alpha

3- Methotrexate

**4- Thalidomide**

5- Simvastatin

Q914. A 71-year-old man presents with a tender left calf and has a background history of headaches, tiredness and dizziness. He is a smoker of 20 cigarettes daily and drinks 45 units of alcohol weekly. On examination he was plethoric, had a blood pressure of 186/102 mmHg and has a swollen, hot tender and erythematous left calf. Dopplers confirm the presence of a deep vein thrombosis. Investigations reveal: haemoglobin 19 g/dL (13-18) haematocrit 0.58 (0.4-0.52) white cell count 12.5 x 109 /L (4-11) platelet count 500 x 109 /L (150-400) Which one of the following is the most appropriate investigation to establish the diagnosis?

1- Abdominal ultrasound scan

2- Arterial blood gases

**3- Red blood cell mass**

4- Bone marrow trephine

5- Leucocyte alkaline phosphatase score

Q915. A 62-year-old male is diagnosed with Chronic myeloid leukaemia and his investigations show that both Philidelphia chromosome and bcr/abl gene is present. What is the significance of the presence of the bcr/abl gene?

1- Acts on stem cell line DNA

2- Blocks apoptosis

**3- Codes for the production of a tyrosine kinase in the leukaemic cells**

4- Increases production of granulocyte colony stimulating factor

5- Increases expression of granulocyte colony stimulating factor receptors on the cell membrane.

Q916. A 22-year-old male presents with episodic nausea and adbominal pain although has maintained a normal weight. The symptoms have been attributed to irritable bowel syndrome. There are no abnormailities on examination. Blood tests were performed which reveal: Haemoglobin 12.2 g/dl (11.5-16) MCV 92fl (83-95) White cell count 6.5 x 109 /L (4-10) Platelets 310 x 109 /L (150-400) Reticulocytes 5% Bilirubin 42 micromol/l (0-18) AST/ALP Normal Coomb's test negative Haptoglobin undetectable Which of the following is the likely diagnosis?

1- Acute intermittent porphyria

2- Dubin-Johnson syndrome

3- Gilbert's syndrome

**4- Hereditary spherocytosis**

5- Viral hepatitis

Q917. Which of the following statements regarding lymphomas in childhood is correct?

1- Hodgkin's disease is more common than non-Hodgkin's under the age of 5 years.

2- Hodgkin's disease has equal sex incidence.

3- lymphocyte-predominant Hodgkin's disease has the worse prognosis.

**4- the nodular sclerosing variety is the most common form of Hodgkin's disease.**

5- the most common presenting clinical sign is splenomegaly.

Q918. A patient with AML develops jaundice and spiking pyrexia 3 weeks into induction chemotherapy. The patient remained pyrexial after 7 days of intravenous antibiotics. What is the likely diagnosis?

**1- CMV**

2- Fungal infection

3- Hepatic leukaemic deposits

4- Miliary TB

5- Toxoplasmosis

Q919. Which of the following statements regarding thrombocytosis is correct?

1- The commonest cause is Essential Thrombocythaemia

2- Occurs exclusively in essential thrombocythaemia

3- Erythropoietin is the key hormone in the regulation of megakaryocyte differentiation

**4- May occur as a response to exercise**

5- Secondary thrombocytosis is an indication for hydroxycarbamide therapy

Q920. Which of the following statements concerning abnormalities of the haemoglobin molecule is true?

1- Alpha thalassaemia is due to a deficiency of beta-chain production

**2- HbS is caused by a single base mutation on the beta-chain**

3- genes for the alpha and beta chains are located on the same chromosome

4- in thalassaemia persistance of HbF is an adverse prognostic sign

5- oligonucleotide probes may assist in the diagnosis of haemoglobinopathies in adolescents

Q921. Heinz bodies in red blood cells in haemolytic anaemia is present in

1- paroxysmal nocturnal haemoglobinuria

**2- Glucose 6 phosphate dehydrogenase deficiency**

3- post splenectomy

4- cold agglutinin disease

5- clostridium welchii septicaemia

Q922. A 45-year-old Chinese man is found incidentally to have a severely hypochromic and microcytic blood picture, with Hb 11.2g/dl. He is asymptomatic. Which of the following is the most discriminatory investigation?

1- Barium enema

2- Gastroscopy

**3- Haemoglobin electrophoresis**

4- Bone marrow biopsy

5- Ham test

Q923. A 42-year-old man presented with tiredness, breathlessness, and nose bleeds for three weeks. On examination there were several bruises on his arms and legs, 2 cm splenomegaly and fundal haemorrhages. Investigations revealed: haemoglobin 7.2 g/dL (11.5-16.5) white cell count 13.8 x 109 /L (4-11) platelet count 24 x 109 /L (150-400) blood film white cells predominantly myeloblasts and promyelocytes Which one of the following investigations would be of most prognostic value?

1- cerebrospinal fluid examination

2- cytochemistry

**3- cytogenic karyotype**

4- immunophenotyping

5- bone marrow trephine biopsy

Q924. A 30-year-old male presents with episodic jaundice and anaemia and has been diagnosed with glucose-6-phosphate dehydrogenase (G6P D) deficiency. On further testing, his wife has normal plasma G6PD activity. What is the risk of their children developing this condition?. Which one of the following statements is correct?

1- 50% of their children will be affected, irrespective of gender

2- All their sons will be affected

3- All their children will be affected

4- All their daughters will be affected

**5- None of their children will be affected**

Q925. Folic acid metabolism can be affected by

1- tetracycline

**2- pyrimethamine**

3- Vitamin B12

4- penicillin

5- brufen

Q926. A 50-year-old female presents with acute chest pain and dyspnoea. Examination reveals bilateral ankle oedema with 24 hr urine protein assessment showing 8g/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's factor

4- reduced fibrinogen concentration

5- reduced factor VIII

Q927. A 61-year-old, who has smoked for 40 years, presents with thoracic back pain. His investigations reveal: Haemoglobin 11.1 g/dl Urea 9.3 mmol/l Creatinine 298 micromol/l Calcium 3.67 mmol/l Albumin 30 g/l Total protein 97 g/l Thoracic spine X-ray collapse of T8 Which investigation would confirm the diagnosis?

**1- Bone Marrow Aspirate**

2- CXR

3- Creatinine Clearance

4- ESR

5- PTH

Q928. A 21-year-old man with non-Hodgkin's lymphoma and haemolytic anaemia is assessed for splenectomy. When should Pneumovax vaccine be administered?

**1- one month before surgery**

2- one week before surgery

3- one week after surgery

4- one month after surgery

5- perioperatively

Q929. A 32-year-old man was prescribed an oral antibiotic for a urinary tract infection. Two days later he noticed that his urine was increasingly dark in colour. Investigations revealed: haemoglobin 8.5g/dL (13.0-18.0) reticulocytes 147 x 109 /L (25-85) Blood film: marked anisopoikilocytosis and bite cells What is the most likely diagnosis?

1- Acute Myeloid Leukaemia

**2- Autoimmune haemolytic anaemia**

3- haemoglobin H disease

4- hereditary spherocytosis

5- paroxysmal cold haemoglobinuria

Q930. Which of the following public health measures would reduce the incidence of iron deficiency anaemia?

1- Using doorstep cow's milk from 6 months of age.

2- Giving young children tea rather than fruit juice.

3- Delaying the introduction of mixed feeding until 9 months of age.

4- Giving 0.5mg per day of elemental iron to all preterm babies.

**5- Continuing breast feeding until a year of age.**

Q931. A 70-year-old female presents with a three month history of exertional dyspnoea and chest pain. She admitted to a poor diet, some vague abdominal pains and having lost 7kg in weight. Examination revealed pallor, patches of vitiligo on her arms and trunk, ankle oedema and a palpable spleen. Investigations revealed: Haemoglobin 5 g/dl (11.5-16.5) MCV 105 fL (80-96) White cell count 2 x 109 /L (4-11) Platelet count 50 x 109 /L (150-400) Bilirubin 40 umol/L (1-22) ALT 60 U/L (5-35) AST 40 U/L (1-31) LDH 1000 U/L (10-250) Which one of the following is the most likely diagnosis?

1- Aplastic anaemia

2- Autoimmune haemolytic anaemia

3- Dietary folate deficiency

**4- Pernicious anaemia**

5- Sideroblastic anaemia

Q932. A 23-year-old footballer was prescribed Ibuprofen by his GP for a sprained ankle. Several hours later he felt very unwell and was passing dark urine. The peripheral blood film shows many schistocytes. The lab results show: Haemoglobin <9 g/L WBC 7 × 109 /L with normal differentials Platelets 450 × 109 /L Reticulocyte count 5% Bilirubin 40 µmol/L What is the most likely cause for her presentation?

1- Allergic reaction

2- Autoimmune haemolytic anaemia

**3- Glucose-6-phosphate dehydrogenase deficiency**

4- Paroxysmal nocturnal haemoglobinuria

5- Pyruvate kinase deficiency

Q933. Which of the following statements regarding Disseminated intravascular coagulation is most correct?

1- Removal of the underlying cause of the DIC will lead to resolution the manifestations of DIC

2- DIC is associated with a rising platelet count

3- DIC is associated with rising fibrinogen levels

4- Normal clotting parameters effectively excludes a diagnosis of DIC

**5- DIC is associated with an elevated D-Dimer**

Q934. A 30-year-old female presents to the antenatal clinic with her first pregnancy. During the interview she reports that she has been entirely well but her sister had had a deep vein thrombosis in her second pregnancy. A thrombophilia screen shows that she is heterozygous for factor V Leiden. Which is the most appropriate action for this patient?

**1- She should be informed to seek medical attention if she becomes aware of calf swelling or pain**

2- She should be treated with Aspirin 75mg daily

3- She should be treated with prophylactic low molecular weight Heparin

4- She should be treated with prophylactic unfractionated Heparin

5- She should receive Warfarin

Q935. In sickle cell disease:

1- The Sickledex test involves adding a reagent to blood, which allows the nature of the haemoglobinopathy to be determined

2- It is caused by the substitution of glutamic acid by valine at position 4 on the beta chain of haemoglobin

3- The erythrocytes of Haemoglobin AS patients can sickle at a pO2 of 5 to 6 kPa (40-50 mmH g) 4- The erythrocytes of Haemoglobin SC patients may sickle at a pO2 of 4 kPa (30 mmH g) 5- Exchange transfusions prior to major surgery on HbSS patients, aims to lower the HbS concentration to 60%

Q936. What is the mechanism of action of lowmolecular-weight heparin?

1- Activation of plasminogen

2- Chelation of calcium

**3- Inhibition of activated factor X**

4- Inhibition of antithrombin

5- Inhibition of vitamin K-dependent carboxylase

Q937. A 12-year-old boy was diagnosed with Haemophilia A. His uncle from the mother's side also has the same condition although his mother is well. The parents of the boy are worried about their next child suffering with the same condition. What is the chance of the next child having the disease?

1- 0%

**2- 25%**

3- 50%

4- 75%

5- 100%

Q938. A 73-year-old man presented with a two week history of breathlessness and easy bruising. Investigations show: Haemoglobin 6.9 g/dL (13.0-18.0) White cell count 0.4 x 109 /L (4-11) Platelet count 9 x 109 /L (150-400) Bone marrow aspirate all cellular elements reduced Which drug is the most likely cause of these abnormalities?

1- Acyclovir

2- Amiloride

3- Amoxicillin

4- Paracetamol

**5- Trimethoprim**

Q939. A 75-year-old woman receives 2 units of packed red cells following a hip replacement. One week later her haemoglobin concentration had fallen by 4 g/l. Which one of the following would be most likely to indicate a delayed transfusion reaction?

1- conjugated hyperbilirubinaemia

2- elevated D-dimer concentration

3- haemoglobinuria

4- haemosiderinuria

**5- positive direct antiglobulin test**

Q940. A 69-year-old male presents with tiredness and dyspnoea and is diagnosed with acute myeloid leukaemia. Which of the following is the most important prognostic factor?

1- Elevated lactate dehydrogenase activity

**2- Karyotype of bone marrow**

3- Monocytic morphology

4- Number of blasts in bone marrow

5- White cell count at diagnosis

Q941. A 56-year-old male was admitted for a total hip replacement due to osteoarthritis. There was no other medical history and physical examination was normal. A routine preoperative FBC showed: Haemoglobin 11 g/dl (11.5-16.5) Platelet count 170 x 109 /L (150-400) White cell count 25 x 109 /L (4-11) Neutrophil count 5 x 109 /L (1.5-7) Lymphocyte count 19 x 109 /L (1.5-4) Monocyte count 0.9 x 109 /L (0-0.8) Eosinophil count 0.1 x 109 /L (0.04-4) Basophil count 0.08 x 109 /L (0-0.1) His Blood film shows mature lymphocytes What is the most appropriate initial management for this patient?

1- Cancel the patient's operation

2- Chlorambucil

3- Fludarabine

**4- Observation**

5- Prednisolone

Q942. A 41-year-old African man has a history of multiple episodes of sudden onset of severe abdominal pain and back pain lasting for hours. Each time this happens, his peripheral blood smear demonstrates numerous sickled erythrocytes. A haemoglobin electrophoresis shows 94% Hgb S, 5% Hgb F, and 1% Hgb A2. He now has increasing pain in his right groin radiating to the anterior aspect of the thigh and to the knee. His temperature was 38? and examination of his hip revealed pain on internal rotation. A radiograph reveals irregular bony destruction of the femoral head. The most likely organism to be responsible for these findings is?

1- Candida albicans

2- Clostridium perfringens

3- Group B streptococcus

**4- Salmonella species**

5- Yersinia pestis

Q943. A 17-year-old girl who had completed treatment for acute lymphoblastic leukaemia six months previously, presents with a short history of marked, right hip pain and associated limp. What is the most likely diagnosis?

**1- Avascular necrosis of the femoral head**

2- Gout

3- Osteoarthritis

4- Pseudogout

5- Septic arthritis

Q944. An 82-year old man presents to his General Practitioner with a six month history of fatigue and increasing exertional dyspnoea. Investigations show: Haemoglobin 7.5 g/dL MCV 112fL White blood cells 3.12 x 109 /L Neutrophils 34% Blasts 1% Platelets 12 x 109 /L A bone marrow aspirate stained with Perl's stain showed ring sideroblasts. What is the most likely diagnosis?

1- Aplastic anaemia

2- Chronic myeloid leukaemia

3- Metastatic bone marrow infiltration

**4- Myelodysplastic syndrome**

5- Myelofibrosis

Q945. A 68-year-old man complained of tiredness and lethargy. On examination there was 2 cm hepatomegaly and 7 cm splenomegaly. Investigations show Haemoglobin 17.4 g/dL (13.0-18.0) White cell count 39.4 x 109 /L (4-11) White cell differential: Neutrophils 22.2 x 109 /L (1.5 - 7) Lymphocytes 1.1 x 109 /L (1.5 - 4) Monocytes 1.0 x 109 /L (0 - 0.8) Eosinophils 0.4 x 109 /L (0.04 - 0.4) Basophils 2.1 x 109 /L (0 - 0.1) Metamyelocytes 1.2 x 109 /L Myelocytes 10.9 x 109 /L Myeloblasts 1.3 x 109 /L Nucleated RBC 3 per 100 rbc Platelet count 585 x 109 /L (150 - 400) What is the most likely diagnosis?

1- Acute myeloid leukaemia

**2- Chronic myeloid leukaemia**

3- Essential thrombocythaemia

4- Myelofibrosis

5- Primary proliferative polycythaemia (rubra ver a)

Q946. An 85-year-old patient from an elderly care home, experiences sudden onset of dyspnea and palpitations. A pulmonary ventilationperfusion scan is performed and indicates a high probability for a perfusion defect involving a pulmonary arterial branch. Which of the following findings or conditions is the one that is the most important factor favouring development of her complaint?

1- neutrophilia

2- Cirrhosis of the liver

3- Poor nutrition

**4- An increased platelet count**

5- Generalized atherosclerosis

Q947. B cell CLL

1- thrombocytopenia often autoimmune

**2- reduced immunoglobulins are a risk for recurrent bacterial infections**

3- Stage A disease should be treated with chemotherapy

4- late transformation to ALL occur in the majority of patients

5- diffuse infiltration of bone marrow indicates good prognosis

Q948. A 17-year-old male with glucose-6-phosphate dehydrogenase deficiency presents with tiredness and is noticed to be jaundiced. These features have developed since he developed a mild chest infection one week ago. Which one of the following is the most likely haematological finding?

**1- Haemoglobinuria**

2- low mean cell volume

3- Positive direct antiglobulin test

4- Reduced reticulocyte count

5- Spherocytes present on blood film

Q949. A 59-year-old male is referred with an abnormal full blood count. He had presented to his general practitioner with a flu like illness which has since subsided but a FBC revealed a platelet count of 800x109 /l which has remained persistently elevated but with no other abnormality on the FBC. He is otherwise entirely asymptomatic and no abnormalities are noted on examination. Which of the following is the most appropriate treatment for this patient?

1- Aspirin

2- Anagrelide

3- Hydroxturea

4- Plateletpheresis

**5- Observation**

Q950. A 20-year-old caucasian student returns from Ghana with a spiking temperature and nocturnal sweats. She has 0.5% of red blood cells infected with Plasmodium falciparum. Select one of the following answers relating to quinine therapy in this case:

1- quinine contraindicated in those taking mefloquine prophylactically

2- quinine must always be given parenterally initially

3- pregnancy is a contraindication for quinine

**4- glucose level should be monitored in those on treatment with quinine**

5- dose of quinine should be reduced in liver impairment

Q951. A 19-year-old man with glucose-6-phosphate dehydrogenase deficiency wishes to travel to Africa. Which one of the following should he be advised to avoid?

**1- primaquine**

2- loperamide

3- mefloquine

4- ibuprofen

5- yellow fever vaccine

Q952. You are called to A+E to assess a 21-year-old student who has presented with bloody diarrhoea. The diarrhoea started two weeks previously, and was associated with increasing nausea and malaise, and mild swelling of the lower limbs. She was having difficulty passing urine. She had eaten steak from the local butcher at a friends barbeque the day before developing diarrhoea. On examination she was pale, with evidence of petechiae over her legs. Her face appeared puffy. Blood pressure was 160/95. On examination she was apyrexial, but had a tachycardia, and crackles on inspiration at both lung bases. There was an old appendicectomy scar in the right iliac fossa. Investigations: Haemoglobin 8.5 g/dL White cell count 13.2 x 109 /L Neutrophils 9.5 x 109 /L Platelets 35 x 10/L PT 12 sec APTT 34 sec Fibrinogen 4 g/dL Serum sodium 139 mmol/L Serum potassium 6.1 mmol/L Serum urea 40 mmol/L Serum creatinine 411 umol/L Serum albumin 27 g/L Dipstick urine Blood ++ Protein + What is the single most important next investigation to determine the diagnosis ?

1- ASO titres

2- Renal tract ultrasound

**3- Stool culture**

4- Transthoracic echocardiogram

5- Urine microscopy

Q953. A 53-year-old male is receiving treatment with imatinib for chronic myeloid leukaemia. Which of the following is imatinib?

1- Inhibits p53

2- Inhibits HER

3- Inhibits guanylate cyclase

4- Inhibits MAP kinase

**5- Inhibits tyrosine kinase**

Q954. A 67-year-old woman presents with acute severe back pain. She is normally fit and well, but there is a strong family history of osteoporosis. Hb 10.6 g/dl (12-16) MCV 85 (80-90) Calcium 2.9 mmol/l (2.2-2.6) Phosphate 2.2 mmol/l (0.8-1.2) alkaline phosphatase 126 iu/l (50-150) Total protein 76g/l (60-83) albumin 30g/l (35-45) What is the most likely underlying diagnosis?

1- Metastatic disease

**2- Multiple myeloma**

3- Osteoporosis

4- Paget's disease

5- Sarcoidosis

Q955. An 18-year-old Asian female is noted to have gingival hypertrophy by her dentist. Which of the following is most likely to be responsible for her presentation?

1- carbamazepine

2- scurvy

3- lead poisoning

**4- phenytoin**

5- sodium valproate

Q956. A 22-year-old male student is admitted with weakness and tiredness. He has otherwise been well. Examination reveals a petechial rash on the lower legs and conjunctival pallor. He takes no medication and denies any illicit drug use. Investigations reveal: Haemoglobin 4 g/dl White cell count 1 x 109 /L Platelets 20 x 109 /L Clotting profile Normal U+Es, liver function tests Normal Which of the following is the likely diagnosis

1- Acute myeloid leukaemia

2- Acute lymphocytic leukaemia

**3- Aplastic anaemia**

4- Henoch-Schönlein Purpura

5- Hodgkin's lymphoma

Q957. A 30-year-old male patient presents with sudden deterioration and haematuria 15 minutes after starting blood transfusion. His pulse rate is 120 beats per minute and blood pressure is 70/ 40 mmHg. Which of the following is the most likely cause?

**1- ABO incompatibility**

2- Anaphylaxis to anaesthetic agents

3- Disseminated intravascular coagulation

4- Graft versus host disease

5- Rhesus incompatibility

Q958. A 52-year-old male presents with a history of lethargy and epistaxis over the last one month. Examination reveals numerous bruises over arms and legs, splenomegaly and retinal haemorrhages. A full blood count shows: Haemoglobin 7 g/dL (11.5-16.5) White cell count 14 x 109 /L (4-11) Platelet count 20 x 109 /L (150-400) His blood film reveals white cells predominantly myeloblasts and promyelocytes Which one of the following investigations would be of most prognostic value?

1- Bone marrow aspiration

2- Bone marrow trephine biopsy

3- Cerebrospinal fluid examination

**4- Cytogenetic karyotype**

5- Immunophenotyping

Q959. A 60-year-old male presents with bruising and tiredness. Examination reveals 4 finger breadth splenomegaly and his results reveal: Haemoglobin 11 g/dl (11.5-16) White cell count 100 x 109 /L Platelets 900 x 109 /L Blood film reveals a neutrophilia, basophilia, numerous myelocytes and 4% myeloblasts Which of the following is likely to be present in this patient?

1- BCR-ABL gene fusion only

2- Deletion chromosome 13

3- Deletion 11q13

4- Normal chromosomal analysis

**5- Translocation 9;22**

Q960. A 70-year-old feamle presents for investigation of fatigue and weight loss. Investigations reveal: haemoglobin 9.0 g/dL (11.5 - 16.5) white cell count 2.0 x l09/L (4-11) platelet count 250 x 109 /L (150 - 400) total protein 74 g/L (61 - 76) albumin 28 g/L (37 - 49) urea 16 mmol/l (3-7) creatinine 250 micromol/L (60 - 110) plasma glucose 6.5 mmol/L (3.0 - 6.0) urine dipstick analysis protein+ blood+ renal ultrasound normal Which one of the following investigations would be most appropriate for this patient?

1- 24 hour urinary protein estimation

2- Measurement of anti-glomerular basement membrane (anti-GB M) antibodies

3- Measurement of anti-neutrophil cytoplasmic antibodies (ANC A) 4- plasma protein electrophoresis

5- renal angiography

Q961. Which one of the following is true of IgE?

1- Is present in plasma in the same concentration as IgG

2- Is increased acutely in an asthmatic attack

3- Crosses the normal placenta

**4- Is increased in the serum of atopic individuals**

5- Is involved in type 2 hypersensitivity

Q962. If a patient with chronic renal failure is treated with erythropoietin (EP O) , which of the following will be expected in this patient?

1- Decreased pure red cell aplasia

2- Decreased risk of hypertension

3- Decreased risk of thrombosis

**4- Increased well being**

5- Reduced appetite

Q963. A 24-year-old male presents after developing a bluish discolouration of the body, lips and nails. He denies any relevant past medical history. Examination reveals a central cyanosis and a grey complexion. Investigation revealed: Haemoglobin 17.0 g/dL (13.0-18.0) paO2 13.0 kPa (11.3-12.6) SaO2 (using an oximete r) 85% (>95) What is the most likely diagnosis?

1- Argyria

2- Cyanotic congenital heart disease

3- Haemochromatosis

**4- Methaemoglobinaemia**

5- Methylene blue poisoning

Q964. A 35-year-old lady with a history of two previous lower limb deep vein thromboses presents with a further DVT. She has a thrombophilia screen performed, which shows the presence of lupus anticoagulant. What is the best course of action?

1- Aspirin

2- Aspirin and Warfarin

3- Long term low molecular weight heparin

4- Warfarin for 6 months

**5- Warfarin lifelong**

Q965. A 60-year-old Chinese man has been started on quinine for leg cramps by his General Practitioner. He presents, a week later, with 5 days of darkened urine and 2 days of increasing breathlessness, back pain and fatigue. Investigations show a haemoglobin of 7.0 g/dl and raised reticulocyte count. Which of the following best explain this drug reaction?

1- autoimmune haemolytic anaemia

**2- glucose-6-phosphate dehydrogenase deficiency**

3- hereditary spherocytosis

4- pyruvate kinase deficiency

5- sickle cell disease

Q966. You are asked to provide advice on a 35-yearold woman who is admitted under the maxillo-facial surgeons for extraction of wisdom teeth. The only concern was that she had developed prolonged bleeding following 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**

Q967. In the considerstion of Disseminated Intravascular Coagulation (DI C) , which of the following statements is most correct?

1- The presence of DIC does not increase mortality from the underlying disease

2- In DIC asociated with sepsis secondary to retained products of conception, treatment of antibiotics will alleviate the process

**3- Organ failure is a common finding in DIC**

4- The intrinsic pathway is not involved in the pathophysiology of DIC

5- There are no randomised control trials to guide treatment in DIC

Q968. A 16-year-old girl with sickle cell disease presented with malaise and rapidly increasing dyspnoea. A full blood count showed: Hb 5.1 g/dL Reticulocyte count 5.5 x 109 /L (25-85) What is the most cause?

1- Epstein-Bar virus

2- Hepatitis E virus

3- Human immunodeficiency virus

4- Human papillomavirus-16 (HPV 16)

**5- Parvovirus B19**

Q969. Which of the following patients with Hodgkin's disease has the worse prognosis?

1- 25-year-old man with inguinal lymphadenopathy

2- 25-year-old woman with mediastinal and inguinal lymphadenopathy

**3- 25-year-old woman with mediastinal and inguinal lymphadenopathy and night sweats**

4- 25-year-old man with mediastinal and inguinal lymphadenopathy and pruritis

5- 25-year-old man with cervical and mediastinal lymphadenopathy

Q970. A 17-year-old woman with non-Hodgkin's lymphoma underwent splenectomy for haemolytic anaemia. She understood that she had an enhanced risk of developing overwhelming pneumococcal sepsis and wished to know how long this risk would persist. What is the duration of the risk?

1- Up to 6 months

2- Up to 1 year

3- Up to 5 years

4- 5 to 10 years

**5- More than 10 years**

Q971. A 30-year-old woman presented with a deep vein thrombosis. Her previous history included investigation for infertility. Investigations revealed: Haemoglobin 12.8 g/dl (12.5-16.5) White cell count 3.6 x 109 /L (4-11) Platelet count 35 x 109 /L (150-400) Select one of the following investigations that is most likely to be abnormal?

**1- Antiphospholipid antibodies.**

2- Homocystine concentration

3- Platelet function test

4- Protein C concentration.

5- Indium-labelled white cell scan.

Q972. A 55-year-old, asymptomatic woman with mild splenomegaly was found to have a platelet count of 650 × 109 /L on blood investigation. White blood cells and haemoglobin are within the normal range. What is the next step in management?

1- Anagrelide

2- Hydroxycarbamide

3- Low dose aspirin

**4- Observation**

5- Plateletpheresis

Q973. Which of the following conditions would be expected to be associated with a raised leukocyte alkaline phosphatase (LA P) score?

1- Chronic myeloid leukaemia

2- Infectious mononucleosis

**3- Myelofibrosis**

4- Pernicious anaemia

5- Thrombocytopaenic purpura

Q974. A previously well 75-year-old lady presented with tiredness and a mildly raised lymphocyte count on her Full Blood Count. A blood film reports 'Smudge cells seen. Is this lady known to have Chronic Lymphocytic Leukaemia?' What is the most appropriate next investigation to confirm this lady's diagnosis.

1- Bone marrow aspirate

2- Bone marrow trephine

**3- Immunophenotyping**

4- Serum immunoglobulins

5- Ultrasound scan

Q975. A 28-year-old man presented with recurrent nose bleeds and iron deficiency anaemia. A Chest X-ray found a shadow over the right lung base and auscultation in this area revealed a bruit. Which of the following is the most likely diagnosis?

1- Ehlers-Danlos syndrome

**2- Hereditary haemorrhagic telangiectasia**

3- Idiopathic thrombocytopaenic purpura

4- von Willebrand's disease

5- Wegener's granulomatosis

Q976. A 60-year-old lady with bruising is investigated and found to have the following Full Blood Count. Haemoglobin 13 x 10 9/L (11.5 - 16.5) White cell count 6.3 x 10 9/L (4 - 11) Platelet count 15 x 10 9/L (150 - 400) She refuses to give consent to a bone marrow biopsy. What is the most appropriate management plan?

1- Intravenous immunoglobulin

2- No treatment

**3- Oral prednisolone**

4- Platelet transfusion

5- Splenectomy

Q977. A 16-year-old boy presents with a haemarthrosis that developed in his left knee following an injury in the garden. His investigations show: Platelet count 260 x 109 /L (150 - 400) Prothrombin time 13 s (11.5 - 15.5) Activated partial thromboplastin time 80 s (30 - 40) Factor VIII 110 IU/dL (50 - 150) Which of the following is the most likely diagnosis?

1- Antiphospholipid syndrome

2- Antithrombin III deficiency

3- Haemophilia A

**4- Haemophilia B**

5- von Willebrand's disease

Q978. A 14-year-old boy presents with excessive bleeding from a tooth cavity following an extraction at the dentist. His investigations show: Haemoglobin 13.2 x 109 /L (13 - 18) Platelet count 260 x 109 /L (150 - 400) White cell count 8 x 109 /L (4 - 11) Prothrombin time 14 s (11.5 - 15.5) Activated partial thromboplastin time 45 s (30 - 40) Factor VIII 45 IU/dL (50 - 150) Which of the following is the most likely diagnosis?

1- Disseminated intravascular coagulation

2- Haemophilia A

3- Haemophilia B

4- Idiopathic thrombocytopaenic purpura

**5- von Willebrand's disease**

Q979. A 56-year-old man is found to have a macrocytic anaemia with a megaloblastic bone marrow. Which of the following causes of macrocytosis is the most likely cause?

1- Alcohol

2- Aplastic anaemia

**3- Folate deficiency**

4- Myelodysplasia

5- Reticulocytosis

Q980. A 34-year-old Asian lady presented with tiredness and lethargy. Her full blood count shows: Haemoglobin 10.3 g/dl (11.5 - 16.5) Platelet count 320 x 109 /L (150 - 400) White Cell Count 10.6 x 109 /L (4 - 11) MCV 68 fl (80 - 96) HbA2 5.2% (2 - 3) Which of the following is the most likely diagnosis?

1- Acute myeloid leukaemia

2- Beta-thalassaemia major

**3- Beta-thalassaemia trait**

4- Hereditary spherocytosis

5- Sickle cell disease

Q981. A 28-year-old, primigravid woman developed a swollen painful left leg at 12 weeks gestation. Doppler ultrasound of her leg venous system showed a left popliteal vein thrombosis. Which one of the following treatments is associated with the greatest risk to the foetus?

1- Aspirin

2- Intravenous unfractionated Heparin

3- Subcutaneous low molecular weight Heparin

4- Subcutaneous unfractionated Heparin

**5- Warfarin**

# Chapter 7 Infectious disease

Q982. The antibiotic combination Quinipristin and Dalfopristin are

1- effective against resistant mycobacterium TB.

2- indicated in subjects with chronic renal impairment.

3- particularly effective in the treatment of pseudomonas infection in Cystic fibrosis.

4- administered orally.

**5- Effective against multi-resistant Staphylococcus aureus**

Q983. The drug of choice for the treatment of Chlamydia trachomatis infection during pregnancy is:

1- Metronidazole.

2- Cephazolin

**3- Amoxicillin**

4- Tetracycline

5- Clindamycin

Q984. Which one of the following measures would be most effective in reducing transmission of E coli O157:H7 during an outbreak of diarrhea caused by this organism?

1- Drinking only boiled water

**2- Ensuring that meat products are thoroughly cooked**

3- Giving antibiotics to individuals who are positive for Escherichia coli on stool culture

4- Hand washing before preparing food

5- Isolation of individuals with diarrhoea

Q985. A young teenager presents with fever and headache. He has received oral Amoxicillin for 3 days. Which of the following CSF findings would exclude a partially treated meningitis?

1- Negative gram stain

2- A CSF glucose of 45% of blood glucose

**3- A white cell count of 50**

4- A negative CSF culture

5- Negative Kernig's Sign

Q986. The antibiotic combination Quinipristin and Dalfopristin are

1- effective against resistant mycobacterium TB.

2- indicated in subjects with chronic renal impairment.

3- particularly effective in the treatment of pseudomonas infection in Cystic fibrosis.

4- administered orally.

**5- Effective against multi-resistant Staphylococcus aureus**

Q987. Which of the following statement is true of infections with Mycobacterium tuberculosis:

**1- non-sputum producing patients are noninfectious**

2- a positive tuberculin test indicates active disease

3- lymph node positive disease requires longer treatment than pulmonary disease

4- in pregnant women treatment should not be given until after delivery

5- pyrazinamide has high activity against active extracellular organisms

Q988. Twenty one people are on a Nile boat cruise and present one week into their cruise with diarrhoea. What is the most likely causative organism?

1- Campylobacter

2- Cryptosporidium parvum

3- Entamoeba histolytica

4- Giardia lamblia

**5- Shigella species**

Q989. An 18-year-old male presented with a twoweek history of dysuria and purulent penile discharge. Gram stain of a urethral swab showed Gram-negative intracellular diplococci. What specific treatment should he receive?

**1- Cefixime**

2- Cephradine

3- Ciprofloxacin

4- Co-amoxiclav

5- Crystalline penicillin

Q990. A 35-year-old man presented with cellulitis of his right leg. On examination he was mildly confused and febrile (40.1?) with a pulse was 120 / minute and BP 80/55 mmHg. He was treated with intravenous benzylpenicillin and flucloxacillin. Group A Streptococcus was isolated from two sets of blood cultures. There was no significant clinical improvement after 24 hours. What antibiotic should be added?

1- Ciprofloxacin

**2- Clindamycin**

3- Gentamicin

4- Rifampicin

5- Vancomycin

Q991. Which of the following statements concerning zoonotic diseases is true?

1- Brucellosis is characterised by neutrophil leucocytosis.

**2- Brucellosis is a recognised cause of spondylitis.**

3- Toxoplasmosis causes visceral larva migrans.

4- Toxoplasmosis causes vasculitic anterior uveitis.

5- Serological evidence of toxoplasmosis is rare in adults.

Q992. Which of the following statements is true of psittacosis (ornithosi s) :

1- It is only a risk from contact with psittacines (parrot s) , not other birds

2- It usually causes many polymorphs to be present in the sputem

3- It is more of a risk to children than to adults who are exposed to birds

**4- It does spread from person to person**

5- Infection responds rapidly to penicillin therapy

Q993. Which of the following is a feature of Vancomycin-resistant enterococci?

1- cause resistant infective diarrhoea

2- produce an enzyme that inactivates vancomycin

**3- may be found in healthy community volunteers not recently hospitalized**

4- high dose ampicillin is the treatment of choice

5- are commonly vancomycin-dependent

Q994. A 62-year-old lady is due to attend her dentist for a hygiene appointment for scaling. She has a history of mitral valve prolapse with regurgitation and is allergic to penicillin. Which of the following antibiotics would be the most appropriate choice for prophylaxis in this lady?

**1- Oral clindamycin**

2- Oral doxycycline

3- Oral erythromycin

4- Oral ofloxacin

5- No antibiotic prophylaxis

Q995. A 57-year-old woman develops a blistering rash around the mid riff and is diagnosed with herpes zoster. She is treated with acyclovir. Through inhibition of which of the following does acyclovir function?

1- Integrase

**2- Polymerase**

3- Protease

4- Reverse transcriptase

5- Thymidine kinase

Q996. An 80-year-old man with a 5 year history of diet controlled type 2 diabetes mellitus presents with a one month history of cough and weight loss. He was a non-smoker and had difficulty expectorating. Investigation revealed a HbA1c of 7% but his chest X-ray showed a cavitating left apical shadow. Which of the following investigations would be most useful in establishing the cause of this lesion?

**1- bronchoscopy**

2- CT scan of the chest

3- Gastric aspirate for acid-fast bacilli

4- Percutaneous lung biopsy

5- Sputum for acid-fast bacilli

Q997. A 30-year-old schoolteacher is admitted with headache, photophobia and neck stiffness. His temperature is 39.0°C, pulse rate 120 beats/min and he has no skin rash or focal neurological signs his Glasgow coma scale is 15/15. A CT scan shows no contraindication to lumbar puncture. CSF is obtained and Gram stain shows gram-positive cocci, subsequent culture confirms a pneumococcal meningitis. What chemoprophylaxis should be offered to his pupils?

1- Azithromycin

2- Ceftriaxone

3- Ciprofloxacin

**4- no chemoprophylaxis required**

5- Rifampicin

Q998. Which of the following is true of Giardia lambdia infection?

1- is often symptomatic

2- is usually spread by contaminated meats

3- is eradicated by mebendazole

**4- causes steatorrhoea**

5- diagnosed by stool culture

Q999. Which of the following is true concerning Whooping cough (pertussi s) ?

1- is a greater threat to children during the second 6 months of life, after maternal antibody has declined, than during the first 6 months

**2- may lead to hemiplegia**

3- is characteristically associated with a polymorph leucocytosis

4- is associated with convulsions less frequently than is the case with other febrile conditions

5- rapidly resolves with antibiotic treatment

Q1000. Varicella-Zoster infection :

1- Gamma Interferon is an effective treatment.

2- produces latent infection within the anterior horn cells

3- causes urinary incontinence

**4- causes congenital limb deformity**

5- associated pneumonitis is equally common in smokers and nonsmokers

Q1001. A 50-year-old man presented to hospital feeling generally unwell for 3 days. He had returned from a business trip to Thailand six weeks previously and had taken mefloquine as prophylaxis against malaria. On examination he was afebrile, temperature 36.5 C, Pulse was 100/minute and regular, his BP was 85/60 mm Hg. Investigations showed: Hb 14.2 g/dL (13.0-18.0) WBC 19.0 x 109 /L (

4- 11) Neutrophils 18.0 xl09/L (1.5-7.0) AST 72 IU/L (1-31) Alkaline phosphatase 255 (45-105) What is the most likely diagnosis?

1- Acute HIV infection (seroconversion illnes s) 2- Dengue fever

**3- Gram-negative bacteraemia**

4- Hepatitis B

5- Mefloquine-induced hepatitis

Q1002. Which of the following is correct regarding Herpes simplex encephalitis?

1- shows a peak incidence in the Autumn

2- is associated with a polymorphonuclear pleocytosis in the CSF

3- produces a diffuse, evenly distributed inflammation of cerebral tissues

**4- produces a typical EEG pattern with lateralised periodic discharges at 2 Hz**

5- should be treated with acyclovir as soon as the diagnosis is confirmed by urgent CSF viral antibody titres

Q1003. A 27-year-old pop singer presented with a two month history of loose motions and weight loss. He underwent a HIV antibody test and was found to be positive. The presence of which of the following diseases indicates a diagnosis of AIDS?

1- Brucellosis

2- Glandular fever

3- Lyme disease

4- Oral candidiasis

**5- Pulmonary Tuberculosis**

Q1004. Which of the following is least true regarding IgA nephropathy?

1- Is the most common glomerulonephritis in the world

2- Predominantly affects young men

3- Commonly follows a sore throat

4- May be associated with a rash and arthritis

**5- Light chains may be found in the urine**

Q1005. A 29-year-old man is diagnosed with pulmonary tuberculosis. A blood sample is sent to determine his acetylator status prior to starting therapy. This showed that he was a fast acetylator. He was subsequently started on anti-tuberculous therapy that included isoniazid. Which of the following statements is correct?

1- There is an increased risk of convulsions

2- There is an increased risk of drug resistance

**3- There is an increased risk of hepatitis**

4- There is an increased risk of megaloblastic anaemia

5- There is an increased risk of peripheral neuropathy

Q1006. Twenty of thirty patients in an adult ward develop colicky abdominal pain and diarrhoea without vomiting between 21:00 and 01:00 hrs. Meat stew was served for lunch at noon. Which of the following is the likely diagnosis?

1- Bacillus cereus

**2- Clostridium perfringens**

3- Enterotoxigenic Escherichia coli

4- Enterovirus

5- Staphylococcus aureus

Q1007. You are considering starting a patient on Griseofulvin. Which of the following statements concerning its pharmacology is true?

1- It is active against Candida albicans.

2- It is active against aspergillus.

3- It should not be used in renal failure.

4- It used for a maximum of 2 weeks.

**5- It is associated with drug-induced Stevens Johnson syndrome.**

Q1008. A 17-year-old girl presents with 3 day history of vaginal discharge. What is the most likely causative organism?

**1- Candida albicans**

2- Bacterial vaginosis

3- Chlamydia trachomatis

4- Neisseria gonorrhoea

5- Trichomonas vaginalis

Q1009. An 82-year-old female is reviewed as the staff of the nursing home in which she resides are concerned regarding a vaginal discharge. She has been in the nursing home for the last one year with a profound Alzheimer's dementia. Culture of the discharge reveals Neisseria gonorrhoeae. Which is the most appropriate course of action for this patient?

1- Contact the Police

2- Contact tracing of sexual partners

3- Informal enquiry to the nursing home

**4- Seek advice from the MDU**

5- Treat the patient and discharge back to the nursing home

Q1010. Which of the following is true of the the T cell response to antigen?

1- A process of affinity maturation of the T cell receptor occurs.

2- Intact antigen is presented in association with self MHC molecules.

**3- Co-operation with other cell types is required for T cell recognition of antigen.**

4- gamma/delta + T cells respond to antigen presented in association with MHC class II molecules.

5- Interactions of the TcR with an appropriate Ag/MHC complex activates a resting T cell.

Q1011. A 22-year-old female student attended Casualty complaining of fever and rigors for two days. She had returned from a sabbatical in Africa six weeks previously. She was febrile (39.9° C) and a mild petechial rash was also noted. Laboratory investigations showed. Hb 10.1 g/dL (11.5-16.5) WBC 3.0 x 109 /L (4-11) Platelets 115 x 109 /L (150-400) Prothrombin time Normal What is the most likely diagnosis?

**1- Acute HIV infection (seroconversion illnes s) 2- Cytomegalovirus infection**

3- Dengue fever

4- Plasmodium falciparum malaria

5- Typhoid fever

Q1012. Which one of the following statements concerning T-lymphocytes is correct?

1- Are the primary host response in bacterial infection

**2- Compose the majority of lymphocytes in plasma**

3- Are infected by Epstein-Barr virus in infectious mononucleosis

4- produce IgG

5- T cell lymphoma has a better prognosis than B cell lymphoma

Q1013. A 15-year-old female is a close contact of a student who has developed meningitis C. The last contact she had with her friend was two days ago when her friend developed headache. She has not received any previous vaccination for meningitis. What is the most appropriate action for this girl?

1- No treatment is required and the girl can be reassured

2- Treat with rifampicin only

3- She should receive the meningococcal A and C vaccination only

4- She should receive meningococcal immunoglobulin only

**5- She should receive the meningococcal A and C vaccination plus rifampicin**

Q1014. Which of the following statements regarding Japanese Encephalitis is most true?

1- It is a DNA virus

2- Previous exposure to a flavivirus predisposes to increased risk of death on infection with Japanese Encephalitis

**3- Transplacental transmission occurs**

4- It is only recognised in travellers who have spent prolonged periods in endemic areas

5- Is endemic in East Africa

Q1015. Four members of a football team develop diarrhoea due to Salmonella enteritidis. Eating which food was the most likely source of the infection?

**1- chicken at a fast food outlet 20 hours earlier**

2- fried rice at a takeaway 4 hours earlier

3- raw eggs in milk 6 hours earlier

4- raw oysters at a hotel 24 hours earlier

5- soft cheeses 48 hours earlier

Q1016. A 35-year-old man is seen 6 months after a cadaveric renal allograft. He receives azathioprine and prednisolone. He has felt generally unwell for the past week with a pyrexia of 38.6oC, anorexia and a cough productive of thick green sputum. Chest x-ray reveals a left lower lobe nodule of approximately 5cm diameter with central cavitation. Analysis of the sputum reveals long, crooked, branching and beaded grampositive filaments. Which of the following antimicrobials is the most appropriate initial therapy for this patient?

1- Ceftazidime

2- Co-amoxiclav

**3- Co-trimoxazole**

4- Erythromycin

5- Rifampicin and Isoniazid

Q1017. A 27-year-old man presents with fever, urethritis and arthralgia. He is found to have a swollen ankle with a pustular rash on the dorsal aspect of his foot. What is the most likely diagnosis?

**1- Gonococcal sepsis**

2- Lyme disease

3- Reiter's syndrome

4- Staphylococcal arthritis

5- Tuberculous arthritis

Q1018. A 28-year-old man had been treated for pulmonary tuberculosis with rifampicin, isoniazid, pyrazinamide and ethambutol for four weeks. Pre-treatment liver function tests were normal but his most recent investigations revealed: serum total bilirubin 98 micromol/l (0-18) serum alanine aminotransferase 620u/l (5-45) serum aspartate aminotransferase 450 u/l (

5- 45) serum alkaline phosphatase 720 u/l (40-110) Which one of the following is the most appropriate next step?

**1- Stop all treatment**

2- Stop ethambutol

3- Stop isoniazid

4- Stop pyrazinamide

5- Stop rifampicin

Q1019. A 57-year-old woman develops a blistering rash around the mid riff and is diagnosed with herpes zoster. She is treated with acyclovir. Activation of acyclovir by which of the following is responsible for its action?

1- Integrase

2- Polymerase

3- Protease

4- Reverse transcriptase

**5- Thymidine kinase**

Q1020. Which of the following concerning Corynebacterium diphtheriae is correct?

**1- Causes skin infection**

2- Infection is often complicated by myocardial fibrosis after recovery from severe infection

3- Is most unlikely to cause infection in an individual with a positive Schick test

4- Mitis strain is generally more virulent than the intermedius strain

5- Toxin is better absorbed through the nasal than the pharyngeal mucosa

Q1021. A 52-year-old man presented to the Accident & Emergency unit with a two day history of increasing breathlessness, productive cough and fever. He was previously fit and well with no past history of note. He was not a cigarette smoker. On examination he was febrile, temperature was 38.5?, pulse rate 100/ minute and regular, blood pressure 120/80 mmHg and respiratory rate of 25 breaths/ minute. Investigations: Hb 15.0 g/dL WBC 18.5 x 109 /L Platelets 350 x 109 /L Serum sodium 137 mmol/L Serum potassium 4.5 mmol/L Serum urea 5.1 mmol/L Serum creatinine 110 umol/L paO2 (arterial blood, on ai r) 9.0 kPa Chest x-ray showed right middle lobe consolidation What is the most appropriate choice of antibiotics?

**1- Amoxicillin**

2- Amoxicillin plus Erythromycin

3- Ceftriaxone

4- Ciprofloxacin

5- Co-Amoxiclav

Q1022. Which of the following is true of BCG vaccination?

1- is contraindicated in neonates

2- is a killed polysaccharide antigen vaccine

3- should be given to all children who have a strongly positive tuberculin test

4- is presently routinely offered in the UK at age 16 years

**5- Provides protection against leprosy**

Q1023. You are an occupational health physician and have been asked by an anxious employee about contraindications to pertussis immunisation. Which of the following is a contraindication?

1- Eczema

2- Cow's milk protein intolerance.

**3- Fever to 39.5 C following the first dose.**

4- Redness of >2.5cm at the injection site after the first dose.

5- Hydrocephalus

Q1024. A 15-year-old girl presents to casualty with mild gastrointestinal upset. She had recently returned from holiday where she had been swimming in the hotel pool. What is the most likely causative organism?

1- Campylobacter jejuni

**2- Cryptosporidium parvum**

3- Salmonella enteridis

4- Shigella flexneri

5- Staphylococcus aureus

Q1025. A patient is planning to travel through the southern states of America, but is worried about West Nile Virus. Which of the following statements regarding West Nile Virus is correct?

1- Infection is non-fatal

2- Is a member of the arborvirus family

3- Transplacental transmission does not occur

**4- May be associated with Poliomyelitis-like paralysis**

5- Treatment with interferon is effective in West Nile Virus encephalitis

Q1026. A-30-year-old man developed a febrile illness three days after returning from a holiday in Thailand. He was admitted complaining of severe myalgia. On examination he was febrile (39 C) with a diffuse macular rash on the trunk. There was no lymphadenopathy. Investigations revealed: Haemoglobin 15.1 g/dL (13.0-18.0) White cell count 7.5 x 109 /L (4-11) Platelet count 105 x 109 /L (150-400) Serum total bilirubin 18 mmol/L (1-22) Serum alanine aminotransferase 120 U/L (

5- 35) What is the most likely diagnosis?

1- Acute HIV infection (seroconversion illnes s) 2- Dengue fever

3- Hepatitis E

4- Secondary syphilis

5- Typhoid

Q1027. A 35-year-old man returned from a two-week holiday complaining of pain in the loins and painful swollen knees. On examination he was afebrile and had significant bilateral knee effusions. Mild penile erythema was also noted. Laboratory investigations showed. Hb 15.6 g/dL WBC 16.2 x 109 /L Neutrophils 14.1 x 109 /L ESR 65 mm/h Rheumatoid factor 10 IU/L Urinalysis No cells, casts or bacteria seen What is the most likely diagnosis?

**1- Arthritis due to Neisseria gonorrhoeae infection**

2- Lymphogranuloma venereum

3- Reactive arthritis

4- Reitter's syndrome

5- Rheumatoid arthritis

Q1028. A 17-year-old man presented to casualty complaining of difficulty breathing. He had been brought to hospital by ambulance, having collapsed shortly after being stung on the hand by a bee. On examination, his blood pressure was 80/40 mmHg, and facial swelling was noted. Which one of the following investigations is most likely to confirm the nature of the reaction?

1- Haemolytic complement (CH50) level

**2- Plasma tryptase activity**

3- Serum complement C3 level

4- Serum total IgE level

5- Serum venom-specific IgE level

Q1029. Which of the following forms of encephalitis is caused by a neuroimmunological response?

1- Herpes simplex

**2- Measles**

3- HIV infection

4- Enteral viruses

5- Cytomegalovirus

Q1030. Two strains of Escherichia coli are isolated and both are resistant to ampicillin. Strain A retains its resistance to amplicillin when grown form multiple generations in the absence of ampicillin. However strain B loses its resistance when grown in the absence of ampicillin. Which of the following best explains the loss of antibiotic resistance in strain B?

1- Changes in the bacterial DNA gyrase

2- Downregulation of the resistance gene

**3- Loss of a plasmid containing the resistance gene**

4- Mutations in the resistance gene

5- Transposition of another sequence into the resistance gene

Q1031. Which of the following statements is true about immunological reactions?

1- Serum sickness is caused by a type II reaction.

2- Grave's Disease is caused by a type IV reaction.

3- Angio-neurotic oedema is the most severe form of type I reaction.

4- Urticaria usually responds to Cimetidine.

**5- Deficiencies in the terminal components of complement increase the risk of meningococcal disease.**

Q1032. A 42-year-old HIV-seropositive man presents to Casualty with a two-week history global headache. His partner says that he has become increasingly confused and disorientated. The patient's latest CD4 count, taken three weeks ago, was 50 cells/mm3 . He had chosen not to take antiretroviral therapy, but was taking co-trimoxazole as prophylaxis against Pneumocystis carinii pneumonia. On examination he had mild weakness of his left arm and leg in all muscle groups and a right homonymous hemianopia. Fundoscopy was normal with no evidence of papilloedema. A CT scan of his brain showed several areas of low attenuation in both cerebral hemispheres, but there was no enhancement with contrast and no mass effect. What is the most likely diagnosis?

1- Cerebral lymphoma

2- Cerebral toxoplasmosis

3- HIV encephalopathy

4- Neurosyphilis

**5- Progressive multifocal leukoencephalopathy**

Q1033. Chronic liver disease is NOT a complication of

**1- Haemosiderosis**

2- Hepatitis C

3- alpha1 antitrypsin deficiency

4- cystic fibrosis

5- haemochromatosis

Q1034. An 35-year-old man presented with high fever, headache and mild jaundice on returning from a holiday in Spain. The group of 20 had travelled together visiting forestry on the hills with fishing trips in mountain streams. Which of the following organisms is most likely to be responsible for their illness?

1- Borelia Burgdorferi

2- Legionella pneumophila

**3- Leptospira icterohaemorrhagica**

4- Mycoplasma pneumoniae

5- Pneumococcus

Q1035. Which of the following is true of tetanus?

1- failure to culture Clostridium tetani from the wound would make the diagnosis doubtful

2- infection confers lifelong immunity

3- there is a characteristic EEG

4- Clostridium-specific intravenous immunoglobulin is of no benefit once spasm has started

**5- cephalic tetanus causes severe dysphagia**

Q1036. Regarding diphtheria which of the following statments is correct?

1- It is predominantly spread from cutaneous lesions.

2- It is characterised by an inflammatory exudate forming a greyish membrane on the buccal mucosa.

**3- It produces a toxin which affects the myocardium, nervous and adrenal tissues.**

4- 3 doses of toxoid provides 75% protection.

5- About 50 cases per year are seen in the UK.

Q1037. A 23-year-old female presents 16 weeks into her pregnancy with a vaginal discharge. Further investigation confirms infection with Chlamydia trachomatis. Which of the following is the most appropriate treatment for this patient?

**1- Azithromycin**

2- Ciprofloxacin

3- Co-trimoxazole

4- Doxycycline

5- Metronidazole

Q1038. Which of the following is true of anthrax?

1- It is caused by an aerobic, gram negative rod.

2- It causes trivial disease in the host herbivore population.

3- Gastrointestinal anthrax is the most usual form of disease in humans.

**4- Eshars are usually painless.**

5- Sputum culture has a high yield in inhalational anthrax.

Q1039. A 19-year-old man returned to the UK two weeks after working in a refugee camp in subSaharan Africa. On examination he was febrile, dyspnoeic and widespread inspiratory crackles were present. He had an extensive maculo-papular rash, conjunctivitis, generalized stomatitis and some bluish-grey spots on the buccal mucosa. What is the most likely diagnosis?

1- Epidemic typhus

2- Epstein Barr virus infection

3- Leptospirosis

**4- Measles**

5- Parvovirus infection

Q1040. A 47-year-old woman presents with high fever, rigors and myalgia. Nasal aspirate is positive for influenza virions. Which of the following is true of her B-cell response?

1- The antibody response to the virus does not require T-cell help

**2- Her B-cells express immunoglobulin on their surface**

3- Deficiency of either CD40 or CD40L still allows an IgG response

4- Affinity maturation takes place in the blood stream

5- Memory cells are not formed as repeated infections with influenza often occur

Q1041. A 16-year-old boy presented with fever, headache and neck stiffness for 24 hours. He had an identical illness requiring admission to hospital for 1 year previously. Cerebrospinal fluid analysis shows White cells of 400/ml with a 90% neutrophilia and gram stain revealed scanty gram-negative diplococci. Which component of the immune system is likely to be defective?

1- B lymphocytes

**2- Complement pathway**

3- Immunoglobulin

4- Neutrophils

5- T lymphocytes

Q1042. A 42 year-old restauranter who has been HIV positive for 8 years presents with progressive shortness of breath on exercise. The chest Xray is normal except for prominent pulmonary arteries. Pulse oximetry demonstrates that he desaturates on exercise. Which is the most likely diagnosis?

**1- Pneumocystis carinii pneumonia**

2- Primary pulmonary hypertension

3- Intracardiac shunt across an atrial septal defect

4- Pulmonary embolic disease

5- Anaemia

Q1043. A 48-year-old man with a known history of chronic alcohol abuse presented with a threeday history of fevers, night sweats and a cough productive of purulent sputum. There was no past history of respiratory disease. On examination he was febrile (39.1 C) . Percussion note was dull over the right apex and there was bronchial breathing in this area on auscultation. The chest x-ray showed right upper lobar consolidation. Other investigations revealed WBC 23 x 109 /L Neutrophils 18.3 x 109 /L What is the most likely diagnosis?

1- Aspiration pneumonia

**2- Klebsiella pneumonia**

3- Legionnella pneumonia

4- Mycoplasma pneumonia

5- Primary tuberculosis

Q1044. A 82-year-old lady is admitted from her nursing home with headache, photophobia and neck stiffness. Her temperature is 39.0 C, pulse rate 115 beats/min. There is no skin rash or focal neurological signs and her Glasgow coma scale is 15/15. A CT scan shows no contraindication to lumbar puncture. CSF is obtained and Gram stain shows Gram negative cocc-bacilli, subsequent culture confirms a Haemophilus influenzae meningitis. What chemoprophylaxis should be offered to the nurses at her home?

1- Azithromycin

2- Ceftriaxone

3- Ciprofloxacin

4- no chemoprophylaxis required

**5- Rifampicin**

Q1045. A 26-year-old man with a history of alcohol and drug abuse was admitted with a 14 day history of fever, cough and fatigue. He was emaciated. His temperature was 39.4? Cervical and axillary lymphadenopathy were present. Chest X-ray revealed bilateral areas of pulmonary shadowing. Which of the following is the most likely diagnosis?

1- alcoholic cardiomyopathy

2- pneumococcal pneumonia

**3- pneumocystis pneumonia**

4- pulmonary tuberculosis

5- tricuspid endocarditis

Q1046. An otherwise asymptomatic 22-year-old HIV positive male presents to the Infectious Diseases clinic. Investigations reveal? viral load" ?50,000 copies/ml CD4 count ?00x106 /ml (500-1600). What is the most appropriate treatment strategy for this patient?

**1- Start antiretroviral therapy**

2- Start antiretrovirals when count is 150

3- Start antiretrovirals when count is 100

4- Start antiretrovirals together with prophylactic antibiotic therapy

5- Start prophylactic antibiotic therapy

Q1047. A 28-year-old man who had had tuberculosis of the mediastinal lymph nodes diagnosed two weeks previously and who had been started on chemotherapy with rifampicin, isoniazid and pyrazinamide was admitted because of the increasing dyspnoea and stridor. Chest X-ray showed compression of both main bronchi by carinal lymph node enlargement. What is the next step in management?

**1- Start prednisolone**

2- Mediastinoscopy and biopsy

3- Refer for stent insertion/tracheostomy

4- Refer for urgent CT scan of the mediastinum

5- The addition of ethambutol

Q1048. A 25-year-old male homosexual is admitted with dyspnoea and weight loss of 2 months duration. He is diagnosed with Pneumocystis pneumoniae due to AIDS. Which of the following concerning Pneumocystis pneumonia is true?

**1- May have an extra pulmonary presentation**

2- It is always associated with X-ray changes

3- It is caused by a bacterium

4- Elevated serum antibodies to P. carinii are helpful diagnostically

5- It is best treated with intravenous pentamidine

Q1049. A 28-year-old shop worker is referred with a 3 month history of recurrent episodes of disorientation and confusion. Her boyfriend has found her wandering around the house on several occasions, apparently with no idea of where she is or how she got there. Her mood has been very low, with frequent emotional outbursts, and she has considered leaving her job because of problems with working the computer and managing customers queries. Her boyfriend feels her condition is significantly worsening. Physical examination is normal, apart from recurrent, asymetrical, jerks in all 4 limbs. Which of the following investigations is likely to be MOST useful in reaching a diagnosis?

1- Chest X-Ray

2- CT head

**3- EEG**

4- Liver function tests

5- Visual evoked potentials

Q1050. A 19-year-old male student attends casualty complaining of an urethral discharge one week after having casual unprotected sex. Gram stain shows numerous neutrophils, some of which contain gram-negative intracellular diplococci. The patient is treated with Ceftriaxone, 250 mg as an intramuscular injection. Five days later, the patient reattends with persisting discharge. Which of the following is the most likely cause of this discharge?

**1- Chlamydia trachomatis**

2- Penicillin-resistant Neisseria gonorrhoeae

3- Re-infection with Neisseria gonorrhoeae

4- Ureaplasma urealyticum

5- Urethral stricture

Q1051. A 55-year-old Caucasian man presented to hospital with fever, intermittent rigors, and worsening fatigue. He had returned from a business trip to West Africa six months previously. What is the most likely diagnosis?

1- Brucellosis

2- Leishmaniasis

3- Plasmodium falciparum malaria

**4- Plasmodium ovale malaria**

5- Typhoid fever

Q1052. A 45-year-old man presented with a three day history of headache and increasing confusion. On examination he was febrile with marked neck stiffness. Investigations revealed: Cerebrospinal fluid analysis (normal ranges are shown in bracket s) : White cell count 600 /ml (< 5) White cell differential > 90% neutrophils Gram stain Gram-negative diplococci Which one of the following antibiotics, given intravenously, is the most appropriate treatment?

1- Ampicillin

**2- Benzylpenicillin**

3- Cefuroxime

4- Ciprofloxacin

5- Gentamicin

Q1053. A 20 year-old-woman presented with a solitary, crusted, thickened lesion on her face one month after returning from a holiday in Central America. What is the most likely diagnosis?

1- Cutaneous anthrax

**2- Cutaneous leishmaniasis**

3- Impetigo

4- Leprosy

5- Onchocerciasis

Q1054. A 40-year-old man has had decreased mentation with confusion as well as increasing incoordination and loss of movement in his right arm over the past 6 weeks. An MRI scan shows 0.5 to 1.5 cm lesions in cerebral hemispheres in white matter and at the greywhite junction that suggest demyelination. A stereotatic biopsy is performed, and immunohistochemical staining of the tissue reveals JC papovavirus in oligodendrocytes. Which of the following laboratory test findings is most likely to be associated with these findings?

**1- CD4 lymphocyte count of 90/microlitre**

2- Haemoglobin A1c of 9.8%

3- HDL cholesterol of 0.7 mmol/L

4- Oligoclonal bands in CSF

5- Serum sodium of 110 mmol/L

Q1055. Transplacental transmission of all of the following organisms is a recognised cause of fetal malformations and disease EXCEPT:-

1- Cytomegalovirus

**2- Mumps**

3- Rubella

4- Toxoplasma gondii

5- Varicella zoster virus

Q1056. A 38-year-old male with a diagnosis of HIV presents with lethargy, confusion, personality change and a seizure. CT shows multiple uniformly enhancing mass lesions in both cerebral hemispheres What treatment is indicated?

1- ketoconazole

**2- pyrimethamine and sulfonamide**

3- rifampicin and pyrazinimide

4- broad spectrum antibiotics

5- corticosteroids

Q1057. A 40-year-old male presents with a long history of productive cough and breathlessness. He had complained of halitosis and exacerbations of productive sputum, chest pain and haemoptysis. Examination revealed bilateral inspiratory crackles. Which of the following treatments is likely to decrease the frequency of his exacerbations?

1- cyclical antibiotic therapy

2- inhaled corticosteroids

3- nebulised bronchodilators

**4- postural drainage**

5- surgical resection

Q1058. A 25-year-old Turkish woman arrived in the UK with a three month history of weight loss and intermittent fevers. On examination, the patient was emaciated, febrile (39?) and pale, and an enlarged liver (5 cm below the costal margi n) and spleen (10cm below the costal margi n) were present. Investigations revealed: Haemoglobin 7.2g/dL (11.5-16.5) White cell count 2.4 x 109 /L (4-11) Platelet count 117 x 109 /L (150-400) Thick and thin films no parasites identified CXR normal What is the most likely diagnosis?

1- HIV infection

2- Infectious mononucleosis

3- Malaria

4- Miliary tuberculosis

**5- Visceral leishmaniasis**

Q1059. A 22-year-old woman is referred to hospital with a one-week history of fever, headache and fatigue. She was a 'mail order' bride who had recently moved to the UK from Thailand to live with her new husband. Based on her travel history, which disease can be excluded from the following list of differentials?

1- Cerebral toxoplasmosis

2- HIV seroconversion illness

3- Japanese B encephalitis

4- Tuberculosis

**5- Yellow fever**

Q1060. A 50-year-old female presents with dyspnoea, a new murmur and fever and is diagnosed with infective endocarditis. Which of the following is associated with the best prognosis?

1- Aortic valve infection

2- Culture negative endocarditis

3- Low complement levels

4- Staphylococcus aureus infection

**5- Streptococcus viridans infection**

Q1061. Which of the following is a cause of isolated Bcell immune deficiency?

1- Infection with measles

**2- Multiple myeloma**

3- Treatment with azathioprine

4- Treatment with corticosteroids

5- Treatment with cyclophosphamide

Q1062. A 27-year-old female presents with persistent fatigue, myalgia, poor concentration and irritability following a flu like illness 18 months previously. A diagnosis of chronic fatigue syndrome is made. What is the appropriate initial management of this patient?

1- Antidepressants

**2- Cognitive behavioural therapy**

3- ECT

4- Reversion therapy

5- Psychoanalysis

Q1063. A 25 -year-old woman presented with a history of confusion and fever that had worsened gradually over the preceding four days. On examination she was drowsy and had mild neck stiffness. Neurological examination revealed an extensor left plantar response. A CT scan of her brain showed an area of low attenuation in the right temporo-parietal region What is the most likely diagnosis?

1- Cerebral toxoplasmosis

**2- Herpes simplex encephalitis**

3- Listeria meningoencephalitis

4- Pneumococcal meningitis

5- Pyogenic brain abscess

Q1064. A 18-year-old male presents with a 6 week history of a painful swollen right knee. He had been treated for a sexually transmitted disease 3 months ago. On examination there was a large effusion in the right knee. Synovial fluid analysis revealed a white cell count of 16 x 109 /L but culture was negative. Which one of the following organisms is the most likely cause?

1- Chlamydia trachomatis

2- Herpes simplex

**3- Neisseria gonorrhoea**

4- Treponema pallidum

5- Trichomonas vaginalis

Q1065. An 18-year old student presented to hospital two days after returning from visiting family in India. Within twenty four hours of his return to the UK, he suddenly developed profuse watery diarrhoea. Initially he did not have any nausea, vomiting or stomach cramps, but these developed within a day. He described the diarrhoea as looking like cloudy watery but without any blood or mucus. He was opening his bowels over 20 times per day. On examination he looked pale; he was afebrile. Skin turgor was reduced and mucous membranes were dry. Stool culture revealed a growth of Vibrio cholerae. Which is the most appropriate antibiotic to administer?

1- Ceftriaxone

**2- Doxycycline**

3- Meropenem

4- Metronidazole

5- Piperacillin plus gentamicin

Q1066. A 19-year-old man presented with purulent urethral discharge. Microscopy of an urethral swab showed neutrophils but no organisms Which of the following antibiotics should be started?

1- Ciprofloxacin

2- Co-amoxiclav

**3- Doxycycline**

4- Metronidazole

5- Penicillin

Q1067. A 70-year-old man presented to his GP with a two-day history of increasing confusion. He also complained of a headache. He was febrile on examination; nuchal rigidity was noted. A lumbar puncture was performed and CSF microscopy revealed: WBC 800 cells/mL (< 5) 90% neutrophils. A few Gram-positive diplococci were also noted. What is the cause of his meningitis?

1- Cryptococcus neoformans

2- Haemophilus influenzae

3- Listeria monocytogenes

4- Neisseria meningitidis

**5- Streptococcus pneumoniae**

Q1068. A 36-year-old woman presents with dyspnoea, cough and fever. Crackles are heard on auscultation of the lungs. Circulating precipitans to Micropolyspora faeni are positive. Which of the following is the most likely diagnosis?

1- Malt workers' lung

2- Pigeon fanciers' lung

3- Allergic Bronchopulmonary Aspergillosis

4- Brucellosis

**5- Farmers' lung**

Q1069. Reverse transcriptase-PCR is used to ampify:

1- Antibodies

2- DNA

**3- RNA**

4- Protein

5- Plasmids

Q1070. A 70-year-old woman developed herpes zoster ophthalmicus. Which one of the following is most likely to be a complication of this condition?

1- Hyphaema

**2- Keratitis**

3- Keratoconus

4- Posterior subcapsular cataract

5- Scleromalacia

Q1071. A 18-year-old homosexual male developed progressive pneumonia not responding to antibiotics. Methenamine silver staining of the sputum showed small circular cyst and Giemsa staining demonstrated the small, punctate nuclei of the trophozoites and intracystic sporozoite. Which is the most likely organism?

1- Toxoplasma gondii

2- Trypanosoma cruzi

3- Cryptococcus neoformans

4- Leishmania donovani

**5- Pneumocystis carinii**

Q1072. A 41-year-old male has been diagnosed with infective endocarditis. Which of the following is associated with the best prognosis?

1- Aortic valve infection

2- Intravenous drug abuse

3- Prosthetic valve infection

4- Staphylococcus aureus infection

**5- Streptococcus viridans infection**

Q1073. Which of the following is correct regarding human varicella zoster immunoglobulin (VZI G) ?

1- Is used to treat severe chicken pox infection

2- Is recommended for all patients with eczema exposed to chickenpox.

3- Is invariably protective against severe varicella.

4- Should be given to a 6 week old baby whose mother has developed chickenpox

**5- Should be given to an 18 week pregnant non-immune female who has been exposed to a case of chicken pox.**

Q1074. Which of the following is a contraindication to immunisation?

1- Infantile eczema requiring topical steroids.

**2- Oral poliomyelitis vaccine to a child on oral steroids.**

3- A history of prolonged jaundice.

4- A child with congenital adrenal hyperplasia on oral cortisone.

5- A child with cerebral palsy.

Q1075. The morphological appearance of Pneumocystis carinii infection in the lung is best characterised as which one of the following?

1- A bronchopneumonia with abscess formation

2- A haemorrhagic and necrotizing pneumonia

3- An acute respiratory distress syndrome (ARD S) with widespread hyaline membrane formation

**4- An interstitial pneumonitis with foamy intra-alveolar exudate**

5- An organizing bronchopneumonia

Q1076. An 85-year-old patient from an elderly care home, experiences sudden onset of dyspnea and palpitations. A pulmonary ventilationperfusion scan is performed and indicates a high probability for a perfusion defect involving a pulmonary arterial branch. Which of the following findings or conditions is the one that is the most important factor favouring development of her complaint?

1- A neutrophilia

**2- An increased platelet count**

3- Cirrhosis of the liver

4- Generalized atherosclerosis

5- Poor nutrition

Q1077. A 30-year-old renal transplant recipient presented with non-Hodgkin's lymphoma. Which virus is most likely to be of aetiological significance?

1- Adenovirus

2- Cytomegalovirus

**3- Epstein Barr virus**

4- Herpes simplex type 1

5- Varicella-zoster

Q1078. Regarding the epidemiology of infections, which of the following statements is true?

1- Resistant vivax malaria is a major problem in Kenya.

2- Diphtheria has been eradicated in most parts of the world.

**3- Polio has been eradicated in most parts of the world.**

4- Tetanus has been eradicated in most parts of the world.

5- The AIDS epidemic seems to be declining worldwide.

Q1079. A 45-year-old man returned from a two-week trip in Zimbabwe. Fourteen days later he presented with fever, sore throat, headaches and a widespread maculopapular rash. On examination there was generalised lymphadenopathy and a widespread maculopapular rash. What is the most likely diagnosis?

**1- acute HIV infection**

2- schistomsomiasis

3- strongyloidiasis

4- tick typhus

5- typhoid fever

Q1080. A 17 year-old man presented with a strongly positive Mantoux test. Which one of the following statements regarding his immune reaction is correct?

**1- It is a cell mediated immune response**

2- The response is mediated by B lymphocytes

3- The area of induration will be less than 10 mm in diameter

4- The reaction typically develops within 24 hours

5- If a skin biopsy were taken, immunohistochemistry would show immune complex deposition

Q1081. Which of the following concerning IgG is correct?

1- It has a molecular weight of 50,000 kd.

2- It is monovalent.

**3- It comprises the majority of circulating antibody in serum.**

4- It differs from other isotypes in not being able to cross the placental barrier.

5- It is the major antibody produced during the primary response.

Q1082. A 75-year-old female presents with an acute infective exacerbation of her long standing Chronic Obstructive Airways Disease. Blood gas analysis whilst she was receiving Oxygen shows: pH 7.14 pO2 18 kPa (11.3-12.5) pCO2 10.5 kPa (4.7-6.0) What is the most appropriate immediate management for this patient?

1- CPAP

2- Doxapram infusion

3- Invasive Ventilation

4- nebulised salbutamol with ipratropium

**5- reduce inspired oxygen concentration**

Q1083. A 15-year-old boy is referred by his GP with a two-week history of general malaise, fatigue and pharyngitis. On examination, multiple small lymph nodes were palpable in the neck, axillae and groins. Investigations revealed: Haemoglobin 12.5g/dL WBC 16.0 x 109 /L Platelets 160 x 109 /L Blood film Lymphocytosis noted What is the most likely diagnosis?

1- Acute lymphoblastic leukaemia

2- Cytomegalovirus infection

**3- Epstein-Barr virus infection**

4- Hodgkin's disease

5- Toxoplasmosis

Q1084. 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 (38.9o C) . She has large palpable cervical lymph nodes bilaterally. Her pharynx was inflamed with areas of exudate on the pharyngeal wall. Neurological examination revealed global weakness of both legs and absent reflexes. What is the most likely diagnosis?

1- Cytomegalovirus infection

**2- Diphtheria**

3- Epstein-Barr virus infection

4- Hodgkin's disease

5- Streptococcal tonsillitis

Q1085. Which of the following would be indicated in the treatment of a 30-year-old HIV positive male with Pneumocystis carinii pneumonia? Blood gases reveal a P02 of 55mmHg whilst breathing 28% oxygen.

1- Atovaquone

2- Clindamycin

3- Leucovirin

4- Pentamidine

**5- Trimethoprim-sulphamethoxazole**

Q1086. A 70-year-old lady presented with dyspnoea and fever. She has a history of weight loss which has been investigated with colonoscopy which found a tumour of the sigmoid colon and she is awaiting surgery. On examination she has a systolic murmur and and ECHO shows vegetations on the mitral valve. A diagnosis of infective endocarditis is made. Which of the following organisms is associated with a high incidence of colorectal tumours?

1- Campylobacter jejuni

2- Enterococcus faecalis

3- Escherichia coli

4- Salmonella typhi

**5- Streptococcus bovis**

Q1087. A 25-year-old-man presented with severe headache, myalgia and a blanching red macular rash. He had returned from Indonesia three days previously. On examination his blood pressure was 75/50 mmHg. A diagnosis of dengue fever was made. Which of the following would be given immediately?

1- A single dose of ivermectin

2- Intravenous hydrocortisone 200 mg

**3- Intravenous normal saline**

4- Metronidazole

5- Tetracycline

Q1088. Toxoplasmosis

**1- can present with fits in patients with AIDS**

2- infection in the first trimester of pregnancy is seldom harmful to fetus

3- raw eggs are an important source of infection

4- infection usually by respiration

5- prophylactic immunoglobulins should be given to pregnant women if their IgM antitoxoplasma antibodies detected.

Q1089. A 52-year-old woman was admitted with malaise and leg weakness. Her illness started with a sore throat while travelling in Eastern Europe. On examination she was febrile (39.1° C) with several areas of exudates on her pharynx and extensive cervical lymphadenopathy. There was weakness of the legs with absent tendon reflexes. What is the most likely diagnosis?

1- Acute myeloid leukaemia

2- Cytomegalovirus infection

**3- Diphtheria**

4- Glandular fever

5- Streptococcal tonsillitis

Q1090. Regarding pneumonia caused by Legionella pneumophilia, which of the following is true?

**1- is associated with hyponatremia**

2- is best treated with intravenous amoxicillin and clavulanic acid

3- is common in AIDS patients

4- is readily diagnosed by standard aerobic culture of sputum

5- should be managed on the ward in a respiratory isolation cubicle

Q1091. A 17-year-old male from India presents with fever of 4 months duration and splenomegaly. What is the most likely diagnosis?

1- Coccidiomycosis

2- Giardiasis

3- Tropical sprue

4- Typhoid

**5- Visceral leishmaniasis**

Q1092. A 70-year-old man is admitted to the cardiology ward with a diagnosis of Streptococcus bovis infective endocarditis. Which of the following investigations would be indicated?

**1- Colonoscopy**

2- Cystoscopy

3- Lymph node biopsy

4- Sialogram

5- Thoracoscpy

Q1093. A 43-year-old man has had vague malaise for three weeks. Physical examination is normal, except for a blood pressure of 150/95 mmHg and pitting oedema of the legs to the knees. Dipstick urinalysis shows no glucose, blood, ketones, nitrite, or urobilinogen, and the microscopic urinalysis reveals no RBC/hpf and only 1 WBC/hpf. Additional laboratory testing reveals a 24 hour urine protein of 4.1 gm. His serum creatinine is 350 micromol/L with urea of 30 mmol/L. His hepatitis B surface antigen is positive. Which of the following conditions is he most likely to have?

**1- Membranous glomerulonephritis**

2- Systemic lupus erythematosus

3- Acute tubular necrosis

4- Diabetic nephropathy

5- Post-streptococcal glomerulonephitis

Q1094. Which of the following is true of Koplik's spots?

**1- Are diagnostic of Measles**

2- Located opposite the incisor teeth.

3- Only appear when fever is over 39C

4- They appear as red papules on the plamar surface of the hands

5- Typically appear two days after the rash.

Q1095. A 43-year-old woman develops a progressive, ascending motor weakness over several days. She is hospitalized and requires intubation with mechanical ventilation. She is afebrile. A lumbar puncture is performed with normal opening pressure and yields clear, colorless CSF with normal glucose, increased protein, and cell count of 5/microliter, all lymphocytes. She gradually recovers over the next month. Which of the following conditions most likely preceded the onset of her illness?

1- Ketoacidosis

2- Staphylococcus aureus septicemia

3- Systemic lupus erythematosus

**4- Viral pneumonia**

5- Vitamin B12 deficiency

Q1096. A 49-year-old man with a long history of alcoholism presents with cough, haemoptysis and pleuritic chest pain. He has had night sweats and 10 kg weight loss in the last three months. On chest X-ray there is a subtle nodular pattern throughout the lung. He underwent a transbronchial biopsy which showed multinucleated giant cells, epithelioid cells and necrotic debris. Which of the following is the most likely diagnosis?

1- Aspergillosis

2- Pneumocystis carinii pneumonia

3- Small cell carcinoma

4- Squamous cell carcinoma

**5- Tuberculosis**

Q1097. A 42-year-old man with advanced HIV disease presented with a tonic-clonic seizure. He had been diagnosed with HIV 10 years previously, but had elected not to take antiretroviral therapy. A CT scan of his brain showed a 2 cm ring-enhancing lesion in the right parietal lobe. What is the probable causative agent?

1- Cryptococcus neoformans

2- Mycobacterium avium intracellulare

3- Mycobacterium tuberculosis

4- Pneumocystis carinii

**5- Toxoplasma gondii**

Q1098. One of the surgical wards in your hospital notes an outbreak of Methicillin-resistant Staphylococcus aureus (MRS A) infections. What is the best mechanism for reducing further transmission of this infection?

1- Cleaning the floors and walls of the ward with chlorhexidine

2- Close the ward for one month

**3- Encourage regular hand washing by ward staff**

4- Screen ward staff using nasal swabs and exclude those with positive cultures for MRSA

5- Treatment of culture-positive patients with vancomycin

Q1099. In herpes simplex encephalitis which of the following statements is correct?

1- brain MRI is characteristically normal

**2- temporal lobe involvement is common**

3- fits are uncommon

4- cold sores or genital herpes are usually present

5- viral identification by PCR on cerebrospinal fluid is non-specific

Q1100. A 55-year-old female is admitted with a chest infection. Investigations reveal consolidation in the right base on the chest X-ray and urinary legionella antigen is found to be positive. Which one of the following is the most appropriate treatment for this woman?

1- Cefotaxime

**2- Clarithromycin**

3- Co-Amoxiclav

4- Minocycline

5- Vancomycin

Q1101. A 44-year-old man with advanced HIV/AIDS presents with a two-week history of fever, weight loss (8k g) and sweats. His latest CD4 Tlymphocyte count (taken four weeks previousl y) was 20 cells/mm3 . He had failed multiple regimens of antiretroviral therapy and was not currently taking any prescribed medications other than co-trimoxazole as prophylaxis against Pneumocystis carinii pneumonia. Investigations: Hb 8.2 g/dL WBC (tota l) 2.1 x 109 /L Platelets 75 x 109 /L A bone marrow aspirate showed acid/alcohol fast bacilli on light microscopy. Which one of the following mycobacteria is the most likely cause of his presenting illness?

**1- Mycobacterium avium**

2- Mycobacterium bovis

3- Mycobacterium chelonae

4- Mycobacterium fortuitum

5- Mycobacterium marinum

Q1102. A 17-year-old man presented with a widespread maculopapular rash. He had been prescribed Amoxicillin for exudative tonsillitis. What is the most likely diagnosis?

1- acute HIV infection

2- cytomegalovirus infection

**3- infectious mononucleosis**

4- parvovirus infection

5- streptococcal infection

Q1103. Which of the following micro-organisms is generally sensitive to Benzylpenicillin?

1- Bordetella pertussis

2- Cryptococcus neoformans

3- Mycoplasma pneumoniae

4- Legionella pneumophila

**5- Streptococcus Pneumonaie**

Q1104. A 60-year-old man was admitted with community-acquired pneumonia and deteriorated over the next few hours. Which one of the following indicates a poor prognosis?

1- A total white cell count of 17 x 109 /L (4-11)

2- Blood pressure of 110/70 mm Hg

**3- Respiratory rate of 35 breaths/min**

4- Rigors

5- Temperature of 39oC

Q1105. A 15 year-old girl presented with a 12-hour history of fever and global headache. On examination she was febrile (37.5o C) . She was fully conscious. Mild neck stiffness was noted but there were no other neurological signs. Cerebrospinal fluid analysis showed: Cell count 200 /mL (60% lymphocyte s) Protein 0.8 g/L Glucose4.3 mmol/L Gram stain No organisms seen What is the most likely diagnosis?

1- Bacterial meningitis

2- Cryptococcal meningitis

3- Lymphomatous meningitis

4- Tuberculous meningitis

**5- Viral meningitis**

Q1106. Three elderly patients presented with cough, fever and general malaise on return from holiday to Spain. The group of 50 had travelled together visiting forestry on the hills together with fishing trips in mountain streams. They had been housed in differing hotels. The three people who presented with illness all stayed in the same hotel. Which of the following organisms is most likely to be responsible for their illness?

1- Borelia Burgdorferi

**2- Legionella pneumophila**

3- Leptospira icterohaemorrhagica

4- Mycoplasma pneumoniae

5- Pneumococcus

Q1107. One of the nurses working on the Care of the Elderly ward sustains a needlestick injury while taking blood from a patient. What is the most appropriate immediate management?

1- Administer prophylactic hepatitis B immunoglobulin regardless of vaccine status

2- Exclude the nurse from performing exposure-prone procedures for three months until a negative HIV antibody test has been obtained

3- Immediately take the nurse's blood to test for antibodies to hepatitis B, hepatitis C and human immunodeficiency viruses

4- Promptly administration of antiretroviral therapy

**5- Wash the wound with soap under running water**

Q1108. A 45-year-old woman was diagnosed with bacterial endocarditis. What is the characteristic fundoscopic feature of this disease?

1- Cherry red macula

2- Janeway lesions

3- Macular star

4- Retinal artery aneurysms

**5- Roth's spots**

Q1109. Primary Pulmonary tuberculosis:

1- Leads to pleural effusion

2- Is highly infective

3- Commonly leads to miliary TB

**4- May be totally asymptomatic**

5- Usually produces cavitation

Q1110. A 68-year-old woman presents to Casualty with a two day history of pain and swelling of the right ankle. She could not recall any history of recent trauma. On examination she was febrile, temperature 38.1 C. The right ankle was swollen and very tender with a reduced range of movement. Which of the following investigations would be of most help in establishing the diagnosis?

**1- Aspiration of the right ankle**

2- Blood cultures

3- Erythrocyte sedimentation rate

4- Serum urate level

5- X-ray of the right ankle

Q1111. A 23-year-old male presented with a twoweek history of dysuria and purulent penile discharge. Gram stain of a urethral swab showed Gramnegative intracellular diplococci. Which one of the following is the most likely causative organism?

1- Chlamydia trachomatis

2- Cytomegalovirus

3- Mycoplasma hominis

**4- Neisseria gonorrheae**

5- Ureaplasma urealyticum

Q1112. A 72-year-old gentleman presents with increasing shortness of breath, fever and cough. A chest X ray shows findings consistent with a right middle lobe pneumonia. Which factor is associated with a worse prognosis?

1- Blood pressure of 120/80 mmHg

2- Respiratory rate of 18/min

3- Temperature of 37.2

**4- Urea of 18 mmol/l**

5- White cell count of 15x109

Q1113. A 26-year-old previously healthy woman has the sudden onset of mental confusion. She has a seizure and is brought to the hospital. Her vital signs show blood pressure 100/60 mm Hg, temperature 37 C., pulse 89, and respirations 22. A lumbar puncture reveals a normal opening pressure, and clear, colorless cerebrospinal fluid is obtained with 1 RBC and 20 WBC's (all lymphocyte s) , with normal glucose and protein. An MRI scan reveals swelling of the right temporal lobe with hemorrhagic areas. Which of the following infectious agents is the most likely cause for these findings?

1- Haemophilus influenzae

**2- Herpes simplex virus**

3- Influenza virus

4- Mycobacterium tuberculosis

5- Neisseria meningitidis

Q1114. Which is true of herpes simplex encephalitis?

1- brain MRI is characteristically normal

2- fits are uncommon

3- genital herpes is usually present

**4- temporal lobe involvement is common**

5- viral identification using polymerase chain reaction on CSF is non-specific

Q1115. A 15-year-old girl presents with fever, malaise and sore throat. Examination revals a temperature of 38.3 C with cervical lymphadenopathy. Her results show: Haemoglobin 12.8 g/dl(11.5-16) White cell count 9.8 x 109 /L (4-11) Neutrophils 3 x 109 /L Lymphocytes 4.5 x 109 /L Blood film reveals atypical mononuclear cells What is the most likely diagnosis?

1- Acute Lymphoblastic Leukaemia

2- Brucellosis

**3- Epstein-Barr viral infection**

4- Hodgkin's disease

5- Sarcoidosis

Q1116. A 45-year-old man has been diagnosed with pulmonary tuberculosis. Which of the following investigations is essential prior to starting antituberculous therapy?

1- Full blood count

**2- Liver function test**

3- Plasma glucose

4- Urine for acid-fast bacilli

5- Vitamin B6

# Chapter 8 Nephrology

Q1117. Which of the following statements regarding idiopathic membranous nephropathy is correct?

1- It characteristically presents in the first decade of life.

2- Progression to end-stage renal failure is rapid.

3- immune complex deposits are typically seen in the glomerular mesangium.

**4- Males are twice as commonly affected as females.**

5- The nephritic syndrome is a characteristic presentation.

Q1118. The following are complications of nephrotic syndrome with the exception of

1- acute renal failure

**2- accelerated hypertension**

3- hypocalcaemia

4- pneumococcal infection

5- venous thrombosis

Q1119. A 30-year-old female presents with fevers, and a 3 month history of malaise. Results show: Creatinine 250micromol/l Complement C3 23 mg/dL (65 - 190) What is the likely diagnosis?

1- HIV nephropathy

**2- Infective endocarditis**

3- Membranous Nephropathy

4- Microscopic Polyangiitis

5- Minimal change nephropathy

Q1120. Which one of the following cytokines is strongly implicated in renal scarring?

1- interferon alpha

2- interleukin-1

3- granulocyte colony stimulating factor

**4- transforming growth factor-beta**

5- tumour necrosis factor alpha

Q1121. Which one of the following statements regarding renal function is correct?

1- The daily solute excretion will lie between 75 and 300 mosmol

2- The permeability of the proximal nephron to water increases in the presence of vasopressin

3- The rate of ammonium excretion in urine is inversely related to the rate of urinary hydrogen ion excretion

**4- A ten minute period of hyperventilation will normally be expected to lead to an increased rate of bicarbonate excretion in urine**

5- Sodium reabsorption in the tubules is mainly controlled by aldosterone

Q1122. Which of the following is a feature of cystinuria?

1- accumulation of cystine in the kidney

2- a useful response to acidification of urine

3- autosomal dominant inheritance

**4- excessive urinary arginine excretion**

5- radiolucent urinary calculi

Q1123. Which of the following is least likely with the HLA complex?

1- CD8 T-cells recognise antigen when copresented with Major histocompatibility complex (MH C) Class I

2- CD4 T-cells recognise antigen when copresented with MHC Class II

**3- Polymorphisms occur in Class I, but not Class II, MHC genes**

4- Multiple sclerosis is associated with HLA DR2

5- HLA matching is more important in kidney transplantation than liver transplantation

Q1124. Which of the following concerning the pH of urine is correct?

1- is a useful indicator of the acid/base balance of the blood

**2- rises on a vegetarian diet**

3- is determined by the concentration of ammonium

4- is lower than 5.5 in renal tubular acidosis

5- would be above 7.0 after prolonged and severe vomiting

Q1125. A 7-year-old boy is admitted with renal colic due to renal calculus. His mother has a similar history of recurrent calculi. What is the most likely explanation for recurrent renal calculi in both mother and child?

1- Cystinosis

2- Cystinuria

3- Hyperoxaluria

**4- Idiopathic hypercalciuria**

5- Urate uropathy

Q1126. A 45-year-old man presented to the Nephrology clinic with severe generalized oedema. Investigations: Serum albumin 20 g/L 24-hour urinary protein excretion 14.6 g (<0.2 g) Renal biopsy Normal on light microscopy, normal on immunoflorescence There was no significant improvement in his symptoms or signs after three months' treatment with prednisolone 60 mg OD. What is the most likely diagnosis?

1- Focal segmental glomerulosclerosis

2- Membranous nephropathy

**3- Minimal change disease**

4- Myeloma

5- Renal vein thrombosis

Q1127. In asymptomatic chronic renal failure:

1- there is increase in tubular excretion of urate

**2- serum ionised [calcium] is normal**

3- serum [phosphate] characteristically increased before GFR falls to 30ml/min

4- increase serum [alkaline phosphotase] mainly due to liver isoenzyme

5- decrease in blood pressure accompanied by increase in extracellular fluid

Q1128. An 18-year-old female student attends the clinic as her father has just died with endstage renal failure. He had been diagnosed with autosomal dominant polycystic kidney disease. She wishes to know what investigations she requires. Which of the following is an appropriate strategy in her management?

**1- Geneticist referral**

2- Glomerular Filtration Rate Estimation

3- MRI brain

4- Ultrasound of the renal tract

5- Urine Dipstick

Q1129. Which of the following concerning renal blood flow is true?

1- is 40% of the cardiac output at rest

**2- can be measured using the Fick principle**

3- is higher in the medulla than the cortex

4- is increased when renal nerves are stimulated

5- is decreased in response to hypoxia

Q1130. A 16-year-old female presents with a three year history of recurrent colicky loin pain. One year ago she passed a renal calculus. 24 hour urine collection showed normal levels of calcium, phosphate and urate, but elevated levels of arginine, cystine, lysine and ornithine. Which one of the following features is characteristic of this condition?

**1- Accumulation of cystine in collecting system**

2- Autosomal dominant inheritance

3- Cystine deposits within the Cornea

4- Functional defects within the glomeruli

5- Radiolucent renal stone formation

Q1131. A 30-year-old woman presented with hypertension (160/110 mmH g) , elevated titres of antibodies to double-stranded DNA, and proteinuria (1g per 24 hour s) . A renal biopsy demonstrated WHO class II lupus nephritis (mesangial diseas e) . What is the most appropriate single treatment for this patient?

**1- antihypertensive medication**

2- high-dose corticosteroids

3- intravenous cyclophosphamide

4- oral cyclophosphamide

5- plasma exchange

Q1132. A 70-year-old woman was referred with a sixweek history of painless macroscopic haematuria. Her only medications were IM sodium aurothiomalate and oral ibuprofen, which she took for rheumatoid arthritis. Investigations: Serum creatinine 92 umol/L Urine dipstick Blood ++++ Protein + Abdominal plain X-Ray Normal Ultrasound kidneys & renal tract Normal Which one of the following is the best initial investigation?

**1- Cystoscopy**

2- Intravenous urogram (IV U) 3- Renal biopsy

4- Stop Ibuprofen

5- Stop sodium aurothiomalate

Q1133. A 21-year-old female presents with a joint pains and rash. On examination her blood pressure was 140/100 mmHg. Investigations reveal: Creatinine 90 umol/L (60-100) anti dsDNA antibodies strongly positive (

0- 73) 24 hour urinary protein excretion 1.7g (<0.2) renal biopsy membranous nephropathy What is the most appropriate next treatment

**1- ACE inhibitor for blood pressure control**

2- Cyclophosphamide

3- NSAIDs for arthralgia

4- Prednisolone for immunosuppression

5- Warfarin anticoagulation

Q1134. A 16-year-old girl developed pulmonary haemorrhage and acute renal failure requiring dialysis. Investigations revealed: Renal biopsy: crescentic glomerulonephritis Which one of the following antibodies is most likely to be found in the blood?

1- Anticardiolipin

2- Anticentromere

3- Antimitochondrial

**4- Antimyeloperoxidase**

5- Antinuclear

Q1135. A 65-year-old male patient is admitted with renal failure and is diagnosed with acute tubular necrosis. Which of the following is least likely to be the cause of acute tubular necrosis?

1- Rhabdomyolysis

2- Paracetamol poisoning

3- Hypovolaemia

4- Hypertension

**5- Corticosteroid therapy**

Q1136. A 45-year-old lady presents with fatigue and has established End Stage Renal Failure. She has been on haemodialysis for the past three years and receives dialysis for 3 hours three times a week at a regional haemodialysis centre. At one of her regular visits for haemodialysis she is found to have the following observations and investigations. Blood Pressure 170/95 serum K+ 5.7 mmol/L (3.5 - 4.9) serum corrected calcium 2.0 mmol/L (2.2 - 2.6) Hb 9.0 g/dl (11.5 - 16.5) Creatinine 1300 mmol/l Post-dialysis her Blood Pressure is recorded as 160/95. Which of the following is the best managament for this lady?

1- increase dialysis hours

**2- treat anaemia with erythropoietin**

3- treat hyperkalaemia

4- treat hypocalcaemia

5- treat hypertension with ramipril

Q1137. A 63-year-old male recently admitted with sepsis is noted to have a urine output of approximetely 20 mls per hour. The oliguria is more likely to be due to prerenal failure than intrinsic renal failure if:

**1- A urine free of red blood cells or casts**

2- A urine:plasma urea ratio <3

3- urine osmolality <350 mOsm/l

4- a blood pressure of 150/90 and good tissue perfusion.

5- urinary sodium >10mmol/l

Q1138. In chronic untreated renal failure which of the following findings is characteristic?

1- Metabolic alkalosis

2- Hypokalaemia

3- Hyperosmolar dehydration

4- Hypercalcaemia

**5- Hypercalcinuria**

Q1139. 34-year-old female presents with shortness of breath. She has been treated for Asthma by her GP with an inhaled steroid, but the GP has documented an eosinophilia of 1.1 x 109 /L (14%) (Normal <0.1 x 109 / L) . She has been referred to the clinic because her GP found her creatinine to be 347 µmol/l (6

0- 110µmol/ l) . Which of the following would support a diagnosis of Churg-Strauss syndrome?

**1- Extravascular eosinophils on vascular biopsy**

2- Fixed pulmonary infiltrates on chest radiographs

3- Peak flow <150ml/minute

4- Peripheral alveolar filling infiltrate predominantly in the upper lobes on a chest radiograph

5- Peripheral "stocking" neuropathy

Q1140. A 16 year-old feamle presents with ankle swelling 4 days after having had a sore throat. On examination she had a blood pressure of 125/80 mmHg and ankle oedema. Investigations reveal: creatinine 90 umol/L (50-100) albumin 25 g/L (37-45) 24 hour urinary protein 9g (<0.2) What is the most likely diagnosis?

1- idiopathic membranous nephropathy

**2- IgA nephropathy**

3- membranoproliferative glomerulonephritis

4- minimal change nephropathy

5- post-streptococcal glomerulonephritis

Q1141. A 16-year-old girl presented to the nephrology clinic with a four-day history of steadily increasing generalised oedema. There was no past history of note. On examination she weighed 45kg. Her blood pressure was 90/55 mmHg. Investigations revealed: Serum creatinine 55 umol/L Serum albumin 20 g/L 24 hour urinary protein excretion 4.8g (<0.2 g) Ultrasound scan of kidneys Normal If this patient is treated with prednisolone (1mg/kg for 6 week s) , what are the chances of her disease going into complete remission?

1- <20%

**2- 20-39%**

3- 40-59%

4- 60-80%

5- >80%

Q1142. A 42-year-old female with a recent diagnosis of systemic sclerosis, is referred to hospital with a complaint of headaches and blurred vision. She has a past medical history of asthma. On examination, her blood pressure is 230/120, and there is bilateral papilloedema. Which of the following medications should be prescribed immediately?

1- IV Furosemide

2- IV Labetolol

3- IV Sodium Nitroprusside

**4- Oral Enalapril**

5- Sublingual Nimodipine

Q1143. A 45-year-old man with chronic renal failure presents to clinic complaining of increasing fatigue and weakness. He receives three hours of haemodialysis, thrice weekly. His blood pressure is measured at 176/110 mmHg predialysis and 166/95 mmHg post-dialysis. Investigations pre-dialysis show: Hb 9.5 g/dL Potassium 6.9 mmol/L Creatinine 1567 umol/L Calcium(correcte d) 2.1 mmol/L Which of the following options is most apprpriate initial management for this patient?

1- Give alfacalcidol to correct hypocalcaemia

**2- Increase the duration of each dialysis session**

3- Reduce the potassium concentration in the dialysate

4- Start erythropoietin to increase haemoglobin level

5- Start ramipril to gain better control of his blood pressure

Q1144. A 30-year-old woman receives a cadaveric renal transplantation after having with had renal failure with a neuropathic bladder for which she performed intermittent selfcatheterisation. Six months after transplantation she presents with acute pain in the region of the transplanted kidney. Which one of the following is the most likely reason for the pain?

1- Acute retention of urine

2- allograft rejection

**3- pyelonephritis**

4- renal calculi

5- renal infarction

Q1145. A 60-year-old man wishes to act as a kidney donor to his 37-year-old wife. She has endstage renal failure from polycystic kidney disease and is maintained on peritoneal dialysis. The couple have two teenage daughters, neither of whom have renal cysts on recent ultrasound scans. Which one of the following statements is correct?

1- Living related donation from one of the daughters would be preferable to donation from the husband

2- Living unrelated donation is not recommended in cases of inherited renal disease

3- The age difference between husband and wife is a relative contraindication to transplantation

**4- The husband should not be accepted for kidney donation until all siblings have been considered**

5- The results of living unrelated kidney donation are sufficiently poor that organ donation should not proceed

Q1146. A 45-year-old man had recurrent nephrolithiasis. Renal function tests and serum calcium measurements were normal. A 24 hour urine collection revealed: volume 3L calcium15 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 2mmol/24hours(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**

Q1147. A 14-year-old old boy presents with a sore throat and macroscopic haematuria. What would light microscopy of a kidney biopsy most likely show?

1- Crescentic glomerulonephritis

2- Collapsed glomeruli

**3- Mesangial hypercellularity**

4- Segmental sclerosis

5- Normal tissue

Q1148. A 37-year-old woman underwent a kidney transplant which 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- Ig D

2- Ig A

3- Ig E

**4- Ig G**

5- Ig M

Q1149. Metastatic calcification in chronic renal failure:

1- unaffected by time on CAPD

2- rapidly reversed in all sites after parathyroidectomy

3- characteristically caused by calcium oxalate deposition

**4- increased prevalence with time on haemodialysis**

5- decreased by Vitamin D

Q1150. A 17-year-old woman underwent a renal transplant. She was concerned about the effects of long-term Cyclosporin treatment. Which one of the following is a common adverse effect of this drug?

1- Alopecia

2- Bone marrow depression

3- Hepatotoxicity

**4- Nephrotoxicity**

5- Paraesthesiae

Q1151. In which of the following circumstances would the treatment of anaemia with erythropeitin still be expected to be effective?

1- Aluminium toxicity

2- Folate deficiency

**3- Hyperkalaemia**

4- Infection

5- Iron deficiency

Q1152. A 23 year-old female presents at 16 weeks into her first pregnancy with a blood pressure of 144/96 mmHg. A 24 hour urine collection reveals a protein excretion of 0.7 g/d What is the most likely explanation for these findings?

1- Essential hypertension

2- Gestational hypertension

3- Normal changes of pregnancy

4- Pre-eclampsia

**5- Secondary hypertension**

Q1153. A 60-year-old male presents with typical renal colic and one day later passes a small stone. However, the original X-ray of the abdomen revealed no obvious calculi. What is the most likely composition of his calculus?

1- Calcium

2- Cystine

3- Oxalate

4- Phosphate

**5- Uric acid**

Q1154. A 68-year-old male is referred by his general practitioner with deteriorating hypertension and renal function. Investigations show: Serum creatinine 250 µmol/L (NR 60 - 110) Urinalysis + protein Renal ultrasound scan: left kidney 9cm long right kidney 7cm, no obstruction (10 - 12c m) Which of the following would be the most appropriate investigation for this patient?

1- intravenous renography

2- isotope renography

**3- MR angiography**

4- renal biopsy

5- retrograde pyelography

Q1155. A 58-year-old man with longstanding hypertension was found to have a serum creatinine concentration of 275 micromol/L (60 - 110). Urinalysis showed blood ++ and protein >1 g/L. Renal ultrasound showed the left kidney to be 9.2 cm long, the right to be 8.9 cm long (normal range for both kidneys 10-12 c m) , and neither kidney was obstructed. What is the best investigation to diagnose the cause of the renal impairment?

1- intravenous urography

2- isotope renography

3- renal arteriography

**4- renal biopsy**

5- retrograde pyelography

Q1156. A 30-year-old male presents with oedema and proteinuria. On examination his blood pressure was 120/70 mmHg. Investigations reveal: Creatinine 88 umol/L (60-110) Albumin 25 g/L (37-49) Urinalysis no blood protein ++++ Urinary protein excretion 7g/24hr (<0.2) Ultrasound of renal tract normal right kidney, absent left kidney Which is the most appropriate course of action for this patient?

1- Albumin transfusion

2- Angiotensin converting enzyme inhibitor therapy

3- High protein diet

4- Renal biopsy

**5- Trial of steroid therapy**

Q1157. A 49-year-old woman has been an inpatient for the past 10 days for treatment of a bronchopneumonia. She has developed the onset of chills, fever, and skin rash over the past two days. A peripheral blood film reveals eosinophilia. On urinalysis she has ++ proteinuria. There is no past history of renal disease. Her hemoglobin A1C is normal. These findings would most strongly suggest which of the following diagnoses?

1- Acute serum sickness

2- Acute tubular necrosis

**3- Drug-induced interstitial nephritis**

4- IgA nephropathy

5- Post-streptococcal glomerulonephritis

Q1158. A 45-year-old man on regular haemodialysis complained of weakness and exertional fatigue. On examination, his blood pressure was 170/105 mmHg (pre-dialysi s) and 160/95 mmHg (post-dialysi s) . Investigations predialysis revealed: Haemoglobin 9.0g/dl serum potassium 6.9 serum creatinine 1250 serum corrected calcium 2.1 mmol/l Which intervention is most likely to improve his symptoms:

**1- increase haemoglobin with epoetin**

2- increase the length of each dialysis session

3- lower the potassium in the dialysate

4- improve blood pressure control with ramipril

5- correct hypocalcaemia with alfacalcidol

Q1159. Which one of the following statements is correct?

1- adult polycystic renal disease is inherited as an autosomal recessive trait

2- reflux nephropathy is inherited as an autosomal recessive trait

3- nephrogenic diabetes insipidus is inherited as an autosomal dominant trait

4- Alport's syndrome affects females more severely than males

**5- medullary sponge kidney is typically not inherited but is a congenital condition.**

Q1160. A 28-year-old man presented with hypertension. On examination he had palpable kidneys and abdominal ultrasound shows bilaterally enlarged cystic kidneys. Which one of the following conditions is most likely to be present in this patient?

1- Mitral stenosis

2- Nail dystrophy

**3- Polycythaemia**

4- Short stature

5- Testicular atrophy

Q1161. A 32-year-old female is diagnosed with Goodpasture's syndrome. Which of the following therapies used in conjunction with plasmapharesis and corticosteroids would be expected to improve prognosis associated with the condition?

1- Azathioprine

2- Cyclosporin

**3- Cyclophosphamide**

4- Mycophenolate mofetil

5- Tacrolimus

Q1162. A 32-year-old male is referred with chronic renal dysfunction and is discovered to have Adult Polycystic Kidney Disease. His blood pressure is consistently 140-150/90 mmHg. Which of the following antihypertensives is the most appropriate for the management of this man's blood pressure?

**1- ACE inhibitor**

2- Betablocker

3- Calcium channel blocker

4- Diuretic

5- Moxonidine

Q1163. A 25-year-old female is admitted with acute dyspnoea and chest pain. A diagnosis of pulmonary embolism is confirmed and her investigations reveal urine dipstick protein ++ but no blood, anti-double standed DNA antibodies of 200 U/mL (0 - 73), with a 24 hour urinary protein concentration of 5g (< 0.2). Which one of the following diagnoses is most likely to be found on renal biopsy?

1- AA amyloid

2- Focal segmental glomerulonephritis

3- IgA nephropathy

**4- membranous nephropathy**

5- minimal change nephropathy

Q1164. A 25-year-old woman who is 20 weeks pregnant is diagnosed with pyelonephritis. She had suffered recurrent urinary infections since childhood and her family history reveals that her mother had a history of hypertension and had been told she had a kidney problem. Examination was normal and Urea and Creatinine were both normal What is the most likely diagnosis?

1- autosomal dominant polycystic kidney disease

2- bladder outlet obstruction

3- normal physiological urinary stasis of pregnancy

4- reflux nephropathy

**5- renal stone disease**

Q1165. Which of the following is a known risk factor for the development of chronic rejection of kidney transplantation :-

1- Age

2- Anti-smooth muscle antibodies

**3- Presence of anti-HLA antibodies**

4- Smoking

5- Toxoplasma infection

Q1166. A 60-year-old man presents with right foot drop, left foot and left hand numbness, fever, malaise, weight loss, polymyalgia and polyarthralgia of approximately one month duration. On examination, he appears unwell ill, with a temperature of 38.5 C and blood pressure of 180/100 mmHg. Investigations reveal: haemoglobin 8.0 g/dL (13-18) erythrocyte sedimentation rate 100 mm/hr (0-20) serum creatinine 180 µmol/L (60-100) Urine analysis blood ++ urine microscopy: white cells and red cell casts Which one of the following is the most likely diagnosis?

1- antiphospholipid syndrome

2- giant cell arteritis

3- paraneoplastic syndrome

4- POEMS syndrome

**5- polyarteritis nodosa**

Q1167. Which of the following is associated with Hyperuricaemia?

1- is usually due to an excess purine consumption

**2- occurs in association with acute lymphoblastic leukaemia**

3- in primary gout is inherited in an autosomal dominant manner

4- can be reduced with low dose aspirin therapy

5- can be treated with uricosuric drugs even in renal failure

Q1168. A 60-year-old man was diagnosed last year with adenocarcinoma of the lung, and a 4 cm mass lesion was treated with a right lower lobectomy. He now has an abdominal CT scan that reveals scattered hepatic mass lesions and hilar lymphadenopathy. For several weeks, he has had increasing malaise. Urinalysis Protein +++ 24 hour urine protein 2.7 g/24hr serum urea 30 mmol/L(2.5 - 7.5) serum creatinine 450 µmol/L (60 - 110) A renal biopsy shows focal deposition of IgG and C3 with a granular pattern. What is the most likely diagnosis?

1- Goodpasture's syndrome

**2- Membranous glomerulonephritis**

3- Minimal change glomerulonephritis

4- Nodular glomerulosclerosis

5- Rapidly progressive glomerulonephritis

Q1169. A 25-year-old female wishes to start a family but she is concerned as her 50-year-old mother had adult polycystic kidney disease. Examination reveals no specific abnormalities. Which is the most appropriate screening test for polycystic kidney disease in this woman?

1- Genetic linkage analysis

2- Intravenous urogram

3- Isotope renography

**4- Renal ultrasound**

5- Urinalysis

Q1170. A 65-year-old man presents with renal colic. The following day he passes a stone in his urine with analysis revealing that it is composed of uric acid. Which one of the following is the most likely cause of this type of renal stone?

1- Allopurinol

2- chronic renal failure

3- Primary hyperparathyroidism

**4- thiazide diuretics**

5- secondary polycythaemia

Q1171. A 52-year-old man has been referred to the renal clinic due to deteriorating renal function. A diagnosis of adult polycystic kidney disease is made. His family history reveals that his mother died of a stroke at the age of 50 and his father is still alive. He is concerned regarding the inheritance of the disorder and wishes to know what the risk to his son is of inheriting this disorder?

1- 0%

2- 25%

**3- 50%**

4- 75%

5- 100%

Q1172. A 70-year-old man is admitted to hospital complaining of a twelve-day history of loin pain, fevers and occasional rigors. On examination, his temperature is 37.9?. The renal function is normal. Urinalysis of a mid stream urine shows: No organisms seen, with no growth White Cell Count >100 /mm3 Red Cell Count > 50 /mm3 Which would be your first investigation of choice?

1- CT abdomen and pelvis

2- Intra Venous Urogram (IV U) 3- Ultrasound scan renal tract

4- Transthoracic echocardiogram

5- Prostatic Specific Antigen (PS A) measurement

Q1173. A 62-year-old man with a longstanding history of hypertension is seen in the outpatient clinic. Investigations: Creatinine 280 umol/L Urinalysis Blood ++ Protein 1.8 g/L Ultrasound scan of kidneys Left kidney 8.5 cm; right kidney 8.9cm What is the best investigation to diagnose the cause of his renal impairment?

1- Intravenous urogram (IV U) 2- Isotope renogram

3- Renal angiogram

**4- Renal biopsy**

5- Retrograde pyelogram

Q1174. A 15-year-old girl was seen by her family physician because of increasing lethargy. She had a recent history of the "flu". Biochemistry tests show that she has renal impairement. serum sodium 140 mmol/L (137 - 144) serum potassium 4.2 mmol/L (3.5 - 4.9) serum urea 28 mmol/L (2.5 - 7.5) serum creatinine 280 µmol/L (60 - 110) Her condition does not improve after several weeks on corticosteroid therapy, so a renal biopsy is performed. The biopsy demonstrates the presence of segmental sclerosis of 3 of 10 glomeruli identified in the biopsy specimen. Immunofluorescence studies and electron microscopy do not reveal evidence for immune deposits. What is the most appropriate advice to give regarding her condition?

1- She has an underlying malignancy

**2- She may require a renal transplant in 10 years**

3- She will improve if she loses weight

4- She will likely develop a restrictive lung disease

5- She will probably improve with additional corticosteroid therapy

Q1175. A 55-year-old man who has received haemodialysis for many years presents with deteriorating discomfort in both shoulders. Past medical history included bilateral carpal tunnel decompression. His Investigations reveal: haemoglobin 10 g/dl ESR 30 mm/1st hr (1-10) C-reactive protein 12mg/L (1-10) Urate 0.58 mmol/L (less than 0.45) What is the most likely diagnosis?

**1- b2 microglobulin amyloidosis**

2- gout

3- Pseudogout

4- Polymyalgia rheumatica

5- Osteoarthritis

Q1176. A 16-year-old girl presented with HenochSchöein purpura and renal involvement. What is the most likely outcome?

1- A high probability of relapse

**2- Complete renal recovery**

3- Persistent hypertension

4- Persistent proteinuria

5- Requirement for long-term corticosteroids

Q1177. A 36-year-old male is referred with chronic renal dysfunction and is discovered to have Adult Polycystic Kidney Disease. Which of the following proteins is associated with the development of APKD?

1- Cyst specific binding protein

2- Matrix metalloproteinase

**3- Polycystin-1**

4- Progesterone binding cyst-protein

5- Type 1 collagen

Q1178. Autosomal recessive conditions include:

1- Vitamin D resistant rickets

2- Huntingdon's chorea

**3- Wilson's disease**

4- Manic depression

5- Turner's syndrome

Q1179. A 17-year-old boy presented with a nonblanching rash over his legs, a swollen knee and painless frank haematuria. Investigations revealed: Serum creatinine: 210 µmol/L (60-110) Urine dipstick analysis: blood +++ , protein + Urine culture: negative Ultrasound of the kidneys: normal Which glomerular abnormality is most likely to be present at renal biopsy?

1- Focal and segmental sclerosis

2- Foot process fusion

3- Linear deposition of IgG on the basement membrane

**4- Mesangial deposition of IgA**

5- Thickening of basement membranes

Q1180. A 65-year-old female is referred with a long history of hypertension and episodic urinary tract infections. Dipstick analysis of the urine shows Blood +++ together with protein +++. Her Urea is 20 mmol/l (3-8) and Creatinine 280 micromol/l (60-100). An ultrasound of abdomen is requested and shows left and right kidneys of 9 cm in size (10-12) without evidence of obstruction. Which one of the following is the best investigation to diagnose the cause of her renal failure?

1- isotope renography

2- IV urography

3- renal angiography

**4- renal biopsy**

5- retrograde pyelography

Q1181. A 72-year-old male presented to his GP with depression after the death of his wife. His notes also reveal that he has a two-year history of urinary hesitancy and poor stream. His GP prescribed him some medication and the following day he developed acute urinary retention. Which of the following drugs is most likely to have precipitated the urinary retention?

**1- Amitriptyline**

2- Diazepam

3- Fluoxetine

4- Venlafaxine

5- Zopiclone

Q1182. A 25-year-old man developed bilateral loin pain and frank hematuria. His symptoms had started 24 hours after developing a sore throat. His blood pressure was 138/88 mmHg. Urinalysis was positive for blood (4+) and protein (2+). What is the most likely diagnosis?

**1- IgA nephropathy**

2- microscopic polyangiitis

3- nephrolithiasis

4- post-streptococcal glomerulonephritis

5- septicaemia

Q1183. A 19-year-old female developed pleural effusions, ascites and ankle swelling. Her blood pressure was 112/76 mmHg. Investigations revealed: serum alanine transferase 17 U/L (5 - 15) serum total bilirubin 17 umol/L (1 - 22) serum albumin 21 g/L (34 - 94) serum total cholesterol 9.8 mmol/L (<5.2) What is the next most appropriate investigation?

1- Antinuclear antibody

2- Pregnancy test

3- Prothrombin time

4- Serum protein electrophoresis

**5- Urinary protein estimation**

Q1184. A 63-year-old woman presents following a visit to the well woman clinic where she is noted to be hypertensive. She has a past history of hip osteoarthritis for which she has taken regular paracetamol. On examination she is obese with a BMI of 35 (< 25), has a blood pressure of 180/100 mmHg and glycosuria is noted. Her Investigations show: Fasting plasma glucose 18.3 mmol/L Serum urea 9.8 mmol/l serum creatinine 129 micromol/L 24 hour urine protein concentration 1.8 g/d Normal ultrasonic appearances of both kidneys Which of the following is the most likely diagnosis?

1- Analgesic nephropathy

2- Chronic glomerulonephritis

**3- Diabetic nephropathy**

4- Hypertensive nephropathy

5- Ischaemic nephropathy

Q1185. A 68-year-old male diagnosed with nephrotic syndrome receives steroid therapy without benefit. His investigations show an albumin of 20 g/L (37 - 49), Total cholesterol of 12 mmol/l, dipstick urinanalysis reveals +++ protein and a renal biopsy shows focal segmental glomerulosclerosis. Which one of the following is most likely to preserve renal function?

1- dietary salt restriction

2- low dietary protein intake

**3- ramipril**

4- simvastatin

5- warfarin

Q1186. What is the most likely outcome of minimal change nephropathy with onset at 12 year of age?

1- frequent relapse

**2- full renal recovery**

3- permanent renal impairment

4- persistent hypertension

5- persistent proteinuria

Q1187. In which of the following situations would a percutaneous needle biopsy of the kidney be most helpful and appropriate?

1- Fever with suspected acute pyelonephritis

2- Premature neonate with suspected polycystic kidney disease

3- Prostatic hyperplasia with suspected hydronephrosis

4- Suspected renal cyst

**5- Systemic lupus erythematosus and acute renal failure**

Q1188. Acute renal failure may be distinguished from chronic renal failure by which of the following?

1- an increased urinary Na excretion

2- left ventricular hypertrophy on the ECG

3- hypophosphataemia

**4- renal size on ultrasound scan**

5- hyperkalaemia

Q1189. A 55-year-old man who has received haemodialysis for many years presents with deteriorating discomfort in both shoulders. Past medical history included bilateral carpal tunnel decompression. His Investigations reveal: haemoglobin 10 g/dl ESR 30 mm/1st hr (1-10) C-reactive protein 12mg/L (1-10) Urate 0.58 mmol/L (less than 0.45) What is the most likely diagnosis?

**1- b2 microglobulin amyloidosis**

2- Gout

3- Pseudogout

4- Polymyalgia rheumatica

5- Osteoarthritis

Q1190. A 54-year-old man with intermittent claudication was found to have renal impairment. Investigations revealed: Serum creatinine: 180 umol/L (60-100) Urinalysis: Protein++ Renal ultrasound revealed a right kidney of 7 cms and a left kidney of 10cms (normal dimensions 10-14c m) Which investigation should be requested to establish the diagnosis?

1- Cystoscopy

2- Intravenous urography

3- Isotope renography

**4- Renal arteriography**

5- Renal biopsy

Q1191. An 81-year-old man was admitted with renal failure due to benign prostatic hypertrophy. His bladder was drained with a urethral catheter followed by a diuresis of > 3L per day. After two days he became progressively drowsy. What is the most likely cause for his reduced level of consciousness?

**1- hyponatraemia**

2- hypocalcaemia

3- hypomagnesaemia

4- hyperglycaemia

5- metabolic acidosis

Q1192. A 45-year-old male presents with a longstanding history of hypertension. Investigations show a urea of 10.2 mmol/l and a Creatinine of 150 micromaol/l (50-100). Which one of the following would suggest a diagnosis of acute glomerulonephritis?

1- 24 hour urinary protein excretion of 0.8g

2- Dyslipidaemia

**3- RBC casts in urinary sediment**

4- Shrunken glomeruli on renal biopsy

5- Unilaterally smaller kidney

Q1193. A 46-year-old woman develops nephrotic syndrome and is awaiting further tests to establish the underlying aetiology. In which circumstance would corticosteroids be most effective in reversing the nephrotic syndrome?

1- Membranous nephropathy

**2- Minimal change disease**

3- Primary amyloidosis

4- Renal vein thrombosis

5- Mesangial IgA disease

Q1194. A 33-year-old male is receiving regular haemodialysis is noted to have a plasma potassium of 6.9 mmol/L (3.5-4.9) before a dialysis session. Although normally his potassium is less than 5.5 mmol/L. Which food combination from the dietary history would be most likely to cause the high potassium concentration?

1- Cereal, toast, biscuits.

2- Filter coffee, tea, boiled potatoes.

3- Milk, butter, plain yoghurt

4- Milk, ham, chicken.

**5- Tomato, potato crisps, banana.**

# Chapter 9 Clinical pharmacology

Q1195. A 67-year-old man who has a long history of chronic bronchitis is admitted from home with an acute exacerbation. Investigations show: pCO2 82 mmHg (35-45) pO2 50 mmHg (90 - 110) Which of the following would be expected in this patient?

1- A metabolic acidosis with a low bicarbonate would be expected

**2- Extensor plantar responses may be expected**

3- Gentamicin would be a reasonable initial treatment until cultures are available

4- Oxygen therapy should aim to increase the pO2 to above 60mmHg (8kP a) 5- Peripheral oedema indicates coexisting heart failure

Q1196. A 65-year-old man presented with chest pain and was found to have ST elevation in leads II, III and aVF. He was thrombolysed and has been stable on coronary care. On the third day of admission he becomes confused and on reviewing the history it becomes apparent that he was a heavy alcohol drinker before admission taking 80 units of alcohol per week. Which of the following management options would be most helpful in this situation?

1- CT brain scan

**2- Diazepam**

3- Haloperidol

4- Psychiatric referral

5- Thiamine

Q1197. A 17-year-old boy is admitted with a severe paracetamol overdose following an argument with his girlfriend. He is treated with intravenous N-acetylcysteine. Paracetamol is normally metabolised to harmless compounds except in overdose. Which of the following compounds is the toxic metabolite that accumulates during paracetamol overdose and is reduced by treatment with N-acetylcysteine?

1- Glucuronide

2- Homocysteine

3- Methionine

**4- N-acetyl-p-benzoquinoneimine**

5- N-hydroxyacetaminophen

Q1198. In a trial of a new drug, 13/28 treated improved over a one month period, compared with 3/28 on placebo. For Chi2 testing which of the following is correct?

1- The figures should first be converted to percentages.

2- The results would almost certainly suggest that more cases were needed to obtain a significant result.

**3- There is one degree of freedom.**

4- A value of Chi2 of 4.6 would imply that the result would have been obtained by chance in 46/100 trials.

5- The results would be invalidated if a disproportionate number of cases treated with the new drug had developed side effects.

Q1199. A 71-year-old male with a history of chronic renal impairment and atrial fibrillation for which he takes warfarin, presents with an acutely tender and red left big toe. Investigations reveal: Serum Creatinine 200 micromol/l (50-100) Serum Urate 0.5 mmol/l (0.12-0.42) Which of the following is the most appropriate treatment for this man's presentation?

1- Allopurinol

2- Colchicine

3- Diclofenac

4- Paracetamol

**5- Prednisolone**

Q1200. A 40-year-old lady presents with a swollen right calf. She has a history of mental health problems and is on a number of medications. Which of the following treatments increases the risk of thromboembolism?

**1- Antipsychotics**

2- Benzodiazepines

3- Monoamine oxidase inhibtors

4- Selective serotonin reuptake inhibitors

5- Tricyclic antidepressants

Q1201. A 50-year-old lady is brought into the Emergency department with drowsiness following an overdose of amitriptyline. She has dilated pupils, a GCS of 12, pulse 140 bpm, BP 85/60 and her ECG shows a wide complex tachycardia. Which of the following is the most appropriate next step in management?

1- Carotid sinus massage

2- DC cardioversion

**3- IV bicarbonate**

4- IV magnesium

5- Refer for haemodialysis

Q1202. A 70-year-old woman is on multiple medications for various conditions and she is found to have a macrocytic anaemia with a low serum B12. Which of the following medications is a possible cause of the B12 deficiency?

1- Amiodarone

2- Ezetimibe

**3- Metformin**

4- Nicotinic acid

5- Sodium valproate

Q1203. A 35-year-old man with a known history of acute intermittent porphyria because he carries a medical emergency card is brought to the emergency department by the police; he has been violent with acute psychosis. Which of the following sedatives would be the safest to use in this circumstance?

1- Chloral hydrate

**2- Chlorpromazine**

3- Diazepam

4- Haloperidol

5- Phenobarbitone

Q1204. Phenytoin:

1- Is associated with red-green colour blindness

2- Toxicity is associated with orchitis

3- A steady state blood level is achieved by 2-5 days

**4- Can be used in management of alchohol withdrawl syndrome**

5- Is the drug of choice in absence seizures.

Q1205. A 52-year-old woman takes Lithium Carbonate for manic depression and also takes Codeine and Diclofenac prescribed by her GP for osteoarthritis. Which one of the following statements is correct?

1- Codeine will reduce the bioavailablity of Lithium

2- The analgesic effect of Codeine will be reduced by co-administration of Diclofenac

3- The nephrotoxicity of Diclofenac will be increased in this patient

4- Plasma Lithium concentration will be increased by Codeine

**5- Plasma Lithium concentrations will be raised by Diclofenac**

Q1206. A patient is suspected of having taken a substance with anticholinesterase effects. Which of the following combinations of signs, if present, would be the most likely to confirm this effect?

**1- Bradycardia and miosis**

2- Bradycardia and mydriasis

3- Bradycardia and urinary retention

4- Tachycardia and diarrhoea

5- Tachycardia and lacrimation

Q1207. Which of the following mechanisms best explains the action of fibrates?

**1- Activation of PPAR-alpha**

2- Bile acid sequestration

3- Decreases hepatic cholesterol synthesis

4- Increases peroxisomomal beta-oxidation of fatty acids

5- Inhibits cholesterol absorption

Q1208. Which term best describes the affinity of a drug for its receptor?

1- Efficacy

2- Intrinsic activity

**3- Potency**

4- Selectivity

5- Therapeutic effect

Q1209. Which of the following statements regarding Antabuse (Disulfira m) are correct?

1- Can be used to assist abstinence from alcohol in patients with heart disease.

2- Antabuse acts by promoting the metabolism of acetaldehyde

**3- Patients using alcohol based perfumes may develop serious reactions**

4- Requires regular dose titration once initiated

5- Can be used in patients with a history of psychosis in order to limit alcohol excess

Q1210. A 72-year-old female is diagnosed with giant cell arteritis and is treated with Prednisolone 60 mg per day. What is the most appropriate treatment for the prevention of steroid induced osteoporosis?

**1- Alfacalcidol**

2- Calcium

3- Raloxifene

4- Tibolone

5- Vitamin D

Q1211. A 62 year-old female presents with deteriorating arthralgia associated with longstanding Rheumatoid arthritis. She was prescribed Celecoxib in place of naproxen. Which of the following concerning Celecoxib is correct?

1- Co-treatment with diuretic can be given more safely than with naproxen

2- Celecoxib acts by inhibiting a different enzyme than naproxen

**3- Celecoxib has a lower level of anti-platelet activity than naproxen**

4- Anti-inflammatory effects of celecoxib are superior to those of naproxen

5- Celecoxib is associated with reduced hepatotoxicity compared with naproxen

Q1212. Which of the following cardiac drugs shorten the QT interval?

1- Amiodarone

**2- Digoxin**

3- Moxonidine

4- Sodium nitroprusside

5- Sotalol

Q1213. The nurse bleeped you because an obese patient is feeling nauseous and is vomiting. He is also complaining of seeing green and yellow halos. He has recently been treated with a standard intravenous bolus of digoxin for fast atrial fibrillation. His creatinine clearance is normal. Digoxin toxicity is suspected. What do you think is the cause of his symptoms?

1- Decreased hepatic excretion

2- Decreased protein binding

3- Decreased renal clearance

**4- Decreased volume of distribution**

5- Increased half life

Q1214. Which of the following antiemetics functions through inhibition of neurokinin (N K) 1 receptor?

**1- Aprepitant**

2- Domperidone

3- Hyoscine

4- Granisteron

5- Ondansetron

Q1215. With respect to symptoms of withdrawal related to chronic alcohol use, which of the following statements is correct?

1- Withdrawal reflects enhanced neurotransmission in Type A gammaaminobutyric acid pathways.

2- Withdrawal reflects reduced neurotransmission in N-methyl-D-aspartate pathways.

3- Phenytoin is an effective treatment for seizures related to alcohol withdrawal.

4- Benzodiazepines are ineffective in the treatment of seizures secondary to alcohol withdrawal, due to cross tolerance with ethanol at Type A gamma aminoaminobutyric acid receptor.

**5- Carbamazepine is as effective as Benzodiazepines in the acute treatment of the symptoms of alcohol withdrawal.**

Q1216. A 60-year-old man presented with a rash over his forearms, shins and face when he visited cardiology clinic in the summer. Which of the following medications is the most likely to be associated with this photosensitive rash?

1- Atenolol

**2- Bendroflumethiazide**

3- Clopidogrel

4- Digoxin

5- Ezetimibe

Q1217. A letter published in a medical journal suggests that an established antidepressant may cause photosensitivity. The manufacturer wishes to set up a study to determine rapidly and efficiently whether this is a true association. Which one of the following techniques is most appropriate?

1- case control study

2- dose ranging study

3- double blind, randomized, placebo controlled study

**4- meta-analysis**

5- sequential trial

Q1218. A 60-year-old lady is taking warfarin for stroke prevention in atrial fibrillation. She presents with a markedly raised INR. Which of the following medications is the most likely to be the reason?

1- Aspirin

2- Carbamazepine

**3- Ciprofloxacin**

4- Flucloxacillin

5- St John's Wort

Q1219. A 58-year-old female presented with unsteadiness and ataxia and gave a recent history of nausea and epigastric pain for which she had been prescribed an antacid and cimetidine. She was an epileptic and had been well controlled with phenytoin for eight years. She had been also been prescribed amitriptyline for depression, was receiving post-menopausal hormone replacement therapy and was self-medicating with St John's wort. Which of the following drugs is most likely to be responsible for her presentation?

1- Amitriptyline

2- Antacid

**3- Cimetidine**

4- estradiol

5- St John's wort

Q1220. Which of the following drugs is most likely to cause systemic lupus-like syndrome?

1- baclofen

2- isoniazid

3- methotrexate

**4- procainamide**

5- sulphasalazine

Q1221. A 55 old male has been taking Methotrexate 7.5 mg weekly for sero-negative erosive rheumatoid arthritis with considerable clinical and symptomatic improvement. His most recent investigations performed two days ago reveals the following: Haemoglobin 12.9 g/dl (12 - 16 g/d l) White cell Count 5.3 x 109 /L (3.5 - 10 x 109 / l) Platelets 183 x 109 /L (150 - 450 x 109 / l) Urea 4.2 mmol/l (3.8 - 8 mmol/ L) Creatinine 88 µmol/l (50 - 110 mmol/ l) Alkaline phosphatase 92 iu/l (50 - 110 iu/l ) AST 22 iu/l (5 - 40 iu/ l) ALT 15 iu/l (5 - 40 iu/ l) When should the next series of blood tests be performed?

1- One week

2- Two weeks

**3- One month**

4- Six months

5- One year

Q1222. A 60-year-old retired nurse with idiopathic Parkinson's disease presented with motor oscillations and on-off periods. She had received Co-Beneldopa for 5 years. Selegiline was added to her treatment. Which one of the following enzymes does Selegiline act on to cause this adjuvant action?

1- catechol-0-methyltransferase

2- dopa decarboxylase

3- dopamine hydroxylase

**4- monoamine oxidase**

5- tyrosine hydroxylase

Q1223. A 30-year-old patient with learning difficulties is admitted as a medical emergency. The patient complains of headache, anorexia and vomiting. On examination she is febrile with a temperature of 38oC , pulse 110 bpm and is clinically jaundiced. Investigations reveal: Bilirubin micromol/l (0-18) Albumin 28 g/l (35-45) AST 400 iu/l(5-40) Alkaline Phosphatase 400 iu/l (50-120) Prothrombin time 35 seconds (<14) She was commenced on a new medication within the last 3 months, which do you suspect maybe contributing to the presentation?

1- Cabergoline

2- Carbamazepine

3- Lamotrigine

4- Metformin

**5- Sodium Valproate**

Q1224. A 45-year-old woman with a known history of depression, previously well controlled with fluoxetine, has started to suffer from anxiety, loss of interest and reduced appetite. She also complains of insomnia. She claims to taking her medications regularly according to prescription. What will be the most appropriate management for her?

1- Add a benzodiazepine

2- Add lithium

3- Electroconvulsive therapy

**4- Switch to another group of antidepressant**

5- Switch to another SSRI

Q1225. A 45-year-old lady with a past history of depression presented to the Emergency department drowsy. He repeat prescription says she is taking diazepam and dosulepin and the ambulance crew say that she has taken an overdose of her medication. Her BP is 140/80, pulse 130 bpm, respiratory rate 7 per minute and O2 sats 98% on air. Which of the following is the most appropriate next action?

1- Give flumazenil

2- Give naloxone

**3- Obtain an ECG**

4- Refer for urgent haemodialysis

5- Start N-acetylcysteine infusion

Q1226. A 55-year-old male who is being treated with Lithium for a bipolar disorder has a long history of hypertension for which he is receiving escalating doses of medication. On his most recent visit to clinic his blood pressure was noted to be 166/102 mmHg and new antihypertensive was added to his current antihypertensive therapy. Five days later he presents with features of Lithium toxicity including tremor, nausea and weakness. The addition of which of the following drugs was likely to have precipitated the Lithium toxicity?

1- Doxazosin

2- Hydrallazine

**3- Irbesartan**

4- Minoxidil

5- Moxonidine

Q1227. A 22-year-old male is admitted after drinking engine coolant in an apparent suicide attempt after finding his wife in bed with the postman. Investigations reveal: pH 7.1 pO2 15.3 kPa pCO2 3.2 kPa Standard Bicarbonate 2.2 mmol/l Serum Calcium 1.82 mmol/l After replacing calcium, which of the following is the most appropriate treatment for this man?

1- Alcohol infusion

**2- 8.4% bicarbonate infusion**

3- Femopizole infusion

4- Gastric lavage

5- Haemodialysis

Q1228. Which of the following are centrally acting antihypertensive therapies?

1- Hydrallazine

2- Minoxidil

**3- Moxonidine**

4- Phenoxybenzamine

5- Verapamil

Q1229. Which of the following mechanisms best explains the action of Ezetimibe?

1- Activation of PPAR-alpha

2- Bile acid sequestration

3- Decreases hepatic cholesterol synthesis

4- Increases peroxisomomal beta-oxidation of fatty acids

**5- Inhibits cholesterol absorption**

Q1230. A 30-year-old male presented with a paranoid psychosis accompanied by visual hallucinations which resolved over the next three days. Which one of the following is the most likely diagnosis?

**1- Alcohol withdrawal.**

2- Diazepam dependence.

3- Fluoxetine overdose.

4- Heroin withdrawal.

5- Smoking cannabis.

Q1231. A 68-year-old lady with mitral valve disease and atrial fibrillation is taking warfarin. Lately her INR has fallen and the dose of warfarin has had to be increased. Which of the following new treatments may account for this change?

1- Allopurinol

2- Amiodarone

3- Clarithromycin

4- Sertraline

**5- St John's wort**

Q1232. A 72-year-old man is discharged from hospital following a stroke. During his stay he was started on several new medications. He presents with diarrhoea. Which of the following medications is most likely to be the cause?

1- Clopidogrel

2- Enalapril

**3- Metformin**

4- Pioglitazone

5- Simvastatin

Q1233. Which of the following are correct concerning an Intention To Treat analysis?

1- It is a variation of a meta-analysis analysing specifically studies employing double blind placebo controlled trials.

2- It is a study where all included patients are treated with the active drug.

3- It is a study where all non-compliant patients are removed from analysis.

**4- It is a study that analyses all patients randomised to the study.**

5- It is a study comparing the effects of treatment with placebo or active treatment and also a similar group of nonstudy participants.

Q1234. Which one of the following is correct regarding long-acting beta-2 agonists?

**1- Can be used to prevent activity-induced symptoms without anti-inflammatory therapy.**

2- Become less effective over time (toleranc e) .

3- Are beneficial in acute viral croup.

4- Protect against allergen challenge for up to 48 hours.

5- Should not be used in association with erythromycin.

Q1235. A 65-year-old lady with a history of recurrent DVT. She has been weaned off her warfarin and started on intravenous heparin prior to cardiac bypass for ischaemic heart disease. She seems to require very high doses of heparin to achieve adequate anticoagulation especially during surgery. Which of the following conditions would explain her thrombophilia and her heparin resistance?

1- Activated Protein C resistance

**2- Antithrombin III deficiency**

3- Lupus anticoagulant

4- Protein C deficiency

5- Protein S deficiency

Q1236. A 55-year-old female has recently commenced Leflunomide for sero-negative rheumatoid arthritis. At baseline, prior to commencing the drug, her AST was 33 iu/l and her ALT was 40 iu/l. She attends for routine blood monitoring. Her FBC is normal but her liver function tests reveal: AST 58 iu/l (5 - 40 iu/ l) ALT 71 iu/l (7 - 45 iu/ l) Alkaline Phosphatase 100 iu/l (50 - 120 iu/ l) Bilirubin 12 micromol/l (5 - 18 iu/ l) What is the most appropriate management option for this patient?

1- Continue Leflunomide and monitor LFTs in one month

2- Continue Leflunomide and monitor LFTs in two weeks

3- Stop Leflunomide and commence washout procedure.

4- Stop Leflunomide and seek urgent rheumatological advice.

**5- Stop the Leflunomide and repeat tests in two weeks.**

Q1237. A 42-year-old man presents with gingival hypertrophy. Which of his cardiac medications is likely to be responsible?

**1- Amlodipine**

2- Atenolol

3- Digoxin

4- GTN

5- Simvastatin

Q1238. A 50-year-old male has a blood pressure of 160/90 on two consecutive days. You decide that you are going to initiate drug therapy. Which of the following statements regarding your decision is correct?

1- An alpha-blocker would be a first line agent in this patient

2- Spironalactone would be an appropriate second line agent in this patient

3- If the patient is non-caucasian, a betablocker would be an appropriate first line treatment

4- Potassium monitoring is not required if an ACE inhibitor is prescribed without the addition of spironalactone

**5- ACE inhibitors should not be used as first line treatment in Afro-Caribbean patients**

Q1239. A 62-year-old male is prescribed Sildenafil for impoitence. What is the mechanism of action through which Sildenafil works?

1- Central Dopaminergic agent

2- Gunaylate cyclase agonist

3- Nitric oxide synthase agonist

**4- Phosphodiesterase inhibitor**

5- Selective alpha-sympathetic inhibitor

Q1240. Which of the following mechanisms best explains the action of OMACOR (omega-3-acid ethyl ester s) ?

1- Activation of PPAR-alpha

2- Bile acid sequestration

3- Decreases hepatic cholesterol synthesis

**4- Increases peroxisomomal beta-oxidation of fatty acids**

5- Inhibits cholesterol absorption

Q1241. A 16-year-old female is admitted after taking an overdose of her mother's propranolol tablets approximately 2 hours ago. On examination she is drowsy and has a pulse of 40 beats per minute with a blood pressure of 80/40 mmHg. She is treated with activated charcoal, IV fluids and IV atropine but her bradycardia and hypotension fail to respond. Which of the following would be the most appropriate next stage in her management?

1- IV adenaline

2- IV amiodarone

**3- IV glucagon**

4- IV Phenytoin

5- Insertion of temporary pacemaker

Q1242. A 42-year-old man presented with confusion following a seizure. He has a history of epilepsy and is also known to the community psychiatry team. Examination reveals that he has a temperature of 37oC, BP 138/84, coarse tremor and a pulse of 90 bpm. Which of the following is the most likely underlying diagnosis?

1- Benzodiazepine overdose

2- Carbamazepine toxicity

**3- Lithium toxicity**

4- Neuroleptic malignant syndrome

5- Tricyclic overdose

Q1243. A 50-year-old man presented with a milky discharge from his nipples. He had a history of depression and gastro-oesophageal reflux disease and was on a number of medications. Plasma Prolactin 650 mU/L (< 360) Which of the following is the most likely cause of his symptoms?

1- Amitryptiline

2- Cimetidine

3- Fluoxetine

**4- Metoclopramide**

5- Omeprazole

Q1244. A 70-year-old man presents with an episode of syncope. On subsequent investigation he is found to have marked postural hypotension. He has been taking felodipine for hypertension for a number of years and he also takes aspirin. On further questioning he appears to have taken up a new healthier lifestyle on his seventieth birthday. Which of the following health supplements is he most likely to have taken that would have contributed to the calcium-channel blocker induced hypotension?

1- Cranberry juice

2- Cod liver oil capsules

3- Ginseng

**4- Grapefruit juice**

5- Vitamin C

Q1245. In which of the following would the first drug be associated with increased pharmacological action of the second drug?

**1- Erythromycin : theophylline**

2- Phenytoin : ethinyloestradiol

3- Ranitidine : cortiocosteroid

4- Rifampicin : warfarin

5- Valproate : phenobarbitone

Q1246. Which of the following pharmacological agents acts through the opening of potassium channels?

1- Amiloride

2- Glibenclamide

3- Lidocaine

**4- Nicorandil**

5- Phenytoin

Q1247. A 23-year-old man with known peanut allergy presented to the Emergency department with anyphylaxis. He has a swollen face and lips. His BP is 90/60, pulse 110 bpm and he is wheezy. Which of the following formulations of adrenaline should be given?

1- 0.5 ml of 1:10000 adrenaline IM

**2- 0.5 ml of 1:1000 adrenaline IM**

3- 5 ml of 1:1000 adrenaline IM

4- 10 ml of 1:10000 adrenaline IV

5- Nebulised adrenaline

Q1248. A middle aged lady presents with cervical and inguinal lymphadenopathy. She is also experiencing pins and needles in glove and stocking distribution. She had previous of epilepsy and was under regular medication. Which of the following drugs is most likely to cause her symptoms?

1- Carbamazepine

2- Phenobarbitone

**3- Phenytoin**

4- Sodium valproate

5- Vigabatrin

Q1249. Which of the following regarding Infliximab is most true

1- Is a monoclonal antibody to the glycoprotein IIb-IIIa receptor

2- Is authorised for the treatment of severe ulcerative colitis

**3- Is licensed for the treatment of rheumatoid arthritis**

4- It prevents relapse of Crohn's disease in patients who are in remission

5- Must not be used in combination with methotrexate due to increased toxicity

Q1250. 45-year-old woman has taken an unknown quantity of Amitriptyline tablets that were being prescribed for her depression approximately four hours ago. She is feeling drowsy, agitated and has a dry mouth. An ECG shows wide QRS complexes with arrhythmias. Blood Gas Analysis revealed pH 7.2 paO2 10 KPa (11-13) paCO2 4 KPa (4.7-6) What is the most appropriate treatment?

1- Activated Charcoal

2- Gastric Lavage

3- Haemodialysis

4- Intravenous Insulin

**5- Intravenous Sodium Bicarbonate**

Q1251. A 52-year-old woman who complains of exertional breathlessness presents to the clinic as she is desperate to stop smoking. She has had a number of unsuccessful attempts to stop smoking over the years and has tried nicotine patches. Which of the following would be an appropriate choice to assist in her attempts at smoking cessation?

1- Acupuncture

2- Hypnotism

3- Nicotine gum

4- Nortriptyline

**5- Varenicline**

Q1252. A 59-year-old male presents with a three day history of marked muscle aches and weakness. He has ischaemic heart disease for which he takes a number of drugs including simvastatin and has been taking these drugs for a number of years without any problem. On this occassion his CPK confirms a diagnosis of rhabdomyolysis with a level of 4200 iu/l (<200). Which of the following health supplements is he most likely to have taken that would have contributed to the statin-induced rhabdomyolysis?

1- Cranberry juice

2- Cod liver oil capsules

3- Ginseng

**4- Grapefruit juice**

5- Vitamin C

Q1253. Which of the following antiemetics functions as a cholinergic muscarinic antagonist?

1- Aprepitant

2- Domperidone

**3- Hyoscine**

4- Metoclopramide

5- Ondansetron

Q1254. A 59-year-old male type 2 diabetic is attending the foot clinic regularly. He has a neuropathic ulcer complicated by osteomyelitis a deep wound swab has grown Staphylococcus aureus and E coli. He also takes warfarin for atrial fibirillation. Which of the following antibiotics will reduce the anticoagulant effect of Warfarin?

1- Ciprofloxacin

2- Co-trimoxazole

3- Erythromycin

4- Metronidazole

**5- Rifampicin**

Q1255. A 40-year-old man has a hygienist appointment with his dentist for scaling. He is known to have a congenital bicuspid aortic valve. Which of the following is the most appropriate form of prophylaxis against endocarditis?

1- Amoxicillin 1g IV + gentamicin 120mg IV pre-procedure

**2- Amoxicillin 3g PO pre-procedure**

3- Gentamicin 120mg IM pre-procedure

4- Metronidazole 1g PO pre-procedure

5- No antibiotics required

Q1256. A 17-year-old female presents to A+E following self-confessed paracetamol poisoning after discovering she is 8 weeks pregnant and had a row with her boyfriend. She claims to have taken an approximately 30 paracetamol tablets approximately 58 hours ago. Her history is considered to be reliable. There are no abnormalities to find on examination. Her blood sugar by finger prick testing was 3.1 mmol/l. Which of the following would be the most appropriate treatment for this patient?

1- Haemodialysis

2- Intravenous dextrose infusion

**3- Intravenous N-acetylcysteine**

4- Oral activated charcoal

5- Oral vitamin K

Q1257. In a chronic disease which has no known effective treatment, a new treatment is known to be effective in animal models and shows promise in short-term studies in patients. There are some theoretical concerns about toxicity involving liver and bone marrow although no cases have been observed in studies so far. What is the most appropriate next step in the drug's development?

1- case control study

2- No further studies should be done and drug development should be stopped

3- open study

**4- randomised double blind placebo controlled study**

5- randomised single blind placebo controlled study

Q1258. A 45-year-old female with chronic schizophrenia was recently converted to a new anti-psychotic agent. She presented two weeks later with a sore throat and fever. Her full blood count shows: Haemoglobin 12.5 g/dl White cell count 1.3 x 109 /L Platelets 135 x 109 /L What drug is she likely to have commenced?

**1- Clozapine**

2- Haloperidol

3- Olanzapine

4- Quetiapine

5- Risperidone

Q1259. A 45-year-old female attend the clinic complaining of headache and vomiting for 5 days. She has a history of scleroderma complicated by stage V chronic kidney disease. On examination, she is tachycardic and has a blood pressure of 240/130mmhg; fundoscopy reveals grade 3 hypertensive retinopathy. Which of the following is a centrally acting antihypertensive agent.

1- Diazoxide

2- Hydralazine

3- Minoxidil

**4- Moxonidine**

5- Sodium nitroprusside

Q1260. A clinical trial assessing a new lipid lowering therapy for stroke allocates 1000 patients to active treatment and another 1000 patients to placebo. Results demonstrate that number needed to treat (NN T) is 20 for the prevention of the primary end-point. Which of the following best describes the results?

1- 20 patients in the treatment group were protected from stroke.

2- 20 extra patients in the placebo group had a stroke

3- For 1000 patients treated with active therapy, there would be 20 fewer strokes

**4- For 1000 patients treated with active therapy, there would be 50 fewer strokes.**

5- For every 1000 patients treated with active therapy there would be 100 fewer strokes

Q1261. A 55-year-old man with type 2 diabetes has noticed elevation of his blood glucose levels on a new treatment for his lipids. He says his diet and exercise levels are unchanged his HbA1c has also deteriorated by about 0.5%. Which one of the following drugs is the likely cause?

1- cholestyramine

2- ezetimibe

3- fenofibrate

**4- nicotinic acid**

5- rosuvastatin

Q1262. A 60-year-old female suffers from bipolar affective disorder and is being treated with Lithium. She also has a long history of hypertension for which she is on treatment. During a recent clinic visit her blood pressure was noted to be 170/94 mmHg and a new antihypertensive agent was added. A week later she presents with features of Lithium toxicity including tremor, nausea and weakness. The addition of which one of the following drugs was likely to have precipitated the Lithium toxicity?

1- Doxazosin

2- Hydrallazine

**3- Lisinopril**

4- Minoxidil

5- Moxonidine

Q1263. A 52-year-old lady presented with a history of crushing central chest pain, sweating and dyspnoea. An ECG confirms acute myocardial infarction with ST elevation in leads V2 - V4 and ST depression in leads II and III. Which of the following would be a contraindication to thrombolysis in this lady?

1- History of peptic ulcer disease

**2- Intracranial neoplasm**

3- Menstruation

4- Pre-proliferative diabetic retinopathy

5- Stroke 6 months previously

Q1264. A 33-year-old woman with a history of alcoholism and self-neglect, presents with an episode of blood streaked vomiting. This is attributed to minor Mallory-Weiss tear. She is admitted to hospital and given an intravenous infusion of 5% dextrose. Her serum potassium concentration is noted the following day to have fallen to 1.9mmol/L (NR 3.5-4.9mmol/ L) on admission. What is the likely mechanism for the fall in potassium concentration?

1- Cortisol release in response to stress increasing renal potassium loss

2- Decompensated liver failure causing aldosterone secretion

**3- Intracellular re-uptake in response to refeeding with glucose**

4- Metabolic acidosis increasing renal potassium excretion

5- Potassium levels falling following gastric loss in vomiting

Q1265. Which of the following drugs interacts with cranberry juice?

1- Amiodarone

2- Digoxin

3- Propranolol

4- Simvastatin

**5- Warfarin**

Q1266. A 45-year-old male takes Lithium for a bipolar affective disorder. Which of the following drugs would be contraindicated in conjunction with Lithium?

1- Atenolol

**2- Bendroflumethiazide**

3- Codeine Phosphate

4- Flucloxacillin

5- Thyroxine

Q1267. Which of the following antiemetics functions through antagonism of the

**5- hydroxytryptamine 3A receptor?**

1- Aprepitant

2- Domperidone

3- Hyoscine

4- Metoclopramide

**5- Ondansetron**

Q1268. An 85-year-old woman presented with bilateral osteoarthritis of the knees. She had no history of previous gastrointestinal disease. Which of the following is the most appropriate initial treatment for her?

1- Celecoxib

2- Naproxen

3- Dihydrocodeine

**4- Paracetamol**

5- Topical diclofenac.

Q1269. A 40-year-old ex-footballer presents requesting treatment for alcoholism and is prescribed disulfiram. What is the mode of action of Disulfiram?

1- Decreases severity of alcohol withdrawal

2- Helps alcoholics to drink safely

**3- Inhibits acetaldehyde dehydrogenase activity**

4- Inhibits alcohol dehydrogenase activity

5- Reduces the desire for alcohol

Q1270. A 60-year-old lady develops a fracture of the wrist following a fall; DEXA scan reveals osteoporosis in lumbar spine and hip. She has been commenced on once weekly Alendronate 70 mg daily and also takes a calcichew tablet. By what mechanism does the Bisphosphonate function in the treatment of osteoporosis?

1- Enhancing the absorption of calcium from the gut

2- Enhancing the absorption and action of vitamin D

3- Enhancing the survival and function of osteoblasts

4- Enhancing the survival and function of osteoclasts

**5- Reducing the survival and function of osteoclasts**

Q1271. A 50-year-old man is being treated for hypertension and has been told that he has gingival hyperplasia by his dentist. Which of the following medications is the most likely to be the cause?

1- Atorvastatin

2- Carvedilol

3- Doxazosin

**4- Nifedipine**

5- Telmisartan

Q1272. A 54-year-old man is found to have a prolonged corrected QT interval on his ECG. Which of the following drugs is the most likely cause?

1- Ceflacor

2- Digoxin

3- Moxonidine

**4- Sotalol**

5- Telmisartan

Q1273. A 51-year-old female has rheumatoid arthritis. She states that she is allergic to Penicillin and Co-Trimoxazole. Therefore, which of the following drugs is contraindicated?

1- Azathioprine

2- Ciclosporin

3- Gold therapy

4- Methotrexate

**5- Sulphasalazine**

Q1274. A 48-year-old lady with a history of epilepsy and ischaemic heart disease presented with the following Full Blood Count. Haemoglobin 7.4 x 10 9/L (11.5 - 16.5) Mean cell volume 125 fL (80 - 96) White cell count 2.5 x 109 /L (4 - 11) Platelet count 130 x 109 /L (150 - 400) Which of the following medications is the most likely cause?

1- Carbamazepine

2- Clopidogrel

3- Furosemide

**4- Phenytoin**

5- Spironolactone

Q1275. A 72-year-old lady presented after taking an overdose of a sustained-release propranolol preparation. She has a pulse of 40 bpm and a BP of 90/60. She was given atropine by the Emergency department staff but there has been little response. Which of the following is the most appropriate treatment?

1- Atropine

**2- Glucagon**

3- Haemodialysis

4- Noradrenaline

5- Salbutamol

Q1276. A young boy is born with a heart murmur that is subsequently diagnosed as Ebstein's anomaly. Which of the following drugs, taken by the mother, may have contributed to this case of congenital heart disease?

1- Amiodarone

2- Carbimazole

**3- Lithium**

4- Phenytoin

5- Warfarin

Q1277. Which of the following mechanisms best explains the action of simvastatin?

1- Activation of PPAR-alpha

2- Bile acid sequestration

**3- Decreases hepatic cholesterol synthesis**

4- Increases peroxisomomal beta-oxidation of fatty acids

5- Inhibits cholesterol absorption

Q1278. A 56-year-old female who is taking warfarin for atrial fibrillation and has had a stable INR of between 2-2.5 over the last one year is noted to have an INR on the last visit of 7.8. Consumption of which of the following may be responsible for this?

1- Carrot juice

**2- Cranberry juice**

3- Oil of evening primrose

4- Orange juice

5- St John's wort

Q1279. A 51-year-old man presents with wheals and urticaria. He takes a variety of medications. Which drug is the most likely to have caused this reaction?

**1- Aspirin**

2- Glyceryl trinitrate

3- Omeprazole

4- Paracetamol

5- Simvastatin

Q1280. There is presently no known effective treatment for a chronic disease. A new treatment is known to be effective in animal models and shows promise in short-term studies in patients. There is some theoretical concerns regarding possible hepato- and bone marrow toxicity although thus far, no toxicity have been observed in studies. What is the most appropriate next step in the drug's development?

1- A case control study

2- No further studies should be done and drug development should be stopped

3- An open study

**4- A randomised double blind placebo controlled study**

5- A randomised single blind placebo controlled study

Q1281. A 90-year-old man with chronic leukaemia presents with gout which his general practitioner treats with Allopurinol. How does Allopurinol prevent the accumulation of uric acid?

1- By competing for its transporter to the kidney

2- By enhancing its solubility

**3- By inhibiting purine synthesis**

4- By inhibiting pyrimidine synthesis

5- By inhibiting the inflammatory response it causes

Q1282. A 16-year-old female is admitted with a severe paracetamol overdose. She is treated with IV N-acetylcysteine. By replenishing which of the following compounds does N-acetylcysteine function as an antidote in paracetamol overdose?

1- Arginine

2- Cysteine

3- Cystine

**4- Glutathione**

5- Methionine

Q1283. A 48-year-old man is admitted with nausea and excessive drowsiness after taking an antihistamine tablet. He has previously used the antihistamine but on this occasion he has recently been drinking large amounts of grapefruit juice for his health. Grapefruit juice is suspected of causing a drug interaction in this man. Which of the following liver enzyme systems is affected by grapefruit juice?

**1- Cytochrome p450 3A4**

2- Glycine decarboxylase

3- Glucuronidation

4- Glutathione S-transferase

5- Sulfation

Q1284. A 60-year-old lady presented with heartburn. She is known to have osteoporosis and has been taking alendronate for a number of years. Which of the following is the most likely cause of her symptoms?

1- Achalasia

2- Calcification of lower oesophageal sphincter

3- Crush fracture

4- Ischaemic heart disease

**5- Oesophagitis**

Q1285. A 60-year-old man has left ventricular failure and clinically he is classified as NYHA Class III. He takes furosemide, aspirin and ramipril. The addition of which one of the following betablockers would be expected to further improve his prognosis?

1- Acebutolol

**2- Bisoprolol**

3- Esmolol

4- Propranolol

5- Sotalol

Q1286. A 55-year-old woman is attending clinic a number of months after having had a myocardial infarction. She has been commenced on appropriate drugs to reduce cardiovascular risk and has made dietary modifications for healthy living. Recently, however, she complains of muscle aches and pains and is found to have an elevated CPK. Consumption of which of the following is likely top have contributed to increased statinassociated myotoxicity?

1- Carrot juice

2- Cranberry juice

3- Garlic cloves

**4- Grapefruit juice**

5- Omega-3 fish oils

Q1287. A 48-year-old lady with Addison's disease presented in a small peripheral clinic. She says that she has run out of her hydrocortisone and she usually takes 20 mg in the morning and 10 mg in the evening. No hydrocortisone is available at the clinic but you do have prednisolone which you would like to prescribe instead until a prescription of hydrocortisone can be dispensed. What is the equivalent daily dose of prednisolone?

1- 2.5 mg

2- 5 mg

**3- 7.5 mg**

4- 10 mg

5- 20 mg

Q1288. A 68-year-old lady presents to her GP for an annual review of her heart failure treatment. She has a blood pressure of 165/90. She is currently taking furosemide and aspirin and she dyspnoea on walking up hills.. Which of the following is the most appropriate medication to add?

1- Bendroflumethiazide

**2- Enalapril**

3- Isosorbide mononitrate

4- Spironolactone

5- Titrate dose of furosemide

Q1289. Which one of the following drugs works by inhibiting the tumour necrosis factor?

1- cyclosporin

**2- infliximab**

3- methotrexate

4- montelukast

5- sulphasalazine

Q1290. An 18-year-old woman is admitted after taking drugs at a night-club. Which of the following features suggest she had taken Ecstasy (MDM A) ?

**1- A pyrexia of 40oC**

2- hypernatraemia

3- hypokalaemia

4- metabolic acidosis

5- respiratory depression

Q1291. A 72-year-old man presents with painful lumps in his feet and is diagnosed with gout. Following initial treatment with non-steroidal anti-inflammatory agents he is started on Allopurinol. How does this work?

1- Inhibits macrophage tubular formation

2- Inhibits cyclooxygenase II

3- Inhibits nitric oxide synthase

**4- Inhibits xanthine oxidase**

5- Increases urinary uric acid excretion

Q1292. A 70-year-old man presented with increasing dyspnoea. In his history, he had suffered a myocardial infarction two years previously which had been complicated by ventricular arrhythmias. At admission his oxygen saturations were 85% on air and a chest X-ray revealed bilateral patchy infiltration of both lung fields with a cardiothoracic ratio of 20/30 cm. Which of the following drugs that he has been prescribed is most likely to explain these findings?

**1- Amiodarone**

2- Atorvastatin

3- Aspirin

4- Furosemide

5- Ramipril

Q1293. A 52-year-old female with a three year history of sero-positive erosive rheumatoid arthirits has recently commenced methotrexate therapy initiated at the rheumatology clinic. Which of the following agents should she also be receiving in conjunction with her Methotrexate?

**1- Folic acid**

2- Omeprazole

3- Thiamine

4- Vitamin C

5- Zinc supplements

Q1294. A 60-year-old male who has been prescribed lisinopril for hypertension presents with an irritating cough. What is the mechanism responsible for ACEinduced cough?

1- Angiotensin I accumulation

2- Asthma

**3- Bradykinin accumulation**

4- Laryngeal irritation

5- Renin accumulation

Q1295. A 46-year-old male was seen for an insurance medical examination. He was entirely asymptomatic, but his serum urate concentration was noted to be 0.5 mmol/L (0.23 - 0.46). What is the most appropriate management for this patient?

1- Allopurinol

2- Colchicine

3- Ibuprofen

**4- Lifestyle intervention**

5- Sulphinpyrazone

Q1296. A 45-year-old male attends for an insurance medical and is in good health. Examination was normal but investigations reveal that he has a serum urate concentration of 0.55 mmol/l (NR 0.25-0.45). Which of the following is the most appropriate management for this patient?

**1- Lifestyle advice**

2- Start Allopurinol

3- Start Colchicine

4- Start Diclofenac

5- Start Prednisolone

Q1297. A 17-year-old female presents with acute breathlessness. She has had asthma for approximately 3 years and recently commenced new therapy. Which agent may be responsible for this exacerbation?

**1- Salmeterol**

2- Theophylline

3- Beclomethasone

4- Ipratropium bromide

5- Monteleukast

Q1298. You are asked to advise on analgesia for a 4

4- year-old woman with acute intermittent porphyria who has undergone wisdom teeth extraction. Which of the following drugs is safe for use in her treatment?

1- Cephalexin

2- Cetirizine

3- Diclofenac

4- Erythromycin

**5- Ibuprofen**

Q1299. Hypomagnesaemia may be caused by which of the following drugs?

1- Aminophylline

**2- Cisplatin**

3- Co-trimoxazole

4- Digoxin

5- Amitriptyline

Q1300. The following are causes of drug induced hepatitis except:

1- Amiodarone

**2- Ethambutol**

3- Isoniazid

4- Methyldopa

5- Pyrazinamide

Q1301. A 45-year-old female presents with a 6 month history of exertional dyspnoea and is diagnosed with pulmonary fibrosis. Over the last one year she has received a variety of medications. Which of the following drugs could be responsible?

1- Dexamethasone

2- Ibuprofen

3- nalidixic acid

4- penicillamine

**5- sulphasalazine**

Q1302. A study has been designed to investigate whether a certain drug plus physiotherapy treatment is better than drug treatment alone in the management of rheumatoid arthritis. After randomizing the patients a small proportion of the drug plus physiotherapy group decide to drop out of the study or omit some treatment sessions specified in the research protocol. What is the correct way of analysing the subsequent data?

1- Assume the patients have withdrawn their consent

2- Exclude these patients from all analysis

3- Extend the trial recruitment to make up the numbers

**4- Include these patient outcomes in the drug plus physiotherapy group**

5- Interview the patients and report their group separately

Q1303. A 63-year-old female presents with dry mouth of 3 months duration. She is taking medication for hypertension, stress incontinence and reflux oesophagitis. Which of the following may be responsible for her dry mouth?

**1- Oxybutinin**

2- Doxazosin

3- Hydrallazine

4- Cimetdine

5- Bendroflumethiazide

Q1304. With regard to poisoning / overdose:

1- Phenobarbitone causes a metabolic acidosis

2- Ethylene glycol causes a metabolic alkalosis and renal failure

3- Aspirin causes acidosis due to hypoventilation

**4- Methanol causes a metabolic acidosis with an increased anion gap**

5- Chlormethiazole causes hyperthermia and hypertension

Q1305. A 48-year-old female with rheumatoid arthritis has the following full blood count results: Haemoglobin 11.4 g/dl (12-16.5) Platelets 470 x 109 /L (150-450) White Cell Count 9.0 x 109 /L (4-10) MCV 102 fl (83-95) Which drug is she likely to be taking?

1- Ciclosporin

2- Hydroxychloroquine

3- Leflunomide

**4- Methotrexate**

5- Myocrisin

Q1306. In which of the following have randomised controlled trials shown that long-term oxygen therapy (LTO T) reduces mortality?

1- Asthma

**2- Cor pulmonale due to chronic airflow obstruction**

3- Cryptogenic fibrosing alveolitis

4- Cystic fibrosis

5- Pulmonary sarcoidosis

Q1307. Which of the following most accurately describes the mechanism of action of the bisphosphonates?

1- Calcium resorption in the distal tubule

2- Fibroblast proliferation in bone marrow

3- Improved vascular supply to bone marrow

**4- Inhibition of osteoclast activity**

5- Upregulation of osteoblast activity

Q1308. A new drug is being studied to find the most appropriate dose in a dose response study. Small doses of the drug lead to a linear increase in serum drug concentration. At higher doses there is an exponential rise in serum drug concentration. Which of the following best describes the pharmacokinetic properties of this new drug?

1- first order kinetics [25]

2- first pass effect

3- long plasma half life

**4- saturation kinetics**

5- zero order kinetics [25]

Q1309. Lead poisoning:

1- Causes adrenal suppression

2- Can only result from lead ingestion

3- Is associated with a macrocytic anaemia

**4- Causes a peripheral neuropathy due to demyelination**

5- Commonly presents with diarrhoea

Q1310. A 29-year-old man who is a keen amateur photographer with his own development studio presented to the Emergency department with confusion. His partner said he had been under a great deal of stress recently and she found him foolishly drinking a developer solution with a poison symbol on it. He is hypoxic and hypotensive. The local poisons unit suggests a diagnosis of cyanide poisoning. Which of the following would be the most appropriate treatment?

1- Desferrioxamine

**2- Dicobalt EDTA**

3- Gastric lavage with Fuller's earth

4- Haemodialysis

5- Penicillamine

Q1311. A farmer, on treatment for depression is admitted acutely 1 hour following an intentional overdose of an unidentified substance. On examination he is bradycardic, hypotensive, disorientated, hypersalivating, and has small pupils. He has most likely ingested :

1- Paracetamol

2- A tricyclic anti-depressant

3- Paraquat

**4- An organophosphate insectacide**

5- Cyanide

Q1312. A 35-year-old man is admitted following a serious attempt of paracetamol overdose. Despite efforts to treat him he develops liver failure. Which of the following is most likely with the ensuing liver failure?

1- It is harmful to give N-acetylcysteine

2- better prognosis in those with high alcohol consumption

3- hypoglycaemia rarely happens within 12 hours of onset of encephalopathy

**4- lactic acidosis is recognised complication**

5- better prognosis in older patients

Q1313. A 63-year-old man was found collapsed. A Department of Psychiatry outpatient Card was found in his jacket, together with a bottle of procyclidine tablets. He was febrile (38.2° C) , conscious but unresponsive to commands. The blood pressure was 160/105 mmHg and there was marked muscle rigidity. What is the most likely diagnosis?

1- acute catatonic schizophrenia

2- bacterial meningitis

3- cerebral malaria

**4- neuroleptic malignant syndrome**

5- procyclidine overdose

# Chapter 10 Respiratory

Q1314. A 40-year-old worker presents with wheezing and breathlessness which seem to improve over weekends and holiday periods when he is not working. What is he most likely to be exposed to at work?

**1- Platinum salts**

2- Avian bloom

3- Aspergillus clavatus

4- Work in the Silver industry

5- Exposure to spores of Actinomyces

Q1315. Which of the following statements regarding cryptogenic fibrosing alveolitis is correct?

**1- Active inflammation may be suggested by a CT scan**

2- peak flow rate is a good guide to severity

3- 80 per cent of patients initially respond well to immunosuppression

4- peak incidence seen in the fourth decade

5- lung volumes show a raised residual volume / total lung capacity ratio

Q1316. Which of the following statements is NOT true of primary pulmonary tuberculosis:

1- It is characteristically asymptomatic

2- Miliary spread is commoner in a younger age group

3- The initial immunological response causes hilar lympadenopathy

4- pleural effusion occurs before tuberculin skin testing is positive

**5- A positive tuberculin skin test develops within two weeks of infection**

Q1317. A lifelong non-smoker is diagnosed with emphysema. Which of the following would be the most likely aetiological agent ?

1- Isocyanates

**2- Cadmium Exposure**

3- Steel

4- Zinc

5- Asbestos

Q1318. In restrictive lung disease due to respiratory muscle weakness, which of the following statements is true?

1- Low FEV1/FVC, high RV/TLC

2- Low FEV1/FVC, normal TLC

3- Low VC, low FEV1, normal TLC, low RV/TLC

4- Low VC, low RV, low TLC

**5- Low VC, low TLC, high RV/TLC**

Q1319. Which of the following is found in subjects acclimatised to life at high altitudes ?

1- Increased mean corpuscular haemoglobin concentration

**2- Increased pulmonary artery pressure**

3- Periodic respiration

4- Reduced cardiac output

5- Reduced airway resistance

Q1320. A 36-year-old man complains of a persistent cough. A CXR shows fibrosis of both upper lobes. What is the most likely diagnosis?

1- Systemic Sclerosis

2- Primary Pulmonary Hypertension

3- Cystic Fibrosis

4- Ankylosing Spondylitis

**5- Allergic bronchopulmonary aspergillosis**

Q1321. Which of the following is a typical feature of Farmer's lung?

**1- basal crackles**

2- Eosinophilia

3- Haemoptysis

4- Increased pCO2

5- Positive serum paraproteins

Q1322. A 25-year-old male presents to A+E with shortness of breath. One week ago, he developed influenza and has become more short of breath and fatigued in the last 24 hours. His temperature is 38.5oC, his SaO2 is 90% on 2L of oxygen, a blood pressure 100/60 mmHg and heart rate 120/min. The CXR shows patchy consolidation. Which antibiotic therapy should you select for this man?

1- Amoxicillin

**2- Amoxicillin and Flucloxacillin**

3- Amoxicillin and Gentamicin

4- Amoxicillin and Rifampicin

5- Flucloxacillin

Q1323. Which of the following is NOT true with regard to the radiological appearance of a chest Xray?

1- Consolidation of the right middle lobe will obliterate the right atrial shadow in the PA view

2- Consolidation of the right apical segment will extend to the horizontal fissure in the PA view

3- Consolidation of the right anterior segment of the right middle lobe will extend to the right transverse fissure and the right hilum in PA view

4- Consolidation of the lingular lobe will obliterate the aortic knuckle and pulmonary trunk in the PA view

**5- Consolidation of the left lower lobe will elevate the left hemidiaphragm**

Q1324. A 25-year-old woman is admitted with a

4- month history of cough productive of mucoid sputum streaked with bright red blood, wheezing and diarrhoea. Her chest and abdominal examination is normal. Which of the following investigation is the most discriminatory?

**1- Bronchoscopy**

2- Chest X-ray

3- Computed tomography (C T) of chest

4- Echocardiogram

5- Ventilation-perfusion scan

Q1325. A 29-year-old professional singer presents with a prolonged history of epistaxis and rapidly progressive shortness of breath. The KCO and eosinophil count are raised. Which of the following is the most likely diagnosis?

1- Goodpasture's syndrome

2- Microscopic polyangiitis

3- Churg-Strauss syndrome

**4- Wegener's granulomatosis**

5- Alveolar proteinosis

Q1326. An 18-year-old female with alpha1-antitrypsin deficiency attends clinic 12 weeks pregnant. She wants to know if her child would be affected. What is the mode of inheritance of this disease?

1- Autosomal dominant

2- X-linked recessive

**3- Autosomal recessive**

4- Polygenic

5- X-linked dominant

Q1327. Which ONE of the following is correct regarding severe bullous emphysema:

1- Helium dilution is more accurate than body plethysmography in measuring residual volume.

2- Hypoxaemia at rest will improve with exercise.

3- Pulmonary compliance is reduced.

4- Reduced elastic recoil opposes airway collapse in expiration.

**5- The carbon monoxide transfer factor is reduced.**

Q1328. A 56-year-old man presents with night time sweats, nocturia, poor concentration and day time somnolence. To which of the following conditions does this diagnosis predispose?

1- Hypoglycaemia

2- Hypotension

3- Insulin sensitivity

4- Osteoporosis

**5- Stroke**

Q1329. A 41-year-old man with a history of nasal congestion, breathlessness, cough and wheeze presents with a left foot drop. Which of the following is the most likely diagnosis?

1- Diabetes mellitus

2- Wegeners Granulomatosis

**3- Churg Strauss Syndrome**

4- Pulmonary eosinophilia

5- Polyarteritsis Nodosa

Q1330. Which of the following is NOT employed in the laboratory diagnosis of respiratory viral infections?

1- Immunofluorescence

2- Tissue culture

3- Haemaglutination

4- ELISA

**5- Single radial haemolysis (SR H)**

Q1331. An 18-year-old attending the A+E department is noted to have central cyanosis. She is perfectly well but was told to go to A+E by her friends who said she looked blue. What is the most likely cause?

1- Carbon Monoxide Poisoning

2- Lead Poisoning

**3- Drinking water contaminated with nitrates**

4- Anorexia Nervosa

5- Severe Anaemia

Q1332. A 7 month old boy is presented to a doctor by his parents with symptoms of reccurent upper respiratory tract infections. No other members of the family suffer from any smiliar infections.Physical examination showed mild facial hypoplasia. Biochemistry investigations revealed hypocalcaemia. Microbiological investigations were normal and immunoglobulins were within normal limits. The infants immune function would show the following deficiency:

1- Complement Deficieny

2- B cell number and function

**3- T cell number and function**

4- Plasma Cell

5- Macrophage number and function

Q1333. A 63 year-old diabetic presents with a pyrexia, productive cough and shortness of breath for 5 days. She has RLL consolidation and a small unilateral pleural effusion on CXR. Which is a marker of poor prognosis?

1- Temp >38°C

2- WCC > 15

3- Her age

4- Her CXR signs

**5- Her diabetes**

Q1334. A 65-year-old woman presented with increasing fatigue, dyspnoea and a dry cough. Her chest X-ray shows an area of dense pneumonia-like consolidation in the right lower lobe. A course of antibiotics did not improve her symptoms or chest X-ray. Bronchioalveolar lavage (BA L) retrieved 'atypical' cells. What is the most likely diagnosis?

**1- Bronchioloalveolar cell carcinoma**

2- Mycoplasma pneumonia

3- Pulmonary alveolar proteinosis

4- Pulmonary embolism with infarction

5- Sarcoidosis

Q1335. Which of the following statements is true of the pulmonary function test's vital capacity (V C) ?

1- Vital capacity cannot be measured from spirometry alone

2- Vital capacity is increased in emphysema and reduced in interstitial fibrosis

**3- Vital capacity is the maximal amount of air which can be exhaled after maximal inspiration**

4- Vital capacity is the sum of tidal volume (V T) and inspiratory capacity (I C) 5- Vital capacity, when reduced, is a specific indication of restrictive lung disease

Q1336. A 61-year-old, heavy smoker, with a BMI of 37, presents with impotence, nocturia and depression. He is hypoxic at rest on air and has ankle oedema. Which is the most appropriate investigation to determine the aetiology?

1- Arterial blood gas

2- Chest x-ray

3- Ventilation-perfusion scan

4- Thyroid function test

**5- Sleep study**

Q1337. Most of the cells that fill the alveoli in desquamative interstitial pneumonitis (DI P) are which of the following?

1- Eosinophils

2- Lymphocytes

**3- Macrophages**

4- Neutrophils

5- Plasma cells

Q1338. Which of the following statements concerning industrial lung disorders is correct?

1- pneumoconiosis can be diagnosed in the absence of chest X-ray abnormalities

**2- occupational asthma occurs more frequently in atopic persons**

3- silo fillers disease is caused by allergy to grain

4- widespread crepitations are typically heard in extrinsic allergic alveolitis

5- symptoms occur within minutes if exposure to mouldy hay in Farmer's lung

Q1339. A 20-year-old male student is assessed for shortness of breath that occurs whilst running. He has no other symptoms and does not smoke. Examination, full blood count, and chest X-ray are normal. Which of the following is most likely to be helpful in confirming the suspected diagnosis?

1- Arterial blood gas studies before and after exercise

2- Determination of lung volumes and diffusing capacity

3- Measurement of venous blood lactate before and after exercise

4- Spirometry before and after administration of bronchodilators

**5- Spirometry before and after exercise**

Q1340. Which one of the following statements is true of chronic obstructive pulmonary disease?

1- patients show at least a 15 per cent improvement in the FEV1 after nebulised bronchodilator

**2- inhaled corticosteroid usage does not improve long-term prognosis**

3- breathlessness is uncommon until the FEV1 falls to approximately 50 per cent of predicted

4- emphysema is associated with increased transfer factor

5- in advanced cases there is reduced pulmonary vascular resistance

Q1341. A 45-year-old man presents with a three month history of wheezing and dyspnoea whilst at work. His symptoms improve significantly when at home and at weekends. What is the likely causative agent?

1- Asbestos

2- Cotton dust

**3- Isocyanates**

4- Silica

5- Simple coal workers lung

Q1342. A patient's arterial blood gas analysis gives the following results: pO2 10 kPa (75mmH g) pCO2 7 kPa (52 mmH g) pH 7.47 Bicarbonate 37 mmol/L Which of the following is the most likely cause?

1- Chronic hyperventilation Syndrome

2- Acute exacerbation of chronic obstructive pulmonary disease

**3- Pyloric obstruction**

4- Pulmonary embolism

5- Diabetic coma

Q1343. The parents of a child with cystic fibrosis consult you wishing to know what is the risk of their next child being a carrier of the condition. Which ONE of the following percentages is the correct risk?

1- 0%

2- 25%

**3- 50%**

4- 75%

5- 100%

Q1344. An otherwise healthy 78-year-old female presents complaining of a 3-day history of tiredness and breathlessness. Her pulse oximetry shows oxygen saturation of 90%. Arterial blood gas analysis performed on air shows pH 7.3 (7.35-7.45) pO2 7.8 kPa (9-13) pCO2 7.5 kPa (3.5-5.5) Bicarbonate 30 mmol/l (22-28) What is the most likely cause?

1- Bronchial asthma

2- Left ventricular failure

3- Lobar pneumonia

**4- Neuromuscular weakness**

5- Pulmonary embolism

Q1345. A 45-year-old seaman presents with cough and fever. A CXR demonstrates a cavitating lung lesion. Which of the following is the most likely cause:

**1- Histoplasmosis**

2- Syphilis

3- Sarcoidosis

4- Amoebiasis

5- Brucellosis

Q1346. A 43-year-old asthmatic develops worsening breathlessness and his full blood count has revealed an eosinophilia. A diagnosis of allergic bronchopulmonary aspergillosis is suspected. Which of the following statements is true with regard to this diagnosis?

1- The immediate skin test to an extract of aspergillus fumigatus is negative

**2- Circulating IgG precipitins to aspergillus fumigatus are positive**

3- The CO transfer factor is unaffected

4- Recurrent haemoptysis is a characteristic feature

5- Pleural effusion is a complication

Q1347. In the normal lung which of the following is correct?

1- There is an intrapleural pressure of 30 cmH2O (3kP a) at the end of normal expiration.

2- There is a resting pulmonary blood flow of 10L/min.

**3- The V:Q ratio is greater in apical than basal segments of the lung when upright and at rest.**

4- The majority of airway resistance is generated by small airways.

5- Cartilage is present in all respiratory bronchioles.

Q1348. A 47-year-old woman presenting with breathlessness has arterial blood gases taken which give the following results: pO2 8.7 kPa (65mmH g) , pCO2 4.4 kPa (33mmH g) , pH 7.46, { HCO3-] 24. Which of the following is the most likely diagnosis?

1- Hyperventilation syndrome

**2- Acute severe asthma**

3- Emphysema

4- Kyphoscoliosis

5- Opiate overdose

Q1349. Which of the following statements is true of the diffusion capacity of carbon monoxide?

1- Is a specific measure of lung perfusion.

**2- Depends on the thickness of the alveolar wall.**

3- Is not affected by changes in the surface area available for gas exchange.

4- Is increased in cigarette smokers.

5- Is increased in emphysema.

Q1350. What is the most likely cause of upper lobe fibrosis on Chest X-ray?

**1- Ankylosing spondylitis**

2- Cryptogenic fibrosing alveolitis

3- Rheumatoid arthritis

4- Scleroderma

5- Systemic lupus erythematosus

Q1351. A new publication describes a new test for cystic fibrosis. You want to know what proportion of patients with cystic fibrosis who would be correctly identified by this new test. Which one of the following values would identify this?

1- accuracy

2- negative predictive value

3- positive predictive value

**4- sensitivity**

5- specificity

Q1352. A 80-year-old coal miner who stopped working 16 years previously presents with deteriorating dyspnoea. Investigations show: FEV1 1.4L (predicted 2.5) FVC 2.8L (predicted 3.0) What is the most likely diagnosis?

**1- Chronic obstructive pulmonary disease**

2- Cryptogenic fibrosing alveolitis

3- Extrinsic allergic alveolitis

4- Silicosis

5- Simple pneumoconiosis

Q1353. A 72-year-old lifelong smoker presents with progressive dyspnoea on exertion. He has a chronic, nonproductive cough. On examination he is thin, breathing with pursed lips, respiratory rate 25/min, with mild wheezing on chest auscultation. Investigations show: FEV1 0.8 L FVC 1.6 L pH 7.35 paCO2 45 mmHg paO2 55 mmHg What is the predominant mechanism of the airflow limitation in this gentleman?

1- Bronchospasm

2- Foreign body obstruction

3- Increased airways resistance

**4- Loss of elastic recoil**

5- Mucus plugging in the small airways

Q1354. A patient with Rheumatoid arthritis complains of progressive breathlessness. Which of the following is the most likely cause?

1- Pulmonary Eosinophilia

2- Asthma

3- Pulmonary nodules

**4- Fibrosing Alveolitis**

5- Pulmonary Embolus

Q1355. A 20-year-old student is found in her bedroom by friends drowsy, confused and sweating. She is unable to give a clear history. On examination she has a fever of 38.3oC, pulse 110 bpm, BP 110/60 and she appears short of breath with a respiratory rate of 30. Her chest sounded clear to auscultation. Arterial blood gas result taken on 15 L/min oxygen shows: pH 7.29 (7.35-7.45) paO2 16 kPa (11-14) paCO2 2.1 kPa (4.5-6) Which of the following is the most likely diagnosis?

**1- Aspirin overdose**

2- Cocaine use

3- Legionella pneumonia

4- Meningococcal septicaemia

5- Severe asthma

Q1356. A 22-year-old lady recently returned from a holiday in Malta was admitted with a 3 day history of fever, generalised lymphadenopathy and a macular rash over the trunk and legs. Which of the following is the most likely diagnosis.

1- Sarcoidosis

2- Tuberulosis

3- Familial Mediterranean Fever

**4- Infectious Mononucleosis**

5- Actinomycosis

Q1357. A 35-year-old man presents after 3 months of chronic cough with purulent sputum and shortness of breath on exertion. He gives a history of at least two sinus or bronchial infections per year requiring treatment with antibiotics. He also says he and his wife have been unable to have children. He smokes 15 cigarettes per day. Examination is normal except for some wheezing and an area of focal crackles at the left lung base. Chest X-ray shows patchy infiltrates at both bases. Investigations revealed FEV1 2.0 L FVC 2.7 L pH 7.38 paCO2 40 mmHg paO2 82 mmHg What is the most likely diagnosis?

1- alpha-1-Antitrypsin (Antiproteas e) deficiency

2- Asthma

3- Cystic fibrosis

4- Hypogammaglobulinemia

**5- Immotile cilia syndrome**

Q1358. A 21-year-old gentleman with cystic fibrosis presents with infertility. What is the most likely cause for this?

1- Chronic prostatic insufficiency

**2- Failure of development of the vas deferens**

3- Increasing alkalinisation of semen

4- Primary failure of testosterone production

5- Production of anti-sperm antibodies

Q1359. In a study of a new drug for asthma, a researcher wishes to compare average serum drug concentrations in volunteers, four hours after taking the drug; a. in the fasting state then b. after a meal. Which of the following would be the most appropriate statistical test to use?

1- chi-squared test

2- Pearson's correlation coefficient

**3- Student's paired t-test**

4- Student's unpaired t-test

5- Wilcoxon test

Q1360. A 60-year-old woman presents with deteriorating dyspnoea and cough productive of a purulent sputum. She has a two year history of recurrent chest infections and is a smoker of 5 cigarettes daily. On examination, she appeared breathless with a pulse of 100 bpm and a temperature was 39°C. Investigations revealed: Haemoglobin 19.5 g/dL (13.0-18.0)?? White cell count 15.7 x 109 /L ( 4-11) Platelet count 350 x 109 /L ( 150-400)? paO2 6.8 kPa (11.3-12.6) Carboxyhaemoglobin 15.5% (3-15) Red cell mass 147% (75-125) What is the most likely explanation for these findings?

**1- Chronic obstructive airways disease**

2- Ectopic erythropoietin production

3- ?Myelofibrosis???

4- Primary polycythaemia

5- Pseudo-polycythaemia

Q1361. Which of the following would be the least likely finding in a patient with sarcoidosis?

1- Hepatic granulomas

2- Restrictive pulmonary function tests

3- Skin lesions

4- Uveitis

**5- X bodies on bronchoalveolar lavage (BA L) fluid**

Q1362. Recognised associations. Which of the following is correct?

1- pneumoconiosis and clubbing

2- lung carcinoids and pleural effusion

3- pulmonary embolus and left bundle branch block

4- pulmonary fibrosis and hypercapnia

**5- bronchopulmonary aspergillosis and wheezing**

Q1363. A 16-year-old girl presents with a 2 day history of deteriorating breathlessness and dyspnoea. Blood gas analysis shows a pH of 7.25, a pCO2 of 7.0kPa, a pO2 of 8.5kPa, and a base excess of -4. Which of the following interpretations is correct?

1- Results are consistent with bronchopulmonary dysplasia.

2- Blood gases suggest type 1 respiratory failure.

3- Immediate intubation is required.

**4- Results are consistent with late severe asthma.**

5- Bicarbonate may be necessary to correct the acidosis.

Q1364. A 20-year-old female with cystic fibrosis presents in early pregnancy wanting advice. Genetic analysis reveals that her partner is a carrier of the cystic fibrosis gene. What is the chance of her child having cystic fibrosis?

1- 10

2- 25

**3- 50**

4- 75

5- 100

Q1365. Which of the following is a recognised treatment for complications of cystic fibrosis?

1- DNAase to assist in reinflating collapsed lung segments.

2- Rectal pull-through and anastamosis for rectal prolapse.

3- Pancreatic transplant for diabetes mellitus.

**4- Nebulised tobramycin for pseudomonas colonisation of the lower respiratory tract.**

5- Hypotonic saline drinks for hypernatraemic dehydration.

Q1366. A 65-year-old man with known chronic obstructive pulmonary disease, treated with inhalers, was admitted with a six-week history of gradually increasing shortness of breath. He was apyrexial, mildly confused with a respiratory rate of 26 breaths per minute and there were no changes on the chest X-ray. Investigations revealed: paO2 7.8kPa (9-12.6) paCO2 8.5kPa (4.7-6.0) pH 7.3 (7.36-7.44) What is the most appropriate immediate management?

1- High flow oxygen therapy

2- Intravenous aminophylline

3- Intravenous hydrocortisone

4- Intubation and mechanical ventilation.

**5- Nebulized salbutamol and ipratropium bromide.**

Q1367. A 60-year-old man with ankylosing spondylitis presents with cough, weight loss and tiredness. His CXR shows longstanding upper lobe fibrosis. Three sputum tests stain positive for Acid fast bacilli but are consistently negative for Mycobacterium tuberculosis on culture. Which of the following is the most likely cause?

**1- Mycobacterium avium intracellulare complex**

2- Micropolyspora faeni

3- Allergic Bronchopulmonary Aspergillosis

4- Sarcoidosis

5- Tuberculosis

Q1368. A 56-year-old female presents with a six month history of deteriorating non productive cough and exertional dyspnoea. On examination she is noted to be cyanosed, has clubbing of the fingers and there are bilateral basal crackles. A chest X-ray reveals bilateral basal shadowing and pulmonary investigations show: paO2 (on ai r) 8.5 kPa (11.5-12.5) FEV1/FVC ratio 85% Which one of the following investigations is most likely to establish the diagnosis?

1- Bronchoalveolar lavage

**2- Chest CT scan**

3- Diffusion Capacity studies

4- Echocardiography

5- Serum ACE level

Q1369. A 50-year-old male is taken to the General Practitioner by his long suffering wife. His snoring (which has been steadily increasing in loudness over the past 18 month s) is troublesome at home. She says that he makes noises and moves around whilst asleep. He reports no problems with sleeping. He does admit to gaining 20 kg in weight over the past one year, and to falling asleep during the day. A sleep study is performed. Which of the following findings would be most compatible with this man's clinical presentation?

**1- Fragmented sleep, cessations of airflow measured at the nose accompanied by an increase in oesophageal pressure swings and episodic oxygen desaturation.**

2- Normal sleep quality, bradycardic episodes, oxygen desaturation but normal airflow.

3- Normal sleep quality but cessations of airflow measured at the nose with decreased abdominal wall motion during these flow cessations.

4- Progressive oxygen desaturation during the night and alternating periods of hyperventilation and hypoventilation.

5- Tachycardia, sleep fragmentation, episodes of hypoventilation with minimal oxygen desaturation.

Q1370. 65-year-old man came to the hospital for worsening breathlessness. He was a chronic smoker and previously diagnosed with lung cancer. Chest X-ray revealed elevation of left hemidiaphragm and left phrenic nerve palsy was suspected. Which of the following findings on fluoroscopy of diaphragm will confirm the diagnosis?

1- No movement of the left hemidiaphragm

2- No movement of the right hemidiaphragm

3- Normal movement of both hemidiaphragms

**4- Paradoxical movement of the left hemidiaphragm**

5- Paradoxical movement of the right hemidiaphragm

Q1371. A 63-year-old woman presents a 5 day history of progressive shortness of breath. Her family brought her in because she was increasingly sleepy during the last 24 hours. She was diagnosed with Chronic Obstructive Pulmonary Disease 3 years ago and has a FEV1 less than 50% of predicted. She has an oxygen concentrator at home. Examination revealed depressed consciousness and a respiratory rate of 24 with shallow breaths. There were decreased breath sounds with minimal air movement. If an arterial blood gas on room air were to be performed, which of the following results would you expect?

1- pH 7.16 paCO2 70 paO2 50 HCO3 24

**2- pH 7.24 paCO2 80 paO2 55 HCO3 30**

3- pH 7.32 paCO2 60 paO2 70 HCO3 30

4- pH 7.41 paCO2 40 paO2 50 HCO3 24

5- pH 7.48 paCO2 30 paO2 85 HCO3 24

Q1372. A 16-year-old girl presents with shortness of breath and insomnia prior to an examination. Clinical examination is normal. CXR and PEFR are normal. Which of the following investigations is most suggestive of asthma?

**1- diurnal variation in PEFR> 20%**

2- positive skin prick test to common allergens

3- past medical history of hayfever and eczema

4- increased total IgE

5- resolution of symptoms the day after the exam

Q1373. A 15-year-old boy presented with wheezing when playing football and nocturnal cough. Which is the best test to confirm the underlying condition?

1- A trial of oral corticosteroids

2- A trial of inhaled corticosteroids

3- A trial of inhaled salbutamol

**4- Serial peak expiratory flow rate measurements**

5- Spirometry alone

Q1374. A 60-year-old man with breathlessness, fever and headache is suspected of having Farmers Lung. A CXR shows diffuse nodular shadowing predominantly in the mid and lower zones. What would be the most useful diagnostic test?

1- Blood Culture

2- Sputum Culture

**3- Serum precipitating antibodies to Micropolyspora faeni**

4- Serum Precipitating antibodies to Aspergillus clavatus

5- Serum Precipitating antibodies to Cryptostroma corticale

Q1375. A 55-year-old woman on treatment for longstanding rheumatoid arthritis has recently become dyspnoeic on mild exertion and developed a dry cough. The oxygen saturation was found to be 87% on air. The chest x-ray showed a diffuse bilateral interstitial infiltrate. An extensive infection screen was negative and her symptoms were felt to be druginduced. Which drug is most likely to have caused this adverse effect?

1- azathioprine

2- cyclosporin

3- hydroxychloroquine

**4- methotrexate**

5- sulphasalazine

Q1376. A 52-year-old man enquired about the advisability of vaccination prior to a holiday abroad. He had been treated for asthma with long-term steroids and regularly required doses of Prednisolone in excess of 30mg daily to control acute exacerbations. Which one of the following vaccinations would be contra-indicated in this man?

**1- BCG**

2- Diphtheria toxoid

3- H Influenzae B

4- Meningococcus

5- Tetanus toxoid

Q1377. Which of the following statements regarding the sweat test is true?

1- Sweating is enhanced by application of atropine.

2- The filter paper is left on for a total of about 4 hours.

3- At least 25mg of sweat is necessary for a reliable result.

**4- More than 60mmol/L of chloride in sweat is diagnostic of cystic fibrosis.**

5- False/positive results may be encountered in children with nephrotic syndrome.

Q1378. A 24-year-old asthmatic female is admitted with acute severe asthma. Which of the following statements regarding the diagnosis is correct?

1- Agitation should be managed with a benzodiazepine

**2- A high inspired Oxygen concentration should be used routinely**

3- Inhaled salmeterol is indicated as first line therapy

4- Normal arterial pCO2 is reassuring

5- Pulsus paradoxus is a reliable sign of severity

Q1379. A 65-year-old obese man presents with night time sweats, nocturia, poor concentration and day time somnolence. To which of the following conditions does this diagnosis predispose?

1- Hypoglycaemia

2- Hypotension

3- Insulin sensitivity

4- Osteoporosis

**5- Sudden death**

Q1380. Which one of the following cells in the lung parenchyma produces surfactant?

1- Alveolar macrophage

2- Endothelial cell

3- Goblet Cell

4- Type I pneumocyte

**5- Type II pneumocyte**

Q1381. Obstructive sleep apnoea characteristically associated with:

**1- hypersomnolence**

2- impotence

3- macrognathia

4- insomnia

5- polydipsia

Q1382. An 18 year-old female is admitted with a depression of her conscious level. Arterial blood gas analysis revealed: pH 7.26 pO2 12.1 kPa pC02 3.9 kPa standard bicarbonate 14.7 mmol/L Which one of the following would account for these results?

1- Analytical error

**2- Metabolic acidosis**

3- Persistent vomiting

4- Respiratory acidosis

5- Respiratory alkalosis

Q1383. A 55-year-old plumber presented with a dry nocturnal cough and increasing exertional breathlessness. On examination he had early finger clubbing, cyanosis and bilateral basal crackles. A chest X-ray showed bilateral lower zone shadowing. Investigations revealed: paO2 (breathing ai r) 8.2 kPa (11.3-12.6) FEV1/FVC ratio 85% Which of the following investigations is most likely to establish the diagnosis?

1- Echocardiography.

**2- High resolution CT scan of chest**

3- Measurement of diffusion capacity

4- Serum angiotensin-converting enzyme (AC E) level

5- Transbronchial lung biopsy

Q1384. Which cell type is responsible for the early asthmatic response?

1- Basophil

2- Eosinophil

**3- Mast cell**

4- Neutrophil

5- TH1-lymphocyte

Q1385. A 64-year-old man presented with shortness of breath. On examination he had the signs of a large right-sided pleural effusion. Investigations revealed: pleural fluid analysis: protein 48 g/L What is the most likely cause?

1- Cardiac failure

2- Constrictive pericarditis

3- Hepatic cirrhosis

**4- Mesothelioma**

5- Nephrotic syndrome

Q1386. A 55-year-old man who has a 25 year pack history of smoking presents with productive cough with mucoid sputum of 2 year duration. On examination he has scattered ronchi and wheezing. The likeliest diagnosis is :

1- Bronchial Asthma

2- Bronchiectasis

**3- Chronic Bronchitis**

4- Pneumonitis

5- Fibrosing Alveolitis

Q1387. In a study of a new drug for asthma, a researcher wishes to compare average serum drug concentrations in volunteers, four hours after taking the drug; \* in the fasting state then \* after a meal Which of the following would be the most appropriate statistical test to use?

1- chi-squared test

2- Pearson's correlation coefficient

**3- Student's paired t-test**

4- Student's unpaired t-test

5- Wilcoxon test

Q1388. A 67-year-old man presents with a long history of cough,breathlessness on minimal exertion and ankle swelling. He smokes 30-40 cigarettes per day. Investigations are as follows: Haemoglobin 19g/dl white blood count 7.3 paO2 (ai r) 6.2kPa paCO2 (ai r) 8.9kPa serum [H+] 44 nmol/l serum [HCO3] 36 mmol/l What is the most likely explanation of these results?

1- acute respiratory acidosis

**2- chronic respiratory acidosis**

3- chronic respiratory alkalosis

4- metabolic acidosis

5- metabolic alkalosis

Q1389. You are asked to see a patient who attends A+E with shortness of breath. The chest X-ray shows right lower lobe consolidation. Which of the following features should prompt admission to hospital?

1- Audible Bronchial breathing

2- A paO2 of 9.8 kPa (11-13)

3- A SaO2 of 95%

**4- A respiratory rate of 32/min**

5- A White cell count of 16.8 x 109 /L (4-10)

Q1390. Randomised controlled trials have shown that long-term oxygen therapy (LTO T) reduces mortality in:

1- cryptogenic fibrosing alveolitis

**2- cor pulmonale due to chronic airflow obstruction**

3- asthma

4- cystic fibrosis

5- pulmonary sarcoidosis

Q1391. An otherwise healthy 32-year-old man was the driver of a car involved in a high speed RTA 3 days ago. He has sustained a closed fracture of his femur which has been treated surgically with an intramedullary nail, as well as fractures of his right clavicle and left radius. He was managed according to ATLS protocol when he attended the emergency department. On examination, he is acutely short of breath and hasa temperature of 37.5oC. The patient seems confused when you speak to him, and as you examine him, you note petechial haemorrhages. What do you think is the most likely diagnosis?

1- Asthma attack

2- Chest infection

**3- ?Fat embolism???**

4- Pulmonary embolism

5- Tension pneumothorax

Q1392. A 48-year-old woman presented with shortness of breath, cough with heavy sputum production, and a low grade fever. She has smoked 20 cigarettes per day for 30 years. Her arterial blood gases revealed pH of 7.4, pCO2 of 45 mmHg (NR 35-45)and a pO2 of 78 mmHg (NR 90-110). What is the most likely diagnosis?

1- Bronchial asthma

**2- Chronic bronchitis**

3- Cryptogenic fibrosing alveolitis

4- Paraneoplastic syndrome

5- Pulmonary embolism

Q1393. A 38-year-old male presents with episodic wheeze and non-productive cough which occurs particularly at night. He has been employed in the plastics industry. Which of the following suggests a diagnosis of occupational lung disease?

1- Absent family history of asthma

2- Commencement of symptoms on his first day in this employment

3- elevated serum IgE concentration

**4- Improved symptomatology when on holiday**

5- Increased bronchial reactivity

Q1394. An 18-year-old boy is suspected of having cystic fibrosis. Which of the following results would be most suggestive of this condition?

1- Abnormal pancreatic function tests

2- Abnormalities in lung function tests

3- Bronchiectasis on a chest x-ray

**4- Elevated sweat chloride concentration**

5- Low immunoreactive plasma trypsinogen

Q1395. Sleep Apnoea syndrome is best diagnosed by the following:

**1- Polygraphic Sleep Studies**

2- therapeutic trial of amphetamines

3- EEG

4- Blood gases during apneic episodes

5- Presence of HLA-DR2 and DQw1

Q1396. A 9-year-old boy presents with a history of headache and persistent green nasal discharge. At night he has a cough and snores loudly. The headache is exacerbated by leaning forwards. On examination he is apyrexial, but has a persistent nasal obstruction and nasal speech. He is tender over the maxillae and forehead. What is the most likely diagnosis?

1- Gastroesophageal reflux

2- Allergic rhinitis

**3- Sinusitis**

4- Asthma

5- Croup

Q1397. A 65-year-old woman, has smoked 50 cigarettes a day for 40 years. She has had increasing dyspnoea for the several years, but no cough. A Chest X-ray shows increased lung size along with flattening of the diaphragms, consistent with emphysema. Over the next several years she develops worsening peripheral oedema. Her vital signs show T° 36.7 C, P 80, RR 15, and BP 120/80 mm Hg. Which of the following cardiac findings is most likely to be present?

1- Mitral valve stenosis

2- Constrictive pericarditis

**3- Right ventricular hypertrophy**

4- Left ventricular aneurysmm

5- Non-bacterial thrombotic endocarditis

Q1398. A 43-year-old Caribbean female Comprehensive school teacher complains of slowly increasing breathlessness. She has no smoking history. Investigations reveal she has bilateral enlarged hilar lymph nodes, elevated serum calcium, interstitial lung disease, and enlarged liver and spleen. What is the most likely diagnosis?

1- Coccidioidomycosis

2- Hyperparathyroidism

3- Hypervitaminosis D

**4- Sarcoidosis**

5- Tuberculosis

Q1399. A 45 year-old male with type 2 diabetes presented to the clinic as his wife complained that he snored excessively. Which of the following would suggest a diagnosis of obstructive sleep apnoea?

**1- Daytime sleepiness**

2- Nasal polyps

3- Nocturnal cough

4- Poor memory

5- Stridor

# Chapter 11 Rheumatology

Q1400. A 30-year-old woman presents with Raynaud's phenomenon. Which one of the following clinical features suggests an underlying connective tissue disease?

**1- History of chilblains**

2- Involvement of toes

3- One previous miscarriage in early pregnancy

4- Symmetrical involvement of fingers

5- Symptoms developed as a teenager

Q1401. A 50-year-old man presented with a six-week history of general malaise and a 2 day history of a right foot drop, a left ulnar nerve palsy and a widespread purpuric rash. He complained of arthralgia but had no clinical evidence of inflammatory joint disease. Investigations revealed: ESR 100 mm/hr ANCA negative ANA negative Rheumatoid factor strongly positive C3 0.8 g/L (NR 0.75 - 1.6) C4 0.02 g/L (NR 0.14 - 0.5) Urine dipstick Blood ++, no protein An echocardiogram was normal and two sets of blood cultures were negative. What is the most likely diagnosis?

1- ANA negative SLE

**2- Cryoglobulinaemia**

3- Infective endocarditis

4- Polyarteritis nodosa

5- Rheumatoid arthritis

Q1402. Which of the following statements regarding systemic lupus erythematosis (SL E) is correct?

1- when disease is active the levels of complements C3 and C4 are raised.

2- when evidence of mild nephritis is present, a renal biopsy is unnecessary.

3- there is a female preponderance of 20:1.

**4- first manifestation of the disease may be idiopathic thrombocytopenia purpura.**

5- there is neurological involvement in about 10% of cases.

Q1403. A 55-year-old female receiving 10 mg of Methotrexate and 5mg of folate\* weekly presents with a sore right finger after cutting herself in the garden. On examination, she has a swollen, erythematosus right ring finger up to the proximal interphalangeal joint and you diagnose a cellulitis. You give her a prescription for erythromycin as she is allergic to penicillins. She has been receiving the Methotrexate for just over one year with no problems and all routine blood monitoring has been normal. Whilst monitoring the response of the infection to treatment, what is the most appropriate strategy regarding her Methotrexate therapy?

1- Continue Methotrexate unchanged and increase folate supplements to 10mg daily.

2- Continue Methotrexate and folate unchanged.

3- Reduce dose of Methotrexate to 5mg weekly

**4- Stop Methorexate until the infection has resolved.**

5- Stop Methotrexate only if full blood count reveals a neutropaenia.

Q1404. A female presents with headache, lethargy and weight loss. Which of the following would make the diagnosis of giant cell arteritis unlikely?

1- A normal ESR

2- Bilateral headache

3- Non-tender temporal arteries

**4- Papilloedema on fundoscopy**

5- The patient is 50 years old

Q1405. A 33-year-old female presents with pain at the elbow which she has been aware of for the last 2 weeks. Which of the following would be consistent with a diagnosis of tennis elbow?

1- Pain on pressure over the medial epicondyle

**2- Pain on wrist extension against resistance**

3- Pain on pronation of the forearm

4- Pain on flexion of the fingers against resistance

5- Pain on extension of the elbow

Q1406. Which of the following auto-antibodies may have a role in monitoring disease activity?

1- Rheumatoid factor in rheumatoid arthritis

2- Antinuclear antibodies in systemic lupus erythematosus

3- Anti-Sm antibodies in systemic lupus erythematosus

**4- Anti-ds DNA antibodies in systemic lupus erythematosus**

5- Anti-Ro (SS A) antibodies in Sjogren's syndrome

Q1407. A 65-year-old male is referred due to inadequate pain relief for his hip osteoarthritis. His GP has prescribed paracetamol and codeine 30mg four times daily but he has found little improvement in his pain relief. He has a past history of asthma for which he occassionally takes an inhaler. What is the most likely explanation for the lack of clinical efficacy associated with this medication?

1- Fast acetylator status

2- Ipratropium accelerates the metabolism of codeine

3- Impaired absorption of Codeine

**4- Inadequate dose of Codeine**

5- Interaction of Paracetamol with Codeine

Q1408. A 40 year-old woman presents with a year history of Raynaud's phenomenon, dyspepsia and arthralgias. On examination she has sclerodactyly and synovitis of the small joints of the hands. Her ESR is 40 mm/hr (<10) but Rheumatoid factor and Antinuclear Antibody are both negative. Which one of the following is most likely to develop as a further complication of this disorder?

1- anterior uveitis

2- butterfly rash

3- erosive joint disease

4- erythema nodosum

**5- malabsorption**

Q1409. A 70-year-old retired sea captain develops weakness of the shoulders and hips over a 4 month period. He has also noticed weak finger flexors with normal strength in straightening them. He has had some difficulty swallowing liquids. There is no past medical history, apart from a sexually transmitted disease picked up in the South Pacific some forty years before. This was treated with antibiotics and he is not sure of the diagnosis. He smokes a pipe and drinks 1 or 2 tots of rum at the weekend. A creatinine kinase level comes back at 120. Which investigation is most likely to give a definite diagnosis?

1- Anti Jo 1 antibody titres

2- CT scan of the chest

3- EMG

**4- Muscle biopsy with electron microscopy**

5- 24 hour urine collection for myoglobin

Q1410. A 24-year-old male has been receiving Sulphasalazine for 6 months as treatment for Reiters disease. His most recent series of blood tests were normal. When should he next be screened?

1- Two weeks

2- One month

**3- Three months**

4- Six months

5- One year

Q1411. A 50-year-old female presented with a week's history of pain and stiffness in her shoulders and wrists with symptomatic deterioration in the morning. On examination, there was synovitis of both wrists and there was no proximal muscle wasting or weakness. Her ESR was 50 mm/hr (0 - 20). What is the most likely diagnosis?

1- polymyalgia rheumatica

2- polymyositis

3- reactive arthritis

**4- rheumatoid arthritis**

5- systemic lupus erythematosus

Q1412. A general practice covers a population of 20,000 patients. How many patients with Rheumatoid Arthritis would be expected in this population?

1- 1000

2- 500

**3- 200**

4- 100

5- 50

Q1413. Which of the following has the greatest specificty for Wegener's granulomatosis?

1- pANCA and positive antibodies to myeloperoxidase

2- atypical ANCA and positive antibodies to myeloperoxidase

3- cANCA and positive antibodies to myeloperoxidase

**4- cANCA and positive antibodies to proteinase 3**

5- cANCA and positive antibodies to lactoferrin

Q1414. A 40-year-old man presents with acute monoarthritis of the right knee. Gout is confirmed following joint aspiration and examination of the fluid under polarised light microscopy. He underwent endoscopy 3 weeks earlier because of dyspepsia and this confirmed a duodenal ulcer. Which of the following would be the best initial treatment for him?

1- Allopurinol

2- Indomethacin alone

3- Indomethacin and Lansoprazole

4- Indomethacin and Misoprostol

**5- Intra-articular corticosteroid injection**

Q1415. A 32-year-old woman is referred from her general practice following a presentation with shortness of breath, myalgia, arthralgia and a skin rash. Which of the following antibodies when found in this patient is most specific for Systemic Lupus Erythematosus?

1- ANA

2- Anti-Ro

**3- Anti-Sm**

4- cANCA

5- Rheumatoid factor

Q1416. A 22-year-old boy with known hereditary angioneurotic oedema (HA O) presents with a recurrent fever, arthralgia and a rash on the face and the upper chest. Despite treatment for his HAO, he has always been troubled by recurrent attacks and has required adrenaline on several occasions. His C4 levels have been persistently reduced secondary to his HAO. What is the most likely cause for his current symptoms?

1- Dermatomyositis

2- Drug rash

3- Psoriasis with arthropathy

**4- Systemic Lupus Erythematosus**

5- Viral illness

Q1417. A 65-year-old man complains of bone pain especially in his spine. X-ray revealed lytic lesions in the vertebrae and skull.He also had anemia and hypercalcaemia. Which of the following is least likely to be present in this patient:

1- Bence Jones proteins

2- Decreased resistance to infection

3- Infiltration of flat bones by plasma cells

**4- Macroglobulinemia**

5- Monoclonal gammopathy

Q1418. A 68-year-old woman complained of pain at the base of her right thumb. There was tenderness and swelling of the right first carpo-metacarpal 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

Q1419. A 79-year-old woman presents with mild dyspnoea and confusion. Of note in her past medical history was a one year history of Raynaud's phenomenon. On examination her pulse was 118 beats per minute, she had a blood pressure of 122/88 mmHg and she had a small ulcer on her right big toe. Auscultation of her chest revealed bibasal crackles and she had mild ankle oedema. Her investigations show: haemoglobin 9.5 g/dl (12-16) white cell count 3.5 x 109 /L ( 4-11) platelet count 110 x 109 /L ( 150-400) serum total protein 120 g/l (60-75) serum immunoglobulins IgA 0.8 g/l (0.8-3) IgG 15 g/l (6-13) IgM 70 g/l (0.4-2.5) Which of the following complications is she likely to develop?

1- Acute renal failure

2- Atypical pneumonia

3- Erythema repens gyratum

**4- Hyperviscosity syndrome**

5- Pathological bone fracture

Q1420. A 72-year-old lady presents with pain and swelling of the left wrist. Three weeks ago she received an intra-articular steroid injection into the wrist as treatment of chronic pain which was felt to be due to osteoarthritis. On examination, the joint is erythematous, swollen and tender. Results reveal: White cell count 12.5 x 109 /L 4-10 x 109 /L LDH concentration 400 iu/l 0-250 iu/l Rheumatoid Factor 34 iu/l <20 iu/l X-ray of wrist revealed a bony destruction of the joint and wrist aspiration revealed only a dry tap. What is the most likely diagnosis?

1- Acute Gout

2- Acute inflammatory reaction related to Osteoarthritis

3- Acute rheumatoid arthritis

4- Pyrophosphate arthropathy

**5- Septic arthiritis**

Q1421. A 32-year-old, previously well, female presents with a seven month history of pain and stiffness in her joints. Examination reveals synovitis of the distal interphalangeal joints of the left index finger and the right ring finger together with the left wrist and left ankle joints. The ESR was 35mm in the first hour. Which one of the following is the most likely diagnosis?

1- Osteoarthritis

**2- Psoriatic arthritis**

3- Rheumatoid arthritis

4- Systemic lupus erythematosus.

5- Viral arthritis.

Q1422. A 32-year-old, previously well, female presents with a seven month history of pain and stiffness in her joints. Examination reveals synovitis of the distal interphalangeal joints of the left index finger and the right ring finger together with the left wrist and left ankle joints. The ESR was 35mm in the first hour. Which one of the following is the most likely diagnosis?

1- Osteoarthritis

**2- Psoriatic arthritis**

3- Rheumatoid arthritis

4- Systemic lupus erythematosus.

5- Viral arthritis.

Q1423. A 50-year-old woman presents with dry eyes, a dry mouth, an erythematous rash and polyarthralgia. Investigations show: Anti-nuclear antibody strongly positive (1:1600) Anti-Ro/SSA antibodies strongly positive Rheumatoid factor positive IgG 45 g/L (NR <15) IgM normal IgA normal Kappa/lambda ratio normal What is the most likely diagnosis?

1- Hyperviscosity syndrome

2- Myeloma associated vasculitis

**3- Primary Sjogren's Syndrome**

4- Rheumatoid arthritis with secondary Sjogren's Syndrome

5- Systemic Lupus Erythematosus

Q1424. A 50-year-old woman complains of arthritis and swelling of approximately 4 months duration. On examination, she has a symmetrical inflammation with painful movements of the hands and feet and also swelling of both knees, suggesting a diagnosis of rheumatoid arthritis. Regarding her joint disease, which of the following suggest an adverse prognosis?

1- Acuteness of presentation

**2- Articular erosions on X-ray**

3- Elevated C-reactive protein

4- Enthesitis

5- Sero-negative for Rheumatoid Factor

Q1425. Which of the following is a pro-inflammatory cytokine?

1- C-Reactive Protein

2- IL-4

3- IL-10

4- Serum amyloid precursor protein

**5- Tumour Necrosis Factor alpha**

Q1426. A 25-year-old student presents to casualty with a systemic illness. She appears unwell, with a swinging fever, 3kg weight loss over 2 months, generalised myalgia, polyarthralgia affecting wrists, knees, ankles, elbows and metacarpophalangeal joints, and a sore throat. Investigations demonstrate normochromic normocytic anaemia 9.8g/l, ESR 81 mm in the first hour, CRP 31g/l, serum ferritin 1756mg/dl, RF negative, ANA negative, ENA negative, ASO titre <200iu. What is the most likely diagnosis?

1- Seronegative rheumatoid arthritis

**2- Adult onset Still's disease**

3- Systemic lupus erythematosus

4- Polymyositis

5- Rheumatic fever

Q1427. A 30-year-old male presents with a week history of a painful right leg. Past medical history reveals that he had erythema nodosum and recurrent oral and scrotal ulceration. Examination reveals a diffusely swollen left leg. What is the most likely cause of his swollen leg?

1- Cellulitis

2- Lymphoedema

3- Pyomyositis

4- Ruptured popliteal (Baker' s) cyst

**5- Venous thrombosis**

Q1428. A 72-year-old man presents with an acutely painful right knee. On examination, he had a temperature of 37 C with a hot, swollen right knee. Of releavance amongst his investigations, was his white cell count which was 12.6 x 109 /L and a knee X-ray revealed reduced joint space and calcification of the articular cartilage. Culture of aspirated fluid revealed no growth. What is the most likely diagnosis?

1- gout

2- Psoriatic monoarthropathy

**3- Pseudo-gout**

4- rheumatoid arthritis

5- septic arthritis

Q1429. A 45-year-old man has noted pain in his right knee for several years. There is no joint swelling. As he moves about during the day, the pain decreases. The underlying disease process is probably which of the following?

**1- Osteoarthritis**

2- Osteochondroma

3- Osteomalacia

4- Osteopetrosis

5- Osteoporosis

Q1430. Which of the following statements is true of the immunology of rheumatoid arthritis?

1- It is an example of an organ-specific disease.

2- Joint damage is the consequence of mast cell degranulation.

3- It is likely that joint specific Antigens have been sequestered during the time when immunological tolerance was being established.

4- Rheumatoid factor is detected by a test utilising the patients B lymphocytes.

**5- Rheumatoid factor is an antibody with reactivity to the heavy chain of IgG.**

Q1431. A 52-year-old female with type 2 diabetes presents with a two month history of painful hands and feet. Investigations confirm a diagnosis of sero-positive erosive rheumatoid arthritis. She has some pain relief from nonsteroidal anti-inflammatory agents. She currently takes metformin 500 mg tds and has good glycaemic control as reflected by a HbA1c of 6.7%. Which of the following DMARDS would be most appropriate initial treatment of her early Rheumatoid Arthritis?

1- Ciclosporin

2- Etanercept

3- Hydroxychloroquine

4- IM Gold

**5- Methotrexate**

Q1432. A 70-year-old man developed acute monoarthritis of his right ankle on the second postoperative day following an elective inguinal hernia repair. He was on a diuretic for hypertension. On examination his temperature was 38 C. What is the most likely diagnosis?

1- Acute rheumatoid arthritis

**2- Gout**

3- Pseudogout

4- Septic arthritis

5- Traumatic synovitis

Q1433. A 16-year-old girl presents with a 3 month history of polyarthralgia and marked early morning stiffness. Her symptoms respond well to Diclofenac but she is becoming increasingly concerned about her symptoms which appear to be progressing. She is otherwise well apart from a history of acne which is well controlled on Minocycline. Her mother has severe rheumatoid arthritis. Investigations: ESR 50 mm/hr CRP 100 mg/l Rheumatoid factor negative ANA strongly positive (1:1600) Anti-dsDNA antibodies negative IgG 25 g/l (normal<15) What is the most likely cause?

1- Systemic Lupus Erythematosus

**2- Drug-induced SLE**

3- Fibromyalgia

4- Rheumatoid arthritis

5- Sero-negative spondyloarthropathy

Q1434. A 50-year-old man presents with lethargy, polyuria, polydipsia and pain and stiffness of the hands. He has evidence of an arthopathy affecting the 2nd and 3rd metacarpophalangeal joints of both hands with X-ray evidence of degenerative disease at these sites. He also has 5cm hepatomegaly. Which of the following is the most likely diagnosis.

1- Gout

2- Osteoarthritis

3- Rheumatoid arthritis with amyloidosis

4- Pyrophospate arthropathy

**5- Haemochromatosis**

Q1435. A 73-year-old male presented with an acute attack of gout in his left knee. What is the most likely underlying metabolic cause?

**1- decreased renal excretion of uric acid**

2- endogenous overproduction of uric acid

3- excessive dietary purine intake

4- lactic acidosis

5- starvation

Q1436. A 45-year-old woman notices that she develops tingling and numbness over the palmar surface of her thumb, index, and middle fingers after several hours at her computer workstation doing word processing. Pain in the same area often occurs at night as well. Which of the following pathologic findings accounts for her symptoms?

1- Gout

2- Hypertrophic osteoarthropathy

**3- Localized tenosynovitis**

4- Rheumatoid arthritis

5- Toxic peripheral neuropathy

Q1437. A 68-year-old woman complained of pain at the base of her right thumb. There was tenderness and swelling of the right first carpo-metacarpal 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

Q1438. A 23-year-old female presents with a left knee joint pain and a 2 month history of weight loss. She has a good appetite but has had occasional episodes of diarrhoea over this time and tends to pass a loose motion at least twice daily. She is taking no medication but there is a family history of hypothyroidism. She is a non-smoker and drinks modest quantities of alcohol. Examination reveals a swollen, tender left knee joint with a small effusion. The most likely diagnosis is?

1- Behcet's disease

2- Reiter's syndrome

**3- Inflammatory bowel disease**

4- Tuberculosis

5- Thyrotoxicosis

Q1439. A 23-year-old female presents with a left knee joint pain and a 2 month history of weight loss. She has a good appetite but has had occasional episodes of diarrhoea over this time and tends to pass a loose motion at least twice daily. She is taking no medication but there is a family history of hypothyroidism. She is a non-smoker and drinks modest quantities of alcohol. Examination reveals a swollen, tender left knee joint with a small effusion. The most likely diagnosis is?

1- Behcet's disease

2- Reiter's syndrome

**3- Inflammatory bowel disease**

4- Tuberculosis

5- Thyrotoxicosis

Q1440. A 20-year-old Caucasian lady presents with typical erythema nodosum. She has a low grade fever and bilateral ankle arthritis but no other symptoms and has no medical history. There is no history of travel abroad and she is on no medication. Which of the following would be the most appropriate investigation for this patient?

1- Barium enema

**2- Chest x-ray**

3- ESR

4- Upper GI endoscopy

5- Viral titres

Q1441. A 42-year-old woman presents with a six month history of dyspepsia. She has a 3 year history of Raynaud's phenomenon. On examination she had telangiectasia. Her investigations reveal an ESR of 40 mm/hr (

0- 10) and positive anticentromere antibodies. Which of the following is a typical late complication of this disorder?

1- Alopecia

2- Butterfly skin rash

3- Erosive polyarthropathy

4- Myositis

**5- Pulmonary hypertension**

Q1442. A 52-year-old woman presented with a two week history of malaise and lower limb joint pain, associated with a vasculitic rash over her shins, thighs and buttocks. Investigations revealed: haemoglobin 9.8 g/dL (11.5-16.5) platelet count 275 x 109 /L (150-400) serum creatinine concentration 452 mmol/L (60-110) antinuclear antibodies Negative antineutrophil cytoplasmic antibodies Negative antiglomerular basement membrane antibodies Negative dipstix urinalysis blood +++ protein + What is the most likely diagnosis?

1- amyloidosis

2- haemolytic uraemic syndrome

**3- Henoch-Schönlein nephritis**

4- membranous nephropathy

5- myeloma

Q1443. A 28-year-old woman without any past medical history presents with a 3 month history of arthralgia. She had no past medical history of note. Examination reveals swelling of the distal interphalangeal joints of the middle and ring fingers of the hand and wrist on the right plus a swollen left ankle. Investigations show: ESR 40 mm/hr (0-10) Which of the following is the most likely diagnosis?

1- Acute exacerbation of osteoarthritis

**2- Psoriatic arthropathy**

3- Rheumatoid arthritis

4- Reactive arthritis

5- Systemic lupus erythematosus

Q1444. A 35-year-old female presents with malaise, thirst and increasing nocturia over the last month. Six months ago she attended the Emergency Department with an episode of renal colic. One month previously her GP had noted an eruptive, painful, erythematous rash on the anterior shins, which was self-limiting. What is the likely cause of her symptoms?

**1- Hypercalcaemia**

2- Hyperglycaemia

3- Hypocalcaemia

4- Hypokalaemia

5- Hyperoxaluria

Q1445. A 25-year-old lady gives birth to a baby with complete heart block who subsequently requires pacemaker insertion. Which of the following antibodies is most likely to be detected in the maternal serum?

1- Anti-dsDNA antibodies

2- Anti-endomysial antibodies

**3- Anti-Ro/SSA antibodies**

4- Anti-SCL70 antibodies

5- Rheumatoid factor

Q1446. Bone densitometry performed on a 48-yearold woman demonstrates bone mass decreased more than 2 standard deviations below the mean for her age in her left femoral head, wrist, and lumbar vertebral region. Six months later, the amount of bone loss is seen to be increased by repeat densitometry examination. These findings are most likely to be associated with with which of the following serum laboratory test abnormalities?

1- Intact parathormone of 5 pmol/L (1.2 - 5.8)

**2- Cortisol of 2060 mmol/L (110 - 607)**

3- Total serum globulin of 35 g/L

4- Uric acid of 930 micromol/L (149 - 446)

5- Total cholesterol of 10 mmol/L (< 5.17)

Q1447. A 52-year-old man who has a long history of chronic alcohol abuse presents with gouty tophi. He is commenced on allopurinol but develops severe joint pains two days later. On examination he has a temperature of 39 C, and erythematous swelling of his hands, knees and ankles. Investigations reveal: urate 0.55 mmol/L (0.23-0.46) c-reactive protein 150 mg/L (< 10) Which of the following is the most likely cause for his presentation?

1- Acute Pyrophosphate arthropathy

2- Acute rheumatoid arthritis

3- Allopurinol allergy

4- Septic arthritis

**5- Treatment with allopurinol**

Q1448. A 28-year-old man presented with acute stiffness and swelling of his knees and ankles, and a painful rash on his legs. The ESR was 86 mm in the first hour. Chest X-ray showed hilar lymphadenopathy. What is the most likely outcome?

1- chronic arthritis

2- pulmonary fibrosis

3- renal failure

4- skin ulceration

**5- spontaneous improvement**

Q1449. A 78-year-old man presents with an acute onset of severe pain and swelling of the left wrist which had developed since 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 investigation for this patient?

1- Erythrocyte sedimentation rate

2- Full blood count

**3- Joint aspiration**

4- Serum urate concentration

5- X-ray of the joint

Q1450. A 75-year-old man has persistent back pain for several months that is unrelated to physical activity. He has lost 12 kg in weight during this time. Laboratory findings include a White cell count of 6.7 x 109 /L with a differential of 70 segs, 8 bands, 2 metamyelocytes, 15 lymphocytes, 5 monocytes, and 2 nucleated RBCs/100 WBCs. Haemoglobin is 11.2 g/dL, Haematocrit 33.3%, MCV 88 fL, and platelet count 89 x 109 /L. The Biochemistry shows a sodium concentration of 144 mmol/L, potassium 4.5 mmol/L, chloride 100 mmol/L, bicarbonate of 26 mmol/L, urea 14 mmol/L, creatinine 90 mmol/L, and a glucose of 5.4 mmol/L. A CT scan of the spine reveals scattered 0.4 to 1.2 cm bright lesions in the vertebral bodies. Which of the following additional laboratory test findings is he most likely to have?

1- Blood culture positive for Neisseria gonorrheae

2- Parathyroid hormone, intact, of 100 pg/mL (normal < 65)

3- Positive serology for Borrelia burgdorferi

4- Serum calcium of 1.4 mmol/L

**5- Serum prostate specific antigen of 35 microgram/L**

Q1451. A 73-year-old female presents with difficulty opening jars and bottles. On examination there was tenderness with crepitus and bony swelling over the base of the first metacarpal and wasting of the right thenar eminence. Investigations reveal an ESR of 30 mm/1st hr (0-20), a C-reactive protein of 8mg/L (<10), a Urate concentration of 0.40 mmol/L (0.1

9- 0.36) and her Rheumatoid factor was 60 IU/L (<30). An x-ray of the right hand showed a loss of the joint space with articular sclerosis and osteophytes of the first carpo-metacarpal joint. What is the most likely diagnosis?

1- DeQuervain's tenosynovitis

2- Gouty arthritis

**3- Osteoarthritis**

4- Pyrophosphate arthritis

5- Rheumatoid arthritis

Q1452. A 35-year-old female presents with a 6 month history of joint pain and stiffness of hands and feet. Examination reveals a synovitis of the distal interphalangeal joints of the left index finger and the right ring finger together with the right wrist and ankle joints. Her ESR was 35 mm/hr (0-10). Which one of the following conditions is most likely to exhibit this pattern of joint involvement?

1- Osteoarthritis

**2- Psoriatic arthritis**

3- Rheumatoid arthritis

4- Reactive arthritis

5- Systemic lupus erythematosus

Q1453. A 35-year old woman who was two months postpartum presented with a four-week history of joint pain, skin rash and fever. The ESR was 40 mm / hour. What is the most likely diagnosis?

1- reactive arthritis

2- rheumatoid arthritis

3- sarcoidosis

**4- systemic lupus erythematosus**

5- Viral arthritis

Q1454. A 70-year-old man complains of pain and stiffness in both his shoulders. He has lost 1 stone in last 8 weeks and complains of feeling lethargic with loss of appetite. Investigations revealed a very high ESR (100 mm/h r) , normochromic normocytic anaemia and a positive rheumatoid factor. The most likely diagnosis is:

1- Polyarteritis nodosa

**2- Polymyalgia Rheumatica**

3- Polymyositis

4- Rheumatoid Arthritis

5- SLE

Q1455. A 26-year-old male presents with a three month history of arthralgia, mouth ulceration and eye irritation. On examination he was apyrexial, had some ulceration of the mouth, bilaterally swollen wrists and effusions with reduced range of movements of both knees. Examination of the external genitalia revealed a scrotal ulcer. His investigations showed: white cell count 12 x 109 /L ( 4-11) C-reactive protein 120 mg/dl (<10) rheumatoid factor negative What is the most likely diagnosis?

**1- Behcet's syndrome**

2- Inflammatory bowel disease

3- Psoriatic arthritis

4- Reiter's syndrome

5- Sjogren's syndrome

Q1456. A 62-year-old man has back pain. An FBC shows a WBC count of 3.7 x 109 /L (4 - 11), hemoglobin 10.3 g/dL (14 - 18), MCV 85 fL, and platelet count 110 x 109 /L (150 - 400). His total serum protein is 85 g/l with an albumin of 41 g/l. A chest X-ray shows no abnormalities of heart or lung fields, but there are several lucencies in the vertebral bodies. You perform a sternal bone marrow aspirate and get a dark red jelly-like material in the syringe. The smear of the aspirate is most likely to show which of the following cell types as a prominent feature?

1- Fibroblasts

2- Giant cells

3- Metastatic renal cell carcinoma cells

4- Osteoblasts

**5- Plasma cells**

Q1457. An 81-year-old female presents with bilaterally painful knees. There was no history of gastrointestinal diseases. On examination she had crepitus but had a full range of movement of both knees. Which one of the following is the most appropriate initial treatment for her painful knees?

1- Dihydrocodeine

2- Naproxen

**3- Paracetamol**

4- Celecoxib

5- Topical Diclofenac

Q1458. A previously well, 62-year-old hypertensive builder presents with pain, redness and swelling in the right knee, which started 12 hours ago. There is a family history of hypertension and joint problems. What investigation is most important in identifying the cause of this patient's knee symptoms?

1- ESR

2- HLA status

**3- Joint aspiration for microscopy and culture**

4- Radiology

5- Serology

Q1459. A 50-year-old Asian lady with severe rheumatoid arthritis has failed on most traditional DMARD treatments. She is currently on Methotrexate 20 mg weekly and for the last 6 months has been receiving regular infusions of the anti-TNF-alpha monoclonal antibody, Infliximab. Her joint disease has dramatically improved. She now presents with fevers, pleuritic chest pain and a large left sided pleural effusion, but little evidence of joint synovitis. What is the most likely diagnosis?

1- Primary bronchial carcinoma

2- Pulmonary metastases

3- Pulmonary embolus

4- Rheumatoid related effusion

**5- Tuberculosis**

Q1460. An otherwise healthy middle-aged man with no prior medical history has had increasing back pain and right hip pain for the past 10 years. The pain is worse at the end of the day. He has bony enlargement of the distal interphalangeal joints. A radiograph of the spine reveals the presence of prominent osteophytes involving the vertebral bodies. There is sclerosis with narrowing of the joint space at the right acetabulum seen on a radiograph of the pelvis. Which of the following pathologic processes is most likely to be taking place in this patient?

1- Gout

2- Lyme disease

**3- Osteoarthritis**

4- Osteomyelitis

5- Rheumatoid arthritis

Q1461. A man in his 20's begins to note persistent lower back pain and stiffness that diminishes with activity. In his 30's he also develops hip and shoulder arthritis, and in his 40's he is bothered by decreased lumbar spine mobility. He has no other major medical problems. These findings are most typical for which of the following?

**1- Ankylosing spondylitis**

2- Calcium pyrophosphate dihydrate deposition disease

3- Lyme disease

4- Osteoarthritis

5- Rheumatoid arthritis

Q1462. A 70-year-old man from Lancashire has noted increasing back and leg pain for several years. X-rays reveal bony sclerosis of the sacroiliac, lower vertebral, and upper tibial regions with cortical thickening, but without mass effect or significant bony destruction. He also says his hat does not fit him anymore. He has greater difficulty hearing on the left. He has orthopnea and pedal edema. Blood tests reveal an elevated serum alkaline phosphatase. The most likely pathologic process that explains these findings is?

1- Decreased bone mass

2- Metastatic adenocarcinoma

**3- Paget's disease of bone**

4- Renal failure with renal osteodystrophy

5- Vitamin D deficiency

Q1463. A 75-year-old female presents with hyperosmolar non-ketotic hyperglycaemia. She has a red, hot and swollen knee. Which of the following is most useful in the diagnosis of the swollen knee joint?

1- ANA

2- CRP

**3- Joint Aspiration**

4- Orthopaedic referral for joint washout

5- Rheumatoid factor

# Chapter 12 2012 Nephrology

Q1464. A 65-year-old with type 2 diabetes mellitus and a heavy smoking history is started on an angiotensin-converting enzyme inhibitor (ACE I) for high blood pressure. His creatinine subsequently doubles from 100 µmol/l to 200 µmol/l. His general practitioner is concerned about the possibility of renal artery stenosis. Which of the following investigations would give the highest diagnostic yield for this condition?

1- CT abdomen

2- CT abdomen with contrast

3- Duplex ultrasonography

**4- Magnetic resonance angiogram (MR A) 5- Plasma renin levels**

Q1465. According to the current classification, which of the following glomerular filtration rate (GF R) ranges in ml/min/1.73m2 is representative of stage IV chronic kidney disease (CK D) ?

1- 0 - 10

2- < 15

**3- 15- 29**

4- 30-59

5- 60-80

Q1466. A 28-year-old gentleman presents to hospital feeling unwell with a few days history of diarrhoea and abdominal pain. He reports having eaten at a 'burger van' a few days ago. He has no previous hospitalisations. His initial laboratory tests show new onset renal impairment, anaemia and low platelets. His clotting is normal. Which of the following pathogens is most likely to be responsible for this presentation?

1- Clostridium difficile

**2- Escherichia coli**

3- Enterococcus faecalis

4- Methicillin resistant Staphylococcus aureus (MRS A) 5- Streptococcus viridans

Q1467. A 33-year-old male who is receiving regular haemodialysis is noted to have a plasma potassium of 6.9 mmol/L (3.5-4.9) before a dialysis session. Usually his potassium is less than 5.5 mmol/L. Which food combination from the dietary history would be most likely to cause the high potassium concentration?

1- Cereal, toast, biscuits.

2- Filter coffee, tea, boiled potatoes.

3- Milk, butter, plain yoghurt

4- Milk, ham, chicken.

**5- Tomato, potato crisps, banana.**

Q1468. A 77-year-old chronic smoker presented with toe gangrene. He suffered from diabetes mellitus, and had a shrunken right kidney. The patient had a serum creatinine level of 340 µmol/L before this admission. Neither dorsalis pedis nor posterior tibial pulses were palpable. He was assessed by vascular surgeon, who recommended a magnetic resonance angiography (MR A) with gadolinium (in order to minimise the risk of contrast-induced nephropath y) . What opinion would you formulate?

1- Adequate hydration before gadolinium administration should solve the problem.

2- Diabetes mellitus is a contraindication for magnetic resonance angiography.

**3- The magnetic resonance angiography with gadolinium is not recommended because it carries a risk of nephrogenic systemic fibrosis.**

4- This patient should be administered Nacetylcysteine before receiving gadolinium.

5- This patient should be offered imaging with gadolinium because he had a high risk for iodinated radio contrast-induced nephropathy.

Q1469. The kidney plays a number of important homeostatic and excretory roles. Despite being a small percentage of total body mass, it receives a significant proportion of the cardiac output. Which of the following answers best estimates the proportion of cardiac output to the kidneys under normal physiological conditions?

1- 5%

2- 10%

**3- 20%**

4- 40%

5- 50%

Q1470. Which of the following lifestyle characteristics is associated with IgA nephropathy?

**1- Alcohol excess**

2- Cocaine use

3- High cholesterol

4- Obesity

5- Red meat intake

Q1471. A 66-year-old gentleman with a history of benign prostatic hyperplasia is admitted with a rise in creatinine from 100 µ/l to 300 µ/l from a routine blood test done in the community. The admitting team requests an ultrasound of the kidneys which shows normal sized kidneys with no evidence of hydronephrosis. Of the options below, select the most appropriate size of a normal adult kidney on ultrasound appearance (measured longitudinall y) .

1- 6 cm

**2- 11 cm**

3- 15 cm

4- 18 cm

5- 20 cm

Q1472. A 16-year-old female presents with a three year history of recurrent colicky loin pain. One year ago she passed a renal calculus. Twenty four hour urine collection showed normal levels of calcium, phosphate and urate, but elevated levels of arginine, cystine, lysine and ornithine. Which one of the following features is characteristic of this condition?

**1- Accumulation of cystine in collecting system**

2- Autosomal dominant inheritance

3- Cystine deposits within the cornea

4- Functional defects within the glomeruli

5- Radiolucent renal stone formation

Q1473. If a patient with chronic renal failure is treated with erythropoietin (EP O) , which of the following will be expected in this patient?

1- Decreased pure red cell aplasia

2- Decreased risk of hypertension

3- Decreased risk of thrombosis

**4- Increased well being**

5- Reduced appetite

Q1474. A 16-year-old girl presented with HenochSchönlein purpura and renal involvement. What is the most likely outcome?

1- A high probability of relapse

**2- Complete renal recovery**

3- Persistent hypertension

4- Persistent proteinuria

5- Requirement for long term corticosteroids

Q1475. A 62-year-old man with a longstanding history of hypertension is seen in the outpatient clinic. Investigations show: Creatinine 280 µmol/L (60-110) Urinalysis: Blood ++ Protein 1.8 g/L Ultrasound scan of kidneys: left kidney 8.5 cm; right kidney 8.9 cm. What is the best investigation to diagnose the cause of his renal impairment?

1- Intravenous urogram (IV U) 2- Isotope renogram

3- Renal angiogram

**4- Renal biopsy**

5- Retrograde pyelogram

Q1476. A 70-year-old female presents for investigation of fatigue and weight loss. Investigations reveal: Haemoglobin 9.0 g/dL (11.5-16.5) White cell count 2.0 x 109 /L (4-11 x109) Platelet count 250 x 109 /L (150-400 x109) Total protein 74 g/L (61-76) Albumin 28 g/L (37-49) Urea 16 mmol/L (2.5-7.5) Creatinine 250 mol/L (60-110) Plasma glucose 6.5 mmol/L (3.0-6.0) Urine dipstick analysis Protein + & blood + Renal ultrasound Normal Which one of the following investigations would be most appropriate for this patient?

1- 24 hour urinary protein estimation

2- Measurement of anti-glomerular basement membrane (anti-GB M) antibodies

3- Measurement of anti-neutrophil cytoplasmic antibodies (ANC A) 4- Plasma protein electrophoresis

5- Renal angiography

Q1477. A 65-year-old man is admitted with renal failure and is diagnosed with acute tubular necrosis (AT N) . Which of the following is least likely to be the cause of acute tubular necrosis?

**1- Corticosteroid therapy**

2- Hypertension

3- Hypovolaemia

4- Paracetamol poisoning

5- Rhabdomyolysis

Q1478. Which of the following concerning the pH of urine is correct?

1- Is a useful indicator of the acid/base balance of the blood

**2- Rises on a vegetarian diet**

3- Is determined by the concentration of ammonium

4- Is lower than 5.5 in renal tubular acidosis (RT A) 5- Would be above 7.0 after prolonged and severe vomiting

Q1479. A 55-year-old homeless male was found stuporous and smelling of alcohol. Observations in the emergency department reveal a core temperature of 34°C, a pulse of 50 bpm and blood pressure of 116/80 mmHg. Dipstick urine analysis shows blood +++. Some of his investigations are listed: Creatinine 320 µmol/l (60-110) Gamma GT 40 U/l (10-40) AST 550 U/l (1-40) LDH 1500 U/l (10-250) Urine microscopy no cells or organisms. What is the most likely cause of the raised serum creatinine concentration?

1- Chronic renal failure

2- Dehydration

3- Hypothermia

4- Paracetamol poisoning

**5- Rhabdomyolysis**

Q1480. A 49-year-old smoker who had been diagnosed with diabetes mellitus two years ago was hospitalised because of a foot ulcer. Below knee amputation was performed because of necrotising fasciitis. Pre-operatively, his serum creatinine measured 78 micromol/L. After recovery from the operation, a repeat creatinine showed a level of 54 micromol/L. What is the most likely explanation for the decrease in serum creatinine level?

1- This is compatible with daily variation of creatinine level.

**2- The kidney function did not improve but creatinine generation reduced after amputation.**

3- The nephrologist started dialysis.

4- The kidney improved with resolved inflammation.

5- None of the above.

Q1481. A 65-year-old woman with a history of recurrent urinary tract infections attends the Emergency department with loin pain and haematuria. She is diagnosed with renal stones the composition of which is magnesium ammonium phosphate. Which of the following organisms are likely to be implicated in her urinary infections?

1- Bacteroides fragilis

2- Enterococcus faecalis

3- Escherichia coli

**4- Proteus mirabilis**

5- Staphylococcus aureus

Q1482. A 78-year-old gentleman is admitted with diarrhoea, recent onset of atrial fibrillation, acute renal failure and abdominal pain. Some of his laboratory parameters are shown below: Sodium 146 mmol/L (135-145) Potassium 3 mmol/L (3.5-5.0) Bicarbonate 14 mmol/L (24-30) Chloride 95 mmol/L (95-105) Urea 30 mmol/L (2.5-6.5) What is the anion gap of this patient?

1- 24

2- 30

**3- 40**

4- 45

5- 48

Q1483. A 45-year-old gentleman presents with loin pain and haematuria and is found on ultrasound examination to have polycystic kidney disease. Of note, his father died of a brain haemorrhage in his 50s. Genetic testing reveals that the patient has the PKD-1 gene mutation. On which chromosome is this gene mutation found?

1- Chromosome 2

2- Chromosome 4

3- Chromosome 12

4- Chromosome 15

**5- Chromosome 16**

Q1484. A 22-year-old woman who is taking long term doxycycline for severe acne comes to the clinic complaining of chronic thirst and polyuria. She has to pass urine two to three times per night, which is highly unusual for her. There is no significant past medical history, and her only medication is the oral contraceptive pill. On examination her lying BP is 136/80 mmHg, with a postural drop of 15 mmHg. Her BMI is 29. There were no other significant findings on physical examination. Investigations show Haemoglobin 13.8 g/dl(11.5-16.5) White cells 6.3 x 109 /L (4-11) Platelets 222 x 109 /L (150-400) Sodium 141 mmol/l (135-146) Potassium 4.8 mmol/l (3.5-5) Creatinine 122 μmol/l (79-118) Urea 8.5 mmol/l (2.5-6.7) Which of the following is the most appropriate treatment?

**1- Discontinue the doxycycline**

2- Fluid restrict her

3- Increase her oral fluid intake

4- Intranasal vasopressin

5- Oral bendroflumethiazide

Q1485. A 65-year-old man presents with renal colic. The following day he passes a stone in his urine with analysis revealing that it is composed of uric acid. Which one of the following is the most likely cause of this type of renal stone?

1- Allopurinol

2- Chronic renal failure

3- Primary hyperparathyroidism

4- Secondary polycythaemia

**5- Thiazide diuretics**

Q1486. An 18-year-old female student attends the clinic as her father has just died with endstage renal failure. He had been diagnosed with autosomal dominant polycystic kidney disease (ADPK D) . She wishes to know what investigations she requires. Which of the following is an appropriate strategy in her management?

**1- Geneticist referral**

2- Glomerular filtration rate estimation

3- MRI brain

4- Ultrasound of the renal tract

5- Urine dipstick

Q1487. A 79-year-old woman presents to the Emergency department following a mechanical fall, resulting in a left fractured neck of femur and a long-lie of 14 hours. She is oliguric; her urine is dark in colour and shows 4+ to haemoglobin on urine dipstick. Which of the following is consistent with a diagnosis of rhabdomyolysis?

**1- Hypocalcaemia**

2- Hypokalaemia

3- Hyponatraemia

4- Hypophosphataemia

5- Thrombocytopenia

Q1488. A 60-year-old male presents with typical renal colic and one day later passes a small stone. However, the original x ray of the abdomen revealed no obvious calculi. What is the most likely composition of his calculus?

1- Calcium

2- Cystine

3- Oxalate

4- Phosphate

**5- Uric acid**

Q1489. A 42-year-old female is admitted following an overdose of diazepam and alcohol. On examination she was unconscious with a core temperature of 34.5°C and a blood pressure of 110/80 mmHg. Investigations reveal: Creatinine 242 µmol/l (60-100) AST 500 U/l (0-40) Gamma GT 35 U/l (<50) Urine microscopy No cells or organisms Urine dipstick analysis blood+++ Ultrasound abdomen Normal Which one of the following is the most likely cause of these findings?

1- Associated paracetamol poisoning

2- Chronic renal failure

3- Dehydration

4- Hypothermia

**5- Rhabdomyolysis**

Q1490. A 58-year-old man with longstanding hypertension was found to have a serum creatinine concentration of 275 µmol/L (6

0- 110). Urinalysis showed blood ++ and protein >1 g/L. Renal ultrasound showed the left kidney to be 9.2 cm long, the right to be 8.9 cm long (normal range for both kidneys 10-12 c m) , and neither kidney was obstructed. What is the best investigation to diagnose the cause of the renal impairment?

1- Intravenous urography

2- Isotope renography

3- Renal arteriography

**4- Renal biopsy**

5- Retrograde pyelography

Q1491. A 32-year-old woman with IgA nephropathy attended the clinic shortly after having a positive pregnancy test. On physical examination, pulse rate was 60 / minute and blood pressure was 145/83 mmHg. Fundi and cardiac examinations were normal. There was no pedal oedema. Urine protein measured 0.7 g daily. Her serum creatinine level was 60 μmol/L. Medications at that time were lisinopril and folic acid. Which of the following recommendations is most appropriate?

1- Continue the folic acid and lisinopril

2- Continue the folic acid and lisinopril, but advise to stop lisinopril in the second half of pregnancy

3- Change lisinopril to losartan

**4- Stop lisinopril**

5- Target blood pressure of < 120/80 mmHg during pregnancy

Q1492. A 20-year-old woman presents to the acute medical intake with lethargy and confusion. On examination you note a purpuric rash covering the abdominal wall and thighs and a fever of 38oC. Investigations reveal a haemolytic anaemia, thrombocytopenia and acute kidney injury. Which feature of the presentation makes the diagnosis of thrombotic thrombocytopenic purpura more likely than haemolytic uraemic syndrome?

1- Acute kidney injury

**2- Confusion**

3- Fever

4- Haemolytic anaemia

5- Thrombocytopenia

Q1493. A 48-year-old woman patient presents to the medical intake with bilateral leg swelling. Urine dipstick shows 4+ protein and serum albumin is 14 g/l (normal range 35-50 g/ l) . Renal function is within normal range. Further urinalysis indicates nephrotic-range proteinuria. Further to this a renal biopsy is performed which shows thickened glomerular capillary loops. Which of the following may be a cause for this presentation?

1- Candida spp.

2- Escherichia coli 0157:H7

3- Helicobacter pylori

**4- Hepatitis B**

5- Mycoplasma spp.

Q1494. You are asked to see an orthopaedic patient who developed renal failure after a two week course of gentamicin. No features of hypovolaemia or sepsis are evident. You suspect a diagnosis of aminoglycoside-induced acute tubular necrosis. Which of the following fit the diagnosis?

1- The patient's acute renal failure usually appears within two days of gentamicin

**2- The patient is non-oliguric.**

3- The urine microscopy shows active red cell casts.

4- We expect an irreversible renal failure.

5- All of above

Q1495. A 70-year-old woman was referred with a sixweek history of painless macroscopic haematuria. Her only medications were IM sodium aurothiomalate and oral ibuprofen, which she took for rheumatoid arthritis. Investigations: Serum creatinine 92 µmol/L (60-110) Urine dipstick blood ++++ Protein + Abdominal plain x ray normal Ultrasound kidneys and renal tract normal Which one of the following is the best initial investigation?

**1- Cystoscopy**

2- Intravenous urogram (IV U) 3- Renal biopsy

4- Stop ibuprofen

5- Stop sodium aurothiomalate

Q1496. A 60-year old man with a history of non-small cell lung cancer was treated with a right lower lobectomy 12 months ago. He had an abdominal CT scan one month ago which revealed hepatic mass lesions and hilar lymphadenopathy. He now presents with malaise and fatigue. His results show: Urinalysis Protein +++ 24 hour urine protein 2.7 g/24hr Serum urea 30 mmol/L (2.5-7.5) Serum creatinine 450 µmol/L (60-110) A renal biopsy shows focal deposition of IgG and C3 with a granular pattern. What is the most likely diagnosis?

1- Goodpasture's syndrome

**2- Membranous glomerulonephritis**

3- Minimal change glomerulonephritis

4- Nodular glomerulosclerosis

5- Rapidly progressive glomerulonephritis

Q1497. A patient with end stage renal disease is receiving haemodialysis and erythropoietin. Which of the following does erythropoietin therapy cause?

1- Benign intracranial hypertension

2- Hypotension

3- Myositis

4- Osteoporosis

**5- Seizures**

Q1498. A 56-year-old gentleman established on peritoneal dialysis presents with abdominal pain, fever and cloudy drainage. A diagnosis of peritoneal dialysis (P D) peritonitis is suspected. Which of the following laboratory findings is most useful in establishing the diagnosis of PD peritonitis?

1- Doubling in serum C reactive protein (CR P) 2- Doubling in serum creatinine

3- Neutrophils consisting 10% of total white cell count (WC C) in PD fluid

4- Raised serum amylase

**5- White cell count > 100/ mm3 in PD fluid sample**

Q1499. A 46-year-old woman develops nephrotic syndrome and is awaiting further tests to establish the underlying aetiology. In which circumstance would corticosteroids be most effective in reversing the nephrotic syndrome?

1- Membranous nephropathy

2- Mesangial IgA disease

**3- Minimal change disease**

4- Primary amyloidosis

5- Renal vein thrombosis

Q1500. A 65-year-old gentleman with type 2 diabetes mellitus and hypertension is started on an ACE-inhibitor. Which of the following is the most appropriate time period to check his creatinine and potassium after commencing the medication?

1- 24 hours after starting the medication

2- 48 hours after starting the medication

**3- One to two weeks after starting the medication**

4- Six hours after he takes the medication

5- Two months after starting the medication

Q1501. A 7-year-old boy is brought to the surgery by his mother. He has become unwell with severe diarrhoea which is now mixed with blood. History of note is a visit to a model farm a few days earlier. He is nauseous, has a severe headache, and feels very unwell. On examination he is pyrexial 38.2°C, his BP is 142/88 mmHg. He has a soft, diffusely tender abdomen. Investigations show Haemoglobin 9.2 g/dl(13.5-18) White cell count 11.9 x 109 /L (4-10) Platelets 76 x 109 /L (150-400) Sodium 141 mmol/l (134-143) Potassium 4.9 mmol/l (3.5-5) Creatinine 192 μmol/l (60-120) Bilirubin 92 μmol/l (<17) Urine Blood ++ Protein ++ Which of the following is the most likely diagnosis?

1- Brucella infection

2- Campylobacter infection

**3- Escherichia coli infection**

4- Salmonella infection

5- Shigella infection

Q1502. A 62-year-old man with a history of type 2 diabetes and renal failure comes to the Emergency department. He currently uses continuous ambulatory peritoneal dialysis, and has noticed an increase in his insulin requirements over the past 24 hours, dull abdominal pain, and now has a cloudy bag. On examination he is pyrexial 37.8°C and looks unwell, his blood pressure is 142/88 mmHg, with a pulse of 90. His abdomen is generally tender to palpation. Investigations show: Haemoglobin 10.4 g/dl(13.5-18) White cell count 13.6 x 109 /L (4-10) Platelets 190 x 109 /L (150-400) Sodium 137 mmol/l (134-143) Potassium 5.3 mmol/l (3.5-5) Creatinine 342 μmol/l (60-120) CRP 88(<10) Peritoneal dialysis fluid >100 white cells/cm2 Which of the following organisms is most likely to be responsible?

1- C. albicans 2- S. aureus 3- S. faecalis 4- S. pyogenes 5- S. viridians

Q1503. A 32-year-old female is diagnosed with Goodpasture's syndrome. Which of the following therapies used in conjunction with plasmapheresis and corticosteroids would be expected to improve prognosis associated with the condition?

1- Azathioprine

**2- Cyclophosphamide**

3- Cyclosporin

4- Mycophenolate mofetil

5- Tacrolimus

Q1504. A 21-year-old female presents with joint pains and rash. On examination her blood pressure was 140/100 mmHg. Investigations reveal: Creatinine 90 µmol/l (60-110) Anti dsDNA antibodies Strongly positive(0-73) 24 hour urinary protein excretion 1.7 g(<0.2) Renal biopsy Membranous nephropathy What is the most appropriate next treatment for her nephropathy?

**1- ACE inhibitor for blood pressure control**

2- Cyclophosphamide

3- NSAIDs for arthralgia

4- Prednisolone for immunosuppression

5- Warfarin anticoagulation

Q1505. A 65-year-old female is referred with a long history of hypertension and episodic urinary tract infections. Dipstick analysis of the urine shows blood +++ together with protein +++. Her urea is 20 mmol/L (2.5-7.5) and creatinine is 280 µmol/L (60-110). An ultrasound of abdomen is requested and shows left and right kidneys of 9 cm in size (10-12) without evidence of obstruction. Which one of the following is the best investigation to diagnose the cause of her renal failure?

1- Isotope renography

2- IV urography

3- Renal angiography

**4- Renal biopsy**

5- Retrograde pyelography

Q1506. A 60-year-old man wishes to act as a kidney donor to his 37-year-old wife. She has end stage renal failure from polycystic kidney disease and is maintained on peritoneal dialysis. The couple have two teenage daughters, neither of whom have renal cysts on recent ultrasound scans. Which one of the following statements is correct?

1- Living related donation from one of the daughters would be preferable to donation from the husband

2- Living unrelated donation is not recommended in cases of inherited renal disease

3- The age difference between husband and wife is a relative contraindication to transplantation

**4- The husband should not be accepted for kidney donation until all siblings have been considered**

5- The results of living unrelated kidney donation are sufficiently poor that organ donation should not proceed

Q1507. A 43-year-old man has had vague malaise for three weeks. Physical examination is normal, except for a blood pressure of 150/95 mmHg and pitting oedema of the legs to the knees. Dipstick urinalysis shows no glucose, blood, ketones, nitrite, or urobilinogen, and the microscopic urinalysis reveals no RBC/hpf and only 1 WBC/hpf. Additional laboratory testing reveals a 24 hour urine protein of 4.1 gm. His serum creatinine is 350 µmol/L (60-110) with urea of 30 mmol/L (2.5-7.5). His hepatitis B surface antigen is positive. Which of the following conditions is he most likely to have?

1- Acute tubular necrosis

2- Diabetic nephropathy

**3- Membranous glomerulonephritis**

4- Post-streptococcal glomerulonephitis

5- Systemic lupus erythematosus

Q1508. Which one of the following statements regarding renal function is correct?

**1- A ten minute period of hyperventilation will normally be expected to lead to an increased rate of bicarbonate excretion in urine**

2- Sodium reabsorption in the tubules is mainly controlled by aldosterone

3- The daily solute excretion will lie between 75 and 300 mosmol

4- The permeability of the proximal nephron to water increases in the presence of vasopressin

5- The rate of ammonium excretion in urine is inversely related to the rate of urinary hydrogen ion excretion

Q1509. A 14-year-old boy visits his general practitioner complaining of feeling unwell, passing smoky dark urine and having swelling of his ankles. Of note he reports a sore throat two weeks prior. His anti-streptolysin O titre is positive and his renal function is mildly impaired. If this patient were to have a renal biopsy, which of the following is the most likely finding?

1- C4d staining positive

2- Effacement of podocytes on electron microscopy

**3- Humps in the subepitheilal space on electron microscopy**

4- IgA deposition in the mesangium

5- Tram track pattern on light microscopy

Q1510. Which of the following is true concerning metastatic calcification in chronic renal failure (CR F) ?

1- Characteristically caused by calcium oxalate deposition

2- Decreased by vitamin D

**3- Increased prevalence with time on haemodialysis**

4- Rapidly reversed in all sites after parathyroidectomy

5- Unaffected by time on CAPD

Q1511. A man developed Helicobacter pylori related duodenal ulcer after kidney transplantation. He did not use aspirin; other concurrent medication included cyclosporine, prednisolone, azathioprine and amlodipine. The patient reported no known drug allergy. What is the most reasonable eradication treatment regimen?

**1- Bismuth + pantoprazole + metronidazole + tetracycline**

2- Monotherapy with proton pump inhibitor

3- Pantoprazole + amoxicillin

4- Pantoprazole + amoxicillin + clarithromycin

5- Pantoprazole + metronidazole + clarithromycin

Q1512. A 72-year-old man with chronic kidney disease and atrial fibrillation was followed up in the outpatient clinic. The doctor requested an elective colonoscopy examination. This patient has been taking dabigatran (an oral thrombin inhibito r) . His estimated creatinine clearance was 30 ml/min/1.73 m2. How should we advise the patient before colonoscopy examination?

1- Continue the dabigatran

2- Stop dabigatran one to two days before colonoscopy

**3- Stop dabigatran three to five days before colonoscopy**

4- Stop dabigatran two weeks before colonoscopy

5- Check the clotting profile (prothrombin tim e) and decide the timing of stopping dabigatran before colonoscopy

Q1513. An elderly man was hospitalised because of viral encephalitis for which he received aciclovir intravenously. There was a decline in the urine output five days later. A nephrologist in consultation suggested aciclovir-induced acute kidney injury. Which of the following characteristics are compatible with the diagnosis?

1- This patient's renal function typically begins to deteriorate three weeks after aciclovir therapy.

**2- The mechanism is tubular obstruction.**

3- Renal ultrasound is expected to show hydronephrosis.

4- The urine microscopy does not add information

5- The patient should be asymptomatic apart from decrease in the urine output.

Q1514. A 51-year-old male comes to the surgery complaining of nausea and fatigue. You have previously seen him with symptoms of sinusitis, and a saddle nose deformity. Most recently he has begun to complain of shortness of breath and a chronic cough. On examination he is hypertensive at 160/92 mmHg. There are bilateral inspiratory crackles on auscultation of the chest. Investigations show Haemoglobin 11.8 g/dl (13.5-18) White cell count 10.1 x 109 /L (4-10) Platelets 182 x 109 /L (150-400) Sodium 141 mmol/l (134-143) Potassium 5.5 mmol/l (3.5-5) Creatinine 230 μmol/l (60-120) ESR 72 (<10) Urine Blood ++ Protein ++ Which of the following is the most likely diagnosis?

1- Goodpasture's syndrome

2- IgA nephropathy

3- Membranous nephropathy

4- Minimal change disease

**5- Wegener's granulomatosis**

Q1515. A 17-year-old boy presented with a nonblanching rash over his legs, a swollen knee and painless frank haematuria. Investigations revealed: Serum Creatinine 210 µmol/L (60-110) Urine dipstick analysis: Blood+++ Urine dipstick analysis: Protein+ Urine culture Negative Ultrasound of the kidneys Normal Which glomerular abnormality is most likely to be present at renal biopsy?

1- Focal and segmental sclerosis

2- Foot process fusion

3- Linear deposition of IgG on the basement membrane

**4- Mesangial deposition of IgA**

5- Thickening of basement membranes

Q1516. A 45-year-old man with chronic renal failure presents to clinic complaining of increasing fatigue and weakness. He receives three hours of haemodialysis, thrice weekly. His blood pressure is measured at 176/110 mmHg pre-dialysis and 166/95 mmHg post-dialysis. Investigations pre-dialysis show: Hb 9.5 g/d(13.0-18.0) Potassium 6.9 mmol/l (3.5-4.9) Creatinine 1567 µmol/l (60-110) Calcium(correcte d) 2.1 mmol/l (2.2-2.6) Which of the following options is most appropriate initial management for this patient?

1- Give alfacalcidol to correct hypocalcaemia

**2- Increase the duration of each dialysis session**

3- Reduce the potassium concentration in the dialysate

4- Start erythropoietin to increase haemoglobin level

5- Start ramipril to gain better control of his blood pressure

Q1517. A 25-year-old woman who is 20 weeks pregnant is diagnosed with pyelonephritis. She had suffered recurrent urinary infections since childhood and her family history reveals that her mother had a history of hypertension and had been told she had a kidney problem. Examination was normal and urea and creatinine were both normal. What is the most likely diagnosis?

1- Autosomal dominant polycystic kidney disease

2- Bladder outlet obstruction

3- Normal physiological urinary stasis of pregnancy

**4- Reflux nephropathy**

5- Renal stone disease

Q1518. A 68-year-old male is referred by his general practitioner with deteriorating hypertension and renal function. Investigations show: Serum Creatinine 250 µmol/L (60-110) Urinalysis + protein Renal ultrasound scan: left kidney 9 cm long right kidney 7 cm, no obstruction (10-12 c m) Which of the following would be the most appropriate investigation for this patient?

1- Intravenous renography

2- Isotope renography

**3- MR angiography**

4- Renal biopsy

5- Retrograde pyelography

Q1519. Which of the following is a feature of cystinuria?

1- A useful response to acidification of urine

2- Accumulation of cystine in the kidney

3- Autosomal dominant inheritance

**4- Excessive urinary arginine excretion**

5- Radiolucent urinary calculi

Q1520. A 35-year-old gentleman presents with new onset renal failure and a non-blanching rash across his legs. In addition, he describes a history of recurrent sinus infections and nose bleeds. Which of the following tests are most likely to be diagnostic in this case?

1- ANA

**2- C-ANCA**

3- P-ANCA

4- Rheumatoid factor

5- Serum electrophoresis

Q1521. Which of the following is correct in asymptomatic chronic renal failure (CR F) ?

1- Decrease in blood pressure accompanied by increase in extracellular fluid

2- Increase serum (alkaline phosphotas e) mainly due to liver isoenzyme

**3- Serum ionised (calciu m) is normal**

4- Serum (phosphat e) characteristically increased before GFR falls to 30 ml/min

5- There is increase in tubular excretion of urate

Q1522. What is the most compatible joint finding of patients suffering from Henoch-Schönlein purpura?

1- Erosive arthropathy

**2- Transient non-deforming oligoarthritis, mostly large joints of the legs**

3- Symmetrical small hand joints

4- Preponderance of temporomandibular joint

5- Typical enthesitis

Q1523. You were asked to see a 50-year-old man who developed haemoptysis. Further evaluation showed pulmonary infiltrates and his urine dipstick showed red cells and active urine sediments. Which of the following evaluations would be most diagnostic?

**1- A request for anti-glomerular basement membrane (anti-GB M) antibody and antineutrophil cytoplasmic antibody (ANC A) .**

2- A smoking history

3- Anti-Smith (S m) antibodies

4- An ultrasound image of the kidneys

5- Fractional excretion of sodium

Q1524. A child-bearing woman asked you about the use of angiotensin converting enzyme (AC E) inhibitor in pregnancy. Choose the best answer in response to her query.

1- ACE inhibitors are listed as FDA rating B; they can be used in pregnancy

2- ACE inhibitor should be changed to angiotensin receptor blocker before conception.

3- The drugs can be continued until second trimester because ACE inhibitor has not been shown to be teratogenic

4- ACE inhibitor should be withheld during the first trimester; it is otherwise safe in the second and third trimester.

**5- ACE inhibitor should not be used during pregnancy.**

Q1525. A 72-year-old man presented with shortness of breath of two month duration. He has been treated for rheumatoid arthritis for the past 30 years. On examination, his blood pressure was 190/110 mmHg, he had bilateral pitting ankle oedema, fourth heart sound, bilateral basal crackles and arthritic changes in the hands, wrists, ankles and left knee. Basic investigations revealed the following results: Sodium 128mmol/l137-144 Potassium 4.2 mmol/l3.5-4.9 Urea 30 mmol/l2.5-7.0 Creatinine 610 µmol/l60-110 Glucose 7.8 mmol/l3-6 Urinalysis protein +++ Ultrasound KUB: right and left kidneys 10cm and 10.6 cm respectively. No obstruction. What is the cause of renal failure?

1- Acute glomerulonephritis

**2- Amyloidosis**

3- Analgesic nephropathy

4- Chronic pyelonephritis

5- Hypertensive nephropathy

Q1526. Which of the following is the best estimate for total body requirement of sodium per day for a 70 kg adult male?

1- 30 mmol

**2- 70 mmol**

3- 120 mmol

4- 160 mmol

5- 180 mmol

Q1527. A 65-year-old lady is evaluated for shortness of breath. The attending clinician is concerned about a pulmonary embolism and proceeds with a CT pulmonary angiogram. The radiologist is concerned about the risk of contrast induced nephropathy as the patient has some degree of existing renal impairment. At what time period does contrast induced nephropathy classically peak?

1- 4-8 hours

2- 24-48 hours

**3- 3-5 days**

4- 14 days

5- 28 days

Q1528. A 12-year-old boy presents to the surgery with peri-orbital and mild ankle oedema which has increased over the past few weeks. Other history of note is a recent upper respiratory tract infection. He has been feeling increasingly tired and lethargic over the past few weeks. On examination his BP is 138/72 mmHg. He has periorbital oedema and pitting ankle oedema. Investigations show: Haemoglobin 12.4 g/dl(13.5-18) White cell count 7.8 x 109 /L (4-10) Platelets 191 x 109 /L (150-400) Sodium 141 mmol/l (134-143) Potassium 4.6 mmol/l (3.5-5) Creatinine 104 μmol/l (60-120) Serum albumin 28 g/l (35-50) Urine Protein ++ Which of the following is the most likely cause?

1- IgA nephropathy

2- Alport's syndrome

3- Membranous nephropathy

**4- Minimal change nephropathy**

5- Post streptococcal glomerulonephritis

Q1529. A 32-year-old male with type 1 diabetes undergoes a 24 hour urine collection. Which of the following urine albumin concentrations signify microalbuminuria?

1- 10 mg/day

**2- 50 mg/day**

3- 500 mg/day

4- 1 g/day

5- 3.5 g/day

Q1530. Which one of the following cytokines is strongly implicated in renal scarring?

1- Interferon alpha

2- Interleukin-10

3- Granulocyte colony stimulating factor

**4- Transforming growth factor-beta**

5- Tumour necrosis factor alpha

Q1531. A 30-year-old Caucasian man with HIV infection was found to have high blood pressure at 180/118 mmHg (high on several occasion s) . His father died of stroke at the age of 51. Routine blood tests showed: Sodium 145 mmol/l (135-145) Potassium 3.4 mmol/l (3.5-5.1) Creatinine 99 µmol/l (60-110) Urea 4.9 mmol/l (2.9-9.0) Urinanalysis No proteinuria Plasma aldosterone815 pmol/l (28-445) Plasma renin 0.3 ng/ml/h(0.7-5) Renal ultrasound Normal-sized kidneys CD4 769 cells/ml HIV RNA 4531 copies/ml He was not on any antiretroviral therapy. What is the most likely cause of his high arterial blood pressure?

1- Adult polycystic kidney

**2- Conn's syndrome**

3- Familial essential hypertension

4- HIV associated nephropathy

5- Non-Hodgkin's lymphoma involving kidneys

Q1532. A 60-year-old woman is admitted with sudden onset of chest pain and is diagnosed with an acute myocardial infarction. Her acute illness is complicated by low blood pressure and poor tissue perfusion for several days. Her serum lactate becomes elevated. Her serum urea and creatinine are noted to be increasing. Day 1 Day 2 Day 3 Normal Range Urea (mmol/ L) 8 22 30 2.5-7.5 mmol/L Creatinine (µmol/ L) 116 140 200 60-110 µmol/L Granular and hyaline casts are present on microscopic urinalysis. What is the renal lesion that is most likely to be present in this situation?

**1- Acute tubular necrosis**

2- Minimal change disease

3- Nodular glomerulosclerosis

4- Pyelonephritis

5- Renal vein thrombosis

Q1533. A 32-year-old woman is assessed at the antenatal clinic; she had no known medical disease prior to this pregnancy. Which of the following scenarios is most compatible with chronic hypertension in pregnancy?

1- Blood pressure 135/92 mmHg at 28 weeks of gestation

**2- Blood pressure 142/90 mmHg at 12 weeks of gestation**

3- Documentation of proteinuria +++ by urine dipstick at 35 weeks of gestation.

4- Development of pre-eclampsia at 32 weeks.

5- Development of pre-eclampsia at 35 weeks.

Q1534. A 64-year old man is admitted to the Emergency department. A recent discharge letter lists his comorbidities as diet controlled diabetes mellitus, chronic renal failure, angina, hypercholesterolaemia and hypertension. He drinks between four to six units per day and is an ex-smoker with a 20 pack year history. You note blood tests from one month ago indicating a urea of 21 mmol/l and creatinine of 600 μmol/l. He describes a sudden onset retrosternal pain that started 12 hours previously and is sharp and pleuritic. On examination he is distressed but haemodynamically stable with a blood pressure of 133/57 mmHg, a heart rate of 78 and oxygen saturations of 99% on air. He is hunched forward as he feels this makes the pain better. He does not have a fistula in situ. His heart sounds are dual with no murmurs and there are fine bibasal crepitations on respiratory examination. You can not discern a raised JVP but there is mild bilateral pitting oedema to mid calf. An ECG reveals ST elevation in all leads. A chest radiograph indicates mild pulmonary oedema with no cardiomegaly. A full blood count is normal and electrolytes reaveal a of 140 mmol/l, potassium of 5.2 mmol/l, urea of 44 mmol/l and creatinine of 746 μmol/l. What is the most appropriate management for this patient?

1- CT angiogram

**2- Haemodialysis**

3- Omeprazole and oesophagogastroduodenoscopy

4- Primary coronary angioplasty

5- Treatment dose low molecular weight heparin and CT pulmonary angiogram

Q1535. You are reviewing the guidelines for GP referral to the hospital service for possible renal artery stenosis because of an increase in the number of referrals over the past few months. Which of the following correctly reflects a criterion for a patient who should be referred for further investigations?

1- BP>150/90 mmHg despite 2 antihypertensives

2- Fall of GFR>10% during first 2 months after starting an ACE inhibitor

**3- Fall of GFR>15% over 12 months**

4- Pulmonary oedema with reduced LV function

5- Unexplained hyperkalaemia with hypertension

Q1536. A 48-year-old teacher came to the nephrology clinic; he was found to have stage 3 chronic kidney disease during a health check. He wished to discuss future renal replacement therapy. Which of the following is/are considered to be contraindication/s to peritoneal dialysis? 1. Presence of colostomy. 2. Heparin allergy. 3. Hepatitis B infection. 4. History of complex abdominal surgery with adhesion.

**1- 1 and 4**

2- 4 only

3- 1, 3 and 4

4- All of above

5- None of above

Q1537. A 40-year-old woman was referred for proteinuria (2.6 gram dail y) . Her serum creatinine level was 120 µmol/L. The referral letter mentioned a low serum complement C3 level. With reference to the latter information, which of the following comments are relevant to her disease? 1. A history of infective endocarditis is of relevance. 2. A detailed medical history and physical examination to search for infection focus. 3. Diagnosis of myeloma should be suspected. 4. Hepatitis B and C serology should be sought. 5. Laboratory testing should include antinuclear antibody (AN A) and anti-doublestranded DNA antibody.

1- 1 and 4

2- 2 only

3- 3 and 4

**4- All except 3**

5- All of above

Q1538. A 34-year-old lady is brought into the emergency department with protracted seizures. Laboratory studies reveal that her serum sodium is 114 mmol/litre. The attending physicians wish to treat her with 'hypertonic saline' - stronger than the normal physiologic concentration. What is deemed to be the physiologic concentration of saline?

1- 0.45%

**2- 0.9%**

3- 1.2%

4- 3%

5- 5%

Q1539. Which of the listed medications has a thiazidelike action?

1- Acetazolamide

2- Bumetanide

3- Furosemide

**4- Metolazone**

5- Triamterene

Q1540. Antidiuretic hormone (AD H) plays a crucial homeosatic role in osmoregulation. From where is antidiuretic hormone released?

1- Adrenal medulla

2- Anterior pituitary

3- Hypothalamus

**4- Posterior pituitary**

5- Right atrium

Q1541. Antidiuretic hormone (AD H) plays an important role in osmoregulation. Which of the mechanisms listed most accurately describes the action of ADH on the kidney?

1- Carbonic anhydrase inhibition in the proximal tubule

2- Constriction of the efferent arteriole of the glomerular apparatus more than the afferent

3- Downregulation of sodium channel in the thick ascending limb of the loop of Henle

**4- Insertion of aquaporin channels in the collecting duct of the kidney**

5- Insertion of ATP dependent sodium channels in the distal tubule

Q1542. A 34-year-old female presents with shortness of breath. She has been treated for asthma by her GP with an inhaled steroid, but the GP has documented an eosinophilia of 1.1 x 109 /L (14%) (normal <0.1x10). She has been referred to the clinic because her GP found her creatinine to be 347 µmol/l (60-110). Which of the following would support a diagnosis of Churg-Strauss syndrome?

**1- Extravascular eosinophils on vascular biopsy**

2- Fixed pulmonary infiltrates on chest radiographs

3- Peak flow <150ml/minute

4- Peripheral alveolar filling infiltrate predominantly in the upper lobes on a chest radiograph

5- Peripheral 'stocking' neuropathy

Q1543. A 75-year-old lady with metastatic lung small cell cancer is admitted with confusion, lethargy and hyponatraemia. The admitting clinicians think that her presentation is compatible with syndrome of inappropriate diuretic hormone (SIAD H) . Which of the following medications is appropriate treatment for this?

**1- Demeclocycline**

2- Furosemide

3- Intranasal desmopressin

4- Intravenous 5% dextrose

5- Spironolactone

Q1544. Urinary protein:creatinine ratio (PC R) represents a reliable way of quantifying proteinuria. What PCR value in mg/mmol approximates to a 24 hour urine protein collection of 1g?

1- 10 mg/mmol

**2- 100 mg/mmol**

3- 500 mg/mmol

4- 750 mg/mmol

5- 1g/mmol

Q1545. During which age range is IgA nephropathy usually diagnosed?

1- 10-20 years

**2- 20-40 years**

3- 40-60 years

4- 60-70 years

5- 70 +

Q1546. A 24-year-old female presents with a 48 hour history of vomiting and epigastric pain. She has vomited over ten times in the last day. There is no history of diarrhoea and the presumed diagnosis is viral gastroenteritis. What is the most likely picture of her acid base status?

1- Mixed metabolic acidosis and respiratory alkalosis

2- Primary metabolic acidosis

**3- Primary metabolic alkalosis**

4- Primary respiratory acidosis

5- Primary respiratory alkalosis

Q1547. A 62-year-old woman presents with severe nausea and lethargy a few days after beginning diclofenac and amoxicillin from her GP for pain and a urinary tract infection. She has no past history of note apart from hypertension for which she takes ramipril, and she believes she injured her back lifting a wardrobe. On examination her BP is 159/92 mmHg, she has bilateral crackles on auscultation of the chest, her pulse is 89 and regular. Abdominal examination is unremarkable. She has a widespread erythematous rash. Investigations show Hb 11.9 g/dl(13.5-18) WCC 8.9 x 109 /L Eosinophilia(4-11) PLT 203 x 109 /L (150-400) Na 139 mmol/l (135-146) K 6.1 mmol/l (3.5-5) Cr 382 mmol/l (79-118) Urine protein ++ BloodWhite cellsWhich of the following is the most likely diagnosis?

1- Acute tubular necrosis

2- Churg-Strauss syndrome

**3- Interstitial nephritis**

4- Membranous nephropathy

5- Pyelonephritis

Q1548. A 26-year-old man is referred to the clinic with microscopic haematuria. He also has hypertension, which the GP diagnosed as essential hypertension and commenced him on amlodipine 5 mg daily. You understand on further questioning that his brother has haematuria and renal impairment and his father died of a stroke at the age of 42. On examination his blood pressure is 152/88 mmHg, he has bilateral ballotable kidneys. Investigations show Haemoglobin 13.4 g/dl(13.5-18) White cell count 6.0 x 109 /L (4-10) Platelets 242 x 109 /L (150-400) Sodium 140 mmol/l (134-143) Potassium 4.7 mmol/l (3.5-5) Creatinine 162 ?/l (60-120) Urine blood ++ Protein - Which of the following is the investigation most appropriate to elucidate the underlying diagnosis?

1- Contrast CT abdomen

2- Cystoscopy

3- Intravenous pyelogram (IV P) 4- Plain abdominal film

**5- Ultrasound abdomen**

Q1549. A 54-year-old man with intermittent claudication was found to have renal impairment. Investigations revealed: Serum Creatinine 180 umol/l (60-100) Urinalysis Protein++ Renal ultrasound revealed a right kidney of 7 cm and a left kidney of 10 cm (normal dimensions 10-14 c m) . Which investigation should be requested to establish a diagnosis?

1- Cystoscopy

2- Intravenous urography

3- Isotope renography

**4- Renal arteriography**

5- Renal biopsy

Q1550. A 7-year-old boy is admitted with renal colic due to renal calculus. His mother has a similar history of recurrent calculi. What is the most likely explanation for recurrent renal calculi in both mother and child?

1- Cystinosis

2- Cystinuria

3- Hyperoxaluria

**4- Idiopathic hypercalciuria**

5- Urate uropathy

Q1551. A 30-year-old female presents with fevers and a three month history of malaise. Results show: Creatinine 250 µmol/L (60-110) Complement C3 23 mg/dL (65-190) What is the likely diagnosis?

1- HIV nephropathy

**2- Infective endocarditis**

3- Membranous nephropathy

4- Microscopic polyangiitis

5- Minimal change nephropathy

Q1552. A 43-year-old male is diagnosed with diabetic nephropathy. If this patient had type 1 diabetes his chances of progressing to end stage renal disease (ESR D) would be approximately 50%. What percentage of patients with type 2 diabetes with diabetic nephropathy would be expected to progress to ESRD?

**1- 15%**

2- 30%

3- 45%

4- 50%

5- 55%

Q1553. A 17-year-old girl is admitted with a two day history of rigors due to a urinary tract infection. On examination she appears unwell, has a body mass index (BM I) of 31 kg/m2 , a temperature of 39°C; examination is otherwise normal. Initial biochemistry revealed: Potassium 4 mmol/L(3.5-4.9) Urea 7 mmol/L(2.5-7.5) Glucose 33 mmol/L(3.0-6.0) pH 7.3 (7.36-7.44) Standard bicarbonate 14 mmol/L(20-28) Base deficit -10 mmol/L urinalysis negative for ketones Which one of the following is the best initial treatment for her hyperglycaemia?

1- Metformin

2- Metformin plus gliclazide

3- Pioglitazone

**4- Sliding scale IV insulin infusion**

5- Subcutaneous insulin mixture

Q1554. A 25-year-old female wishes to start a family but she is concerned as her 50-year-old mother had adult polycystic kidney disease. Examination reveals no specific abnormalities. Which is the most appropriate initial screening test for polycystic kidney disease in this woman?

1- Genetic linkage analysis

2- Intravenous urogram

3- Isotope renography

**4- Renal ultrasound**

5- Urinalysis

Q1555. You are called to the Emergency department to assess a 21-year-old student who has presented with bloody diarrhoea. The diarrhoea started two weeks previously and was associated with increasing nausea and malaise and mild swelling of the lower limbs. She was having difficulty passing urine. She had eaten steak from the local butcher at a friend's barbeque the day before developing diarrhoea. On examination she was pale with evidence of petechiae over her legs. Her face appeared puffy. Blood pressure was 160/95 mmHg. She was apyrexial but had a tachycardia and crackles on inspiration at both lung bases. There was an old appendicectomy scar in the right iliac fossa. Investigations showed: Haemoglobin 8.5 g/dl(11.5-16.5) White cell count 13.2 x 109 /L (4-11) Neutrophils 9.5 x 109 /L (1.5-7) Platelets 35 x 109 /L (150-400) PT 12s(11.5-15.5) APTT 34 s(30-40) Fibrinogen 4 g/l (1.8-5.4) Serum Sodium 139 mmol/l (137-144) Serum potassium 6.1 mmol/l (3.5-4.9) Serum urea 40 mmol/l (2.5-7.5) Serum creatinine 411 µmol/l (60-110) Serum albumin 27 g/l (37-49) Dipstick urine Blood ++ Protein + What is the single most important next investigation to determine the diagnosis?

1- ASO titres

**2- Blood film analysis**

3- Renal tract ultrasound

4- Transthoracic echocardiogram

5- Urine microscopy

Q1556. A 23-year-old female presents at 16 weeks into her first pregnancy with a blood pressure of 144/96 mmHg. A 24 hour urine collection reveals a protein excretion of 0.7 g/d (<0.2) What is the most likely explanation for these findings?

1- Essential hypertension

2- Gestational hypertension

3- Normal changes of pregnancy

4- Pre-eclampsia

**5- Secondary hypertension**

Q1557. A 72-year-old male presented to his GP with depression after the death of his wife. His notes also reveal that he has a two year history of urinary hesitancy and poor stream. His GP prescribed him some medication and the following day he developed acute urinary retention. Which of the following drugs is most likely to have precipitated the urinary retention?

**1- Amitriptyline**

2- Diazepam

3- Fluoxetine

4- Venlafaxine

5- Zopiclone

Q1558. A 45-year-old man had recurrent nephrolithiasis. Renal function tests and serum calcium measurements were normal. A 24 hour urine collection revealed: Volume 3L 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 2mmol/24hours (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**

Q1559. A 30-year-old woman presented with hypertension (160/110 mmH g) , elevated titres of antibodies to double-stranded DNA, and proteinuria (1g per 24 hour s) . A renal biopsy demonstrated WHO class II lupus nephritis (mesangial diseas e) . What is the most appropriate single treatment for this patient?

**1- Antihypertensive medication**

2- High-dose corticosteroids

3- Intravenous cyclophosphamide

4- Oral cyclophosphamide

5- Plasma exchange

Q1560. A 66-year-old man has developed chronic renal failure with a serum urea of 60 mmol/l (2.5-7.5) and creatinine of 650 mol/l (60-110). Auscultation of the chest reveals a friction rub over the cardiac apex. Which of the following types of pericarditis is he likely to have?

1- Constrictive

**2- Fibrinous**

3- Haemorrhagic

4- Purulent

5- Serous

Q1561. Which of the following statements regarding idiopathic membranous nephropathy is correct?

1- Immune complex deposits are typically seen in the glomerular mesangium.

2- It characteristically presents in the first decade of life.

**3- Males are twice as commonly affected as females.**

4- Progression to end-stage renal failure is rapid.

5- The nephritic syndrome is a characteristic presentation.

Q1562. Which of the following concerning renal blood flow is true?

**1- Can be measured using the Fick principle**

2- Is decreased in response to hypoxia

3- Is 40% of the cardiac output at rest

4- Is higher in the medulla than the cortex

5- Is increased when renal nerves are stimulated

Q1563. A 70-year-old female is admitted 12 hours after taking an overdose of aspirin. Investigations revealed: Serum Sodium 138 mmol/l (137-144) Serum Potassium 5.9 mmol/l (3.5-4.9) Serum bicarbonate 14 mmol/l (20-28) Serum Urea 18.1 mmol/l (2.5-7.5) Serum Creatinine 238 mol/l (60-110) Serum salicylate 1120 mg/l (8) What is the most appropriate treatment of this patient?

**1- Haemodialysis**

2- Haemofiltration

3- Intravenous sodium bicarbonate

4- Peritoneal dialysis

5- Urine alkalinisation

Q1564. Which one of the following statements is correct?

1- Adult polycystic renal disease is inherited as an autosomal recessive trait

2- Alport's syndrome affects females more severely than males

**3- Medullary sponge kidney is typically not inherited but is a congenital condition.**

4- Nephrogenic diabetes insipidus (D I) is inherited as an autosomal dominant trait

5- Reflux nephropathy is inherited as an autosomal recessive trait

Q1565. What is the most likely outcome of minimal change nephropathy with onset at 12 years of age?

1- Frequent relapse

**2- Full renal recovery**

3- Permanent renal impairment

4- Persistent hypertension

5- Persistent proteinuria

Q1566. A 30-year-old man had a blood pressure of 150/100 mmHg. Clinical examination was normal. Which one of the following would suggest secondary hypertension?

**1- 24 Hour urinary protein excretion of 1.6 g (<0.2)**

2- A creatinine clearance of 90 mL/min (70- 140)

3- Left ventricular hypertrophy (LV H) criteria on the ECG

4- Serum potassium of 3.9 mmol/L (3.5-4.9)

5- The presence of arteriovenous (A V) nipping on fundoscopy.

Q1567. A 69-year-old man developed spontaneous bacterial peritonitis complicating his Child's C liver cirrhosis. There was no sign of hypovolaemia. Which of the following measures was best supported by evidence to prevent the development of hepatorenal syndrome?

1- Intravenous dopamine infusion

**2- Intravenous albumin administration.**

3- Central venous pressure monitoring

4- Regular lactulose use

5- Neomycin

Q1568. A 67-year-old man presents with sudden onset atrial fibrillation (ventricular rate of 150/minut e) . 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- Absorption

2- Apparent volume of distribution

3- Lipid solubility

4- Plasma half life

**5- Renal clearance**

Q1569. A 69-year-old man developed Pseudomonas aeruginosa infection. He was started on gentamicin. Aminoglycoside nephrotoxicity correlates with which one of the following?

**1- Frequency of aminoglycoside dosing**

2- High peak and low trough aminoglycoside levels

3- Ototoxicity

4- Post-antibiotic effect

5- Supratherapeutic doses administered once daily

Q1570. A 59-year-old man with chronic renal failure comes to the surgery complaining of tiredness and lethargy. He has a longstanding history of type 1 diabetes and takes a range of medications. On examination his BP is 145/84 mmHg. Investigations show Haemoglobin 9.4 g/dl(13.5-18) White cell count 6.4 x 109 /L (4-10) Platelets 162 x 109 /L (150-400) Sodium 140 mmol/l (134-143) Potassium 5.0 mmol/l (3.5-5) Creatinine 219 μmol/l (60-120) Ferritin 10 Microgram/l (20-60) Faecal occult blood Negative Urine Protein ++ Which of the following is the most appropriate next step?

1- Erythropoietin

**2- IV iron transfusion**

3- Oral ferrous sulphate

4- Referral for lower GI endoscopy

5- Referral for upper GI endoscopy

Q1571. A 63-year-old man, with chronic renal failure and type 2 diabetes, presents to the surgery complaining of generalised aching. He takes twice daily mixed insulin for his diabetes, and ramipril for vascular risk modification. On examination his BP is 155/92 mmHg, pulse is 75 and regular. Physical examination is otherwise unremarkable. Haemoglobin 10.9 g/dl(13.5-18) White cell count 6.1 x 109 /L (4-10) Platelets 191 x 109 /L (150-400) Sodium 140 mmol/l (134-143) Potassium 5.3 mmol/l (3.5-5) Creatinine 320 μmol/l (60-120) Calcium 2.05 Mmol/l (2.2-2.67) Urine Protein + Which of the following is the most likely underlying diagnosis?

1- Hypoparathyroidism

2- Primary hyperparathyroidism

**3- Secondary hyperparathyroidism**

4- Tertiary hyperparathyroidism

5- Vitamin D intoxication

Q1572. A 28-year-old man is referred to you by the practice nurse for hypertension management. She has seen him three times over the past four months and his BP is persistently elevated at around 155/92 mmHg. Your partner has seen him previously for some non-specific right upper quadrant abdominal pain. On examination of the abdomen you can feel bilateral enlarged kidneys, and a liver edge. Investigations show Haemoglobin 12.5 g/dl(13.5-18) White cell count 6.4 x 109 /L (4-10) Platelets 182 x 109 /L (150-400) Sodium 139 mmol/l (134-143) Potassium 4.8 mmol/l (3.5-5) Creatinine 182 μmol/l (60-120) Glucose 4.5 Mmol/l (<6.0) Urine Blood ++ Protein - Which one of the following is most closely associated with his underlying condition?

1- Aortic stenosis

2- Coarctation of the aorta

3- Diabetes mellitus

**4- Mitral valve prolapse**

5- Tricuspid stenosis

Q1573. A 35-year-old man presents with left loin pain and haematuria. He comments that he has had three episodes of similar symptoms in the past. On examination, he is afebrile and has mild pallor. Investigations show: Sodium 140 mmol/L (137-144) Potassium 3.0 mmol/L (3.5-4.9) Chloride 115 mmol/L (95-107) Bicarbonate 12 mmol/L (20-28) Calcium 2.5 mmol/L (2.2-2.6) Urea 19 mmol/L (2.5-7.5) Urinalysis pH 6.5, protein 1+, RBC 1+, White cell count 1+ What is the most likely diagnosis?

1- Bartter's syndrome

2- Conn's syndrome

**3- Renal tubular acidosis type 1**

4- Renal tubular acidosis type 2

5- Renal tubular acidosis type 4

Q1574. A 70-year-old man underwent emergency surgery for an acute abdomen. Following surgery he was noted to have become oliguric. Investigations revealed the following: Sodium 121 mmol/l (137-144) Potassium 6.6 mmol/l (3.5-4.9) Chloride 92 mmol/l (95-107) Urea 17.2 mmol/l (2.5-7.5) Creatinine 250 µmol/l (60-110) pH 7.16 (7.36-7.44) Standard bicarbonate 15.6 mmol/l (20-28) What is the calculated anion gap for this patient?

1- 5 mmol/l

2- 10 mmol/l

3- 15 mmol/l

**4- 20 mmol/l**

5- 25 mmol/l

Q1575. A 55-year-old man who has received haemodialysis for many years presents with deteriorating discomfort in both shoulders. Past medical history included bilateral carpal tunnel decompression. His investigations reveal: Haemoglobin 10 g/dl(13.0-18.0) ESR 30 mm/1st hr(1-10) C reactive protein 12 mg/l (<10) Urate 0.58 mmol/l (<0.45) What is the most likely diagnosis?

**1- β2 microglobulin amyloidosis**

2- Gout

3- Osteoarthritis

4- Polymyalgia rheumatica

5- Pseudogout

Q1576. A 50-year-old man is admitted with cardiogenic shock due to an acute myocardial infarction. His urine output drops over the next few days. His serum urea increases to 18 mmol/l (2.5 - 7.5), with creatinine of 300 µmol/l (60 - 110). Urinalysis reveals no protein or glucose, a trace blood, and numerous hyaline casts. Several days later he develops polyuria and his serum urea and creatinine fall. Which of the following pathologic findings is most likely to be seen in his kidneys?

1- Fusion of podocyte foot processes

2- Glomerular crescents

3- Hyperplastic arteriolosclerosis

4- Mesangial immune complex deposition

**5- Patchy tubular necrosis**

Q1577. In chronic untreated renal failure which of the following findings is characteristic?

1- Hypercalcaemia

**2- Hypercalcinuria**

3- Hyperosmolar dehydration

4- Hypokalaemia

5- Metabolic alkalosis

Q1578. You are taking part in a clinical trial for a new monoclonal antibody designed to increase the population of T regulatory cells for treating a range of T cell mediated autoimmune disorders. Which of the following is a feature of T regulatory cells?

1- 20% of mature CD4 positive cells are regulatory T cells

**2- CD4+ CD25+ are thought to be the most important T regulatory cell population**

3- No CD8+ T regulatory cells exist

4- Regulatory cells do not express CD3 receptors

5- They produce large amounts of IL-2

Q1579. In which of the following circumstances would the treatment of anaemia with erythropoetin still be expected to be effective?

1- Aluminium toxicity

2- Folate deficiency

**3- Hyperkalaemia**

4- Infection

5- Iron deficiency

Q1580. Which of the following is the best imaging to identify renal scarring, for instance after childhood febrile urinary tract infection?

1- Renal ultrasonography

2- Voiding cystourethrography

**3- Renal DMSA scintigraphy**

4- Renal DTPA scintigraphy

5- Intravenous pyelography

Q1581. You are asked to see a haemodialysis patient who developed high fever one hour after initiation of dialysis. Her dialysis was performed using a tunnelled right internal jugular vein catheter, which has been in place and functioning for one year. No other vascular access has been created. The current catheter exit site looked clean. Examination showed no cardiac murmur. Blood cultures were drawn from the catheter and her peripheral arm; both grew methicillinresistant Staphylococcus aureus (MRS A) . Which one of the following best describes the correct treatment approach?

1- Discharge the patient with oral cloxacillin.

2- Administer vancomycin

**3- Administer vancomycin and remove the central venous catheter**

4- Administer vancomycin, keep the central venous catheter but add concomitant antibiotic lock (making use of supratherapeutic concentrations of vancomycin within the catheter lumen after each dialysis sessio n) .

5- Administer vancomycin and gentamicin.

Q1582. A 42-year-old woman presents to nephrology clinic. She has end stage renal disease due to type 1 diabetes mellitus, and is awaiting transplant. She has been using peritoneal dialysis for six months. She is complaining of fatigue and you note her haemoglobin to be 9.6 g/dl. You are considering commencing erythropoietin treatment. What is the most common side effect of erythropoietin when used in patients with chronic kidney disease?

1- Blurred vision

2- Hepatotoxicity

**3- Hypertension**

4- Hypokalaemia

5- Thrombocytopenia

Q1583. A 23-year-old patient on regular haemodialysis was admitted to the hospital after exertional dyspnoea and atrial fibrillation. A troponin T laboratory request was made. What opinion would you formulate?

**1- A rise in cardiac troponin compared with previous one would support the presence of myocardial ischaemia.**

2- Any troponin level identifies a patient at greater risk of death compared with a patient without elevated troponin, but this observation does not hold in dialysis population.

3- Cardiac troponin test has no diagnostic role in patients undergoing dialysis; it should not be requested.

4- He is too young to have cardiovascular disease; troponin test can be omitted.

5- None of above.

Q1584. A 54-year-old man was electively admitted for hernia repair. Prior to surgery, you detected a serum phosphate level of 0.76 mmol/L (reference range 0.80-1.5 mmol/ L) . The remainder of his laboratory tests were normal. What would be the most likely cause?

1- Laboratory error

**2- Hyperventilation after painful venepuncture by a new intern**

3- Oncogenic hypophosphataemic osteomalacia

4- Tumour lysis syndrome

5- X linked hypophosphataemic rickets

Q1585. A 40-year-old gentleman required high doses of intravenous diuretics after his renal transplant for the purposes of fluid management. Soon after administration he developed hearing loss, tinnitus and vertigo. Which diuretic is most likely to have caused this?

1- Acetazolamide

2- Bendroflumethiazide

**3- Furosemide**

4- Spironolactone

5- Triamterene

Q1586. Which of the following criteria fit with a diagnosis of syndrome of inappropriate antidiuretic hormone secretion (SIAD H) ?

1- Addison's disease

2- Hypernatraemia

3- Serum hyperosmolality

**4- Urine osmolality greater than 100milliosmoles/kg**

5- Urine sodium less than 20mmol/litre

Q1587. The healthy adult usually ingests about 8400 mg per week of phosphate through their diet, the majority of which is excreted through faeces and the kidney. Which of the answers below is the best approximation for the amount of phosphate excreted through the kidneys every week?

1- 1200 mg

2- 2400 mg

3- 3000 mg

**4- 5400 mg**

5- 6000 mg

Q1588. A 37-year-old gentleman presents with renal colic and has confirmed renal stones on radiological imaging. He is treated with analgesia and sent home with follow up by the urology team. He manages to pass a stone in his urine and this is sent for analysis. What is the most common composition of renal stones in the general population?

**1- Calcium oxalate**

2- Calcium phosphate

3- Cystine

4- Magnesium ammonium phosphate

5- Uric acid

Q1589. An 85-year-old woman presents to the medical intake with oliguria and dark urine following a mechanical fall and a long-lie of 20 hours. She has acute kidney injury with a glomerular filtration rate of 32 ml/min/1.73m3 and creatine kinase is raised at 25,000 (normal range 25-195 iu/ l) . You commence initial therapy and prescribe her regular medications. Which of her medications is it most important to stop in these circumstances?

1- Aspirin 75 mg PO OD

2- Oral calcium supplements

3- Paracetamol 1 g PO QDS

4- Salbutamol inhaler PRN

**5- Simvastatin 40 mg PO ON**

Q1590. A 14-year-old boy is referred by the practice nurse for follow up with you. He was brought by his mother to see the practice nurse because of progressive hearing loss. Examination and basic investigations revealed nothing of note, apart from haematuria detected on routine urine testing. Apparently he has an 18-year-old brother who also suffers from deafness and has mild renal impairment. Investigations show: Haemoglobin 13.0 g/dl(13.5-18) White cell count 7.1 x 109 /L (4-10) Platelets 199 x 109 /L (150-400) Sodium 140 mmol/l (134-143) Potassium 4.7 mmol/l (3.5-5) Creatinine 110 μmol/l (60-120) ESR 8 (<10) Urine Blood + Which of the following is the most likely diagnosis?

**1- Alport's syndrome**

2- Autosomal dominant polycystic kidney disease

3- IgA nephropathy

4- Membranous nephropathy

5- Minimal change disease

Q1591. A 39-year-old female presents with polyuria and is passing 4 litres of urine per day. She was recently started on a new medication. Results show: Serum Sodium 144 mmol/L(137-144) Plasma osmolality 299 mosmol/L(275-290) Urine osmolality 210 mosmol/L(350-1000) Which of the following drugs was prescribed?

1- Aspirin

2- Fluoxetine

3- Glibenclamide

**4- Lithium**

5- Metoprolol

Q1592. A 36-year-old male is referred with chronic renal dysfunction and is discovered to have adult polycystic kidney disease. Which of the following proteins is associated with the development of APKD?

1- Cyst specific binding protein

2- Matrix metalloproteinase

**3- Polycystin-1**

4- Progesterone binding cyst-protein

5- Type 1 collagen

Q1593. A 28-year-old man presented with hypertension. On examination he had palpable kidneys and abdominal ultrasound shows bilaterally enlarged cystic kidneys. Which one of the following conditions is most likely to be present in this patient?

1- Mitral stenosis

2- Nail dystrophy

**3- Polycythaemia**

4- Short stature

5- Testicular atrophy

Q1594. A 14-year-old old boy presents with a sore throat and macroscopic haematuria. What would light microscopy of a kidney biopsy most likely show?

1- Collapsed glomeruli

2- Crescentic glomerulonephritis

**3- Mesangial hypercellularity**

4- Normal tissue

5- Segmental sclerosis

Q1595. Which of the following is least true regarding IgA nephropathy?

1- Commonly follows a sore throat

2- Is the most common glomerulonephritis in the world

**3- Light chains may be found in the urine**

4- May be associated with a rash and arthritis

5- Predominantly affects young men

Q1596. A 70-year-old man is admitted to hospital complaining of a twelve day history of loin pain, fevers and occasional rigors. On examination, his temperature is 37.9°C. The renal function is normal. Urinalysis of a mid stream urine shows: White cell count >100/mm3 Red cell count >50/mm3 No organisms seen, with no growth. Which would be your first investigation of choice?

1- CT abdomen and pelvis

2- Intravenous urogram (IV U) 3- Prostatic specific antigen (PS A) measurement

4- Transthoracic echocardiogram

**5- Ultrasound scan renal tract**

Q1597. A 25-year-old man developed bilateral loin pain and frank haematuria. His symptoms had started 24 hours after developing a sore throat. His blood pressure was 138/88 mmHg. Urinalysis was positive for blood (4+) and protein (2+). What is the most likely diagnosis?

**1- IgA nephropathy**

2- Microscopic polyangiitis

3- Nephrolithiasis

4- Post-streptococcal glomerulonephritis

5- Septicaemia

Q1598. Acute renal failure may be distinguished from chronic renal failure by which of the following?

1- An increased urinary Na excretion

2- Hyperkalaemia

3- Hypophosphataemia

4- Left ventricular hypertrophy (LV H) on the ECG

**5- Renal size on ultrasound scan (US S)**

Q1599. Which of the following is a feature of pseudohypoparathyroidism?

1- Increased urinary phosphate and cAMP with PTH infusion

**2- Low serum calcium and high serum phosphate**

3- Low serum calcium and low serum phosphate

4- Low serum PTH

5- Shortened second and third metacarpals

Q1600. A 55-year-old male is admitted to hospital with a four week history of breathlessness and dry cough. He has a medical history of longstanding asthma and intermittent tension headaches for which he takes simple analgesia. On clinical examination he appears pale and unwell. His blood pressure is 170/95 mmHg. Heart sounds are normal and the chest is clear. A few non-blanching skin lesions less than 5 mm in size are found on lower limbs. Investigations show: Hb 8 g/dl(13.0 - 18.0 g/d L) WCC 10 x 109 /L (4 - 11 x 109 / L) Neutrophils 7 x 109 /L (1.5 - 7 x 109 / L) Lymphocytes 1.8 x 109 /L (1.5 - 4 x 109 / L) Eosinophils 1.2 x 109 /L (0.04 - 0.4 x 109 / L) ESR 55mm/hr (0 - 15 mm/1st h r) CRP 45mg/L (< 10 mg/ L) Sodium 134mmol/l (137 - 144 mmol/ L) Potassium 4.7mmol/l (3.5 - 4.9 mmol/ L) Creatinine 650mmol/l (60 - 110 μmol/ L) Urine dipstick shows blood ++ and protein +++. Renal ultrasound: both kidneys normal in size, no evidence of urinary obstruction. What is the most likely diagnosis?

1- Analgesic nephropathy

**2- Churg-Strauss syndrome**

3- IgA nephritis

4- Rapidly progressive glomerulonephritis

5- Renal amyloidosis

Q1601. The following are complications of nephrotic syndrome with the exception of which?

**1- Accelerated hypertension**

2- Acute renal failure

3- Hypocalcaemia

4- Pneumococcal infection

5- Venous thrombosis

Q1602. A 22-year-old woman presents with features of nephrotic syndrome and a renal biopsy is performed. What would you expect to see on light and electron microscopy if you were expecting a diagnosis of minimal change disease?

1- Fusion of foot processes of podocytes is seen on light microscopy

2- In advanced disease there is hyalinisation of glomeruli seen on light microscopy

**3- The glomerular basement membrane is normal on electron microscopy**

4- Tubules may show calcification in lining cells on light microscopy

5- Wire-loop lesions are seen on light microscopy

Q1603. During the evaluation of a patient who developed hyperkalaemia, you went through the drug chart. Which of the following items can be continued without the worry of worsening hyperkalaemia?

1- Cyclosporine.

2- Digoxin

3- Ibuprofen

4- Spironolactone

**5- Thyroxine**

Q1604. A 74-year-old gentleman with dementia is admitted from the nursing staff, with worsening confusion and inability to eat and drink. He is clinically dehydrated and his serum sodium laboratory value is measured at 168 mmol/litre. Assuming the normal serum sodium value is 140 mmol/litre, and his total body water is 40 litres, calculate the free water deficit.

1- 1 litre

2- 5 litres

**3- 8 litres**

4- 15 litres

5- 20 litres

Q1605. A 65-year-old with type 2 diabetes mellitus and a heavy smoking history is started on an angiotensin-converting enzyme inhibitor (ACE I) for high blood pressure. His creatinine subsequently doubles from 100 µmol/l to 200 µmol/l. His general practitioner is concerned about the possibility of renal artery stenosis. Which of the following investigations would give the highest diagnostic yield for this condition?

1- CT abdomen

2- CT abdomen with contrast

3- Duplex ultrasonography

**4- Magnetic resonance angiogram (MR A) 5- Plasma renin levels**

Q1606. A 30-year-old gentleman with a history of heavy alcohol intake presents with macroscopic haematuria. He reports having an upper respiratory tract infection in the last two days. His renal function continues to decline and he is evaluated in the renal unit. His serum C3 is normal. What is a biopsy of his kidneys most likely to show?

1- C4d staining positive

2- Effacement of podocytes on electron microscopy

3- Humps in the subepitheilal space on electron microscopy

**4- IgA deposition in the mesangium**

5- Tram track pattern on light microscopy

Q1607. The healthy adult kidney excretes 5400 mg per week of phosphate. What is the maximum amount of phosphate that can be removed by dialysis per week in a patient with anuric renal failure who is dialysis dependent?

1- 200 mg

2- 500 mg

3- 800 mg

**4- 2700 mg**

5- 5000 mg

Q1608. According to the National Kidney Foundation, which of the following glomerular filtration rate (GF R) ranges in ml/min/1.73m2 is representative of stage III chronic kidney disease (CK D) ?

1- 0 - 10

2- < 15

3- 15- 29

**4- 30-59**

5- 60-80

Q1609. Which of the following diuretics acts as a carbonic anhydrase inhibitor?

**1- Acetazolamide**

2- Bumetanide

3- Furosemide

4- Metolazone

5- Spironolactone

Q1610. A 28-year-old gentleman presents to hospital feeling unwell with a few days history of diarrhoea and abdominal pain. He reports having eaten at a 'burger van' a few days ago. He has no previous hospitalisations. His initial laboratory tests show new onset renal impairment, anaemia and low platelets. His clotting is normal. Which of the following pathogens is most likely to be responsible for this presentation?

1- Clostridium difficile

**2- Escherichia coli**

3- Enterococcus faecalis

4- Methicillin resistant D. Staphylococcus aureus (MRS A) 5- Streptococcus viridans

Q1611. Which of the following immune complex glomerulonephritides is associated with a normal complement C3?

1- Cryoglobulinaemia

2- Endocarditis

**3- IgA nephropathy**

4- Membranoproliferative GN

5- Post-streptococcal GN

Q1612. A 28-year-old gentleman presents with haematuria, progressive renal impairment and hearing problems. Of note there is a strong family history of renal problems with family members requiring dialysis. Further work up of this gentleman leads to a diagnosis of Alport's syndrome. What is the characteristic otological problem associated with this condition?

1- Conductive deafness

2- Mastoiditis

3- Perforated ear drum

4- Recurrent otitis media

**5- Sensorineural deafness**

Q1613. Inappropriately high parathyroid hormone secretion (PT H) in renal patients can lead to significant bone reabsorption and premature fractures. Which one of the following is known to stimulate parathyroid hormone production?

1- Calcium acetate tablets

2- Hypercalcaemia

**3- Hyperphosphataemia**

4- Hypophosphataemia

5- Serum alkaline phosphatase

Q1614. A 16-year-old boy presents with periorbital and peripheral oedema which has developed over the past few weeks. He had a previous episode some two years earlier but this responded over the course of a few weeks to a course of prednisolone. On examination he has a BP of 141/80 mmHg, with pulse of 68. His chest is clear but he has bilateral pitting oedema. Investigations show: Haemoglobin 12.9 g/dl(13.5-8) White cell count 6.1 x 109 /L (4-10) Platelets 209 x 109 /L (150-400) Sodium 139 mmol/l (134-143) Potassium 4.8 mmol/l (3.5-5) Creatinine 110 μmol/l (60-120) Albumin 24 g/l (30-50) Urine Protein ++ Which of the following represents the most appropriate management plan for him?

1- Oral combination corticosteroids and cyclophosphamide

**2- Oral corticosteroids**

3- Oral cyclophosphamide

4- Oral methotrexate

5- Renal biopsy

Q1615. A 57-year-old woman who has been receiving haemodialysis for the past five years is found dead in bed by her husband. She had a long history of type 1 diabetes for over 20 years and in her later years suffered from neuropathy and retinopathy as well as chronic renal failure. Most recently she was under investigation for angina. Which of the following is the most likely cause of death in this patient?

1- Hyperkalaemia

2- Hypoglycaemia

**3- Myocardial infarction**

4- Pulmonary embolus

5- Stroke

Q1616. Which is the predominant site of effect of thiazide diuretics?

1- Cortical collecting duct

**2- Early distal tubule**

3- Late distal tubule

4- Proximal tubule

5- Thick ascending limb, loop of Henle

Q1617. A 63-year-old female with a 12 year history of hypertension and diabetes has been treated with metformin 1g bd, gliclazide 80 mg bd, rosuvastatin 10 mg daily, ramipril 10 mg daily, aspirin 75 mg daily and amlodipine 10 mg daily for the last two years. At annual review her blood pressure is 138/82 mmHg, fundi reveal background diabetic retinopathy, foot pulses are normal but she has evidence of a peripheral sensory loss to the ankles in both feet. Her results show: HbA1c 7.2%(3.8-6.4) Urea 12.5 mmol/L(2.5-7.5) Creatinine 176 µmol/L(60-110) Cholesterol 4.8 mmol/L(<5.2) Which of the following drugs should be withdrawn?

1- Aspirin

2- Gliclazide

**3- Metformin**

4- Ramipril

5- Rosuvastatin

Q1618. A 70-year-old man was referred by his GP with difficulty in treating hypertension. He had longstanding hypertension which had been well controlled over many years but recently he was found to have a blood pressure of 190/110 mmHg which proved resistant to additional treatment. He was generally asymptomatic and complied with medication. Investigations showed normal U+Es. Which one of the following is the most likely cause?

1- Chronic pyelonephritis

2- Conn’s syndrome (primary hyperaldosteronis m) 3- Phaeochromocytoma

4- Polycystic kidney disease

**5- Renovascular disease**

Q1619. A 63-year-old woman presents following a visit to the well woman clinic where she is noted to be hypertensive. She has a history of hip osteoarthritis for which she has taken regular paracetamol. On examination she is obese with a BMI of 35 (<25), has a blood pressure of 180/100 mmHg and glycosuria is noted. Her investigations show: Fasting plasma glucose 18.3 mmol/L (3.0-6.0) Serum urea 9.8 mmol/L (2.5-7.5) Serum Creatinine 129 µmol/L (60-110) 24 hour urine protein concentration 1.8 g/d (<0.2) Normal ultrasonic appearances of both kidneys Which of the following is the most likely diagnosis?

1- Analgesic nephropathy

2- Chronic glomerulonephritis

**3- Diabetic nephropathy**

4- Hypertensive nephropathy

5- Ischaemic nephropathy

Q1620. A 68-year-old male diagnosed with nephrotic syndrome receives steroid therapy without benefit. His investigations show an albumin of 20 g/L (37-49), total cholesterol of 12 mmol/L (<5.2), dipstick urinanalysis reveals +++ protein and a renal biopsy shows focal segmental glomerulosclerosis. Which one of the following is most likely to preserve renal function?

1- Dietary salt restriction

2- Low dietary protein intake

**3- Ramipril**

4- Simvastatin

5- Warfarin

Q1621. A 40-year-old man presents with acute weakness and palpitations. Investigations reveal: Sodium 143 mmol/l (137-144) Potassium 8.0 mmol/l (3.5-4.9) Urea 35 mmol/l (2.5-7.5) Creatinine 450 µmol/l (60-110) Bicarbonate 5 mmol/l (20-28) What is the best immediate therapy?

**1- Intravenous calcium gluconate**

2- Intravenous dextrose and insulin

3- Intravenous sodium bicarbonate

4- Nebulised salbutamol

5- Rectal calcium resonium

Q1622. A 35-year-old presents to the infectious disease team following a new diagnosis of HIV. Her CD4 count is 150 cells/ mm3 and a viral load is 10,000. She is commenced on antiretrovirals. At a follow up appointment four weeks later she has routine blood tests, of which her creatinine is shown below. She is euvolaemic and has not taken any additional medications over the counter. On presentation her results showed: Serum creatinine 80 µmol/l (60-90) and four weeks later: Serum Creatinine 220 µmol/l (60-90). Which of the following answers is most likely to be responsible for her acute renal impairment?

1- Efavirenz

2- HIV associated nephropathy

3- Lamivudine

4- Non-compliance with medications

**5- Tenofovir**

Q1623. Which of the following is a known risk factor for the development of chronic rejection of kidney transplantation?

1- Age

2- Anti-smooth muscle antibodies

**3- Presence of anti-HLA antibodies**

4- Smoking

5- Toxoplasma infection

Q1624. You are auditing the nephrology department's rates of peritoneal dialysis peritonitis, observing the proportion of cases that are culture positive and the associated organism. In the United Kingdom, what is the most common causative organism in peritoneal dialysis peritonitis?

**1- Coagulase negative Staphylococcus**

2- Enterococcus spp.

3- Escherichia coli

4- Pseudomonas spp.

5- Staphylococcus aureus

Q1625. A 60-year-old man presents to nephrology clinic with fatigue. He has a history of stage four chronic kidney disease, secondary to hypertension. A full blood count reveals a normocytic anaemia with a haemoglobin concentration of 9.7 g/dl. White cell count and platelets are within normal limits. You are considering commencing treatment for his anaemia. What is the most appropriate investigation to help guide treatment?

1- Peripheral blood film

2- Serum erythropoietin

**3- Serum ferritin**

4- Serum lactate dehydrogenase

5- Urinary 24 hour creatinine clearance

Q1626. Creatinine has a number of limitations as an estimate of glomerular filtration rate (GF R) , including variation with muscle mass and age. Which of the following answers represents a novel marker of estimating GFR?

1- Alpha amyloid protein

**2- Cystatin c**

3- Inulin

4- Insulin-like growth factor 1 (IGF-1)

5- Nystatin

Q1627. Which of the following is the best description of the drug cinacalcet?

1- Binding phosphate in the gut lumen

**2- Calcimimetic**

3- Increasing absorption of calcium from the gut

4- Preventing ADH action at the distal collecting duct

5- Preventing osteoclast action

Q1628. A 60-year-old female is referred to the medical intake with serum potassium of 6.5 mmol/L. She has a history of type 2 diabetes mellitus, chronic obstructive pulmonary disease (COP D) , previous myocardial infarction and osteoarthritis. Which of the following medications are most likely to contribute to her hyperkalaemia?

1- Aspirin

2- Clopidogrel

3- Insulin glargine

**4- Lisinopril**

5- Salbutamol inhaler

Q1629. A 60-year-old female presents with cough, haemoptysis and haematuria. Her laboratory tests show impaired renal function. After a thorough work up, antiglomerular basement membrane (anti-GB M) antibody is positive, diagnosing Goodpasture's syndrome. Which class of antibody is the anti-GBM most likely to be?

1- IgA

2- IgD

3- IgE

**4- IgG**

5- IgM

Q1630. Which of the following diabetic medications increases the risk of contrast induced nephropathy?

1- Acarbose

2- Exenatide

3- Gliclazide

4- Insulin

**5- Metformin**

Q1631. A patient who was recently admitted to the medical receiving unit with general malaise has been found to have deranged renal function. Your registrar asks you to arrange 'an urgent scan' to exclude obstruction of the kidneys. Which of the following is most appropriate?

1- CT KUB (kidneys, ureters and bladde r) 2- MR angiography of renal tract

3- MRI kidneys

4- Plain abdominal x ray

**5- Ultrasound renal tract**

Q1632. A 44-year-old woman with type 1 diabetes mellitus has not attended the diabetic clinic for five years. Examination shows no abnormalities. Investigations show: Haemoglobin 9 g/dL (11.5-16.5) MCV 94 fL (80-96) Haematocrit 28% HbA1c 10.1% (3.8-6.4) A blood smear shows normochromic, normocytic anaemia. Which of the following is the most likely cause?

1- Acute blood loss

2- Chronic lymphocytic leukaemia (CL L) 3- Erythropoietin deficiency

4- Microangiopathic haemolysis

5- Sideroblastic anaemia

Q1633. Patients with end stage renal failure on haemodialysis may have anaemia secondary to multiple causes. One important cause is erythropoietin (EP O) deficiency. EPO injections can be given intravenously or subcutaneously and are effective, providing that iron stores are replete. Which of the following blood tests in conjunction with serum ferritin is the recommended test for iron status in patients with anaemia?

1- C reactive protein (CR P) 2- Erythrocyte sedimentation rate (ES R) 3- Mean cell volume

4- Serum iron

**5- Transferrin saturation**

Q1634. A 30-year-old woman receives a cadaveric renal transplantation after having had renal failure, with a neuropathic bladder for which she performed intermittent selfcatheterisation. Six months after transplantation she presents with acute pain in the region of the transplanted kidney. Which one of the following is the most likely reason for the pain?

1- Acute retention of urine

2- Allograft rejection

**3- Pyelonephritis**

4- Renal calculi

5- Renal infarction

Q1635. A 22-year-old woman presents with right loin pain, oliguria and coke-coloured urine. Blood pressure is increased at 160/70 mmHg and urinary dipstick shows protein ++++ and blood ++++. Microscopy is awaited. Blood tests reveal: Hb 12.6 (11.5 - 16.5 g/d L) WCC 8.4 (4 - 11 x 109 / L) Platelets 412 (150 - 400 x 109 / L) Na 137 (137 - 144 mmol/ L) K 5.7 (3.5 - 4.9 mmol/ L) Creatinine 263 (60 - 110 μmol/ L) Urea 25.2 (2.5 - 7.5 mmol/ L) What is the most appropriate next investigation of this patient?

1- Renal angiography

2- DMSA scan

3- Plain abdominal KUB

4- Renal biopsy

**5- Renal ultrasound scan**

Q1636. A 66-year-old gentleman is admitted with an exacerbation of chronic congestive heart failure and is treated with intravenous diuretics. His serum potassium results are shown below. Admission: Serum Potassium 4 mmol/L(3.5 - 5.0) Day 3 of admission: Serum Potassium 3 mmol/L(3.5 - 5.0) Which is the best estimate of the total body potassium loss of this patient since admission?

1- 1 mmol

2- 10 mmol

3- 50 mmol

4- 75 mmol

**5- 200 mmol**

Q1637. A 50-year-old lady is referred to the renal team with progressive renal impairment and for consideration of renal replacement therapy in the future. She has a history of type 1 diabetes mellitus (D M) since her teens. Her ultrasound scan shows normally sized kidneys and her urine dip is positive for protein. A renal biopsy is undertaken. Which of the following findings would be diagnostic of diabetic related kidney injury?

1- C4d stain positive

2- Congo red stain positive

**3- Kimmelstiel-Wilson lesion**

4- Owl's eyes inclusion

5- Ring sideroblasts

Q1638. A 34-year-old man presents with worsening shortness of breath, wheeze, lethargy and nausea. He has a history of asthma which has been managed by one of your partners with salbutamol and a twice daily combination of a long acting beta-2 agonist and an inhaled steroid inhaler. On examination his BP is 150/92 mmHg, his pulse is 80 and regular. He has extensive wheeze throughout both lung fields. Investigations show Haemoglobin 11.8 g/dl(13.5-18) White cell count 10.1 x 109 /L (Eosinophils 30%) (4-10) Platelets 190 x 109 /L (150-400) Sodium 140 mmol/l (134-143) Potassium 4.9 mmol/l (3.5-5) Creatinine 189 μmol/l (60-120) ESR 62 (<10) Urine Blood++ Protein ++ Which of the following is the most likely diagnosis?

1- Alport's syndrome

**2- Churg-Strauss syndrome**

3- IgA nephropathy

4- Post-streptococcal glomerulonephritis

5- Wegener's granulomatosis

Q1639. A 52-year-old man has been referred to the outpatient clinic due to deteriorating renal function. A diagnosis of adult polycystic kidney disease (APK D) is made. His family history reveals that his mother died of a stroke at the age of 50, and that his father is still alive. He is concerned regarding the inheritance of the disorder. What is the probability that his son will inherit it?

1- 0%

2- 25%

**3- 50%**

4- 75%

5- 100%

Q1640. A 30-year-old male presents with oedema and proteinuria. On examination his blood pressure was 120/70 mmHg. Investigations reveal: Creatinine 88 µmol/L (60-110) Albumin 25 g/L (37-49) Urinalysis No blood Protein++++ Urinary protein excretion7g/24hr (<0.2) Ultrasound of renal tract: normal right kidney, absent left kidney. Which is the most appropriate course of action for this patient?

1- Albumin transfusion

2- Angiotensin converting enzyme (AC E) inhibitor therapy

3- High protein diet

4- Renal biopsy

**5- Trial of steroid therapy**

Q1641. A 50-year-old female presents with acute chest pain and dyspnoea. Examination reveals bilateral ankle oedema with 24 hour urine protein assessment showing 8g/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's factor

4- Reduced factor VIII

5- Reduced fibrinogen concentration

Q1642. Which of the following is a recognised cause of acute renal failure in childhood?

1- Alport syndrome

**2- Burns**

3- Dermatomyocytis

4- Duchenne muscular dystrophy

5- Hypothyroidism

Q1643. Which of the following features would be expected in acute tubular necrosis?

1- Creatinine clearance would be expected to be normal one year after the initial insult

2- Heavy proteinuria on urinalysis

3- Red cell casts on urinalysis

4- Urine plasma osmolality ratio is more than 1:1

**5- Urine sodium concentration greater than 30 mmol/l**

Q1644. In which of the following patients is an ACE inhibitor contraindicated?

**1- A 24-year-old woman with type 1 diabetes and microalbuminuria, who wants to start a family**

2- A 28-year-old woman with reflux nephropathy and hypertension

3- A 34-year-old man with essential hypertension and a BMI of 32

4- A 34-year-old woman with hypertension and a horseshoe kidney

5- A 62-year-old type 2 diabetes patient who has microalbuminuria and a stable creatinine of 210

Q1645. A 63-year-old male recently admitted with sepsis is noted to have a urine output of approximetely 20 mls per hour. The oliguria is more likely to be due to prerenal failure than intrinsic renal failure if which of the folllowing is correct?

1- A blood pressure of 150/90 and good tissue perfusion.

**2- A urine free of red blood cells or casts**

3- A urine:plasma urea ratio <3

4- Urine osmolality <350 mOsm/l

5- Urinary sodium >10mmol/l

Q1646. A 35-year-old gentleman attends the renal clinic with weight gain and shortness of breath. Laboratory results show a low albumin, raised cholesterol and urine dipstick shows 3+ protein. What is the minimum value of protein:creatinine ratio that would be classed as 'nephrotic range' from the answers below?

1- 50 mg/mmol

2- 100 mg/mmol

3- 200 mg/mmol

4- 250 mg/mmol

**5- 300 mg/mmol**

Q1647. A 17-year-old woman underwent a renal transplant. She was concerned about the effects of long-term ciclosporin treatment. Which one of the following is a common adverse effect of this drug?

1- Alopecia

2- Bone marrow depression

3- Hepatotoxicity

**4- Nephrotoxicity**

5- Paraesthesia

Q1648. A 32-year-old male is referred with chronic renal dysfunction and is discovered to have adult polycystic kidney disease (APK D) . His blood pressure is consistently 140-150/90 mmHg. Which of the following antihypertensives is the most appropriate for the management of this man's blood pressure?

**1- ACE inhibitor**

2- Betablocker

3- Calcium channel blocker

4- Diuretic

5- Moxonidine

Q1649. A 28-year-old female is referred with a three month history of tiredness and weakness. On examination, pulse is 82 bpm and blood pressure is 128/72 mmHg. No specific abnormalities are evident on examination of the cardiovascular, respiratory, abdominal or neurological systems. Investigations reveal: Serum Sodium 142 mmol/l (137-144) Serum Potassium 3.0 mmol/l (3.5-4.9) Serum urea 4.2 mmol/l (2.5-7.5) Serum creatinine 82 µmol/l (60-110) Serum chloride 73 mmol/l (95-107) Plasma glucose 5.5 mmol/l (3.0-6.0) Urinary chloride 60 mmol/l (20-350) Which of the following is the likely diagnosis?

1- Bartter's syndrome

2- Conn's syndrome

**3- Drug ingestion**

4- Liddle's syndrome

5- Non-classical congenital adrenal hyperplasia (CA H)

Q1650. A 16-year-old female presents with ankle swelling four days after having had a sore throat. On examination she had a blood pressure of 125/80 mmHg and ankle oedema. Investigations reveal: Creatinine 90 µmol/l (60-110) Albumin 25 g/l (37-49) 24 hour urinary protein 9 g(<0.2) What is the most likely diagnosis?

1- Idiopathic membranous nephropathy

**2- IgA nephropathy**

3- Membranoproliferative glomerulonephritis

4- Minimal change nephropathy

5- Post-streptococcal glomerulonephritis

Q1651. An 81-year-old man was admitted with renal failure due to benign prostatic hypertrophy. His bladder was drained with an urethral catheter followed by a diuresis of more than 3L per day. After two days he became progressively drowsy. What is the most likely cause for his reduced level of consciousness?

1- Hyperglycaemia

2- Hypocalcaemia

3- Hypomagnesaemia

**4- Hyponatraemia**

5- Metabolic acidosis

Q1652. A 19-year-old female developed pleural effusions, ascites and ankle swelling. Her blood pressure was 112/76 mmHg. Investigations revealed: Serum alanine transferase17 U/L(5 - 15) Serum total bilirubin 17 umol/L(1 - 22) Serum Albumin 21 g/L(34 - 94) Serum total cholesterol 9.8 mmol/L(<5.2) What is the next most appropriate investigation?

1- Antinuclear antibody

2- Pregnancy test

3- Prothrombin time

4- Serum protein electrophoresis

**5- Urinary protein estimation**

Q1653. A 49-year-old woman has been an inpatient for the past 10 days for treatment of a bronchopneumonia. She has developed the onset of chills, fever, and skin rash over the past two days. A peripheral blood film reveals eosinophilia. On urinalysis she has ++ proteinuria. There is no past history of renal disease. Her haemoglobin A1C is normal. Which of the following diagnoses would be most strongly suggested by these findings?

1- Acute serum sickness

2- Acute tubular necrosis

**3- Drug-induced interstitial nephritis**

4- IgA nephropathy

5- Post-streptococcal glomerulonephritis (G N)

Q1654. Which one of the following is true concerning antidiuretic hormone (AD H) ?

**1- Carbamazepine potentiates its release**

2- Ethanol potentiates its release

3- It circulates in the blood bound to neurohypophysin

4- It is a cyclic octapeptide

5- It is synthesised in the posterior pituitary

Q1655. A 15-year-old girl was seen by her family physician because of increasing lethargy. She had a recent history of the 'flu'. Biochemistry tests show that she has renal impairement. Investigations show: Serum Sodium 140 mmol/L (137-144) Serum Potassium 4.2 mmol/L (3.5-4.9) Serum Urea 28 mmol/L (2.5-7.5) Serum Creatinine 280 µmol/L (60-110) Her condition does not improve after several weeks on corticosteroid therapy, so a renal biopsy is performed. The biopsy demonstrates the presence of segmental sclerosis of 3 of 10 glomeruli identified in the biopsy specimen. Immunofluorescence studies and electron microscopy do not reveal evidence for immune deposits. What is the most appropriate advice to give regarding her condition?

1- She has an underlying malignancy

**2- She may require a renal transplant in 10 years**

3- She will improve if she loses weight

4- She will likely develop a restrictive lung disease

5- She will probably improve with additional corticosteroid therapy

# Chapter 13 2012 Cardiology

Q1656. A 55-year-old man presented to the Emergency department with sudden breathlessness. He is sweaty and obviously short of breath. He is a smoker with a past history of hypertension. There are crackles on inspiration at both his lung bases and his CXR shows upper lobe venous diversion and perihilar shadowing. His ECG shows sinus tachycardia only and his cardiac enzymes, when they return the next day, are normal. His symptoms resolved quickly with oxygen and furosemide. Which of the following conditions is the most likely explanation of this presentation?

1- Hypertrophic obstructive cardiomyopathy

2- Myocardial infarction

3- Phaeochromocytoma

4- Pulmonary embolism

**5- Renal artery stenosis**

Q1657. Which of the following lipid abnormalities are most likely to be detected in a patient with type 2 diabetes?

1- Elevated HDL concentrations

2- Elevated LDL concentrations

3- Large buoyant LDL molecules

4- Reduced triglyceride concentrations

**5- Small dense LDL molecules**

Q1658. A 65-year-old man is admitted to the coronary care unit with an acute inferior myocardial infarction (M I) . There are no contraindications to thrombolysis and he receives streptokinase with good resolution of ECG changes. Three days later examination is normal, with a blood pressure of 134/76 mmHg. Results reveal a total cholesterol of 4.8 mmol/l (<5.2). Which one of the following drugs does not have good evidence for reducing future morbidity and mortality?

1- Aspirin

2- Atenolol

**3- Nifedipine**

4- Ramipril

5- Simvastatin

Q1659. A 60-year-old man with diabetes presents to clinic for advice on prevention of a further heart attack after having sustained a myocardial infarction five years previously. He takes metformin 500 mg tds, bendroflumethiazide 2.5 mg daily and aspirin 150 mg daily. His body mass index was 33.5 kg/m2 , with a pulse of 82 beats per minute regular and a blood pressure of 152/92 mmHg. His cholesterol concentration is 3.3 mmol/l (<5.5). What is the most appropriate strategy for this patient?

1- 24 hour ambulatory ECG

2- Atorvastatin

3- Increase aspirin from 150 mg to 300 mg daily

4- Orlistat

**5- Ramipril**

Q1660. In a patient presenting with aortic stenosis (A S) , which of the following findings would be most helpful in establishing a diagnosis of congenital bicuspid valve as the aetiology?

1- Age

2- Calcified leaflets

3- Commissural fusion on ECHO

4- Negative history for rheumatic fever

**5- Systolic ejection click**

Q1661. A patient presents with atrial fibrillation which later reverts to sinus rhythm. In which of the following circumstances is the patient more likely to remain in sinus rhythm?

1- Age more than 75-years-old

2- Been commenced on warfarin

3- Left atrium size greater than 6 cm on ECHO

**4- Short history of AF**

5- Ventricular rate on presentation of 130 bpm

Q1662. A 52-year-old sales representative is admitted with an inferior myocardial infarction (M I) . He receives thrombolysis and makes an uneventful recovery. He is discharged on atenolol, aspirin and atorvastatin. He enquires how long after his MI must he wait before he is able to drive?

1- One week

2- Two weeks

**3- Four weeks**

4- Three months

5- Six months

Q1663. According to Starling's law, when the enddiastolic volume increases, resulting in myocardial stretch, how does the heart maintain an adequate cardiac output?

1- Increases capillary permeability

2- Increases central vasodilation to redistribute the fluid to other organs

**3- Increases myocardial contraction**

4- Increases peripheral vasodilation to reduce strain on the heart

5- Increases urine production to reduce intravascular volume

Q1664. A 52-year-old housewife presents to the hypertension clinic with hypertension that has proved difficult to control. Her general practitioner has started ramipril 1.25 mg, amlodipine 5 mg, bisoprolol 2.5 mg and bendroflumethiazide 2.5 mg. Her systolic blood pressure is 152 mmHg, and it has consistently ranged 150 - 160 mmHg. The urine dipstick is normal. Renal function and electrolytes are normal. Her ECG showed borderline left axis deviation but is otherwise normal in rhythm and complexes, and a subsequent echocardiogram demonstrates good ejection fraction with no significant systolic or diastolic impairment. What is the best treatment option for this patient?

1- Add spironolactone 2.5 mg

2- Add isosorbide mononitrate 25 mg BD

3- Increase bendroflumethiazide to 5 mg

**4- Increase ramipril to 2.5 mg**

5- Venesection

Q1665. A 59-year-old office worker is diagnosed with essential hypertension, following sequential blood pressure readings in the range of 150 - 162 / 85 - 92. She has no other medical issues, and is started on an ACE inhibitor, which is uptitrated over the following year to a dose of ramipril 5 mg OD. At her next consultation she reports a concerted effort to address lifestyle factors over the preceding year, leading to substantial weight loss. She has also given up occasional smoking since her retirement, and is currently asymptomatic. On clinical examination the blood pressure is 126 / 78. BMI 22.4. The apex is undisplaced. Fasting blood tests are as follows: Serum Sodium 141[132 - 144 mmol/l] Serum Potassium 4.2[3.5 - 5.0 mmol/l] Urea 4.7[2.5 - 7.5 mmol/l] Creatinine 74[50 - 120 μmol/l] Bilirubin 8[2 - 17 umol/l] Alanine aminotransferase 23[5 - 40 U/l] Alkaline phosphatase 70[50 - 160 U/l] Albumin 32[35 - 55 g/l] Total protein 86[62 - 80 g/l] C Reactive protein 4[10mg/l] ECG normal sinus rhythm What is the next step in management of this patient's blood pressure?

1- 24 hour urinary protein

2- Add aspirin 75 mg for primary prevention

3- Encourage continued weight loss and recheck blood pressure in a year

4- Myeloma screen

**5- Reduce ramipril to 1.25 mg**

Q1666. A 70-year-old woman has failed two previous attempted cardioversions for atrial fibrillation. She has previously been echoed which revealed left atrial enlargement and mild LV dysfunction. She has a history of a previous myocardial infarction four years earlier, and currently takes ramipril 10 mg, furosemide 40 mg, atorvastatin 40 mg, and aspirin 75 mg. On examination her BP is 135/70 mmHg, with a pulse of 100 in atrial fibrillation (A F) . She has bibasal crackles consistent with heart failure and there is mild bilateral pitting oedema. Investigations show: Hb 11.9 g/dl (11.5-16.5) WCC 6.1 x 109 /L (4-11) PLT 221 x 109 /L (150-400) Na 139 mmol/l (135-146) K 4.4 mmol/l (3.5-5) Cr 131 µmol/l (79-118) Which of the following would be the most appropriate agent in this patient for rate control of her AF?

1- Amiodarone

2- Amlodipine

3- Atenolol

**4- Bisoprolol**

5- Digoxin

Q1667. A 24-year-old woman develops infective endocarditis involving the aortic valve. She receives a porcine bioprosthesis because of her desire to have children and not to take anticoagulant medication. After ten years, she must have this prosthetic valve replaced. Which of the following pathological findings in the bioprosthesis has most likely led to the need for replacement?

**1- Calcification with stenosis**

2- Dehiscence

3- Infective endocarditis

4- Strut failure

5- Thrombosis

Q1668. A 25-year-old female who is 20 weeks pregnant with her first child is admitted with palpitations. The ECG reveals a supraventricular tachycardia (SV T) and this self terminates 20 minutes after admission. Subsequently she has further runs of symptomatic SVT. What would be the most appropriate treatment for this patient's paroxysmal supraventricular tachycardia?

1- Amiodarone

2- Disopyramide

3- Flecainide

**4- Metoprolol**

5- Verapamil

Q1669. You wish to calculate a patient's ejection fraction as the patient complains of dyspnoea. Which of the following echocardiographic measures would be mandatory?

1- Aortic valve peak velocity

**2- Left ventricular end diastolic diameter**

3- M-mode of the aortic valve

4- M-mode of the mitral valve

5- Pulse wave of mitral inflow

Q1670. A 62-year-old male undergoes cardioversion for idiopathic atrial fibrillation (A F) . Postprocedure he was shown to be in sinus rhythm. Medication at admission included warfarin, digoxin and atenolol, which he had been taking for the last six weeks. Which of the following agents should he continue to take until he is seen in clinic in six weeks time?

1- Aspirin

2- Atenolol

3- Digoxin

4- Sotalol

**5- Warfarin**

Q1671. A 78-year-old female is referred by her GP with high blood pressure. Over the last three months her blood pressure is noted to be around 180/80 mmHg. She has a body mass index of 25.5 kg/m2 and is a non-smoker. There are no features to suggest a secondary cause for her hypertension. Which of the following is the most appropriate treatment for her blood pressure?

1- Alpha-blocker

2- Angiotensin blocker

3- Angiotensin converting enzyme (AC E) inhibitor

4- Beta-blocker

**5- Calcium channel blocker**

Q1672. A 56-year-old male with left ventricular systolic dysfunction was dyspnoeic on climbing stairs but not at rest. The patient was commenced on ramipril and furosemide. Which one of the following drugs would improve the patient's prognosis?

1- Amiodarone

2- Amlodipine

**3- Bisoprolol**

4- Digoxin

5- Nitrate therapy

Q1673. A child is brought to the Emergency department by his parents after a three month history of blue lips and breathlessness. You arrange urgent admission and follow up the case on your next shift. You call the paediatric SHO to find out about the child. She tells you he underwent a transthoracic echocardiogram and it demonstrated displacement of the tricuspid valve towards the apex, a small 'atrialised' and hypoplastic RV and an ASD. You go to the ward to see the patient and look in his notes. You review his ECG. Based on the likely diagnosis, which ECG finding is most likely to be present?

1- Left axis deviation

2- Left bundle branch block

**3- Right bundle branch block**

4- Type A Wolff-Parkinson-White (WP W) pattern

5- Type B Wolff-Parkinson-White pattern

Q1674. Which ONE of the following is associated with Marfan's syndrome?

1- Autosomal recessive inheritance

2- increased upper:lower body ratio

3- Mental retardation

4- Pulmonary stenosis

**5- Retinal detachment**

Q1675. A 26-year-old man is found to have hypertrophic obstructive cardiomyopathy. A 24 hour ECG recording reveals runs of nonsustained ventricular tachycardia. He has had three episodes of syncope in the last two years. Which of the following is the most appropriate management plan for this man?

1- Amiodarone

2- AV node ablation

**3- Implantable cardioverter defibrillator (IC D) 4- Permanent pacemaker**

5- Sotalol

Q1676. A 70-year-old known hypertensive and diabetic patient presents with dyspnoea on moderate exertion. On examination he is pale, pulse rate is 98/min regular, BP is 160/70 mmHg and there are fine basal crepitations in the lungs. ECG showed left ventricular hypertrophy and renal functions were slightly deranged. What is the most appropriate treatment for cardiac failure in this patient?

1- ACE-I alone

2- Furosemide alone

3- Spironolactone, ramipril and aspirin

**4- Spironolactone, ramipril and carvedilol**

5- Spironolactone, ramipril and digoxin

Q1677. A 65-year-old man has an ejection systolic murmur and narrow pulse pressure on clinical examination. There is no history of chest pain, breathlessness or syncope. An ECHO confirms aortic stenosis and shows an aortic valve gradient of 40 mmHg. There is good left ventricular function. Which of the following management options is the most appropriate choice in this case?

1- Anticoagulation

2- Aortic valvuloplasty

**3- Cardiology outpatient review**

4- Routine aortic valve replacement

5- Urgent aortic valve replacement

Q1678. A 73-year-old male is referred with palpitations. On 24 hour ambulatory ECG monitoring he is shown to have paroxysmal atrial fibrillation and is treated with amiodarone. Through blockade of which of the following receptors is the antiarrhythmic effect of amiodarone most attributed?

1- Alpha receptors

2- Beta receptors

3- Calcium channels

**4- Potassium channels**

5- Sodium channels

Q1679. A 70-year-old female is reviewed in clinic after having had an anterior MI. Her echo reveals some left ventricular impairment. You are contemplating the addition of a betablocker to current therapy which consists of bendroflumethiazide, aspirin and simvastatin. Which of the following beta-blockers should be avoided?

1- Bisoprolol

2- Carvedilol

3- Metoprolol

4- Propranolol

**5- Sotalol**

Q1680. Concerning complete atrioventricular septal defects which one of the following statements is true?

**1- Are seen frequently in patients with trisomy 21**

2- Frequently have aortic valve (A V) insufficiency

3- Have a normal mitral valve structure

4- Include a coronary sinus atrial septal defect (AS D) 5- Include a perimembranous ventricular septal defect

Q1681. A 21-year-old woman has a history of palpitations and light headedness. ECG shows short PR interval and inferior Q waves. Her symptoms improve with atenolol 25 mg/day but she has had two short episodes of similar symptoms in the previous 24 hours. What is the long term management of choice?

1- Anticoagulation

2- Oral amiodarone

3- Oral digoxin

4- Increase the dose of atenolol

**5- Radiofrequency ablation**

Q1682. A 35-year-old woman presented with a history of intermittent light-headedness. Clinical examination and 12 lead ECG were normal. Which of the following, if present on a 24 hour Holter ECG tracing, would be the most clinically important?

1- Atrial premature beats.

2- Profound sleep-associated bradycardia.

**3- Supraventricular tachycardia (SV T) .**

4- Transient Mobitz type 1 atrioventricular block.

5- Ventricular premature beats.

Q1683. A 75-year-old man presents with severe central crushing chest pain. ECG shows evidence of an inferior myocardial infarction (M I) . He receives primary stenting to the proximal right coronary artery Four hours after initial presentation, he starts feeling dizzy and breathless. His pulse is 30 bpm regular, BP 70/50 mmHg. Heart sounds are soft and chest clear to auscultation. ECG shows 2:1 AV block with broad QRS and T wave inversion inferiorly. IV atropine was administered but had no effect. What is the next most important treatment?

1- Emergency insertion of a permanent pacemaker

**2- Emergency temporary transvenous pacing wire**

3- IV dopamine

4- IV isoprenaline

5- Monitor his progress

Q1684. Which of the following is not a component of the cardiac electrical conduction pathway?

1- Atrioventricular node

2- Bundle of His

3- Purkinje fibres

**4- Sarcomere**

5- Sinoatrial node

Q1685. A 24-year-old man is admitted from a soccer match by ambulance. He collapsed during the game. Medical staff who attended the scene found him to be in VT and he was shocked by the automated defibrillator which was at the stadium. By the time he reaches the emergency department he is beginning to regain consciousness and is complaining of a sore chest from where he was shocked. On examination his blood pressure is elevated at 145/82 mmHg. He has a double apical impulse and a mid systolic murmur. Investigations show Haemoglobin 13.4 g/dl (13.5-18) White cell count 5.6 x 109 /L (4-10) Platelets 201 x 109 /L (150-400) Sodium 141 mmol/l (134-143) Potassium 4.8 mmol/l (3.5-5) Creatinine 105 µmol/l (60-120) ECG LVH with anterior Q waves Which of the following is the most likely diagnosis?

1- Brugada syndrome

**2- HOCM**

3- Long QT

4- Post viral cardiomyopathy

5- Wolff-Parkinson-White syndrome

Q1686. Which of the following regarding the anatomy of the heart is true?

**1- The aortic valve is tricuspid**

2- The ascending aorta is entirely outside the pericardial sac

3- The left atrial appendage is identified readily by transthoracic echocardiography

4- The right atrium is posterior to the left atrium

5- The right branch of the pulmonary artery lies anterior to the ascending aorta

Q1687. A 36-year-old patient with hypertension presents following an unplanned pregnancy. Her blood pressure has been modestly controlled on amlodipine 5 mg and ramipril 2.5 mg over the past five years, with the diagnosis of essential hypertension following a thorough screen for secondary causes. She wishes to proceed with the pregnancy. Her current blood pressure is 135/85 mmHg. What next step would you take?

1- 24 hour urine collection for protein

2- ECG to screen for evidence of end organ damage

3- Stop amlodipine

**4- Stop ramipril**

5- Switch to methyldopa

Q1688. A 29-year-old female attends the emergency department complaining of acute onset of palpitations. She is attached to a cardiac monitor and her pulse rate is 180 bpm. She is warm and well perfused, her BP is 135/80 mmHg, respiratory rate 20/min, oxygen saturation 100% on air and on auscultation her chest is clear with no evidence of cardiac failure. ECG shows a narrow complex tachycardia. Carotid massage and Valsalva manoeuvre have failed to attenuate the rhythm disturbance. What is the appropriate initial management?

1- DC cardioversion

**2- IV adenosine**

3- IV amiodarone

4- IV digoxin

5- IV magnesium

Q1689. A 63-year-old male is admitted with a 30 minute history of central chest pain associated with nausea and sweating. His ECG reveals ST elevation in leads II, III and aVF. Which of the following coronary arteries is most likely to be occluded?

1- Circumflex artery

2- Left anterior descending artery

3- Obtuse marginal artery

4- Posterolateral artery

**5- Right coronary artery**

Q1690. A 35-year-old shop worker presents with pain in her calves which develops after 50 yards of walking. The pain settles with rest. On examination she has yellow discolouration of her palmar creases. Her fasting lipid profile reveals: Cholesterol 9.6 mmol/l (<5) Triglycerides 7.3 mmol/l (<2) What is the likely diagnosis?

1- Chylomicronaemia

2- Familial hypercholesterolaemia

3- Hypoalphalipoproteinaemia

**4- Type III hyperlipidaemia**

5- Type IV hyperlipidaemia

Q1691. Which of the following is not associated with left atrial myxoma?

**1- A mid-systolic click**

2- Adrenal hyperplasia

3- Left atrial dilatation

4- Sudden death

5- Systemic emboli

Q1692. A 76-year-old woman presented with an acute myocardial infarction. The ECG showed ST segment elevation in leads II, III and aVF. Which coronary artery is most likely to be occluded?

1- Circumflex artery

2- Diagonal branch of the left anterior descending artery

3- Left anterior descending artery

4- Left coronary artery

**5- Right coronary artery**

Q1693. Which of the following is true regarding the coronary circulation?

**1- Adenosine is an important mediator of metabolic vasodilatation**

2- Coronary blood flow is independent of myocardial oxygen consumption due to autoregulation

3- Coronary blood flow within a normal range of blood pressure is primarily determined by perfusion pressure

4- Increased myocardial O2 demand is met primarily by increasing O2 extraction

5- The vasodilatory reserve of the epicardium and endocardium is equivalent under normal physiologic conditions

Q1694. A 60-year-old man had a myocardial infarction (M I) six weeks ago. He is taking aspirin 75 mg/day and metoprolol 50 mg 2/day. During a routine follow up exercise test he has a 20 beat run of non-sustained VT. He achieved stage 4 of the Bruce protocol and 92% of his target heart rate. The nonsustained VT occurred halfway through stage 2. ST segments were normal during the study. What is the definitive investigation?

1- 24 hour Holter monitor

2- Coronary angiography

3- Echocardiogram

**4- Electrophysiological study (EP S) 5- Thallium exercise scan**

Q1695. You are working as part of the on-call medical team and a GP calls for some advice about a 62-year-old male patient. He is a heavy smoker and has a long and extensive history of peripheral vascular disease. He has had two recent admissions under the vascular surgeons, both occasions requiring embolectomy surgery. His GP is unsure which medication to start to reduce his risk of an occlusive vascular event. Unfortunately, the patient is intolerant of aspirin with documented severe allergy. There is no history of stroke or TIA. The patient is in sinus rhythm. Based on this information and with regard to current NICE guidance, which management option listed is recommended to reduce occlusive vascular events in this patient?

**1- Clopidogrel**

2- Dabigatran

3- Dipyridamole modified release

4- Dipyridamole modified release with clopidogrel

5- Warfarin

Q1696. On physical examination a 65-year-old man is found to have pulsus alternans where there is regular alternation of the force of his radial pulse. Which of the following conditions is the most likely diagnosis?

1- Aortic stenosis

2- Cardiac tamponade

3- Hypertrophic obstructive cardiomyopathy

4- Mixed aortic valve disease

**5- Severe left ventricular failure**

Q1697. A 17-year-old male presented with episodes of low back pain. On clinical examination he is tall and has features of Marfan syndrome. You refer him for echocardiography and he asks why it is needed. Which of the following is the most common abnormality seen in people with Marfan syndrome?

1- Bicuspid aortic valve

2- Coarctation of the aorta

**3- Dilation of the aortic sinuses**

4- Mitral valve prolapse

5- Primum atrial septal defect

Q1698. A 55-year-old man presents with severe dyspnoea with tachycardia and clinical examination raises the possibility that pericardial disease may be the cause. Which of the following clinical features would favour cardiac tamponade rather than constrictive pericarditis?

1- Hypotension

2- Kussmaul's sign

3- Muffled heart sounds

**4- Pulsus paradoxus**

5- Raised JVP

Q1699. A 38-year-old woman with a 10 year history of type 1 diabetes attends for annual review. She has background diabetic retinopathy, microalbuminuria with a urine albumin:creatinine ratio of 4.8 mg/dl (<3). Currently, she takes basal bolus insulin four times daily and lisinopril. She is a non-smoker, has a BMI of 30 kg/m2 and a blood pressure of 124/70 mm/hg. Investigations reveal: HbA1c 7.3% (3.8-6.4) Total cholesterol 5.2 mmol/l (<5.2) Triglyceride 1.9 mmol/l (0.45-1.69) LDL cholesterol 3.3 mmol/l (<3.36) HDL cholesterol 1.3 mmol/l (>1.55) Which would be the most appropriate treatment for this patient's lipid profile?

1- Ezetimibe

2- Fenofibrate

3- No treatment required

4- Omega-3 fatty acids

**5- Simvastatin**

Q1700. A 24-year-old female is admitted with palpitations. Her pulse is 160 beats/min, blood pressure 70/50 mmHg and she has a respiratory rate 32/min. She is awake, alert and oriented but dyspnoeic. Her electrocardiogram shows a regular rhythm with QRS complex width of 0.11s. What is the most appropriate therapy for this patient?

1- Adenosine 6 mg/6 mg/12 mg

2- Amiodarone 300 mg

3- Atenolol 50 mg

**4- Direct current cardioversion**

5- Verapamil 10 mg

Q1701. A 16-year-old girl was incidentally found to have delta wave on ECG suggestive of WolffParkinson-White syndrome. There was no tachycardia and she was asymptomatic. What is the next step in management?

1- Beta-blocker therapy

2- Electrophysiological study and provocation of arrhythmia

3- Radiofrequency catheter ablation of the bypass tract

**4- Reassurance**

5- Repeat ECG

Q1702. A 65-year-old woman undergoes temporary pacing due to complete heart block following acute myocardial infarction. Which coronary artery is most likely to have been occluded?

1- Anterior descending

2- Circumflex

3- Left main coronary

4- Obtuse marginal

**5- Right coronary**

Q1703. A 65-year-old male attends clinic complaining of breathlessness. He has end stage cardiac failure due to dilated cardiomyopathy. Currently he takes furosemide, lisinopril and carvedilol. Which one of the following drugs should be added to his current therapy?

1- Diltiazem

2- Isosorbide mononitrate

3- Nicorandil

**4- Spironolactone**

5- Vitamin C

Q1704. A 68-year-old woman with atrial fibrillation (A F) is admitted for DC cardioversion. The procedure resulted in successful restoration of sinus rhythm. Which one of the following drugs would be most likely to maintain sinus rhythm following this procedure?

**1- Amiodarone**

2- Digoxin

3- Diltiazem

4- Sotalol

5- Verapamil

Q1705. A 40-year-old man attending a routine screening has a blood pressure of 166/100 mmHg. Two weeks later his blood pressure was 150/90 mmHg. He does not smoke. He drinks 35 units alcohol/week. His body mass index (BM I) is 31.5 kg/m2 (20-25). What is the best management strategy?

1- Amlodipine

2- Atenolol

3- Bendroflumethiazide

4- Enalapril

**5- Lifestyle advice**

Q1706. You are helping out the consultant in the afternoon care of the elderly clinic. Your next patient is a 92-year-old man with a history of aortic stenosis. He has annual transthoracic echocardiograms and his pressure gradient across the valve is stable. His is asymptomatic currently. After the clinic your consultant asks you to discuss each case with her. While discussing this patient, your consultant asks you to explain the pathophysiological mechanisms which occur in aortic stenosis. From the list, select the pathophysiological response in aortic stenosis.

**1- Concentric left ventricular hypertrophy**

2- Eccentric left ventricular hypertrophy

3- Increase in myocyte calcium

4- Reduced collagen

5- Significant fibrosis

Q1707. A 51-year-old traffic warden presents to primary care with incidental asymptomatic hypertension (152 / 84 mmH g) . She has no comorbidities. Subsequent serial blood pressure readings are similar. Which of the following would comprise screening for cardiovascular risk in this patient?

1- 24 hour urine collection

**2- Electrocardiogram**

3- HbA1C

4- Random lipid level

5- Retinal imaging

Q1708. A 56-year-old woman presents to the cardiology clinic with increasing attacks of syncope and pre-syncope over the past few months. She is worried that she may have an underlying cardiac defect. She has a 72 hour ECG recording. Which of the following would be the most significant finding on 72 hour tape?

1- 1,000 atrial ectopics recorded over the 72 hours

2- 1,000 ventricular ectopics recorded over the 72 hours

3- Bradycardia of 40 BPM whilst asleep

**4- Mobitz type 1 heart block with right bundle branch block (RBB B) whilst feeling lightheaded**

5- Runs of four to six beats of SVT without symptoms

Q1709. A 35-year-old lady at 14 weeks' gestation is found to have a blood pressure of 160/100 mmHg. Her father is known to have hypertension. Electrocardiogram (EC G) demonstrates features of left ventricular hypertrophy (LV H) . What is the most likely diagnosis?

1- Eclampsia

**2- Essential hypertension**

3- Pre-eclampsia

4- Pregnancy-induced hypertension

5- Renal hypertension

Q1710. A 60-year-old man presented with a rash over his forearms, shins and face when he visited cardiology clinic in the summer. Which of the following medications is the most likely to be associated with this photosensitive rash?

1- Atenolol

**2- Bendroflumethiazide**

3- Clopidogrel

4- Digoxin

5- Ezetimibe

Q1711. Closure of the tricuspid valve is marked by which of the following features of the jugular venous waveform?

1- "a" wave

**2- "c" wave**

3- "v" wave

4- "x" descent

5- "y" descent

Q1712. A 60-year-old female presents with a four week history of low grade fever, dyspnoea and fatigue. Two months ago she received a prosthetic valve replacement for mitral regurgitation. On examination she has a temperature of 37.7°C. At transoesophageal echocardiography vegetations are seen. A clinical diagnosis of prosthetic valve endocarditis is made. Which of the following is the most likely causative organism?

1- Actinomycosis

2- Candida albicans

3- Enterococci

**4- Staphylococcus epidermidis**

5- Streptococcus viridans

Q1713. A 59-year-old male presents with a one hour history of central crushing chest pain. He is known to be diabetic, hypertensive and is a non-smoker. On examination his pulse rate is 90 beats/min, blood pressure 130/85 mmHg, S1 S2 are audible with no murmurs. There is no evidence of cardiac failure. An electrocardiogram (EC G) is performed. Which of the following would be an indication for thrombolysis?

1- Atrial fibrillation greater than 150 min-1

2- Right bundle branch block

3- ST depression of 2 mm in leads II, III, avF

**4- ST elevation of 2 mm in V4-V6**

5- Supraventricular tachycardia

Q1714. A 70-year-old woman with established aortic stenosis (A S) attends for annual review. Which one of the following factors is the most important in deciding the timing of surgery?

1- Aortic valve gradient of 50 mmHg

2- Left ventricular hypertrophy (LV H) 3- The intensity of the murmur

**4- The patient's symptomatology**

5- Valvular calcification

Q1715. Which of the following concerning the use of intravenous bicarbonate in cardiorespiratory arrest is correct?

**1- Exacerbates intracellular acidosis**

2- Has a positive inotropic effect on ischaemic myocardium

3- Improves oxygen release to the tissues

4- Increases cerebral blood flow

5- Reduces pre-existent hyperkalaemia

Q1716. Which of the following antiarrhythmic drugs may be used in the treatment of long QT syndrome?

1- Amiodarone

**2- Atenolol**

3- Flecainide

4- Propafenone

5- Sotalol

Q1717. A 29-year-old woman with a history of depression is admitted by ambulance after being found unconscious by her boyfriend. Apparently an empty bottle of amitriptyline tablets was found at the scene. On examination her GCS is 10, her BP is 110/70 mmHg, pulse is 90 and regular. There are no other abnormal findings apart from some scars consistent with deliberate self harm. Investigations show: Haemoglobin 13.0 g/dl(11.5-16.0) White cell count 6.1 x 109 /L (4-11) Platelets 152 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 132 micromol/l (79-118) Bicarbonate 12 mmol/l (22-30) pH 7.18 (7.35-7.45) The nurses call you over whilst you are writing up her file as she is having more prolonged runs of VT on the monitor. What is the next best step?

1- Give amiodarone

2- Give lidocaine

3- Give phenytoin

**4- Give sodium bicarbonate**

5- Observe her

Q1718. A 61-year-old Caucasian patient presents to the gastroenterology clinic following a three month history of malaise with no other specific symptoms. She had a hysterectomy in her 40s for symptomatic fibroids following completion of her family, and developed pre-eclampsia in both of her pregnancies. She is a current and lifelong smoker, takes no alcohol and previously worked as a secretary. Present medication consists of Premarin 300 mcg OD, salbutamol PRN, Seretide BD and amlodipine 5 mg OD. On examination the patient is pale with normal capillary refill time. The heart rate is 72, sinus rhythm. Blood pressure is 145 / 90 mmHg. Chest auscultation revealed neither crackles nor wheeze. Examination is otherwise unremarkable, with normal fundoscopy, urine dip and ECG. Iron deficiency anaemia is seen on full blood count, and outpatient endoscopy is organised. Other than investigating her present ailment, which additional strategy would be advisable with respect to her hypertension?

1- Increase amlodipine to 10 mg

2- Prescribe ramipril 10 mg

3- Prescribe spironolactone 25 mg

**4- Repeat blood pressure later**

5- Screen for phaeochromocytoma

Q1719. A 54-year-old man is found to have a prolonged corrected QT interval on his ECG. Which of the following drugs is the most likely cause?

1- Cefaclor

2- Digoxin

3- Moxonidine

**4- Sotalol**

5- Telmisartan

Q1720. A 16-year-old male is brought to emergency admissions with alcohol intoxication. An initial electrocardiogram (EC G) reveals atrial fibrillation (A F) but a repeat ECG after 12 hours when he has sobered up, shows sinus rhythm. An echocardiogram is normal. What is the most appropriate management for this patient?

1- Aspirin for three months

2- Bisoprolol for three months

**3- Lifestyle advice**

4- Sotalol for one month

5- Warfarin for one month

Q1721. A 67-year-old woman is admitted with blackouts. Her electrocardiogram shows ventricular escape with complete heart block. As you are standing there she blacks out once more. Her rhythm strip shows P wave asystole. Which of the following would be the initial immediate treatment here after airway and breathing?

1- Adenosine 6 mg

2- Adrenaline 1 mg

3- Atropine 0.6 mg

**4- Transcutaneous pacing**

5- Transvenous pacing

Q1722. A 75-year-old man with atrial fibrillation is successfully cardioverted having had six weeks of anticoagulation. Which one of the following drugs would be most likely to maintain sinus rhythm following this procedure?

**1- Amiodarone**

2- Digoxin

3- Nebivolol

4- Sotalol

5- Verapamil

Q1723. A 17-year-old boy whose brother had hypertrophic cardiomyopathy was referred for a cardiological assessment. His echocardiogram confirmed the condition. Which one of the following echocardiographic features is the most important risk factor for sudden cardiac death?

1- A gradient of 10 mmHg across the left ventricular outflow tract

2- An enlarged left atrium

**3- Significant thickening of the interventricular septum**

4- Systolic anterior motion of the mitral valve

5- The presence of mitral regurgitation

Q1724. Angina due to an imbalance between O2 supply and demand without atherosclerosis would most likely be seen in which of the following circumstances?

**1- Aortic regurgitation**

2- Cardiac tamponade

3- Pulmonary regurgitation

4- Right heart failure

5- Tricuspid regurgitation

Q1725. A 72-year-old man presents with an episode of sudden collapse. He has had two similar episodes recently, each lasting about one minute. Four years ago he suffered an anterior myocardial infarction. On examination he was orientated and symptom-free with a regular pulse rate of 80 bpm, BP 140/80 mmHg and the apex beat was displaced to the left. There was an apical systolic murmur. There were no signs of trauma. ECG showed sinus rhythm, Q waves and ST segment elevation anteriorly without reciprocal depression. What is the diagnosis?

1- Acute anterior myocardial infarction

2- Cerebrovascular accident

3- Epileptic seizure

4- Pulmonary embolism

**5- Ventricular tachycardia**

Q1726. Which one of the following statements is true about the Austin Flint murmur?

1- It can be distinguished from the murmur of mitral stenosis by absence of presystolic accentuation

2- It does not occur in aortic incompetence secondary to an aortitis

3- It is an early sign of aortic regurgitation (A R) 4- It is associated with a loud first heart sound.

**5- It is a low frequency mid/late diastolic murmur**

Q1727. Which of the following statements concerning the treatment of acute myocardial infarction (M I) is correct?

1- A pansystolic murmur developing within the first 24 hours does not require further investigation

2- Dipyridamole therapy reduces reinfarction within the first year

3- Heparin is beneficial if given with streptokinase

4- Prophylactic lidocaine given in the first 48 hours is effective in preventing ventricular fibrillation

**5- Treatment with a dihydropyridine calcium antagonist is associated with increased cardiovascular mortality**

Q1728. You are in a cardiology clinic. A 48-year-old woman has been referred to the cardiology clinic with chest pain. She has been sent for some investigations and has returned to see you for the results. Investigations have ruled out coronary artery disease but her cholesterol is high. After recording a blood pressure of 150/100 mmHg (for the second tim e) your CVD risk calculator suggests she should be started on a statin for primary prevention of cardiovascular disease. She has already been given lifestyle advice and is keen to start treatment to reduce her risk further. You counsel her about starting simvastatin 40 mg once a day. She asks you about her target cholesterol. What is your response?

**1- No target cholesterol**

2- Total cholesterol 5, LDL 3

3- Total cholesterol 4, LDL 2

4- Total cholesterol 3, LDL 1

5- None of the above

Q1729. A 65-year-old man presented with chest pain and was found to have ST elevation in leads II, III and aVF. He was thrombolysed and has been stable on coronary care. On the third day of admission he becomes confused and agitated, and on reviewing the history it becomes apparent that he was a heavy alcohol drinker before admission taking 80 units of alcohol per week. Which of the following management options would be most helpful in this situation?

1- CT brain scan

**2- Diazepam**

3- Haloperidol

4- Psychiatric referral

5- Thiamine

Q1730. A 24-year-old girl with Down's syndrome is found to have a systolic murmur on clinical examination. What is the most common cardiac defect seen in patients with Down's syndrome that may explain this murmur?

**1- Endocardial cushion defect**

2- Mitral regurgitation

3- Patent ductus arteriosus

4- Secundum atrial septal defect

5- Ventricular septal defect

Q1731. A 16-year-old boy is admitted after a blackout at the dentist. His mother describes how he blacked out as the dentist began performing a filling and that he jerked his arms a few times and was then incontinent. He awoke after a minute or so and was oriented but nauseous.There were no similar episodes in the past and he is totally unaware of what happened. Examination was normal and his ECG was normal. Which one of the following is the most likely diagnosis?

1- Complex partial seizure

2- Pseudoseizure

3- Stokes-Adams attack

4- Tonic-clonic seizure

**5- Vasovagal syncope**

Q1732. A 59-year-old man is admitted with chest pain of eight hours duration and has ST elevation in the inferior leads on his admission ECG. An electrocardiogram from a previous clinic visit shows sinus rhythm two months ago. He has insulin-dependent diabetes mellitus and chronic renal failure. Investigations reveal: Fasting plasma glucose 7.4 mmol/l (3.0-6.0) Sodium 137 mmol/l (137-144) Potassium 4.4 mmol/l (3.5-4.9) Urea 10 mmol/l (2.5-7.5) Creatinine 200 µmol/l (60-110) Which of the following which represent an absolute contraindication to the use of thrombolysis?

1- Allergy to penicillin

2- Gastrointestinal bleeding in last three months

**3- History of haemorrhagic stroke**

4- Ischaemic stroke 12 months ago

5- On warfarin therapy

Q1733. A 65-year-old man presents with a six month history of deteriorating breathlessness. He is found to have aortic stenosis. Which one of the following physical signs provides the best clinical marker of the severity of the valvular disease?

1- Character of the apex beat

2- Character of the carotid pulse

3- Character of the second heart sound

4- Intensity of the murmur

**5- Length of the murmur**

Q1734. A paper describes a new diagnostic test for myocardial infarction (M I) . You want to know what proportion of patients who are classified as not having had a myocardial infarction by the test will actually not have had a myocardial infarction. Which one of the following measurements would indicate this?

1- Accuracy

**2- Negative predictive value**

3- Positive predictive value

4- Sensitivity

5- Specificity

Q1735. A 59-year-old man who was active all his life develops sudden severe anterior chest pain that radiates to his back. Within minutes, he is unconscious. He has a history of hypertension, but a recent treadmill test had revealed no evidence for cardiac disease. Which of the following is the most likely diagnosis?

1- Acute myocardial infarction (M I) 2- Group A streptococcal infection

3- Pulmonary embolus

4- Right middle cerebral artery embolus

**5- Tear in the aortic intima**

Q1736. During auscultation of the heart you discover a wide fixed splitting of the second heart sound. In which of the following conditions does this occur?

**1- An uncomplicated ASD**

2- Aortic stenosis

3- Constrictive pericarditis

4- Fallot's tetralogy

5- Right bundle branch block (RBB B)

Q1737. On auscultation of the heart of a 30-year-old female a loud first heart sound is heard. Which of the following may be responsible for this auscultatory feature?

1- A long preceding diastolic interval

**2- Atrial premature beat**

3- Increased pulmonary arterial pressure

4- Increased systemic arterial pressure

5- Rupture of a papillary muscle

Q1738. A 70-year-old man with dilated cardiomyopathy remains symptomatic in NYHA class 2 due to chronic heart failure. On examination his pulse is 90 regular, BP 140/90 mmHg, heart sounds normal, chest auscultation did not reveal any abnormalities. He is currently taking lisinopril 30 mg OD and furosemide 80 mg OD. What is the best treatment option?

1- Amiodarone

**2- Carvedilol**

3- Digoxin

4- Spironolactone

5- Valsartan

Q1739. A 47-year-old obese lady presents to the Emergency department with a two hour history of central chest pain. This is associated with sweating and breathlessness. The patient has a history of hypertension and diabetes. Her resting 12 lead ECGs demonstrate significant ST depression in the lateral leads. She has been given 300 mg aspirin by the paramedics. You call the cardiology registrar on-call to discuss the case. There is an on-site cardiac intervention laboratory equipped to manage unstable patients. In discussion with the cardiology registrar, he asks your opinion on the patient's bleeding risk. From the list, which of these features is associated with a higher bleeding risk?

1- Diabetes

**2- Low body weight**

3- Obesity

4- Use of proton-pump inhibitors

5- Younger age

Q1740. An elderly lady is admitted to the Emergency department with an episode of syncope. She has a history of high blood pressure on bendroflumethiazide. On examination her GCS is 15/15. Blood pressure is 135/78 mmHg. Pulse is 60 regular. Cardiovascular and respiratory examination is normal. A focussed neurological examination is also normal. A 12 lead ECG demonstrates sinus rhythm with a normal axis. The corrected QT interval is 540 ms. You are concerned this patient has had a ventricular arrhythmia leading to syncope. You send bloods urgently for electrolyte estimation. Which of the following biochemical abnormalities can lead to this problem?

1- Hypercalcaemia

2- Hyperkalaemia

3- Hypoglycaemia

**4- Hypomagnesaemia**

5- Low TSH

Q1741. A 67-year-old man presents to the Emergency department with uncontrolled nausea and vomiting. He has a long history of COPD for which he takes high dose Seretide and theophylline tablets and has recently been prescribed some antibiotics by his GP for an exacerbation. On examination his BP is 142/72 mmg, his pulse is 92 and regular. Auscultation of the chest reveals wheeze and coarse crackles. Investigations reveal: Haemoglobin 13.4 g/dl(13.5-17.7) White cell count 7.1 x 109 /L (4-11) Platelets 172 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 3.0 mmol/l (3.5-5) Creatinine 115 micromol/l (79-118) Which of the following antibiotics is he most likely to have been prescribed?

1- Amoxicillin

2- Azithromycin

3- Cefuroxime

**4- Clarithromycin**

5- Doxycycline

Q1742. A 69-year-old woman presented with an ulcer over the left ankle, which had developed over the previous nine months. She had a history of right deep vein thrombosis (DV T) five years previously. On examination she had a superficial sloughbased ulcer, 6 cm in diameter, over the medial malleolus with no evidence of cellulitis. Which one of the following is the most appropriate next investigation?

**1- Ankle-brachial pressure index**

2- Bacteriological swab of the ulcer

3- Bilateral lower limb arteriogram

4- Right leg venogram

5- Venous duplex ultrasound scan

Q1743. A 65-year-old African man with a known history of hypertension presents with ankle oedema after taking an antihypertensive prescribed by his general practitioner. He is now found to have a blood pressure of 180/100 mmHg. Which of the following would be the preferred drug for this patient?

1- Amlodipine

2- Atenolol

**3- Bendroflumethiazide**

4- Ramipril

5- Verapamil

Q1744. Which of the following is first to rise following myocardial infarction (M I) ?

1- CK-MB

2- Creatine phosphokinase

3- Lactate dehydrogenase

**4- Myoglobin**

5- Troponin I

Q1745. A 55-year-old man attends for an insurance medical review. He has a family history of ischaemic heart disease and has been feeling tired of late. Investigations reveal: Total cholesterol 6.8 mmol/L (<5.2) HDL cholesterol 0.9 mmol/L (>1.55) Triglycerides 2.2 mmol/L (0.45-1.69) Free thyroxine 10 pmol/L (10-22) TSH 22.5 mU/L (0.4-5) What is the most appropriate treatment for this man's dyslipidaemia?

1- 3-Omega fish oils

2- Atorvastatin

3- Ezetimibe

4- Gemfibrozil

**5- Thyroxine**

Q1746. A 72-year-old woman presented with acute severe chest pain with an ECG revealing ST segment elevation in leads II, III and aVF. She was treated with thrombolysis but two days later became acutely unwell. Examination revealed a loud systolic murmur at the apex which radiated into the axilla with associated pulmonary oedema. What is the most likely diagnosis?

1- Acute left ventricular failure

2- Cardiogenic shock

3- Pericarditis

**4- Ruptured papillary muscle**

5- Ventricular septal defect

Q1747. Which one of the following is a contraindication to thrombolysis?

1- Age over 75 years

2- Asthma

3- Background diabetic retinopathy

**4- Pregnancy**

5- The presence of atrial fibrillation

Q1748. A 70-year-old man is referred by his GP for management of recently diagnosed congestive heart failure. The patient has a history of poorly controlled hypertension. Over the last three months he has been aware of deteriorating shortness of breath, fatigue, and orthopnoea. Over the last month he had been commenced on digoxin (62.5 µg dail y) , furosemide (80 mg dail y) , and amiloride 10 mg. On examination he has a pulse of 96 bpm regular, a blood pressure of 132/88 mmHg. His JVP was not raised, he had some scattered bibasal crackles on auscultation with a displaced apex beat in the anterior axillary line, sixth intercostal space. Auscultation of the heart revealed no murmurs and he had peripheral oedema to the mid tibia. Investigations showed: Serum Sodium 144 mmol/L(137-144) Serum Potassium 3.5 mmol/L(3.5-4.9) Serum Urea 8 mmol/L(2.5-7.5) Serum Creatinine 135 µmol/L(60-110) Serum digoxin 0.7 ng/mL(1.0-2.0) One month previously his urea had been 6 mmol/L and creatinine 110 µmol/L. An ECG reveals left ventricular hypertrophy and chest x ray shows cardiomegaly and calcified aorta. What is the most appropriate next step in management?

**1- Add an ACE inhibitor to the current regimen**

2- Add atenolol at a dose of 25 mg daily

3- Increase digoxin to 0.25 mg daily

4- Increase furosemide to 80 mg twice daily

5- Maintain on current therapy

Q1749. A 17-year-old girl was found collapsed and drowsy. Her 12-lead ECG showed a sinus tachycardia of 120 beats per minute with a corrected QT interval of 500 ms (normal <470). Which of the following drugs is the most likely cause of her presentation?

1- Amphetamine

**2- Diphenhydramine**

3- Glue sniffing

4- Methadone

5- Methanol

Q1750. A 30-year-old pregnant patient is referred to the cardiology clinic with a history of regular fast palpitations. The gestational age is 27 weeks. There is no history of collapse and the patient is usually fit and well. You examine the patient. Pulse is 105 and regular and the blood pressure is 105/80 mmHg. Venous pressure is not elevated. Heart sounds are normal and a resting 12 lead ECG shows sinus rhythm only. Regarding the normal pregnancy, which from the list below is an expected physiological change?

1- Bradycardia

2- Elevated JVP

3- Hypertension

4- Reduced stroke volume

**5- Tachycardia**

Q1751. A 40-year-old man has a hygienist appointment with his dentist for scaling. He is known to have a congenital bicuspid aortic valve. Which of the following is the most appropriate form of prophylaxis against endocarditis?

1- Amoxicillin 1 g IV + gentamicin 120 mg IV pre-procedure

2- Amoxicillin 3 g PO pre-procedure

3- Gentamicin 120 mg IM pre-procedure

4- Metronidazole 1 g PO pre-procedure

**5- No antibiotics required**

Q1752. A 75-year-old man is admitted to hospital with acute coronary syndrome and is diagnosed with a myocardial infarction (M I) . Four days later he develops a further episode of chest pain with non-specific ST-T wave changes on the ECG. Which of the following cardiac enzymes would be the most appropriate for deciding if this second episode was a further MI?

1- AST

**2- CK-MB**

3- LDH

4- Troponin I

5- Troponin T

Q1753. A 68-year-old man has been very ill for months following the onset of chronic liver disease with hepatitis C infection. He experiences a sudden loss of consciousness and then exhibits hemiplegia on the right. A cerebral angiogram reveals lack of perfusion in the left middle cerebral artery distribution. What is the most likely cardiac lesion to be associated with this finding?

1- Acute rheumatic fever

2- Left atrial myxoma

3- Libman-Sacks endocarditis

**4- Non-bacterial thrombotic endocarditis**

5- Paradoxical thromboembolus

Q1754. A 32-year-old female who is 14 weeks pregnant in her third pregnancy is found to have a blood pressure of 152/88 mmHg. There are no other abnormalities of note on examination. She has a BMI of 33.3 kg/m2 and urinalysis is otherwise normal. An ECG reveals left ventricular hypertrophy (LV H) . What is the most likely aetiology of her elevated blood pressure?

**1- Essential hypertension**

2- Pre-eclampsia

3- Pregnancy-induced hypertension

4- Secondary hypertension

5- White coat (factitou s) hypertension

Q1755. A publication reports the outcome of a new statin therapy in a placebo controlled primary prevention of ischaemic heart disease in a diabetic population. 1000 patients were randomised to receive the new therapy and 1000 allocated to placebo. The study was completed over a five year period. In the placebo group there were 150 myocardial infarcts and in the group treated with the new statin there were 100 infarcts. What is the relative risk reduction of MI afforded by statin therapy?

1- 15%

2- 25%

**3- 33%**

4- 40%

5- 50%

Q1756. A publication reports the outcome of a new statin therapy in a placebo controlled primary prevention study of ischaemic heart disease in a diabetic population. 1000 patients were randomised to receive the new therapy and 1000 allocated to placebo. The study was completed over a five year period. In the placebo group there were 150 myocardial infarcts (M I) and in the group treated with the new statin there were 100 infarcts. What is the annual percentage of myocardial infarction in the diabetic population treated with placebo?

1- 1%

**2- 3%**

3- 5%

4- 7%

5- 10%

Q1757. Which of the following is the most likely mechanism by which aspirin exerts its beneficial effects in patients with coronary artery disease?

1- Anti-inflammatory action

**2- Cyclo-oxygenase (CO X) inhibitition**

3- Glycoprotein IIB/IIIA receptor inhibitition

4- Inhibitition of binding of adenosine diphosphonate (AD P) to its platelet receptor

5- Structural changes in platelets

Q1758. A 70-year-old man is admitted with an acute Q wave inferior myocardial infarction (M I) . On day five, he suddenly develops pulmonary oedema and a loud systolic murmur. Which of the following would be the most useful in establishing a diagnosis?

1- Chest x ray

2- Coronary arteriography

3- ECG

**4- Right heart catheterisation and oximetry**

5- Serum cardiac enzymes

Q1759. A 44-year-old man has had no major medical problems throughout his life, except for arthritis pain involving all extremities for the past couple of years. He has had worsening orthopnoea and ankle oedema in the past six months. He is afebrile. There is no chest pain. A chest x ray shows cardiomegaly with both enlarged left and right heart borders, along with pulmonary oedema. Laboratory test findings include: Sodium 139 mmol/l (137-144) Potassium 4.3 mmol/l (3.5-4.9) Urea 7 mmol/l (2.5-7.5) Creatinine 95 µmol/l (60-110) Glucose 8.6 mmol/l (3.0-6.0) Which of the following additional laboratory test findings is he most likely to have?

1- Anti-centromere antibody titre of 1:320

2- Erythrocyte sedimentation rate of 79 mm/hr

3- Haemoglobin of 10.7 g/dl with MCV of 72 fl

**4- Serum ferritin of 3400 pmol/l**

5- Spherocytes in his peripheral blood smear

Q1760. A 21-year-old man with hypertrophic cardiomyopathy presents in clinic with dizzy spells but has not had any syncopal episodes. Which of the following, if present, would indicate an increased risk of sudden cardiac death?

1- Asymmetric septal hypertrophy with maximum wall thickness of 2.1 cm

**2- Blood pressure drop of 20 mmHg during peak exercise tolerance testing**

3- Left ventricular outflow tract gradient of 80 mmHg

4- Systolic anterior movement of the mitral valve on echocardiography

5- Worsening exertional angina

Q1761. Your next patient in the care of the elderly clinic is a 79-year-old lady who you initially saw two months ago with a history of palpitations. She has a history of stable coronary artery disease (CA D) and controlled hypertension on bendroflumethiazide. She remains active and lives alone independently. When you saw her last you sent her for an echo. This demonstrates good LV function, mild concentric LVH and a dilated LA (AP diameter 5.7 c m) . A 24 hour ECG has shown AF throughout, maximal rate 135. On questioning during this consultation she has noted a few episodes of palpitations lasting a few hours. Today her ECG confirms AF. What is the most appropriate initial management of her arrhythmia?

1- Arrange DC cardioversion

2- Start amiodarone

**3- Start bisoprolol**

4- Start digoxin

5- Start sotalol

Q1762. An 83-year-old man is referred to the cardiology clinic with a history of palpitations. He presented to his GP after two days of fast, irregular palpitations. The GP noted an irregular pulse and a 12 lead ECG confirmed atrial fibrillation. He has been referred to you for assessment. In clinic today he is in sinus rhythm. His usual state of health is good; he lives independently with this wife and suffers from controlled hypertension. He has read in the newspaper about stroke risk associated with AF and asks if he needs any medication to reduce his risk. From the list, select the most appropriate response.

1- Aspirin 75 mg once a day

2- Aspirin 300 mg once a day

3- Clopidogrel 75 mg once a day

4- No anticoagulation necessary

**5- Warfarin, dose adjusted to INR**

Q1763. A 55-year-old non-smoker presents to the acute medical take with a one month history of chest pain on exertion. There has been no rest pain or deterioration in symptoms. You perform a full assessment in the Emergency department including a resting 12 lead ECG, which is normal. He is normotensive. His total cholesterol is 5.2. He is not diabetic. Based on your assessment you feel that he does not need admission. On the post-take ward round your consultant (who is a cardiologis t) agrees but asks you to recommend the next investigation based on current NICE guidelines. From the list below, select the most appropriate response to your consultant's question.

1- Cardiac CT with calcium scoring

2- Cardiac MR

3- Dobutamine stress echocardiography

4- Exercise tolerance test

**5- Invasive coronary angiogram**

Q1764. A 35-year-old healthy woman has a faint systolic murmur on physical examination. An echocardiogram is performed, and she is found to have a bicuspid aortic valve. In explaining the meaning of this finding to her, which is the most appropriate statement?

**1- An aortic valve replacement is eventually likely to be required**

2- Other family members are likely to have the same condition

3- She should be treated with a cholesterollowering agent

4- The problem has resulted from past injection drug usage

5- This is one manifestation of an underlying autoimmune disease process

Q1765. A 23-year-old man attended his local NHS walk-in centre with a history of chest pains. The doctor arranged a 12 lead ECG which he is surprised to find suggests left ventricular hypertrophy. The doctor decides to refer the patient to the local acute medical department. The patient is admitted and the next day has a transthoracic echocardiogram. This demonstrates asymmetric septal hypertrophy with a small LV cavity. Systolic function appears normal. The cardiologist explains the diagnosis of probable hypertrophic cardiomyopathy. On the ward round the next day the patient is worried about the associated risk of death. Which of the features listed is a recognised risk factor for sudden cardiac death?

1- Atrial fibrillation

**2- Drop in systolic blood pressure of 25 mmHg on exercise**

3- Mitral regurgitation

4- Older age at diagnosis

5- Systolic anterior motion of the mitral valve leaflets

Q1766. A 22-year-old man undergoes ECHO screening for HOCM. His father died suddenly at the age of 43, and was found on post mortem to have underlying HOCM. On further questioning it transpires that there is a family history of sudden cardiovascular death. On examination his BP is measured at 142/84 mmHg. His pulse is 78 and regular. There is a double apex beat and a mid-systolic murmur. ECHO reveals a septal wall thickness of 3.3 cm. Which of the following factors is most closely linked to his 20 year risk of sudden cardiac death?

1- BP of 142/84 mmHg

2- Double apex beat

3- History of sudden cardiac death in the family

4- Intensity of his systolic murmur

**5- Septal wall thickness of 3.3 cm**

Q1767. A 72-year-old man presented following three episodes of transient loss of consciousness not associated with chest pain. There was a previous history of an anterior myocardial infarction. On examination his blood pressure was 140/80 mmHg and the apex beat was diffuse in character and displaced to the left. There were no neurological signs. The ECG showed sinus rhythm with occasional ventricular extrasystoles, deep anterior Q waves and ST segment elevation in leads V2 - V6, without reciprocal depression. Which one of the following would be the most appropriate initial course of action?

1- Administer tissue plasminogen activator

2- Arrange an electroencephalogram

3- Arrange immediate computerised tomography (C T) brain scan

**4- Observe in the coronary care unit**

5- Proceed to coronary arteriography

Q1768. A study reveals an immediate rise in blood pressure following infusion of a hormone in normal volunteers. Which of the following is the most likely hormone used in this study?

1- Angiotensin I

**2- Angiotensin II**

3- Atrial natriuretic peptide (AN P) 4- Brain natriuretic peptide (BN P) 5- Prolactin

Q1769. A 65-year-old male with left ventricular systolic dysfunction was dyspnoeic on climbing stairs but not at rest. The patient was commenced on ramipril and furosemide. Which one of the following drugs would improve the patient's prognosis further?

1- Amiodarone

2- Digoxin

3- Diltiazem

4- Isosorbide mononitrate

**5- Metoprolol**

Q1770. A 74-year-old man presented with acute pain, pallor and absent pulses in his right leg. Investigations revealed an embolus in his femoral artery. What is the most likely source of this embolus?

1- Marantic endocarditis

2- Paradoxical emboli

3- Rheumatic endocardial vegetations

4- Right ventricular thrombi

**5- Thrombi from an atheromatous aorta**

Q1771. A 62-year-old man has experienced substernal chest pain upon exertion with increasing frequency over the past one year. An electrocardiogram shows T wave inversion in the anterolateral leads at rest. He has a total serum cholesterol of 7.0 mmol/l (<5.2). On angiography, he has an 85% narrowing of the left anterior descending (LA D) artery. Which of the following events is most likely to occur in this patient?

1- A systemic artery embolus from a left atrial mural thrombus

**2- A systemic artery embolus from a left ventricular mural thrombus**

3- A systemic artery embolus from thrombosis in a peripheral vein

4- Pulmonary embolism from a left ventricular mural thrombus

5- Pulmonary embolism from thrombosis in a peripheral vein

Q1772. Which of the following statements is true of coronary artery anatomy?

**1- Right bundle branch block in acute anterior myocardial infarction suggests obstruction prior to the first septal branch of the left anterior descending coronary artery**

2- The AV node is supplied by the left anterior descending coronary artery

3- The left main stem is about 4 cm long

4- The posterior descending artery is usually a branch of the circumflex artery

5- The sinus node is supplied by a branch of the right coronary in over 90% of subjects

Q1773. A 43-year-old man is on the coronary care unit after suffering a large anterior myocardial infarction. Fortunately he recovered well following timely reperfusion treatment. After the ward round his wife asks for some advice on how he can reduce the risk of this happening again. From the list of activities below, which is recommend by NICE for secondary prevention of myocardial infarction?

**1- 20-30 minutes of physical activity a day**

2- Abstain from alcohol

3- Beta-carotene supplements

4- Cut down cigarette use

5- Vitamin E supplements

Q1774. A 60-year-old man presents with features of left ventricular failure. He is comfortable at rest but ordinary physical activity results in fatigue and shortness of breath. Which of the following New York Heart Association's classifications best match the severity of this man's disease?

1- Normal

2- NYHA Class I

**3- NYHA Class II**

4- NYHA Class III

5- NYHA Class IV

Q1775. A 16-year-old profoundly deaf boy on holiday in the United Kingdom from Denmark presents with recurrent episodes of syncope and is found to have a long QT interval on his ECG. His faxed medical records indicate that he has Jervell and Lange-Nielsen syndrome. Which of the following genes is affected in this condition?

1- CACNA1c gene

2- Caveolin 3 related gene

3- Human ether-à-go-go related gene (hER G) 4- KCNQ1 gene

5- SCN5A gene

Q1776. An elderly man with a history of asthma, congestive heart failure, and peptic ulcer disease is admitted with bronchospasm and rapid atrial fibrillation. He is given nebulised salbutamol frequently, a loading dose of oral digoxin, and oral prednisolone. His regular medications are continued. 24 hours after admission his plasma potassium is noted to be 2.8 mmol/l. Which of his medications is most likely to have caused this abnormality?

1- ACE inhibitor

2- Digoxin

3- Ranitidine

**4- Salbutamol**

5- Spironolactone

Q1777. Which of the following cardiac drugs shorten the QT interval?

1- Amiodarone

**2- Digoxin**

3- Moxonidine

4- Sodium nitroprusside

5- Sotalol

Q1778. A 68-year-old lady presents to her GP for an annual review of her heart failure treatment. She has a blood pressure of 165/90 mmHg. She is currently taking furosemide and aspirin and she experiences dyspnoea on walking up hills. Which of the following is the most appropriate medication to add?

1- Bendroflumethiazide

**2- Enalapril**

3- Isosorbide mononitrate

4- Spironolactone

5- Titrate dose of furosemide

Q1779. A 66-year-old man with insulin-dependent diabetes given ibuprofen for a knee injury is admitted with palpitations. His electrocardiogram (EC G) shows a rate of 105 beats per minute, with absent P waves and tall T waves. His urea and electrolytes show: Sodium 132 mmol/l (137-144) Potassium 6.4 mmol/l (3.5-4.9) Urea 11 mmol/l (2.5-7.5) Creatinine 180 µmol/l (60-110) In this scenario, which of the following is the most appropriate immediate management?

**1- Calcium chloride 10 mmol IV**

2- Calcium resonium orally

3- Dextrose 50 mls 50% with 10 units insulin

4- Dialysis

5- Furosemide 1 mg/kg IV

Q1780. A 43-year-old gentleman develops chest pain seven minutes after fibreoptic bronchoscopy. The procedure had been performed without sedation following an intratracheal injection of 5 ml 2.5% cocaine solution and xylocaine spray to the pharynx for topical anaesthesia. ECG showed an evolving anterior myocardial infarction. Which of the following would you prefer for his management?

1- Beta-blockers

**2- Nitrates**

3- Percutaneous transluminal coronary angioplasty

4- Thrombolysis with rt-PA

5- Thrombolysis with streptokinase

Q1781. A 50-year-old male is admitted with a three hour history of central chest pain sweating and nausea. He has no relevant past medical history although his father died of an MI at the age of 48 and he is a smoker of five cigarettes per day. He currently takes no medication. He is seen in the morning on the consultant ward round 12 hours after admission and his pain has now settled. Examination reveals no specific abnormality and his ECG is normal. Which of the following investigations would be most appropriate at this point for this patient?

1- Coronary angiography

2- Echocardiography

3- Endoscopy

4- Exercise ECG

**5- Troponin T**

Q1782. Which one of the following cardiac enzymes would be expected to begin to increase between 12-24 hours after a myocardial infarction?

**1- Aspartate transaminase (AS T) 2- Creatine kinase (C K) 3- LDH**

4- Troponin I

5- Troponin T

Q1783. Primary prevention trials for the treatment of hypercholesterolaemia reveal a reduction in all-cause mortality following treatment with which of the following?

1- Fibrates

2- Fish oils

3- Nicotinic acid

4- Resins

**5- Statins**

Q1784. 1. Aorta 2. Aortic valve 3. Left atrium 4. Left ventricle 5. Right atrium 6. Right ventricle 7. Mitral valve 8. Pulmonary artery 9. Pulmonary valve 10. Pulmonary vein 11. Tricuspid valve 12. Vena cava In which order does blood flow through a normal heart?

**1- 12-5-11-6-9-8-10-3-7-4-2-1**

2- 12-5-11-6-8-9-10-3-7-4-2-1

3- 12-5-11-6-9-10-8-3-7-4-2-1

4- 12-5-7-6-9-8-10-3-11-4-2-1

5- 12-3-11-4-9-8-10-5-7-6-2-1

Q1785. In a trial of a new drug the following results were obtained: Improved Not improved Treatment group 44 16 Placebo group 36 26 Which of the following statements regarding the statistical analysis or interpretation of the trial is true?

1- A Student's t test could be used

2- Pearson's co-efficient of linear regression would be an appropriate significance test

**3- The data could be evaluated using the chisquare test**

4- The numbers are too small to draw any conclusions

5- The results so obviously show the benefit of treatment that statistical analysis is not required

Q1786. On auscultation of a patient's heart you hear a pan-systolic murmur. With which of the following conditions is this murmur associated?

1- Aortic regurgitation

2- Coarctation of the aorta

3- Mitral stenosis

4- Pulmonary stenosis

**5- Ventricular septal defect**

Q1787. Which of the following mechanisms best explains the action of fibrates?

1- Bile acid sequestration

2- Decreases hepatic cholesterol synthesis

**3- Increased lipoprotein lipase activity via PPAR-alpha**

4- Increases peroxisomal beta-oxidation of fatty acids

5- Inhibits cholesterol absorption

Q1788. A 54-year-old obese man with a history of angina and hypertension presents with central crushing chest pain of two hours duration. High flow oxygen, sublingual GTN and aspirin are administered and venous access is obtained. Whilst being attached to an ECG monitor he collapses, with a doctor present, and the initial rhythm is pulseless ventricular tachycardia (V T) . The external defibrillator is located two minutes away on another ward. Which of the following is the most appropriate immediate treatment for this man?

1- A ventilation to compression ratio of 30:2 should be commenced

2- Await arrival of defibrillator, then deliver shock

3- Continuous chest compressions should be started

**4- He should be given a precordial thump**

5- Intravenous adrenaline should be given

Q1789. A 50-year-old man with hypertension already on furosemide, ramipril and digoxin is found to have poor left ventricular function on echocardiogram. Which antihypertensive should be added?

**1- Carvedilol**

2- Diltiazem

3- Doxazosin

4- Hydralazine

5- Nifedipine

Q1790. A 26-year-old professional footballer collapses while playing football. He is rushed to the the Emergency department, and is found to be in ventricular tachycardia. He is defibrillated successfully and his 12 lead ECG demonstrates normal sinus rhythm, without ST segment changes. Ventricular tachycardia recurs and despite prolonged resuscitation, he dies. What is the most likely diagnosis?

1- Aortic stenosis

2- Cocaine intoxication

**3- Hypertrophic cardiomyopathy**

4- Myocardial infarction

5- Pulmonary embolism

Q1791. A 17-year-old girl is short in stature for her age. She has not shown any changes of puberty. She has a webbed neck. Her vital signs include temperature 36.6°C, respiratory rate 18/min, pulse 75 bpm and BP 165/85 mmHg. On physical examination, she has a continuous murmur heard over both the front of the chest as well as her back. Her lower extremities are cool with poor capillary filling. A chest radiograph reveals a prominent left heart border, no oedema or effusions, and rib notching. Which of the following pathologic lesions best explains these findings?

**1- Constriction of the aorta past the ductus arteriosus**

2- Lack of development of the spiral septum and partial absence of conus musculature

3- Shortening and thickening of chordae tendineae of the mitral valve

4- Single large atrioventricular valve

5- Supravalvular narrowing in the aortic root

Q1792. A 75-year-old man with a history of anterior MI is taking amiodarone 400 mg/day for history of VT. He has a prolonged QT interval on his ECG. What is the most appropriate management?

1- Admit to hospital for monitoring

2- Atenolol

3- Change amiodarone to flecainide

4- Continue with amiodarone

**5- Discontinue amiodarone immediately**

Q1793. A 60-year-old man with a past history of controlled hypertension presents with acute onset weakness of his left arm, that resolved over 12 hours. He had suffered two similar episodes over the last three months. Examination reveals a blood pressure of 132/82 mmHg and he is in atrial fibrillation with a ventricular rate of 85 per minute. CT brain scan is normal. What is the most appropriate management?

1- Amiodarone

2- Aspirin

3- Digoxin

4- Dipyridamole

**5- Warfarin**

Q1794. A 27-year-old fit and healthy male has an ECG as part of his medical examination for employment as a pilot. The ECG reveals delta waves, indicating Wolff-Parkinson-White syndrome. What is the most appropriate treatment for this patient?

1- Atenolol

2- Flecainide

3- Radio-frequency ablation

**4- Reassurance**

5- Verapamil

Q1795. A 37-year-old female patient who is undergoing treatment for breast cancer is admitted to the acute medical assessment unit with a seven day history of increasing breathlessness. On examination she looks breathless. Her JVP is elevated with prominent "x" and "y" descents. The heart sounds are soft. A 12 lead ECG shows low voltage complexes. Transthoracic echocardiography shows pericardial thickening with a restrictive Doppler pattern. With regard to the investigation findings, what is the most likely cause of this patient's pericardial disease?

1- Dermatomyositis

**2- Mediastinal irradiation**

3- Scleroderma

4- SLE

5- Uraemia

Q1796. A 67-year-old man presents to the Emergency department with uncontrolled nausea and vomiting. He has a long history of COPD for which he takes high dose Seretide and theophylline tablets and has recently been prescribed some antibiotics by his GP for an exacerbation. On examination his BP is 142/72 mmHg, his pulse is 92 and regular. Auscultation of the chest reveals wheeze and coarse crackles. Investigations show: Haemoglobin 13.4 g/dl(13.5-17.7) White cell count 7.1 x 109 /L (4-11) Platelets 172 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 3.0 mmol/l (3.5-5) Creatinine 115 µmol/l (79-118) Which of the following antibiotics is he most likely to have been prescribed?

1- Amoxicillin

2- Azithromycin

3- Cefuroxime

**4- Clarithromycin**

5- Doxycycline

Q1797. For which of the following are β blockerss not recommended as first line therapy?

1- Chronic heart failure

**2- Hypertension**

3- Angina

4- Myocardial infarction

5- Permanent atrial fibrillation with rapid ventricular rate

Q1798. Which of the following mechanisms best explains the action of simvastatin?

1- Activates PPAR-alpha

2- Bile acid sequestration

**3- Decreases hepatic cholesterol synthesis**

4- Increases peroxisomal beta-oxidation of fatty acids

5- Inhibits cholesterol absorption

Q1799. A 50-year-old man is being treated for hypertension and has been told by his dentist that he has gingival hyperplasia. Which of the following medications is the most likely to be the cause?

1- Atorvastatin

2- Carvedilol

3- Doxazosin

**4- Nifedipine**

5- Telmisartan

Q1800. A 65-year-old is investigated for dyspnoea and is shown to have an ejection fraction of 45% on echocardiography. How is left ventricular ejection fraction calculated?

1- Cardiac output/stroke volume

2- End diastolic volume/end systolic volume

3- End diastolic volume/stroke volume

4- End systolic volume/end diastolic volume

**5- Stroke volume/end diastolic volume**

Q1801. A 42-year-old male admitted with dyspnoea is noted to have a murmur suggestive of mitral stenosis. The presence of which of the following clinical signs suggests that the mitral valve is mobile?

1- A soft first heart sound

2- A third heart sound

3- Fourth heart sound

4- Loud second heart sound

**5- Opening snap**

Q1802. A 72-year-old man is admitted with fast atrial fibrillation but is receiving treatment with digoxin. An inadequate dose is suspected. A sample of blood is drawn six hours after the last dose of digoxin and a plasma concentration is requested. Which of the following factors explains the six hour wait before measuring the digoxin concentration?

1- Enterohepatic circulation

2- The rate of absorption

3- The rate of clearance

**4- The rate of distribution**

5- The rate of elimination

Q1803. Which of the following findings is the most specific for a diagnosis of myocardial infarction?

1- An akinetic area of LV wall motion on ECHO

2- Elevated cardiac enzymes

**3- Evolution of Q waves on ECG**

4- History of severe chest pain

5- ST elevation on ECG

Q1804. A 17-year-old female is found to have a cardiac murmur characterised by a midsystolic click. An echocardiogram reveals mitral insufficiency with upward displacement of one leaflet. There is also aortic root dilation to 4 cm. She has a dislocated right ocular crystalline lens. She dies suddenly and unexpectedly. The medical examiner finds a prolapsed mitral valve with elongation, thinning, and rupture of chordae tendineae. A mutation involving which of the following genes is most likely have be present in this patient?

1- Beta-myosin

2- CFTR

3- FGFR

**4- Fibrillin**

5- Spectrin

Q1805. A randomised, double-blind, placebo controlled trial of a cholesterol-lowering drug in the primary prevention of coronary heart disease is reported. 1000 subjects are treated with the active drug, and 1000 are given placebo. They are followed up over a five year period and 100 individuals in the placebo group and 80 in the treatment group suffer a myocardial infarction (M I) . What is the annual percentage risk of myocardial infarction in the group treated with placebo?

1- 0.5%

**2- 2%**

3- 5%

4- 8%

5- 10%

Q1806. You have shown an interest in paediatric cardiology and your clinical supervisor has arranged for you to attend some clinics with the visiting paediatric cardiologist. You have a very interesting session and you were particularly interested in the patients you saw with ventricular septal defects (VSD s) . After this session you have been stimulated to do some self-directed learning and want to read about VSDs. As part of your reading you learn about the anatomical classification of VSDs and the frequency of each type. During your reading, what did you discover to be the most common site for a VSD?

1- Muscular - inlet

2- Muscular - outlet

3- Muscular - trabecular

**4- Perimembranous**

5- None of the above

Q1807. An 84-year-old female with permanent atrial fibrillation, ischaemic heart disease with well preserved left ventricular systolic function and mild COPD is due elective surgery for a large abdominal aortic aneurysm. Choose the most appropriate drug from the list to reduce peri-operative cardiac risk in this patient.

**1- Atenolol**

2- Carvedilol

3- Metoprolol

4- Oxprenolol

5- Sotalol

Q1808. A 16-year-old female 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

Q1809. A 70-year-old man is admitted to the cardiology ward with a diagnosis of Streptococcus bovis infective endocarditis. Which of the following investigations would be indicated?

**1- Colonoscopy**

2- Cystoscopy

3- Lymph node biopsy

4- Sialogram

5- Thoracoscopy

Q1810. A 69-year-old man presents with sudden onset tearing chest pain that radiated through to his back. He is sweaty. His BP is 140/90 mmHg and pulse 95 bpm. A CXR shows a widened mediastinum and CT scan confirms an aortic dissection of the descending aorta. Which of the following is the most appropriate initial management of this patient?

1- Immediate surgical referral

**2- IV labetolol**

3- Observe on high dependency unit

4- Refer for cardiac catherisation

5- Verapamil orally

Q1811. A 34-year-old male presents with palpitations. The ECG shows a slurred upstroke in the QRS complexes in the chest leads. What is the treatment of choice?

1- Amiodarone

2- Aspirin

3- Diltiazem

**4- Radiofrequency ablation**

5- Warfarin

Q1812. A 35-year-old female presents with chest pain on exertion. On examination she has yellow discolouration of her palmar creases and a diagnosis of remnant hyperlipidaemia (type III hyperlipidaemi a) is made. What is the cause of this hyperlipidaemia?

1- Apo CIII homozygosity

**2- Apo E-2 homozygosity**

3- LCAT deficiency

4- LDL receptor deficiency

5- Lipoprotein lipase deficiency

Q1813. A 60-year-old man takes atenolol for hypertension. Which of the following side effects is he most likely to be aware of two hours after taking atenolol?

**1- Fatigue**

2- Hesitancy of micturition

3- Nausea

4- Orthostatic hypotension

5- Somnolence

Q1814. A 30-year-old man presented with a history of transient loss of consciousness and palpitation. His ECG showed ventricular tachycardia (V T) . Which one of the following treatments should be avoided?

1- Adenosine

2- Amiodarone

3- DC cardioversion

4- Flecainide

**5- Verapamil**

Q1815. A 65-year-old man was advised to start oral digoxin at a dose of 250 µg daily. His physician explained that the full effect of this treatment would not be apparent for at least a week. Which one of the following pharmacokinetic variables did the physician use to give this explanation?

1- Bioavailablity

**2- Half life**

3- Plasma protein binding

4- Renal clearance

5- Volume of distribution

Q1816. Which of the following antimicrobials is associated with prolongation of the QT interval?

1- Cefuroxime

2- Co-amoxiclav

**3- Erythromycin**

4- Gentamicin

5- Isoniazid

Q1817. Your next patient in the care of the elderly clinic is a 77-year-old man with a history of hypertensive heart disease leading to congestive cardiac failure. Unfortunately, in the past few months his symptoms have worsened and he is becoming house bound. His wife accompanied him and is worried about his state. She asks you directly 'how long has he got left'. You tell his wife that certain test results can suggest a worse prognosis. From the list, which blood test result suggests a worse prognosis in heart failure?

1- Hypocalcaemia

**2- Hyponatraemia**

3- Low serum BNP/ NT-pro-BNP

4- Low serum uric acid

5- Polycythaemia

Q1818. A male infant is rushed to the Emergency department by his parents with a short history of blue lips and breathlessness. His parents are frantic and you arrange admission to the paediatric ward. Two days later you decide to go to the ward to see how the patient is doing. You look through the notes and find a report from a transthoracic echocardiogram. The report mentions displacement of the tricuspid valve towards the apex, a small 'atrialised' and hypoplastic RV, an ASD and tricuspid incompetence. Based on the echo findings, what is the likely diagnosis?

**1- Ebstein's anomaly**

2- Hypoplastic left ventricle

3- Tetralogy of Fallot

4- Truncus arteriosus

5- None of the above

Q1819. You are investigating the use of novel markers which may show myocardial damage within the first three hours after myocardial infarction to see if this may improve early diagnosis of damage. Which of the following is the most appropriate marker?

1- CKMB

**2- Glycogen phosphorylase isoenzyme BB (GPB B) 3- LDH**

4- Troponin I

5- Troponin T

Q1820. A 62-year-old male is admitted with an inferior myocardial infarction (M I) and receives thrombolysis, aspirin, atenolol, simvastatin and lisinopril. His ECG shows good ST segment resolution. The following day he develops some pain in the legs and a dusky discolouration of the lower limbs. On closer examination there is a diffuse petechial rash over the lower legs, particularly the feet, but all peripheral pulses are palpable. Investigations reveal: Haemoglobin 13.3 g/dl(12-16) Platelets 145 x 109 /L (150-400) White cell count 12.1 x 109 /L (4-11) Neutrophils 6.5 x 109 /L (1.5-7) Lymphocytes 3.5 x 109 /L (1.5-4) Eosinophils 1.2 x 109 /L (0.04-0.4) IgE antibody 3 kU/l (<2) Which of the following is the most likely cause for his current problems?

1- Allergic reaction to thrombolysis

2- Aspirin allergy

**3- Cholesterol emboli**

4- Peripheral vascular disease

5- Polyarteritis nodosa

Q1821. A 26-year-old female with a small ventriculoseptal defect (VS D) presents in the sixth week of pregnancy. She has been told that she would need antibiotic prophylaxis for dental surgery, and various other procedures. She asks you to tell her whether she will have to take this during her pregnancy, and if so, at which point it will be needed.

**1- Antibiotic prophylaxis is not indicated**

2- At delivery

3- Onset of labour

4- Second trimester

5- Third trimester

Q1822. A 52-year-old lady presented with a history of crushing central chest pain, sweating and dyspnoea. An ECG confirms acute myocardial infarction with ST elevation in leads V2-V4 and ST depression in leads II and III. Which of the following would be a contraindication to thrombolysis in this lady?

1- History of peptic ulcer disease

**2- Intracranial neoplasm**

3- Menstruation

4- Pre-proliferative diabetic retinopathy

5- Ischaemic stroke 2 years previously

Q1823. A 57-year-old female school cleaner is undergoing investigation for breathlessness. Which of the following is not in keeping with a diagnosis of constrictive pericarditis?

1- Ascites

**2- Elevated JVP with absent y descent**

3- Orthopnoea

4- Peripheral oedema

5- Previous cardiac surgery

Q1824. A 65-year-old woman presents with heart failure. Her echocardiogram shows a restrictive cardiomyopathy but with structurally normal valves. Which one of the following is the most likely cause?

**1- Amyloidosis**

2- Coxsackie infection

3- Down's syndrome

4- Marfan's syndrome

5- Turner's syndrome

Q1825. A 40-year-old man received an orthotopic cardiac transplant seven years ago to treat a dilated cardiomyopathy. Since that time he has been healthy, with no episodes of rejection or infection. Over the next year, however, he develops fatigue with exercise. He has worsening pedal oedema and orthopnoea. On physical examination, his vital signs are temperature 36.3°C, pulse 78, respiratory rate 16, and BP 130/70 mm Hg. There are no murmurs, rubs, or gallops audible. Bibasilar crackles in the lungs are audible. Which of the following conditions is most likely to account for these findings?

1- Angiosarcoma

**2- Coronary arteriopathy**

3- Mitral valvular stenosis

4- Myocarditis

5- Pulmonary hypertension

Q1826. Which of the following is true regarding mitral stenosis?

1- Doppler U/S is usually inaccurate in determining severity

2- In AF, the opening snap disappears

3- It is tolerated well in pregnancy

**4- The opening snap is not heard when the mitral valve is heavily calcified**

5- There is characteristically a low wedge pressure

Q1827. Following a lecture on cardiac physiology, your consultant asks you during a ward round to calculate how much blood (in m l) Mr. Smith's ventricle ejects every time his heart beats. He gives you the following values: Blood pressure: 136/90 mmHg units Cardiac output: 5000 ml/minute Heart Rate: 72/minute Urine output: 5 ml/kg/hr

1- 5ml

2- 20ml

3- 50ml

**4- 70ml**

5- 130ml

Q1828. A young boy is born with a heart murmur that is subsequently diagnosed as Ebstein's anomaly. Which of the following drugs, taken by the mother, may have contributed to this case of congenital heart disease?

1- Amiodarone

2- Carbimazole

**3- Lithium**

4- Phenytoin

5- Warfarin

Q1829. A 55-year-old man with type 2 diabetes mellitus and ischaemic heart disease has been researching the internet! He asks your opinion on laser transmyocardial revascularisation. Which of the following statements about this technique is true?

1- Avoids the need for major surgery

**2- Damages the endocardium**

3- Involves destruction of coronary stenoses

4- Is of particular use in severe proximal coronary artery disease

5- Stimulates collateral vessel formation

Q1830. A 27-year-old fit and healthy male has an ECG as part of his medical examination for employment as a pilot. The ECG reveals delta waves, indicating Wolff-Parkinson-White syndrome. What is the most appropriate treatment for this patient?

1- Atenolol

2- Flecainide

3- Radio-frequency ablation

**4- Reassurance**

5- Verapamil

Q1831. A 67-year-old male is admitted with central chest pain of sudden onset which radiates through to his back. His blood pressure is 160/70 mmHg in his right arm and 140/60 mmHg in his left arm. He has electrocardiographic (EC G) changes in leads II, III and AVF showing ST elevation of 2 mm. What is the most likely diagnosis?

1- Coarctation of the aorta

**2- Dissecting thoracic aortic aneurysm**

3- Inferior myocardial infarct

4- Pancreatitis

5- Perforated duodenal ulcer

Q1832. A 52-year-old man attends a well man clinic. He has a strong family history of ischaemic heart disease, smokes 10 cigarettes per day and drinks approximately 20 units of alcohol per week. On examination, he is obese with a BMI of 32 kg/m2 and has a blood pressure of 152/88 mmHg. His investigations reveal that he has a fasting plasma glucose of 10.5 mmol/L (3.0-6.0), HbA1c of 7.8% or 62 mmol/mol (range 3.

8- 6.4%; 18-46 mmol/mol ) and his cholesterol concentration is 5.5 mmol/L (<5.2). Which of the following would be expected to be most effective in reducing his cardiovascular risk?

1- Improve glycaemic control with metformin

2- Improve hypertensive control with ramipril

3- Reduce cholesterol with simvastatin

**4- Stop smoking**

5- Weight loss with Xenical

Q1833. An 80-year-old male presented with palpitations of five hours duration. One month previously he suffered weakness of the right arm and problems with his speech which resolved within four hours. He was taking no medication. On examination, he was stable with a pulse of 135 beats per minute which was confirmed to be atrial fibrillation on ECG. He had a blood pressure of 112/80 mmHg and appeared clinically euthyroid. Within one hour he reverted to sinus rhythm spontaneously. Echocardiogram was normal but a 24 hour ECG revealed three episodes of atrial fibrillation each lasting around ten minutes. Which one of the following is the most appropriate initial treatment for this patient?

1- Amiodarone

2- Aspirin

3- Atenolol

4- Digoxin

**5- Warfarin**

Q1834. A 63-year-old woman is admitted to hospital with a three day history of diarrhoea and vomiting. Her family tell you she has been virtually unable to eat or drink, but has managed to take her tablets during that time. Her past medical history includes essential hypertension and ischaemic heart disease. Her current medication consists aspirin 75 mg daily, ramipril 5 mg daily, simvastatin 40 mg daily. Her admission bloods demonstrate: Sodium 144 mmol/l137 - 144 Potassium 4.1 mmol/l3.5 - 4.9 Urea 10.8 mmol/l2.5 - 7.5 Creatinine 195 µmol/l60 - 110 Which of the following is most appropriate?

1- Double dose of ramipril

2- Give clopidogrel 300 mg stat

3- Give loperamide

4- Withhold aspirin

**5- Withhold ramipril**

Q1835. A 52-year-old man presents to the clinic having problems controlling his blood pressure, despite taking three antihypertensive agents, ramipril 10 mg, indapamide 2.5 mg, and amlodipine 5 mg. Over the past few weeks he has been monitoring his BP at home and it is rarely below 155/90 mmHg. On examination in the clinic his BP is 160/95 mmHg, his pulse is 85 and regular. He has a left carotid bruit. Respiratory and abdominal examinations are unremarkable. Investigations show: Haemoglobin 12.0 g/dl(13.5-17.7) White cells 6.3 x 109 /L (4-11) Platelets 200 x 109 /L (150-400) Sodium 140 mmol/l (135-146) Potassium 4.8 mmol/l (3.5-5) Creatinine 182 μmol/l (79-118) Renal ultrasound scan showed significant size discrepancy, with the left kidney 2 cm smaller than the right. Which of the following is the most appropriate next investigation?

1- Contrast CT

**2- Duplex ultrasound scanning**

3- IVU

4- Magnetic resonance angiogram

5- Traditional angiography

Q1836. A 16-year-old male presents with acute severe asthma. On examination his peripheral pulse volume fell during inspiration. Which one of the following is the most likely explanation for this clinical sign?

1- A falling heart rate on inspiration

2- Myocardial depression due to hypoxia

3- Peripheral vasodilatation

**4- Reduced left atrial filling pressure on inspiration**

5- The cardiac effect of high dose beta agonist bronchodilator drugs

Q1837. A 72-year-old man with a history of oesophageal carcinoma is recovering on the surgical ward after oesophagogastrectomy. You are asked to see him because he has developed worsening central chest pain, looks pale and sweaty and has dropped his blood pressure to 100/55 mmHg with a pulse of 92. He has bibasal crackles on auscultation of the chest. Investigations show Haemoglobin 10.8 g/dl(13.5-18) White cell count 9.0 x 109 /L (4-10) Platelets 180 x 109 /L (150-400) Sodium 139 mmol/l (134-143) Potassium 4.4 mmol/l (3.5-5) Creatinine 145 μmol/l (60-120) ECG Anterior ST elevation consistent with acute MI Which of the following is the most appropriate management?

**1- Angioplasty**

2- Aspirin, clopidogrel and low molecular weight heparin

3- Aspirin, clopidogrel, low molecular weight heparin and abciximab

4- CABG

5- Thrombolysis

Q1838. Which of the following mechanisms best explains the action of OMACOR (omega-3-acid ethyl ester s) ?

1- Activation of PPAR-alpha

2- Bile acid sequestration

3- Decreases hepatic cholesterol synthesis

**4- Increases peroxisomal beta-oxidation of fatty acids**

5- Inhibits cholesterol absorption

Q1839. A 60-year-old man has left ventricular failure and clinically he is classified as NYHA Class III. He takes furosemide, aspirin and ramipril. The addition of which one of the following betablockers would be expected further to improve his prognosis?

1- Acebutolol

**2- Bisoprolol**

3- Esmolol

4- Propranolol

5- Sotalol

Q1840. A 48-year-old man presents with acute coronary syndrome. On examination he has palmar crease xanthoma. Which of the following is the most likely diagnosis of his lipid abnormalities?

1- Familial combined hyperlipidaemia

2- Familial hypercholesterolaemia

3- Familial hypertriglyceridaemia

4- Lipoprotein lipase deficiency

**5- Remnant hyperlipidaemia**

Q1841. A 62-year-old male who is being treated for stable angina presents with muscle aches and pains. He has been taking simvastatin 40 mg daily, atenolol 50 mg daily together with aspirin 75 mg daily for approximately two years. Recently he was admitted for an episode of acute coronary syndrome and a number of other therapies were added. You suspect a statin-related myopathy and a CPK concentration is 820 iu/l (50-200). Which of the following is most likely to be responsible for the precipitation of his statinrelated myopathy?

1- Bisoprolol

2- Clopidogrel

**3- Diltiazem**

4- Omega-3 fatty acids

5- Spironolactone

Q1842. A 72-year-old man with type 2 diabetes mellitus presented following the sudden onset of palpitations. An ECG revealed rapid atrial fibrillation. He was commenced on amiodarone but the atrial fibrillation persisted. Which of the following has been shown to be of greatest benefit in reducing his future risk of vascular events?

**1- Anticoagulation**

2- Aspirin

3- Continuation of amiodarone

4- DC cardioversion

5- Digoxin

Q1843. A 43-year-old man presents to the Emergency department with a three hour history of chest pain. He has a history of 'angina' diagnosed by his GP. He is awaiting objective assessment to confirm this. His GP started aspirin and gave him a GTN spray with instructions how to use it. The pain came on after walking up a hill but has not gone away. He took three puffs of GTN but this had no significant effect. He looks sweaty and unwell. You review his 12 lead ECG but it looks normal to you. You think this patient has an acute coronary syndrome (AC S) and decide to admit for assessment. Which of the features listed below is a good indicator of presence of acute coronary syndrome?

1- Associated feeling of impending doom

**2- Associated nausea and sweating**

3- Good response to GTN

4- Pain in chest lasting at least one hour

5- Pain which varies with patient's position

Q1844. A 75-year-old lady has been referred to you in the cardiology clinic with a four month history of breathlessness on exertion. She has a 20 year history of hypertension and type II diabetes, controlled with insulin. On questioning she has noted gradually progressive breathlessness with mild ankle oedema. She has noted worsening symptoms at night. On examination her venous pressure is not elevated but there are slight bibasal crackles. Her heart sounds are normal and there is mild oedema. You arrange further tests and follow up. Regarding the heart failure, which of these clinical signs has the greatest sensitivity in detecting heart failure?

1- Oedema

2- Pulmonary crackles

3- Raised jugular venous pressure

4- Tachycardia

**5- Third heart sound**

Q1845. An 82-year-old former soldier with no prior medical history of note was admitted following appendicitis treated with laparoscopic appendicectomy a week previously. At laparotomy the appendix was inflamed though not perforated. The operative notes describe an uncomplicated procedure with minimal blood loss. There were no immediate post-operative issues of note, with stable blood count and biochemistry. The bowels opened at day three, and the patient was back to his usual diet and level of independent mobility by day six. He has lived alone since being widowed over twenty years ago, is fully mobile and self-caring, and feels able to return home without any home help. He is referred to the medical team prior to discharge to address a consistently high systolic blood pressure, ranging around 160 - 170 mmHg, over repeated readings during the course of the admission, with no diurnal variation. Similar readings are obtained from all four limbs, in lying and standing positions. A review of his history indicates that the patient takes over the counter analgesia as required, but has never required medical care. He is a former smoker, but gave up many years ago. He has a good diet, and walks his dog two miles a day. On clinical examination the patient is euvolaemic with an undisplaced apex, normal heart sounds and no bruits. Undilated fundoscopy is normal. Urine dipstick demonstrated a trace of ketones but nil else. The cardiac axis is normal on ECG. Biochemistry, including renal function, fasting glucose and lipid profile, is normal. BMI is calculated at 22 kg/m2 . What is the best strategy to manage this patient's hypertension?

1- 24 hour urine collection to look for proteinuria

2- Aggressively modify lifestyle factors

3- Ambulatory blood pressure monitor

4- Avoid antihypertensives in view of the risk of falls

**5- Offer antihypertensive therapy**

Q1846. A 58-year-old man with a history of schizophrenia on thioridazine is found to have episodes of torsades de pointes ventricular tachycardia (V T) . His blood pressure is 110/70 mmHg. Which of the following is the most appropriate management?

1- IV betablocker

2- IV lidocaine

**3- IV magnesium**

4- Overdrive pacing

5- Synchronised DC cardioversion

Q1847. A 38-year-old teacher attends the hypertension clinic, having been referred via her general practitioner following a sequence of elevated systolic blood pressure readings. Though she is worried about the long term consequences of hypertension she has never trusted the medical profession, is worried about the possible side effects of medication, and wishes to control her blood pressure through alternative therapies. Which of the following interventions is part of currently advocated measures to reduce blood pressure?

1- Acupuncture

2- Ginseng

3- High fibre diet

**4- Meditation**

5- Sodium supplements

Q1848. A 60-year-old woman with ischaemic heart disease is seen for review. She reports that she has developed symmetrical muscle aches and pains and you attribute this to a myalgia associated with simvastatin. Her creatinine kinase is within the normal range. However, her dyslipidaemia management is still sub-optimal and you wish to add in a further agent. Total cholesterol 5.5 mmol/l (<5.2) LDL cholesterol 3.8 mmol/l (<3.36) HDL cholesterol 1.3 mmol/l (>1.55) Triglycerides 1.4 mmol/l (0.45-1.69) You plan to continue the statin treatment. Which of the following agents would be the most appropriate additional therapy for this patient?

1- Cholestyramine

**2- Ezetimibe**

3- Gemfibrozil

4- Nicotinic acid

5- Omega-3 fatty acids

Q1849. Cyanosis is a typical feature of which of the following conditions?

1- Atrial septal defect (AS D) 2- Mitral atresia.

3- Patent ductus arteriosus.(PD A) 4- Total anomalous pulmonary venous drainage.

5- Ventricular septal defect.(VS D)

Q1850. In a normal heart, the oxygen saturation of a sample of blood taken from a catheter in the pulmonary capillary wedge position should be equal to a sample from which of the following?

1- Coronary sinus

**2- Femoral artery**

3- Pulmonary artery

4- Right atrium

5- Right ventricle

Q1851. Whilst attending the cardiology clinic, the staff nurse measures the blood pressure of a 6

1- year-old man, and finds that it is 183/100 mmHg sitting and 190/105 mmHg standing. He has a heart rate of 81/minute, with an irregularly irregular rhythm. On auscultation of the heart, there are no murmurs, but he has bibasilar crackles on chest examination. Which of the following pathological findings is most likely to be present?

1- Cor pulmonale

2- Left atrial myxoma

**3- Left ventricular hypertrophy (LV H) 4- Mitral regurgitation**

5- Occlusive coronary atherosclerosis

Q1852. A 75-year-old lady presents with sudden breathlessness and palpitations. On examination, she was observed to have an irregular heart beat with rate of 140 bpm, BP 85/40 mmHg and normal heart sounds. On auscultation of the chest, fine basal crepitations are heard. An ECG confirms atrial fibrillation (A F) and an old inferior myocardial infarction. She is anticoagulated with heparin and given diuretics. Her heart rate remains rapid. What is the most appropriate management of the lady's AF?

**1- DCCV**

2- IV amiodarone

3- IV beta-blocker

4- IV digoxin

5- Oral quinidine therapy

Q1853. Which of the following is true regarding the action of clopidogrel?

1- It inhibits cyclo-oxygenase

2- It is a glycoprotein IIb/IIIa inhibitor

3- It is a hydroxymethyl co-enzyme A inhibitor

4- It is a selective factor Xa inhibitor

**5- It is an ADP receptor antagonist**

Q1854. A 34-year-old patient with longstanding primary hypertension presents in her first pregnancy. ECG, urine dipstick and fundoscopy are normal. Her current blood pressure is 140 / 95. What is the maximal acceptable blood pressure?

1- 120 / 70

2- 130 / 70

3- 140 / 80

4- 150 / 90

**5- 150 / 100**

Q1855. A 43-year-old woman presents to the emergency department with diarrhoea and vomiting over the past 48 hours. She has a history of hypertension for which she takes indapamide 1.5 mg daily, but no other past medical history of note. On examination she looks unwell and has a BP of 122/71 mmHg and a pulse of 79. Her abdomen is soft but there is tenderness consistent with her gastroenteritis. Investigations show Haemoglobin 14.8 g/dl(11.5-16) White cell count 9.8 x 109 /L (4-10) Platelets 174 x 109 /L (150-400) Sodium 140 mmol/l (134-143) Potassium 2.9 mmol/l (3.5-5) Creatinine 139 μmol/l (60-120) Which of the following is most likely to be found on her ECG?

1- Atrial fibrillation

2- J waves

3- Peaked T waves

4- Shortening of the QT interval

**5- ST depression**

Q1856. A 40-year-old male attends for a consultation after discovering that his brother has been diagnosed with a familial hypertrophic obstructive cardiomyopathy (HOC M) . Which screening method should he be offered?

1- Coronary angiogram

2- Exercise ECG

3- Genetic testing

4- Transoesophageal echocardiogram

**5- Transthoracic echocardiogram**

Q1857. On physical examination of a 42-year-old man you find a 'jerky' pulse. Which of the following conditions is most associated with a 'jerky' pulse?

1- Aortic stenosis

2- Cardiac tamponade

**3- Hypertrophic obstructive cardiomyopathy**

4- 'Mixed' aortic valve disease

5- Severe left ventricular failure

Q1858. A 67-year-old man with insulin-dependent diabetes with a broad complex pulseless tachyarrhythmia (with a protected airwa y) has just been defibrillated for the third time without return of cardiac output -CPR is immediately resumed and adrenaline administered. Which of the following is the next step in the management of the arrest?

1- Adrenaline 1 mg

**2- Amiodarone 300 mg**

3- DC shock

4- Lidocaine 100 mg

5- Removal of oxygen and then DC shock

Q1859. A 59-year-old male has been discharged from hospital following an uncomplicated admission with myocardial infarction (M I) and treated with stenting. His therapy at discharge included aspirin 75 mg daily, clopidogrel 75mg daily, ramipril 10 mg daily, atenolol 50mg daily and simvastatin 40 mg daily. On subsequent review, one month after discharge, he is well and unaware of any chest pain. His blood pressure is 134/78 mmHg and he has a resting heart rate of 66 bpm. There are no abnormalities on auscultation of the heart or chest. Investigations reveal: Cholesterol 4.6 mmol/l (<5.2) Triglyceride 0.8 mmol/l (0.45-1.69) Glucose 5.6 mmol/l (3.0-6.0) U&E Normal Which of the following therapies added to his current treatment regime would be expected to reduce mortality still further?

1- Amlodipine

2- Ezetimibe

3- Furosemide

**4- Omega-3 fatty acids**

5- Vitamin E

Q1860. A 29-year-old male is admitted with a one hour history of severe central chest pain associated with vomiting. It transpires that he used cocaine three hours ago. His blood pressure is 142/74 mmHg and he has a pulse of 110 beats per minute regular. His ECG reveals 3 mm ST segment elevation in leads V2-5. Which of the following is the most appropriate treatment for this patient?

1- Abciximab

2- Angiography +/- PTCA

**3- Isoket (isosorbide dinitrat e) infusion**

4- Low molecular weight heparin

5- Tissue plasminogen activator (rtP A)

Q1861. A 74-year-old man presented with intermittent chest pain at rest. Which one of the following would most strongly suggest that the pain was due to myocardial ischaemia?

1- Associated dyspnoea

2- Coexistent claudication

3- Past history of cigarette smoking

**4- Radiation of pain to the jaw**

5- Relief of pain by sublingual nitrate

Q1862. A 40-year-old female with mitral stenosis consults for advice regarding operative procedures. In which of the following circumstances would antibiotic prophylaxis of infective endocarditis be required?

1- Caesarian section

2- Cardiac catheterisation

3- Dental scaling

**4- No indications for prophylaxis**

5- Termination of pregnancy

Q1863. A 30-year-old man presents with a history of transient loss of consciousness and palpitations. His ECG shows ventricular tachycardia (V T) . Which of the following treatments should be avoided?

1- Adenosine

2- Amiodarone

3- DC cardioversion

4- Flecainide

**5- Verapamil**

Q1864. A 73-year-old woman with atrial fibrillation due to ischaemic heart disease is well controlled with digoxin and amiodarone. She presents with a two month history of weight loss and palpitations. Examination reveals an irregular pulse of 110 bpm. Investigations show: Serum TSH<0.05 mU/L (0.2-5.5) Serum total T4140 nmol/L (58-174) Which of the following would be the most useful investigation in establishing the diagnosis of thyrotoxicosis?

1- Antithyroglobulin antibody titre.

2- Antithyroid peroxidase antibody titre.

**3- Serum free T4 concentration.**

4- Serum reverse T3 concentration.

5- Serum total T3 concentration.

Q1865. A 64-year-old man is admitted with a right femoral neck fracture following a fall. Also seen in the radiograph of the pelvis are several prominent calcified vessels. What is the most appropriate next step in management of this finding?

1- Anticoagulate with heparin

**2- Ignore it**

3- Order a pulmonary ventilation-perfusion scan

4- Request a serum troponin test

5- Start the patient on a nitrate infusion

Q1866. A 52-year-old male presents with a three week history of fevers, deteriorating breathlessness and fatigue. Two years ago he underwent prosthetic valve replacement for a calcified bicuspid aortic valve. On examination he has a temperature of 37.7°C and four nail-fold infarcts. Vegetations are demonstrated through transoesophageal echocardiography. Which of the following is the most likely causative organism?

1- Candida spp.

2- Enterococcus

3- Staphylococcus aureus

4- Staphylococcus epidermidis

**5- Streptococcus viridans**

Q1867. A 58-year-old male has a 6 year history of hypertension for which he is receiving Candesartan, Amlodipine, Bendroflumethiazide and Aliskiren. Which of the following best describes the mechanism of action of Aliskiren?

1- Aldosterone synthase inhibitor

2- Aldosterone receptor blocker

3- Bradykinin inhibitor

**4- Direct renin inhibitor**

5- Second generation angiotensin receptor antagonist

Q1868. What is troponin?

1- A component of thick filaments

**2- A component of thin filaments**

3- A myosin heavy chain

4- A myosin light chain

5- A substance produced by pulmonary vascular endothelium

Q1869. A 28-year-old man with a known history of congenital heart disease presents with a pansystolic murmur, large V waves in the JVP and pulsatile hepatomegaly. Which of the following types of congenital heart disease is most likely to be associated with this presentation?

1- Atrial septal defect

2- Coarctation of the aorta

**3- Ebstein's anomaly**

4- Patent ductus arteriosus

5- Ventricular septal defect

Q1870. A 74-year-old patient with a history of ischaemic heart disease presents with shortness of breath. He is finding difficulty mobilising any further than around his home. An ECHO demonstrates an ejection fraction of approximately 20%. He is on maximal drug therapy for heart failure, and is not thought to have an infective chest exacerbation. An ECG demonstrates sinus rhythm with a rate of 75/min and widened QRS complexes. What is the most appropriate treatment option?

1- Addition of perhexiline therapy

2- Palliation as an in-patient with PRN morphine

**3- Referral for biventricular pacing**

4- Referral for cardiac transplant

5- Referral for implantable defibrillator

Q1871. A post-marketing surveillance study of a new heart failure therapy to the market was carried out on 10,000 subjects who had completed clinical trials. Which one of the following most accurately reflects the information generated from such a study?

**1- Adverse events profile**

2- Comparative therapeutic efficacy

3- Cost benefit analysis

4- Cost effectiveness

5- Drug potency

Q1872. A 34-year-old man presented for an insurance medical. He was symptom free, but clinical examination suggested a small ventricular septal defect (VS D) . Which one of the following findings was most likely to have been present?

1- A short systolic murmur at the left sternal edge

2- A systolic murmur maximal at the apex

**3- A systolic murmur with thrill at the left sternal edge (LS E) 4- An early diastolic murmur**

5- Fixed splitting of the second heart sound

Q1873. You are asked to see a patient in the intensive care unit who is short of breath and tachycardic to rule out a cardiac cause of her symptoms. A right heart catheter reveals that the mixed venous O2 saturation is 70%; the pulmonary capillary wedge O2 saturation is 97%. The haemoglobin is normal and the patient is afebrile. Which of the following is the most appropriate statement that could be applied to her features?

1- Her cardiac output is decreased

**2- Her cardiac output is normal**

3- Her heart is normal

4- She has high-output failure

5- She is in shock due to a non-cardiac cause

Q1874. A 14-year-old boy presents with hypertension. Which of the following statements concerning hypertension in the young is true?

**1- Abnormalities are frequently seen on DMSA scan**

2- Aortic coarctation is the commonest secondary cause

3- Headache is the usual presenting feature

4- It is defined as systolic blood pressure above the 99th centile for age

5- Sodium nitroprusside is useful for the long term treatment of severe cases

Q1875. A 28-year-old man who is known to have hypertrophic cardiomyopathy (HC M) has an out of hospital cardiac arrest and is successfully resuscitated. What is the most appropriate mode of treatment?

1- Alcohol septal ablation

2- Amiodarone

3- Beta-blocker

**4- Implantable defibrillator**

5- Myomectomy

Q1876. A 56-year-old man presents to the Emergency department with an inferior myocardial infarction. He has a history of smoking and hypertension and is a poor attendee at the GP surgery. On initial admission he is hypotensive and bradycardic, with clear inferior ST elevation. He is taken to the catheter lab and stented. You are asked to see him a few hours later as he is persistently hypotensive with poor urine output. He has remained pain free since his stenting. On examination his BP is 90/50 mmHg, his pulse is 69, he has an elevated JVP, but his chest is clear. Investigations show Haemoglobin 14.0 g/dl(13.5-17.7) White cell count 6.6 x 109 /L (4-11) Platelets 188 x 109 /L (150-400) Serum Sodium 138 mmol/l (135-146) Serum Potassium 5.3 mmol/l (3.5-5) Creatinine 131 μmol/l (79-118) Which of the following is the most appropriate next step?

1- IV Dobutamine

**2- IV Fluid loading**

3- IV Nitrate

4- Rescue angioplasty

5- Thrombolysis

Q1877. An 18-year-old with cerebral palsy is admitted after a respiratory arrest having been intubated by paramedics. Nobody can gain intravenous access as the patient is too shut down. A femoral line is not possible due to contractures. You do not have the experience to perform central venous cannulation. Which of the following is the best option for administering intravenous fluids/emergency drugs in this situation of inability to gain venous access?

1- Down the endotracheal tube

2- Intramuscular (I M) 3- Intraosseous

4- Nasogastric

5- Subcutaneous

Q1878. A 59-year-old lady is admitted with a 30 minute history of heavy central chest pain associated with nausea and sweating. Her ECG shows ST elevation in leads V1, V2, V3 and V4. Which of the following coronary arteries is most likely to be occluded?

1- Circumflex artery

**2- Left anterior descending artery**

3- Obtuse marginal artery

4- Posterior descending artery

5- Right coronary artery

Q1879. An 54-year-old male re-develops chest pain 72 hours after treatment for an anterior myocardial infarction. Which of the following markers will be the most sensitive in detecting reinfarction?

**1- CK-MB**

2- LDH

3- Myoglobin

4- Troponin I

5- Troponin T

Q1880. A publication reports the outcome of a new statin therapy in a placebo controlled primary prevention of ischaemic heart disease in a diabetic population. 1000 patients were randomised to receive the new therapy and 1000 allocated to placebo. The study was completed over a five year period. In the placebo group there were 150 myocardial infarcts (M I) and in the group treated with the new statin there were 100 myocardial infarcts. What is the number needed to treat to prevent one MI over the course of this study?

1- 10

**2- 20**

3- 30

4- 40

5- 50

Q1881. A 69-year-old man is treated for chest infection. He has been on a stable dose of warfarin for the last six months as a treatment for atrial fibrillation, with INR recordings between

2- 2.5. However, his most recent INR was 5 (<1.4). Which one of the following drugs that has recently been started is likely to be responsible for the increased INR?

**1- Clarithromycin**

2- Co-dydramol

3- Digoxin

4- Rifampicin

5- Temazepam

Q1882. A 50-year-old politician presented with a strange fluttering sensation in his chest, but no chest pain. The symptoms had lasted 24 hours. An ECG revealed atrial fibrillation with a ventricular rate of 130 beats per minute. Which one of the following drugs is most likely to restore sinus rhythm?

1- Adenosine

2- Bisoprolol

3- Digoxin

**4- Flecainide**

5- Verapamil

Q1883. A 72-year-old man noted to have a systolic murmur undergoes an echocardiogram which demonstrates aortic stenosis. Which of the following is associated with a poor prognosis in this patient?

1- Aortic regurgitation

2- Cardiomegaly on chest x ray

**3- Clinical features of left ventricular failure**

4- ECG evidence of left ventricular hypertrophy

5- Severe valvular calcification on echocardiogram

Q1884. A 69-year-old woman admitted for a surgical procedure is noted to have a soft systolic murmur at the left sternal edge. Her ECG and chest x ray were normal and transthoracic echocardiography revealed a small posterior pericardial effusion with normal valves. Which of the following would be the most appropriate next step in this patient's management?

1- A diagnostic pericardial aspiration

2- Mammography

3- Purified protein derivative test for tuberculosis

**4- Reassurance**

5- Right heart catheterisation

Q1885. A 60-year-old man's echocardiogram shows a dilated left ventricular (L V) cavity with the remainder of the other chamber sizes normal. Which of the following is the most likely diagnosis?

**1- Aortic regurgitation (A R) 2- Aortic stenosis (A S) 3- Hypertensive heart disease**

4- Mitral regurgitation (M R) 5- Mitral stenosis (M S)

Q1886. A 60-year-old man has a three month history of worsening dyspnoea. He has been healthy all his life with no major illnesses. His blood pressure is 118/92 mmHg, he has a murmur and has audible crackles at both bases. His serum glucose is 5.6 mmol/L (3.

0- 6.0). His total serum cholesterol is 4.8 mmol/L (<5.2). The serum creatine kinase is not elevated. What is the most likely explanation for these findings?

1- Alcoholic cardiomyopathy

2- Aortic dissection

**3- Calcified bicuspid aortic valve**

4- Mitral valve annulus calcification

5- Tricuspid valve endocarditis

Q1887. An elderly gentleman is brought to the Emergency department after suffering a witnessed collapse in a supermarket. A passerby came to his aid immediately and he regained consciousness quickly. His usual state of health is good and he is independent. On arrival his GCS is 15/15. Blood pressure is 101/72 mmHg. Pulse is 40 regular. Cardiovascular, respiratory and neurological examination is normal. A 12 lead ECG demonstrates a bradycardia with no obvious association between the QRS complexes and P waves. You call the cardiology registrar for help. You talk to the patient about his problem and when pacemakers are needed. With regard to this, from the list below, which is an absolute indication for a permanent pacemaker?

1- Bifascicular block

2- Mobitz Type I with symptoms

3- First degree heart block without symptoms

**4- Acquired third degree heart block without symptoms**

5- Trifascicular block

Q1888. A 17-year-old boy was seen in the Emergency department for worsening shortness of breath and wheeze. He has a two year history of asthma which responds to high doses of oral steroids. Further history revealed tingling and numbness affecting his toes for few months. He was given a full course of antibiotics and oral steroids by the GP but this did not help. He does not have any other co-morbidities. There is no family history of note. He does not smoke and does not drink alcohol. His exercise tolerance has been gradually deteriorating. There is no history of foreign travel. The examination revealed pulse 104/min, BP 125/70 mmHg, respiratory rate 22/min, apyrexial, and oxygen saturations 97% on room air. There was bilateral wheeze in the chest and vesicular breath sounds. Neurological examination revealed decreased sensation in a stocking distribution. The rest of the neurological and systemic examination was normal. The initial blood results reveal: Hb 10.5 g/l (13.0 - 18.0 g/d L) WCC 10.4 (4 - 11 x 109 / L) Neutrophils 2.06 (1.5 - 7 x 109 / L) Lymphocytes 1.77 (1.5 - 4 x 109 / L) Eosinophils 4.0 (0.04 - 0.4 x 109 / L) Urea 4.4 (2.5 - 7.5 mmol/ L) Creatinine 115 (60 - 110 μmol/ L) Urine dipstick was positive for blood. Chest x ray was normal. What is the most likely diagnosis?

1- Atopic asthma

2- Atypical pneumonia

**3- Churg-Strauss syndrome**

4- Goodpasture's syndrome

5- Glomerulonephritis

Q1889. A 70-year-old known hypertensive and diabetic patient presents with dyspnoea on moderate exertion. On examination he is pale, his pulse rate is 98/min regular, BP is 160/70 mmHg and there are fine basal crepitations in the lungs. ECG showed left ventricular hypertrophy and renal functions were slightly deranged. What is the most appropriate treatment for cardiac failure in this patient?

1- ACE-I alone

2- Furosemide alone

3- Spironolactone, ramipril and aspirin

**4- Spironolactone, ramipril and carvedilol**

5- Spironolactone, ramipril and digoxin

Q1890. A 57-year-old man develops deep venous thrombosis during a hospitalisation for prostatectomy. He exhibits decreased mental status with right hemiplegia, and a CT scan of the head suggests an acute cerebral infarction in the distribution of the left middle cerebral artery. A chest x ray reveals cardiac enlargement and prominence of the main pulmonary arteries that suggests pulmonary hypertension. His serum troponin I is <0.4 ng/ml. Which of the following lesions is most likely to be present on echocardiography?

1- Coarctation of the aorta

2- Dextrocardia

3- Pulmonary stenosis

4- Tetralogy of Fallot

**5- Ventricular septal defect**

Q1891. A 55-year-old man is being treated for hyperlipidaemia with atorvastatin 40 mg nocte. He has a history of ischaemic heart disease. His fasting lipids show: Total cholesterol 3.8 mmol/l (<5.2) Triglycerides 1.3 mmol/l (0.5-1.7) LDL-cholesterol 1.9 mmol/l (<2.6) HDL-cholesterol 0.7 mmol/l (0.7-1.7) Which of the following changes of treatment would be expected to raise his HDL cholesterol level by the greatest amount?

1- Add cholestyramine

2- Add ezetimibe

3- Add fenofibrate

**4- Add nicotinic acid**

5- Switch atorvastatin to rosuvastatin

Q1892. A 60-year-old lady is taking warfarin for stroke prevention in atrial fibrillation. She presents with a markedly raised INR. Which of the following medications is the most likely to be the reason?

1- Aspirin

2- Carbamazepine

**3- Ciprofloxacin**

4- Flucloxacillin

5- St John's wort

Q1893. A 65-year-old male presents with arthralgia and sleep disturbance following the introduction of simvastatin. He has a history of hypertension and ischaemic heart disease for which he is receiving aspirin, atenolol and eprosartan together with simvastatin 40 mg OD which has been introduced in the last one month. Previously, he had been taking atorvastatin but this was changed to simvastatin after he complained of arthralgia. Investigations reveal: Creatine phosphokinase (CP K) 156 U/l (4

0- 170) Total cholesterol 5.1 mmol/l (<5.2) LDL-cholesterol 3.1 mmol/l (<2.5) Triglycerides 1.7 mmol/l (0.45-1.69) HDL-cholesterol 1.2 mmol/l (>1.55) Which is the most appropriate treatment for his lipid profile?

**1- Ezetimibe**

2- Fenofibrate

3- Nicotinic acid slow release

4- Omega-3 fatty acids

5- Rosuvastatin

Q1894. You are on call for hospital at night and are urgently called to a patient on the ward who is choking on a piece of steak visible in his oropharynx. He is in extremis with saturations of 87%. Which of the following is the most appropriate immediate management for this patient?

1- Finger sweep

**2- Heimlich manoeuvre**

3- High flow oxygen

4- Cricothyroidotomy

5- Removal with forceps

Q1895. A 65-year-old man is admitted with central crushing chest pain, sweating and vomiting of one hour duration. He is conscious with a pulse rate of 100 bpm and a blood pressure of 180/110 mmHg. An ECG shows >2 mm ST elevation in leads II, III, aVF. FBC: normal U & E: normal Troponin T: 100 ng/ml Apart from the presence of xanthelasma (+) there are no other positive findings on clinical examination. He is given oxygen, aspirin, clopidogrel, morphine and intravenous 5 mg atenolol. What is the best next step?

1- Give thrombolysis immediately

**2- Immediate referral to cardiologist for primary angioplasty**

3- Prescribe low molecular weight heparin

4- Prescribe simvastatin

5- Transfer to coronary care unit for closer monitoring

Q1896. A 17-year-old female loses consciousness whilst out jogging one afternoon. She has had similar blackouts over the last two to three years which have all occured during exertion. There is no family history of note. She is taken to the Emergency department, where a chest x ray, CT brain scan, FBC, and biochemistry are all normal. Her ECG shows changes of left ventricular hypertrophy and broad Q waves. An echocardiogram reveals left ventricular and septal hypertrophy, small left ventricle, and reduced septal excursion. The septum has a "ground glass" appearance. Which of the following conditions is she most likely to have?

1- Diabetes mellitus

**2- Hypertrophic cardiomyopathy**

3- Rheumatic heart disease

4- Systemic lupus erythematosus

5- Viral myocarditis

Q1897. A 54-year-old man presents with central crushing chest pain. Examination is normal. 12-lead ECG shows ST segment elevation in leads II, III, aVF and ST depression in V1, V2 and V3. Which coronary artery is occluded?

1- Circumflex

2- Left anterior descending

3- Left main dtem

4- Obtuse marginal

**5- Right coronary artery**

Q1898. A 47-year-old lady is admitted to the coronary care unit with symptoms suggestive of decompensated heart failure. She has a history of severe mitral regurgitation secondary to mitral prolapse and is awaiting valve surgery. You are asked to admit the patient and the medical student attached to the firm asks to come with you. You take a full history and examine the patient, making sure to point out all the relevant clinical features to the medical student. After you finish seeing the patient you discuss the case with the medical student. She asks you the most common cause of mitral regurgitation (M R) . What should be your response to the medical student's question?

1- Collagen vascular disease

2- Infective endocarditis

**3- Myxomatous degeneration**

4- Rheumatic fever

5- Rupture of the chordate tendinae

Q1899. Which of the following mechanisms best explains the action of ezetimibe?

1- Activates PPAR-alpha

2- Bile acid sequestration

3- Decreases hepatic cholesterol synthesis

4- Increases peroxisomal beta-oxidation of fatty acids

**5- Inhibits cholesterol absorption**

Q1900. A 60-year-old woman has a systolic murmur. As part of the evaluation you listen to the murmur during a Valsalva manoeuvre and the murmur becomes louder. Which of the following systolic murmurs becomes louder with a Valsalva?

1- Aortic stenosis

**2- Hypertrophic obstructive cardiomyopathy**

3- Mitral flow murmur

4- Mitral regurgitation

5- Ventricular septal defect

Q1901. A 57-year-old male is admitted with acute dyspnoea and chest pain. A pulmonary embolism (P E) is confirmed. Which of the following is a recognised feature of a significant pulmonary embolism?

1- An arterial pH less than 7.2

**2- An increase in serum troponin levels**

3- Blood gases show increased pCO2 on air

4- Normal D-dimer levels

5- Reduced plasma lactate levels

Q1902. A 45-year-old man presents with a rash. On examination you find he has eruptive xanthoma. Which of the following is the most likely diagnosis?

1- Familial combined hyperlipidaemia

2- Familial hypercholesterolaemia

**3- Familial hypertriglyceridaemia**

4- Hyperlipidaemia associated with nephrotic syndrome

5- Remnant hyperlipidaemia

Q1903. A 58-year-old man presents with sudden onset chest pain. He has a known history of ischaemic heart disease. ECG shows ST segment elevation in V1-V5 without reciprocal depression. In which territory is the infarction most likely to have taken place?

**1- Anterior**

2- Inferio-lateral

3- Inferior

4- Lateral

5- Posterior

Q1904. A 58-year-old male presents with acute dyspnoea following a convulsion. On examination his blood pressure was 240/120 mmHg and fundal examination reveals papilloedema with haemorrhages and cotton wool spots. His urea, electrolytes and creatinine are normal but chest x ray reveals pulmonary oedema and cardiomegaly. Which one of the following is the most appropriate immediate treatment?

1- Atenolol 50 mg orally

2- Intravenous labetalol

**3- Intravenous sodium nitroprusside**

4- Nifedipine 5 mg sublingually

5- Nifedipine LA 30 mg orally

Q1905. A 65-year-old man has long-standing stable heart failure treated with furosemide and enalapril. He complains of swelling in his left knee and his GP treats him with celecoxib, a cyclooxygenase-2 (COX-2) inhibitor. Two weeks later the patient has increasing breathlessness and ankle oedema. Which one of the following effects of celecoxib is the most likely to explain his symptoms?

1- Decreased absorption of furosemide from the gut

2- Decreased myocardial contractility

3- Reduced effective action of enalapril

4- The onset of anaemia

**5- The onset of fluid retention**

Q1906. A new antihypertensive drug needs to be investigated to establish its relative potency. Which of the following techniques is most appropriate for this purpose?

**1- Bioassay**

2- Case-control study

3- Double blind, randomised, placebo controlled study

4- Postmarketing surveillance

5- Sequential trial

Q1907. Which of the following concerning congenital heart disease is correct?

1- ASD is the commonest malformation at birth

2- Congenital complete heart block is not usually associated with anti-Ro antibodies in the mother

**3- Ebstein's anomaly is associated with maternal exposure to lithium carbonate**

4- Hypoplastic left heart syndrome is characterised by a large, dilated left ventricle

5- Osteogenesis imperfecta is associated with aortic stenosis

Q1908. A 15-year-old female presents following a sore throat with chest pain, fever, and a skin rash. Examination reveals a diastolic murmur. Her ASO titre is elevated. Which of the following is a major criterion for the diagnosis of rheumatic fever?

1- Fever

2- Migratory erythema

**3- Polyarthritis**

4- Prolonged PR interval

5- Raised ESR

Q1909. A 38-year-old patient with recent onset fatigue and prior hypertension presents to the endocrinology clinic as his potassium remains low on oral supplements. He has no medical history of note. A full endocrine profile is requested at the clinic, though the most recent available blood tests demonstrate ongoing hypokalaemia: Full blood count normal Serum Sodium 138[132 - 144 mmol/l] Serum potassium 2.6[3.5 - 5.0 mmol/l] Urea 6.4[2.5 - 7.5 mmol/l] Creatinine 70[50 - 120 μmol/l] What imaging would you carry out?

1- Abdominal x ray

2- Barium swallow

3- Chest x ray

**4- CT abdomen**

5- CT brain

Q1910. Which of the following is an absolute contraindication to β blockerss?

1- Psoriasis

2- Diabetes

3- Peripheral vascular disease

4- Mild COPD

**5- Heart block**

Q1911. A 70-year-old man presented with a 40 minute history of heavy chest pain and sweating. On examination his pulse is 85 bpm and BP 200/110 mmHg. ECG shows ST elevation in leads V2 - V5 and ST depression in leads II and aVF. Diamorphine, oxygen and aspirin have been given. Which of the following is the most appropriate next step?

1- Anticoagulation

2- CT thorax

**3- Intravenous nitrate infusion**

4- Observe and repeat ECG

5- Thrombolysis

Q1912. In Down's syndrome, which is the most common congenital heart defect?

1- Atrial septal defect

**2- Atrioventricular septal defect**

3- Patent ductus arteriosus

4- Tetralogy of Fallot

5- Ventricular septal defect

# Chapter 14 2012 Gastroenterology

Q1913. A 35-year-old obese Afro-Caribbean lady presents with mild jaundice. She claims to be a teetotaler and her BMI is 30 kg/m2 . Investigations reveal the following results. Haemoglobin 14 g/dL (11.5-16.5) U+Es Normal Bilirubin 25 µmol/L (1-22) Aspartate transaminase 140 U/L (1-31) Alanine transaminase 155 U/L (5-35) Alkaline phosphatase 160 U/L (60-110) Random blood glucose 11.2 mmol/L (3.0-6.0) Hepatitis A IgG Positive Hepatitis B and C screening Negative Anti-nuclear antibodies 1:16 titre Ultrasound abdomen reveals hyperechogenic hepatic parenchyma. Liver biopsy reveals lesions suggestive of alcoholic liver disease. On review of her notes, liver function tests performed six months previously showed similar values. Which of the following is the most likely diagnosis?

1- Alcoholic liver disease

2- Autoimmune hepatitis

**3- Non-alcoholic steatohepatitis**

4- Primary biliary cirrhosis

5- Viral hepatitis

Q1914. A 24-year-old man with chronic diarrhoea and malabsorption is suspected of having coeliac disease. A jejunal biopsy is taken. Which of the following findings would be expected in coeliac disease?

**1- Appearances may resemble severe tropical sprue**

2- Characteristically shows epithelial cells distended with fat globules

3- Shows fissures penetrating into the submucosa

4- Shows flattening of the crypts

5- Shows leaf-shaped villi

Q1915. A 67-year-old man with known aortic valvular disease is admitted with deteriorating dyspnoea. Investigations show: Haemoglobin 9 g/dL (12-16) MCV 70 fL (80-96) Upper gastrointestinal tract endoscopy: Normal Duodenal biopsy: Normal Which one of the following investigations is most likely to provide the diagnosis?

1- Barium enema

**2- Colonoscopy**

3- CT abdomen

4- Mesenteric angiography

5- Small bowel enema

Q1916. A 22-year-old man returned from a backpacking holiday three weeks ago. While abroad he developed bloody diarrhoea with abdominal pain. Stool cultures have confirmed Salmonella typhi. Which of the following antibiotics would be first line treatment?

1- Ampicillin

**2- Ciprofloxacin**

3- Erythromycin

4- Metronidazole

5- Tetracycline

Q1917. A 25-year-old man who is known to have diabetes mellitus and suffers from recurrent chest infections is referred to the gastroenterology team with chronic diarrhoea. The letter from his GP states the patient has had persistently abnormal liver function tests over the last three months and an abdominal ultrasound scan showed a fatty liver and gallstones. Given the most likely diagnosis, what is the disease prevalence in northern Europe?

1- 1:300

2- 1:1000

**3- 1:3000**

4- 1:5000

5- 1:10000

Q1918. Which of the following is a recognised cause of gingival hyperplasia?

1- Allopurinol

2- Hyoscine

3- Penicillamine

**4- Phenytoin**

5- Prednisolone

Q1919. A 42-year-old female with ulcerative colitis is found to have anti-smooth muscle antibodies. Which is the next most appropriate test for this patient?

1- Abdominal ultrasound

2- Colonoscopy

3- Full blood count

4- Liver biopsy

**5- Liver function tests**

Q1920. A 70-year-old male is admitted with haematemesis. He is currently being treated with warfarin for atrial fibrillation and his INR returns as 10 (<1.4). Which of the following is the most appropriate immediate treatment of his INR?

1- Cryoprecipitate

**2- Fresh frozen plasma**

3- Intravenous vitamin K

4- Oral vitamin K

5- Recombinant factor VIII concentrate

Q1921. A 68-year-old male presents with alcoholic cirrhosis complicated by mild ascites. Which of the following features is likely in this patient?

1- Increased serum sodium

2- Increased vascular resistance

3- Reduced renin concentrations

4- Reduced urinary potassium excretion

**5- Reduced urinary sodium excretion**

Q1922. A 35-year-old woman with a history of recurrent anaemia was noted to have target cells and Howell-Jolly bodies on a blood film examination. Investigations revealed: Haemoglobin 7.0 g/dL(11.5-16.5) MCV 77 fL(80-96) MCH 26.2 pg(28-32) Serum B12 140 µg/L(160-760) Red cell folate 95 µg/L(160-640) Serum ferritin 10 µg/L(15-300) What disease specific antibody is most likely to be present?

**1- Antiendomysial**

2- Antigastric parietal cell

3- Antiglutamic acid decarboxylase

4- Anti-intrinsic factor

5- Antimitochondrial

Q1923. A 63-year-old man with known alcohol related cirrhosis presented with ascites, abdominal tenderness and peripheral oedema. A diagnostic tap revealed a neutrophil count of 400/ mm3 (<250mm3). Which of the following would be of most immediate benefit?

1- Fluid restriction and a no-added-salt diet

**2- Intravenous antibiotics**

3- Oral spironolactone

4- Therapeutic paracentesis

5- Transjugular intrahepatic portosystemic shunt (TIPS S)

Q1924. Which of the following is not true of a patient with ascites due to liver cirrhosis?

1- Cardiac output is often elevated

2- Hepatic intrasinusoidal pressure is elevated

3- Spontaneous bacterial peritonitis is a recognised feature

**4- The usual source of the ascitic fluid is mainly from the exudation from the surface of the liver**

5- Urinary sodium concentration is usually less than 10 mmol/l

Q1925. Ten individuals are admitted to casualty with profuse vomiting after attending a retirement dinner in a Chinese restaurant. They all ate at roughly 7 pm and became ill at roughly midnight. Nine ate a mixture of dishes except one female who ate vegetarian dishes with her rice. What is the most likely infective organism?

1- Salmonella enteriditis

2- Staphylococcus aureus 3- E. Coli

4- Clostridium perfringens

**5- Bacillus cereus**

Q1926. A 55-year-old post-menopausal woman presents with tiredness and lethargy, she denies any other symptoms. Her blood tests show that she is anaemic. Tests reveal: Haemoglobin 10.3 g/dl11.5-16.5 Mean corpuscular volume76 fl80 - 96 Ferritin 5 µg/l15 - 300 Anti-tissue transglutaminase IgA antibodies are negative. Gastroscopy and CT colonography are both performed and do not reveal any cause for iron deficiency. She is commenced on oral ferrous sulphate and three months later her haemoglobin is 11.5 g/dl. She comes to see you three months after this asking whether it is possible to stop the oral iron as she feels it is making her nauseous. According to the British Society of Gastroenterology guidelines on the management of iron deficiency anaemia what is the most appropriate course of action?

1- Change to parenteral iron

2- Offer transfusion as required

3- Refer for further investigation

**4- Stop oral iron and monitor haemoglobin**

5- Trial of alternative oral iron preparation

Q1927. Mutation of STK11/LKB1 gene is associated with which of the following diseases?

1- Familial adenomatous polyposis

2- Hereditary non-polyposis colorectal cancer

3- Neurofibromatosis

**4- Peutz-Jeghers syndrome**

5- Tuberous sclerosis

Q1928. Which of the following stimulates bicarbonate secretion from the pancreas and liver?

1- Cholecystokinin (CC K) 2- Gastrin

3- Motilin

**4- Secretin**

5- Vasoactive intestinal peptide (VI P)

Q1929. A 32-year-old female presents with pruritis and jaundice. She is 30 weeks gestation in her first pregnancy. Two weeks earlier she had been treated by the ENT surgeons after presenting to the Emergency department with intractable nose bleeds. The liver function tests are shown below: ALT 72 U/L (5-40) Alkaline phosphatase 700 U/L (30-110) Bilirubin 80 µmol/L (1-18) Serum bile acids 100 times normal titre. Which of the following statements is correct concerning this patient?

1- ALP does not increase in a normal pregnancy

**2- Maternal hepatic blood flow does not increase in pregnancy**

3- Treatment options include IV N-acetyl cystine

4- Varices are diagnostic of liver disease in pregnancy

5- Viral hepatitis is the likely diagnosis

Q1930. A 25-year-old man who had a long history of heavy alcohol intake is admitted with nausea and frequent vomiting four hours after a meal in a restaurant. During review in the Emergency department he vomits a cupful of blood. What is the cause of his haematemesis?

1- Duodenal ulceration

2- Haemorrhagic gastritis

**3- Mallory-Weiss tear**

4- Oesophageal varices

5- Oesophagitis

Q1931. A male teacher who is 31-years-old attends clinic with his partner who tells you that he has memory problems. The only other symptom is intermittent diarrhoea over the preceding four months. He has limited vertical eye movements and exhibits rhythmic simultaneous eye and mouth movements. Which pathogen is most likely to be the cause of his symptoms?

1- Clostridium botulinum

2- HIV

3- Prion protein

4- Salmonella enteritidis

**5- Tropheryma whippleii**

Q1932. A routine ultrasound at 18 weeks' gestation in a diabetic mother reveals a male fetus with an endocardial cushion defect. Other abnormalities include increased nuchal thickening and a 'double bubble' sign. Which of the following conditions is most likely to have contributed to this set of findings?

1- Congenital syphilis

2- Marfan syndrome

3- Maternal folate deficiency

4- Maternal use of ACE inhibitor

**5- Trisomy 21**

Q1933. Which of the following statements is characteristic of acute hepatitis B infection?

1- It commonly presents with distal joint arthritis.

2- It confers immunity to hepatitis A.

3- Most patients present with splenomegaly.

4- Pruritis is an important early symptom.

**5- There is increased infectivity in the presence of the hep B e antigen.**

Q1934. A 35-year-old woman with alcoholic cirrhosis is admitted with deteriorating encephalopathy and abdominal discomfort. An ascitic tap revealed a polymorphonuclear cell count of 350 cells per mm3. Which of the following is the most appropriate therapy?

1- Intravenous amoxicillin

**2- Intravenous cefotaxime**

3- Intravenous metronidazole

4- Oral neomycin

5- Oral norfloxacin

Q1935. A 54-year-old woman presented with an eighteen month history of chest pain and dysphagia for both solids and liquids. She smokes 20 cigarettes per day and drinks 16 units of alcohol per week. Clinical examination was normal. What is the most likely diagnosis?

**1- Achalasia.**

2- Bronchial neoplasm.

3- Oesophageal neoplasm.

4- Oesophageal web.

5- Pharyngeal pouch.

Q1936. A 65-year-old woman presents with a one month history of jaundice. She reports her urine is darker than normal and her stools are a pale colour. On direct questioning she admits to pruritis but denies abdominal pain. There is no history of foreign travel. She has lost approximately 1 stone in weight. On examination she is jaundiced, there are no stigmata of chronic liver disease and no asterixis. Abdominal examination reveals hepatomegaly 4 cm below the costal margin. Given the most likely diagnosis, which tumour marker is most likely to be elevated?

1- AFP

2- Beta-hCG

**3- CA 19-9**

4- CA 125

5- CEA

Q1937. A 34-year-old man with ulcerative colitis is admitted with severe bloody diarrhoea. He is opening his bowels approximately 15 times a day and has abdominal pain. His current medication includes Mezavant and on admission he is commenced on intravenous hydrocortisone. You are asked to request a thiopurine methyltransferase (TPM T) level as the plan is to start azathioprine at a later date. What percentage of the population has normal or high TPMT activity?

1- 1%

2- 10%

3- 25%

4- 50%

**5- 90%**

Q1938. Which of the following is consistent with a diagnosis of insulinoma?

1- High fasting glucose, low insulin, high C peptide

**2- Low fasting glucose, high insulin, high C peptide**

3- Low fasting glucose, high insulin, low C peptide

4- Low fasting glucose, low insulin, high C peptide

5- Low fasting glucose, low insulin, low C peptide

Q1939. Which of the following hormones stimulates contraction of the gallbladder?

**1- Cholecystokinin**

2- Gastrin

3- Secretin

4- Somatostatin

5- Vasoactive intestinal peptide (VI P)

Q1940. Which of the following stimulates the secretion of gastrin?

**1- Amino acids**

2- Fasting

3- High level gastric acid in the stomach

4- Low gastric pH

5- Somatostatin

Q1941. A 40-year-old woman with a history of Crohn's disease and multiple previous operations presents to the gastroenterology clinic. She has begun suffering from increasing symptoms of early satiety, loss of appetite, bloating and diarrhoea over the past few months. She has lost weight, and is worried as she finds it very difficult to maintain her weight anyway. On examination her BMI is 18.5 kg/m2 . Physical examination is unremarkable apart from mild abdominal distension, and a number of old scars related to previous surgery. Investigations show: Haemoglobin 10.2 g/dl(11.5-16.5) Mean corpuscular volume 104 fl(80-96) White cell count 6.1 x 109 /L (4-11) ESR 11 mm/hr(<10) Platelets 175 x 109 /L (150-400) Serum Sodium 136 mmol/l (135-146) Serum Potassium 3.9 mmol/l (3.5-5) Creatinine 90 μmol/l (79-118) Serum albumin 32 g/l (35-50) Hydrogen breath test Positive Which of the following is the most likely diagnosis?

**1- Bacterial overgrowth syndrome**

2- Exacerbation of Crohn's disease

3- Functional diarrhoea

4- Pernicious anaemia

5- Short bowel syndrome

Q1942. A 17-year-old man presents to the Emergency department complaining of intense pain on defecation, which persists for some hours after the event. The pain recurs with each bowel movement, and is so severe that he is now scared to defecate. He is passing harder stools over the past few months and has noticed fresh blood on the paper and occasionally even drips of blood into the toilet. From the history, which of the following is the most likely diagnosis?

**1- Anal fissure**

2- Crohn's disease

3- Irritable bowel syndrome

4- Rectal carcinoma

5- Ulcerative colitis

Q1943. A patient is referred to the hepatology department for possible treatment of hepatitis B. He has stigmata of chronic liver disease. There is portal hypertension and ascites. His INR is 2.2 (<1.4) and albumin 25 g/L (37-49). HBsAg and HBeAg positive. Hepatitis C screen is negative. What will you suggest for treatment?

1- Beta interferon

**2- Tenofovir alone**

3- Tenofovir plus interferon alpha

4- Ribavarin alone

5- Ribavarin plus interferon alpha

Q1944. A 51-year-old man was brought to the Emergency department for loose stools. He was dehydrated, weak and in shock. He had previously been complaining of large stool volumes for a one month period. Stool colour was normal. There was no history of laxative abuse and no significant past medical history. What is the most likely diagnosis?

1- Carcinoid syndrome

2- Diabetic diarrhoea

3- Gastrinoma

4- Systemic mastocytosis

**5- VIPoma**

Q1945. A 50-year-old ex-footballer with a long history of alcohol excess presents with epigastric pain. Which of the following suggests a diagnosis of peptic ulceration rather than chronic pancreatitis?

1- Back pain

2- Exacerbation with alcohol

3- Loose stool

**4- Relieved by food**

5- Weight loss

Q1946. A 30-year-old woman presents with jaundice and her investigations reveal: Haemoglobin 9.0 g/dl(11.5-16.5) Reticulocyte count 180 x 109 /L (25-85) Serum bilirubin 50 µmol/l (1-22) Her blood film reveals the presence of spherocytes. Which of the following is the next most useful investigation?

1- Abdominal ultrasound scan

**2- Direct antiglobulin test**

3- Glucose-6-phosphate dehydrogenase activity

4- Haemoglobin electrophoresis

5- Red cell osmotic fragility

Q1947. A 55-year-old female who had a long history of alcohol abuse presents with back pain and mild diarrhoea one month after having a pacemaker inserted. On examination she had a fever of 39°C and her abdomen was soft and non-tender. What is the most likely diagnosis?

1- Diverticulitis

2- Ischaemic colitis

3- Pancreatitis

4- Pseudomembranous colitis

**5- Staphylococcal discitis**

Q1948. A 78-year-old female with diabetes presented with a two day history of melaena and dizziness. She had taken an unknown analgesic four days previously. On examination she was pale with a pulse of 90 beats per minute, a blood pressure of 100/65 mmHg and a lower midline scar from an operation for intermittent claudication three months previously. Investigations revealed: Haemoglobin 8 g/dl(13.0-18.0) Faecal occult blood Strongly positive Upper gastrointestinal tract endoscopy Normal What is the most likely cause of her upper gastrointestinal (G I) haemorrhage?

**1- Aorto-enteric fistula**

2- Gastric erosions

3- Gastric ulcer

4- Mallory-Weiss syndrome

5- Oesophageal varices

Q1949. A 29-year-old male presents with symptoms of severe gastro-oesophageal reflux. Which one of the following is most useful in assessing the role of surgery?

1- Cardiac sphincter manometry

2- Gastric emptying study

3- Intragastric pH monitoring of therapy

**4- Oesophageal motility study**

5- Oesophageal pH monitoring of therapy

Q1950. Which one statement is true regarding the treatment of iron deficiency anaemia?

1- Iron is absorbed in the distal jejunum

**2- Absorption of iron is increased by ascorbic acid**

3- Sustained release iron is a useful way of giving larger doses

4- Ferrous sulphate 200 mg has less elemental iron than the same dose of ferrous gluconate

5- Parenteral iron is indicated when the anaemia responds slowly to oral iron

Q1951. A 24-year-old man with chronic diarrhoea and malabsorption is suspected of having coeliac disease. A jejunal biopsy is taken. Which of the following findings would be expected in coeliac disease?

**1- Appearances may resemble severe tropical sprue**

2- Characteristically shows epithelial cells distended with fat globules

3- Shows fissures penetrating into the submucosa

4- Shows flattening of the crypts

5- Shows leaf-shaped villi

Q1952. Which of the following is activated by cholera toxin?

**1- Adenylate cyclase**

2- Guanylate cyclase

3- Peroxisome proliferator receptor (PPA R) gamma

4- Sodium/potassium ATPase

5- The glucose-sodium transporter

Q1953. Which of the following concerning the conjugation of bilirubin is correct?

**1- It is catalysed by a glucuronyl transferase**

2- It occurs in the Kupfer cells of the liver

3- It is increased by valproate

4- It is inhibited by rifampicin

5- It is impaired in Dubin-Johnson syndrome

Q1954. A 46-year-old man with a family history of haemochromatosis presented to outpatients for advice. Investigations revealed. Serum ferritin 453 g/L (15-300) Serum iron 29 mol/L (12-30) Serum iron binding capacity 46 mol/L (45-75) Iron saturation 63 per cent (20-50) What is the most appropriate next step in management?

**1- Arrange for DNA analysis**

2- Begin a venesection programme

3- Monitor his serum ferritin regularly

4- Take no action unless the iron saturation exceeds 90 per cent

5- Undertake a liver biopsy

Q1955. A 75-year-old woman is admitted with headache and vomiting. She denies abdominal pain. She reports weight loss of one stone over the last six weeks. On further questioning it becomes apparent that she has noticed the vomitus contains food from several days ago. Abdominal x ray reveals a prominent gastric bubble. Which of the following is the most likely diagnosis?

1- Acute cholecystitis

2- Colon carcinoma

**3- Gastric outflow obstruction**

4- Peptic ulceration

5- Raised intracranial pressure

Q1956. You are asked to review the blood results of an 18-year-old woman who is known to have anorexia nervosa. She is under close review by the dietician who has asked you to ensure electrolytes are checked daily. Which of the following is a feature of the potentially life-threatening complication this lady is at risk of developing?

1- Hypercalcaemia

2- Hyperkalaemia

3- Hypermagnesaemia

4- Hyperphosphataemia

**5- Hypophosphataemia**

Q1957. A 17-year-old man presents to the clinic with intermittent severe pain passing a motion, accompanied by bright red rectal bleeding. The pain often lasts for hours afterwards and he is afraid of going to the toilet. He says he does not like eating fruit and vegetables and that his motion is usually very hard and he only passes faeces every two to three days. He has not lost any weight and otherwise feels well, holding down a job in a computer shop whilst doing his A levels. His BP is 122/72mmHg, pulse is 72, general physical examination is normal. Investigations show Hb 13.1 g/dl(13.5-18) WCC 6.2 x 109 /L (4-10) PLT 203 x 109 /L (150-400) Na 138 mmol/l (134-143) K 4.4 mmol/l (3.5-5) Cr 102 µmol/l (60-120) Given these findings, which of the following is the most likely diagnosis?

**1- Anal fissure**

2- Anal fistula

3- Irritable bowel syndrome

4- Piles

5- Ulcerative colitis

Q1958. A 35-year-old woman comes to the clinic for review. She has been suffering from abdominal bloating, very strongly smelling bowel gas and intermittent diarrhoea over the past two months since returning from honeymoon in Africa. On examination her BP is 125/82 mmHg, and her temperature is 37.2°C. Her BMI is 23 kg/m2 , and her abdomen is mildly distended. Investigations show Hb 11.1 g/dl(13.5-18) WCC 8.1 x 109 /L (4-10) PLT 271 x 109 /L (150-400) Na 139 mmol/l (134-143) K 4.6 mmol/l (3.5-5) Cr 104 µmol/l (60-120) Stool sample: Trophozoites in the fresh stool sample. Which of the following is the most likely diagnosis?

**1- Giardiasis**

2- Schistosomiasis

3- Shigellosis

4- Tropical sprue

5- Whipple's disease

Q1959. A 72-year-old man is discharged from hospital following a stroke. During his stay he was started on several new medications. He presents with diarrhoea. Which of the following medications is most likely to be the cause?

1- Clopidogrel

2- Enalapril

**3- Metformin**

4- Pioglitazone

5- Simvastatin

Q1960. Which one of the following require urgent referral for upper endoscopy?

1- A 35-year-old male who has a history of waterbrash and dyspepsia which has responded to a course of ranitidine but since stopping has recurred

2- A 45-year-old male with a one month history of persistent dyspepsia

3- A 56-year-old male with a one month history of dyspepsia and a pulsatile central abdominal mass

4- A 62-year-old male with a three month history of unexplained weight loss, tenesmus and a right abdominal mass

**5- A 73-year-old male with a three month history of dyspepsia which has failed to respond to a course of proton pump inhibitors**

Q1961. A 75-year-old patient presents with watery diarrhoea. He is passing large volumes of watery diarrhoea, approximately 3 litres a day, with no noticeable blood. It has been present for approximately five months and is gradually becoming more frequent. It often wakes him at night with the urge to defecate. Liver function tests, calcium and urea and electrolytes are normal. Stool microscopy and culture are normal, and Clostridium difficile toxin is negative. A flexible sigmoidoscopy is organised, and the investigator reports to you that the large bowel appears normal. From which of the following treatments may this patient benefit?

1- Gluten free diet

2- High fibre diet

3- Low residue diet

**4- Oral cholestyramine**

5- Oral prednisolone

Q1962. A 50-year-old male with a history of alcohol dependence syndrome presents with a two week history of confusion. Which of the following strongly suggests a diagnosis of Korsakoff's psychosis?

1- Delusional jealous beliefs

2- Epileptic seizures

3- Impaired long term memory

**4- Inventing recent events**

5- Visual hallucinations

Q1963. A 55-year-old male is admitted with vomiting. He has a long history of alcohol abuse, appears slightly jaundiced and is dishevelled and unkempt. He was started on an intravenous glucose infusion and diazepam and he symptomatically improved. One day later he becomes confused, develops vomiting, diplopia and is unable to stand. What is the most likely diagnosis?

1- Benzodiazepine intoxication

2- Delirium tremens

3- Hepatic encephalopathy

4- Subdural haematoma

**5- Vitamin B deficiency**

Q1964. A 67-year-old man with known aortic valvular disease is admitted with deteriorating dyspnoea. Investigations show: Haemoglobin 9 g/dL (12-16) MCV 70 fL (80-96) Upper gastrointestinal tract endoscopy: Normal Duodenal biopsy: Normal Which one of the following investigations is most likely to provide the diagnosis?

1- Barium enema

**2- Colonoscopy**

3- CT abdomen

4- Mesenteric angiography

5- Small bowel enema

Q1965. A 24-year-old woman who has a long history of ulcerative colitis and takes mesalazine 3 g per day discovers that she is 10 weeks pregnant. She is also a smoker of 15 cigarettes daily. She now presents with a deterioration of symptoms with six bloody stools per day. Which one of the following statements is correct?

**1- Azathioprine would be contraindicated**

2- Initiating an elemental diet predisposes to fetal malnutrition

3- Mesalazine therapy should be withdrawn

4- Steroid therapy is contraindicated

5- Termination of the pregnancy is advised

Q1966. A 22-year-old man presented to the casualty department one week after returning from a six month visit to Pakistan. He complained of fever, rigors and headache. On examination he was febrile (38° C) with a blood pressure of 115/65 mmHg, and a pulse of 100/minute. His abdomen was tender in the right upper quadrant. Investigations showed: Hb 11.0 g/dL (13.0-18.0) WBC 15.5 x 109 /L (4-11 x109) Neutrophils 13.5 xl09/L (1.5-7 x109) Platelets 350 x 109 /L (150-400 x109) Blood film No malaria parasites seen Alk Phos 450 U/L (45-105) AST 50 U/L (1-31) CRP 88 mg/L (<10) Stool culture Negative Chest x ray: Small right pleural effusion noted Which of the following investigations would be of most diagnostic value?

1- Hepatitis E serology

2- Sigmoidoscopy

3- Stool microscopy for ova, cysts and parasites

4- Typhoid serology

**5- Ultrasound scan of the abdomen**

Q1967. A 60-year-old woman with known alcoholic liver cirrhosis presents with vague abdominal pains, malaise and nausea. She has been abstinent since she was diagnosed eight months ago. On examination she had moderate ascites and mild, generalised abdominal tenderness. Investigations show: Haemoglobin 11.2 g/dL (11.5-16.5) WCC 15 x 109 /L (4-11 x109) Prothrombin time 21 secs (11.5-15.5) Serum Albumin 28 g/L (37-49) Serum total bilirubin 56 µmol/L (1-22) Ascitic fluid protein 26 g/L Ascitic fluid amylase Normal Ascitic fluid white cell count 500 x 109 /L What is the most likely reason for her current problem?

1- Hepatic vein thrombosis

2- Pancreatic pseudocyst rupture

3- Portal vein thrombosis (PV T) 4- Primary liver cancer

**5- Spontaneous bacterial peritonitis**

Q1968. Which of the following is true concerning a hepatitis E infection?

1- CT scan of the liver with contrast shows diagnostic appearances.

2- It can be transmitted with hepatitis B.

**3- It does not result in a carrier state.**

4- It is a recognised cause of chronic liver disease.

5- The incidence of chronic liver disease is reduced by administration of alpha interferon.

Q1969. Which of the following statements regarding colon cancer is correct?

1- In non-familial cases gene mutations in the cancer cells are unusual

2- In familial cases the inheritance pattern is typically autosomal recessive

3- It occurs most commonly in the ascending colon

4- It is a characteristic feature of the PeutzJegher syndrome

**5- In familial polyposis coli the increased cancer risk is due to inheritance of a mutated suppressor gene**

Q1970. Which of the following statements is correct of hepatitis C virus infection?

1- Cell cultures of virus are routinely used to assess response to drug therapy

2- High antibody titres are an indication for therapy

3- Less than 5% of cases lead to chronic infection

**4- Treatment with ribavirin and interferon alpha is more effective than interferon alpha alone**

5- More likely to be transmitted by the sexual route than hepatitis B virus

Q1971. A 45-year-old woman is diagnosed with a duodenal ulcer. Which one of the following is the most sensitive test for detecting current infection with Helicobacter pylori?

1- Culture of a gastric biopsy

2- Gastric fundal biopsy

3- Presence of Helicobacter pylori serum antibodies

**4- The (13 C) urea breath test**

5- Urease test on gastric biopsy

Q1972. A 29-year-old man presents with anaemia, bleeding tendency, diarrhoea and abdominal pain. Examination reveals a palpable mass in the right lower quadrant and anal skin tags. What is the most likely underlying condition?

1- Chronic pancreatitis

2- Coeliac disease

**3- Crohn's disease**

4- Intestinal lymphoma

5- Ulcerative colitis

Q1973. A 43-year-old male presents with weight loss and watery diarrhoea. Investigations reveal hypokalaemia with a pancreatic mass. Which of the following would support the diagnosis of a VIPoma?

**1- Achlorhydria**

2- Hypoglycaemia

3- Increased pancreatic polypeptide

4- Migratory erythema

5- Pellagra

Q1974. Which of the following is correct regarding reflux of gastric contents into the oesophagus?

1- Can be excluded by a normal appearance at endoscopy

2- Can be improved by Helicobacter pylori eradication

3- Is a cause of asthma

4- Is neutralised by bicarbonate secreted by the oesophageal mucosa

**5- Occurs during transient relaxation of the lower oesophageal sphincter**

Q1975. A 55-year-old man is admitted with frank haematemesis. The patient is a poor historian but a recent discharge summary reports he was under the gastroenterology team two months previously with decompensated alcoholic liver disease. On examination he appears anxious; he is tachycardic at 105 beats per minute with a blood pressure of 122/90 mmHg. There is evidence of palmar erythema and spider naevi. Abdominal examination reveals hepatosplenomegaly and mild ascites. There is no evidence of melaena on rectal examination. He has a further episode of haematemesis while in the Emergency department which the nursing staff estimates at approximately 500 ml. Which class of hypovolaemic shock is applicable to this patient's clinical state?

1- Class I

**2- Class II**

3- Class III

4- Class IV

5- Class V

Q1976. A 45-year-old woman presents with pruritis. On examination she has clubbing, palmar erythema and spider naevi. There is also evidence of excoriations and xanthelasma. Blood results demonstrate deranged liver function tests with a predominantly cholestatic picture but the abdominal ultrasound scan is normal. A subsequent autoimmune screen is positive for antimitochondrial antibodies. Given the likely diagnosis, which of the following HLA antigens is associated with this disease?

1- HLA-A3

2- HLA-B5

3- HLA-B27

4- HLA-B35

**5- HLA-DR8**

Q1977. Which of the following dermatological conditions is associated with oesophageal carcinoma?

1- Acanthosis nigricans

2- Ichthyosis

3- Necrolytic migratory erythema

**4- Tylosis**

5- Vasculitis

Q1978. A 23-year-old man presents with steatorrhoea and weight loss. On examination he is found to have a vesicular rash over his elbows and knees which he describes as extremely pruritic. Which of the following immunoglobulins is characteristically present at the dermoepidermal junction?

**1- IgA**

2- IgD

3- IgE

4- IgG

5- IgM

Q1979. A 28-year-old woman presents with a six month history of diarrhoea and weight loss. On examination her abdomen is mildly distended. She is found to be anaemic, liver function tests are abnormal and iron and folate levels are both low. Tissue transglutaminase antibody level is elevated and duodenal biopsies demonstrate increased intraepithelial lymphocytes and villous atrophy consistent with a diagnosis of coeliac disease. Which cell type is responsible for the hypersensitivity response against gluten?

1- B cell

2- Macrophage

3- Monocytes

4- Natural killer (N K) cell

**5- T cell**

Q1980. Which of the following drugs is an inhibitor of cytochrome P450 hepatic enzymes?

1- Carbamazepine

2- Griseofulvin

**3- Omeprazole**

4- Phenytoin

5- Rifampicin

Q1981. Which of the following demonstrates autosomal co-dominant inheritance?

**1- Alpha-1-antitrypsin deficiency**

2- Cowden's disease

3- Familial adenomatous polyposis

4- Hereditary haemorrhagic telangiectasia

5- Peutz-Jeghers syndrome

Q1982. A 54-year-old man comes to the gastroenterology clinic for follow up of his ulcerative colitis. Over the past few months he has suffered problems with increasing lethargy, and most recently has been off his food and has begun to suffer from intense itching. On examination his BP is 145/82 mmHg and pulse 78. He has mildly jaundiced sclerae, and some scratch marks, predominantly on his arms. The rest of the physical examination was unremarkable. Investigations showed Haemoglobin 12.0 g/dl(13.5-17.7) White cells 7.8 x 109 /L (4-11) Platelets 189 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.4 mmol/l (3.5-5) Creatinine 95 μmol/l (79-118) Albumin 35 g/l (35-50) Alanine aminotransferase 85 U/l (5-40) Alkaline phosphatase 395 U/l (39-117) pANCA Positive Which of the following is the most likely diagnosis?

1- Autoimmune hepatitis

2- Churg-Strauss syndrome

3- Pancreatic carcinoma

4- Primary biliary cirrhosis

**5- Primary sclerosing cholangitis**

Q1983. In which part of the body is conjugated bilirubin metabolised to urobilinogen?

1- Common bile duct

2- Hepatic sinusoids

**3- Large intestine**

4- Small intestine

5- Splenic macrophages

Q1984. A 17-year- old girl is commenced on nasogastric feeding due to severe anorexia nervosa. Five days later she becomes increasingly confused. On examination she was apyrexial, appeared appropriately hydrated, with a pulse of 98 beats per minute and blood pressure 96/60 mmHg. Which one of the following investigations should be requested forthwith?

1- Arterial blood gases

**2- Phosphate**

3- Serum calcium

4- Serum magnesium

5- Vitamin B concentrations

Q1985. Which of the following statements regarding jejunal biopsy is correct?

1- Electron microscopy is necessary to confirm the presence of villous atrophy

2- Sub-total villous atrophy is diagnostic of gluten-sensitive enteropathy and is not found in other conditions

3- It is contraindicated over the age of 70 years

4- In tropical countries apparently healthy people have a mucosal structure which would be regarded as abnormal in Europe

**5- It can be used to diagnose Whipple's disease**

Q1986. A 70-year-old man is admitted with pruritus and jaundice of two weeks duration and 2 kg weight loss over the last 2 years. He had not drunk any alcohol for at least eight years. One month ago he had completed a course of co-amoxiclav which had been prescribed by his GP for sinusitis and he was also taking ibuprofen for hip osteoarthritis. Investigations reveal: Albumin 38 g/l (37-49) Bilirubin 200 mol/l (1-22) AST 150 U/l (5-35) Alkaline phosphatase 200 U/l (45-105) Abdominal ultrasound reveals gallstones but no biliary duct dilatation. What is the most likely cause of his jaundice?

1- Cholangio-carcinoma

**2- Co-amoxiclav**

3- Hepatitis B infection

4- Hepatitis C infection

5- Ibuprofen

Q1987. A 58-year-old man presents to your clinic with dysphagia for solids for the past three months. He also complains of weight loss and loss of appetite. There is no other past medical history, apart from symptoms of indigestion and heartburn for the past five years. He regularly takes Gaviscon and Rennie tablets. He is a heavy smoker and a regular drinker. He undergoes endoscopy, which reveals a small tumour at the lower end of the oesophagus. What is the most likely aetiological cause for the tumour?

1- Alcohol

**2- Barrett's oesophagus**

3- Helicobacter pylori

4- Oesophageal candidiasis

5- Oesophageal pouch

Q1988. A 38-year-old woman presents with a recent history of pruritis, fatigue and jaundice. Investigations revealed: Liver biopsy: Shows periportal fibrosis with periportal inflammation and prominent enlargement of the portal tracts. Which one of the following antibodies is most likely to be found in the blood?

1- Anticardiolipin

2- Anticentromere

**3- Antimitochondrial**

4- Antimyeloperoxidase

5- Antinuclear

Q1989. With which of the following is non-alcoholic steatohepatitis associated?

1- A benign course in all cases

2- Alcohol abuse

**3- Insulin resistance**

4- Normal level of liver enzymes

5- Viral hepatitis

Q1990. A 45-year-old gentleman presents with dyspepsia of five months duration and loss of weight. Examination reveals mild pallor and slight epigastric tenderness. Gastroscopy reveals 5 mm posterior ulcer in the first part of duodenum and 2 cm mass on lesser curve of the stomach. Biopsy of the mass reveals mucosa-associated lymphoid tumour confined to gastric mucosa. He has tested positive for H. pylori infection. Which of the following treatment options will be appropriate for him?

1- Chemotherapy 2- H. pylori eradication

3- Proton pump inhibitor

4- Radiotherapy

5- Surgery

Q1991. A 50-year-old man who is well known to the casualty department attends inebriated. He has an alcoholic encephalopathy with a Glasgow coma scale of 13. He is jaundiced, describes no symptoms, but is mildly short of breath. You are presented with his blood results: Haemoglobin 7.4 g/dl(12 - 16 g/d l) White cell count 10.1 x 109 /L (4 - 10 x 109 / L) Platelets 137 x 109 /L (140-400 x 109 / L) Sodium 133 mmol/l (133 - 144 mmol/ L) Potassium 3.7 mmol/l (3.5 - 5 x 109 / L) Urea 12 mmol/l (3 - 8 x 109 / L) Creatinine 113 µmol/l (50 - 100) AST 124 U/L(5 - 40) Alkaline Phosphatase 224 U/L(50 - 110) Total Protein 54 g/l (60 - 80g/ L) Bilirubin 63 µmol/l (3 - 18) Cholesterol 15.3 mmol/l (<5.5 mmol/ L) Triglycerides 7.2 mmol/l (<2.2 mmol/ L) Blood film Profound spherocytosis Which of the following is the most appropriate treatment for this patient?

1- IV steroids

2- MRI pancreas

3- Oesophago-gastro-duodenoscopy

**4- Supportive therapy**

5- Urgent laporotomy

Q1992. A 49-year-old woman presents with a six month history of pruritus. Examintation reveals jaundice, xanthelasma, scratch marks, vitiligo and 3 cm hepatomegaly. She was afebrile. Liver function tests reveal raised bilirubin, alkaline phosphatase, gamma glutamyl transferase and mildly elevated alanine transaminase and aspartate transaminase. Which of the following conditions will most likely be found in this woman?

1- Constipation

2- Haemolysis

3- Lymphadenopathy

**4- Vitamin A deficiency**

5- Vitamin B complex deficiency

Q1993. A group of construction workers presented to the emergency department with diarrhoea, flushing, sweating and a hot mouth. They fell ill minutes after eating lunch in the staff canteen. They admitted that they had eaten tuna fish. What is the likely cause of food poisoning?

1- Clostridium perfringens

2- Heavy metal

3- Mushroom

**4- Scrombotoxin**

5- Staphylococcus aureus

Q1994. A 45-year-old female develops profuse watery diarrhoea with lower abdominal pain seven days after undergoing laparoscopic cholecystectomy. What is the most likely diagnosis?

1- Abdominal sepsis

2- Bile acid diarrhoea

3- Campylobacter gastroenteritis

**4- Pseudomembranous colitis**

5- Pseudo-obstruction

Q1995. Which of the following is most likely to be reversible following venesection in a 45-yearold male with haemochromatosis?

1- Arthropathy

**2- Cardiomyopathy**

3- Cirrhosis

4- Diabetes mellitus

5- Hypopituitarism

Q1996. A 17-year-old student returns from a backpacking trip to Nepal with a two week history of offensive diarrhoea and weight loss. What is the most likely infective organism?

1- Escherichia coli 0157

**2- Giardia intestinalis (G.lambli a) 3- Salmonella typhi**

4- Shigella flexneri

5- Yersinia enterocolitica

Q1997. A 75-year-old male presents with a two month history of dyspnoea, weight loss and generalised lethargy. His medical history included a previous left-sided hemiparesis due to stroke for which he took aspirin and perindopril. Examination revealed residual left sided hemiparesis together with a pale and slightly jaundiced appearance. Investigations show: Haemoglobin 5 g/dL(13.0-18.0) MCV 109 fL(80-96) White cell count 2 x 109 /L (4-11) Platelets 45 x 109 /L (150-400) Urinalysis: Increased urobilinogen. What is the next most appropriate investigation?

1- Bone marrow aspirate

2- Direct antiglobulin test

3- Endoscopy

4- Serum haptoglobins

**5- Vitamin B12 concentration**

Q1998. A 70-year-old woman presented with a history of pancreatitis and persistent diarrhoea. She also gave a history of osteoporosis and had had a deep vein thrombosis. Which one of the following drugs will become less effective after she starts taking cholestyramine to relieve intolerable itching?

1- Aspirin

2- Folic acid

3- Thiamine

**4- Vitamin D**

5- Warfarin

Q1999. A 19-year-old student presents with weight loss and blood loss per rectum. You organise a flexible sigmoidoscopy. Which of the following histological features would favour a diagnosis of Crohn's disease and not ulcerative colitis?

1- Caseating granulomata

2- Crypt abscesses

3- Goblet cell mucus depletion

**4- Lymphocyte infiltrate of the lamina propria**

5- Metaplastic polyp formation

Q2000. An asymptomatic 40-year-old female underwent an abdominal ultrasound scan as part of a clinical trial and was noted to have gallstones but entirely normal liver function tests. Which one of the following is the most appropriate management?

1- Chenodeoxycholic acid

2- Laparoscopic cholecystectomy

3- Lithotripsy

**4- Observation**

5- Ursodeoxycholic acid

Q2001. A 42-year-old man being investigated for diabetes and impotence is noted to have the following results: Alanine aminotransferase 30 U/l (5-35) Aspartate aminotransferase 22 U/l (1-31) Fasting plasma glucose 7.4 mmol/l (3.0-6.0) Ferritin 500 µg/l (15-300) Which one of the following would be the next most appropriate investigation?

1- Bone marrow smear and iron stain

2- Liver biopsy

3- Red cell protoporphyrins

4- Serum transferrin receptors

**5- Transferrin saturation**

Q2002. Which of the following statements concerning transferrin is correct?

1- In the absence of anaemia transferrin is 80% saturated with iron

2- Levels are elevated in haemochromatosis

**3- Levels are elevated in patients on the oral contraceptive pill**

4- Transferrin binds ferrous iron

5- Transferrin levels fall during pregnancy

Q2003. An 80-year-old woman presents with confusion associated with a chest infection. She received standard treatment, and four days later she developed green, then bloody diarrhoea. Which of the following organisms is most likely to be responsible for her diarrhoea?

1- Campylobacter jejuni

**2- Clostridium difficile**

3- Escherichia coli 0157

4- Methicillin-resistant Staphylococcus aureus

5- Vancomycin-resistant Enterococcus

Q2004. Which of the following statements concerning iron metabolism is correct?

**1- Approximately 0.1% of body iron circulates in the plasma**

2- Approximately 90% of dietary iron is absorbed in the intestine

3- The main route of excretion is the liver

4- The serum ferritin concentration is reduced characteristically following surgery

5- The transferrin content of intestinal mucosal cells is high when body iron stores are high

Q2005. An 81-year-old frail man admitted with a stroke becomes increasingly drowsy after receiving nasogastric (N G) feeding for five days. Which biochemical abnormality is the most likely cause of his drowsiness?

1- Hyperglycaemia

2- Hypermagnesaemia

3- Hypernatraemia

4- Hypocalcaemia

**5- Hypophosphataemia**

Q2006. Which one of the following organs is in direct contact with the anterior surface of the left kidney, without being separated from it by peritoneum?

1- Duodenum

2- Jejunum

**3- Pancreas**

4- Spleen

5- Stomach

Q2007. A 28-year-old lady develops abdominal pain, jaundice and ascites worsening over a week. She drinks ten units of alcohol each week and takes the oral contraceptive pill. Which of the following findings would make a diagnosis of hepatic vein thrombosis (BuddChiari syndrome [BCS]) most likely?

1- Acute liver failure

2- Alanine aminotransferase (AL T) of 345 U/L (5 - 35)

3- Ankle oedema

4- Ascites fluid protein of 38 g/L

**5- Tender enlarged liver**

Q2008. Which of the following is true of spontaneous bacterial peritonitis (SB P) ?

1- A survival rate of over 50% is expected at one year

2- Gentamicin is the treatment of choice

**3- Is characteristically caused by aerobic bacteria**

4- Is diagnosed by culture of ascitic fluid

5- Is due to intestinal perforation

Q2009. Which clinical feature is consistent with a diagnosis of VIPoma?

1- Alkalosis

2- Hypoglycaemia

**3- Hypokalaemia**

4- Increased gastric acid seceretion

5- Provocation of VIP release by somatostatin

Q2010. A 36-year-old man presented with a three day history of bloody diarrhoea. He was apyrexial and mildly icteric. Investigations revealed: Haemoglobin 10.5 g/dL(13.0-18.0) White cell count 19 x 109 /L (4-11 x109) Platelets 70 x 109 /L (150-400 x109) Serum urea 12.5 mmol/L(2.5-7.5) Serum aspartate aminotransferase 90 U/L(

**1- 31) Prothrombin time 12s(11.5-15.5) Blood film: Fragmented red cells What is the most likely cause of his illness?**

**1- Escherichia coli 0157 colitis**

2- Ischaemic colitis

3- Leptospirosis

4- Salmonella enterocolitis

5- Ulcerative colitis

Q2011. A 24-year-old woman was referred with tiredness and intermittent bloody diarrhoea and a past history of cerebral venous thrombosis. On examination the sclera of the right eye was inflamed and multiple mouth ulcers were noted. At the colonoscopy, which confirmed colitis, two large vulval ulcers were noted. Which is the most likely diagnosis?

**1- Behcet's disease.**

2- Crohn's disease.

3- HIV infection

4- Syphilis

5- Ulcerative colitis.

Q2012. A 24-year-old woman had ulcerative colitis (U C) for seven years and was prescribed mesalazine 1.5 g per day. She smoked 20 cigarettes per day and was 10 weeks pregnant. She complained of worsening symptoms with six bloody stools per day. Which one of the following statements is correct?

**1- Azathioprine is relatively contraindicated.**

2- Initiation of an elemental diet risks fetal malnutrition.

3- Oral corticosteroids are contraindicated.

4- Oral mesalazine therapy should be withdrawn.

5- Termination of the pregnancy is advisable.

Q2013. A 48-year-old woman complains of pruritis, steatorrhoea and bruising. On examination, she is jaundiced, pigmented with spider naevi and hepatosplenomegaly. What is the most likely underlying diagnosis?

1- Alcoholic liver disease

2- Alpha-1 antitrypsin deficiency

3- Autoimmune hepatitis

**4- Primary biliary cirrhosis**

5- Wilson's disease

Q2014. A 26-year-old presents in the first trimester of her first pregnancy (six weeks gestatio n) for an antenatal check; she feels well. Blood tests show a bilirubin of 40 µmol/L (

1- 22); the other LFTs are completely normal. Which of the following is the most likely diagnosis?

1- Cholestasis of pregnancy

2- Dubin-Johnson syndrome (DJ S) 3- Gilbert's syndrome

4- Primary biliary cirrhosis (PB C) 5- Primary sclerosing cholangitis (PS C)

Q2015. A 20-year-old man was found to have iron deficiency anaemia when he went to donate blood. The Blood Transfusion Service contacted his general practitioner, who referred the patient to the outpatient clinic for further investigation. Generally, the patient was very well. He had a good appetite, his weight was steady and he ate a normal diet. He had a normal bowel habit and had never passed any blood, mucus or diarrhoea in his stools. The patient denied knowledge of any overt blood loss from any other source. His general practitioner had organised an open access endoscopy which was normal; duodenal biopsies were unremarkable. He had a limited knowledge of his family history as his mother had died in childbirth and as a result he was an only child. His father had died of what he thought was secondary liver and lung cancer but he was unsure. On general physical examination he was fit and athletic. The skin and mucosal membranes were unremarkable. Pulse was 70 beats per minute and regular with a blood pressure of 132/78 mmHg. Heart sounds were normal and the chest was clear. His abdomen was soft and non-tender with no palpable masses or organs. Rectal examination was normal. On viewing the rectal mucosa through a rigid sigmoidoscope the colonic mucosa was covered in innumerable polyps. What specific genetic abnormality is responsible for this appearance?

1- Germline mutation of the STK11 gene on chromosome 19

2- Heterozygous mutation of the MYH gene

**3- Loss of the APC gene on chromosome 5**

4- Mutations in mismatch repair genes (for example, MSH2)

5- Mutation of the p53 tumour suppressor gene

Q2016. You review an 84-year-old lady in the gastroenterology clinic. She has been referred by her GP with a three month history of change in bowel habit and weight loss. Recently she has noticed PR bleeding with blood in the stool. There is a history of ischaemic heart disease with a previous myocardial infarction three years ago. She suffers from stable angina and congestive cardiac failure. Which of the following investigations would be most appropriate to make the diagnosis?

1- Barium enema

2- Colonoscopy

3- CT abdomen

4- CT colonography

**5- Flexible sigmoidoscopy**

Q2017. Which of the following drugs does not undergo extensive hepatic first-pass metabolism?

1- Budesonide

2- Glyceryl trinitrate

3- Ketoconazole

4- Salbutamol

**5- Warfarin**

Q2018. Which of the following genotypes is associated with the lowest levels of alpha-1-antitrypsin (AA T) ?

1- PiMM

2- PiMS

3- PiMZ

4- PiSZ

**5- PiZZ**

Q2019. Which of the following is an inhibitor of gastric acid secretion?

1- Acetylcholine

2- Histamine

**3- Prostaglandins**

4- Stomach distension

5- Swallowing

Q2020. A 61-year-old Caucasian patient presents to the gastroenterology clinic following a three month history of malaise with no other specific symptoms. She had a hysterectomy in her 40s for symptomatic fibroids following completion of her family, and developed pre-eclampsia in both of her pregnancies. She is a current and lifelong smoker, takes no alcohol and previously worked as a secretary. Present medication consists of Premarin 300 mcg OD, salbutamol PRN, Seretide BD and amlodipine 5 mg OD. On examination the patient is pale with normal capillary refill time. The heart rate is 72, sinus rhythm. Blood pressure is 168/95 mmg. Chest auscultation revealed neither crackles nor wheeze. Examination is otherwise unremarkable, with normal fundoscopy, urine dip and ECG. Iron deficiency anaemia is seen on full blood count, and outpatient endoscopy is organised. Which of the following is not a risk factor for the patient's pre-existent hypertension?

1- Hormone replacement therapy

2- Multiparity

**3- Obstructive airway disease**

4- Prior pre-eclampsia

5- Smoking

Q2021. A 71-year-old man presents to the Emergency department with acute severe abdominal pain and diarrhoea. He describes the pain as a dull ache across his abdomen. He apparently underwent a bowel resection some four months earlier, and he has a history of ischaemic heart disease and two previous myocardial infarctions. He reports intermittent abdominal pain leading up to this latest event, which seemed to be worse if he had eaten a heavy meal. On examination his BP is 100/55 mmHg, his pulse is 105 in atrial fibrillation (A F) . His abdomen is generally tender, with sparse bowel sounds. Investigations show Hb 11.0 g/dl(13.5-18) WCC 14.5 x 109 /L (4-11) PLT 207 x 109 /L (150-400) Na 139 mmol/l (135-146) K 5.4 mmol/l (3.5-5) Cr 172 mmol/l (79-118) Amylase 450 U/l (60-180) Lactate 4.2 mmol/l (0.5-2.2) A plain abdominal film is unremarkable. Which of the following is the most likely diagnosis?

1- Acute pancreatitis

2- Inflammatory colitis

3- Irritable bowel syndrome

**4- Mesenteric ischaemia**

5- Small bowel obstruction

Q2022. A 24-year-old man has returned a few days earlier from a Nile cruise. He has begun suffering from profuse bloody diarrhoea. He opens his bowels several times per day, and there is blood and mucus mixed in with the motion each time. He is also complaining of dull abdominal pain. There is no past medical history of note. On further questioning he admits to buying fruit from local stalls at the river side. On examination he is pyrexial 37.8°C, and has generalised lower abdominal tenderness. Investigations show Haemoglobin 12.1 g/dl(13.5-8) White cell count 11.4 x 109 /L (4-10) Platelets 204 x 109 /L (150-400) Sodium 139 mmol/l (134-143) Potassium 3.9 mmol/l (3.5-5) Creatinine 125 μmol/l (60-120) Stool Blood White cells ++ Trophozoites Which of the following is the most appropriate initial therapy?

1- IV cefotaxime

2- Oral ciprofloxacin

3- Oral diloxanide

**4- Oral metronidazole**

5- Supportive therapy only with fluid resuscitation

Q2023. A 20-year-old woman was referred for investigation of iron deficiency anaemia. Her mother died aged 28 years from colonic carcinoma complicating Peutz-Jegher syndrome. Which is the most likely mode of inheritance of Peutz-Jegher syndrome?

**1- Autosomal dominant**

2- Autosomal recessive

3- Mitochondrial

4- Polygenic

5- X linked dominant

Q2024. A 60-year-old lady has a six month history of abdominal discomfort, bloating and altered frequency in stools. Her symptoms seem to be worse following a large meal where she also feels nausea. Clinical examination is normal. She is suspected of fulfilling the criteria for irritable bowel syndrome. Which of the following investigations should be undertaken to exclude other diagnoses?

**1- Anti-tissue transglutaminase (TT G) antibodies**

2- Faecal occult blood

3- Faecal ova/parasite tests

4- Sigmoidoscopy

5- Thyroid function test

Q2025. A 58-year-old man presents with a history of abdominal discomfort that is relieved by passing stool. In the past month his stools have been looser in nature and he has had a feeling of urgency and incomplete evacuation. His symptoms seem to be worse with eating. He has also noticed that he has passed mucus per rectum. He is overweight with a BMI of 28 kg/m2 . His weight has fallen. He says that he has adjusted his diet in the last six months. Which of the following is the most appropriate diagnosis?

**1- Colo-rectal carcinoma**

2- Diverticulitis

3- Inflammatory bowel disease

4- Irritable bowel syndrome

5- Malabsorption

Q2026. A 52-year-old male is admitted with vomiting and acute epigastric abdominal pain which radiates through to his back. Investigations confirm severe acute pancreatitis. Which of the following figures most accurately reflect the mortality associated with severe acute pancreatitis?

1- Less than 5%

2- Approximately 10%

**3- Approximately 20%**

4- Approximately 30%

5- Approximately 40%

Q2027. A 50-year-old woman is seen in the clinic because of deranged liver function tests (LFT s) . She drinks at most 4 units of alcohol weekly. On examination she is obese with a BMI of 45 kg/m2 and her LFTs show: ALT 140 U/L(5-40) AST150 U/L(10-40) Alkaline phosphatase 250 U/L(45-105) Which of the following is the most likely cause of this derangement?

**1- Diabetes mellitus**

2- Drug induced

3- Hyperparathyroidism

4- Hypertension

5- Hypothyroidism

Q2028. A 35-year-old obese Afro-Caribbean lady presents with mild jaundice. She claims to be a teetotaler and her BMI is 30 kg/m2 . Investigations reveal the following results. Haemoglobin 14 g/dL (11.5-16.5) U+Es Normal Bilirubin 25 µmol/L (1-22) Aspartate transaminase 140 U/L (1-31) Alanine transaminase 155 U/L (5-35) Alkaline phosphatase 160 U/L (60-110) Random blood glucose 11.2 mmol/L (3.0-6.0) Hepatitis A IgG Positive Hepatitis B and C screening Negative Anti-nuclear antibodies 1:16 titre Ultrasound abdomen reveals hyperechogenic hepatic parenchyma. Liver biopsy reveals lesions suggestive of alcoholic liver disease. On review of her notes, liver function tests performed six months previously showed similar values. Which of the following is the most likely diagnosis?

1- Alcoholic liver disease

2- Autoimmune hepatitis

**3- Non-alcoholic steatohepatitis**

4- Primary biliary cirrhosis

5- Viral hepatitis

Q2029. A 24-year-old woman has ingested an unknown quantity of paracetamol tablets four hours ago. She now presents with nausea, vomiting, anorexia and right subchondral pain. Which of the following features suggest that she should be transferred to the liver unit?

1- ALT 800 units/L

2- Blood glucose 5 mmol/L

3- Heart rate 120 BPM

**4- pH 7.25**

5- Systolic BP 100 mmHg

Q2030. A vegetarian woman had lunch at a Chinese buffet restaurant. In the evening she presented with diarrhoea and vomiting. There was no fever. Which of the following is the likely cause of food poisoning in her case?

**1- Bacillus cereus**

2- Clostridium perfringens

3- Escherichia coli

4- Salmonella typhimurium

5- Yersinia enterocolitica

Q2031. A 55-year-old woman is referred by her GP with abnormal liver function tests. She is overweight but otherwise well. Liver biopsy is reported as showing evidence of non-alcoholic steatotic hepatitis (NAS H) . Which of the following statements is correct concerning NASH?

1- Commoner in males than females

2- Has not shown improvement with pioglitazone

**3- Is associated with insulin resistance**

4- Is treated with urso-deoxycholic acid

5- The majority of patients will develop cirrhosis

Q2032. A 55-year-old male presents with dysphagia, retrosternal discomfort and weight loss. Studies reveal achalasia. Which of the following is most likely to provide symptomatic relief?

1- Buscopan

2- Diazepam

3- Nifedipine

4- Omeprazole

**5- Surgical cardiomyotomy**

Q2033. A 25-year-old female presents with red crusted lesions around the mouth and finger pulps, three months after having had small bowel resection for Crohn's disease. What is the most likely cause of her skin condition?

1- Nicotinamide deficiency

2- Pyridoxine deficiency

3- Thiamine deficiency

4- Vitamin B12 deficiency

**5- Zinc deficiency**

Q2034. A 36-year-old man presents with a 16 week history of indigestion. Five years previously he had been treated for a duodenal ulcer. Investigations reveal: Fasting gastrin 120 pmol/l (<55) Which one of the following statements regarding gastrin is correct?

1- It acts upon the G cells of the stomach

2- It inhibits the secretion of pancreatic bicarbonate

3- It is produced by the alpha cells of the pancreatic islets

4- It is produced by the parietal cells of the stomach

**5- Its release is stimulated by gastric luminal peptides**

Q2035. A 65-year-old male presents with a four month history of diarrhoea with pale stools and weight loss. Relevant results show: Calcium 1.8 mmol/L (2.2-2.6) Alkaline phosphatase 350 U/L (45-105) What is the most likely diagnosis?

1- Coeliac disease

2- Giardia lamblia infection

**3- Pancreatic carcinoma**

4- Small intestinal bacterial overgrowth

5- Whipple’s disease

Q2036. A 23-year-old woman with type 1 diabetes (T1D M) of three years duration, presents for annual review with weight loss. She had normal menstrual cycles and bowel habit was unchanged. On examination her BMI was 23 kg/m2 and investigations revealed a haemoglobin of 7 g/dL (11.5-16.5) and a MCV of 69 fL (80-96). Which of the following is the most likely diagnosis?

1- Anorexia nervosa

2- Bacterial overgrowth

3- Beta-thalassaemia minor

**4- Coeliac disease**

5- Crohn's disease

Q2037. With respect to liver cirrhosis, which of the following statements is correct?

1- Endothelin causes dilatation of the sinusoids, thus decreasing portal hypertension

2- In end-stage cirrhosis, liver transplantation is associated with 20% five year survival

**3- The final common pathway of hepatic fibrosis is mediated by the hepatic stellate cell**

4- Transforming growth factor is a potent promoter of the fibrogenic response by hepatocytes

5- Tumour necrosis factor is an antiinflammatory effector in fibrotic liver injury

Q2038. A 52-year-old male is admitted with haematemesis and melaena. Examination reveals that he is icteric, confused with a flapping tremor, has signs of chronic liver disease, a pulse rate of 110 bpm and blood pressure of 100/70 mmHg. Abdominal examination reveals ascites. An urgent endoscopy reveals small oesophageal varices without evidence of bleeding, but an oozing portal hypertensive gastropathy. Which of the following measures would be the most appropriate treatment for this patient?

1- Endoscopic banding

**2- Endoscopic injection of adrenaline**

3- Endoscopic injection of ethanolamine

4- Intravenous vitamin K

5- Oral propranolol

Q2039. A 55-year-old woman presents with lethargy, diarrhoea together with joint pains and intermittent fever. These symptoms have developed over the last six months during which time she has lost 6 kg in weight. Supraclavicular lymphadenopathy is noted. What is the most likely diagnosis?

1- Bacillary dysentery

2- Campylobacter infection

3- Coeliac disease

4- Giardiasis

**5- Whipple's disease**

Q2040. A 26-year-old woman is referred with intermittent diarrhoea present for a couple of years. She states that her weight has been steady but describes watery motions up to six stools per day and has also noted abdominal discomfort with bloating. She has not been aware of any blood in the motions or melaena. She describes no other medical history and denies taking any medication. Investigations show: Full blood count Normal Urea and electrolytes Normal Albumin 39 g/L(37-49) Corrected Calcium 2.2 mmol/L(2.2-2.6) Alkaline phosphatase 94 U/L(45-105) C-reactive protein6 mg/L(<10) Prothrombin time 12 s(11.5-15.5) What is the most likely diagnosis?

1- Crohn's disease

2- Intestinal tuberculosis

3- Small bowel bacterial overgrowth

**4- Laxative abuse**

5- Microscopic colitis

Q2041. A 60-year-old man presents with a five day history of lower abdominal pain and diarrhoea. He has a history of chronic obstructive airways disease (COA D) and has had numerous acute infective exacerbations over the last three months. On examination he was dehydrated, with a temperature of 38.6°C, a blood pressure of 102/72 mmHg and has a distended, tender abdomen. Which of the following is the most appropriate investigation for this patient?

1- Chest x ray

**2- Plain abdominal x ray**

3- Sigmoidoscopy and biopsy

4- Stool microscopy

5- Ultrasound scan of the abdomen

Q2042. A 47-year-old man presents with confusion and drowsiness. A diagnosis of hepatic encephalopathy is suspected and treatment with lactulose is begun. Which of the following concerning lactulose is true?

1- Absorbed from the gut

2- Causes hypermagnesaemia

3- Contraindicated in diabetes mellitus

**4- Inhibits proliferation of ammonia-forming organisms in the gut**

5- Reduces absorption of spironolactone

Q2043. A 42-year-old female presents with tiredness. Her investigations reveal: Haemoglobin 7.8 g/dL(11.5-16.5) MCV 72 fL(80-96) White cell count 7.6 x 109 /L (4-11 x109) Platelet count 350 x 109 /L (150-400 x109) Serum ferritin 8 µg/L(15-300) She was commenced on oral iron therapy and one month later her haemoglobin concentration was 8.0 g/dL (11.5-16.5). What is the most likely cause of the failure of her haemoglobin to respond to this treatment?

1- Coeliac disease

2- Folate deficiency

3- Inadequate dosage of iron

**4- Poor compliance with therapy**

5- Haemolytic anaemia

Q2044. A 65-year-old woman presented with a malabsorption syndrome. She had a past history of radiotherapy for cervical cancer. Small intestine biopsy reveals Villous atrophy and crypt hypertrophy Chronic inflammatory cell infiltrate of the lamina propria together with Increase in intraepithelial lymphocytes. What is the most likely diagnosis?

1- Bacterial overgrowth

**2- Coeliac disease**

3- Crohn's disease

4- Mesenteric ischaemia

5- Radiation enteropathy

Q2045. A 65-year-old man is referred with abnormal liver function and undergoes a liver biopsy. Which of the following count against hepatic cirrhosis?

1- Fibrous septa formation

**2- Granuloma formation**

3- Liver cell necrosis

4- Nodular regeneration

5- Subendothelial fibrosis

Q2046. Which of the following cell types are linked with the substance they synthesise?

1- Gastric chief cells - intrinsic factor

2- Islet A cells - somatostatin

**3- Islet B cells - amylin**

4- Islet D cells - pancreatic polypeptide

5- Islet F cells - glucagon

Q2047. A 58-year-old man ewith a longstanding history of alcohol excess has had an enlarging abdomen for several months. On physical examination he has a non-tender abdomen with no masses palpable, but there is a fluid thrill. An abdominal ultrasound scan shows a large abdominal fluid collection with a small cirrhotic liver. A chest x ray shows a globally enlarged heart. Which of the following conditions is most likely to be present?

**1- Dilated cardiomyopathy**

2- Lymphocytic myocarditis

3- Myocardial amyloid deposition

4- Non-bacterial thrombotic endocarditis

5- Severe occlusive coronary atherosclerosis

Q2048. In the diarrhoea associated with cholera toxin, there is activation of which of the following enzyme systems?

1- Adenosine triphosphate (AT P) .

**2- Adenylate cyclase.**

3- Guanylate cyclase.

4- Na-glucose co-transporter.

5- Na+/K+ ATPase pump.

Q2049. A 70-year-old man was admitted with pallor, light-headedness and loss of energy. On the day prior to admission he had reported loose dark stools. Examination revealed a pulse of 110 per minute and a blood pressure of 106/70 mmHg. Investigations revealed: Haemoglobin 7.2 g/dl(14-18) MCV 72 fl(80-96) White cell count 11.3 x 109 /L (4-11) Platelet count 480 x 109 /L (150-400) What is the most appropriate next step in his management?

1- Barium meal

**2- Blood transfusion**

3- Endoscopy

4- Parenteral iron infusion

5- Proton pump inhibitor therapy

Q2050. A 40-year-old man has a history of left-sided Crohn's colitis. Though previously treated with steroids and mesalazine, he has had several relapses in the past year. The last relapse, treated with high doses of steroids, was complicated by gastric bleeding. Investigations show: Haemoglobin 10.8 g/dL(13.0-18.0) MCV 76 fL(80-96) MCH 24 pg(28-32) White cell count 10 x 109 /L (4-11 x109) Platelets 400 x 109 /L (150-400 x109) Serum total protein 70 g/L(61-76) Serum albumin 30 g/L(37-49) Serum CRP 30 mg/L(<10) Abdominal x ray is normal. Which of the following is the most appropriate management?

1- A trial of oral metronidazole for three months.

2- Total colectomy with ileostomy construction.

3- Total colectomy with pouch construction.

**4- Treatment with azathioprine.**

5- Treatment with oral budesonide.

Q2051. A 55-year-old man on no current treatment for his quiescent ulcerative colitis (U C) is found to have an ESR of 95 mm/hr (

0- 20mm/1st hou r) . Investigations show: Haemoglobin 13.2g/dL(13.0-18.0) WCC 4.5 x 109 /L (4-11) Platelets 160 x 109 /L (150-400) Corrected Calcium 2.58 mmol/L(2.2-2.6) IgG 25g/L(6-13) IgA 1.8g/L(0.8-3.0) IgM 1.6g/L(0.4-2.2) What is the most appropriate next investigation?

1- Bone marrow trephine and aspiration.

2- Isotope bone scan.

**3- Plasma immunoelectrophoresis.**

4- Rectal biopsy.

5- x Ray skeletal survey.

Q2052. A 40-year-old single man returned from holiday in Europe with mild bloody diarrhoea which had lasted for two weeks. He had lost 2.5 kg in weight, had occasional lower abdominal cramping discomfort and a painful swelling of his left knee. What is the most likely diagnosis?

1- Amoebiasis

**2- Campylobacter infection**

3- Crohn's disease

4- Gonococcal septicaemia

5- Ulcerative colitis

Q2053. A 58-year-old man complains of tiredness, fever, weight loss, arthralgia and diarrhoea. Jejunal biopsy reveals flattened mucosa containing periodic acid-Schiff (PA S) positive macrophages. What is the most likely diagnosis?

1- Coeliac disease

2- Parasitic infection

3- Tropical sprue

4- Tuberculosis

**5- Whipple's disease**

Q2054. A 32-year-old man develops profuse diarrhoea with mucus and blood. Biopsies from the flexible sigmiodoscopy shows evidence of ulcerative colitis. Which of the following is true of the condition?

**1- Colectomy may worsen gall bladder disease**

2- Goblet cells are unaffected in the mucosa

3- Mesalazine therapy is associated with infertility in males

4- Pseudopolyps on sigmoidoscopic examination have premalignant potential

5- Topical 5-aminosalicylic acid is less effective than topical steroids in proctitis

Q2055. A 35-year-old man is referred to the gastroenterology clinic with persistent pain in the rectum. The patient reports recurrent painful oral ulcers. On direct questioning he admits to red and painful eyes. He also reports he has recently noticed an ulcer over his scrotum. On examination there is evidence of oral aphthous ulceration; abdominal examination reveals tenderness in the right iliac fossa and a bruit on auscultation of the abdomen. Rectal examination demonstrates perianal ulceration. What is the most likely diagnosis?

**1- Behçet's syndrome**

2- Crohn's disease

3- HIV infection

4- Syphilis

5- Tuberculosis

Q2056. A 21-year-old woman is referred from the Emergency department with a paracetamol overdose. Which of the following is an indication for liver transplantation in acute liver failure as a result of paracetamol overdose?

1- Arterial pH < 7.35

2- Bilirubin > 200 micromol/L

3- Creatinine > 250 micromol/L

4- Grade I encephalopathy

**5- Prothrombin time > 100 seconds (INR > 6.7)**

Q2057. A 28-year-old woman is referred by her GP to the gastroenterology clinic after a recent gastroscopy with duodenal biopsies confirmed the diagnosis of coeliac disease. What is the prevalence of coeliac disease in Europe?

1- 1:10

2- 1:30

**3- 1:300**

4- 1:1000

5- 1:3000

Q2058. A 34-year-old woman is referred to the gastroenterology clinic. The GP referral letter states the patient has persistent lethargy and blood results have demonstrated iron deficiency anaemia. Which of the following statements regarding iron deficiency anaemia is correct?

1- Endomysial antibody serology to investigate for coeliac disease should always be requested in addition to duodenal biopsies

2- Low serum iron with a low total ironbinding capacity confirms iron deficiency

**3- Microcytosis may be absent where there is combined iron and folate deficiency**

4- The presence of Howell-Jolly bodies on blood film would go against coeliac disease

5- Thrombocytosis indicates chronic blood loss

Q2059. A 48-year-old man presents with haematemesis and melaena. He admits to high alcohol intake. On examination he is shocked, his heart rate is 110 beats per minute and blood pressure is 92/74 mmHg. There is evidence of leukonychia and abdominal examination reveals tenderness in the epigastrium. What is the most likely underlying cause of the gastrointestinal haemorrhage?

1- Gastric antral vascular ectasia (GAV E) 2- Gastro-oesophageal varices

3- Mallory-Weiss tear

**4- Peptic ulceration**

5- Portal hypertensive gastropathy

Q2060. A 71-year-old woman comes to the clinic for advice. Over the course of the past year or two she has had increasing problems with regurgitation of rotten food, has lost weight and acquired a chronic cough. According to her partner she has problems with halitosis which have not improved on multiple visits to the dentist. On examination her BP is 145/82 mmHg, pulse is 70 and regular and her BMI is 27. She has a neck mass which appears to gurgle when she swallows. Investigations show: Haemoglobin 13.2 g/dl(11.5-16.0) White cell count 7.3 x 109 /L (4-11) Platelets 161 x 109 /L (150-400) Sodium 141 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 95 micromol/l (79-118) Which of the following is the most likely diagnosis?

1- Achalasia

2- Gastro-oesophageal reflux disease (GOR D) 3- Oesophageal carcinoma

**4- Pharyngeal pouch**

5- Plummer-Vinson's disease

Q2061. A 39-year-old man who is known to drink three bottles of wine per day presents to the Emergency department with dull abdominal pain. He tells you that he has suffered from increasing abdominal swelling over the past month. On examination his BP is 105/72 mmHg, his pulse is 92 and regular. He is pyrexial 37.9°C. His abdomen is generally tender but there are bowel sounds on auscultation. He is penicillin allergic. Investigations show: Haemoglobin 10.5 g/dl(13.5-17.7) White cell count 11.5 x 109 /L (4-11) Platelets 125 x 109 /L (150-400) Sodium 134 mmol/l (135-146) Potassium 3.6 mmol/l (3.5-5) Creatinine 90 µmol/l (79-118) 280 neutrophils / ml in ascitic fluid(<250) Which of the following is the most appropriate treatment?

**1- Ciprofloxacin and vancomycin**

2- Co-amoxiclav

3- Erythromycin and ciprofloxacin

4- Erythromycin and metronidazole

5- Piperacillin and tazobactam

Q2062. Which of the following drugs is a recognised cause of pancreatitis?

1- Alendronic acid

2- Amiodarone

3- Amitriptyline

4- Atenolol

**5- Azathioprine**

Q2063. Which of the following is a cause of macroglossia?

**1- Amyloidosis**

2- Crohn's disease

3- Glossitis

4- Peutz-Jeghers syndrome

5- Tuberous sclerosis

Q2064. Which of the following is a cause of primary iron overload?

1- Alcoholic liver disease

2- Aplastic anaemia

**3- Haemochromatosis**

4- Insulin resistance syndrome

5- Repeated blood transfusions

Q2065. Which of the following drugs is a P450 hepatic enzyme inducer?

1- Ciprofloxacin

2- Erythromycin

3- Ketoconazole

**4- Phenobarbitone**

5- Sodium valproate

Q2066. A 22-year-old man has been admitted with severe ulcerative colitis. He has been on high-dose steroids intravenously for three days but there have been no signs of improvement. The gastroenterology team have decided to commence ciclosporin. Which of the following is a recognised adverse effect of ciclosporin?

1- Eczema

**2- Hypertension**

3- Nephrotic syndrome

4- Psoriasis

5- Rheumatoid arthritis

Q2067. Which of the following demonstrates autosomal dominant inheritance?

**1- Acute intermittent porphyria**

2- Cystic fibrosis

3- Dubin-Johnson syndrome

4- Haemochromatosis

5- Wilson's disease

Q2068. From where is the hormone somatostatin released?

1- Duodenum

2- Jejunum

3- Liver

**4- Pancreas**

5- Stomach

Q2069. Which of the following features seen on barium studies is typical of both ulcerative colitis and Crohn's disease?

1- Cobblestone mucosa

**2- Pseudopolyps**

3- Rose-thorn ulcers

4- Skip lesions

5- Strictures

Q2070. A 21-year-old man was admitted with confusion. He was noted to have Kayser-Fleischer rings and his liver function tests were consistent with acute hepatitis. Which chromosome contains the gene for this disease?

1- Chromosome 6

**2- Chromosome 13**

3- Chromosome 15

4- Chromosome 17

5- Chromosome 22

Q2071. A 42-year-old man presents with a six month history of diarrhoea and abdominal cramps. On further questioning it appears he has also noticed facial flushing. On examination there is wheeze on auscultation of his chest and abdominal examination reveals hepatomegaly. Which of the following investigations would confirm the likely diagnosis?

**1- 24-hour urinary 5-HIAA**

2- 24-hour urinary copper

3- 24-hour urinary free cortisol

4- 24-hour urinary protein

5- 24-hour urinary VMA

Q2072. A 37-year-old woman gives an eight month history of bloody diarrhoea. On average she has six bowel motions per day with associated urgency. She also reports weight loss of approximately 3 kg. On examination she is dehydrated and tachycardic. There is evidence of pallor and abdominal examination reveals left-sided tenderness. Which of the following pathological features would you expect to find given the likely underlying diagnosis?

**1- Diffuse mucosal inflammation**

2- Lymphoid aggregates

3- Normal crypt architecture

4- Presence of goblet cells

5- Transmural inflammation

Q2073. A 42-year-old man with a history of ulcerative colitis (U C) comes to the gastroenterology clinic. He currently takes mesalazine and has quiescent disease. He has had three episodes of severe disease, the last one some two years ago. On examination he looks well, his BP is 115/72 mmHg, his pulse is 75 and regular, and his BMI is 23. His abdomen is soft and non-tender. Investigations show: Haemoglobin 13.0 g/dl(13.5-17.7) White cells 7.8 x 109 /L (4-11) Platelets 189 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.4 mmol/l (3.5-5) Creatinine 95 μmol/l (79-118) Albumin 40 g/l (35-50) Alanine aminotransferase35 U/l (5-40) He asks questions about his UC and risk of colonic malignancy with respect to his UC. Which of the following features would give you most cause for concern?

1- Disease confined to the rectum only

2- Disease duration of six years

**3- Disease throughout the colon**

4- No signs of primary sclerosing cholangitis

5- Three episodes of severe disease flare ups

Q2074. A 19-year-old woman returns from her gap year travels with chronic low grade fever, intermittent abdominal pain and diarrhoea. She has been feeling unwell for the past months and has returned to the UK because she has begun to lose weight. Her only medication is the combined oral contraceptive pill. On examination she looks pale, her BP is 110/60 mmHg, pulse is 75, and her BMI is 18 kg/m2 . Her abdomen is soft, but she does complain of some right-sided abdominal pain. Investigations show Hb 11.0 g/dl(11.5-16.5) WCC 9.8 x 109 /L (4-11) PLT 187 x 109 /L (150-400) CRP 67 mg/l (<10) Na 139 mmol/l (135-146) K 4.8 mmol/l (3.5-5) Cr 120 µmol/l (79-118) Colonoscopy reveals areas of discrete ulceration identified, punctuated by normal mucosa. The biopsy reveals transmural noncaseating granulomata. Which of the following is the most likely diagnosis?

1- Amoebiasis

2- Behçet's syndrome

**3- Crohn's disease**

4- Ulcerative colitis

5- Yersinia infection

Q2075. A 27-year-old woman presents to the Emergency department very agitated, complaining of abdominal pain. This has been her third attendance over the past six months, and each time there have been no significant findings. Her only medication of note is the oral contraceptive pill. On this occasion her BP is elevated 155/90 mmHg, her pulse is 92, and her temperature is 37.8°C. Her abdomen is generally tender but soft, and she has active bowel sounds. She complains of lower limb weakness, and she appears to have 4/5 power weakness below the knee. Investigations show: Hb 13.4 g/dl(13.5-18) WCC 10.2 x 109 /L (4-10) PLT 194 x 109 /L (150-400) Na 132 mmol/l (134-143) K 4.4 mmol/l (3.5-5) Cr 110 µmol/l (60-120) Which of the following is the most likely diagnosis?

**1- Acute intermittent porphyria**

2- Mesenteric adenitis

3- Münchausen's disease

4- Somatisation disorder

5- Variegate porphyria

Q2076. A 21-year-old anorexic is admitted for parenteral nutrition and has a tunnelled line inserted. A few days after parenteral feeding has begun you are asked to see her as she has begun complaining of diplopia, lethargy and muscle weakness. She also has paraesthesia affecting her hands and feet. Examination confirms global muscle weakness and peripheral sensory loss. Which of the following electrolyte abnormalities is the most likely to have occurred?

1- Hyperkalaemia

2- Hypermagnesaemia

3- Hyperphosphataemia

4- Hypocalcaemia

**5- Hypophosphataemia**

Q2077. A 41-year-old woman comes to the gastroenterology clinic for review. She underwent extensive resection of her distal small bowel for Crohn's disease around three months earlier. She is still suffering from diarrhoea and is worried that her Crohn's disease is still active. On examination her BP is 105/70 mmHg with a pulse of 80. Her abdomen is soft and nontender. Investigations show Haemoglobin 10.4 g/dl(13.5-8) White cell count 4.5 x 109 /L (4-10) Platelets 195 x 109 /L (150-400) Sodium 138 mmol/l (134-143) Potassium 3.4 mmol/l (3.5-5) Creatinine 140 μmol/l (60-120) C reactive protein 9 mg/l (<10) Which of the following is the most likely diagnosis?

1- Active Crohn's disease

2- Bacterial overgrowth syndrome

**3- Bile acid diarrhoea**

4- Ischaemic colitis

5- Short bowel syndrome

Q2078. A 58-year-old female with type 2 diabetes is admitted with diarrhoea and vomiting. She has noticed small amounts of blood in her stools. The vomiting had commenced one day after a meal of chicken and chips. The patient's type 2 diabetes is treated with diet alone. Stool cultures taken by the GP reveal Campylobacter jejuni. Which of the following is the most appropriate therapy?

1- Amoxicillin

2- Cefaclor

**3- IV fluids**

4- Metronidazole

5- Trimethoprim

Q2079. A patient presents with haematemesis. An oesophagogastroduodenoscopy detects a bleed in the greater curvature of the stomach. Which of the following arteries is most likely to be the source of the bleeding?

1- Cystic artery

2- Right gastric artery

3- Right hepatic artery

**4- Splenic artery**

5- Superior pancreaticoduodenal artery

Q2080. A patient presents with haematemesis. An oesophagogastroduodenoscopy detects a bleed in the lesser curvature of the stomach. Which of the following arteries is most likely to be the cause of the bleeding?

1- Left gastro-omental artery

2- Pancreaticoduodenal artery

**3- Right gastric artery**

4- Right hepatic artery

5- Splenic artery

Q2081. A 51-year-old male labourer presents with a haematemesis. Which of the following features confers the greatest risk of a poor outcome?

1- A blood pressure of 134/88 mmHg

**2- A history of ischaemic heart disease (IH D) 3- A plasma glucose of 7.2 mmol/l**

4- A pulse of 90 beats per minute

5- His age

Q2082. A study comparing contrast CT colonography with the reference technique of colonoscopy for large bowel carcinoma reveals the following data in 400 patients: CT Positive CT Negative Colonoscopy Positive 30 10 Colonoscopy negative 20 340 Which one of the following most accurately describes the performance of CT versus colonoscopy for the diagnosis of large bowel cancer?

1- There are 340 false negatives

2- There are 370 false negatives

3- There are 10 false positives

**4- There are 20 false positives**

5- There are 20 true negatives

Q2083. Which of the following gut hormones stimulates acid secretion in the stomach?

1- Cholecystokinin (CC K) 2- Gastrin

3- Polypeptide P

4- Secretin

5- Vasoactive intestinal peptide (VI P)

Q2084. A 64-year-old lady presents with symptoms suggestive of irritable bowel syndrome. Which of the following would represent a 'red flag' indicator and prompt further investigation?

1- Abdominal pain

2- Bloating

3- Change in bowel habit for last two years

**4- More frequent stools last two months**

5- Weight gain

Q2085. A man is admitted with acute abdominal pain and vomiting. He is diagnosed and treated for acute pancreatitis. Which of the following features is associated with a worse prognosis in acute pancreatitis?

**1- Plasma glucose of 11.1 mmol/l (3.5-5.5)**

2- Plasma sodium of 125 mmol/l (133-144)

3- Serum amylase of 1200 iu/l (24-100)

4- The patient is 50 years of age

5- White cell count of 13.9 x 109 /L

Q2086. A 70-year-old lady presented with dyspnoea and fever. She has a history of weight loss which has been investigated with colonoscopy which found a tumour of the sigmoid colon and she is awaiting surgery. On examination she has a systolic murmur and and ECHO shows vegetations on the mitral valve. A diagnosis of infective endocarditis is made. Which of the following organisms is associated with a high incidence of colorectal tumours?

1- Campylobacter jejuni

2- Enterococcus faecalis

3- Escherichia coli

4- Salmonella typhi

**5- Streptococcus bovis**

Q2087. A 61-year-old man has a 2 cm adenoma removed from his sigmoid colon. The biopsy results confirm an adenocarcinoma in situ with moderately differentiated dysplastic cells. The pathology report confirms total excision with clear resection margins. What is the most appropriate follow up management for this patient?

1- Annual carcinoembryonic antigen (CE A) 2- Chemotherapy

3- No follow up

**4- Regular follow up with colonoscopy**

5- Regular follow up with no colonoscopy

Q2088. A 19-year-old student presents with a 15 week history of diarrhoea. He has lost 2 kg in weight, and has no recent travel abroad. A smear of a duodenal biopsy reveals many trophozoites. What is the best treatment option?

1- Ciprofloxacin

2- Gluten free diet

**3- Metronidazole**

4- Prednisolone

5- Quinine

Q2089. A 69-year-old male is seen in the outpatients department. He reports weight loss of one stone over three months but his history is otherwise unremarkable. On examination his abdomen is soft with no palpable masses. A PR examination is normal. His blood tests show: Haemoglobin 8.0 g/dL(12-16) MCV 70 fL(80-96) Which of the following is the most appropriate investigation for this patient?

1- Abdominal x ray and colonoscopy

2- CT scan of the abdomen and upper GI endoscopy

3- Sigmoidoscopy upper GI endoscopy

4- Ultrasound scan of abdomen and colonoscopy

**5- Upper GI endoscopy and colonoscopy**

Q2090. A 40-year-old male presents with a six hour history of profuse vomiting and over the last two hours had developed left-sided chest pain and dyspnoea. On examination he had a pulse of 110 beats per minute regular and a blood pressure of 168/90 mmHg. On palpation, he had crepitus over the left supraclavicular region and neck, reduced heart sounds and left basal sided crackles, plus some dullness to percussion over the right base of the chest. What is the most likely diagnosis?

1- Aortic dissection

2- Aspiration pneumonia

**3- Oesophageal rupture**

4- Perforated peptic ulcer

5- Pneumothorax

Q2091. Which of the following is most commonly associated with the development of pseudomembranous colitis?

**1- Cefuroxime**

2- Ciprofloxacin

3- Co-trimoxazole

4- Erythromycin

5- Flucloxacillin

Q2092. A 45-year-old male with a long history of alcohol abuse presents with a two day history of deteriorating confusion. On examination he is drowsy, has a temperature of 39°C, a pulse of 110 beats per minute, a small amount of ascites and has features of a left side hemiparesis. What is the most likely diagnosis?

**1- Cerebral abscess**

2- Cerebro-vascular accident (CV A) 3- Hepatic encephalopathy

4- Subdural haematoma

5- Wernicke's encephalopathy

Q2093. Which of the following statements is correct concerning the relationship between type 2 diabetes and colonic cancer?

**1- Increased concentrations of C peptide are a marker of increased colorectal cancer risk**

2- Insulin treatment increases recurrence free survival after treatment of colonic cancer

3- The increased risk of colorectal cancer in diabetes is related to BMI

4- The increased risk of colorectal cancer in diabetes is related to total cholesterol

5- Type 1 diabetes has similar risks of colonic cancer as does type 2 diabetes

Q2094. A 43-year-old woman presents with abdominal pain and watery diarrhoea. She is taking ibuprofen for joint pains and has been previously investigated for infertility. She was given a proton pump inhibitor (PP I) by her GP for six weeks with no relief of her symptoms. Investigations show: Haemoglobin 12.2 g/dL (11.5-16.5) Calcium 2.86 mmol/L (2.2-2.6) Albumin 42 g/L (37-49) Phosphate 0.8 mmol/L (0.8-1.4) CRP 10 mg/L (<10) Endoscopy Multiple small duodenal ulcers H. pylori Negative What is the likely diagnosis?

1- Crohn’s disease

2- Cushing's syndrome

3- NSAID induced PUD

**4- Multiple endocrine neoplasia (ME N) 5- Small bowel lymphoma**

Q2095. A 50-year-old woman with a long history of alcohol abuse is prescribed phenytoin for epilepsy. Examination was normal except for a liver edge. Her full blood count reveals: Haemoglobin 10.0 g/dL (11.5-16.5) MCV 122 fL (80-96) White cell count 2.2 x 109 /L (4-11 x109) Platelet count 85 x 109 /L (150-400 x109) What is the most likely explanation for these results?

1- Alcoholic liver disease

2- Aplastic anaemia

**3- Folic acid deficiency**

4- Hypothyroidism

5- Vitamin C deficiency

Q2096. A 78-year-old woman with hip osteoarthritis presents with altered bowel habit. She undergoes a sigmoidoscopy and rectal biopsy shows normal epithelium and pigmentladen macrophages in the lamina propria. What is the most likely cause of these findings?

1- Diverticular disease

**2- Laxative abuse**

3- Mesenteric ischaemia

4- Non-steroidal anti-inflammatory drugs

5- Ulcerative colitis

Q2097. A 30-year-old man presents with acute, profuse, watery diarrhoea with some blood after returning from a holiday in Tanzania. He had been taking oral rehydration salts. Which one of the following is the most appropriate treatment?

**1- Ciprofloxacin**

2- Loperamide

3- Metronidazole

4- Prednisolone

5- Vancomycin

Q2098. A 33-year-old man with chronic hepatitis C is admitted with general deterioration, he has no specific symptoms. He has missed many of his previous outpatient appointments and currently is not receiving any treatment. On examination he is generally unwell with a temperature of 37.4°C, blood pressure of 130/72 mmHg and appears jaundiced with the presence of ascites. His investigations reveal: Serum Sodium 133 mmol/L (137-144) Serum Potassium 4.3 mmol/L (3.5-4.9) Serum Urea 21 mmol/L (2.5-7.5) Serum Creatinine 336 µmol/L (60-110) Bilirubin 78 µmol/L (1-22) AST 92 U/L (5-35) Alk Phosphatase 267 U/L (45-105) Albumin 30 g/L (37-49) Urine sodium 60 mmol/L Urine dipstick - + blood, +++ protein, leukocytes trace, nitrites negative Ascitic fluid analysis - RBCs 1,231/mm3 , WBCs 190/ mm3 (60% lymphocyte s) , albumin 12 g/L What is the likely diagnosis?

1- Abdominal tuberculosis

2- Urinary tract infection

3- Hepatorenal syndrome

**4- Mixed essential cryoglobulinaemia**

5- Spontaneous bacterial peritonitis

Q2099. With respect to gastric carcinoma, which of the following statements is true?

1- Aspirin use is a risk factor for gastric carcinoma

2- Early diagnosis of gastric carcinoma results in a five year survival rate of 20%

**3- Endoscopic ultrasonography is superior to conventional CT scanning for local tumour staging**

4- Helicobacter pylori infection is not associated with gastric carcinoma

5- Incidence of distal stomach tumours is increasing

Q2100. A 56-year-old female is noted to have hepatomegaly. Six years ago she was diagnosed with diabetes mellitus and takes metformin 500 mg tds and gliclazide 80 mg bd. She drinks approximately 15 units of alcohol weekly and stopped smoking 10 years ago. On examination she has a BMI of 36.2 kg/m2 , no stigmata of liver disease are evident but she has 6 cm hepatomegaly. Investigations reveal: Total Bilirubin 11 µmol/L(1-22) Alkaline phosphatase 145 U/L(45-105) AST 100 U/L(1-31) ALT 150 U/L(5-35) Albumin 40 g/L(37-49) Ferritin 434 µg/L(15-300) Ultrasound of the abdomen reveals an echobright appearance of the liver and gallstones in the gallbladder. What is the most likely cause of her liver disease?

1- Alcoholic liver disease

2- Drug induced hepatitis

3- Gallstone disease

4- Haemochromatosis

**5- Non-alcoholic steatohepatitis (NAS H)**

Q2101. A 52-year-old man presents with general deterioration. He drinks approximately 25 units of alcohol each week and is a smoker of five cigarettes daily. Examination reveals that he is jaundiced, has numerous spider naevi on his chest and he has a temperature of 37.2°C. Abdominal examination reveals hepato-splenomegaly. Investigations reveal: Bilirubin 100 micromol/L (1-22) Alkaline phosphatase310 iu/l (45 - 105) ALT 198 iu/l (5 - 35) AST158 iu/l (1 - 31) Albumin 25 g/L (37 - 49) Hepatitis B virus surface antigen positive Hepatitis B virus e antigen negative Hepatitis B virus DNA awaited What is the most likely diagnosis?

1- Alcoholic liver disease

2- Autoimmune chronic active hepatitis

3- Carcinoma of the pancreas

**4- Chronic hepatitis B infection**

5- Chronic hepatitis D (delt a) infection

Q2102. A 40-year-old man is referred with gastrooesophageal reflux disease (GOR D) . Which of the following concerning GORD is correct?

1- Acid suppressant therapy should not be given continuously

2- Endoscopy is mandatory

3- In the presence of Barrett's oesophagus, the risk of future malignancy can be assessed endoscopically without biopsy

4- Oesophageal pH monitoring is a good guide to therapy

**5- Symptoms do not correlate with mucosal status at endoscopy**

Q2103. A 65-year-old man was investigated for weight loss and dyspepsia. Endoscopic examination revealed an ulcerated lesion in the stomach and biopsy revealed the presence of a low grade mucosa-associated lymphoma with Helicobacter pylori. Further investigation with CT of chest and abdomen were normal as were bone marrow aspirate and trephine. What is the best treatment option for this patient?

**1- Eradication therapy for Helicobacter pylori**

2- IV chemotherapy

3- Oral chlorambucil

4- Partial gastric resection

5- Radiotherapy

Q2104. A new diagnostic test for malabsorption has been analysed and the results have yielded the following 2x2 contingency table: Disease present Yes No +ve test result 90 10 -ve test result 20 80 Applying this test to a case of chronic diarrhoea from a patient group where the prevalence of malabsorption is known to be 20% (probability = 0.2). What is the probability of a patient having malabsorption if they have a positive test?

1- 0.16

2- 0.24

3- 0.48

**4- 0.64**

5- 0.8

Q2105. A 56-year-old man from Thailand presented with abdominal pain and a mass in the right upper quadrant. He reported that he had been diagnosed with viral hepatitis several years previously. Investigations showed: Serum alpha-fetoprotein 13,500 IU/L (< 10) What is the most likely underlying viral infection?

1- Hepatitis A virus

**2- Hepatitis B virus**

3- Hepatitis C virus

4- Hepatitis D virus

5- Hepatitis E virus

Q2106. Which one of the following statements is true of autoimmune hepatitis?

1- It is associated with hypogammaglobulinaemia

**2- It may be associated with keratoconjunctivitis sicca**

3- It rarely interferes with menstruation except in later stages

4- It rarely presents before 20 years of age

5- It usually presents as an acute hepatitis

Q2107. Which of the following is correct regarding infection with Salmonella typhi?

1- Children are particularly likely to become carriers

**2- Most carriers are female**

3- Faecal culture is almost always positive during the first week of illness

4- Relapse does not occur if antibiotics are taken for two weeks

5- Vaccinated individuals who develop the disease will have a mild illness

Q2108. A 28-year-old male presents with a four day history of profuse bloody diarrhoea after returning from a holiday in the Far East. Which of the following regarding his illness is true?

1- A negative amoebic fluorescent antibody test excludes a diagnosis of acute amoebic dysentry

2- Cysts to E. histolytica in the stools confirms a diagnosis of acute amoebic dysentry

3- Cholera is a likely diagnosis

4- Giardiasis is a likely diagnosis

**5- Shigellosis is a likely diagnosis**

Q2109. A 44-year-old male with Child's grade C cirrhosis presented with haematemesis. Which one of the following drugs, administered intravenously, would be the most appropriate immediate treatment?

1- Isosorbide dinitrate

2- Omeprazole

3- Propranolol

**4- Somatostatin**

5- Tranexamic acid

Q2110. A 32-year-old woman with Crohn's disease has a history of a right hemicolectomy for ileocolonic disease. Since the operation she has had frequent diarrhoea but no blood in the stools. Investigations show: ESR 10mm (0-20mm/1st hou r) Platelets 240 x 109 /L (150-400 x109) Serum CRP 7 mg/L (<10) Which is the best treatment?

**1- Cholestyramine**

2- Mesalazine

3- Metronidazole

4- Omeprazole

5- Prednisolone

Q2111. A 52-year-old woman presented with history of worsening dysphagia over many years. Recently there had been episodes of illdefined central chest discomfort and nocturnal cough. What is the most likely diagnosis?

**1- Achalasia**

2- Barrett's oesophagus

3- Motor neurone disease (MN D) 4- Oesophageal carcinoma

5- Pharyngeal pouch

Q2112. Which of the following is the commonest cause of traveller's diarrhoea?

1- Entamoeba histolytica

**2- Escherichia coli**

3- Giardia lamblia

4- Shigella flexneri

5- Yersinia enterocolitica

Q2113. Which of the following factors decrease large intestinal motility?

**1- Anticholinergic agents**

2- CCK-PZ

3- Gastric distension

4- Laxatives

5- Parasympathetic activity

Q2114. A 30-year-old Caucasian male presents with a six month history of weight loss, abdominal pain, and diarrhoea. On examination you note finger clubbing. Which of the following diagnoses is least likely.?

1- Coeliac disease

2- Crohn's disease

**3- Ileo-caecal TB**

4- Ulcerative colitis

5- Whipple's disease

# Chapter 15 2012 Endocrinology

Q2115. A 56-year-old man presented to the Emergency Department with an episode of collapse at home. He had been feeling increasingly tired for the last two months and also reported a loss of libido. He had undergone a transsphenoidal surgery two years ago, followed by external beam radiation for a non-functional pituitary adenoma. He took ramipril 10 mg OD for hypertension. On examination, pulse was 102 beats per minute and regular, BP measured 104/66 mmHg in the lying position, dropping to 80/40 mmHg on standing. Heart sounds were normal. There was no galactorrhoea to expression and testicular volume was normal. Investigations showed: Serum Sodium 129 mmol/L(137-144) Serum Potassium 4.8 mmol/L(3.5-4.9) Serum Urea 7.2 mmol/L(2.5-7.5) Serum creatinine 88 µmol/L(60-110) Serum testosterone 4.5 nmol/L(9-35) Plasma LH 0.3 U/L(1-10) Plasma thyroid-stimulating hormone 0.1 mU/L(0.4-5) Plasma Free T4 7 pmol/L(10-22) Insulin-like growth factor 15.2 nmol/L(5.

6- 23.3) ECGNormal Which is the next most appropriate investigation?

1- GHRH-arginine test

2- Insulin stress test

3- MRI scan of pituitary

**4- Short Synacthen test**

5- TRH test

Q2116. A 48-year-old lady with Addison's disease presented in a small peripheral clinic. She says that she has run out of her hydrocortisone and she usually takes 20 mg in the morning and 10 mg in the evening. No hydrocortisone is available at the clinic but you do have prednisolone which you would like to prescribe instead until a prescription of hydrocortisone can be dispensed. What is the equivalent daily dose of prednisolone?

1- 2.5 mg

2- 5 mg

**3- 7.5 mg**

4- 10 mg

5- 20 mg

Q2117. A 39-year-old female presents with lethargy, nausea, and muscle cramps; and she has passed 450 ml of urine in the last 24 hours. She was recently started on a new medication. Investigations show: Serum sodium 128 mmol/l (137-144) Plasma osmolality 272 mosmol/l (275-290) Urine osmolality 380 mosmol/l (350-1000) Which of the following recently prescribed drugs accounts for the findings?

1- Aspirin

**2- Fluoxetine**

3- Furosemide

4- Lithium

5- Metoprolol

Q2118. A 57-year-old man attends the outpatient clinic. He has had type 2 diabeties for seven years having been diagnosed following an acute myocardial infarction at 50 years of age. His diabetes was deteriorating with blood glucose readings of 9-12 at home despite following a diet and taking regular exercise. Another practitioner commenced him on pioglitazone. His current treatment is metformin 850 tds, pioglitazone 30 mg, aspirin 75 mg/day, carvedilol 12.5 mg bd, ramipril 10 mg od, furosemide 80 mg daily, simvastatin 40 mg/day. On examination he is overweight with a BMI of 29, his BP is 128/74 mmHg with pulse rate of 63 min-1. He has no heart murmurs and there is some pitting oedema in the lower limbs. Auscultation reveals a clear chest with no evidence of pulmonary oedema. He is obese with no organomegaly. His ECG shows sinus rhythm with poor r wave progression. His Hba1c checked in the clinic is 8.5% (3.

8- 6.4). What is the most appropriate way to treat his glycaemic control?

1- Add gliclazide 80 mg bd

2- Increase pioglitazone to 45 mg daily

3- Stop metformin and use Competact (combination of metformin and pioglitazon e) 4- Substitute pioglitazone with gliclazide 80 mg bd

5- Add insulin to his regime

Q2119. A 42-year-old male presents with tiredness and central weight gain, two years after having undergone pituitary surgery for a nonfunctional pituitary tumour. He has otherwise recovered from his pituitary surgery well, has been found to have complete anterior hypopituitarism and is receiving stable replacement therapy with testosterone monthly injections, thyroxine and hydrocortisone. On examination there are no specific abnormalities, his vision is 6/9 in both eyes and he has no visual field defects. From his notes you see that he has gained 8 kg in weight over the last six months and his BMI is 31 kg/m2 . His blood pressure is 122/72 mmHg. Thyroid function tests and testosterone concentrations have been normal. A postoperative MRI scan report shows that the pituitary tumour has been adequately cleared with no residual tissue. Which of the following is the likely cause of his current symptoms?

1- Aldosterone deficiency

2- Depression

3- DDAVP deficiency

**4- Growth hormone deficiency**

5- Somatisation disorder

Q2120. A 51-year-old man with type 2 diabetes and no previous history of CHD presents at annual review. Currently he is taking metformin 500 mg bd, aspirin 75 mg od, perindopril 4 mg od and simvastatin 20 mg od. On examination, his blood pressure is 140/72 mmHg, he has background diabetic retinopathy and has a peripheral sensory neuropathy to light touch in the feet. Investigations reveal: HbA1c 7.1 % or 54 mmol/mol (3.8-6.4 or 1

8- 46) Total cholesterol 3.9 mmol/L (<5.2) Triglyceride 2.5 mmol/L(0.45-1.69) HDL-cholesterol 0.8 mmol/L(>1.55) LDL-cholesterol 2.1 mmol/L(<3.36) Which treatment option will further improve this patient's dyslipidaemia?

1- Cholestyramine

2- Ezetimibe

**3- Fenofibrate**

4- No other treatment required

5- Rosuvastatin

Q2121. A 22-year-old female student presents acutely unwell with vomiting and dehydration. She has a two month history of weight loss and thirst. Investigations confirm a diagnosis of diabetic ketoacidosis with a glucose of 29.3 mmol/L (3.0-6.0), a pH of 7.12 (7.36-7.44) on blood gas analysis and urinalysis reveals +++ ketones. What percentage of type 1 diabetics are initially diagnosed following presentation with diabetic ketoacidosis?

1- 5%

2- 10%

3- 15%

**4- 25%**

5- 40%

Q2122. An 80-year-old woman with type 2 diabetes mellitus is referred with weakness. She had been taking bendroflumethiazide, digoxin and tolbutamide. On examination she had a temperature of 37.8°C, a pulse of 98 bpm in atrial fibrillation, and a blood pressure of 118/72 mmHg. Investigations show: Sodium 121 mmol/L (137-144) Potassium 3.3 mmol/L (3.5-4.9) Urea 4.8 mmol/L (2.5-7.5) Creatinine 83 µmol/L (60-110) Glucose 15.2 mmol/L (3.0-6.0) Chest x ray Normal What is the most likely cause for the hyponatraemia?

1- Addison's disease

**2- Bendroflumethiazide**

3- Hyperglycaemia

4- Syndrome of inappropriate secretion of antidiuretic hormone (SIAD H) 5- Tolbutamide

Q2123. Which of the following is not a feature of zinc deficiency?

1- Dwarfism

2- Geophagia

3- Hepatosplenomegaly

**4- Hypertelorism**

5- Hypogonadism

Q2124. A 29-year-old female presents with headaches. She is noted to be hypertensive with a blood pressure of 180/100 mmHg and initial investiagtions reveal a hypokalaemia of 2.9 mmol/L (3.5-4.9). On closer questioning she is found to consume a large quantity of liquorice. Inhibition of which enzyme is responsible for the pseudohyperaldosteronism associated with liquorice?

1- 17 Alpha hydroxylase (17aO H) 2- 5 Alpha-reductase

3- 11 Beta hydroxylase (11 bO H) 4- 11 Beta hydroxysteroid dehydrogenase (11 bHS D) 5- 21 Hydroxylase

Q2125. Useful therapy for improving fertility in polycystic ovarian syndrome (PCO S) includes which of the following?

1- Cyproterone acetate

2- Ethinyloestradiol

3- Glibenclamide

**4- Metformin**

5- Spironolactone

Q2126. A 32-year-old woman presents with a four month history of amenorrhoea. She takes no specific therapy. She has two children and her husband has had a vasectomy. Examination reveals an obese individual but no other abnormality. Investigations show: Serum oestradiol 100 pmol/L(130-500) Serum LH 2.1 mU/L(3.0-6.6) Serum FSH 2.2 mU/L(3.3-10.1) Serum prolactin 800 mU/L(50-500) Serum testosterone 2.1 pmol/L(<3.0) Which investigation is the most appropriate?

1- 17 hydroxy-progesterone

2- Insulin tolerance test

**3- Magnetic resonance imaging (MR I) of the pituitary**

4- Pregnancy test

5- Urine free cortisol concentration

Q2127. An 18-year-old woman presents with hirsutism and oligomenorrhoea. She is concerned as this has provoked bullying at the college where she goes. On examination her BP is 115/82 mmHg, pulse is 75 and regular, her BMI is 29. She has obvious male pattern facial hair, hair around her upper chest and areolae, and hair over her lower abdomen. She also has oily skin with evidence of facial acne. Investigations show: Haemoglobin 13.2 g/dl(11.5-16.0) White cell count 6.0 x 109 /L (4-11) Platelets 158 x 109 /L (150-400) Sodium 135 mmol/l (135-146) Potassium 4.7 mmol/l (3.5-5) Creatinine 90 µmol/l (79-118) 17-OH progesterone elevated Which of the following is the most appropriate therapy for her?

**1- Flutamide**

2- Hydrocortisone

3- Metformin

4- Pioglitazone

5- Weight loss

Q2128. A 29-year-old man comes to the endocrine clinic for review of his hypertension. He is currently taking ramipril and amlodipine but his BP is still elevated. On examination his BP is 155/95 mmHg, pulse is 70 and regular, respiratory and abdominal examination is unremarkable. Investigations show: Haemoglobin 13.8 g/dl(13.5-17.7) White cell count 6.9 x 109 /L (4-11) Platelets 181 x 109 /L (150-400) Sodium 143 mmol/l (135-146) Potassium 3.1 mmol/l (3.5-5) Creatinine 110 µmol/l (79-118) Ultrasoundleft adrenal mass Which of the following is the most appropriate agent to help manage his blood pressure preoperatively?

1- Amiloride

2- Furosemide

3- Indapamide

**4- Spironolactone**

5- Valsartan

Q2129. You are reviewing chemical pathology results which have come to your acute medicine inbox and are collecting a series from patients with chronic respiratory failure. Which of the following would fit best with a compensated respiratory acidosis?

**1- pH 7.41, pCO2 7.2kPa, pO2 9.2kPa**

2- pH 7.1, pCO2 3.9kPa, pO2 8.8kPa

3- pH 7.54, pCO2 4.2 kPa, pO2 12.9kPa

4- pH 7.3, pCO2 3.8kPa, pO2 13.0kPa

5- pH 6.9, pCO2 3.4, pO2 8.2

Q2130. A 45-year-old woman presents with chronic diarrhoea. This has worsened over the past six months so that she is opening her bowels up to eight times per day with watery motions. The stool is normal smelling and tea coloured without blood or mucus. Her GP has been encouraging her to use codeine and loperamide to manage her symptoms. On examination her BP is 110/70 mmHg, pulse is 65 and regular and her BMI is 21. General physical examination is unremarkable. Investigations show: Haemoglobin 11.0 g/dl(11.5-16.0) White cell count 6.8 x 109 /L (4-11) Platelets 203 x 109 /L (150-400) Sodium 141 mmol/l (135-146) Potassium 3.0 mmol/l (3.5-5) Bicarbonate 15 mmol/l (22-30) Creatinine 83 µmol/l (79-118) Abdominal ultrasound Pancreatic mass Which of the following is the most appropriate medical management of her diarrhoea?

1- Bromocriptine

2- Cholestyramine

3- Codeine

**4- Somatostatin analogue**

5- Somatotrophin analogue

Q2131. A 62-year-old woman is admitted with progressive confusion and decreasing consciousness to the Emergency department. On examination she is cold with a temperature of 35.2°C. Her BP is 100/60 mmHg and her pulse is 51. She has periorbital oedema on examination of her face; the most striking neurological abnormality is slow relaxing reflexes. You notice on her laboratory records there is a TSH recorded at 11.2 some two months earlier. Her hospital notes record that she has recently started treatment for TB. Which of the following agents is most likely to be responsible?

1- Ethambutol

2- Isoniazid

3- Pyrazinamide

**4- Rifampicin**

5- Streptomycin

Q2132. You are trialling a new partial agonist of the vitamin D receptor and are hoping that it may share only some of the attributes of vitamin D3 itself. Which of the following is a property of vitamin D?

1- Down regulates calbindin

2- Reduces intestinal calcium absorption

3- Reduces osteocalcin expression

4- Reduces phosphate absorption

**5- Suppresses synthesis of type 1 collagen**

Q2133. A 25-year-old woman comes for a discussion about contraception some four weeks after she has given birth to her first child. She complains that her hair seems to be falling out excessively when she brushes it. There is no medical history of note and she is coping well with caring for her baby. On examination her BP is 105/70 mmHg, her BMI is 26. Investigations show: Haemoglobin 10.8 g/dl(11.5-16.0) White cell count 6.9 x 109 /L (4-11) Platelets 181 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 102 micromol/l (79-118) Which of the following is the most appropriate initial management?

1- LH/FSH ratio

**2- Reassurance**

3- Testosterone

4- Thyroid hormone testing

5- Topical minoxidil

Q2134. A 53-year-old woman comes to the clinic for review. She is obese and has a history of hypertension which is managed with ramipril and amlodipine. Her blood pressure is 155/85 mmHg. Her BMI is 29. Which of the following most accurately predicts her level of insulin resistance?

1- Blood pressure

2- BMI

3- HDL cholesterol

4- LDL cholesterol

**5- Triglyceride / HDL ratio**

Q2135. A 71-year-old man presents with chronic back and right hip pain which has been increasingly affecting him over the past few months. He finds it very difficult to mobilise in the mornings, and cannot dig his garden. Clinical examination is unremarkable, apart from limitation of right hip flexion due to pain. Investigations show Haemoglobin 12.1 g/dl(13.5-17.7) White cell count 8.2 x 109 /L (4-11) Platelets 200 x 109 /L (150-400) C reactive protein9 nmol/l (<10) ESR 15 mm/hr(<20) Sodium 140 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 92 μmol/l (79-118) Alanine aminotransferase 12 U/l (5-40) Alkaline phosphatase 724 U/l (39-117) Calcium 2.55 mmol/l (2.20-2.67) Which of the following is the most likely diagnosis?

1- Chronic liver disease

2- Malignant melanoma

3- Osteoarthritis right hip

4- Osteoporotic collapse lumbar spine

**5- Paget's disease**

Q2136. A 21-year-old man with known sickle cell anaemia comes to the Emergency department with increasing shortness of breath which is now so bad that he is unable to walk. He says a few days earlier there were symptoms of a non-specific mild flu-like illness but nothing else of note. On examination his BP is 124/72 mmHg, pulse is 95. He has severe left ventricular failure. Blood gas examination reveals an Hb of 6.4 g/dl. Which of the following is most likely to be responsible?

1- Coxsackie B virus

2- Cytomegalovirus

3- Epstein-Barr virus

4- Influenza A

**5- Parvovirus B19**

Q2137. A 45-year-old man presents with an ulcer on his right foot. He has a 20 year history of type 1 diabetes and currently uses mixed insulin twice daily. On examination he has a small ulcer of approximately 2 cm diameter on the outer aspect of his right big toe. His peripheral pulses are all palpable but he has a peripheral neuropathy to the mid shins. The ulcer has an erythematous margin and is covered by pus. What is the most likely infective organism?

1- Escherichia coli

2- MRSA

3- Pseudomonas aeruginosa

**4- Staphylococcus aureus**

5- Streptococcus pyogenes

Q2138. A 26-year-old man with a past history of parathyroid surgery presented with galactorrhoea. Investigations showed: Plasma follicle-stimulating hormone 4.2 U/L (1-7) Plasma luteinising hormone 5.6 U/L (1-10) Plasma prolactin 1654 mU/L (<360) Plasma thyroid-stimulating hormone 3.8 mU/L (0.4-5) Insulin-like growth factor 133.4 nmol/L (7.

5- 37.3) Which of the following is the most likely diagnosis?

**1- MEN type 1**

2- MEN type 2a

3- MEN type 2b

4- Polyglandular syndrome type 1

5- Polyglandular syndrome type 2

Q2139. A middle-aged woman presents with new onset palpitations. She also commented that she had lost weight recently despite an increased appetite. Examination reveals a goitre and a degree of exophthalmos. During physical examination, she fell unconscious. Blood pressure was 70/40 mmHg. Electrocardiogram revealed atrial fibrillation (A F) with rapid ventricular response. What is the appropriate immediate management?

1- Anticoagulation

2- Carbimazole

**3- DC cardioversion**

4- Intravenous amiodarone

5- Intravenous propanolol

Q2140. A 24-year-old female presents with a two week history of polyuria and polydipsia together with frequent nocturia. Investigations show Serum Sodium 144 mmol/L (137-144) Serum Potassium 3.3 mmol/L (3.5-4.9) Serum Calcium 2.6 mmol/L (2.2-2.6) Plasma glucose 6.8 mmol/L (3.0-6.0) Serum osmolality 310 mOsmol/L (275-295) What is the diagnosis?

1- Diabetes insipidus

2- Diabetes mellitus

**3- Drug abuse**

4- Primary hyperparathyroidism

5- Primary polydipsia

Q2141. Maturity onset diabetes of the young (MOD Y) is due to which of the following?

1- BRCA1 and BRCA2 (breast cance r) gene products

**2- Glucokinase mutations**

3- HOX (homeobo x) gene family

4- Leptin mutations

5- Stargardt's disease mutations

Q2142. A 17-year-old female who is 16 weeks pregnant reports that her elder brother has vitamin D reisistant rickets. What is the most likely mode of inheritance of this condition?

1- Autosomal dominant

2- Autosomal dominant with incomplete penetrance

3- Autosomal recessive

**4- X linked dominant**

5- X linked recessive

Q2143. Which of the findings listed below is true of acromegaly?

1- A random growth hormone (G H) concentration may be diagnostically useful

2- Growth hormone concentrations are suppressed to normal by bromocriptine therapy

3- It is unusual for the pituitary fossa to be enlarged

4- Pituitary hormones other than growth hormone are rarely affected

**5- The majority of patients demonstrate an abnormal glucose tolerance test (GT T)**

Q2144. A 29-year-old woman presents with a one year history of irregular periods, deteriorating hirsutism and weight gain. Investigations reveal: Serum testosterone4 mmol/L (0.5-3) Serum dehydroepiandosterone sulphate (DHEA S) 15 µmol/L(0.3-9.3) Which one of the following statements is most probable for this patient?

1- Pituitary gonadotrophins are likely to become suppressed.

2- She has an increased risk of multiple pregnancies.

3- She is at increased risk of autoimmune disease.

4- She is at increased risk of ovarian carcinoma.

**5- She is likely to develop acanthosis nigricans.**

Q2145. A 60-year-old female was prescribed thyroxine 150 microgrammes daily for hypothyroidism. She was clinically hypothyroid and no goitre was present. She attends a follow up clinic and following are her results: Serum total T4 68 nmol/L (55-145) Serum total T3 0.5 nmol/L (0.9-2.5) Serum TSH 70 mU/L (0.4-5) Which of the following would be the next step in her management?

1- Investigation for TSH secreting pituitary tumour

2- Measurement of free thyroxine concentration

**3- Questioning of the patient about compliance**

4- She has sick euthyroid syndrome, no further investigation required

5- Thyroid ultrasound scan

Q2146. A 28-year-old female presents in the 24th week of pregnancy with profound tiredness and anxiety. Examination reveals a tremor, a pulse of 100 beats per minute and a soft bruit heard over the thyroid gland. Thyroid function tests show: Free T4 32.9 pmol/L (10-22) TSH 0.04 mU/L (0.4-5) Which of the following treatments would you select for this patient?

**1- Carbimazole**

2- Lithium

3- Potassium perchlorate

4- Propanolol

5- Radioactive iodine therapy

Q2147. A 29-year-old woman with a history of type 1 diabetes comes to the endocrine clinic for review. She is very concerned as she has begun to lose significant amounts of hair from a patch on her scalp over the course of the last few months. On examination she has a circular area of hair loss with an area of normal looking skin in the middle of it. Skin scrapings taken by the GP have not produced any growth. Which of the following is the most appropriate treatment?

1- Griseofulvin

**2- Intra-lesional triamcinolone**

3- Oral ciclosporin

4- Topical clotrimoxazole

5- Topical hydrocortisone

Q2148. Low uptake of 123I on the thyroid uptake scan would be an expected finding in which of the following?

1- A multi-nodular toxic goitre

2- A solitary toxic nodule

3- Amiodarone induced thyrotoxicosis type 1

**4- DeQuervain's thyroiditis**

5- Graves' thyrotoxicosis

Q2149. A 35-year-old woman comes to the endocrine clinic for review. She has suffered a left Colle's fracture and attends for osteoporosis assessment. Which of the following factors would put her at increased risk?

1- Early menarche

2- Europid ethnic origin

**3- Family history of osteoporotic fracture**

4- Five units / week alcohol consumption

5- Use of a thiazide

Q2150. A 72-year-old woman presents to the clinic with confusion. She has a history of hypertension for which she takes bendroflumethiazide and amlodipine. On examination her BP is 120/70 mmHg, with a postural drop of 10 mmHg and her pulse is 80 and regular. Her BMI is 22. There are no other abnormal findings. Investigations show: Haemoglobin 12.2 g/dl(11.5-16.0) White cell count 7.0 x 109 /L (4-11) Platelets 188 x 109 /L (150-400) Sodium 124 mmol/l (135-146) Potassium 3.4 mmol/l (3.5-5) Creatinine 132 µmol/l (79-118) Urinary sodium 24 mmol/l (>20) Which of the following is the most likely diagnosis?

1- Addison's disease

2- Chronic pyelonephritis

**3- Hypovolaemia and diuretic use**

4- Primary polydypsia

5- SIADH

Q2151. A 56-year-old man with a history of type 2 diabetes comes to the clinic for review. He complains of bilateral burning pain and weakness in both thighs, worse on the left than the right, which is unbearable. He takes metformin and a sulphonylurea to maximal doses for his diabetic control, and has a history of hypertension. On examination his BP is 148/79 mmHg, pulse is 70 and regular, BMI is 31. There is bilateral loss of sensation in his feet. He has proximal muscle wasting of both lower limbs. Investigations show: Haemoglobin 13.5 g/dl(13.5-17.7) White cell count 8.3 x 109 /L (4-11) Platelets 201 x 109 /L (150-400) Sodium 142 mmol/l (135-146) Potassium 4.7 mmol/l (3.5-5) Creatinine 132 µmol/l (79-118) HbA1c 9.8%(<5.5) Which of the following is the most appropriate way to manage the pain and muscle wasting in his thighs?

1- Add pioglitazone

2- Amitriptyline

3- Duloxetine

4- Physiotherapy

**5- Transition to insulin**

Q2152. A 26-year-old Chinese man is admitted on the acute emergency take. He became very unwell after a squash game, complaining of severe proximal limb weakness. Apparently, he has just begun carbimazole treatment for thyrotoxicosis. On examination his BP is 125/80 mmHg, pulse is 85 and regular and he looks anxious. He is unable to get up off the bed due to proximal weakness. Investigations show: Haemoglobin 13.9 g/dl(13.5-17.7) White cell count 4.8 x 109 /L (4-11) Platelets 192 x 109 /L (150-400) Sodium 136 mmol/l (135-146) Potassium2.8 mmol/l (3.5-5) Creatinine 90 µmol/l (79-118) Which of the following is the most likely diagnosis?

1- Guillain-Barre syndrome

2- Hyperkalaemic periodic paralysis

3- Hypokalaemic periodic paralysis

4- Myositis

**5- Thyrotoxic hypokalaemic periodic paralysis**

Q2153. You are looking at a potential inhibitor of gastrin for the treatment of ZollingerEllison(Z E) syndrome. When considering gastrin, which of the following correctly reflects its function or the pathophysiology associated with it?

**1- Fasting gastrin >1000 pg/ml and gastric pH<2 suggests ZE syndrome**

2- Gastric mucosal atrophy is usually seen in ZE syndrome

3- Gastrin promotes small bowel mucosal growth

4- Gastrin receptors do not bind cholecystokinin

5- It is secreted by L cells

Q2154. A 32-year-old woman presents with symptoms of palpitations, anxiety and sleep intolerance. She had a flu-like illness some three weeks prior to presenting, and has tenderness over her neck. On examination her BP is 145/80 mmHg, her pulse is 100 and regular. She has a fine tremor and tenderness over a smoothly enlarged thyroid gland on palpation. TSH is suppressed at <0.1. Which of the following is true of her underlying condition?

1- There is an association with HLA-B27

**2- There is an association with HLA-B35**

3- There is an association with HLA-DR3

4- There is an association with HLA-DR4

5- There is an association with HLA-DR5

Q2155. A 51-year-old woman with type 2 diabetes managed with BD mixed insulin and metformin comes to the clinic for review. She is worried as a recent HbA1c has risen from 7.2 to 7.9%, and she has increased in weight by 6 kg. On examination her BP is 156/88 mmHg, her BMI is 36. She is interested in bariatric surgery. Which of the following features would most prompt you to refer her?

1- BMI in the 35-40 range without attempting conventional weightloss measures

**2- Failure to lose weight even after intensive weight management intervention**

3- Inferior MI in the past two months

4- Presence of hypertension

5- Presence of type 2 diabetes

Q2156. A 77-year-old woman comes to the clinic for review. She has suffered a previous Colles' fracture, and has a history of a previous left leg DVT. She takes a range of medication including omeprazole for severe reflux oesophagitis. A T score was measured at -4.2, and she was unable to tolerate weekly alendronate due to symptoms of indigestion. Which of the following is the most appropriate alternative for her?

1- Daily calcium and vitamin D

2- Daily strontium ranelate

3- Monthly ibandronate

4- Monthly risedronate

**5- Six monthly denosumab**

Q2157. A 32-year-old man who is overweight is screened for diabetes mellitus because he complains of excessive tiredness and nocturia. On examination his BMI is 34, his BP is 155/90 mm/Hg. Investigations show: Haemoglobin 12.3 g/dl(13.5-18) White cell count 6.1 x 109 /L (4-10) Platelets 212 x 109 /L (150-400) Sodium 139 mmol/l (134-143) Potassium 4.6 mmol/l (3.5-5) Creatinine 120 µmol/l (60-120) Fasting glucose 12.9 mmol/l (<7.0) According to the ADA/EASD consensus algorithm 2006, which of the following is the most appropriate management for him?

1- A period of six months diet and lifestyle measures then review

2- A period of three months diet and lifestyle measures then review

3- BD s/c exenatide injections with diet and lifestyle measures commenced concurrently

**4- Metformin 500 mg BD commenced with diet and lifestyle measures**

5- Pioglitazone 30 mg with diet and lifestyle measures commenced concurrently

Q2158. A 29-year-old woman who is 31 weeks pregnant comes to the Emergency Department with severe headaches and palpitations. She is found to have a blood pressure of 175/94 mmHg. There is no past medical history of note and general physical examination is unremarkable. Investigations show: Haemoglobin 11.0 g/dl(11.5-16.0) White cell count5.2 x 109 /L (4-11) Platelets 203 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 102 µmol/l (79-118) Abdominal ultrasound - Left adrenal mass Raised urinary catecholamines Which of the following is the most appropriate way to manage her?

1- Alpha block her then allow the pregnancy to continue to term

2- Alpha block her, remove the tumour and allow the pregnancy to continue

3- Beta block her, remove the tumour and allow the pregnancy to continue

4- Beta block her then allow the pregnancy to continue to term

**5- Plan for lower segment caesarean section and later surgery for the tumour**

Q2159. A 48-year-old lady with hyperthyroidism was reviewed in the endocrine clinic. She had initially presented to her general practitioner a month ago with flu-like symptoms and tremulousness. Her thyroid function tests at that time were consistent with hyperthyroidism and she was commenced on propranolol. On examination, her pulse was 88 beats per minute and regular. She did not have any eye signs. She had a diffuse, tender goitre. Investigations showed: Plasma thyroid-stimulating hormone <0.01 mU/l (0.4-5) Plasma Free T4 66 pmol/l (10-22) Radioactive iodine (RA I) uptake scan revealed less than 2% uptake within the thyroid gland. What is the most appropriate treatment?

1- Carbimazole

2- Lugol's iodine

**3- Prednisolone**

4- Propylthiouracil

5- Thyroidectomy

Q2160. A 64-year-old retired Caucasian solicitor attends the surgery. He is overweight and takes little exercise. He has been treated for hypertension for five years and is controlled on 5 mg of ramipril. He also takes 20mg of simvastatin for hypercholesterolaemia. A 75g oral glucose tolerance test was recently performed and gave a result consistent with impaired glucose tolerance (IG T) with a two hour plasma glucose concentration of 9.3 mmol/L (3.0-6.0). The patient is keen to know what would be his risk of developing type 2 diabetes. What do you tell him?

1- 6% over 6 years

2- 10% over 6 years

**3- 33% over 6 years**

4- 60% over 6 years

5- 100% over 6 years

Q2161. A 55-year-old obese man with type 2 diabetes mellitus is uncontrolled on diet alone. Which antidiabetic therapy would increase insulin sensitivity in this patient?

1- Acarbose

2- Gliclazide

3- Glimepiride

**4- Pioglitazone**

5- Repaglinide

Q2162. A 53-year-old man with a known history of Graves' disease presents to the Emergency department with palpitations, anxiety and fine tremor of both hands. ECG shows rapid atrial fibrillation (A F) with ventricular rate of 160 to 180/min. His blood pressure was 110/80 mmHg. TSH 0.01 mU/l (0.4-5.0) Free T4 60.3 pmol/l (10-22) What is the immediate management for this patient?

1- Carbimazole

2- DC cardioversion

3- Digoxin

**4- Propanolol**

5- Warfarin

Q2163. An 17-year-old female presented with a one year history of secondary amenorrhoea. She had been prescribed temazepam and dihydrocodeine previously. On examination she had galactorrhoea to expression. Her prolactin concentration was 6000 mU/L (50-450). Pregnancy test was negative. What is the most likely diagnosis?

1- Drug-induced hyperprolactinaemia

2- Non-functioning pituitary tumour

**3- Pituitary microadenoma**

4- Polycystic ovarian syndrome

5- Turner's syndrome

Q2164. A 70-year-old woman presents with a six month history of frontal headaches and weight loss. On examination a bitemporal hemianopia was noted. Which of the following suggests the diagnosis of a pituitary tumour?

1- 9 am cortisol concentration of 350 nmol/L (200 - 700)

2- LH concentration of 44 uL (>30)

**3- Prolactin concentration of 620 mU/L (50- 550)**

4- Random growth hormone (G H) concentration 1.2 mU/L (< 1 excludes acromegal y) 5- TSH concentration of 3.8 mU/L (0.5 - 4.5)

Q2165. A patient with type 1 diabetes displays typical symptoms of hypoglycaemic unawareness. Which of the following statements regarding hypoglycaemic unawareness is correct?

**1- Alcohol inhibits gluconeogenesis in patients with hypoglycaemia unawareness**

2- Glucose sensing occurs in the locus caeruleus

3- Recurrent hypoglycaemia has no long term consequences on higher cerebral function

4- Recurrent hypoglycaemia is most commonly associated with poor diabetic control

5- Selective beta-blockers are an important cause of hypoglycaemia unawareness

Q2166. A diagnosis of diabetes mellitus is being considered in 32-year-old woman who is 16 weeks pregnant. Her body mass index (BM I) was 22 kg/m2 (1

8- 25). A 75 g oral glucose tolerance test (OGT T) was reported as follows: TimePlasma glucose concentrationNormal range 0 hr 6.0 mmol/l (3.0-6.0) 2 hr 12.5 mmol/l (<11.1) Which of the following is the most appropriate next step in the management of this patient?

1- Glipizide therapy

2- Insulin therapy

3- Low calorie diet

**4- Metformin therapy**

5- Repeat OGTT in four weeks

Q2167. In which of the following conditions would it be expected to find an elevated plasma total cortisol concentration?

1- Congenital adrenal hyperplasia

2- Patients on long term benzodiazepine therapy

3- Patients taking prednisolone

**4- Pregnancy**

5- Primary aldosteronism

Q2168. Which one of the following is a recognised feature of achondroplasia?

1- Autosomal recessive inheritance

2- Increased liability to pathological fractures

**3- May be diagnosed radiologically at birth**

4- Shortened spine

5- Subfertility

Q2169. A 16-year-old woman presents to the clinic with primary amenorrhoea. Her only past medical history of note is bilateral inguinal hernias repaired as a baby during a period when she lived abroad. No records are available from that time. On examination she is 1.65 m in height. There is no evidence of acne or secondary sexual hair. Breasts and her external genitalia look normal. Investigations show: Haemoglobin 12.0 g/dl(11.5-16.0) White cell count 5.3 x 109 /L (4-11) Platelets 278 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 80 micromol/l (79-118) Testosterone 9.1 nmol/l (<2.5) Which of the following is the most likely diagnosis?

**1- Androgen insensitivity syndrome**

2- Autoimmune ovarian failure

3- Kallman's syndrome

4- Klinefelter's syndrome

5- Turner's syndrome

Q2170. A 32-year-old male physical education teacher has a three year history of type 1 diabetes. At the last annual review his HbA1c was 6.8% but he complains of hypoglycaemic events particularly during exercise. He has been commenced on the insulin analogue, lispro insulin. Compared with conventional short acting insulins what is the advantage of insulin analogue therapy?

1- Longer duration of action

**2- Reduces post-prandial glucose concentrations**

3- Reduces the incidence of hypoglycaemic events

4- Reduces the incidence of long term diabetic complications

5- Significant improvement in HbA1c

Q2171. A 33-year-old woman presents to the GP with tiredness and anxiety during the third trimester of her second pregnancy. Examination is unremarkable, with a BP of 110/70 mmHg and a pulse of 80. Her BMI is 24 and she has an abdomen consistent with a 31 week pregnancy. The GP decides to check some thyroid function tests. Which of the following would be considered normal?

1- Decreased TSH

2- Elevated TSH

3- Elevated free T3

4- Elevated free T4

**5- Elevated total T4**

Q2172. A 29-year-old woman brings her 6-week-old child to the new baby clinic at the GP surgery. She is concerned as the child has poor suckling and has been admitted to the Emergency department on two occasions with possible bowel obstruction but later discharged. She tells you there is a history in the family of a tumour 'syndrome', and one of her relatives died at a young age. Which of the following is the most likely underlying diagnosis?

1- MEN-1

2- MEN-2a

**3- MEN-2b**

4- Peutz-Jegher's

5- Polycystic kidney disease

Q2173. You are planning to start a 72-year-old man who has chronic renal failure and secondary hyperparathyroidism on 1,25-OH vitamin D supplementation. Which of the following correctly represents an action of 1,25-OH vitamin D supplementation?

1- Decreased calcium reabsorption in the kidney

**2- Decreased IL6 production**

3- Decreased intestinal reabsorption of calcium

4- Decreased mobilisation of calcium from bone

5- Decreased muscle strength

Q2174. A 28-year-old man with type 1 diabetes comes to the clinic with his wife. They want to know about the aetiology of type 1 diabetes (T1D M) and the chances of any offspring inheriting the disease. Which of the following accurately represents one aspect of the pathogenesis of T1DM?

1- 50% of patients developing the disease have a positive family history

2- All patients are ZnT8 autoantibody positive

**3- Enteroviruses may play a role in protection from and susceptibility to T1DM**

4- The disease is primarily mediated by pathogenic B cells

5- There is 100% twin concordance

Q2175. You are developing a new long acting antidiuretic hormone antagonist for the treatment of SIADH. Where would you expect to see binding of your antagonist occur?

1- Aquaporin 1 channels

2- Aquaporin 2 channels

3- Aquaporin 3 channels

4- V1 receptors

**5- V2 receptors**

Q2176. A 42-year-old man comes to the Emergency department with sudden onset severe retroorbital headache, nausea and vomiting. He tells you he has suffered from problems with his vision over the past few days and admits to feeling increasingly tired over the past few weeks. On examination his BP is 100/60 mmHg, pulse is 90 and regular. He has a right third nerve palsy. Investigations show: Haemoglobin 12.9 g/dl(13.5-17.7) White cell count 5.1 x 109 /L (4-11) Platelets 203 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 113 µmol/l (79-118) Prolactin 1400 mU/l (<400) TSH 0.2 U/l (0.5-4.5) Which of the following is the most likely diagnosis?

1- Cerebral infarct

2- Cluster headache

3- Pituitary adenoma

**4- Pituitary apoplexy**

5- Subarachnoid haemorrhage

Q2177. A 48-year-old woman presents with weight gain and lethargy. She is finding it difficult to hold down her job and has taken sick leave for the past six weeks. On examination her BP is 150/80 mmHg, her pulse is 52 and she has a BMI of 29. She has thinning hair. Investigations show: TSH 9 IU(0.5-4.5) Free T4 10.2 nanomol/l (10-24) Total cholesterol 6.2 mmol/l (<5.2) Anti-TPO Antibody positive Which of the following is the most appropriate treatment?

1- Atorvastatin 10 mg

2- Carbimazole 10 mg

3- Reassurance

**4- Thyroxine 50 mcg**

5- Thyroxine 100 mcg

Q2178. A 39-year-old woman comes to the clinic complaining of excessive hairiness and problems with acne. She also reports increased libido over the past few months. There is no medical history of note and she has two healthy children. On examination her BP is 131/82 mmHg, pulse is 75 and regular and her BMI is 25. She has androgenic alopecia and evidence of increased hair around her areolae, upper lip and lower abdomen. Investigations show: Haemoglobin 12.2 g/dl(11.5-16.0) White cell count 4.9 x 109 /L (4-11) Platelets 281 x 109 /L (150-400) Sodium 140 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 90 micromol/l (79-118) Testosterone 8.9 nmol/l (<2.5) Which of the following is the most likely underlying diagnosis?

**1- Androgen secreting tumour**

2- Cushing's disease

3- Normal individual

4- Obesity related testosterone excess

5- Polycystic ovarian syndrome

Q2179. A 63-year-old man comes to the clinic for review of his type 2 diabetes. Current medication includes metformin 1 g BD and 30/70 mixed insulin 22U BD. He is also taking lisinopril, amlodipine, atorvastatin and indapamide. On examination his BP is 147/84 mmHg, his pulse is 77 and regular, and his BMI is 29 kg/m2 . Investigations show: Haemoglobin 13.4 g/dl(13.5-17.7) White cells 5.3 x 10(9)/l (4-11) Platelet 233 x 10(9)/l (150-400) Sodium 137 mmol/l (135-146) Potassium 5.0 mmol/l (3.5-5) Creatinine 127 micromol/l (79-118) HDL cholesterol 0.7 mmol/l (0.8-1.8) LDL cholesterol 3.9 mmol/l (<4.0) Triglycerides 3.6 mmol/l (0.7-2.1) HbA1c 7.1% (<5.5) (54 mmol/mol (<36) Which of the following represents the accepted target for fasting triglyceride levels in this patient?

1- 1.0 mmol/l

2- 1.2 mmol/l

3- 1.5 mmol/l

**4- 1.7 mmol/l**

5- 2.1 mmol/l

Q2180. You are asked by your surgical colleagues to comment on current referrals for gynaecomastia at the hospital. They have seen a peak in GP referrals for men in the 60+ age group. Which of the following underlying diagnoses is most likely to contribute to this peak?

1- Cirrhosis

**2- Drug related gynaecomastia**

3- Hyperthyroidism

4- Renal impairment

5- Secondary hypogonadism

Q2181. A 52-year-old woman with type 2 diabetes comes to the clinic. She has had type 2 diabetes for the past three years and is currently treated with metformin 850 mg twice daily. On examination her BP is 152/85 mmHg and her BMI is 29. Investigations show: Haemoglobin 12.5 g/dl(13.5-18) White cell count 5.0 x 109 /L (4-10) Platelets 199 x 109 /L (150-400) Sodium 141 mmol/l (134-143) Potassium 5.0 mmol/l (3.5-5) Creatinine 125 µmol/l (60-120) HbA1c 8.1%(<5.5) You are planning to add a sulphonylurea to her regime. Which of the following features, according to the consensus, is true regarding sulphonylurea therapy?

1- Delayed onset of glucose lowering effect

2- Increased cardiovascular risk

3- Low risk of hypoglycaemia

4- Syngergistic effects when used with DPPIV inhibitors

**5- Weight gain**

Q2182. A study reports on the results of a large study of the primary prevention of stroke in a diabetic population using a new antiplatelet agent versus aspirin. The results of the study reveal that over a five year period the incidence of stroke in the aspirin treated group is 3%, compared to a rate of 1.5% in the group treated with the new antiplatelet agent (p <0.001). What is the relative risk reduction in stroke associated with the new drug?

1- 1.5%

2- 15%

3- 30%

4- 40%

**5- 50%**

Q2183. An elderly woman, a known case of longstanding diabetes, presents with right shoulder pain of several months duration. Pain sometimes interferes with sleep. The shoulder is tender to palpation, and both active and passive movements are restricted. There are no sensory, motor, or reflex changes. What is the most likely diagnosis?

**1- Adhesive capsulitis**

2- Referred pain from subdiaphragmatic irritation

3- Rotator cuff tear

4- Shoulder dislocation

5- Supraspinatus tendinitis

Q2184. A 45-year-old woman presents to the clinic with a three month history of sweats and weight gain of 7 kg. Her sweats tend to be worse in the morning and with exercise and she often feels light headed. On examination she has a BMI of 30 kg/m2 but no abnormality is noted. Urinalysis negative. What is the likely diagnosis?

1- Acromegaly

2- Diabetes mellitus

**3- Insulinoma**

4- Phaeochromocytoma

5- Primary ovarian failure

Q2185. A 51-year-old woman presented with nocturia and pruritus vulvae. Investigations revealed: Urine dipstick analysisglucose 2% Which one of he following would most reliably confirm a diagnosis of diabetes mellitus?

1- 50 g oral glucose tolerance test

2- Elevated glycated haemoglobin concentration

3- Fasting plasma glucose of 6.7 mmol/L (3.0- 6.0)

4- Random plasma glucose of 8.3 mmol/L

**5- Two hour post-prandial plasma glucose of 12 mmol/L (<11.1)**

Q2186. A 73-year-old female is diagnosed with Cushing's disease. Which of the following is correct?

1- Adrenalectomy would be the treatment of choice.

2- op-DDD is a treatment if unfit for surgery

**3- Ketoconazole may be used as a treatment if unfit for surgery**

4- Recurrence of Cushing's disease after transphenoidal surgery is less than 5%

5- Yttrium implantation is an effective treatment

Q2187. Which of the following is a characteristic feature of primary hyperaldosteronism?

1- Gross oedema

2- Hyponatraemia

**3- Muscular weakness**

4- Oliguria

5- Vitiligo

Q2188. A 16-year-old girl with obesity was referred with abdominal swelling and mild ankle oedema. On examination the blood pressure was 140/90 mmHg. Investigations revealed: Haemoglobin 10.5 g/dl(11.5-16.5) Serum biochemistry Normal Serum albumin 34 g/l (37-49) Urine dipstick Proteinuria + Which is the most appropriate investigation that you would request next for this patient?

1- 24 hour urinary protein estimation

2- Abdominal ultrasound

3- Plasma protein electrophoresis

4- Urinary albumin: creatinine ratio

**5- Urinary B-human chorionic gonadotrophin test (B-HC G)**

Q2189. You are consulted by a 52-year-old man with type 2 diabetes diagnosed for one year. His blood pressure is 156/88 mmHg, his cholesterol is 5.3 mmol/L (<5.2), he has a BMI of 29 kg/m2 and does not smoke. His HbA1c is 7.9% (3.8-6.4), he currently takes only metformin 500mg bd. The single intervention most likely to reduce his overall risk of both microvascular and macrovascular events is:

**1- Antihypertensive therapy**

2- Aspirin therapy

3- Statin therapy

4- Sulphonylurea therapy

5- Weight reduction

Q2190. A 54-year-old female presented with a neck swelling which has been more noticeable over the previous four months. Examination revealed a moderate goitre and clinically she appeared euthyroid. Investigations revealed: T4 13.1 pmol/L (10-22) TSH 5.3 mU/L (0.4-5) Anti -microsomal antibodies Positive What is the most likely explanation of this patient's goitre?

1- Anaplastic thyroid carcinoma

2- DeQuervain's thyroiditis

3- Graves' disease

**4- Hashimoto's thyroiditis**

5- Multi-nodular goitre

Q2191. A 58-year-old man who has a history of hypertension and type 2 diabetes presents to the Emergency department complaining of central chest pain which is going down his left arm. His medication includes ramipril, metformin, atorvastatin and gliclazide. On examination his BP is 129/72 mmHg, and his pulse is 81. He has bibasal crackles on auscultation of his chest. Investigations reveal: Haemoglobin 13.8 g/dl(13.5-17.7) White cell count 8.9 x 109 /L (4-11) Platelet1 97 x 109 /L (150-400) Sodium 141 mmol/l (135-146) Potassium 4.1 mmol/l (3.5-5) Creatinine 123 µmol/l (79-118) Glucose 12.3 mmol/l (<7.0) ECG - Anterolateral ST depression He is given sublingual GTN. Which of the following is the next most appropriate therapy?

1- Aspirin 300 mg and low molecular weight heparin

**2- Aspirin 300 mg and clopidogrel 300 mg and low molecular weight heparin**

3- Beta blockade

4- Clopidogrel 300 mg

5- IV GTN infusion

Q2192. Which of the following is a glycoprotein hormone?

1- Cortisol

2- Growth hormone releasing hormone

3- Oxytocin

**4- Thyrotropin (TS H) 5- Thyrotropin releasing hormone (TR H)**

Q2193. A 72-year-old man is found by his home help in a collapsed state. According to neighbours who spoke to paramedics, he had not been seen outside for some days. He has a history of hypertension and obesity and takes multiple medications. On examination his BP is 135/72 mmHg, his pulse is 90 and regular and he is pyrexial 38.2°C. There are signs of a right lower lobe pneumonia. Investigations show: Haemoglobin 12.8 g/dl(13.5-17.7) White cell count 12.9 x 109 /L (4-11) Platelets 189 x 109 /L (150-400) Sodium 149 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Bicarbonate 23 mmol/l (22-30) Creatinine 172 µmol/l (79-118) Glucose 42 mmol/l (<7.0) Which of the following represents the optimal rate at which his glucose should be reduced?

1- 1 mmol/hr

**2- 3 mmol/hr**

3- 5 mmol/hr

4- 7 mmol/hr

5- 10 mmol/hr

Q2194. A 32-year-old woman presents to the endocrine clinic with a lump on the left side of her neck. TFTs checked by her GP reveal that she is euthyroid. She has no medical history of note and takes the combined oral contraceptive pill. On examination her BP is 110/70 mmHg, her pulse is 70 and regular, and she has a firm non-painful mass on the left side of her neck. Investigations show: Haemoglobin 12.9 g/dl(11.5-16.0) White cell count 4.9 x 109 /L (4-11) Platelets 205 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 99 µmol/l (79-118 TSH 1.5 IU/l (0.5-4.5) Fine needle aspiration suggestive of papillary carcinoma Activation of which of the following protooncogenes is most associated with papillary carcinoma of the thyroid?

1- BCA-1

2- BRCA

3- C-myc

4- P53

**5- Trk**

Q2195. A 25-year-old woman presents to the endocrine clinic with recurrent episodes of collapse. During one of these episodes she is found to have hypoglycaemia with a venous blood glucose of 2.0 mmol/l, coupled with raised insulin and C peptide. Sulphonylurea screen is negative. Which of the following other pathologies is most likely to be found?

1- Medullary thyroid carcinoma

2- Neuromas

**3- Parathyroid hyperplasia or adenomas**

4- Phaeochromocytoma

5- Prolactinoma

Q2196. A 69-year-old man is admitted with rapidly worsening nausea, vomiting, polyuria, polydipsia and confusion. He has been treated by his GP for chronic back pain which was thought to be related to his work as a builder. On examination he is drowsy and confused, his BP is 110/70 mmHg and his pulse is 88 and regular. Investigations show: Haemoglobin 13.8 g/dl(13.5-17.7) White cell count 6.2 x 109 /L (4-11) Platelets 186 x 109 /L (150-400) Sodium 146 mmol/l (135-146) Potassium 4.4 mmol/l (3.5-5) Creatinine 167 µmol/l (79-118) Urea 13.2 mmol/l (2.5-6.7) Glucose 5.4 mmol/l (<7.0) Calcium 3.6 mmol/l (2.20-2.61) Which of the following is true with respect to his hypercalcaemia?

1- A normal alkaline phosphatase would increase suspicion of underlying bony metastases

2- A raised alkaline phosphatase would increase suspicion of underlying myeloma

3- Abdominal pain is uncommonly seen

4- It is likely to be associated with PR prolongation

**5- It is likely to be associated with QT shortening**

Q2197. A 54-year-old man presents to the clinic for review. He has impaired glucose tolerance. His blood pressure is currently managed with lisinopril and indapamide, and his BMI is 29. On examination in the clinic his BP is 145/80 mmHg. Which of the following is the strongest independent predictor of cardiovascular death in a patient with impaired glucose tolerance?

1- Blood pressure

2- BMI

3- LDL cholesterol

4- Smoking history

**5- Triglycerides**

Q2198. A 61-year-old man with type 2 diabetes comes to the clinic for review. He is currently managed with metformin 500 mg and gliclazide 40 mg. He is also treated with ramipril 10 mg, amlodipine 5 mg, bisoprolol 5 mg, atorvastatin 10 mg and aspirin 75 mg. On examination his BP is 140/80 mm hg, his pulse is 70 and his BMI is 28. Investigations show: Haemoglobin 12.4 g/dl(13.5-17.7) White cells 7.2 x 109 /L (4-11) Platelet 229 x 109 /L (150-400) Sodium 141 mmol/l (135-146) Potassium 4.9 mmol/l (3.5-5) Creatinine 123 micromol/l (79-118) HDL cholesterol 0.7 mmol/l (0.8-1.8) LDL cholesterol 2.2 mmol/l (<4.0) Triglycerides 3.4 mmol/l (0.7-2.1) HbA1c 7.5% (<5.5)(56 mmol/mol (<36) Which of the following strategies is likely to be most effective in reducing his overall 10 year cardiovascular risk?

1- Further anti-hypertensive medication with a target of 130/70 mmHg

2- Further hypoglycaemic medication with a target of 6.5%

3- Increasing his statin dosage

**4- Increasing consumption of omega-3 fatty acids**

5- Weight loss of 5 kg

Q2199. A 54-year-old truck driver with a history of type 2 diabetes comes to the clinic for review. He is concerned as he is finding his sugars hard to keep under control, with morning selfmonitored blood glucose sometimes rising as high as 8 mmol/l or more. Current medication for blood sugar control includes metformin 1 g twice daily and gliclazide 160 mg twice daily. On examination his BP is 148/81 mmHg, his BMI is 29 kg/m2 . Investigations show: Haemoglobin 13.0 g/dl(13.5-18) White cell count 5.3 x 109 /L (4-10) Platelets 231 x 109 /L (150-400) Sodium 141 mmol/l (134-143) Potassium 5.4 mmol/l (3.5-5) Creatinine 138 µmol/l (60-120) HbA1c 8.4%(<5.5) According to the ADA/EASD consensus alogrithm, which of the following is the most appropriate management for him?

1- Add acarbose

**2- Add pioglitazone**

3- Start a basal bolus insulin regime

4- Start basal insulin at night

5- Start BD mixed insulin

Q2200. A 38-year-old lady was diagnosed with gestational diabetes at 28 weeks of pregnancy. She had a BMI of 38 kg/m2 and denied any osmotic symptoms. Her fetal ultrasound at 24 weeks gestation reported normal fetal growth. She has been complying with a healthy diet and her capillary blood glucose monitoring had revealed readings usually between 8 to 12 mmol/L (3.0-6.0). Her recent HbA1c measured 6.8% (3.8-6.4). What is the next most appropriate management step?

1- Gliclazide therapy

2- Insulin therapy

**3- Metformin therapy**

4- Pioglitazone therapy

5- Repeat HbA1c in a fortnight

Q2201. A 55-year-old man with type 2 diabetes has noticed elevation of his blood glucose levels on a new treatment for his lipids. He says his diet and exercise levels are unchanged his HbA1c has also deteriorated by about 0.5%. Which one of the following drugs is the likely cause?

1- Cholestyramine

2- Ezetimibe

3- Fenofibrate

**4- Nicotinic acid**

5- Rosuvastatin

Q2202. Which of the following statements regarding bariatric surgery is correct?

1- Associated with a significant post-operative mortality

**2- Associated with nutritional deficiencies**

3- Contraindicated in adolescents

4- Indicated in patients with a BMI <35 kg/m2

5- Has no effect on cardiovascular mortality

Q2203. A 70-year-old man who has had type 2 diabetes for 20 years is referred to the clinic because of poor glycaemic control despite recent dietetic input. He has a history of two previous myocardial infarctions, and gets exertional angina at 50 yards. He has previously had angioplasty to both his lower limbs and despite this has a claudication distance of 40 yards. He has New York Heart Association failure class II-III. Additionally he has diabetic maculopathy, and distal sensory neuropathy. His home blood monitoring readings are 10-15 mmol/l before breakfast. His current treatment includes; metformin 500 mg tds, glimepiride 4 mg daily, insulin detemir 20 units at night, perindopril 8 mg OD, furosemide 80 mg daily, aspirin 75 mg daily and atorvastatin 20 mg daily. On examination his BMI is 30, with a BP of 140/70 mmHg. Investigations show: HbA1c 9.2% (3.8-6.4) Fasting glucose 13.4 mmol/l (3.0-6.0) Creatinine 130 µmol/l (60-110) Liver function Normal Which of the following strategies is the most appropriate for his glycaemic control?

1- Add pioglitazone 30 mg daily

2- Add prandial insulin (for example, NovoRapi d) three times daily

3- Add premixed insulin (for example, Humalog 25) twice daily and stop Lantus

4- Substitute metformin with Avandamet 4/500 mg twice daily

**5- Up titrate the dose of insulin detemir**

Q2204. A 51-year-old district nurse presented with a history of near fainting episodes, which were promptly relieved by eating chocolates. At her last hospital admission, her simultaneous blood results were as follows: Plasma glucose 1.8 mmol/l (3.0-6.0) Serum insulin 58 pmol/l (<21) C-peptide Undetectable What is the most likely diagnosis?

1- Alcohol induced hypoglycaemia

**2- Exogenous insulin administration**

3- Growth hormone deficiency

4- Insulinoma

5- Sulfonylurea induced hypoglycaemia

Q2205. A 32-year-old woman presented with a six week history of 7 kg weight loss and heat intolerance. Investigations revealed: Free T4 45 pmol/L (10-22) TSH <0.05 mU/L (0.4-5) Which of the following features would support a diagnosis of Graves' disease?

1- Family history of radio-iodine treatment

2- Lid lag

3- Multinodular goitre

**4- Pretibial myxoedema**

5- Unilateral exophthalmos

Q2206. A 47-year-old schoolteacher presents to her GP with fatigue. The GP noted her to be hypercalcaemic with an albumin of 39 g/L (37-49), globulin of 28g/L and Ca++ of 2.80 mmol/l (2.2-2.6). Which of the following statements is true?

1- 24 hour urinary calcium assay is of no use at all.

2- Modern assays for PTH and PTHrp may cross-react so assays are unreliable.

3- Primary hyperparathyroidism will be diagnosed only if the PTH is at least three times the normal range.

4- The most likely diagnosis is myeloma.

**5- The patient could undergo parathyroidectomy if renal stones are found on ultrasound**

Q2207. A 35-year-old woman is noted by her GP to have ++ glycosuria. Her BMI is 35 kg/m2 and a fasting plasma glucose is 7.4 mmol/l (3.0-6.0). Which one of the following measures would be most effective in reducing her insulin resistance?

1- Glibenclamide

2- Insulin

3- Metformin

**4- Weight loss**

5- Repaglinide

Q2208. A 60-year-old male with diet controlled type 2 diabetes mellitus is commenced on metformin due to deteriorating glycaemic control. Which of the following is true regarding metformin?

1- It does not require any functioning pancreatic islet cells for its action

**2- It is contraindicated in patients suffering a myocardial infarction (M I) 3- It is safe in patients with renal impairment**

4- It may cause metabolic alkalosis

5- It often causes hypoglycaemia

Q2209. A 16-year-old female presents with hypertension and increasing weight. Which of the following features would be most suggestive of Cushing's syndrome rather than simple obesity?

1- Abdominal striae

2- Acanthosis nigricans

3- Buffalo hump (interscapular fat pa d) 4- Moon face

**5- Proximal myopathy**

Q2210. A 40-year-old female who has been prescribed thyroid replacement therapy has routine thyroid function tests. On examination she appeared clinically euthyroid with no abnormal findings. Her thyroid function tests revealed: TSH 3.2 mU/L (0.4-5.0) Total T4 20 nmol/L (55-144) Free T4 2.6 pmol/L (10-22) Total T3 2.5 nmol/L (0.9-2.8) 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 a thyroiditis

4- She has sick euthyroid syndrome

5- She has tertiary hypothyroidism

Q2211. A 50-year-old woman presented with a recently discovered, solitary, thyroid nodule. Which of the following would suggest a diagnosis of thyroid malignancy?

1- Elevated serum thyroglobulin concentration.

2- Features of thyrotoxicosis.

**3- Ipsilateral Horner's syndrome**

4- Previous I131 therapy.

5- Tenderness over the nodule.

Q2212. To which of the following drug classes does the oral hypoglycaemic agent, pioglitazone, belong?

1- A biguanide

2- A peroxisome proliferator activating receptor (PPA R) -alpha agonist

**3- A peroxisome proliferator activating receptor (PPA R) -gamma agonist**

4- A sulphonylurea

5- An alpha-glucosidase inhibitor

Q2213. A 48-year-old male is referred with impotence. He has a history of angina, hypertension and type 2 diabetes. Which one of the following drugs that he takes would present a contraindication to his being able to receive sildenafil?

1- Aspirin

2- Bendroflumethiazide

**3- Isosorbide mononitrate**

4- Lisinopril

5- Metformin

Q2214. When considering diabetic retinopathy which of the following statements is most accurate?

1- Microaneurysms (M A) represent sacular dilatation of retinal arterioles

2- Hard exudates (H E) represent calcium deposites in the retina

**3- Cotton wool spots (CW S) represent infarcts of the nerve fibre layer of the retina**

4- Haemorrhages close to the fovea are not potentially sight threatening

5- Laser photocoagulation is applied directly to new vessels to destroy them

Q2215. A 45-year-old woman with a longstanding history of lithium use for bipolar disorder presents to the clinic for review. She has a history of polyuria and polydypsia. On examination her BP is 135/72 mmHg, pulse is 71 and regular. Investigations show: Haemoglobin 11.8 g/dl(11.5-16.0) White cell count 6.9 x 109 /L (4-11) Platelets 199 x 109 /L (150-400) Sodium 149 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 122 µmol/l (79-118) Glucose 5.4 mmol/l (<7.0) Urinary osmolality 280 mOsm/kg(>300) after fluid restriction Which of the following is the most likely diagnosis?

1- Cranial diabetes insipidus

2- Diuretic abuse

**3- Nephrogenic diabetes insipidus**

4- Psychogenic polydypsia

5- SIADH

Q2216. You are reviewing a 23-year-old man who has history of Klinefelter's syndrome. He is concerned about long term health risks associated with low testosterone levels. Which of the following are likely consequences of his Klinefelter's?

1- Increased bone mineral density

2- Increased libido

3- Increased percentage of free testosterone

**4- Low HDL cholesterol**

5- Low LDL cholesterol

Q2217. A 19-year-old man from a travelling family comes to the endocrine clinic for review. He has bony aches and pains and feels tired all the time. On examination his BP is 110/72 mmHg, pulse is 70 and regular. His BMI is 21, and he is only 160 cm in height. According to his mother this is much shorter than his brothers. He has bilateral shortened fifth digits on both hands. Investigations show: Haemoglobin 12.9 g/dl(13.5-17.7) White cell count 8.3 x 109 /L (4-11) Platelets 190 x 109 /L (150-400) Sodium 140 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 95 µmol/l (79-118) Calcium 2.00 mmol/l (2.2-2.61) Phosphate 1.6 mmol/l (0.8-1.5) Which of the following is the most appropriate treatment?

1- Calcitonin

**2- Calcium and vitamin D**

3- Cinacalcet

4- Magnesium sulphate

5- Sevelamer

Q2218. Bromocriptine is recognised as a dopamine agonist and is used in the treatment of a range of disorders including prolactin secreting pituitary adenoma and Parkinson's. Which of the following is associated with bromocriptine therapy?

1- Diarrhoea is commonly seen

2- Excessive sleepiness is commonly seen

3- Nasal congestion is rarely seen

4- Pulmonary fibrosis is not a recognised association

**5- Tinnitus is rarely seen**

Q2219. A 19-year-old man comes to the clinic with short stature and bony aches and pains. He attends a day care centre as he was identified as requiring special needs support at a young age. On examination his BP is 135/72 mmHg, his pulse is 69 and regular. He is short at 160 cm in height and you notice a shortened fifth digit on both hands. Investigations show: Haemoglobin 13.0 g/dl(13.5-17.7) White cell count 6.9 x 109 /L (4-11) Platelets 207 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 3.8 mmol/l (3.5-5) Creatinine 114 µmol/l (79-118) Alkaline phosphatase 165 U/l (39-117) Calcium 2.05 mmol/l (2.20-2.62) Which of the following hormonal conditions is most likely to be present in addition to his abnormality of calcium metabolism?

1- Addison's disease

2- Hypergonadism

3- Hyperthyroidism

4- Hypogonadism

**5- Hypothyroidism**

Q2220. A 30-year-old woman is known to have a pituitary microadenoma for which she takes long term dopamine agonist therapy. At her last clinic follow up she is well, has no symptoms of milk leakage, and her libido and sex life have returned to normal. She wishes to start a family with her partner. Which of the following is the correct advice for her?

1- She should continue her bromocriptine throughout the pregnancy

2- She should not start a family until post surgical removal

**3- She should stop her bromocriptine once she knows she is pregnant**

4- She should stop her bromocriptine prior to trying to get pregnant

5- She should switch the bromocriptine to cabergoline prior to getting pregnant

Q2221. A 39-year-old man presents to his GP for review. He has a history of carpal tunnel syndrome and osteoarthritis of his weight bearing joints, and has recently begun to suffer from symptoms of sleep apnoea. On examination he has a prominent jaw line and macroglossia. His BP is elevated at 155/95 mmHg. There is peripheral visual field loss. Investigations show: Haemoglobin 13.9 g/dl(13.5-17.7) White cell count 8.2 x 109 /L (4-11) Platelets 202 x 109 /L (150-400) Sodium 136 mmol/l (135-146) Potassium 4.4 mmol/l (3.5-5) Creatinine 90 µmol/l (79-118) Fasting glucose 8.8 mmol/l (<7.0) Which of the following is true?

1- Growth hormone antagonists do not improve surgical survival

**2- Pegvisomant can be used where IGF-1 is not normalised post surgery**

3- Prolactin is most likely to be normal

4- Random growth hormone is always elevated

5- Risk of colonic carcinoma is not increased in this patient

Q2222. A 42-year-old man comes to the clinic with thirst, weight loss and polyuria. He tells you that his mother and aunt both have diabetes. He himself is overweight with a BMI of 27, but tells you that he is pleased to have lost 7 kg in weight over the past few months, although he does admit to feeling weaker recently. Investigations show: Haemoglobin 13.8 g/dl(13.5-18) White cell count 5.1 x 109 /l (4-10) Platelets 199 x 109 /l (150-400) Sodium 141 mmol/l (134-143) Potassium 5.0 mmol/l (3.5-5) Creatinine 131 µmol/l (60-120) Fasting glucose 14.1 mmol/l (<7.0) According to the ADA/EASD consensus algorithm 2006 which of the following is the most appropriate initial therapy for him?

1- Acarbose

2- Gliclazide

**3- Metformin and Insulin**

4- Metformin

5- Pioglitazone

Q2223. A 50-year-old man presented with a milky discharge from his nipples. He had a history of depression and gastro-oesophageal reflux disease and was on a number of medications. Plasma prolactin650 mU/L(< 360) Which of the following is the most likely cause of his symptoms?

1- Amitryptiline

2- Cimetidine

3- Fluoxetine

**4- Metoclopramide**

5- Omeprazole

Q2224. A 51-year-old man with type 2 diabetes was admitted to the coronary care unit with an acute myocardial infarction (M I) and left ventricular failure. He was commenced on intravenous sliding scale insulin at admission. His other medications comprised gliclazide 80 mg twice daily, aspirin 75 mg OD, ramipril 5 mg daily, isosorbide mononitrate 20 mg BD, furosemide 40 mg OD and simvastatin 40 mg OD. On stopping his sliding scale insulin, his blood glucose meter readings vary between 15 to 20 mmol/l. He was very obese with a BMI of 38. Investigations showed: Serum Sodium 134 mmol/l (137-144) Serum Potassium 4.7 mmol/l (3.5-4.9) Serum Urea 8.9 mmol/l (2.5-7.5) Serum Creatinine 186 µmol/l (60 110) Haemoglobin HbA1c 9.4 %(3.8-6.4) What is the next most appropriate measure to optimise his glycaemic control?

1- Increase gliclazide dose

**2- Insulin**

3- Metformin

4- Orlistat

5- Pioglitazone

Q2225. You are asked to review a 76-year-old man who has been admitted with pneumonia as the nurses notice he is significantly confused. On examination his BP is 142/72 mmHg, his pulse is 78 and regular. He has signs of right sided pneumonia. Investigations show: Haemoglobin 12.9 g/dl(13.5-17.7) White cell count 12.4 x 109 /L (4-11) Platelets 192 x 109 /L (150-400) Sodium 127 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 90 µmol/l (79-118) Which of the following is likely to be found in this patient?

1- Free water excretion is likely to be elevated

2- Free water excretion is likely to be normal

**3- Free water excretion is likely to be reduced**

4- Sodium excretion is likely to be increased

5- Sodium excretion is likely to be normal

Q2226. A 22-year-old woman presented with a five year history of hirsutism, having noticed coarse dark hair under her chin. Being a teacher in a primary school, these symptoms are very distressing for her. She has tried local measures such as shaving and applying depilatory creams but without lasting success. Her periods are irregular with oligomenorrhoea. She attained menarche at the age of 14 years. She has not yet conceived and has had a coil fitted for contraception. She takes 5 mg diazepam at night. On examination, she had a BMI of 24. She had coarse, dark hair over her chin, lower back and inner thighs. She does not have galactorrhoea to expression and there were no other clinical features to suggest Cushing's. Investigations during the follicular phase: Serum androstenedione 10.1 nmol/l (0.6-8.8) Serum dehydroepiandrosterone sulphate 11.6 µmol/l (2-10) Serum 17-hydroxyprogesterone1 8.6 nmol/(

1- 10) Serum oestradiol 380 pmol/l (200-400) Serum testosterone 2.6 nmol/l (0.5-3) Plasma luteinising hormone 3.3 U/l (2.5-10) Plasma follicle-stimulating hormone 3.6 U/l (2.5-10) What is the next most appropriate investigation?

1- 24 hour urinary free cortisol

2- CT scan of adrenals

3- GnRH test

**4- Short Synacthen test with measurement of 17 hydroxy progesterone(17OH P) 5- Ultrasound scan of ovaries**

Q2227. A 32-year-old female is being investigated for tinnitus by the ENT department and undergoes an MRI scan. The scan is normal except for a pituitary tumour of 0.9 cm confined to the pituitary fossa. Thyroid function tests, prolactin, LH, FSH and estradiol concentrations are all normal. Which of the following would be the most appropriate management approach for this patient?

1- Pituitary biopsy

**2- Reassure and continued observation**

3- Stereotactic pituitary irradiation

4- Transphenoidal hypophysectomy

5- Treat with dopamine agonist therapy

Q2228. A 52-year-old schoolteacher attends with weight loss and sweats. She is clinically thyrotoxic with a diffuse goitre. Subsequent investigations show: Free T4 40 pmol/l (9-23) Free T3 9.8 nmol/l (3.5-6) TSH 6.1 mU/l (0.5-5) A repeat TFT is similar. What is the most appropriate investigation for this patient?

1- FNA of thyroid gland

**2- MRI scan pituitary gland**

3- Radio-isotope uptake scan of thyroid gland

4- Repeat TFT checking for antibody interferance

5- Thyroid auto antibodies

Q2229. An elderly asthmatic lady on treatment with high dose prednisolone complains of a four week history of right hip pain. She comments that recently she seems to be developing more facial hair and adds that she has also been diagnosed with high blood pressure and diabetes. On examination she is noted to be unable to weight bear on the right side. What is the most likely cause of her hip pain?

**1- Avascular necrosis of femoral head**

2- Dislocation of the hip joint

3- Fracture neck of femur

4- Gout

5- Osteoarthritis of the hip joint

Q2230. In a study healthy volunteers are given 50 mls of 50% dextrose solution by one of two routes. Route A is intravenous and route B is via a nasogastric tube. Every 15 minutes the plasma insulin level and glucose are measured and plotted on a graph. Which of the following statements would best describe the likely results comparing route A to route B in this experiment?

1- Insulin and glucose the same in route A and route B

2- Insulin higher, glucose higher in route A

3- Insulin higher, glucose higher in route B

4- Insulin higher, glucose lower in route A

**5- Insulin higher, glucose lower in route B**

Q2231. A 32-year-old woman with known hypothyroidism is admitted to hospital. Her blood pressure is 86/53 mmHg and her pulse 100 bpm. Investigations reveal: Serum Sodium 126 mmol/L(137-144) Serum Potassium 5.8 mmol/L(3.5-4.9) Serum Glucose 3.0 mmol/L(3.0-6.0) What is the most appropriate investigation?

1- Anti-thyroglobulin antibody

2- Plasma insulin concentration

3- Random serum cortisol concentration

**4- Short Synacthen test**

5- Urine and plasma osmolality

Q2232. A 45-year-old woman presents with excessive hair growth on her face, chest and lower abdomen. Which of the following may be associated with her condition?

1- Cyproterone

2- Hypoadrenalism

**3- Minoxidil**

4- Moxonidine

5- Valproate

Q2233. A 35-year-old woman presented with a five year history of weight gain associated with a one year history of amenorrhoea. Over this time she had also noticed hirsutism and had been trying to conceive. On examination, she had a BMI of 32 kg/m2 , a pulse was 84 beats per minute, and a blood pressure of 154/100 mmHg. Features suggestive of Cushing's syndrome were also noted. Which of the following would be the most useful initial investigation?

**1- 24 hour urinary free cortisol (UF C) concentration**

2- Combined 9 am ACTH concentration and serum cortisol concentration

3- Midnight cortisol concentration

4- Serum sodium and potassium concentrations

5- The 1 mg overnight dexamethasone suppression test (ODS T)

Q2234. Which of the following statements is true of primary hyperparathyroidism (HP T) ?

1- It is associated with bone resorption by PTH to restore depressed serum calcium levels to normal.

2- It is associated with hypocalciuria due to elevated parathyroid hormone (PT H) levels.

**3- It is usually caused by an adenoma of a single parathyroid gland.**

4- It progresses to tertiary hyperparathyroidism with time.

5- PTH is secreted in a pulsatile manner from the posterior pituitary and acts through PTH receptors on parathyroid cell membranes

Q2235. An 18-year-old girl receives radioactive iodine (RA I) as treatment of thyrotoxicosis. Which of the following is the most likely long term complication of this treatment?

1- Hypoparathyroidism

**2- Hypothyroidism**

3- Increased risk of developing cancer

4- Osteoporosis

5- Recurrent laryngeal nerve damage

Q2236. Which of the following is correct concerning nitric oxide?

1- Acts via cAMP as the second messenger

**2- Inhibits platelet aggregation**

3- Is inactivated by superoxide dismutase

4- Is manufactured from glycine

5- Is synthesised principally by the vascular smooth muscle

Q2237. A 62-year-old woman presents to the clinic with incontinence. She tells you that the pattern is always the same; with a warning she needs the toilet coming only a few moments before urine starts to leak, and she cannot get to the bathroom in time. There is no medical history of note apart from mild hypertension which is managed with amlodipine 5 mg daily. On examination her BP is 145/85 mmHg, pulse is 80 and regular. Respiratory and abdominal examination is unremarkable. Investigations show: Haemoglobin 11.8 g/dl(11.5-16.0) White cell count 8.1 x 109 /L (4-11) Platelets 198 x 109 /L (150-400) Sodium 141 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 122 µmol/l (79-118) Bladder scan No significant residual after voiding Which of the following is the most appropriate initial treatment?

**1- Bladder training**

2- Doxazosin

3- Oxybutynin

4- Tamsulosin

5- Tolterodine

Q2238. A 62-year-old man presents with rapidly deteriorating health, he has hardly eaten for days and has worsening nausea, vomiting and dehydration. He smokes 20 cigarettes per day and has been deteriorating with weight loss and a cough for some time. On examination his BP is 110/70 mmHg, pulse is 95 and regular. He looks emaciated. Investigations show: Haemoglobin 10.0 g/dl(13.5-17.7) White cell count 12.3 x 109 /L (4-11) Platelets 188 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 4.3 mmol/l (3.5-5) Creatinine 187 µmol/l (79-118) Calcium 3.3 mmol/l (2.2-2.61) CXR Mass suspicious of a carcinoma Which of the following is the most likely cause of his hypercalcemia?

1- Bony metastases

2- Dehydration

3- Excess vitamin D

4- Hyperparathyroidism

**5- PTHrP**

Q2239. A 22-year-old woman comes to see you with her partner. She is keen to start a family but there is a history of nephrogenic diabetes insipidus (D I) affecting her male relatives. Which of the following is the most likely underlying defect?

1- Aquaporin-1 gene mutation

2- Aquaporin-2 gene mutation

3- Aquaporin-3 gene mutation

4- V1 ADH receptor gene mutation

**5- V2 ADH receptor gene mutation**

Q2240. A 31-year-old man who works as a fitness instructor is referred to the clinic with resistant hypertension. He is currently taking a combination of amlodipine, ramipril and indapamide. His BP is elevated at 155/95 mmg. Other physical examination is unremarkable. Investigations show: Haemoglobin 12.5 g/dl(13.5-17.7) White cell count5.0 x 109 /L (4-11) Platelets 204 x 109 /L (150-400) Sodium 135 mmol/l (135-146) Potassium 3.2 mmol/l (3.5-5) Creatinine 119 µmol/l (79-118) Which of the following is the next appropriate investigation?

1- Abdominal CT

**2- Aldosterone / renin ratio**

3- DMSA

4- Renal angiogram

5- Urinary electrolytes

Q2241. A 28-year-old woman presents to the clinic because she has had no periods for the past four months, she also suffers from problems with vaginal dryness during intercourse and milk leakage when her boyfriend stimulates her breasts. On examination her BP is 122/70 mmHg, her pulse is 67, and her BMI is 23. You can express milk on minimal nipple palpation. You suspect hyperprolactinaemia. Which of the following prolactin levels fits best with drug related hyperprolactinaemia?

**1- 800**

2- 1500

3- 3000

4- 5000

5- 10000

Q2242. A 52-year-old man who works as an HGV driver comes to the clinic for review. He is currently taking metformin 1 g twice daily. On examination his blood pressure is 142/80 mmHg, and his BMI is 42. His latest pre-clinic HbA1c is 8.8%. Which of the following according to the ADA/EASD consensus would be the most appropriate therapy for him?

1- Albiglutide

**2- Exenatide**

3- Liraglutide

4- Pramlintide

5- Taspoglutide

Q2243. A 68-year-old man comes to the clinic for review. His current medication includes metformin 1 g twice daily for his type 2 diabetes. Most recently he has noticed his morning fasting home monitored blood sugars rising above 7 mmol/l, and his HbA1c has risen to 8.3% just prior to his clinic visit. On examination his BMI is 29. According to the ADA/EASD consensus, which of the following is the most appropriate additional therapy for him?

1- Chlorpropamide

2- Glibenclamide

**3- Gliclazide**

4- Prandial insulin

5- Sitagliptin

Q2244. A 49-year-old man with newly diagnosed type 2 diabetes comes to the clinic for review. He is an avid user of the internet and wants to know by what criteria the recommended treatments for his diabetes are decided. According to the ADA/EASD consensus, which of the following principles is the one upon which therapeutic choices should be based?

**1- Ability to achieve and maintain glycaemic target**

2- Lack of weight gain

3- Proven avoidance of macrovascular complications

4- Proven avoidance of microvascular complications

5- Relative safety versus other options

Q2245. A 59-year-old man is diagnosed with type 2 diabetes after suffering an acute myocardial infarction. His discharge medication from the cardiac unit includes ramipril 10 mg daily, atorvastatin 10 mg daily, aspirin 75 mg and furosemide 40 mg daily. You are asked to review him for his diabetes care. On examination his BP is 142/82 mm/Hg, his BMI is 31 kg/m2 . Investigations show: Haemoglobin 13.1 g/dl(13.5-18) White cell count5.0 x 109 /L (4-10) Platelets 199 x 109 /L (150-400) Sodium 140 mmol/l (134-143) Potassium 5.4 mmol/l (3.5-5) Creatinine 152 µmol/l (60-120) Fasting glucose 9.2 mmol/l (<7.0) According to the ADA/EASD consensus algorithm, which of the following initial therapies would be most appropriate for him in addition to diet and lifestyle measures?

**1- Gliclazide**

2- Metformin

3- Pioglitazone

4- Exenatide

5- Sitagliptin

Q2246. A 29-year-old woman presents to the clinic with diarrhoea which has been progressively worsening over the past six months. Multiple stool samples have proved negative over the past few weeks. Her GP has been giving her loperamide to no effect. You understand there is a history in the family of hyperparathyroidism, and that her father had a tumour which caused hypoglycaemia. An ultrasound reveals a suspected pancreatic tumour. Which of the following is a likely feature on biochemistry testing?

1- Hyperkalaemia

2- Hypernatraemia

**3- Hypokalaemia**

4- Increased bicarbonate

5- Increased pH

Q2247. A 78-year-old woman with type 2 diabetes and rheumatoid arthritis is brought to the medical admissions unit with confusion. She can give no useful history. There is a swollen right knee, and a temperature of 38.6°C. A BM reading records 24.8 mmol/l. Which of the following statements in relation to her condition is correct?

**1- Insulin inhibits ketogenesis**

2- Mortality risk is low

3- The patient is likely to be hypo-osmolar

4- There is osmotic shift to the extravascular space

5- Urine dipstick reveals reduced specific gravity

Q2248. A 48-year-old lady has obesity with a BMI of 37 kg/m2 and her waist measurement is 115 cm (which is very hig h) . She gained most of the weight about 10 years ago and since that time she has tried many different forms of diets and weight-loss clubs. Although she enjoys swimming she is finding it harder to keep up her exercise and walking is restricted to a few hundred metres because of foot pain. On further questioning, it is evident that her diet is quite reasonable consisting of about 1800 KCal per day. She eats breakfast, bases her meals on starchy foods, eats plenty of fibre and at eats at least five portions of vegetables or fruit per day. Which of the following management strategies according to NICE guidance on obesity (published December 2006) would be advisable for this lady?

**1- Diet and physical activity, consider drugs**

2- Extended period, very low calorie diet

3- General advice on healthy weight and lifestyle

4- Referral for bariatric surgery

5- Referral to specialist obesity service

Q2249. A 19-year-old male presents with concerns regarding his pubertal development. On examination he is 1.8 m tall, thin and has little pubic and axillary hair. Both testes are approximately 5 ml in volume (NR 15 m l) . No other abnormalities are encountered. Investigations reveal: LH 3.3 mU/l (3-10) FSH 5.5 mU/l (3-10) Testosterone 5.5 nmol/l (9-30) Which of the following is the most likely diagnosis?

1- Anorexia nervosa

2- Craniopharyngioma

**3- Kallmann's syndrome**

4- Klinefelter's syndrome

5- Primary testicular failure

Q2250. A 40-year-old man was found to have acromegaly. What is the most likely cause of death if treatment is unsuccessful?

1- Colorectal carcinoma

2- Diabetic nephropathy

3- Gastric carcinoma

**4- Left ventricular failure**

5- Increased intracranial pressure

Q2251. A 58-year-old male is admitted with a blood pressure of 210/120 mmHg and episodic runs of ventricular tachycardia (V T) . Investigations confirm the presence of a right adrenal phaeochromocytoma. Which one of the following would be the most appropriate initial therapy?

1- Amiodarone

2- Atenolol

3- Lidocaine

**4- Phenoxybenzamine**

5- Propafenone

Q2252. In the treatment of congenital adrenal hyperplasia (CA H) , which of the following statements is correct?

**1- Efficacy of treatment is best monitored by 17-OH progesterone and androstenedione levels**

2- Hydrocortisone may be administered once daily

3- Hypotension, hyperkalaemia and hyperreninaemia suggest that the dose of mineralocorticoid should be reduced

4- Preferred treatment in children is prednisone

5- Renin activity levels are of no clinical use in treatment monitoring

Q2253. A 60-year-old man who was previously fit and well presented with a six week history of blurring of vision. His investigation revealed a fasting plasma glucose of 12.9 mmol/L (3.0 - 6.0). What is the most likely cause of his blurred vision?

1- Cataract

2- Maculopathy

**3- Osmotic changes in the lens**

4- Proliferative diabetic retinopathy

5- Retinal vein thrombosis

Q2254. A 16-year-old male presents with polyuria and polydipsia. Which of the following may confirm the diagnosis of diabetes mellitus?

**1- A fasting plasma glucose of 7.5 mmol/L**

2- A finding of 3+ ketonuria

3- An HbA1c of 6.0%

4- A plasma glucose of 10.2 mmol/l two hours after 75 grams of oral glucose.

5- A random plasma glucose of more than7.5 mmol/L

Q2255. Which of the following suggests a poorer prognosis for thyroid cancer?

1- Age less than 30.

2- Cold nodule on thyroid uptake scan

3- High TSH concentration

**4- Male sex.**

5- Papillary thyroid cancer with cervical node involvement.

Q2256. A 60-year-old woman presents with vague aches and pains and has a family history of osteoporosis. She is 10 years post-menopausal but has not taken any female HRT. Dual energy x ray absorptiometry (DEX A) is requested. Which of the following values of bone mineral density measured by DEXA would signify osteopenia at a measured site?

1- A T score of -2.6

**2- A T score of -1.8**

3- A Z score of -2.0

4- A z score of -1.5

5- A T score of -0.9

Q2257. A 49-year-old man is referred to the clinic with possible Cushing's syndrome. He is grossly obese having gained 8 kg during the past six months. He has hypertension on four agents and impaired glucose tolerance. On examination his BP is 155/85 mmHg, pulse is 75 and regular and his BMI is 35. Assuming he has Cushing's, which of the following features would you most expect on routine biochemistry?

1- Decreased bicarbonate

2- Decreased sodium

**3- Increased bicarbonate**

4- Increased potassium

5- Increased sodium

Q2258. A chromophobe adenoma of the pituitary would be expected in which of the following?

1- Acromegaly

2- Cushing's disease

**3- Non-functioning pituitary tumour**

4- Prolactinoma

5- TSH secreting tumour

Q2259. A 55-year-old woman with a history of type 2 diabetes managed with BD mixed insulin comes to the clinic for review. Her BP is within target at 130/70 mmHg, she has recently lost 4 kg and her BMI is now 28. Her most recent HbA1c is measured at 7.3%. The only abnormality of note on blood testing is triglycerides which are elevated at 2.5 mmol/l. Which of the following correctly represents the relative increase in cardiovascular risk associated with the elevated triglycerides in this patient?

1- 10%

**2- 30%**

3- 70%

4- 90%

5- 120%

Q2260. A 49-year-old man with type 2 diabetes is managed with metformin 1 g twice daily and has recently been started on exenatide because he is morbidly obese and still failing to achieve adequate blood glucose control. On examination his BMI is 41. Investigations show: Haemoglobin 13.4 g/dl(13.5-18) White cell count 5.2 x 109 /L (4-10) Platelets 201 x 109 /L (150-400) Sodium 140 mmol/l (134-143) Potassium 5.0 mmol/l (3.5-5) Creatinine 120 µmol/l (60-120) HbA1c 7.2%(<5.5) He asks about home blood glucose monitoring. Which of the following is most consistent with the recommendations in the consensus?

1- He should monitor morning fasting and post-prandial glucoses three times per week

2- He should monitor morning fasting and preprandial glucoses three times per week

3- He should monitor fasting glucoses every day

4- He should monitor fasting glucoses three times per week

**5- He should not need to self monitor his glucoses**

Q2261. A 52-year-old male with a history of dyslipidaemia and hypertension attends the surgery for a 75g oral glucose tolerance test (OGT T) as part of his cardiovascular risk assessment and screening for type 2 diabetes. He is overweight with a BMI of 29 kg/m2 , his blood pressure is 135/85 mmHg on a combination of amlodipine and perindopril. His venous plasma OGTT result is as follows. 0 minutes 6.3 mmol/L (3.0-6.0) 120 minutes 10.4 mmol/L (3.0-6.0) Which of the following is the correct interpretation of these results?

1- Impaired fasting glucose (IF G) 2- Impaired fasting glucose and impaired glucose tolerance

3- Impaired glucose tolerance (IG T) 4- Normal glucose tolerance.

5- Type 2 diabetes

Q2262. A 53-year-old female presents with a four month history of weight gain, episodic sweats and shakiness which occur during episodes of fasting and are relieved by eating chocolate bars. She informs you that she has a friend who is a nurse and has provided her with a glucose meter. During one of these episodes the glucose concentration was recorded at 2.8 mmol/l (3.0-6.0). On examination she has a body mass index of 30.2 kg/m2 , a pulse of 82 bpm and a blood pressure of 144/86 mmHg. No other abnormalities are noted. Which of the following is the most appropriate next investigation for this woman?

**1- 72 hour fast**

2- Fasting insulin and C peptide measurement

3- MRI pancreas

4- Oral glucose tolerance test

5- Sulphonylurea measurement

Q2263. A 38-year-old man presented with intermittent severe headaches. He was prescribed spironolactone 50 mg and bendroflumethiazide 2.5 mg daily for hypertension. On examination his pulse was 112 beats per minute, with regular rhythm, and blood pressure was 190/110 mmHg. Investigations revealed: Serum Sodium 132 mmol/L (137-144) Serum Potassium 3.4 mmol/L (3.5-4.9) Serum Urea 7.0 mmol/L (2.5-7.5) Which one of the following is the most useful investigation in establishing the diagnosis?

1- A 24 hour urinary 5-hydroxyindoleacetic acid concentration

**2- A 24 hour urinary catecholamine concentration**

3- A 24 hour urinary free cortisol concentration

4- A radionuclide Hippuran renogram

5- The serum aldosterone: rennin ratio

Q2264. A 70-year-old male with a five year history of type 2 diabetes mellitus (T2D M) presents for annual review with a blood pressure of 188/88 mmHg. Clinical examination was normal. An ECG reveals evidence of left ventricular hypertrophy (LV H) . Urinary protein creatinine ratio (PC R) is positive. Which one of the following drugs is the most appropriate treatment for this patient's hypertension?

1- Amlodipine

2- Atenolol

3- Bendroflumethiazide

4- Doxazosin

**5- Ramipril**

Q2265. A 1

7- year-old female presents with tingling and muscle cramps. There is no other past medical history of note. Investigations reveal: Creatinine 68 µmol/L(60-110) Calcium 1.76 mmol/L(2.2-2.6) Phosphate 1.4 mmol/l (0.8-1.4) Albumin 38 g/L(37-49) Which one of the following investigations is most likely to confirm the diagnosis?

1- Alkaline phosphatase concentration

2- Computerised tomography (C T) brain scanning

**3- Parathyroid (PT H) concentration**

4- Urine calcium concentration

5- Vitamin D concentration

Q2266. A 36-year-old male with insulin-dependent diabetes mellitus (IDD M) of three years duration presented with decreased libido and erectile dysfunction since diagnosis. No abnormalities were noted on genital examination. Investigations revealed: plasma testosterone 6.0 nmol/L (9 - 35) plasma follicle stimulating hormone 1.0 u/L (

1- 8) Which of the following investigations is the most appropriate next step?

1- Autonomic function testing

2- Doppler studies of penile artery

3- Nerve conduction studies

**4- Serum ferritin**

5- Serum prolactin

Q2267. Which of the following is a feature of Cushing's syndrome?

1- Calcium pyrophosphate arthropathy

2- Fibrous dysplasia

3- Osteoarthritis

4- Osteomalacia

**5- Vertebral collapse**

Q2268. A 62-year-old man with a history of type 2 diabetes mellitus takes 24 units BD of mixed insulin. His HbA1c is elevated at 8.3% yet he is having problems with hypoglycaemic episodes either late in the afternoon or during the early hours of the morning. A recent creatinine is 130 µmol/l. On examination is BP is 148/82 mmHg, pulse is 70 and regular, respiratory and abdominal examination is unremarkable. Which of the following is the most appropriate next step?

1- Advise him to eat a snack before going to bed

2- Decrease his BD mixtard dose by 20%

3- Increase his BD mixtard dose by 20%

4- Split his mixtard into three doses

**5- Transition him to a basal bolus regime**

Q2269. Which of the following antibodies are typically found in auto-immune adrenalitis (Addison's diseas e) ?

**1- Anti-21 hydroxylase antibody**

2- Anti-nuclear antibody

3- Anti-peroxidase antibody

4- Anti-rho antibody

5- Anti-tryptophan hydroxylase antibody

Q2270. A 17-year-old woman comes to the endocrine clinic for review. She has primary amenorrhoea. Other history of note includes having no sense of smell. On examination her BP is 110/70 mmHg, her pulse is 65 and regular. She is 170 cm in height. There is an absence of secondary sexual hair and breast development. Investigations show: Haemoglobin 12.8 g/dl(11.5-16.0) White cell count 5.9 x 109 /L (4-11) Platelets 190 x 109 /L (150-400) Sodium 143 mmol/l (135-146) Potassium 3.7 mmol/l (3.5-5) Creatinine 90 µmol/l (79-118) Which of the following is the most likely diagnosis?

1- Androgen insensitivity syndrome

2- Autoimmune ovarian failure

**3- Kallman syndrome**

4- Noonan's syndrome

5- Turner's syndrome

Q2271. You are taking part in the clinical trials of a new treatment for symptomatic hypoglycaemia which is thought to have a glucagon-like action. Which of the following features would be consistent with a glucagon-like effect?

1- Inhibition of catecholamine secretion

2- Stimulation of gastric emptying

3- Stimulation of glycogenesis

4- Stimulation of glycolysis

**5- Stimulation of lipolysis**

Q2272. A 22-year-old student nurse is admitted after a third episode of collapse whilst on attachment in the Emergency department of the hospital. She has no past medical history of note and her only medication is the progesterone only pill. On further questioning she says she feels light-headed and hungry to the pit of her stomach before these collapses occur and tells you that none of these attacks have occurred outside the hospital. On examination her BP is 110/70 mmHg, pulse is 78 and general physical examination is entirely normal. Investigations show: Haemoglobin 13.2 g/dl(11.5-16.0) White cell count 4.4 x 109 /L (4-11) Platelets 172 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 90 micromol/l (79-118) Glucose (in recovery perio d) 8.2 mmol/l (>3.0) Which of the following is the most appropriate next step?

1- Admit for a 72 hour fast

2- Arrange an exercise provocation test

3- Arrange an ultrasound abdomen

4- Give her glucagon to carry around in case an attack occurs

**5- Glucose, insulin and C peptide assay at the time of an attack**

Q2273. A 52-year-old South Asian woman comes to the clinic complaining of lower back, hip and thigh pain, accompanied by general fatigue and lethargy. She has a history of hypertension for which she takes ramipril 10 mg daily, but nothing else of note. On further questioning you find out that she spends most of the day inside. On examination her BP is 142/84 mmHg, there is mild proximal muscle weakness, but no other significant findings. Investigations show: Haemoglobin 12.8 g/dl(11.5-16.5) White cells 5.2 x 109 /L (4-11) Platelet 188 x 109 /L (150-400) Sodium 141 mmol/l (135-146) Potassium 4.9 mmol/l (3.5-5) Creatinine 133 µmol/l (79-118) Calcium 2.05 mmol/l (2.20-2.60) HbA1c 7.3% (<5.5) (56 mmol/mo l) TSH 4.8 mU/l (0.5-5.0) Which of the following is the most likely diagnosis?

1- Fibromyalgia

2- Hypothyroidism

**3- Osteomalacia**

4- Osteoporosis

5- Myositis

Q2274. A 38-year-old patient comes to the clinic with hypertension he is finding difficult to control. Despite taking ramipril 10 mg, atenolol 50 mg and amlodipine 10 mg, his BP is 155/97 mmHg. He has no other significant past medical history. His BMI is 22 and general examination is unremarkable. Investigations show Haemoglobin 13.5 g/dl(13.5-17.7) White cells 7.9 x 109 /L (4-11) Platelets 231 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 3.1 mmol/l (3.5-5) Creatinine 95 μmol/l (79-118) Spot aldosterone:renin ratio 830 Which of the following is the most appropriate next step to optimise his management?

1- Add doxazosin

2- Add indapamide

3- Add moxonidine

4- Echocardiogram

**5- MRI abdomen**

Q2275. A 73-year-old woman presented with thirst and polyuria of six months duration. She had suffered several episodes of lower back pain. She was on no medication. On examination she looked well, had a dorsal kyphosis and a blood pressure of 170/95 mmHg. Investigations revealed: Erythrocyte sedimentation rate 15 mm/1st hour (0-30) Serum Urea 11.9 mmol/L (2.5-7.5) Serum Creatinine 175 µmol/L (60-110) Serum Albumin 40 g/L (37-49) Serum total Calcium 2.98 mmol/L (2.2-2.6) What is the most likely cause of this lady's hypercalcaemia?

1- Metastatic breast cancer

2- Myeloma

3- Osteoporosis

**4- Primary hyperparathyroidism**

5- Sarcoidosis

Q2276. A 34-year-old man presents with a six month history of tiredness, weight gain and cold intolerance. On examination he appeared hypothyroid and had a firm goitre. Investigations reveal: Free T4 6 pmol/l (10-22) TSH 55 mU/l (0.4-5.0) What is the most likely diagnosis in this patient?

1- De Quervain's thyroiditis

**2- Hashimoto's thyroiditis**

3- Iodine deficiency

4- Pendred's syndrome

5- Primary atrophic hypothyroidism

Q2277. A previously well 60-year-old lady is admitted with an acute anterior myocardial infarction. A random blood glucose concentration was found to be 12.1 mmol/L (<6.7). What is the optimal management of her blood sugar?

1- Commence gliclazide

**2- Commence intravenous insulin plus dextrose**

3- Commence metformin

4- Commence subcutaneous insulin

5- No therapy other than continued dietary control

Q2278. A 50-year-old man with a history of diabetis mellitus and hypertension attends an ophthalmic clinic for regular assessment. On fundoscopy he is diagnosed to have preproliferative diabetic retinopathy. Which of the following is characteristic of preproliferative diabetic retinopathy?

1- Hard exudates

2- Macular oedema

3- Microaneurysms

4- New vessels at the disc

**5- Venous beading**

Q2279. A 20-year-old woman comes to the endocrine clinic with excessive hairiness and acne. She tells you that she has a period only every few months and when she has one it tends to be very heavy. On examination she has obvious facial acne. Her BP is 142/78 mmHg, pulse is 72 and regular and her BMI is 30. There is facial hair and hair around her upper chest and breasts. Investigations show: Haemoglobin 11.9 g/dl(11.5-16.0) White cell count 6.0 x 109 /l (4-11) Platelets 202 x 109 /l (150-400) Sodium 137 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 90 µmol/l (79-118) Total testosterone normal Free androgen index elevated LH / FSH ratio 2.2 Which of the following is the most likely diagnosis?

1- Cushing's syndrome

2- Germ cell tumour

**3- Polycystic ovarian syndrome**

4- Testicular feminisation

5- Turner's syndrome

Q2280. A 36-year-old man attends clinic with his wife after failing to conceive after 10 years of marriage. Examination reveals that he is tall, thin and has bilateral gynaecomastia. Investigations show high levels of urinary gonadotrophins. What is the most likely diagnosis?

1- Andropause

2- Gaucher's disease

**3- Klinefelter's syndrome**

4- Marfan syndrome

5- Noonan's syndrome

Q2281. A 21-year-old woman who is known to suffer from an eating disorder presents to the clinic with increased lethargy, muscle weakness and fasciculations. She tells you that she has even less appetite than usual. On examination her BP is 105/72 mmHg, pulse is 68 and regular. Her BMI is 16.5. Investigations show: Haemoglobin 11.2 g/dl(11.5-16.0) White cell count 6.1 x 109 /L (4-11 Platelets 178 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 3.8 mmol/l (3.5-5) Creatinine 81 micromol/l (79-118) Calcium 2.18 mmol/l (2.2-2.61) Which of the following is the most likely diagnosis?

1- Hypocortisolaemia

2- Hypoglycaemia

**3- Hypomagnesaemia**

4- Hypophosphataemia

5- Hypothyroidism

Q2282. A 25-year-old man presents to the endocrine clinic for review after investigations for a raised prolactin. He originally presented to his GP with tiredness. On examination his BP is 110/70 mmHg, pulse is 70 and regular. There are no abnormal findings at all on general examination. Investigations show: Haemoglobin 13.8 g/dl(13.5-17.7) White cell count 6.0 x 109 /L (4-11) Platelets 178 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 95 µmol/l (79-118) TSH 1.5 IU/l (0.5-4.5) Prolactin 820 mU/l (<400) MRI pituitary normal Which of the following correctly reflects what will most likely happen to his prolactin over the next six months?

1- It will fall by 50%

2- It will fall by 75%

3- It will increase by 50%

4- It will increase by 75%

**5- It will stay the same**

Q2283. A 45-year-old man presents with a change in his facial appearance over the past few years, soft tissue swelling, and difficult to manage hypertension. His GP is concerned that he may have acromegaly and tests an IGF-1 which is elevated, a pituitary MRI confirms an adenoma. Which of the following describes the most likely defect within somatotrophs resulting in increased growth hormone release?

1- Elevation in ATP

**2- Elevation in cyclic AMP**

3- Elevation in GTP

4- Mutation in the beta sub-unit of the GTP binding protein

5- Mutation in the gamma sub-unit of the GTP binding protein

Q2284. A 37-year-old woman is trying for a child with her new partner. She is very concerned as she has had no menstrual periods for the past seven months, but serial pregnancy tests have proved negative. If she has entered the menopause then which of the following blood tests would fit most with this picture?

**1- Elevated FSH**

2- Elevated oestradiol

3- Low LH

4- Low LHRH

5- Low testosterone

Q2285. A 28-year-old woman presents to the clinic complaining of increasingly heavy periods, where she bleeds for more days each month. These have changed over the course of the past few months. She does not take regular contraception and does not have a regular partner. On examination her BP is 145/80 mmHg, her pulse is 70 and regular, and her BMI is 26. Investigations show: Haemoglobin 10.2 g/dl (11.5-16.0) White cell count 6.0 x 109 /L (4-11) Platelets 198 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.1 mmol/l (3.5-5) Creatinine 108 µmol/l (79-118) Glucose 5.4 mmol/l (<7.0) Which of the following hormonal changes is most likely to be found in this patient?

1- Decreased TSH

2- Hyperinsulinaemia

3- Increased testosterone

**4- Low normal prolactin**

5- Markedly elevated prolactin

Q2286. A 54-year-old man comes to the clinic for review of type 2 diabetes. He is noted to have a BMI of 33 and a particularly elevated waist/hip ratio. You suspect that he has elevated central adiposity. Which of the following markers fits best with increased central adiposity?

1- Low alanine aminotransferase

2- Low plasma urate

3- Raised HDL cholesterol

4- Raised LDL cholesterol

**5- Raised triglycerides**

Q2287. A 62-year-old man comes to the surgery for review. He has a history of peripheral vascular disease, characterised by intermittent claudication, particularly when he walks up a slight incline. He has a history of smoking 20 cigarettes per day. Medication includes amlodipine 10 mg, valsartan 40 mg and atorvastatin 10 mg. On examination his BP is 135/72 mmHg, his pulse is 82. His BMI is 32. There are trophic changes on examination of both legs consistent with chronic peripheral vascular disease. Investigations show: Haemoglobin 12.3 g/dl(13.5-17.7) White cells6.2 x 109 /L (4-11) Platelet234 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 118 micromol/l (79-118) HDL cholesterol 0.8 mmol/l (0.8-1.8) LDL cholesterol 2.0 mmol/l (<4.0) Triglycerides 2.8 mmol/l (0.7-2.1) Glucose 6.2 mmol/l (<7.0) Which of the following is the most appropriate way to impact on his cardiovascular risk?

**1- Add in a fibrate or omega 3 fatty acids**

2- Further reduce his blood pressure

3- Increase his dose of atorvastatin

4- Start metformin

5- Start pioglitazone

Q2288. A 42-year-old woman comes to the clinic complaining of weight loss of 3 kg over the course of the past six weeks, heat intolerance and palpitations. She is referred by her GP with abnormal thyroid blood tests; apparently her mother also suffered from an overactive thyroid gland. On examination she has a BMI of 19 kg/m2 , her BP is 142/72 mmHg and her pulse is 95. She has a fine tremor. Her thyroid is diffusely enlarged. Investigations show Haemoglobin 13.0 g/dl(11.5-16.5) White cell count 8.2 x 109 /L (4-11) Platelets 170 x 109 /L (150-400) Serum Sodium 141 mmol/l (135-146) Serum Potassium 4.2 mmol/l (3.5-5) Creatinine 110 μmol/l (79-118) TSH <0.05 mU/l (0.5-5.0) Anti-thyroid antibody Positive Which of the following findings on examination or investigation would you also expect?

1- Decreased sex hormone-binding globulin (SHB G) levels

2- Decreased uptake on thyroid scan, with one 'hot' area

3- Globally decreased uptake on thyroid scan

**4- Orange peel skin on both shins**

5- Periods of bradycardia on 24 hour tape recording

Q2289. A 58-year-old woman with a history of Hashimoto's disease and hypothyroidism presents to the emergency department some 24 hours after taking 80 x 100 microgram tablets of thyroxine because she intended to kill herself. On examination her BP is 135/84 mmHg, and she has a resting tachycardia of 122. Investigations show Haemoglobin 13.4 g/dl(11.5-16.5) White cell count 5.2 x 109 /L (4-11) Platelets 191 x 109 /L (150-400) Sodium 141 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 105 μmol/l (79-118) ECG Confirms tachycardia, but no ischaemic changes seen Which of the following is the most appropriate way to manage her overdose?

1- Activated charcoal

2- Carbimazole

3- Diazepam

**4- Propranolol**

5- Propylthiouracil

Q2290. A 38-year-old woman is about to be discharged after a thyroidectomy when she reports to the FY2 that she has a hoarse voice. You fear a recurrent laryngeal nerve injury. Which of the following structures is most closely related to the recurrent laryngeal nerve?

1- Brachiocephalic vein

2- Carotid artery

**3- Inferior thyroid artery**

4- Jugular vein

5- Superior thyroid artery

Q2291. You review a 54-year-old man with respect to his diabetes control. He has had type 2 diabetes for some five years and currently takes metformin 1 g twice daily. There is a history of hypertension for which he takes ramipril and amlodipine, and he has microalbuminuria. On examination his BMI is 27 (lost 4 kg over the past six months but not by tryin g) , and his BP is 143/78 mmHg. Investigations show: Haemoglobin 12.9 g/dl(13.5-18) White cell count5.3 x 109 /L (4-10) Platelets 202 x 109 /L (150-400) Sodium 139 mmol/l (134-143) Potassium 4.8 mmol/l (3.5-5) Creatinine 124 µmol/l (60-120) HbA1c 9.1%(<5.5) Total cholesterol 5.4 mmol/l (<4.5) HDL cholesterol 0.7 mmol/l (>1.0) According to the ADA/EASD consensus algorithm, which of the following would be the most appropriate addition to his glucose lowering therapy?

**1- Start bedtime intermediate acting insulin**

2- Start BD mixed insulin

3- Start glimepiride

4- Start pioglitazone

5- Start prandial insulin

Q2292. A 63-year-old patient with bipolar disorder and type 2 diabetes trips over a step and sustains an injury to her left hand. She is unable to dorsiflex her left hand, and an orthopaedic registrar diagnosis a ruptured extensor tendon. She is receiving treatment for an infected diabetic foot ulcer. Which of the following therapies may be implicated in this injury?

1- Aripiprazole

2- Exenatide

3- Fusidic acid

**4- Levofloxacin**

5- Naproxen

Q2293. A 60-year-old male with a 8 year history of type 2 diabetes is being treated with metformin 1g twice daily and gliclazide 160 mg twice daily. He is obese, has gained weight over the last year and his HbA1c has deteriorated from 59 to 64mmol/mol (20?42). He is being considered for treatment with either insulin or pioglitazone. The patient wants to know the side effects of pioglitazone. Which of the following is regarded as a typical side effect of pioglitazone therapy? For further information click on: Pioglitazone [requires login]

1- Acanthosis nigricans

**2- Fluid retention**

3- Lactic acidosis

4- Myositis

5- Photosensitivity rash

Q2294. A 52-year-old male with a five year history of type 2 diabetes is diagnosed with ischaemic heart disease and has recently commenced simvastatin 40 mg daily, as his cholesterol was 6.2 mmol/l. He re-attends complaining of various muscle aches and pains and you find that his liver function tests are markedly deranged, including elevated alkaline phosphatase. You stop the simvastatin and his symptoms subside but his cholesterol remains elevated at 6.3 mmol/l. Which of the following is the most appropriate strategy to treat his hypercholesterolaemia?

1- Bezafibrate

**2- Ezetimibe**

3- No treatment required

4- Rosuvastatin 40 mg daily

5- Simvastatin 20 mg daily

Q2295. A 16-year-old female with Addison's disease is intolerant of her hydrocortisone treatment which she takes at a dose of 20 mg in the morning and 10 mg in the evening. Which of the following doses of prednisolone would provide an equivalent daily dose to her hydrocortisone?

1- 5 mg

**2- 7.5 mg**

3- 10 mg

4- 12.5 mg

5- 15 mg

Q2296. A 40-year-old female with no prior history of thyroid disease presents with a five day history of an acutely painful, left-sided goitre. Clinically she appeared euthyroid, and was apyrexial. Investigations revealed the following: Haemoglobin 13.0 g/dL (11.5-16.5) White cell count 7.0 x 109 /L (4-11 x109) Platelet count 200 x109 (150-400 x109) What is the most likely diagnosis?

1- De Quervain's thyroiditis

**2- Haemorrhage into a cyst**

3- Hashimoto's thyroiditis

4- Staphylococcal abscess

5- Thyroid carcinoma

Q2297. Which of the following concerning diabetic retinopathy is correct?

1- Improved glycaemic control is more effective than hypertensive control in reducing progression of disease.

2- Is unusual in patients with type 2 diabetes

**3- Normal visual acuity is seen in proliferative retinopathy.**

4- Progression may be reduced with statin therapy

5- Soft exudates are a feature of background retinopathy.

Q2298. A 30-year-old lady with longstanding type I diabetes presents with a three month history of pain and stiffness of the right shoulder. Passive and active movements of the shoulder are equally restricted. What is the most likely diagnosis?

**1- Adhesive capsulitis**

2- Calcific tendinitis

3- Osteoarthritis

4- Pyrophosphate arthropathy (pseudogou t) 5- Rheumatoid arthritis

Q2299. A 35-year-old female is found to have a solitary mass on the chest x ray. Biopsy confirms this to be a carcinoid tumour of the lung. Which of the following are likely to be associated with this lesion?

1- Carcinoid syndrome

**2- Cushing's syndrome**

3- Hyponatraemia

4- Pellagra

5- Pulmonary hypertension

Q2300. Which of the following doses of prednisolone is equivalent in its glucocorticoid potency to 20mg of hydrocortisone?

1- 2 mg

**2- 5 mg**

3- 10 mg

4- 15 mg

5- 20 mg

Q2301. A 20-year-old male is referred with hypogonadotrophic hypogonadism. He also gives a history of an inability to smell. Which of the following tests would assist in the diagnosis of his condition?

1- Enzyme linked immunosorbent assay (ELIS A) 2- Fluorescent in situ hybridisation (FIS H) 3- Northern blot

4- Southern blot

5- Western blot

Q2302. Oral therapy with which of the following may cause galactorrhoea?

1- Bromocriptine

2- Cabergoline

3- Cimetidine

**4- Domperidone**

5- Spironolactone

Q2303. A 48-year-old man returns from his job running a bar in Tenerife for a holiday to the United Kingdom. He has been suffering increased bony aches and pains, particularly in his knees over the past few weeks and admits to problems in his relationship over the past year or two due to failure to 'perform in bed'. On examination he looks tanned, his BP is 152/90 mmHg, pulse is 75 and regular and he has a BMI of 29. There are signs of chronic liver disease. Investigations show: Haemoglobin 16.7 g/dl(13.5-17.7) White cell count 8.0 x 109 /L (4-11) Platelets 298 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 90 µmol/l (79-118) Alanine aminotransferase 90 U/l (5-40) Fasting glucose 8.4 mmol/l (<7.0) Ferritin 640 mcg/l (20-60) Which of the following is the most likely unifying diagnosis?

1- Alcoholic liver disease

**2- Haemochromatosis**

3- Non-alcoholic steatohepatitis (NAS H) 4- Type 2 diabetes

5- Wilson's disease

Q2304. A 35-year-old man presents to the dermatology clinic with a strange rash which affects the dorsum of his hands and feet and the extensor surface of his arms. He has no past medical history of note. On examination his BP is 122/72 mmHg, pulse is 70 and regular. He has a number of lesions, formed by rings of papules, about 1-5 cm in diameter. The centres of these lesions look depressed, with slightly increased pigementation, but the overlying skin is normal. Investigations show: Haemoglobin 13.3 g/dl(13.5-17.7) White cell count 5.6 x 109 /L (4-11) Platelets 199 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 92 µmol/l (79-118) ESR 12 mm/hr(<10) Which of the following is the most likely diagnosis?

1- Erythema multiforme

2- Erythema nodosum

**3- Granuloma annulare**

4- Lichen planus

5- Psoriasis

Q2305. A 39-year-old woman presents with pain and tenderness over the anterior neck, agitation and palpitations. She has also had flu-like symptoms and generalised aches and pains over the past few weeks. On examination her BP is 135/72 mmHg, her pulse is 90 and regular. She has a fine tremor and is tender over her thyroid. Investigations show: Haemoglobin 11.9 g/dl(11.5-16.0) White cell count 9.8 x 109 /L (4-11) Platelets 203 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 117 µmol/l (79-118) TSH <0.05 IU/l (0.5-4.5) Thyroid radio-isotope scanuptake decreased What is the most likely diagnosis?

1- Graves' disease

2- Struma ovarii

**3- Sub-acute thyroiditis**

4- Thyrotoxicosis factitia

5- Toxic multinodular goitre

Q2306. A 48-year-old man with a history of obesity and alcoholism comes to the endocrine clinic for assessment. He has difficulties with hypertension for which he currently takes three agents, and diabetes which is currently managed with metformin monotherapy. On examination his BP is 160/94 mmHg. His pulse is 75 and regular. Investigations show: Haemoglobin 13.5 g/dl(13.5-17.7) White cell count 8.2 x 109 /L (4-11) Platelets 184 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 4.8 mmol/l (3.5-5) Creatinine 132 micromol/l (79-118) Cortisol post low dose dexamethasone 30 nmol/l Which of the following is the most likely diagnosis?

1- Conn's syndrome

2- Cortisol producing adrenal adenoma

3- Ectopic ACTH production

4- Pituitary adenoma

**5- Pseudo Cushing's**

Q2307. A 16-year-old girl presents to the clinic with her mother. They are concerned as she has not yet started her periods. You take an extended history and examine her. Which of the following would suggest delayed puberty?

1- Absent mood swings

2- Absent pubic hair by age 13

3- Breast development only occurring at the age of 13

**4- Failure to begin periods by age 16**

5- Shorter than expected height compared to her parents

Q2308. A 33-year-old woman is currently treated with carbimazole and thyroxine in a block replace regimen for Graves' disease, and she is thinking about a decision with respect to radioiodine therapy. Her thyroid function has been stable over the past few months and her most recent TSH is measured at 2.5 mU/l. She is concerned however that her eyes are more itchy and swollen and that she needs treatment from the ophthalmologist. Which of the following would prompt urgent referral with respect to her thyroid eye disease?

**1- Change in the intensity or quality of colour vision**

2- Increased itchiness of both eyes

3- Intermittent diplopia

4- Increased light sensitivity

5- Orbital ache

Q2309. A 29-year-old woman is admitted for investigation of recurrent collapses. She says that she feels butterflies in her stomach and very faint prior to when she collapses. On some occasions these events have been aborted by eating food. She also says that she has put on 6 kg in weight over the past few months. On examination her BMI is 29 kg/m2 . Her BP is 125/75 mmHg, her pulse is 75. Physical examination is unremarkable. Investigations show Haemoglobin 12.4 g/dl(11.5-16.5) White cell count 6.2 x 109 /L (4-11) Platelets 280 x 109 /L (150-400) Serum Sodium 143 mmol/l (135-146) Serum Potassium 4.0 mmol/l (3.5-5) Creatinine 90 μmol/l (79-118) Fasting glucose 4.5 mmol/l (4.5-5.6) Which of the following is the next most appropriate investigation?

**1- 72 hour supervised fast**

2- CT abdomen

3- Pancreatic USS

4- Proinsulin measurement

5- Urine sulphonylurea assay

Q2310. A 17-year-old boy has learning difficulties and is seen in the genetics clinic as his maternal uncles also had learning difficulties. Examination reveals that the patient has large ears and large testes. What is the most likely genetic diagnosis?

1- 47 XYY

2- Acromegaly

**3- Fragile X syndrome**

4- Klinefelter's syndrome

5- Mosaic Down's syndrome

Q2311. A 25-year-old woman is admitted on the medical intake. She is 10 weeks post partum and has been generally unwell for two weeks with malaise sweats and anxiety. On examination she is haemodynamically stable, and clinically euthyroid. TFTs show the following: Free T4 33 pmol/L(9-23) Free T3 8 nmol/L(3.5-6) TSH <0.02 mU/L(0.5-5) What is the appropriate management?

1- Carbimazole 40 mg/day

2- Lugol's iodine

**3- Propranolol 20 mg tds**

4- Propylthiouracil 50 mg/tds

5- Radioactive iodine therapy

Q2312. A 26-year-old male body builder is referred to the clinic by his GP. He and his wife have been trying to conceive for three years. The GP found him to be azoospermic. An MRI of the pituitary demonstrates no abnormality. The results of his initial investigations are shown below: TSH 3.7 pmol/l (0.5-5.0) T4 11.1 pmol/l (12.5-25.0) IGF- 116.1 nmol/l (9-36) LH <1.0 IU/l (3.6-17.1) FSH <1.0 IU/l (2.25-20) Testosterone 16.0 nmol/l (9-34.7) What is the likely diagnosis?

**1- Anabolic steroid use**

2- Androgen insensitivity syndrome

3- Kallman's syndrome

4- Non-functioning pituitary adenoma

5- Testicular teratoma

Q2313. Which of the following statements regarding individuals with porphobilinogen (PB G) deaminase deficiency is correct?

1- Excrete faecal PBG between acute attacks

2- Experience significant photosensitivity

**3- Have a greater than 75% chance of remaining asymptomatic throughout their lives**

4- Have markedly increased faecal protoporphyrin excretion during attacks

5- When manifesting clinical disease generally present within the first decade of life

Q2314. A 45-year-old obese male with a two year history of type 2 diabetes has recently commenced metformin at a dose of 500 mg twice daily. However, he re-attends clinic and reports numerous gastrointestinal side effects including bloating and flatulence. He is keen to stop metformin and commence an alternative agent. Which of the following drugs is the most appropriate choice?

1- Acarbose

2- Exenatide

3- Insulin

**4- Pioglitazone**

5- Repaglinide

Q2315. A 26-year-old man presented with polydipsia and polyuria for the last two years. Investigations reveal: Serum Urea 8.4 mmol/L (2.5-7.5) Serum Creatinine 108 mol/L (60-110) Serum corrected Calcium 2.82 mmol/L (2.

2- 2.6) Serum phosphate 0.73 mmol/L (0.8-1.4) Plasma parathyroid hormone 6.8 pmol/L (0.9- 5.4) Which of the following is directly responsible for his increased intestinal calcium reabsorption?

**1- 1,25 Dihydroxy vitamin D**

2- 25 Hydroxy vitamin D

3- Calcitonin

4- Hypophosphataemia

5- Parathyroid hormone

Q2316. A 26-year-old man presented with polydipsia and polyuria for the last two years. Investigations showed: Serum Urea 8.4 mmol/L(2.5-7.5) Serum Creatinine 108 µmol/L(60-110) Serum corrected Calcium 2.82 mmol/L(2.

2- 2.6) Serum phosphate 0.73 mmol/L(0.8-1.4) Plasma parathyroid hormone 6.8 pmol/L(0.9- 5.4) Which of the following mechanisms is responsible for the hypophosphataemia observed?

1- Increased deposition of calcium phosphate crystals in soft tissues

2- Increased gastrointestinal secretion of phosphates

3- Increased renal tubular secretion of phosphates

4- Reduced gastrointestinal absorption of phosphates

**5- Reduced renal tubular reabsorption of phosphates**

Q2317. Which of the following is a metabolic effect of exenatide?

1- Accelerates gastric emptying

2- Improves insulin sensitivity

3- Inhibits insulin release

4- Promotes gluconeogenesis by the liver

**5- Suppresses appetite**

Q2318. A 65-year-old male undergoes a CT headscan after falling from a ladder and knocking himself out. The CT report reveals that he has a 1.3 cm macroadenoma which does not encroach upon the optic chiasm. On recovery he is perfectly well and examination is entirely normal, including full viusal fields to confrontation. Investigations reveal normal thyroid function, testosterone concentration and short Synacthen test results. His prolactin concentration is 550 mU/L (50-450). What is the most appropriate treatment for this patient?

1- Advise trans-sphenoidal hypophysectomy

2- Arrange pituitary radiotherapy

**3- Arrange serial imaging**

4- No further investigation/treatment required

5- Treat with cabergoline

Q2319. A 17-year-old female attends clinic complaining of hirsutism and oligomenorrhoea. Which of the following would be most suggestive of a diagnosis of polycystic ovarian syndrome (PCO s) ?

**1- Increased androstenedione concentration**

2- Increased FSH concentration

3- Increased insulin concentration

4- Increased prolactin concentration

5- Increased sex hormone binding globulin (SHB G) concentration

Q2320. A 17-year-old girl complains of feeling tired and lethargic for the last six months. She also has generalised abdominal discomfort and constipation. She denies depression but her performance at school has deteriorated this year. Examination shows a pale and thin young woman. Her blood pressure is 110/60 mmHg. Hb 13.4 g/l (11.5-16.5) WBC 4.8 x 109 /L (4-11) Platelet 290 x 109 /L (150-400) ESR 37mm/hr(0-20) Na 131mM(135-144) K 2.7mM(3.4-4.5) Urea 3.0mM(3-7) Creat 90mM(50 - 100) Bicarbonate35mM(20-28) Alkaline phosphotase90iu/l (50-110) Bilirubin 12(0-17) AST30 iu/l (5-40) Albumin 36g/l (33-44) CXRnormal Which of the following is the most likely underlying diagnosis?

1- Addison's disease

**2- Anorexia nervosa**

3- Conn's syndrome

4- Cushing's syndrome

5- Phaechromocytoma

Q2321. In the treatment of osteoporosis, which of the following best describes the drug raloxifene?

1- A bisphosphonate

2- A calcium receptor modulator

3- A PTH receptor agonist

**4- A selective oestrogen receptor modulator**

5- An oestrogen

Q2322. A 48-year-old man presented to his general practitioner with a two year history of generalised headaches. He had also noticed a recent increase in his shoe size. He denied any visual symptoms. He has no significant past medical history of note and is not on any regular medications. On examination, he had coarse facial features with prognathism. His visual fields were full to confrontation. Investigations showed: Insulin-like growth factor - 143 nmol/L(5.

6- 23.3) Plasma prolactin 868 mU/L(<360) MRI scan suggests a pituitary adenoma measuring 8 mm without any extrasellar extension. What is the most appropriate treatment for this man?

1- Bromocriptine

2- Cabergoline

3- Octreotide

4- Pegvisomant

**5- Pituitary surgery**

Q2323. A 75-year-old man is admitted with a blood sugar of 40 mmol/l and lobar pneumonia and dies despite treatment. Post-mortem examination reports the presence of amyloid polypeptide on pancreatic histology. Which of the following would be suggested by this?

1- That he has chronic pancreatitis as a cause of diabetes

2- That he has diabetes secondary to amyloidosis

3- That he has type 1 diabetes

**4- That he has type 2 diabetes**

5- This can be a non-specific finding

Q2324. You are asked to review a 72-year-old man with chronic lung disease on the respiratory ward. He was admitted a few days earlier with left lower lobe pneumonia but remains confused. On examination his temperature is 37.2°C, BP is 148/72 mmHg, and pulse is 80 and regular. He does not look fluid overloaded and has some residual signs at his left base. Investigations show: Haemoglobin 13.1 g/dl (13.5-17.7) White cell count 12.3 x 109 /L (4-11) Platelets 208 x 109 /L (150-400) Sodium 122 mmol/l (135-146) Potassium 4.1 mmol/l (3.5-5) Creatinine 120 µmol/l (79-118) The nurses have tried fluid restricting him but his sodium remains stubbornly low. Which of the following is the management of choice?

1- Further fluid restriction

2- Intranasal vasopressin

3- IV 1.8% sodium chloride

**4- Oral demeclocycline**

5- Oral furosemide

Q2325. A 25-year-old woman comes to the GP surgery a few weeks after the birth of her first child. Unfortunately she suffered a postpartum haemorrhage and required a three unit blood transfusion. Over the past few weeks she has been feeling increasingly tired but puts this down to post pregnancy blues. She tells you that she seems to be losing her hair. On examination her BP is 100/60 mmHg, pulse is 62 and regular. Investigations show: Haemoglobin 10.5 g/dl(11.5-16.0) White cell count 7.3 x 109 /L (4-11) Platelets 207 x 109 /L (150-400) Sodium 130 mmol/l (135-146) Potassium 5.1 mmol/l (3.5-5) Creatinine 122 micromol/l (79-118) TSH 0.3 IU/l (0.5-4.5) Which of the following is the most likely diagnosis?

1- Addison's disease

2- Graves' disease

3- Hashimoto's thyroiditis

4- Post-partum thyroiditis

**5- Sheehan's syndrome**

Q2326. A 49-year-old man is referred to the endocrinology clinic for review because he has noticed changes in his facial appearance. He also suffers from hypertension and has problems with excessive sweating. On examination his BP is 156/95 mmHg. You notice that he has prognathism and acne. Which of the following initial screening tests is most reasonable for acromegaly?

1- Growth hormone

**2- IGF-1**

3- Insulin suppression test

4- MRI pituitary

5- Visual field testing

Q2327. You are asked to see a 62-year-old woman on the surgical ward a few hours after she has undergone a thyroidectomy. The nurses are concerned because she tells them she feels unwell. Which of the following symptoms would be most consistent with hypocalcaemia as a result of inadvertent parathyroidectomy?

1- Hyperventilation

2- Nausea

**3- Paraesthesia**

4- Polyuria

5- Thirst

Q2328. A 64-year-old man comes to the clinic for review of his type 2 diabetes. He is currently managed with metformin 1 g BD and sitagliptin 100 mg. On examination his blood pressure is 156/90 mmHg, his pulse is 80 and his BMI is 30. Of note on routine investigations is a raised triglyceride level of 3.1 mmol/l (0.7-2.1). Which of the following is associated with elevated triglycerides?

1- Decreased hepatic fat

**2- Increased insulin resistance**

3- Increased subcutaneous fat

4- Reduced cardiovascular risk

5- Reduced insulin requirements

Q2329. A 62-year-old man comes to the clinic for review of his diabetes. Current medication includes metformin 1 g BD and 40 units BD mixed insulin. Other medication includes candesartan 16 mg and amlodipine 10 mg. On examination his BP is 155/84 mmHg, his pulse is 70 and regular. His BMI is 31. Investigations show: Haemoglobin 12.0 g/dl(13.5-17.7) White cells 7.8 x 109 /L (4-11) Platelet 192 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 5.1 mmol/l (3.5-5) Creatinine 127 micromol/l (79-118) Alanine aminotransferase 110 U/l (5-40) Alkaline phosphatase 94 U/l (39-117) HDL cholesterol 0.7 mmol/l (0.8-1.8) LDL cholesterol 2.4 mmol/l (<4.0) Triglycerides3.2 mmol/l (0.7-2.1) Which of the following conditions is associated with this clinical picture?

1- Acute pancreatitis

2- Autoimmune hepatitis

3- Chronic pancreatitis

**4- Non-alcoholic steatohepatitis (NAS H) 5- Unpredictable hypoglycaemia**

Q2330. A 51-year-old woman presents to the clinic complaining of thirst and lethargy. She has noticed her symptoms increasing over the past few months and is worried that she may be suffering from diabetes mellitus. On examination her BP is 122/72 mmHg, her pulse is 72 and regular, her BMI is 21. General physical examination is unremarkable. Investigations show Haemoglobin 12.5 g/dl(11.5-16.5) White cells 8.8 x 109 /L (4-11) Platelets 193 x 109 /L (150-400) Sodium 141 mmol/l (135-146) Potassium 4.8 mmol/l (3.5-5) Creatinine 88 μmol/l (79-118) Calcium 2.81 mmol/l (2.20-2.67) Phosphate 0.7 mmol/l (0.8-1.5) Glucose 5.1 mmol/l (<7.0) Which of the following is the most likely diagnosis?

1- Familial hypercalcaemic hypocalciuria

2- Hypercalcaemia of malignancy

**3- Primary hyperparathyroidism**

4- Secondary hyperparathyroidism

5- Tertiary hyperparathyroidism

Q2331. A 45-year-old woman comes to the clinic complaining of tiredness and requests a general check up. She has found it difficult to maintain a stable weight over the past couple of years, and has only achieved this by quite severe dieting. On examination her BP is 145/72 mmHg, her pulse is 62, and her BMI is 27 kg/m2 . Investigations show Haemoglobin 13.1 g/dl(11.5-16.5) White cell count 7.8 x 109 /L (4-11) Platelets 203 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 110 μmol/l (79-118) TSH 11.1 mU/l (0.5-5.0) Free thyroxine 10.2 pmol/l (10-25) LDL cholesterol 4.3 mmol/l (<4.0) Triglycerides 3.1 mmol/l (0.5-1.7) Which of the following is the most appropriate treatment?

1- Atorvastatin 10 mg

2- No therapy

3- Simvastatin 10 mg

**4- Thyroxine 50 mcg**

5- Thyroxine 100 mcg

Q2332. A 16-year-old female weighing 80 kg presents with a six month history of excessive weight gain and weakness. On examination she had central obesity with abdominal striae, a blood pressure of 178/96 mmHg and proximal muscle weakness. Urinalysis showed glucose ++. What is the most appropriate initial investigation for this patient?

1- 1 mg overnight dexamethasone suppression test

2- 9 am plasma cortisol concentration

**3- 24 hour urinary free cortisol concentration**

4- ACTH concentration

5- A short Synacthen test

Q2333. A 53-year-old female with surgically treated acromegaly is receiving treatment with octreotide therapy due to persistently elevated growth hormone concentrations following surgery. What is the mechanism of action of octreotide?

1- Inhibition growth hormone receptor

2- Inhibition of dopamine D2 receptor

3- Inhibition of GHRH receptor

4- Inhibition of IGF-1 receptor

**5- Stimulation of the somatostatin receptor**

Q2334. A 72-year-old woman with a history of type 2 diabetes for the past eight years is currently managed with oral metformin and gliclazide. She had an inferior myocardial infarction some four years earlier. On examination her BP is 142/83 mmHg, pulse is 67 and regular. Her chest is clear and there is no ankle swelling. Which of the following findings on laboratory investigation or clinical examination would be most associated with increased cardiovascular risk?

1- HbA1c 7.4% (<5.5)

2- HDL cholesterol 2.3 mmol/l (1.0-2.3)

3- LDL cholesterol 2.4 mmol/l (<4.0)

**4- Triglyceride 2.8 mmol/l (0.5-1.7)**

5- Urate 0.4 mmol/l (0.18-0.42)

Q2335. A 17-year-old female with type 1 diabetes, who is known to be poorly compliant with treatment, is admitted with diabetic ketoacidosis. The respiratory rate is 41 per minute and the blood pressure 85/66 mmHg. She is confused and lethargic. An arterial blood gas shows the pH to be 7.01, and the potassium is 4.9 mmol/l. Which condition carries the highest risk of mortality to this patient?

**1- Cerebral oedema**

2- Cerebrovascular accident

3- Myocardial infarction

4- Seizure

5- Ventricular tachycardia

Q2336. A 26-year-old woman was being treated in the outpatient clinic for autoimmune hypothyroidism. She was taking 150 µg of thyroxine and 200 mg of amiodarone. Investigations reveal: Plasma prolactin 654 mU/L(<360) Plasma Free T4 24 pmol/L(10-22) Plasma Free T3 5.2 pmol/L(5-10) Plasma thyroid-stimulating hormone 68 mU/L (0.4-5) What is the most likely explanation for her high TSH levels?

1- Amiodarone effect

2- Hyperprolactinaemia

**3- Poor compliance with medications**

4- Thyroid hormone resistance

5- TSH producing pituitary adenoma

Q2337. A 16-year-old girl is diagnosed with Turner's syndrome. Which of the following autoimmune conditions is most commonly associated with Turner's?

1- Addison's disease

2- Autoimmune hepatitis

**3- Hashimoto's thyroiditis**

4- Sjogren's syndrome

5- Vitamin B12 deficiency

Q2338. A 48-year-old female with a three year history of type 2 diabetes presents at annual review. Despite optimisation of her oral hypoglycaemic therapy she has gained approximately 5 kg in weight over the last year and her HbA1c has deteriorated. She is also treated with ramipril, bendroflumethiazide, and amlodipine, but her blood pressure remains difficult to control with a recording of 172/102 mmHg. On examination, she has developed abdominal striae, thin skin is noticeable with bruising and she also has a proximal weakness. A diagnosis of Cushing's syndrome is suspected. What is the most appropriate investigation for this patient?

1- 9 am ACTH concentration

2- 9 am cortisol concentration

**3- 24 hour urine free cortisol concentration**

4- Adrenal CT

5- Chest x ray

Q2339. In the treatment of congenital adrenal hyperplasia (CA H) which of the following statements is correct?

**1- Efficacy of treatment is best monitored by 17-OH progesterone and androstenedione levels**

2- Hydrocortisone may be administered once daily

3- Hypotension, hyperkalaemia and hyperreninaemia suggest that the dose of mineralocorticoid should be reduced

4- Preferred treatment in children is prednisone

5- Renin activity levels are of no clinical use in treatment monitoring

Q2340. A 55-year-old female complaining of vague tiredness is found to have a serum corrected calcium concentration of 2.9 mmol/l. Examination was unremarkable. Which of the following results confirms the suspected diagnosis of primary hyperparathyroidism?

1- High normal 1,25-dihydroxyvitamin D concentration

2- High normal 24 hour urinary calcium concentration

**3- High normal plasma parathyroid hormone (PT H) concentration**

4- Low normal plasma phosphate concentration

5- Low normal serum 25-hydroxyvitamin D concentration

Q2341. Which of the following compounds has a vasodilating effect?

1- Antidiuretic hormone (AD H) 2- Calcitonin gene related peptide

3- Endothelin

4- Renin

5- Somatostatin

Q2342. A 41-year-old woman presented asking for treatment to prevent osteoporosis. She was one year post-menopausal, is aware of flushes at night and has a family history of osteoporosis. Which one of the following therapies would be most appropriate?

1- Calcium and vitamin D supplements

2- Continuous oestrogen

3- Cyclical etidronate and calcium

**4- Cyclical oestrogen and progestogen**

5- Vitamin D supplements

Q2343. A 33-year-old female presents with tiredness and lethargy. Five years previously she had undergone a frontal surgery for a craniopharyngioma following presentation with amenorrhoea and headache. Post-operatively she developed seizures and was treated with sodium valproate. She was demonstrated to be hypopituitary and receives hydrocortisone, thyroxine, oestrogen replacement therapy and desmopressin. Which of the following investigations would you select to confirm a growth hormone deficiency (GH D) ?

1- Clonidine test

**2- GHRH/arginine test**

3- IGF-1 concentration

4- Insulin tolerance test

5- L-dopa test

Q2344. A 72-year-old male presents with a two month history of weight loss and weakness. Examination reveals a BMI of 24.5 kg/m2 and a blood pressure of 146/90 mmHg. Examination of the lower limbs reveals a bilateral weakness of knee extension. He is unable to rise from the squatting position. There is absence of the knee reflex but the ankle reflexes are preserved and both plantars are flexor. There are no abnormalities on sensory examination. Which of the following tests may be diagnostic?

**1- Oral glucose tolerance test**

2- Thyroid function test

3- Urine free cortisol concentration

4- Vitamin B12 concentration

5- Vitamin D concentration

Q2345. During routine investigation of a healthy couple for primary subfertility semen analysis reveals azoospermia. On examination of the male there are no abnormalities on general examination and testicular examination shows a normal testicular volume. Investigations reveal: LH 5.1 IU/L(2-10) FSH 4.3 IU/L(2-10) Testosterone 15.3 nmol/L(9-30) Which of the following is the most likely cause of his azoospermia?

1- Androgen insensitivity

**2- Genital tract obstruction**

3- Idiopathic testicular failure

4- Kallman's syndrome

5- Sperm autoimmunity

Q2346. A 17-year-old male with type 1 diabetes presents for annual review. He takes three times daily short acting insulin with evening dose long acting insulin. His glycaemic control is good as reflected by an HbA1c of 6.5% (3.8-6.4). He seeks advice regarding his ability to pursue a future career. Which one of the following occupations would he be able to pursue?

1- A chef in the army catering corps

2- A police officer

3- A steward on board a cruise liner

**4- An airline steward**

5- An oil rig engineer

Q2347. A 69-year-old woman with a long history of rheumatoid arthritis comes to the clinic for review. She has been feeling particularly tired over the past few months and has suffered three bouts of pneumonia in the past year. Her rheumatoid is particularly active, and she has significant ongoing pain affecting her toes, fingers, wrists and elbows. Current medication includes methotrexate with folic acid cover. On examination her BP is 142/81 mmHg, pulse is 72 and regular and she is apyrexial. There is evidence of active synovitis affecting a number of joints. You can also palpate her spleen on examination of the abdomen. Investigations show: Haemoglobin 10.1 g/dl(13.5-17.7) White cell count 4.1 x 109 /L (4-11) Neutrophils 0.5 x 109 /L (2-7.5) Platelets 152 x 109 /L (150-400) ESR65 mm/hr(<10) Sodium 139 mmol/l (135-146) Potassium 3.8 mmol/l (3.5-5) Creatinine 123 micromol/l (79-118) Which of the following is the most likely diagnosis?

**1- Felty's syndrome**

2- Methotrexate toxicity

3- Myelodysplasia

4- Myelofibrosis

5- Non-Hodgkin's lymphoma

Q2348. A 62-year-old man with a long history of type 2 diabetes presents with a swollen left ankle and forefoot. He says that it has been like that for a little while, and he does not notice much pain in the joint apart from an occasional ache. He has significant neuropathy with numbness to pain and fine touch to his mid shins. On examination his BP is 152/82 mmHg, his pulse is 82 and regular. His left ankle and forefoot are slightly warm to the touch, erythematous and swollen with obvious bony deformity. Investigations show: Haemoglobin 10.4 g/dl(13.5-17.7) White cell count 9.1 x 109 /L (4-11) Platelets 158 x 109 /L (150-400) ESR 15 mm/hr(<10) Sodium 138 mmol/l (135-146) Potassium 3.7 mmol/l (3.5-5) Creatinine 140 micromol/l (79-118) HbA1c8.4%(<5.5) Which of the following interventions is most likely to impact on the condition of his left ankle?

**1- Aircast boot immobilisation**

2- Alendronate

3- Improved blood pressure control

4- Improved glucose control

5- IV antibiotic therapy

Q2349. A 62-year-old woman comes to the renal clinic reporting increased tiredness. Her creatinine has been stable at around 240 µmol/l for the past few years and she takes multiple agents to control her blood pressure. On examination her BP is 135/72 mmHg, her pulse is 69 and regular, and her BMI is 26. General physical examination is unremarkable. Investigations show: Haemoglobin 11.0 g/dl(11.5-16.0) White cell count 9.3 x 109 /L (4-11) Platelets 203 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 5.2 mmol/l (3.5-5) Creatinine 242 µmol/l (79-118) Prolactin 700mU/l (<400) Which of the following is the most likely diagnosis?

1- Amlodipine associated hyperprolactinaemia

2- Macroprolactinoma

3- Microprolactinoma

4- Ramipril associated hyperprolactinaemia

**5- Renal failure associated hyperprolactinaemia**

Q2350. You are considering prescribing intranasal calcitonin for the treatment of osteoporosis in a 70-year-old woman who has failed to tolerate weekly and then monthly bisphosphonate therapy. She does not want to inject a PTH analogue or denosumab. Which of the following correctly describes one of the actions of calcitonin?

1- Increased bone turnover

2- Increased osteoblast activity

3- Increased osteoclast activity

4- Increased urinary hydroxyproline excretion

**5- Increased urinary sodium excretion**

Q2351. A 42-year-old woman presents with lethargy and bony aches and pains. She is a frequent shift worker and works up to three nights per week. There is no significant past medical history. On examination her BP is 122/71 mmHg, pulse is 70 and regular. She looks pale but examination is otherwise normal. Investigations show: Haemoglobin 11.5 g/dl(11.5-16.0) White cell count 4.9 x 109 /L (4-11) Platelets 192 x 109 /L (150-400) Sodium 136 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 90 micromol/l (79-118) Calcium 2.14 mmol/l (2.2-2.61) Alkaline phosphatase 145 U/l (39-117) Which of the following is the most appropriate treatment?

**1- Calcium and vitamin D supplementation**

2- Cinacalcet

3- Low phosphate diet

4- Recombinant PTH

5- Shift pattern change

Q2352. A 52-year-old taxi driver with type 2 diabetes comes for review. He is currently managed with metformin 1 g twice daily but finds it very difficult to comply with diet and lifestyle recommendations because of the nature of his work. There is a past history of myocardial infarction for which he takes ramipril 10 mg, atorvastatin 10 mg, aspirin 75 mg and furosemide 40 mg daily. On examination he has a BMI of 31. Investigations show: Haemoglobin 12.5 g/dl(13.5-18) White cell count 5.0 x 109 /L (4-10) Platelets 205 x 109 /L (150-400) Sodium 140 mmol/l (134-143) Potassium 5.0 mmol/l (3.5-5) Creatinine 130 mol/l (60-120) HbA1c 8.4%(<5.5) According to ADA/EASD consensus, which of the following therapies would be most appropriate to gain additional glycaemic control?

1- Exenatide

**2- Gliclazide**

3- Insulin

4- Pioglitazone

5- Vildagliptin

Q2353. A 53-year-old male presents with a three month history of polyuria with polydipsia. Which of the following measurements would confirm a diagnosis of diabetes mellitus?

1- A fasting plasma glucose of 6.5 mmol/L

**2- A fasting plasma glucose of 7.5 mmol/l**

3- A plasma glucose of 10 mmol/l at the end of an oral glucose tolerance test

4- A random glucose of 10.5 mmol/l

5- A urine dipstick analysis showing +++ glucose

Q2354. A 40-year-old man was referred to the endocrine clinic for his resistant hypertension. He was taking the following medications: atenolol 50 mg once daily, ramipril 10 mg once daily, doxazosin 4 mg daily, amlodipine 10 mg daily and bendroflumethiazide 2.5 mg daily. On examination his pulse was 64 beats per minute, his blood pressure was 162/96 mmHg, heart sounds were normal and there were no cushingoid features. Investigations showed: Serum urea 4.4 mmol/L(2.5-7.5) Serum creatinine 88 µmol/L(60-110) Serum potassium 3.6 mmol/L(3.5-4.9) Which is the most important medication to be discontinued before testing his aldosterone/plasma renin activity ratio?

1- Amlodipine

**2- Atenolol**

3- Doxazosin

4- Hydralazine

5- Verapamil

Q2355. A 60-year-old lady with dyslipidaemia, hypertension and angina has recently been diagnosed with impaired glucose tolerance (IG T) . Clinically she is obese with a BMI of 32 kg/m2 , her blood pressure is 140/80mmHg. She is aware that having impaired glucose tolerance is a risk factor for type 2 diabetes and would like to discuss strategies to attenuate this risk. Which of the following has been shown best to reduce the incidence of type 2 diabetes in individuals with IGT?

1- Acarbose 100 mg tds

2- Gliclazide

**3- Intensive lifestyle change**

4- Metformin 850 mg bd

5- Pioglitazone 15 mg daily

Q2356. A 45-year-old male presents with sweats and change in appearance. A diagnosis of acromegaly is confirmed with failure to suppress GH concentrations on an oral glucose tolerance test. MRI reveals a 0.5 cm microadenoma of the pituitary. Which of the following is the most appropriate therapeutic option for this patient?

1- Depot somatostatin analogue

2- Dopamine agonist therapy

**3- Pituitary surgery**

4- Short acting somatostatin analogue

5- Stereotactic pituitary irradiation

Q2357. Which of the following is regarded as a physiological effect of thyroid hormones?

1- Decrease gluconeogenesis

**2- Enhance insulin sensitivity**

3- Reduce myocardial oxygen demand

4- Reduce nerve conduction

5- Reduce oxidation of fatty acids in tissues

Q2358. A 45-year-old female attends clinic complaining of tiredness. She is hypothyroid and takes thyroxine 150 micrograms daily. Which of the following is the most useful test for assessing the appropriateness of thyroid hormone replacement in primary hypothyroidism?

1- Free T3 and T4 concentrations

2- Skin biopsy

3- Thyroid binding globulin

4- Total T3 and T4

**5- TSH**

Q2359. A 26-year-old man with a three year history of type 1 diabetes presents with fever, vomiting and is dehydrated. Investigations revealed: Sodium 148 mmol/L (137-144) Potassium 3.3 mmol/L (3.5-4.9) Urea 24 mmol/L (2.5-7.5) Glucose 33 mmol/L (3.0-6.0) Blood pH 7.18 (7.36-7.44) What would be the typical total body water deficit associated with his diabetic ketoacidosis (DK A) ?

1- 1 litre

2- 3 litres

**3- 6 litres**

4- 8 litres

5- 10 litres

Q2360. A 57-year-old male with diabetes requests sildenafil for erectile dysfunction. Which of the following are contraindicated with sildenafil?

1- Carbamazepine

2- Carvedilol

3- Indomethacin

**4- Nicorandil**

5- Valsartan

Q2361. A 37-year-old female with type 2 diabetes and obesity requests help with regard to weight loss. She has tried to lose weight with dietary manoeuvres but has succeeded in losing only 3 kg over the last year. She is currently receiving no treatment. On examination her BMI is 33.5 kg/m2 and her blood pressure is 142/84 mmHg. Her most recent HbA1c is 6.9% (3.8-6.4). She asks whether there are any pharmacological therapies that may be appropriate for assisting with weight reduction. Which of the following agents is appropriate for assisting with weight loss in this patient?

1- Dexfenfluramine

2- Insulin detemir

3- Metformin

**4- Orlistat**

5- Phentermine

Q2362. A 55-year-old female presents with episodic sweats and tremors which are are relieved by glucose. She has gained approximately 6 kg in weight of late and drinks approximately 10 units of alcohol weekly. Her investigations show normal full blood count, normal urea and electrolytes and a fasting plasma glucose concentration of 4 mmol/l (3.0-6.0). What is the most appropriate investigation for this patient?

**1- 72 hour fast**

2- CT scan of pancreas

3- EEG

4- Insulin and C peptide concentration

5- Oral glucose tolerance test

Q2363. A 32-year-old woman presents with a one year history of secondary amenorrhoea. She had been prescribed temazepam and dihydrocodeine. On examination she had galactorrhoea. Her serum prolactin was noted to be 6000 mU/l (<450 mU/ l) . What is the most likely diagnosis?

1- Drug-induced hyperprolactinaemia

2- Hypothyroidism

3- Pituitary dependent Cushing's disease

**4- Pituitary microadenoma**

5- Stress

Q2364. A diagnosis of diabetes mellitus is being considered in 32-year-old woman who is 16 weeks pregnant. Her body mass index (BM I) was 22 kg/m2 (18 - 25). A 75g oral glucose tolerance test (OGT T) revealed: TimePlasma glucose concentration 0 hr 6.0 mmol/l (3.0-6.0) 2hr 12.5 mmol/l (<11.1) Which of the following is the most appropriate step in the management of this patient?

1- Glipizide therapy

2- Insulin therapy

**3- Low calorie diet and exercise**

4- Metformin therapy

5- Repeat her oral glucose tolerance test in four weeks

Q2365. A 30-year-old female presents with mild galactorrhoea. Biochemistry reveals an elevated prolactin of 1200 mU/L (50-450) and an oestradiol concentration of 100 pmol/L (130-450). Which of the following is the likely cause?

1- Addison's disease

2- Hyperthyroidism

**3- Non-functioning pituitary tumour (NFP T) 4- Post-cranial irradiation for acute lymphocytic leukaemia as a child**

5- Sheehan's syndrome

Q2366. A 26-year-old woman presents with episodes of dizziness mainly on standing. Her biochemical profile shows hyperkalaemic acidosis. Which underlying condition is she most likely to have?

**1- Addison's disease**

2- Bulimia nervosa

3- Conn's syndrome

4- Cushing's syndrome

5- Type 1 renal tubular acidosis

Q2367. A 26-year-old female presents with a six week history of galactorrhoea. She has no other symptoms but takes medication for contraception, dyspepsia and migraine. Examination reveals slight galactorrhoea with expression from both breasts but is otherwise normal. Investigations show: Prolactin 915 mU/L(< 450) Which one of the following drugs may be responsible?

1- Codeine phosphate

**2- Metoclopramide**

3- Omeprazole

4- Oral contraceptive pill

5- Sumatriptan

Q2368. A 19-year-old female is concerned following exposure to meningococcal meningitis. Her flatmate contracted meningococcal meningitis and she now wants preventative treatment. She is generally well without any past medical history. She takes Logynon as a contraceptive agent and uses a salbutamol inhaler infrequently. Which prophylactic antimicrobial treatment would you select?

1- Augmentin

**2- Ciprofloxacin**

3- Clarithromycin

4- Doxycycline

5- Rifampicin

Q2369. A 58-year-old man presents with a history of indigestion which has been steadily worsening over the past few months. He tells you that he has lost 4 kg in weight in the past half a year. There is no past medical history of note apart from smoking of 10 cigarettes / day. On examination his BP is 152/90 mmHg, pulse is 75 and regular. His BMI is 22. Investigations show: Haemoglobin 10.9 g/dl(13.5-17.7) White cell count 7.5 x 109 /L (4-11) Platelets 280 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 88 µmol/l (79-118) Which of the following is the most appropriate course of action?

1- Barium swallow

2- Magnesium trisilicate

3- Omeprazole

4- Ranitidine

**5- Upper GI endoscopy**

Q2370. A 42-year-old publican who has a significant problem with excess alcohol consumption comes to the clinic for review. He has had persistent diarrhoea which he says is difficult to flush away and intermittent upper abdominal pain. On examination his BP is 125/72 mmHg, his pulse is 75 and his BMI is 21. He has signs of chronic liver disease. Investigations show: Haemoglobin 10.2 g/dl(13.5-17.7) White cell count 8.3 x 109 /L (4-11) Platelets 198 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 90 µmol/l (79-118) Calcium 2.1 mmol/l (2.2-2.61) Alanine aminotransferase 92 U/l (5-40) Albumin 25g/l (35-50) You suspect malabsorption. Which of the following is the most appropriate initial test as a pointer to the diagnosis?

1- Abdominal CT

2- Abdominal ultrasound

3- ERCP

**4- Faecal elastase**

5- Secretin stimulation test

Q2371. A 41-year-old woman presents with palpitations and weight loss to the endocrine clinic. She has lost over two stone over the last four months and is increasingly anxious. On examination her BMI is 20, her BP is 135/72 mmHg, and her pulse is 90 and regular. She has a fine tremor. A TSH is measured at <0.05. Which of the following would you expect to find on further questioning or clinical examination?

1- Constipation

**2- Decreased libido**

3- Dry skin

4- Menorrhagia

5- Weight gain

Q2372. A 45-year-old man is referred to the endocrine clinic by his GP. He has been found on routine new patient screening to have an isolated elevated calcium of 2.9 mmol/l. There is no past medical history of note, and clinical examination is entirely normal. On further questioning you understand that his father and uncle have been reported to have high calcium levels but had no other significant problems. Investigations show: Haemoglobin 13.7 g/dl(13.5-17.7) White cell count 8.0 x 109 /L (4-11) Platelets 202 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 3.8 mmol/l (3.5-5) Creatinine 117 µmol/l (79-118) Calcium 2.89 mmol/l (2.20-2.62) What is the diagnosis?

**1- Familial isolated hyperparathyroidism (FIH P) 2- Hyperparathyroidism jaw tumour syndrome**

3- MEN 1

4- MEN 2a

5- MEN 2b

Q2373. A 16-year-old boy with short stature, bony aches and pains, and learning difficulties comes to the clinic for review. The most marked abnormality on examination is a short fifth digit on each hand. Investigations reveal a calcium of 2.05 mmol/l (2.20-2.61), and a phosphate of 1.8 mmol/l (0.8-1.5). Which of the following abnormalities is most likely to be present?

**1- Alpha subunit G protein mutation**

2- Beta subunit G protein mutation

3- Gamma subunit G protein mutation

4- Renal tubular disorder

5- Vitamin D receptor mutation

Q2374. A 25-year-old woman presents with sickness and lethargy some 10 weeks into her first pregnancy. She was previously fit and well with no significant medical history. On examination her BMI is 22, her BP is 95/60 mmHg, pulse is 75. There are no abnormal findings on examination. Investigations show: Haemoglobin 10.4 g/dl(11.5-16.0) White cell count 4.9 x 10(9)/l (4-11) Platelets 177 x 10(9)/l (150-400) Sodium 136 mmol/l (135-146) Potassium 3.2 mmol/l (3.5-5) Creatinine 90 micromol/l (79-118) TSH 0.2(0.5-4.5) Which of the following is the most likely diagnosis?

1- De Quervain's thyroiditis

2- Graves' disease

3- Hashimoto's disease

**4- Hyperemesis gravidarum**

5- Riedel's thyroiditis

Q2375. A 16-year-old boy comes to the endocrine clinic with his father; he is tall and thin but is most concerned because his voice has not properly broken and he has not started to go through puberty. Other past history of note is that he has complained to his GP on a number of occasions that he has no sense of smell, and that food tastes bland. On examination he is 184 cm in height. His BMI is 21, his BP is 125/80 mmHg. He has very sparse sexual hair, small testes and an underdeveloped phallus. Investigations show: Haemoglobin 13.4 g/dl(11.5-16.5) White cells 7.4 x 109 /L (4-11) Platelet 205 x 109 /L (150-400) Sodium 140 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 92 µmol/l (79-118) Serum testosterone 4 nmol/l (9-42) Which of the following is the most likely diagnosis?

**1- Kallmann's syndrome**

2- Klinefelter's syndrome

3- Noonan's syndrome

4- Pituitary apoplexy

5- Testicular feminisation

Q2376. A 43-year-old woman presents with a lump on the left side of her neck. There is no evidence of hypo- or hyperthyroidism on symptom check and there is no history of recent weight change. The only medication of note is the progesterone only pill. On examination her BP is 135/80 mmHg, her pulse is 68 and regular. Her BMI is 24, she has a left sided thyroid nodule approximately 0.8 cm in diameter. Her TSH is normal at 3.6 mU/l. Which of the following is the most appropriate initial investigation?

1- CT scan neck

2- Fine needle aspiration

3- Free T3/T4

4- Radionucleotide scan

**5- Ultrasound scan neck**

Q2377. A 48-year-old patient presents to the clinic with a gradual change in her facial appearance, swelling of her fingers so that her rings no longer fit, sweating, hypertension and worsening problems with sleep apnoea. You understand she has recently had surgery for bilateral carpal tunnel syndrome. On examination she is hypertensive at 150/90 mmHg. She has coarsening of facial features with prognathism which is obvious when you look at old photos from her album; her hands and feet look enlarged. Investigations show Haemoglobin 14.1 g/dl(11.5-16.5) White cell count 6.8 x 109 /L (4-11) Platelets 183 x 109 /L (150-400) Sodium 141 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 102 μmol/l (79-118) TSH 3.1 mU/l (0.5-5.0) Free thyroxine 13.2 pmol/l (10-25) Glucose 4.6 mmol/l (4.5-5.6) Which of the following is the investigation most likely to elucidate the underlying diagnosis?

**1- Glucose tolerance test with growth hormone monitoring**

2- Growth hormone releasing hormone

3- Insulin tolerance test with growth hormone monitoring

4- Prolactin

5- Random growth hormone level

Q2378. On routine screening of a 50-year-old woman who complained of tiredness, she is found to be hypercalcaemic. She is being treated for manic depression, and cardiac failure. Which of the following is most likely to be the cause of the raised calcium?

1- ACE inhibitor therapy

2- Furosemide therapy

**3- Lithium therapy**

4- Seroxat treatment

5- Vitamin D deficiency

Q2379. A 58-year-old woman is admitted with a collapse and palpitations, having passed out in front of her husband whilst coming out of the bathroom. She has a history of severe diarrhoea over the past few days. Medical history of note includes ketoconazole for a fungal infection, and bendroflumethiazide for hypertension. On examination her BP is 100/60 mmHg, her pulse is 80. She looks dehydrated. Whilst you are watching her monitor she feels unwell again and you notice a run of torsades de pointes VT. Which of the following electrolyte abnormalities is likely to be contributing to her risk of VT?

1- Hyperkalaemia

2- Hypernatraemia

3- Hyperuricaemia

4- Hypocalcaemia

**5- Hypomagnesaemia**

Q2380. A 32-year-old lady presented with episodes of polydipsia and polyuria for the last six months. Investigations revealed: Serum Urea 8.1 mmol/L(2.5-7.5) Serum Creatinine 92 µmol/L(60-110) Serum corrected Calcium 2.85 mmol/L(2.

2- 2.6) Serum phosphate 0.75 mmol/L(0.8-1.4) Plasma parathyroid hormone 6.2 pmol/L(0.9- 5.4) Which of the following is directly responsible for her increased reabsorption of calcium in the distal tubule of the kidney?

1- 1,25 Dihydroxy vitamin D

2- 25 Hydroxy vitamin D

3- Calcitonin

4- Hypophosphataemia

**5- Parathyroid hormone**

Q2381. A 44-year-old man presents with new onset bilateral gynaecomastia. He has been diagnosed with Zollinger-Ellison syndrome in the last year. He underwent normal puberty at age 14. Which of the following drugs would be most likely to cause gynaecomastia?

**1- Cimetidine**

2- Famotidine

3- Lansoprazole

4- Rabeprazole sodium

5- Ranitidine

Q2382. A 33-year-old female presents with a one year history of galactorrhoea and amenorrhoea. She informs you that she does not want to become pregnant. On examination there is galactorrhoea to expression and visual fields are normal to confrontation. Investigations confirm the diagnosis of a macroprolactinoma, with a prolactin concentration of 10,500 mu/l (50-500) and MRI of the pituitary revealing a 1.5 cm tumour with some suprasellar extension. What is the most appropriate treatment for this woman?

**1- Cabergoline therapy**

2- Combined oral contraceptive

3- Pituitary surgery

4- Somatostatin analogue therapy

5- Stereotactic pituitary irradiation

Q2383. A 26-year-old female with no previous history of diabetes presents with a first episode of diabetic ketoacidosis. There is no evidence of infection but she has recently commenced a new medication. Which of the following drugs is implicated in precipitating diabetic ketoacidosis?

**1- Olanzapine**

2- Omeprazole

3- Progestogen only contraceptive pill

4- Sodium valproate

5- Venlafaxine

Q2384. A 17-year-old boy was brought to clinic as his parents were concerned regarding possible delayed puberty. He was otherwise well, played sports regularly and academic performance was good. His height was 1.7 m and weight was 70 kg. On examination he had small penis and testes, absent pubic hair, but no other abnormalities. Investigations revealed: Serum testosterone 4 nmol/l (9-35) Plasma follicle stimulating hormone (FS H) 1 U/l (1-7) Plasma luteinising hormone (L H) 1 U/l (1-10) Plasma prolactin 300 mU/l (<450) Plasma TSH 2 mU/l (0.5-5) Which one of the following is the most likely cause?

1- Constitutional delay

2- Hypopituitarism

3- Hypothyroidism

**4- Kallman's syndrome**

5- Klinefelter's syndrome

Q2385. Which of the following is a characteristic feature of familial hypercholesterolaemia?

**1- Autosomal dominant inheritance**

2- Elevated chylomicrons

3- Hypertriglyceridaemia

4- Increased expression of LDL receptors

5- Palmar xanthomas

Q2386. An asymptomatic 56-year-old man with a family history of type 2 diabetes was found to have a fasting venous glucose of 6.5 mmol/l. Which of the following relating to his further investigation is correct?

1- He has impaired glucose tolerance

2- He should be investigated further by another fasting venous sampling

3- He should be treated with oral hypoglycaemics in the first instance

**4- He should undergo a 75 gm oral glucose tolerance test**

5- This does not need further investigation

Q2387. Causes of hypoadrenalism include which of the following?

**1- Hughes' syndrome (antiphospholipid antibod y) 2- McArdle's syndrome**

3- MEN type 2a

4- Pendred's syndrome

5- von Hippel-Lindau

Q2388. A 36-year-old male presents with lethargy. He takes no medication and has generally been otherwise well. Examination reveals that he is obese with a BMI of 36.4 kg/m2 and a blood pressure of 120/72 mmHg. There are no abnormalities of the cardiovascular, respiratory or abdominal systems. Investigations reveal: Sodium 141 mmol/l (137-144) Potassium 2.8 mmol/l (3.5-4.9) Urea 5.6 mmol/l (2.5-7.5) Creatinine 76 µmol/l (60-110) What is the most likely diagnosis?

1- Apparent mineralocorticoid excess

**2- Bartter's syndrome**

3- Conn's syndrome

4- Cushing's syndrome

5- Hypokalaemic periodic paralysis

Q2389. A 60-year-old woman diagnosed with giant cell arteritis was commenced on high dose prednisolone therapy. What is the most appropriate treatment for the prevention of steroid-induced osteoporosis?

**1- Bisphosphonate therapy**

2- Calcium and vitamin D

3- Hormone replacement therapy (HR T) 4- Raloxifene

5- Salmon calcitonin

Q2390. Osteomalacia may be expected in which of the following?

1- Auto-immune adrenalitis

**2- Mercury poisoning**

3- Pernicious anaemia

4- Pseudo-hypoparathyroidism

5- Sarcoidosis

Q2391. A 21-year-old woman is taking vasopressin replacement after developing cranial diabetes insipidus after a road traffic accident. You are concerned that she may be using excess amounts of vasopressin. Which of the following is a recognised effect of vasopressin?

1- Decreased factor VIII production

2- GI smooth muscle relaxation

3- Increased coronary artery blood flow

**4- Increased platelet aggregation**

5- Uterine smooth muscle relaxation

Q2392. A 32-year-old man is referred to the clinic with hypertension. He is currently taking amlodipine, ramipril and bendroflumethiazide but his blood pressure in the clinic is 160/90 mmHg. Clinical examination is unremarkable and a range of investigations are arranged. Investigations show: Haemoglobin 11.4 g/dl(13.5-17.7) White cell count 6.3 x 109 /l (4-11) Platelets 193 x 109 /l (150-400) Sodium 139 mmol/l (135-146) Potassium 3.6 mmol/l (3.5-5) Creatinine 140 micromol/l (79-118) Ultrasound: Right kidney 6.9 cm, left kidney 10.5 cm. Which of the following most accurately reflects the likely findings on renin/aldosterone testing?

1- Levels are not likely to be linked to any pathology seen here

2- Renin and aldosterone will be low

**3- Renin will be high and aldosterone will be high**

4- Renin will be high and aldosterone will be low

5- Renin will be low and aldosterone will be high

Q2393. You are reviewing new potential targets for the treatment of type 2 diabetes. When thinking about targets, which of the following is true?

1- GIP has a more potent effect on insulin release than GLP-1

2- Glucokinase activators should not cause hypoglycaemia

3- Metformin non-response is not usually genetic

4- PPAR gamma agonists increase bone mineral density

**5- TCF7L2 mutations may be associated with a reduced incretin response**

Q2394. A 26-year-old woman presents with concern about her weight gain and excessive hairiness. She has hair around her nipples and extending up from her groin, and is concerned that it is significantly affecting her self confidence. She also finds it difficult to control her weight, having increased to over 16 stone in the past two to three years, and has periods only once every three to four months. On examination she has a BP of 145/85 mmHg, a pulse of 75 and a BMI of 31 kg/m2 . She has midline hair spreading up to her navel, and around her areolae. She is obese, but otherwise there are no other abnormal findings. Investigations show Hb 13.0 g/dl(13.5-18) WCC 6.0 x 109 /L (4-10) PLT 193 x 109 /L (150-400) Na 140 mmol/l (134-143) K 4.4 mmol/l (3.5-5) Gluc 6.1 g/dl(7.0-11.0) Which of the following investigations would be most useful in supporting an underlying diagnosis of PCOS?

1- 17-OH progesterone

**2- Abdominal ultrasound scan**

3- LH:FSH ratio

4- Oral glucose tolerance test

5- Serum testosterone

Q2395. You are visited by a 67-year-old woman who has a history of type 2 diabetes for the past six years, which was initially controlled with lifestyle and exercise, and then metformin 1 g twice daily. Her most recent HbA1c prior to clinic was 8.9%. On examination she has a blood pressure of 145/89 mmHg, and a BMI of 29. You discuss options with her and come to the decision that insulin initiation would be the best option for her. According to the ADA/EASD consensus, which of the following is the appropriate starting dose for intermediate acting insulin?

1- 0.1 U/kg

**2- 0.2 U/kg**

3- 0.7 U/kg

4- 1.0 U/kg

5- 1.5 U/kg

Q2396. A 29-year-old female with Turner syndrome is referred by the GP concerned about her blood pressure which he has found to be persistently elevated at between 140-160/90 mmHg. On examination she is noted to have a blood pressure of 148/92 mmHg, with no radiofemoral delay and no murmur audible. Which of the following is the most likely cause of her hypertension?

1- Coarctation of the aorta

**2- Essential hypertension**

3- Primary hyperaldosteronism

4- Renal artery stenosis

5- Single horseshoe kidney

Q2397. A 18-year-old girl presents with anxiety and palpitations. Her mother had been treated for an overactive thyroid gland having received radioiodine and was now on thyroxine replacement therapy. On examination she had a pulse of 104 bpm with a fine tremor and lid lag. There was no goitre palpable. Investigations revealed: Serum Free T4 33 pmol/L (10-22) Plasma thyroid stimulating hormone (TS H) <0.05 (0.4-5) Serum antithyroid peroxidase (anti TP O) titre 40 U/L (<50) What is the most likely cause of her symptoms?

1- Factitious thyrotoxicosis

2- Familial hyperthyroglobulinaemia

**3- Graves' disease**

4- Hashitoxicosis

5- Riedel's thyroiditis

Q2398. A 17-year-old female is referred following a visit to the dentist where marked erosion of her teeth was noted. She was entirely asymptomatic and her only medication was the oral contraceptive pill. On examination her blood pressure was 110/70 mmHg and her body mass index was 21.5 kg/m2 (18-25). Investigations reveal: Sodium 135 mmol/L(137-144) Potassium 2.1 mmol/L(3.5-4.9) Bicarbonate 42 mmol/L(20-28) Urea 2.6 mmol/L(2.5-7.5) Corrected Calcium 2.08 mmol/L(2.2-2.6) Alkaline phosphatase 201 U/L(45-105) What is the most likely diagnosis?

**1- Bulimia nervosa**

2- Conn's syndrome

3- Laxative abuse

4- Pregnancy

5- Primary hypoparathyroidism

Q2399. Which of the following has a known association with phenylketonuria?

**1- Musty odour.**

2- Normal development.

3- Presentation in the second year of life with absence seizures.

4- Response of some patients to piridoxine.

5- The association of red hair and brown eyes.

Q2400. Which of the following is not associated with hyponatraemia and hyperkalaemia?

1- Acute hypoadrenalism

**2- Carbenoxolone therapy**

3- Co-amilofruse therapy

4- Congestive cardiac failure.

5- Type IV renal tubular acidosis

Q2401. Which of the following is a cause of the syndrome of inappropriate ADH secretion?

1- Bumetanide

2- Carbenoxolone

3- Dexamethasone

**4- Fluoxetine**

5- Lithium

Q2402. You are investigating a range of new agents for the treatment of inflammatory disorders, and are hoping to achieve steroid-like antiinflammatory efficacy, without some of the known adverse effects. Which of the following is the most important effect of corticosteroid therapy leading to increased risk of bone fracture?

1- Increased bone mineralisation

2- Increased osteoblast activity

**3- Increased osteoblast apoptosis**

4- Increased osteoclast activity

5- Increased osteoclast apoptosis

Q2403. A 23-year-old woman presents to the hospital with a third attack of anxiety, abdominal pain and hypertension in the last six months. On examination in the Emergency department her BP is 150/80 mmHg, pulse is 95 and regular. She has generalised abdominal pain but her abdomen is soft and she has active bowel sounds. Investigations show: Haemoglobin 11.9 g/dl(11.5-16.0) White cell count 10.9 x 109 /L (4-11) Platelets 181 x 109 /L (150-400) Sodium 131 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 88 µmol/l (79-118) Which of the following is the most likely cause of her hyponatraemia?

1- Addison's disease

2- Dehydration

3- Glomerulonephritis

4- Psychogenic polydypsia

**5- Syndrome of inappropriate ADH**

Q2404. A 51-year-old man presents with abdominal pain, stiffness and muscle spasms. You understand that a few days earlier he injured himself when he stabbed a fork through his foot. He cleaned and dressed it himself, but refused to attend the Emergency Department for a check up. On examination he is pyrexial 37.8°C, his pulse is 95 and his BP is 105/70 mmHg. He has obvious jaw and neck stiffness on examination and his abdominal muscles are held rigid. His left foot is erythematous with signs of local infection. Investigations show: Haemoglobin 12.9 g/dl(13.5-17.7) White cell count 13.6 x 10(9)/l (4-11) Platelets 180 x 10(9)/l (150-400) Sodium 137 mmol/l (135-146) Potassium 3.8 mmol/l (3.5-5) Creatinine 120 µmol/l (79-118) Which of the following is the most appropriate next intervention?

**1- Human tetanus immunoglobulin IV**

2- Immediate debridement of the wound

3- Local application of tetanus toxoid

4- Metronidazole IV

5- Penicillin IV

Q2405. A 62-year-old man with a 40 year history of type 1 diabetes comes to the renal clinic for review. He has been referred by his GP because of a deteriorating GFR which has now fallen to 42 ml/min. His BP is actually well controlled at 115/72 mmHg on three oral agents and a recent Hba1c was measured at 7.2% (55 mmol/mo l) . He has 2+ proteinuria on dipstick testing. Which of the following most accurately represents the average time his GFR will take to fall below 30 ml/min?

1- 1 year

**2- 3 years**

3- 5 years

4- 7 years

5- 9 years

Q2406. A 23-year-old man is referred to the clinical pharmacology clinic with resistant hypertension. He is taking maximal ramipril and amlodipine, yet his blood pressure is raised at 160/95 mmHg. Further questioning reveals that his father and uncle both suffer from hypertension and have suffered haemorrhagic strokes in the past few years. General clinical examination is unremarkable. Investigations show: Haemoglobin 13.9 g/dl(13.5-17.7) White cell count 7.0 x 109 /L (4-11) Platelets 180 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 3.2 mmol/l (3.5-5) Creatinine 110 µmol/l (79-118) Renal ultrasound scanbilateral normal sized kidneys He is given a trial of hydrocortisone and his blood pressure falls over a few weeks to 140/82 mmHg. Which of the following is the most likely diagnosis?

1- Adrenal adenoma

2- Bilateral adrenal hyperplasia

3- Essential hypertension

**4- Familial glucocorticoid remediable aldosteronism**

5- Renal artery stenosis

Q2407. A 62-year-old man with a history of type 2 diabetes comes to the nephrology clinic for review; he complains of increasing bony aches over the past few months. His diabetes is managed with gliclazide, and he also takes ramipril, amlodipine, indapamide, atorvastatin and aspirin. On examination his BP is 155/88 mmHg, his pulse is 82 and regular, his BMI is 29. Investigations show: Haemoglobin 10.4 g/dl(11.5-16.5) White cells 8.4 x 109 /L (4-11) Platelet 183 x 109 /L (150-400) Sodium 141 mmol/l (135-146) Potassium 5.3 mmol/l (3.5-5) Creatinine 187 µmol/l (79-118) Calcium 2.15 mmol/l (2.20-2.60) Phosphate 1.9 mmol/l (0.8-1.5) PTH 14.2 pmol/l (1-6.1) PTH was 8.5 1 year earlier. Which of the following is the most likely diagnosis?

1- Osteomalacia

2- Osteoporosis

3- Primary hyperparathyroidism

**4- Secondary hyperparathyroidism**

5- Tertiary hyperparathyroidism

Q2408. A 33-year-old male with type 1 diabetes presents with a two day history of pain, swelling and redness in his left middle finger. This began after he pricked his finger in the garden whilst pruning a bush. His diabetic control has been quite reasonable with a HbA1c of 7.1% (3.8-6.4) on basal bolus insulin consisting of Lispro tds and Humulin I in the evenings. On examination he has a painful, red and swollen middle finger with the redness extending to the metacarpophalangeal joint. He is diagnosed with cellulitis. What is the most appropriate treatment for this patient?

1- Admit to hospital for IV antibiotics

2- Oral flucloxacillin only

3- Oral metronidazole only

4- Oral penicillin V only

**5- Oral pencillin V and flucloxallin**

Q2409. A 38-year-old male presents with concerns relating to obesity. What is the average daily energy used by a male of this age?

1- 1500 kcal

2- 2000 kcal

**3- 2500 kcal**

4- 3000 kcal

5- 3500 kcal

Q2410. A 32-year-old female presents with a two month history of agitation, menstrual irregularity and weight loss. Examination reveals a tremor and a palpable goitre with a bruit. Which of the following would most likely be present in this patient?

1- Anti-thyroglobulin antibody

2- Thyroid microsomal antibodies

3- Thyroid peroxidase antibodies

4- TSH receptor inhibiting antibodies

**5- TSH receptor stimulating antibodies**

Q2411. A 64-year-old female is diagnosed with osteoporosis and is receiving treatment with raloxifene. What is raloxifene?

1- A bisphosphonate

2- A selective androgen receptor modulator (SAR M) 3- A selective oestrogen receptor modulator (SER M) 4- A synthetic oestrogen

5- An androgenic steroid

Q2412. A 37-year-old female presents with galactorrhoea. She has a history of dyspepsia for which she receives omeprazole. Examination reveals a BMI of 23.5 kg/m2 and a small amount of galactorrhoea to expression. Investigations show: Prolactin 850 mU/L (50-500) Oestradiol 88 pmol/L (130-500) LH 3.2 mU/L (3.5-8) FSH 2.8 mU/L (3-8) What disorder should be considered?

1- Addison's disease

2- Drug-induced hyperprolactinaemia

3- Hyperthyroidism

4- Hypothyroidism

**5- MEN type 1**

Q2413. A 23-year old woman with a history of type 1 diabetes, hypothyroidism and coeliac disease comes to the clinic complaining of increased tiredness and lethargy over the course of the past few months. She is generally compliant with her insulin, thyroid medication and coeliac diet. On examination her BP is 115/72 mmHg, pulse is 62 and regular, her BMI is 21. Apart from looking pale, her general physical examination is unremarkable. Investigations show: Haemoglobin 10.4 g/dl(11.5-16.0) MCV 105 fL(80-96) White cell count 5.1 x 109 /L (4-11) Platelets 158 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 3.7 mmol/l (3.5-5) Creatinine 110 micromol/l (79-118) HbA1c 7.4%(<5.5) Which of the following is the most likely diagnosis?

1- Addison's disease

**2- Pernicious anaemia**

3- Poor compliance with coeliac diet

4- Poor compliance with thyroid hormone replacement

5- Thyroid hormone resistance

Q2414. A 17-year-old woman presents with symptoms of severe lethargy and depression. According to her mother she eats minimal amounts and she suspects that her daughter is vomiting to reduce her calorie intake. On examination her BMI is 16.5. She looks emaciated and there are scars on her knuckles consistent with induced vomiting. She has fine hairs covering her arms and legs. Which of the following would you most expect to find on laboratory screening?

1- Decreased cortisol

**2- Decreased potassium**

3- Decreased TSH

4- Elevated sodium

5- Elevated TSH

Q2415. A 45-year-old man presents with joint pains and a flu-like illness a few weeks after returning from a walking holiday in the Austrian alps. He feels absolutely wretched and is unable to work because of fatigue. On examination he is pyrexial 37.6°C, his pulse is 75 and his BP is 125/70 mmHg. He has arthralgia with limitation of movement affecting both knees and elbows. There is a circular rash on his left lower leg, he tells you he does not know how he got it. Investigations show: Haemoglobin 12.8 g/dl(13.5-17.7) White cell count 10.9 x 109 /L (4-11) Platelets 125 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 110 µmol/l (79-118) ESR 65 mm/hr(<10) ALT 180 U/l (5-40) Which of the following is the most likely diagnosis?

1- CMV infection

2- Hepatitis B

**3- Lyme disease**

4- Reactive arthritis

5- Rheumatoid arthritis

Q2416. A 42-year-old man presents with severe hypertension and headaches. An adrenal tumour is identified on ultrasound scan and you are suspicious that this is a phaeochromocytoma. On further questioning it transpires his father died at an early age, and that his sister presented in a similar way with hypertension and was found to have an underlying tumour. You suspect MEN-2. Which of the manifestations of MEN-2 has the most malignant potential?

**1- C cell hyperplasia**

2- Mucosal neuromas

3- Parathyroid hyperplasia

4- Phaeochromocytoma

5- Renal disease

Q2417. A 64-year-old woman is taking long term amiodarone therapy for the management of paroxysmal atrial fibrillation. She reports that over the past few months she has had mental slowing, weight gain and hair loss. On examination her BP is 139/80 mmHg, her pulse is 48, and her BMI is 30. She has obviously thinning, dry hair. You measure her TSH which is elevated at 12 IU/l (0.5-4.5). Which of the following is the most likely pathophysiological explanation for her hypothyroidism?

1- Desethylamiodarone driven inhibition of T3

2- Inhibition of type 1 5-deiodinase activity in peripheral tissues

3- Inhibition of type 2 5-deiodinase activity in the pituitary

4- Inhibition of T3 uptake into peripheral tissues

**5- Iodine driven inhibition of thyroid hormone synthesis**

Q2418. Whilst hospitalised after a hip replacement, a patient with acute intermittent porphyria has a tonic clonic seizure. The seizure was thought to have been due to alcohol withdrawal. The patient required large amounts of analgesia. Six days post-operatively she suffers a porphyric attack. Which of the following drugs on her prescription is likely to have been responsible?

1- Aspirin

2- Augmentin

3- Oramorph

4- Paracetamol

**5- Sodium valproate**

Q2419. A 35-year-old woman with a five year history of treated hypothyroidism presented following an episode of vomiting and collapse. There was a short history of weight loss. On examination she had a temperature of 37.7°C, a blood pressure of 80/40 mmHg and vitiligo. Which one of the following, given intravenously, would be the most appropriate initial management?

1- 10% dextrose infusion

2- Cefotaxime

3- Fludrocortisone

**4- Hydrocortisone**

5- Tri-iodothyronine

Q2420. A 20-year-old man with asthma was found to be hypertensive. Investigations revealed: Serum Sodium 144 mmol/L (137-144) Serum potassium 2.4 mmol/L (3.5-4.9) Serum bicarbonate 30 mmol/L (20-28). Which one of the following is the most likely diagnosis?

1- Bartter's syndrome

2- Coarctation of the aorta

3- Congenital adrenal hyperplasia

**4- Conn's syndrome**

5- Inhaled salbutamol therapy

Q2421. Which of the following is true of IGF-1 concentrations?

1- Concentrations are elevated in diabetes mellitus

2- Concentrations are elevated in hepatic cirrhosis

3- Concentrations are reduced in pregnancy

**4- Concentrations are reduced in starvation**

5- Concentrations are usually elevated in adult growth hormone deficiency (GH D)

Q2422. Which of the following is correct regarding the peroxisome proliferator activated receptor gamma (PPAR gamm a) ?

1- Is a G-protein coupled receptor

2- Is a member of the cytokine receptor superfamily

**3- Is activated by free fatty acid as the endogenous ligand**

4- Is antagonised by low density lipoprotein (LD L) .

5- Is antagonised by thiazolinediones

Q2423. Which of the following techniques would be most useful in the differential diagnosis between ectopic Cushing's syndrome and pituitary dependent Cushing's disease?

1- ACTH concentrations

2- CRF test

3- High dose dexamethasone suppression test

**4- Inferior petrosal sinus sampling**

5- Urine free cortisol

Q2424. A 33-year-old woman with a history of Graves' disease is referred for thyroidectomy as she has young children, plans further additions to her family and therefore does not want radioiodine therapy. You are counselling her as to the risks of surgery. Which of the following is the most likely postoperative complication?

1- Bleeding

2- Infection

3- Recurrent laryngeal nerve palsy

4- Superior laryngeal nerve palsy

**5- Transient hypoparathyroidism**

Q2425. A 45-year-old woman comes to the clinic for review. She takes long term risperidone for schizophrenia. There is also a history of hypertension for which she takes bendroflumethiazide, ramipril and amlodipine. She also uses ranitidine for gastro-oesophageal reflux disease. On examination her BP is 155/92 mmHg, her pulse is 68 and regular. Her BMI is 33. Unfortunately a fasting plasma glucose is elevated, measured at 9.2 mmol/l. Which of the following agents is most likely to have contributed to her presentation with diabetes?

1- Amlodipine

2- Bendroflumethiazide

3- Ramipril

4- Ranitidine

**5- Risperidone**

Q2426. A 70-year-old woman is referred by her GP with a breast lump. She was asymptomatic but her investigations reveal: Corrected Calcium 2.72 mmol/L(2.2-2.6) Phosphate 0.80 mmol/L(0.8-1.4) Alkaline phosphatase 110 U/L(45-105) PTH concentration 5.1 pmol/L(0.9-5.4) What is the most likely diagnosis?

1- Bony metastases

2- Chronic vitamin D excess

3- Ectopic PTH related peptide (PTHr p) secretion

4- Multiple myeloma

**5- Primary hyperparathyroidism**

Q2427. A 47-year-old female of Asian origin presents with a long history of deteriorating weakness and fatigue. Of late, she has difficulty ascending stairs at home and needs to crawl up them. She has a six year history of type 2 diabetes mellitus and is treated with metformin and gliclazide. Initial x rays reveal healing clavicular fractures, and a superior pubic rami fracture. Her investigations show: Calcium 2.2 mmol/l (2.2-2.5) Phosphate 0.7 mmol/l (0.8-1.5) Alkaline phosphatase 212 U/L(50-110) AST 30 U/L(5-40) Urea 12 mmol/l (3-8) Creatinine 67 mol/l (50-100) HbA1c 11.0%(4-6%) What is the likely diagnosis?

1- Advanced diabetic renal disease

2- Diabetic amyotrophy

3- Hypoparathyroidism

4- Osteoporosis

**5- Vitamin D deficiency**

Q2428. A 21-year-old male is referred to the endocrine clinic with poorly developed secondary sexual characteristics. The only relevant finding on history is that he has a very poor sense of smell. On examination he has no axillary or pubertal hair, a 3 cm penis and testicular volumes of approximately 5 ml bilaterally. Smell test reveals that he is unable to distinguish acetone and coffee. Investigations reveal: Testosterone 4 nmol/l (10-30) Prolactin 380 mU/l (<450) FSH 2.1 IU/l (1-7) LH 1.5 IU/l (1-10) What is the most likely diagnosis?

1- 5-alpha reductase deficiency

2- Craniopharyngioma

**3- Kallman's syndrome**

4- Klinefelter's syndrome

5- Microdeletion of the Y chromosome

Q2429. Which of the following hormones acts through cyclic AMP as the second messenger?

1- Insulin

2- Oestradiol

**3- PTH**

4- TRH

5- Triiodothyronine

Q2430. A 60-year-old woman with a two year history of diet-controlled type 2 diabetes was admitted with an acute myocardial infarction (M I) . She received thrombolysis together with an insulin infusion and has done well. Discharge medication includes ramipril and furosemide for mild biventricular failure post infarct. Investigations revealed a fasting glucose of 12 mmol/l (3.0-6.0) together with a cholesterol of 6.6 mmol/l (<5.2). Her HbA1c was 7.6%. Which of the following is the most appropriate treatment for her subsequent glycaemic control?

1- Continue diet alone

2- Gliclazide modified release

3- Metformin

4- Pioglitazone

**5- Subcutaneous insulin**

Q2431. A 51-year-old man is found to have bilateral breast enlargement. He says that this is normal for him and that he has not noted any change in years. He shaves infrequently and has scant pubic hair. Which of the following is most likely to be present?

**1- 47, XXY karyotype**

2- History of antidepressant drug therapy

3- Increased risk for breast carcinoma

4- Increased testosterone levels

5- Seminoma of the testis

Q2432. A previously fit 47-year-old male presents with lower back pain from a vertebral collapse due to osteoporosis. Which of the following investigations would be the most appropriate for this man?

1- Oestrogen concentration

2- Prolactin concentration

3- Prostate-specific antigen concentration

**4- Testosterone concentration**

5- Thyroid function tests

Q2433. In randomised clinical studies which of the following is correct regarding postmenopausal hormone replacement therapy (HR T) ?

1- Causes regression of coronary plaques.

2- Increases plasma LDL concentrations.

**3- Increases plasma triglycerides**

4- Reduces cardiovascular mortality.

5- Reduces the incidence of stroke

Q2434. Adult growth hormone deficiency (GH D) is confirmed by which of the following?

1- A low IGF-1 concentration

2- A low IGF binding protein-3 (IGFBP3) concentration

**3- A peak growth hormone concentration of 6 mU/l (2 microg/ l) with insulin-induced hypoglycaemia**

4- An undetectable random growth hormone concentration.

5- Suppression of GH below 2 mU/l (1.3 microg/ l) with an oral glucose tolerance test

Q2435. A 54-year-old woman comes to visit her daughter who is a student in London. She currently lives in central Africa and has had problems with lethargy and tiredness for some time. On examination in the clinic her BP is 145/89 mmHg, pulse is 62 and regular. She has a large diffuse goitre on examination of her neck. Investigations show: Haemoglobin 12.0 g/dl(11.5-16.0) White cell count 7.1 x 109 /L (4-11) Platelets 207 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.1 mmol/l (3.5-5) Creatinine 112 µmol/l (79-118) TSH 12 IU/l (0.5-4.5) Which of the following is the most likely diagnosis?

1- Graves' disease

2- Hashimoto's thyroiditis

**3- Iodine deficiency**

4- Non-toxic multinodular goitre

5- Toxic multinodular goitre

Q2436. A 51-year-old man with hypertension, morbid obesity and type 2 diabetes is diagnosed with pituitary-dependent Cushing's. He is managed with three antihypertensives, metformin and gliclazide, yet his preoperative BP is elevated at 175/100 mmHg, his BMI is 32 and his fasting glucose is 11.2 mmol/l. Which of the following is most appropriate to improve his metabolic parameters prior to surgery?

1- Insulin

**2- Metyrapone**

3- Mitotane

4- Octreotide

5- Somatotrophin

Q2437. A 32-year-old woman with a history of type 1 diabetes for many years comes to the clinic with rapidly worsening lethargy and nausea. She takes a basal bolus insulin regime and her most recent HbA1c demonstrated good control. On examination she looks tanned, her BP is 95/60 mmHg. Her BMI is 19. Investigations show: Haemoglobin 11.0 g/dl(11.5-16.5) White cell count 6.9 x 109 /L (4-11) Platelets 162 x 109 /L (150-400) Sodium 128 mmol/l (135-146) Potassium 4.5 mmol/l (3.5-5) Creatinine 145 µmol/l (79-118) Urea 8.2 mmol/l (2.5-6.7) Glucose 5.9 mmol/l (<7.0) Morning cortisol 100 nmol/l (>140) Which of the following is true of her underlying condition?

1- 75% of patients have circulating antiadrenal antibodies

**2- Fludrocortisone replacement is guided by serum electrolytes and postural blood pressure**

3- It is likely to be related to pituitary failure

4- Pernicious anaemia occurs less commonly in patients with this diagnosis

5- Two-thirds of hydrocortisone replacement should be taken in the evening

Q2438. A 46-year-old man presents passing 4-5 litres of urine per day after commencing a new drug. Tests show: Serum Sodium 142 mmol/l (137-144) Plasma osmolality 295 mosmol/l (275-290) Urine osmolality 280 mosmol/l (350-1000) What drug was prescribed?

1- Carbamazepine

2- Chlorpropamide

3- Fluoxetine

4- Furosemide

**5- Lithium**

Q2439. A 62-year-old female with a six year history of type 2 diabetes attends for annual review. Her HbA1c is 10% (3.8-6.4). Into what average plasma glucose concentration does her HbA1c translate?

1- 7.5 mmol/l

2- 10 mmol/l

3- 12.5 mmol/l

**4- 15.5 mmol/l**

5- 19 mmol/l

Q2440. Which of the following is true of radioactive iodine (131 I) therapy?

1- Causes hypothyroidism in 90% of treated patients within three months

**2- Causes a deterioration in ophthalmopathy in patients with Graves' disease**

3- Is associated with a subsequently increased risk of infertility

4- Is associated with an increased risk of thyroid lymphoma

5- Is the preferred treatment in amiodarone induced thyrotoxicosis

Q2441. A 50-year-old man presents with a diagnosis of acromegaly but has normal visual fields. Which of the following is the most appropriate treatment for this patient?

1- Bromocriptine

2- Cabergoline

3- Radiotherapy

4- Somatostatin analogue therapy

**5- Trans-sphenoidal hypophysectomy**

Q2442. Which of the following may be responsible for a hypokalaemic hypertension?

1- Bartter's syndrome

2- Diabetic nephropathy

**3- Liddle's syndrome**

4- Non-classical congenital adrenal hyperplasia

5- Type IV renal tubular acidosis (RT A)

Q2443. Which of the following is true concerning testosterone?

1- Acts via cell surface receptors

2- Acts via G protein second messengers

3- In the circulation is mostly bound to albumin

**4- Is a steroid hormone**

5- Is manufactured through the breakdown of oestradiol

Q2444. A patient is receiving treatment with recombinant human growth hormone (G H) . Which of the following is a recognised side effect of GH therapy?

**1- Benign intra-cranial hypertension (BI H) 2- Melanoma**

3- Osteoporosis

4- Prolongation of the QT interval

5- Prostatic hypertrophy

Q2445. A 22-year-old woman presented with hirsutism and oligomenorrhea for the last five years. She is an accountancy trainee and does not want to conceive at least for the next couple of years. She is very anxious about her irregular menses and is especially worried as her mother was diagnosed with uterine cancer recently. Examination is essentially normal apart from coarse dark hair being noticed under her chin and over her lower back. Investigations during the follicular phase: Serum androstenedione 10.1 nmol/l (0.6-8.8) Serum dehydroepiandrosterone sulphate 11.6 µmol/l (2-10) Serum 17-hydroxyprogesterone 5.6 nmol/l (

**1- 10) Serum oestradiol 220 pmol/l (200-400) Serum testosterone 3.6 nmol/l (0.5-3) Serum sex hormone binding protein 32 nmol/l (40-137) Plasma luteinising hormone 3.3 U/l (2.5-10) Plasma follicle-stimulating hormone 3.6 U/l (2.5-10) What is the most appropriate treatment?**

**1- Combined OCP**

2- Finasteride

3- Metformin

4- Progesterone only pill

5- Spironolactone

Q2446. A 39-year-old male presents with gynaecomastia. Which of the following is the most likely cause of his gynaecomastia?

1- Congenital adrenal hyperplasia (CA H) 2- Hypopituitarism

3- Hypothyroidism

4- Prolactinoma

**5- Seminoma**

Q2447. A 31-year-old man presents to the clinic with decreased libido and problems maintaining his erection. At first he consulted his GP and was told that his problems were most likely to be psychological. Clinical examination is unremarkable with a BP of 122/80 mmHg and a pulse of 65 and regular. His prolactin level is elevated at 2900 mU/l. Which of the following is the most likely cause?

1- Drug induced hyperprolactinaemia

2- Hypothyroidism

3- Incidental finding

4- Macroprolactinoma

**5- Microprolactinoma**

Q2448. A 49-year-old city worker attends the clinic for review because of gynaecomastia and erectile dysfunction. He has mild hypertension for which he takes amlodipine 5 mg daily, but no other past medical history of note. He admits to working long hours and spends a great deal of time entertaining clients. On examination his BP is 145/82 mmHg, his pulse is 70 and regular and his BMI is 31. He has obvious bilateral gynaecomastia. Investigations show: Haemoglobin 10.5 g/dl(13.5-17.7) White cell count 6.8 x 109 /L (4-11) Platelets 197 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 117 µmol/l (79-118) Alkaline phosphatase 130 U/l (39-117) Alanine aminotransferase 160 U/l (5-40) Which of the following is the most likely diagnosis?

**1- Chronic alcoholism**

2- Cushing's syndrome

3- Haemochromatosis

4- Klinefelter's syndrome

5- Simple obesity

Q2449. A 28-year-old woman with a history of hypothyroidism comes to the clinic for review. She is happy to tell you that she is ten weeks pregnant with her first child. She normally takes 100 mcg of thyroxine daily, and her TSH has been stable at 1.2 for the past two to three years. Which of the following represents the correct advice with respect to managing her thyroxine dose in pregnancy?

1- She should reduce the dose to 75 mcg for fear of inducing foetal hyperthyroidism

**2- She will probably be able to remain on 100 mcg for the duration of the pregnancy**

3- She will probably need to increase the dose to 150 mcg during the pregnancy

4- She will probably need to increase the dose to 150 mcg immediately post-partum to cope with feeding the child

5- She will probably need to increase the dose to 200 mcg during the pregnancy

Q2450. A 42-year-old alcoholic presents to the clinic with symptoms of lethargy and muscle pains. He also reports intermittent tingling and loss of sensation in his hands and feet. He admits to drinking six to eight pints of lager per day. On examination his BP is 116/72 mmHg, his pulse is 65 and regular. There are signs of chronic liver disease. Investigations show: Haemoglobin 10.8 g/dl(13.5-17.7) White cell count 5.2 x 109 /L (4-11) Platelets 180 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 3.6 mmol/l (3.5-5) Creatinine 100 µmol/l (79-118) Urea 5.2 mmol/l (2.5-6.7) Glucose 5.8 mmol/l (<7.0) Calcium 2.02 mmol/l (2.20-2.61) Phosphate 1.6 mmol/l (0.8-1.5) Alkaline phosphatase 82 U/l (39-117) Which of the following is the most likely diagnosis?

1- Hyperparathyroidism

**2- Hypoparathyroidism**

3- Hypothyroidism

4- Osteomalacia

5- Pseudopseudohypoparathyroidism

Q2451. A 38-year-old man with type 2 diabetes comes to the clinic for review. He was diagnosed three years ago after changing his general practitioner, and has been treated for the past few years with metformin 1 g twice daily. On examination he is morbidly obese with a BMI of 41. Investigations show: Haemoglobin 13.0 g/dl(13.5-18) White cell count 5.0 x 109 /L (4-10) Platelets 149 x 109 /L (150-400) Sodium 140 mmol/l (134-143) Potassium 5.0 mmol/l (3.5-5) Creatinine 110 µmol/l (60-120) HbA1c 8.1%(<5.5) According to the ADA/EASD consensus, which of the following is the most appropriate additional therapy for him?

**1- Exenatide**

2- Gliclazide

3- Pioglitazone

4- Sitagliptin

5- Vildagliptin

Q2452. A 56-year-old man presented to the Emergency department with an episode of collapse at home. He had been feeling increasingly tired with polyuria for the last two months and also reported a loss of libido. He had undergone a transsphenoidal surgery two years ago, followed by external beam radiation for a non-functional pituitary adenoma. He took ramipril 10 mg every day for hypertension. On examination, his pulse was 102 beats per minute and regular, and blood pressure measured 104/66 mmHg in the lying position, dropping to 80/40 mmHg on standing. Heart sounds were normal. There was no galactorrhoea to expression and testicular volume was normal. Investigations showed: 12 lead ECG Normal Fasting plasma glucose 4.9 mmol/L(3.0-6.0) Serum Sodium 129 mmol/L(137-144) Serum Potassium 4.8 mmol/L (3.5-4.9) Serum Urea 7.2 mmol/L (2.5-7.5) Serum creatinine 88 mol/L (60-110) Serum testosterone 4.5 nmol/L (9-35) Plasma luteinising hormone 0.3 U/L (1-10) Plasma thyroid-stimulating hormone 0.1 mU/L (0.4-5) Plasma Free T4 7 pmol/L (10-22) Insulin-like growth factor 15.2 nmol/L (5.

6- 23.3) Which is the most appropriate immediate treatment for this man?

1- Desmopressin

2- Growth hormone

**3- Hydrocortisone**

4- Testosterone

5- Thyroxine

Q2453. Which one of the following statements applies to an infant with undiagnosed congenital hypothyroidism?

1- Gastrointestinal disturbances, especially diarrhoea may develop

2- Haemolytic jaundice occurs

3- Tachyarrhythmias may occur.

**4- They may be asymptomatic**

5- They may later have early acceleration of bone age and short stature at maturity

Q2454. An overweight, 60-year-old female with an eight year history of type 2 diabetes mellitus presents with deteriorating glycaemic control. She takes gliclazide 160 mg twice daily. Investigations reveal: Sodium and potassium Normal Serum Urea 10 mmol/l (2.5-7.5) Serum Creatinine 160 µmol/l (60-110) Serum alanine transaminase 31 U/l (5-35) Serum aspartate transferase 30 U/l (1-31) HbA1C8.8%(3.8-6.4) Which of the following would be the most appropriate additional therapy for improved glycaemic control?

1- Acarbose

2- Guar gum

3- Metformin

**4- Pioglitazone**

5- Repaglinide

Q2455. With which of the following is hyperprolactinaemia associated?

1- Cabergoline therapy

2- Depression

**3- Fluoxetine therapy**

4- Hyperthyroidism

5- Sheehan's syndrome

Q2456. Primary hyperparathyroidism may occur in association with which of the following conditions?

1- Autoimmune polyendocrine syndrome

2- Chronic renal failure (CR F) 3- Gastrinoma

4- Sjogren's syndrome

5- Vitamin D deficiency

Q2457. Which of the following is typically found in Pendred's syndrome?

1- Cataract

2- Mental retardation

**3- Sensorineural deafness**

4- Thyroid agenesis

5- Thyrotoxicosis

Q2458. You are trialling a new dipeptidyl peptidase IV (DPPI V) inhibitor which you believe may have greater specificity for the DPPIV enzyme than other members of the class and therefore offer advantages for treatment of type 2 diabetes. Which of the following correctly reflects one aspect of the mode of action of DPPIV inhibition?

**1- Glucose dependent glucagon suppression**

2- Glucose dependent insulin suppression

3- Increased GI motility

4- Increased release of GIP

5- Increased release of GLP-1

Q2459. A 45-year-old man who has undergone bilateral adrenalectomy for Cushing's returns to the clinic for his yearly follow up appointment. Over the course of the past few months he has begun to feel increasingly tired and has given up driving after suffering a road traffic accident where he did not see a car coming from the side. On examination his BP is 132/72 mmHg, his pulse is 70 and regular. His BMI is 28. You notice that his skin appears tanned. Investigations show: Haemoglobin 13.2 g/dl(13.5-17.7) White cell count 5.9 x 109 /L (4-11) Platelets 203 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 112 µmol/l (79-118) Urea 5.2 mmol/l (2.5-6.7) Glucose 5.2 mmol/l (<7.0) TSH 0.1 (0.5-4.5) Which of the following is the most appropriate intervention?

1- Carbimazole

2- Increased hydrocortisone replacement

3- Octreotide

**4- Referral to a pituitary surgeon**

5- Thyroxine replacement

Q2460. A 58-year-old man who has a history of type 2 diabetes comes to the clinic because he has severe pins and needles and pains in his lower legs and feet, particularly in the early hours of the morning, which are affecting his sleep almost every night. He takes BD 30/70 mixed insulin for control of his blood sugar, has had an inferior MI previously and treated hypertension. Medication apart from insulin includes ramipril, atorvastatin, amlodipine, tamsulosin and aspirin. On examination his BP is 149/78 mmg, his pulse is 82. His chest is clear and his abdomen is soft and non-tender. He has sensory loss to the mid shin bilaterally. Investigations show: Haemoglobin 12.8 g/dl(11.5-16.5) White cells 5.2 x 109 /L (4-11) Platelet 188 x 109 /L (150-400) Sodium 141 mmol/l (135-146) Potassium 4.9 mmol/l (3.5-5) Creatinine 133 µmol/l (79-118) HbA1c 7.6%(<5.5) Which of the following is the most appropriate initial therapy for his neuropathy?

1- Amitriptyline

2- Carbamazepine

**3- Duloxetine**

4- Gabapentin

5- Valproate

Q2461. A 60-year-old woman with a history of type 2 diabetes comes to the clinic for review. She is currently managed with gliclazide 160 mg BD as she failed to tolerate metformin, but she is finding it difficult to manage her blood sugar control. Her morning finger prick testing glucoses approaches 10 mmol/l glucose. On examination her BMI is 36, her BP is 155/90 mmHg, her pulse is 86 and regular. Apart from her obesity, physical examination is unremarkable. Investigations Haemoglobin 12.2 g/dl(11.5-16.5) White cell count 5.1 x 109 /L (4-11) Platelets 203 x 109 /L (150-400) Sodium 141 mmol/l (135-146) Potassium 4.3 mmol/l (3.5-5) Creatinine 210 μmol/l (79-118) HbA1C 8.8%(<5.5) Which of the following is the next most appropriate step in managing her blood glucose control?

1- Exenatide

2- Metformin slow release

3- Pioglitazone

4- Sitagliptin

**5- Switch to insulin**

Q2462. A 45-year-old male presents concerned about his risk of developing diabetes. His family history reveals that his mother and maternal uncle both have diabetes. He has central obesity with a waist measurement of 110 cm. On examination, his blood pressure is 130/82 mmHg, his BMI is 30.2 kg/m2 . His investigations reveal: Fasting cholesterol 5.2 mmol/l (<5.2) Triglycerides 1.4 mmol/l (0.45-1.69) HDL cholesterol 1.1 mmol/l (>1.55) Fasting glucose 6.2 mmol/l (3.0-6.0) In addition to his waist measurement which of this man's observations fulfills the criteria for the diagnosis of the metabolic syndrome?

1- Blood pressure of 130/82 mmHg

2- BMI of 30.2 kg/m2

**3- Fasting plasma glucose of 6.2 mmol/l**

4- HDL concentration of 1.1 mmol/l

5- Triglyceride concentration of 1.4 mmol/l

Q2463. A patient with type 2 diabetes being treated with gliclazide presents with sweating and dizziness. Blood glucose was 1.9 mmol/L (3.

0- 6.0). He is on long-standing treatment for hypertension, atrial fibrillation, joint pain and indigestion. These treatments have not changed recently. You understand that he has recently been prescribed an agent for balanitis by his GP. Which of the following drugs may be responsible for increasing the likelihood of hypoglycaemia in this situation?

1- Aspirin

2- Atenolol

3- Digoxin

**4- Fluconazole**

5- Ranitidine

Q2464. An 18-year-old female with polycystic ovary syndrome was prescribed metformin. What is the most important pharmacological action of metformin in this situation?

1- Increasing gluconeogenesis

2- Increasing insulin levels

3- Increasing luteinising hormone levels

4- Increasing oestradiol levels

**5- Increasing peripheral glucose uptake**

Q2465. A 33-year-old woman with an 18 year history of type I diabetes mellitus presents with proteinuria. She is a smoker of 20 cigarettes daily. Examination reveals a blood pressure of 155/95 mmHg. Investigations reveal: Serum cholesterol 7.6 mmol/L(<5.2) HbA1c 8.3%(3.8-6.4) 24 hour urinary protein excretion 1. 5 g(<0.2) Which intervention is most likely to retard the development of renal failure?

1- Bendroflumethiazide

2- Improve glycaemic control with HbA1c less than 7%

**3- Lisinopril**

4- Simvastatin

5- Stop smoking

Q2466. A 55-year-old female who received radioactive iodine over five years ago presents for annual thyroid function assessment. She is well and takes no medication. Her results reveal: Free Thyroxine 13.2 pmol/L (10-22) TSH 16 mU/L (0.4-5) Total cholesterol 6.8 mmol/L (<5.2) Plasma triglycerides 2.2 mmol/L (0.45-1.69) What is the most appropriate treatment for this patient's dyslipidaemia?

1- Cholestyramine

2- Fibrate therapy

3- Hormone replacement therapy

4- Statin therapy

**5- Thyroxine**

Q2467. A 42-year-old man is referred to the endocrine clinic for investigation of a thyroid mass. He tells you that his mother and brother both suffered from thyroid cancer, but he has not responded to multiple invitations from the local endocrine clinic to attend for review. He has been attending his GP who is finding his blood pressure difficult to manage. He is currently taking ramipril 10 mg daily and amlodipine 10 mg. On examination in the clinic his BP is 155/100 mmHg, his pulse is 85 and regular. There is a firm left sided thyroid mass, around 3 cm in diameter. Investigations show: Haemoglobin 13.5 g/dl (11.5-16.5) White cells 6.5 x 109 /L (4-11) Platelet 359 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 4.6 mmol/l (3.5-5) Creatinine 92 µmol/l (79-118) TSH 3.1 (0.5-5.0) Calcium 2.91 mmol/l (2.2-2.60) Which of the following is the next step?

**1- Abdominal MRI**

2- Excision biopsy of the thyroid

3- Growth hormone suppression test

4- MRI pituitary

5- Pentagastrin suppression test

Q2468. A 55-year-old man presents with gynaecomastia. He is receiving treatment for heart failure and gastro-oesophageal reflux. Which of the following drug he takes is most likely to be responsible for his gynaecomastia?

1- Amitryptiline

2- Carvedilol

3- Furosemide

**4- Spironolactone**

5- Ramipril

Q2469. Which of the following is a likely presenting feature of Cushing's syndrome?

1- Diabetes insipidus

2- Lichen planus

3- Mononeuritis multiplex

**4- Necrosis of the femoral head**

5- Polymyositis

Q2470. A 62-year-old man with extensive metastases from ileal carcinoid is admitted to the Emergency department with deteriorating health. He has become increasingly confused with worsening symptoms of diarrhoea over the past few weeks. You find that he has impaired short term memory and increased skin pigmentation. Deficiency of which vitamin is a potential problem?

1- Ascorbic acid

2- Folate

**3- Niacin**

4- Riboflavin

5- Thiamine

Q2471. Which of the following statements is true of type 2 diabetes mellitus?

1- 20% of patients develop macrovascular complications within 10 years of diagnosis

2- A single fasting plasma glucose above 8 mmol/l is diagnostic of diabetes.

3- Drug treatment is associated with a 25% reduction in microvascular complications compared with diet alone.

**4- Metformin is the preferable treatment in the obese patient with type 2 diabetes**

5- Type 2 diabetes is associated with being underweight

Q2472. An 18-year-old man develops thirst, weight loss and polyuria. Investigations confirm that he has type 1 diabetes and is treated with basal bolus insulin. He is keen to know what limitations this diagnosis imposes on career opportunities. Which of the following professions would he not be able to pursue?

1- Ambulance control centre worker

2- Civil engineer

3- Milkman

4- Physical education instructor

**5- Police advanced driver**

Q2473. A 19-year-old female with type 1 diabetes is admitted with diabetic ketoacidosis. Which of the following is most appropriate concerning the use of a bicarbonate infusion?

**1- Bicarbonate infusion should be considered at pH less than 7**

2- Commence a bicarbonate infusion with a ketone concentration above 5 mmol/l (NR less than 1)

3- Commence bicarbonate infusion with a potassium concentration above 6 mmol/l

4- Commence a bicarbonate infusion with a standard bicarbonate concentration below 5 mmol/l (NR 22-26)

5- No benefit from using a bicarbonate infusion

Q2474. A 23-year-old woman presents to the clinic with lethargy and recurrent fainting attacks. She is usually fit and well and her only medication of note is the progesterone only pill. On examination her BP is 110/70 mmHg, she has a postural drop of 20 mmHg on standing. Her BMI is 19. Respiratory and abdominal examination is normal. Investigations show: Haemoglobin 10.9 g/dl(11.5-16.0) White cell count 7.1 x 109 /L (4-11) Platelets 203 x 109 /L (150-400) Sodium 131 mmol/l (135-146) Potassium 5.1 mmol/l (3.5-5) Creatinine 125 µmol/l (79-118) Which of the following investigations would be most likely to elucidate the underlying diagnosis?

1- Abdominal x ray

2- Adrenal autoantibodies

3- Chest x ray

4- Random cortisol

**5- Short Synacthen test**

Q2475. A 35-year-old man comes to the clinic for review after referral from his GP. He was admitted to the intensive care unit after a motorbike accident and has only recently been discharged from hospital. He complains of lethargy and tiredness. His thyroid function testing is described below: TSH 0.3 IU/l (0.5-4.5) Free T4 8 pmol/l (9-25) Free T3 3.1 pmol/l (3.4-7.2) Which of the following is the most likely diagnosis?

1- Hashimoto's thyroiditis

2- Graves' disease

3- Secondary thyroid failure

**4- Sick euthyroid syndrome**

5- Subacute thyroiditis

Q2476. A 42-year-old woman presents to the endocrine clinic with weight gain, hypertension and impaired glucose tolerance. Over the past year she has gained 8 kg in weight. Other symptoms include heightened libido and increased hair growth on the lower abdomen and upper chest. On examination her BP is 162/95 mmHg, pulse is 68 and regular. She has a BMI of 32 and abdominal striae. Investigations show: Haemoglobin 10.5 g/dl(11.5-16.0) White cell count 8.0 x 109 /L (4-11) Platelets 205 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 123 µmol/l (79-118) Alkaline phosphatase 240 U/l (39-117) Alanine aminotransferase 190 U/l (5-40) Overnight dexamethasone suppression testpositive Which of the following is the most likely diagnosis?

1- Adrenal adenoma

**2- Adrenal carcinoma**

3- Pituitary adenoma

4- Pseudo-Cushing's

5- Simple obesity

Q2477. According to the new revised criteria for diagnosing diabetes in an asymptomatic patient:

1- A fasting venous plasma concentration of < 6.9 can be ignored

2- A single fasting venous plasma glucose concentration of > 7 mmol/l can be used to diagnose diabetes

3- Impaired glucose tolerance is signified by a venous glucose concentration of < 7 mmol and > 11.1 mmol

4- 75 gm oral glucose test is mandatory for diagnosing diabetes

**5- Two separate fasting venous plasma glucose concentration of > 7 mmol/l is diagnostic of diabetes**

Q2478. A 25-year-old female presents with weight gain, oligomenorrhoea and primary infertility. She has a history of bipolar disorder for which she takes lithium. On examination she has a BMI of 32 kg/m2 . Investigations reveal: Free T4 6.4 pmol/l (10-22) TSH 42 mU/l (0.4-5) Prolactin 980 mU/l (50-450) What is the most appropriate treatment for this patient?

1- Cabergoline

2- Cabergoline plus thyroxine

3- Metformin

4- Stop lithium

**5- Thyroxine**

Q2479. A 70-year-old male was receiving amiodarone 200 mg daily for intermittent atrial fibrillation. However, he was aware of tiredness and lethargy. He appeared clinically euthyroid with no palpable goitre. Investigations revealed: Serum Free T4 23pmol/l (9-26) Serum total T3 0.8 nmol/l (0.9-2.8) Serum TSH 8.2 mU/l (<5) Which of the following statements would explain these results?

1- Abnormal thyroxine binding globulin

**2- Amiodarone-induced hypothyroidism**

3- 'Sick euthyroid' syndrome

4- Spontaneous hypothyroidism

5- TSH secreting pituitary adenoma

Q2480. A 16-year-old female patient is referred with primary amenorrhoea. Investigations reveal a 46 XY karyotype. Which of the following concerning the condition is true?

1- A diagnosis of Turner's syndrome is likely

2- It is likely that her mother received carbimazole for thyrotoxicosis during pregnancy

3- Low testosterone and oestradiol concentrations would be expected

**4- The diagnosis is likely to be androgen insensitivity syndrome**

5- The diagnosis is Noonan's syndrome

Q2481. A 40-year-old man with diabeties presents with deteriorating thirst and nocturia. He had been diagnosed with diabetes mellitus five years ago and is now taking maximal metformin and gliclazide yet his HbA1c is 10.9% (3.8-6.4). You want to change him to insulin but he informs you that he is employed as a lorry driver. What would be the impact of converting him to insulin on his heavy goods vehicle (HG V) licence?

1- Can keep his HGV licence

2- Can regain his HGV licence after one year without hypoglycaemic episodes

3- Can regain his HGV licence if after six months he does not have any hypoglycaemic episodes

4- Temporary suspension of his HGV licence until established on stable doses of insulin

**5- Will lose his HGV licence indefinitely whilst treated with insulin**

Q2482. A 54-year-old woman presents to the clinic for review. Unfortunately she has carcinoid with extensive hepatic metastases and still has significant diarrhoea and flushing. Which of the following is the initial medical therapy of choice for her?

1- Bromocriptine

2- Cabergoline

3- Interferon alpha

**4- Octreotide**

5- Somatotrophin

Q2483. Which one of the following concerning insulin is correct?

1- Acts via a similar mechanism to steroid receptors

**2- Can be detected in the lymph**

3- Causes an increased glucose-protein transport on the endoplasmic reticulum

4- Interacts with the nuclear membrane

5- Is synthesised in the alpha cells of islets of Langerhans

Q2484. Which of the following percentages most accurately reflects the mortality associated with the modern management of diabetic ketoacidosis?

1- 0.5%

2- 1%

**3- 2-3%**

4- 5-6%

5- 8-10%

Q2485. A 56-year-old male presents with a five year history of increased sweats and change in shoe size. Examination reveals prognathism and macroglossia, with large hands. Blood pressure is 180/94 mmHg but visual field examination is full to confrontation. Which of the following tests would be diagnostic?

1- IGF-1 concentration

2- Insulin tolerance test

**3- Oral glucose tolerance test**

4- Pituitary MRI

5- TRH test

Q2486. A 35-year-old man presents with weakness and tiredness. He is noted to be hypertensive. Electrolytes show a hypokalaemia and hypomagnesaemia. What investigation would you select for this patient?

1- Colonoscopy

2- Oral glucose tolerance test

**3- Plasma renin to aldosterone ratio**

4- Serum amylase

5- Serum calcium

Q2487. Which of the following is true concerning oral hypoglycaemic agents?

1- Acarbose promotes insulin secretion in response to meals

2- Chlorpropamide induces liver enzymes

3- Glibenclamide is excreted unchanged by the kidney

4- Gliclazide inhibits gluconeogenesis

**5- Metformin inhibits hepatic gluconeogenesis**

Q2488. Which of the following is associated with congenital adrenal hyperplasia (CA H) ?

1- Delayed puberty

2- Hypopigmentation

3- Hyporeninaemia

4- Persistent wolffian duct

**5- Premature epiphyseal closure**

Q2489. A 30-year-old female presents with a one year history of galactorrhoea. She has been receiving treatment for hay fever, depression, obesity and dyspepsia. Her investigations reveal: Full blood count Normal Urea and electrolytesNormal Prolactin820 mU/l (<360) Free thyroxine (T4) 18.3 pmol/l (10-22) TSH concentration2.1 mU/l (0.4-5) Which one of the following drugs is most likely to explain these findings?

1- Astemizole

**2- Metoclopramide**

3- Orlistat

4- Paroxetine

5- Ranitidine

Q2490. Which one of the following measurements is a test for exocrine pancreatic insufficiency?

1- Faecal amylase

**2- Faecal elastase**

3- Faecal fat

4- Faecal lipase

5- Serum lipase

Q2491. You are treating a 48-year-old man for acromegaly. Unfortunately despite adenomectomy, he continues to have an elevated growth hormone. You decide to start a long acting somatostatin analogue, Somatuline LA. Which of the following correctly describes one aspect of its mode of action?

1- High affinity for human somatostatin receptor (HSS R) 3

2- Increased prolactin

3- Low affinity for human somatostatin receptor (HSS R) 2

4- Reduced fasting gastrin secretion

**5- Reduced meal time superior mesenteric artery blood flow**

Q2492. A 54-year-old man who has gained significant amounts of weight over the past six months is referred to the endocrine clinic with suspected Cushing's disease. He has hypertension and impaired glucose tolerance. On examination his BP is 165/90 mmHg, pulse is 80 and regular and his BMI is 33. As part of the routine work up, a discrete mass is discovered on chest x ray. When considering further work up, which of the following is the most appropriate option to rule out/in ectopic ACTH production as a cause of Cushing's?

1- 24 hour urinary free cortisol

**2- High dose dexamethasone suppression test**

3- Low dose dexamethasone suppression test

4- Midnight cortisol

5- Plasma ACTH

Q2493. A 54-year-old woman presents to the clinic with tiredness and a yellow tinge to her skin. She has increased in weight by a few kg over the past six months. On examination her BP is 139/70 mmHg, pulse is 64 and regular. Her BMI is 29. Investigations show: Haemoglobin 10.9 g/dl (11.5-16.0) White cell count 7.9 x 109 /L (4-11) Platelets 171 x 109 /L (150-400) Sodium 133 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 90 µmol/l (79-118) Bilirubin 21 µmol/l (<17) Which of the following is the most likely diagnosis?

1- Anorexia nervosa

2- Chronic liver disease

3- Diabetes mellitus

4- Dietary carotene excess

**5- Hypothyroidism**

Q2494. A 37-year-old woman presents with sudden onset painful visual loss in her left eye. She has a history of previous mononeuritis affecting her left and right common peroneal nerves on separate occasions over the past three years. She has 6/36 vision in her left eye with loss of colour sensitivity. Which of the following would you be most likely to see on visual evoked potential (VE P) examination of her right eye?

**1- Delayed latency**

2- Increased amplitude of the positive peak

3- Reduction in the amplitude of the first negative peak

4- Reduction in the amplitude of the second negative peak

5- Reduction in the amplitude of the positive peak

Q2495. A 24-year-old woman presents to the genetics clinic for pre-conception advice. She has a family history of thyroid hormone dyshormonogenesis and wonders what exactly the disorder is. Which of the following stems best characterises the defect responsible for thyroid hormone dyshormonogenesis?

**1- Defect in iodine organification**

2- Defect in thyroid hormone release

3- Thyroid hormone releasing hormone receptor mutation

4- Thyroxine receptor mutation

5- TSH receptor mutation

Q2496. A 32-year-old man who is a non-smoker and only occasionally drinks alcohol presents to the outpatient endoscopy unit with worsening symptoms of indigestion. He was scoped only five months earlier, where multiple gastric ulcers were found and he was started on high dose omeprazole. Helicobacter biopsy was negative. Repeat endoscopy showed further evidence of ulceration. Investigations showed: Haemoglobin 10.2 g/dl(13.5-17.7) White cell count 7.9 x 109 /L (4-11) Platelets 210 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 3.8 mmol/l (3.5-5) Creatinine 114 µmol/l (79-118) Glucose 5.2 mmol/l (<7.0) Calcium 2.98 mmol/l (2.2-2.61) Which of the following is the most likely diagnosis?

1- Gastric carcinoma

**2- MEN-1**

3- MEN-2a

4- MEN-2b

5- Missed Helicobacter infection

Q2497. A 23-year-old student from central Africa brings her 29-year-old sister who is visiting on holiday to see the GP because she is concerned about a fullness in her neck. There is also a history of fatigue, a dry cough and a change in the quality of her voice over the past few months. She has no other past medical history of note; you ask about her diet, she tells you she eats mainly local food and they cannot get access to fresh fish. On examination her BP is 135/70 mmHg, her pulse is 65 and her BMI is 28. There is a large, diffuse multinodular goitre. Investigations show: Haemoglobin 10.8 g/dl (11.5-16.5) White cells 7.5 x 109 /L (4-11) Platelet 179 x 109 /L (150-400) Sodium 136 mmol/l (135-146) Potassium 4.6 mmol/l (3.5-5) Creatinine 99 µmol/l (79-118) TSH 6.0 (0.5-5.0) Which of the following is the most likely diagnosis?

1- Graves' disease

2- Hashimoto's disease

3- Idiopathic hypothyroidism

**4- Iodine deficiency**

5- Non-toxic multinodular goitre

Q2498. A 43-year-old man comes to the clinic, he is known to have primary hypertriglyceridaemia and is managed with high dose statin and fibrate therapy. He complains of episodes of upper abdominal pain, nausea and vomiting. He has had three or four attacks like this over the past six months. He denies significant alcohol consumption. On examination his BP is 138/78 mmHg, his pulse is 78 and regular and his BMI is 22. Apart from eruptive xanthomata, there are no other significant findings. Investigations show: Haemoglobin 13.3 g/dl(13.5-17.7) White cells 5.2 x 109 /L (4-11) Platelet 244 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 112 µmol/l (79-118) HDL cholesterol 0.9 mmol/l (0.8-1.8) LDL cholesterol 2.3 mmol/l (<4.0) Triglycerides 5.8 mmol/l (0.7-2.1) Glucose 5.2 mmol/l (<7.0) Which of the following is the most likely underlying cause?

1- Acute pancreatitis

2- Chronic pancreatitis

3- Chronic stable angina

**4- Chylomicronaemia syndrome**

5- Gall bladder disease

Q2499. A 73-year-old male with type 2 diabetes requires improved glycaemic control. He also suffers from heart failure which is controlled with furosemide, ramipril, and bisoprolol. Which of the following hypoglycaemic agents is contraindicated in this patient?

1- Acarbose

2- Glipizide

3- Nateglinide

4- Metformin

**5- Pioglitazone**

Q2500. A 17-year-old girl presents with vomiting and her investigations show: Sodium 120 mmol/L(137-144) Potassium 3.0 mmol/L(3.5-4.9) Urea 2.2 mmol/L(2.5-7.5) Urine sodium 2 mmol/L Urine osmolality 700 mosmol/kg(350-1000) What is the most likely diagnosis?

1- Addison's disease

**2- Bulimia nervosa**

3- Diuretic abuse

4- Syndrome of inappropriate antidiuretic hormone secretion

5- Water intoxication

Q2501. A 40-year-old obese man with a BMI of 36 kg/m2 was diagnosed with type 2 diabetes mellitus one year ago. He is now eating a healthy diet and getting sufficient exercise. He did not report any osmotic symptoms and so far had been free from any micro- or macrovascular complications. He is currently not taking any medications. Investigations at his annual diabetic follow-up were as follows: Haemoglobin A1C 7.4 %(3.8-6.4) Fasting plasma glucose 9.8 mmol/l (3.0-6.0) Serum Sodium 138 mmol/l (137-144) Serum Potassium 4.7 mmol/l (3.5-4.9) Serum urea 4.3 mmol/l (2.5-7.5) Serum creatinine 88 µmol/l (60-110) What would be the most appropriate management to optimise his glycaemic control?

1- Continue with lifestyle measures

2- Gliclazide therapy

**3- Metformin therapy**

4- Orlistat therapy

5- Pioglitazone therapy

Q2502. A 68-year-old woman presented to her general practitioner with a history of generalised tiredness. She had recently been commenced on a water tablet to ease her swollen feet. She was also diagnosed with glaucoma for which she used topical eye drops. Investigations showed: Serum Sodium 138 mmol/L(137-144) Serum potassium Haemolysed sample Serum urea 4.3 mmol/L(2.5-7.5) Serum creatinine 88 µmol/L(60-110) Serum corrected Calcium 2.68 mmol/L(2.

2- 2.6) Which diuretic was this lady most probably taking?

1- Acetazolamide

2- Amiloride

**3- Bendroflumethiazide**

4- Furosemide

5- Indapamide

Q2503. A 54-year-old male who is a HGV driver and has a 10 year history of type 2 diabetes is seen on annual review. His glycaemic control is poor with a HBA1c of 10.5% on maximal oral hypoglycaemic therapy (3.8-6.4). You suggest switching to insulin but he refuses to do this as he would lose his HGV licence. He also refuses to inform the DVLA himself. What is the most appropriate action in this case?

**1- Continue to review patient in clinic and accept that he continues to drive**

2- Discharge him from clinic as there is nothing more that you can do

3- Inform his employer that he must stop driving and suggest administrative work

4- Inform the DVLA even if the patient withholds his consent

5- Tell his next of kin that they should inform the DVLA that he is no longer fit to drive

Q2504. A 70-year-old male with a history of syncope and hypertension is found to have runs of non-sustained ventricular tachycardia during telemetry. Investigations show a serum magnesium of 0.4 mmol/l (0.75-1.05). Which one of the following is most likely to be responsible for this biochemical abnormality?

1- Chronic renal failure

**2- Diuretic therapy**

3- Elevated PTH concentrations

4- Hyperphosphataemia

5- Treatment with antacids

Q2505. A 44-year-old female presents with features suggestive of Cushing's syndrome. Initial investigations reveal a 24 hour urine free cortisol concentration of 350 nmol/day (<250). Which is the most appropriate investigation of this patient's suspected Cushing's syndrome?

1- 9 am and midnight cortisol

2- ACTH concentration

3- High dose dexamethasone suppression test

**4- Low dose dexamethasone suppression test**

5- Short Synacthen test

Q2506. An 18-year-old male presented with delayed pubertal development. He had always noted an impaired sense of smell. Examination revealed that his height was on 90th centile and his weight on the 90th centile. His external genitalia showed a small penis with testicular volumes of 3 mL bilaterally and no pubic hair. Investigations revealed: LH concentration 1.0 U/L(1-10) FSH concentration 1.0 U/L(1-7) Serum testosterone 3.0 pmol/L(9-35) Free T4 19 pmol/L(10-22) TSH 3.0 mU/L(0.4-5) CT scan reported as normal. What is the most likely diagnosis?

1- Constitutional delay of puberty

**2- Kallmann's syndrome.**

3- Klinefelter's syndrome.

4- Noonan's syndrome.

5- Prader-Willi syndrome.

Q2507. A 53-year-old male is suspected of having acromegaly. Which of the following is the best investigation to confirm the diagnosis?

1- 9 am growth hormone (G H) concentrations

2- An insulin tolerance test with growth hormone concentrations

**3- Glucose tolerance test with growth hormone concentrations**

4- Growth hormone releasing hormone test

5- Insulin-like growth factor-1 (IGF-1)

Q2508. Which of the following is true of the thyroid hormone receptor?

1- A cell surface receptor

2- A cytoplasmic protein

3- A gated ion channel

4- A G protein coupled receptor

**5- A nuclear receptor**

Q2509. A 64-year-old male presents with difficulty in micturition. He is diagnosed with benign prostatic hyperplasia and elects to receive finasteride. Production of which of the following hormones would be selectively inhibited?

1- Androstenedione

2- Dihydroepiandrostenedione sulphate (DHEA S) 3- Dihydrotestosterone (DH T) 4- IGF-1

5- Testosterone

Q2510. Leptin:

1- Acts upon the adipocyte

2- Is synthesised in the hypothalamus

3- Plasma concentrations correlate directly with lean body mass.

**4- Produces satiety**

5- Reduces basal metabolic rate

Q2511. In active acromegaly with associated diabetes mellitus which of the following findings would be expected?

1- Diabetes mellitus is due to an auto-immune process

2- Growth hormone concentrations are suppressed with hyperglycaemia

3- IGF-1 concentrations are low

**4- There is insulin resistance**

5- Treatment with a somatostatin analogue is contraindicated

Q2512. A 52-year-old female presents with tiredness. There are no specific abnormalities noted on examination, but investigations reveal: T4 21.1 pmol/L (10-22) T3 5.2 pmol/L (5-10) TSH 0.05 mU/L (0.4-5) Thyroid autoantibody titres are all undetectable. Of what do these results suggest a diagnosis?

1- DeQuervain's thyroidits

2- Graves' disease

3- Hashimoto's thyroiditis

4- Sick euthyroid syndrome

**5- Solitary toxic nodule**

Q2513. A 42-year-old woman who is known to have Hashimoto's thyroiditis presents to the clinic with muscle pains and fatigue, and pins and needles affecting her hands intermittently. She takes no regular medication apart from thyroxine replacement. Clinical examination is unremarkable. Investigations show: Haemoglobin 12.2 g/dl(11.5-16.0) White cell count 6.4 x 109 /L (4-11) Platelets 190 x 109 /L (150-400) Sodium 141 mmol/l (135-146) Potassium 4.7 mmol/l (3.5-5) Creatinine 108 µmol/l (79-118) Calcium 2.05 mmol/l (2.20-2.61) Phosphate 1.65 mmol/l (0.8-1.5) Alkaline phosphatase 62 U/l (39-117) Which of the following is the most appropriate way to manage her symptoms?

1- Calcitonin

**2- Calcium and vitamin D3**

3- Cinacalcet

4- PTH analogue

5- Risedronate

Q2514. A 54-year-old woman presents to the clinic with hypercalcaemia detected at GP screening. She has no significant medical history apart from mild hypertension for which she has been advised by the GP to lose weight. On examination her BP is 150/90 mmHG, her BMI is 29. General physical examination is unremarkable. Investigations show: Haemoglobin 11.5 g/dl(11.5-16.0) White cell count5.6 x 109 /L (4-11) Platelets 168 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 110 micromol/l (79-118) PTH 12.2micromol/l Hip T score-2.7 Which of the following treatments should she be offered?

1- Cinacalcet

2- Furosemide

3- Risedronate

**4- Surgical referral**

5- Vitamin D

Q2515. An 18-year-old man comes to the endocrine clinic for review. He has been followed up since entering puberty at the age of 10. There are visible bony deformities and he walks slowly with a stick. On examination his BP is 148/82 mmHg, pulse is 70 and regular. He has a number of cafe au lait spots. There are obvious multiple healed fractures. Investigations show: Haemoglobin 13.2 g/dl(13.5-17.7) White cell count 7.3 x 109 /L (4-11) Platelets 160 x 109 /L (150-400) Sodium 140 mmol/l (135-146) Potassium 4.1 mmol/l (3.5-5) Creatinine 103 micromol/l (79-118) TSH 0.3 IU(0.5-4.5) Alkaline phosphatase 230 U/l (39-117) Calcium 2.2 mmol/l (2.20-2.61) Which of the following is the most likely diagnosis?

1- Autoimmune polyglandular syndrome

**2- McCune-Albright syndrome**

3- Neurofibromatosis type 2

4- Neurofibromatosis type 1

5- Osteomalacia

Q2516. A 61-year-old woman comes to the clinic. She currently takes metformin 1 g twice daily and gliclazide 160 mg twice daily. On examination her blood pressure is 155/90 mmHg, her BMI is 29. Her general practitioner is concerned as he has noticed a rise in her creatinine to 138. Investigations in clinic show: Haemoglobin 11.9 g/dl(13.5-18) White cell count5.0 x 109 /L (4-10) Platelets 193 x 109 /L (150-400) Sodium 140 mmol/l (134-143) Potassium 5.0 mmol/l (3.5-5) Creatinine 142 µmol/l (60-120) HbA1c 7.2%(<5.5) Glomerular filtration rate38 ml/min(>90) Which of the following is the correct course of action with regard to her metformin?

**1- Continue her metformin**

2- Stop her metformin and consider acarbose

3- Stop her metformin and consider exenatide

4- Stop her metformin and consider insulin

5- Stop her metformin and continue the gliclazide

Q2517. A 60-year-old woman with type 2 diabetes comes to the clinic three months after adding a daily injection of long-acting insulin to her regime. She has had type 2 diabetes for some six years, and also takes metformin 1 g BD, ramipril 10 mg, aspirin 75 mg and atorvastatin 10 mg. You review her results, and her average morning fasting sugar is 5.9 mmol/l. Unfortunately, her pre-lunch glucose is consistently out of range, at around 9.5 mmol/l. Which of the following is the correct intervention according to the ADA/EASD consensus algorithm 2006?

1- Add a pre-breakfast injection of NPH insulin

**2- Add a pre-breakfast injection of rapid acting insulin**

3- Add a pre-lunch injection of NPH insulin

4- Add a pre-lunch injection of rapid acting insulin

5- Add a pre-dinner injection of NPH insulin

Q2518. A 30-year-old woman who is 24 weeks pregnant presents with a blood pressure on three separate occasions of approximately 160/110 mmHg. Her liver function tests (LFT s) show: Aspartate transaminase150 U/l (5-45) Alkaline phosphatase213 U/l (50-120) Bilirubin31 µmol/l (0-18) Which antihypertensive is indicated?

1- Atenolol

2- Irbesartan

**3- Labetalol**

4- Methyldopa

5- Ramipril

Q2519. A 35-year-old woman presents with episodic sweats associated with hunger. She was otherwise well and had gained some weight recently. Investigations reveal normal urea and electrolytes, liver function tests and full blood count. An overnight fasting plasma glucose is 3.8 mmol/l (3.0-6.0). What is the most appropriate investigation for this patient?

1- 24 hour ECG recording

**2- 72 hour fast**

3- Fasting insulin and C peptide concentrations

4- MR scan of pancreas

5- Short Synacthen test

Q2520. Which of the following suggests a diagnosis of familial combined hyperlipidaemia (FCH L) rather than heterozygous familial hypercholesterolaemia (F H) ?

1- Absence of hyperuricaemia

2- Presence of arcus senilis

**3- Presence of glucose intolerance**

4- Strong family history of premature coronary artery disease

5- Tendon xanthomas

Q2521. A 45-year-old male with type 1 diabetes and with a number of complex diabetic gastrointestinal complications is noted to have a PR interval of 0.18 s, a QRS duration of 0.1 s and a QT interval of 0.48 s on routine ECG. Which of the following drugs may be responsible?

1- Cimetidine

2- Co-trimoxazole

3- Domperidone

**4- Erythromycin**

5- Octreotide

Q2522. A 16-year-old male presents with a day history of malaise, weakness and vomiting. He was diagnosed with insulin-dependent diabetes mellitus three years previously. Which one of the following supports a diagnosis of diabetic ketoacidosis (DK A) ?

1- Abdominal pain at onset

**2- A serum standard bicarbonate of 10 mmol/l (NR 22-26)**

3- A random serum glucose 14 mmol/l (NR 4.5-6-4)

4- Decreased appetite in the past few days

5- Shallow respirations

Q2523. Growth hormone deficiency (GH D) is noted in which of the following?

1- Chronic renal failure (CR F) 2- Constitutional short stature

3- Laron's syndrome

**4- Sheehan's syndrome**

5- Turner's syndrome

Q2524. A 58-year-old man comes to the diabetes clinic for review. He has had type 2 diabetes for eight years and has troublesome neuropathy with pain and burning in both lower limbs for long periods of the night. Current medication for his diabetes includes metformin 1 g BD and gliclazide 80 mg BD. On examination his BP is 145/85 mmHg, his pulse is 80 and regular. He has glove and stocking neuropathy with sensory loss to the mid shin. Investigations show: Haemoglobin 12.3 g/dl(13.5-17.7) White cell count 7.1 x 109 /L (4-11) Platelets 203 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 90 µmol/l (79-118) HbA1c 7.3%(<5.5) Which of the following is the most appropriate way to manage his pain?

1- Amitriptyline

2- Axsain cream

3- Carbamazepine

**4- Duloxetine**

5- Gabapentin

Q2525. A 52-year-old woman presents to the clinic complaining of intense paroxysms of pain affecting her left cheek, which can last anything from 30 seconds to several minutes. She says that these can come on at any time but may be triggered by activities like going out on a cold day or using her hair dryer. She has no past medical history of note. Clinical examination is entirely normal. Investigations show: Haemoglobin 11.9 g/dl(11.5-16.0) White cell count 8.0 x 109 /L (4-11) Platelets 203 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 110 µmol/l (79-118) Which of the following would be the most appropriate option to manage these episodes of pain?

1- Amitriptyline

**2- Carbamazepine**

3- Diclofenac

4- Paracetamol

5- Tramadol

Q2526. A 57-year-old woman presents with a temperature of 39.6°C, tachycardia and jaundice. Her husband tells you that she has been increasingly confused and agitated over the past few days. Her only past history of note is an inguinal hernia repair in the previous week. On examination her BP is 105/70 mmHg, her pulse is 130, atrial fibrillation, she has jaundiced sclerae. She is agitated and poorly compliant with the examination. Investigations show: Haemoglobin 10.9 g/dl(11.5-16.0) White cell count 10.8 x 109 /L (4-11) Platelets 190 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 120 µmol/l (79-118) Alanine aminotransferase 78 U/l (5-40) Bilirubin 72 µmol/l (<17) TSH <0.05 IU/l (0.5-4.5) Which of the following treatments is likely most rapidly to impact on her symptoms?

1- Carbimazole

2- Diclofenac

**3- Potassium iodide**

4- Prednisolone

5- Propylthiouracil

Q2527. An 18-year-old woman comes to the clinic complaining of acne and hirsutism. She has no medical history of note and her only medication is the oral contraceptive pill. On examination her BP is 140/82 mmHg, pulse is 80 and regular and her BMI is 28. There are obvious features of virilisation. Investigations show: Haemoglobin 12.0 g/dl(11.5-16.0) White cell count 5.4 x 109 /L (4-11) Platelets 200 x 109 /L (150-400) Sodium 135 mmol/l (135-146) Potassium 5.2 mmol/l (3.5-5) Creatinine 110 µmol/l (79-118) LH/FSH ratio normal Which of the following is most likely to be elevated?

**1- 17-OH progesterone**

2- 21-OH progesterone

3- Aldosterone

4- Cortisol

5- Urinary 21-ketosteroids

Q2528. A 45-year-old man is admitted with drowsiness and confusion. According to a neighbour he has been complaining of increasing problems with thirst and passing large volumes of urine over the past few days. On examination his BP is 100/60 mmHg, his pulse is 95 and regular, and he has signs of a right lower respiratory tract infection. Whilst you are examining him a nurse checks his finger prick glucose which is measured at 36.2 mmol/l. Which of the following investigations would be most suggestive of a diagnosis of diabetic ketoacidosis?

**1- Amylase 400 U/l**

2- Bicarbonate 24 mmol/l

3- Lactate 1.6 mmol/l

4- Right lower lobe consolidation on chest x ray

5- Urinary tract infection on urine screen

Q2529. A 16-year-old girl comes to the clinic for review with primary amenorrhoea. Apart from surgery for hernias as an infant, she has no significant past medical history. On examination she is 1.65 m in height and has a BP of 110/70 mmHg, her pulse is 64 and regular. She has relatively normal breast development but sparse body hair and no secondary sexual hair. Her external genitalia look normal. Investigation shows: Haemoglobin 12.8 g/dl(11.5-16.0) White cell count 6.0 x 109 /L (4-11) Platelets 192 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 4.6 mmol/l (3.5-5) Creatinine 80 µmol/l (79-118) Urea 5.2 mmol/l (2.5-6.7) Testosterone 15 nmol/l (11-40) Which of the following is the most likely diagnosis?

**1- Androgen insensitivity syndrome (AI S) 2- Kallman's syndrome**

3- Klinefelter's syndrome

4- Noonan's syndrome

5- Turner's syndrome

Q2530. A 52-year-old woman with a history of type 2 diabetes comes to the clinic for review. She is currently managed with metformin 1 g BD with respect to glucose control, and her only other medication at the moment is lisinopril 20 mg daily and simvastatin 40 mg. On examination her BP is 138/82 mmHg, her pulse is 82 and regular. Her BMI is 27 kg/m2 . Investigations show: Haemoglobin 11.4 g/dl(11.5-16.5) White cells 7.3 x 109 /L (4-11) Platelet184 x 109 /L (150-400) Sodium 140 mmol/l (135-146) Potassium 4.8 mmol/l (3.5-5) Creatinine 119 µmol/l (79-118) HDL cholesterol0.9 mmol/l (1.0-2.3) LDL cholesterol 3.9 mmol/l (<4.0) Triglycerides 3.1 mmol/l (0.5-1.7) HbA1c 9.3% (<5.5)(89 mmol/mo l) (<36) Which of the following is the most appropriate initial step to impact on her triglycerides?

**1- Additional blood glucose lowering therapy**

2- Exercise programme

3- Fibrate therapy

4- High dose statin therapy

5- Omega 3 fatty acid supplementation

Q2531. A 32-year-old woman treated with hydrocortisone 10 mg in the morning and 10 mg in the evening for Addison's disease, presents to the clinic with poor compliance. She feels that the hydrocortisone upsets her stomach and wants to switch to enteric coated prednisolone. What would be the appropriate corresponding daily dose of prednisolone?

1- 4 mg daily

**2- 5 mg daily**

3- 7 mg daily

4- 10 mg daily

5- 15 mg daily

Q2532. A 55-year-old male with type 2 diabetes is seen at annual review. His glycaemic control is sub-optimal on diet alone and his most recent HbA1c is 7.9% (3.

8- 6.4). You elect to treat him with metformin 500 mg BD. Which of the following would be the most appropriate interval to re-check his HbA1c?

1- Two weeks

2- One month

**3- Two - three months**

4- Four - six months

5- Six - twelve months

Q2533. Side effects of recombinant human growth hormone (rhG H) therapy include which of the following?

1- Aplastic anaemia

**2- Benign intracranial hypertension (BI H) 3- Creutzfeldt-Jakob disease (CJ D) 4- Leukaemia**

5- Proliferative retinopathy

# Chapter 16 2012 Haematology

Q2534. What is the most effective bisphosphonate for use in reducing bone pain and preventing pathological fractures in patients with metastatic breast cancer?

1- Alendronic acid

2- Ibandronic acid

3- Olpadronate

4- Pamidronate

**5- Zoledronic acid**

Q2535. A 70-year-old female presents with a three month history of exertional dyspnoea and chest pain. She admitted to a poor diet, some vague abdominal pains and having lost 7 kg in weight. Examination revealed pallor, patches of vitiligo on her arms and trunk, ankle oedema and a palpable spleen. Investigations revealed: Haemoglobin 5 g/dL(11.5-16.5) MCV 105 fL(80-96) White cell count 2 x 109 /L (4-11) Platelet count 50 x 109 /L (150-400) Bilirubin 40 µmol/L(1-22) ALT 60 U/L(1-31) AST 40 U/L(5-35) LDH 1000 U/L(10-250) Which one of the following is the most likely diagnosis?

1- Aplastic anaemia

2- Autoimmune haemolytic anaemia

3- Dietary folate deficiency

**4- Pernicious anaemia**

5- Sideroblastic anaemia

Q2536. A 72-year-old man presents with a five day history of cough, dyspnoea and fever. His chest x ray shows a left basal consolidation. His full blood count shows: Haemoglobin 11 g/dL (13.0-18.0) White cell count 30 x 109 /L (4-11 x109) Neutrophils 10 x 109 /L (1.5-7 x109) Lymphocytes 20 x 109 /L (1.5-4 x109) Monocytes 1 x 109 /L (0-0.8 x109) Eosinophils 0.4 x 109 /L (0.04-0.4 x109) Basophils 0.1 x 109 /L (0-0.1 x109) Which one of the following is the most appropriate test to establish the diagnosis?

1- Bone marrow aspirate

2- Bone marrow cytogenetics

3- CT abdomen

**4- Immunophenotyping of white cells**

5- Sputum cytology and AFB

Q2537. A 67-year-old man presents with a five week history of pain and swelling affecting left knee, both ankles and his right wrist. He has had three episodes of right basal pneumonia in the last year and has lost 6 kg in weight. His investigations are as follows: WCC 12.1 x 109 /L (4-11) Hb 9.8 g/dL(13.0-18.0) MCV 79fL(80-96) Platelets 543 x 109 /L (150-400) ESR 43 mm in the first hour (0-20mm/1st hou r) CRP 21 mg/L(<10) CPK 110U RF 1/80 ANA Negative ENA Negative Radiographs of hands and fee tNormal What is the most likely diagnosis?

1- Mixed connective tissue disease

**2- Paraneoplastic syndrome**

3- Polyarteritis nodosa

4- Polymyalgia rheumatica

5- Rheumatoid arthritis

Q2538. A 22-year-old male student is admitted with weakness and tiredness. He has otherwise been well. Examination reveals a petechial rash on the lower legs and conjunctival pallor. He takes no medication and denies any illicit drug use. Investigations reveal: Haemoglobin 4 g/dL(13.0-18.0) White cell count 1 x 109 /L (4-11) Platelets 20 x 109 /L (150-400) Clotting profile Normal U+Es & liver function tests Normal Which of the following is the likely diagnosis?

1- Acute lymphocytic leukaemia

2- Acute myeloid leukaemia

**3- Aplastic anaemia**

4- Henoch-Schönlein purpura

5- Hodgkin's lymphoma

Q2539. A 55-year-old male presents with anorexia and weight loss of 12 months duration. Over this year he has had two deep vein thromboses (DVT s) and had the last whilst his INR was 2 (less than 1.4). He remains on long term warfarin therapy with an INR above 2.6. Examination reveals that he is pigmented and has a postural drop in his blood pressure of 15 mmHg. Investigations are as follows: Sodium 131 mmol/l (137-144) Potassium 5.0 mmol/l (3.5-4.9) INR3.0(<1.4) A short Synacthen test reveals a baseline cortisol concentration at time 0 of 120 nmol/l which rises to 155 nmol/l after 30 minutes (normal response greater than 550 nmol/ l) . Which single diagnosis would explain this patient's illness?

1- Addison's disease

**2- Antiphospholipid syndrome**

3- Autoimmune polyendocrine syndrome (Schmidt's diseas e) 4- Pituitary infarction

5- Protein S deficiency

Q2540. Which of the following statements relates to acquired sideroblastic anaemia?

1- Haemosiderinuria is a feature

2- Has increased methaemoglobinaemia

3- It is characterised by the presence of ringed sideroblasts in the peripheral blood

4- It shows increased haptoglobin

**5- There may be some response to pyridoxine therapy**

Q2541. Which of the following is a proto-oncogene?

1- The BCRabI translocation (Philadelphia chromosom e) 2- The N-Myc gene

3- The retinoblastoma gene

4- The WT1 (first Wilm's tumou r) gene

5- The WT2 (second Wilm's tumou r) gene

Q2542. Which of the following regarding salivary gland pleomorphic adenomas is correct?

**1- They are the most common salivary gland tumour**

2- Are commoner in the sub-mandibular than the parotid gland

3- In the parotid gland most commonly arise medial to the facial nerve

4- Are more common in males than in females

5- Typically enhance following intravenous contrast injection in CT

Q2543. Which of the following concerning diamorphine elixir for the relief of pain in terminal patients is correct?

1- Analgesia is enhanced if cocaine is added

**2- Constipation is a characteristic sequel to treatment**

3- Dependence occurs rapidly

4- Initial sedation typically continues whilst the drug is administered

5- The same amount of pain relief is produced as when the same dose is given via intramuscular injection

Q2544. Which of the following is associated with a GH secreting pituitary tumour?

**1- Gs alpha subunit mutation**

2- H-ras mutation

3- p53 mutation

4- Pit-1 mutation

5- Rb 1 mutation

Q2545. An 82-year old man presents to his general practitioner with a six month history of fatigue and increasing exertional dyspnoea. Investigations show: Haemoglobin 7.5 g/dL (13.0-18.0) MCV 112 fL (80-96) White blood cells 3.12 x 109 /L (4-11 x109) Neutrophils 34% Blasts 1% Platelets 12 x 109 /L (150-400 x109) A bone marrow aspirate stained with Perls' stain showed ring sideroblasts. What is the most likely diagnosis?

1- Aplastic anaemia

2- Chronic myeloid leukaemia

3- Metastatic bone marrow infiltration

**4- Myelodysplastic syndrome**

5- Myelofibrosis

Q2546. At which point in the cell cycle is the cell most sensitive to radiation-induced apoptosis?

1- G0

2- G1

**3- G2-M**

4- S

5- S-G2

Q2547. A 61-year-old man presents with haematuria. He is on warfarin for chronic atrial fibrillation. His FBC shows a Hb of 112 g/L and his INR is 9 - the patient is haemodynamically stable. The consultant on take advises that this patient needs reversal of the warfarin. Of the following, which would be the blood product/s of choice?

1- Cryoprecipitate

**2- Fresh frozen plasma/prothrombin concentrate**

3- Packed cells

4- Platelets

5- Recombinant factor VII.

Q2548. A 46-year-old woman presents with a rapidly increasing mass on the left side of her neck over her thyroid gland. She has noticed some problems with dysphagia over the past few months, but no other symptoms of note apart from perhaps a slow increase in her weight and some tiredness. On examination her BP is 122/72 mmHg. Her pulse is 72 and regular. Her BMI is 31. Respiratory and abdominal examination is unremarkable. Palpation of the left side of her neck reveals thyroid enlargement with associated lymphadenopathy. Investigations show: Haemoglobin 11.5 g/dl(11.5-16.5) White cells 8.3 x 109 /L (4-11) Platelets 185 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.4 mmol/l (3.5-5) Creatinine 96 μmol/l (79-118) Thyroid stimulating hormone 7.6 mu/l (0.

**5- 5.0) Lactate dehydrogenase640 U/l (240-280) Erythrocyte sedimentation rate82 mm/hr(<20) Which of the following is the most likely diagnosis?**

1- Follicular thyroid carcinoma

2- Graves' disease

3- Hashimoto's disease

4- Hodgkin's lymphoma

**5- Thyroid lymphoma**

Q2549. A 72-year-old man presents to the haematology clinic. He has suffered increasing headaches over the past few weeks, and unfortunately suffered a myocardial infarction some four weeks ago. He has been buying anti-histamines over the counter because of increasing itching. During his admission it was noted that he had a marked elevation in haemoglobin, white cells and platelets. He is a non-smoker with no history of chest disease. On examination in the clinic today he is hypertensive with a BP of 155/90 mmHg. Heart sounds are normal and his chest is clear. He looks plethoric with a ruddy complexion, and you notice that he has splenomegaly on abdominal examination. Investigations show Haemoglobin 19.8 g/dl(13.5-18) White cell count 18.7 x 109 /L (4-10) Platelets 672 x 109 /L (150-400) Sodium 139 mmol/l (134-143) Potassium 4.7 mmol/l (3.5-5) Creatinine 140 μmol/l (60-120) Which of the following is the most likely mutation that he carries?

1- Bcr-abl

2- HER-1

3- HER-2

4- JAK 1

**5- JAK 2**

Q2550. A firm 2-3 cm mass is palpable in the upper outer quadrant of the right breast of a 5

2- year-old woman. There are no palpable axillary lymph nodes. A lumpectomy with axillary node dissection is performed and the breast lesion is found to have positive immunohistochemical staining for HER2/neu (c-erb B2). Staining for oestrogen and progesterone receptors is negative. Which of the following additional treatment options is most appropriate, based upon these findings?

1- Radical mastectomy

2- St John's wort

3- Tamoxifen

**4- Trastuzumab**

5- Vancomycin

Q2551. A 30-year-old woman has a right mastectomy and axillary lymph node dissection for a carcinoma diagnosed by fine needle aspiration cytology. The histological pattern is that of a poorly differentiated carcinoma that is negative for oestrogen and progesterone receptors, but is positive for HER2/neu. One axillary lymph node demonstrates micro-metastases. Her 3

2- year-old sister is found to have a similar lesion. Which of the following statements regarding risk factors for this lesion is the most appropriate?

1- A history of late menarche is likely to be present in females in this family

2- Fibrocystic changes were present for many years

3- She had a history of exposure to hydrocarbon compounds

4- She has a positive antinuclear antibody test

**5- These findings suggest a BRCA-1 mutation**

Q2552. A 60-year-old lady with bruising is investigated and found to have the following full blood count: Haemoglobin 13 x10 g/dL(11.5-16.5) White cell count 6.3 x 109 /L (4-11 x109) Platelet count 15 x 109 /L (150-400 x109) She refuses to give consent to a bone marrow biopsy. What is the most appropriate management plan?

1- Intravenous immunoglobulin

2- No treatment

**3- Oral prednisolone**

4- Platelet transfusion

5- Splenectomy

Q2553. A 61-year-old who has smoked for 40 years presents with thoracic back pain. His investigations reveal: Haemoglobin 11.1 g/dL (13.0-18.0) Urea 9.3 mmol/L (2.5-7.5) Creatinine 298 µmol/L (60-110) Calcium 3.67 mmol/L (2.2-2.6) Albumin 30 g/L (37-49) Total protein 97 g/L (61-76) Thoracic spine x ray Collapse of T8 Which investigation would confirm the diagnosis?

**1- Bone marrow aspirate**

2- Creatinine clearance

3- CXR

4- ESR

5- PTH

Q2554. A 69-year-old male presents with tiredness and dyspnoea and is diagnosed with acute myeloid leukaemia. Which of the following is the most important prognostic factor?

1- Elevated lactate dehydrogenase activity

**2- Karyotype of bone marrow**

3- Monocytic morphology

4- Number of blasts in bone marrow

5- White cell count at diagnosis

Q2555. A 16-year-old girl with sickle cell disease presented with malaise and rapidly increasing dyspnoea. A full blood count showed: Hb 5.1 g/dL (11.5-16.5) Reticulocyte count 5.5 x 109 /L (25-85 x109) What is the most likely cause?

1- Epstein-Barr virus

2- Hepatitis E virus

3- Human immunodeficiency virus

4- Human papillomavirus-16 (HPV 16)

**5- Parvovirus B19**

Q2556. A 28-year-old pregnant woman is being treated for a deep vein thrombosis with unfractionated heparin. A recent blood test shows: Haemoglobin 9.8 g/dl(11.5-16.5) White cell count 9.5 x 109 /L (4-11) Platelets 35 x 109 /L (150-400) What would be the best course of action for this woman?

1- Change to hirudin

2- Change to low molecular weight heparin

3- Change to warfarin

**4- Danaparoid**

5- No change in treatment and observe

Q2557. In the considerstion of disseminated intravascular coagulation (DI C) , which of the following statements is most correct?

1- In DIC asociated with sepsis secondary to retained products of conception, treatment of antibiotics will alleviate the process

**2- Organ failure is a common finding in DIC**

3- The intrinsic pathway is not involved in the pathophysiology of DIC

4- The presence of DIC does not increase mortality from the underlying disease

5- There are no randomised control trials to guide treatment in DIC

Q2558. A 68-year-old female with terminal bowel cancer is receiving optimal doses of morphine sulphate therapy. Which of the following effects may be expected with the addition of a partial opioid agonist?

1- Increased analgesia

2- Increased respiratory depression

3- Increased sedation

4- No change

**5- Reduced analgesia**

Q2559. A study of a new chemotherapy drug for lung cancer is reported in a medical journal. The authors state that with the new agent the five year mortality rate was 60%. Without treatment the five year mortality rate was 80%. Which of the following represents the absolute risk reduction using this treatment?

1- 10%

**2- 20%**

3- 25%

4- 33%

5- 40%

Q2560. A 45-year-old woman noticed tinnitus in her left ear which progressed over some weeks to hearing loss in that ear. On physical examination she is found to have a marked decrease in hearing on the left, with Rinne test indicating air conduction better than bone conduction. The other cranial nerves I - VII and IX - XII are intact. A brain MRI scan revealed a solitary, fairly discrete 3 cm mass located in the region of the left cerebellopontine angle. Which of the following statements is most appropriate to tell the patient regarding these findings?

1- A test for HIV-1 is likely to be positive

2- Other family members should undergo MR imaging of the brain

3- Remissions and exacerbations are likely to occur in coming years

**4- The lesion can be resected with a good prognosis**

5- You are unlikely to survive for more than a year

Q2561. Which of the following conditions is most likely to be associated with thrombocytopenia?

1- Haemophilia A

2- Hereditary haemorrhagic telangiectasia

**3- Pernicious anaemia**

4- Porphyria

5- Uraemia

Q2562. A 68-year-old man complained of tiredness and lethargy. On examination there was 2 cm hepatomegaly and 7 cm splenomegaly. Investigations show: Haemoglobin 17.4 g/dL (13.0-18.0) White cell count 39.4 x 109 /L (4-11 x109) White cell differential: Neutrophils 22.2 x 109 /L (1.5-7 x109) Lymphocytes 1.1 x 109 /L (1.5-4 x109) Monocytes 1.0 x 109 /L (0-0.8 x109) Eosinophils 0.4 x 109 /L (0.04-0.4 x109) Basophils 2.1 x 109 /L (0-0.1 x109) Metamyelocytes 1.2 x 109 /L Myelocytes 10.9 x 109 /L Myeloblasts 1.3 x 109 /L Nucleated RBC3 per 100 rbc Platelet count585 x 109 /L (150-400 x109) What is the most likely diagnosis?

1- Acute myeloid leukaemia

**2- Chronic myeloid leukaemia (CM L) 3- Essential thrombocythaemia**

4- Myelofibrosis

5- Primary proliferative polycythaemia (rubra ver a)

Q2563. Which of the following does not have a role in the management of chronic cancer pain?

1- Carbamazepine

2- Clodronate

3- Dexamethasone

4- Nifedipine

**5- Pinavarium**

Q2564. In sickle cell disease, which of the following is correct?

1- Exchange transfusions prior to major surgery on HbSS patients aims to lower the HbS concentration to 60%

2- It is caused by the substitution of glutamic acid by valine at position 4 on the beta chain of haemoglobin

3- The erythrocytes of haemoglobin AS patients can sickle at a pO2 of 5 - 6 kPa (40 - 50 mmH g) 4- The erythrocytes of haemoglobin SC patients may sickle at a pO2 of 4 kPa (30 mmH g) 5- The Sickledex test involves adding a reagent to blood which allows the nature of the haemoglobinopathy to be determined

Q2565. A previously fit 30-year-old male presents with a two month history of weight loss, tiredness and nausea. Investigations show: Haemoglobin 10.5 g/dL (13.0-18.0) MCV 88 fL (80-96) White cell count 6.0 x 109 /L (4-11 x109) Platelets 450 x 109 /L (150-400 x109) 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 µmol/L (60-110) Serum total T4 55 nmol/L (50-150) Serum TSH 8 mU/L (0.4-5) Which of the following is the most useful diagnostic investigation?

1- Anti-thyroid peroxidase antibody titre

2- Free thyroxine concentration

3- Insulin tolerance test

**4- Short Synacthen test**

5- TRH test

Q2566. In which of the following do mutations of the p53 gene frequently occur?

**1- Bronchial carcinoma**

2- Colonic polyps

3- Cystic fibrosis

4- Huntington's disease

5- Type 2 diabetes mellitus

Q2567. Which RBC antigen is involved in the entry of P. vivax into red blood cells?

1- Anti-D

2- Anti-S

**3- Duffy**

4- Kell

5- Kidd

Q2568. You are evaluating a new agent which is thought to improve the recognition of foreign antigen by antigen presenting cells (APC s) . Which of the following correctly represents one aspect of the physiology of APCs?

1- Antigen is presented via MHC class I complexes

**2- Antigen presented on APCs is recognised by CD4 positive cells**

3- APCs are required before a response to viruses can be generated

4- Direct antigenic stimulation still requires APCs

5- Follicular dendritic cells express MHC class 2

Q2569. By what mechanism do the platinum based chemotherapies cause DNA damage and cell death?

1- Alkylating agent

2- Antimetabolite

**3- DNA cross linkage**

4- Inhibition of topoisomerase

5- Unknown

Q2570. Upregulation of which of the following proteins is associated with multi-drug chemotherapy resistance?

1- BCL-2

2- CYP2D6

3- Cytochrome P450

4- p53

**5- P-glycoprotein**

Q2571. Which virus is commonly associated with nasopharyngeal carcinoma?

**1- Epstein-Barr virus**

2- Hepatitis B

3- Human papilloma virus 16

4- Human papilloma virus 18

5- Human T-lymphotrophic virus

Q2572. Which malignancy is most associated with the Lambert-Eaton myasthenic para-neoplastic syndrome (LEM S) ?

1- Adenocarcinoma lung cancer

2- Metastatic bowel cancer

3- Metastatic melanoma

**4- Small cell lung cancer**

5- Squamous cell lung cancer

Q2573. A 35-year-old woman is diagnosed with a below knee deep vein thrombosis (DV T) . She is currently undergoing endocrine treatment for breast cancer. Which agent is she likely to have been prescribed?

1- Anastrozole

2- Exemestane

3- Fulvestrant

4- Megace

**5- Tamoxifen**

Q2574. A 35-year-old woman develops an erythematous rash over her left nipple after breast feeding her child. It is not painful but has not resolved with multiple courses of antibiotics. She has noted some recent nipple inversion. What is the best investigation?

1- CT chest, abdomen and pelvis

2- Mammogram

3- MRI of breast

**4- Skin biopsy**

5- Ultrasound of breast

Q2575. A 75-year-old man presents with irritative and obstructive urinary symptoms of six months duration. He has noticed occasional haematuria and associated nocturia five times a night. PR examination and subsequent prostate biopsy confirms prostate cancer. What histological grading system is used to grade prostate cancer?

1- Ann Arbor

2- Breslow's depth

3- Duke's

**4- Gleason**

5- TNM staging

Q2576. A 35-year-old woman presents to the emergency medical unit with an acutely swollen, tense left calf. A subsequent ultrasound scan reveals a deep vein thrombosis (DV T) . She has been treated for the past two years with an endocrine agent to prevent recurrence of a breast cancer. With which endocrine agent is she likely to have been treated?

1- Anastrozole

2- Exemestane

3- Fulvestrant

4- Letrozole

**5- Tamoxifen**

Q2577. Which of the following investigations is not done routinely for a patient with an acute sickle cell crisis?

1- Full blood count

2- Reticulocyte count

3- Cultures

4- Cross match

**5- Bone x ray**

Q2578. A patient presents with acute promyelocytic leukaemia (AP L) . What is the likely mechanism underlying leukaemogenesis?

**1- Aberrant fusion of 2 genes**

2- Impaired protein degradation

3- Over expression of cellular oncogene

4- Post-translational modification

5- Telomere shortening

Q2579. A 40-year-old gentleman presents to the Emergency department with a two week history of lethargy, low grade fever and gum bleeding. He is obtunded. His full blood count shows a white cell count of 350 x 109 /L, haemoglobin of 5.4 g/dL and a platelet count of 23 x 109 /L. Which of the following would be the most appropriate treatment option in this case?

1- Cytotoxic chemotherapy

2- Intravenous broad-spectrum antimicrobials.

**3- Leukapheresis followed by cytotoxic chemotherapy.**

4- Transfusion of 3 units of red cell concentrate

5- Transfusion of one adult therapeutic dose of single donor platelets

Q2580. Which one of the following vaccinations should not be given to patients undergoing chemotherapy?

1- Hepatitis A

2- Influenza

3- Pneumococcus

**4- Rubella**

5- Tetanus

Q2581. Which of the following infusion times would be appropriate during the transfusion of a blood product in a stable patient?

1- A platelet transfusion should be given over 90 minutes

2- A packed cell transfusion should be given over 20 minutes

3- A platelet transfusion should be given over 60 minutes

**4- A packed cell transfusion should be given over 90 minutes**

5- A platelet transfusion over 120 minutes

Q2582. A 62-year-old man presents with extreme fatigue, weight loss and night sweats. He has been feeling very unwell for the past few months and has taken early retirement from his job. He has problems eating because he feels constantly full. On examination his BP is 142/82 mmHg, his pulse is 85 and regular, he looks pale. He has gross hepatosplenomegaly. Investigations show: Hb 8.9 g/dl(13.5-18) WCC 25.0 x 109 /L Increased neutrophils, basophils and eosinophils (4-11) PLT 171 x 109 /L (150-400) Na 139 mmol/l (135-146) K 4.8 mmol/l (3.5-5) Cr 137 µmol/l (79-118) Bone marrowHypercellular with increased myeloid cell line precursors He starts imatinib therapy but is unable to tolerate it due to diarrhoea, which fails to resolve with a series of interventions. Which of the following is the most appropriate next treatment for him?

1- Busulphan

2- Dasatinib

**3- Interferon alpha and cytarabine**

4- Methotrexate

5- Nilotinib

Q2583. A 74-year-old man is being managed at the haematology/oncology clinic for suspected myeloma. He complains of symptoms of increasing shortness of breath over the past few weeks, with increased lethargy, decreased exercise tolerance, and increasing lower limb oedema. On examination he looks pale, his BP is 139/81 mmHg, pulse 89. His heart sounds are normal, but there are bilateral crackles on auscultation of the chest and he has pitting lower limb oedema. Investigations show Haemoglobin 10.2 g/dl(13.5-18) White cell count 8.7 x 109 /L (4-10) Platelets 185 x 109 /L (150-400) Sodium 140 mmol/l (134-143) Potassium 4.3 mmol/l (3.5-5) Creatinine 135 μmol/l (60-120) Albumin 22 g/l (35-50) Urine Protein +++ What is the most likely cause of his underlying proteinuria?

1- AA amyloidosis

**2- AL amyloidosis**

3- BPP amyloidosis

4- Cystatin C amyloidosis

5- Glomerulonephritis

Q2584. A 48-year-old woman with a history of epilepsy and ischaemic heart disease presented with the following full blood count. Haemoglobin 7.4 g/dL(11.5 - 16.5) Mean cell volume 125 fL(80 - 96) White cell count 2.5 x 109 /L(4 - 11) Platelet count 130 x 109 /L(150 - 400) Which of the following medications is the most likely cause?

1- Carbamazepine

2- Clopidogrel

3- Furosemide

**4- Phenytoin**

5- Spironolactone

Q2585. A 45-year-old man is diagnosed with acute promyelocytic leukaemia. Which of the following chromosomal translocations is associated with this type of leukaemia?

1- t(8;9)

2- t(8;21)

3- t(9:22)

**4- t(15;17)**

5- t(17;22)

Q2586. Interferon alpha immunotherapy is used as treatment of which for the following conditions?

1- Acute lymphoblastic leukaemia

2- Acute myeloid leukaemia

3- Burkitt's lymphoma

**4- Hairy cell leukaemia**

5- Myelodysplastic syndrome

Q2587. A 34-year-old Asian lady presented with tiredness and lethargy. Her full blood count shows: Haemoglobin 10.3 g/dL(11.5-16.5) Platelet count 320 x 109 /L (150-400 x109) White cell count 10.6 x 109 /L (4-11 x109) MCV 68 fL(80-96) HbA2 5.2%(2-3) Which of the following is the most likely diagnosis?

1- Acute myeloid leukaemia

2- Beta-thalassaemia major

**3- Beta-thalassaemia trait**

4- Hereditary spherocytosis

5- Sickle cell disease

Q2588. A 39-year-old male is receiving cisplatin based chemotherapy as adjuvant therapy for lymphoma. Which of the following is a typical side effect of cisplatin?

1- Cerebellar ataxia

2- Haemorrhagic cystitis

3- Optic neuritis

**4- Ototoxicity**

5- Rhabdomyolysis

Q2589. A 28-year-old primigravid woman developed a swollen painful left leg at 12 weeks gestation. Doppler ultrasound of her leg venous system showed a left popliteal vein thrombosis. Which one of the following treatments is associated with the greatest risk to the fetus?

1- Aspirin

2- Intravenous unfractionated heparin

3- Subcutaneous low molecular weight heparin

4- Subcutaneous unfractionated heparin

**5- Warfarin**

Q2590. A 23-year-old footballer was prescribed ibuprofen by his GP for a sprained ankle. Several hours later he felt very unwell and was passing dark urine. The peripheral blood film shows many schistocytes. The laboratory results show: Haemoglobin <9 g/dL(13.0-18.0) WBC 7 x 109 /L (4-11) with normal differentials Platelets 450 x 109 /L (150-400) Reticulocyte count 5%(0.5-2.4) Bilirubin 40 mol/L(1-22) What is the most likely cause for his presentation?

1- Allergic reaction

2- Autoimmune haemolytic anaemia

**3- Glucose-6-phosphate dehydrogenase deficiency**

4- Paroxysmal nocturnal haemoglobinuria

5- Pyruvate kinase deficiency

Q2591. What is the mechanism of action of low molecular weight heparin?

1- Activation of plasminogen

2- Chelation of calcium

**3- Inhibition of activated factor X**

4- Inhibition of antithrombin

5- Inhibition of vitamin K-dependent carboxylase

Q2592. A 45-year-old woman presents with a one year history of weight gain and intermittent sweating. What is the most likely diagnosis?

1- Carcinoid syndrome

2- Hypothyroidism

**3- Insulinoma**

4- Lymphoma

5- Phaeochromocytoma

Q2593. A patient who received total body irradiation for the treatment of Hodgkin's lymphoma develops graft versus host disease (GVH D) . Which of the following blood products is likely to have caused this?

1- Cryoprecipitate

2- FFP

3- Frozen deglycerolised red blood cells

4- Immunoglobulin

**5- Packed red blood cells**

Q2594. A patient attends for breast screening and asks you the following questions. Which statement is correct?

1- Early diagnosis does not change the rate of death from breast cancer

**2- In young patients with a BRCA mutation, mammographic screening has a low sensitivity for detecting tumours**

3- Mammographic screening is more sensitive in patient groups with denser breast tissue

4- Mammographic screening is offered to all women aged 20-75 years

5- p53 mutation is a commonly identified in subjects with breast cancer

Q2595. A 73-year-old man presented with a two week history of breathlessness and easy bruising. Investigations show: Haemoglobin 6.9 g/dL (13.0-18.0) White cell count 0.4 x 109 /L (4-11) Platelet count 9 x 109 /L (150-400) Bone marrow aspirate all cellular elements reduced. Which drug is the most likely cause of these abnormalities?

1- Aciclovir

2- Amiloride

3- Amoxicillin

4- Paracetamol

**5- Trimethoprim**

Q2596. A 56-year-old male was admitted for a total hip replacement due to osteoarthritis. There was no other medical history and physical examination was normal. A routine pre-operative full blood count (FB C) showed: Haemoglobin 11 g/dL (13.0-18.0) Platelet count 170 x 109 /L (150-400 x109 ) White cell count 25 x 109 /L (4-11 x109 ) Neutrophil count 5 x 109 /L (1.5-7 x109 ) Lymphocyte count 19 x109 \nosupersub /L (1.5-4 x109 ) Monocyte count0.9 x 109 /L (0-0.8 x109 ) Eosinophil count0.1 x 109 /L (0.04-4 x109 ) Basophil count0.08 x 109 /L (0-0.1 x109 ) His blood film shows mature lymphocytes. What is the most appropriate initial management for this patient?

1- Cancel the patient’s operation

2- Chlorambucil

3- Fludarabine

**4- Observation**

5- Prednisolone

Q2597. A 17-year-old male with glucose-6-phosphate dehydrogenase (G6P D) deficiency presents with tiredness and is noticed to be jaundiced. These features have developed since he developed a mild chest infection one week ago. Which one of the following is the most likely haematological finding?

**1- Haemoglobinuria**

2- Low mean cell volume

3- Positive direct antiglobulin test

4- Reduced reticulocyte count

5- Spherocytes present on blood film

Q2598. A 25-year-old female with a history of type 1 von Willebrand's (vWB D) disease is referred for an opinion. She is to have a cervical cone biopsy and the admitting team are concerned about her clotting. You find that she has a past history of menorrhagia and has had two dental extractions as an adolescent that were uncomplicated. What is the most useful test to assess her bleeding tendency?

1- Activated partial thromboplastin time

2- Bleeding time

**3- Plasma factor VIII activity**

4- Platelet aggregation

5- Prothrombin time

Q2599. By which of the following can folic acid metabolism be affected?

1- Brufen

2- Penicillin

**3- Pyrimethamine**

4- Tetracycline

5- Vitamin B12

Q2600. Concerning immune cell antigen receptors, which of the following statements is false?

1- Affinity maturation of the B cell receptor is an important process initiated during the primary immune response

2- IgD are surface receptors of B lymphocytes

**3- In normal individuals T lymphocytes with T cell receptors (TC R) that recognise autoantigens are all deleted to preventautoimmunity**

4- TCRs with different antigen specificities can be co-expressed on a single T lymphocytes

5- The antigen specificity of the T cell receptor is generated during development

Q2601. A 40-year-old woman presents to her GP with a left sided breast lump. On examination it measures approximately 25 mm and has associated skin tethering. Examination of her axilla reveals a 20 mm mobile lymph node, examination is otherwise unremarkable. What is the best sequence of investigation of this lump?

1- CT breast, mammography, ultrasound guided fine needle aspiration

2- Physical examination, breast MRI, CT chest abdomen and pelvis

3- Physical examination, mammography, breast MRI

4- Physical examination, mammography, CT guided fine needle aspiration

**5- Physical examination, mammography, ultrasound guided fine needle aspiration**

Q2602. Which of the following observations best describes the relationship between malaria and HbS?

1- Patients with sickle cell disease do not get malaria

2- HbS protects against all complications of falciparum malaria

3- Only HbSS protects against malaria, HbAS is not protective

**4- Sickle cell disease is most common in regions where P. falciparum malaria is endemic and in ethnic groups that have migrated from these areas**

5- Malaria causes damage to red cell DNA, which is why sickle cell disease is more common in malarial regions

Q2603. A 56-year-old man is being reviewed for an elective cholecystectomy in the pre-operative clinic. He has no co-morbidities apart from two attacks of cholecytitis in the last 12 months. He has never received a blood transfusion in the past. The request for the blood bank should include which of the following?

1- Group and save, direct Combs' test ( DA T) and across match for 2 units

**2- Group and save only**

3- Group and save as well as cross match

4- Cross match for 3 units only

5- Group and Save, DAT and a cross match for 3 units.

Q2604. Which of the following is true about manufacture of pooled plasma derivatives?

1- Pooled plasma is often sourced from within the UK

2- These are usually manufactured from 10 donors at a time

3- The process does not involve any viral inactivation steps

**4- The end product is a freeze dried product**

5- These products have a short half life typically days.

Q2605. A 72-year-old woman is admitted by the orthopaedic surgeons for a routine left total hip replacement (TH R) . She has no past medical history of note apart from well controlled hypertension which is currently managed with a combination of ramipril and amlodipine. On examination her BP is 142/82 mmHg, her pulse is 75 and regular, her BMI is 23 kg/m2 . She looks pale, cardiovascular and respiratory examination is unremarkable, but she has splenomegaly on examination of the abdomen. Investigations show Haemoglobin 10.4 g/dl(11.5-16.5) White cell count 35.1 x 109 /L Lymphocytes 31.2(4-11) Platelets 180 x 109 /L (150-400) Serum sodium 138 mmol/l (135-146) Serum potassium 4.4 mmol/l (3.5-5) Creatinine 115 mmol/l (79-118) Bone marrow aspirate Lymphocytic infiltration Which of the following is the most appropriate course of action?

1- Chlorambucil

2- Cyclophosphamide

3- Lenalidomide

**4- Proceed with the hip replacement**

5- Rituximab

Q2606. A 53-year-old woman with inoperable cancer has pain due to posterior abdominal wall infiltration. This has been controlled well with Kapake (codeine 30 mg and paracetamol 500 m g) , two tablets four times per day. The patient has been admitted with nausea and vomiting the cause of which is, as yet, unknown. Because she cannot retain her analgesics, she has severe pain in her loin. What is the best option for controlling her pain until the vomiting settles?

1- Fentanyl skin patch

2- Intramuscular pethidine

3- Morphine four hourly orally and as needed intramuscularly

4- Rectal non-steroidal anti-inflammatory drug

**5- Subcutaneous diamorphine by continuous infusion**

Q2607. Which of the following statements concerning abnormalities of the haemoglobin molecule is true?

1- Alpha thalassaemia is due to a deficiency of beta-chain production

**2- HbS is caused by a single base mutation on the beta-chain**

3- Genes for the alpha and beta chains are located on the same chromosome

4- In thalassaemia, persistence of HbF is an adverse prognostic sign

5- Oligonucleotide probes may assist in the diagnosis of haemoglobinopathies in adolescents

Q2608. A 65-year-old lady with a history of recurrent DVT has been weaned off her warfarin and started on intravenous heparin prior to cardiac bypass for ischaemic heart disease. She seems to require very high doses of heparin to achieve adequate anticoagulation especially during surgery. Which of the following conditions would explain her thrombophilia and her heparin resistance?

1- Activated protein C resistance

**2- Antithrombin III deficiency**

3- Lupus anticoagulant

4- Protein C deficiency

5- Protein S deficiency

Q2609. A 60-year-old patient with metastatic breast carcinoma attends clinic complaining of pain in the jaw and ulceration within the oral cavity which has persisted for four weeks following a dental extraction. She has had a course of antibiotic therapy for suspected secondary infection of the ulceration. On examination there is ulceration within the oral cavity which extends as far as the underlying mandible. Which of the following drugs is likely to be responsible for her presentation?

1- Anastrozole

2- Diclofenac

3- Prednisolone

4- Tamoxifen

**5- Zoledronic acid**

Q2610. An 80-year-old man presents with tiredness and weakness. A diagnosis of myelodysplastic syndrome is suspected. Which of the following statements regarding myelodysplastic syndrome is correct?

1- Absence of ring sideroblasts on the blood film excludes myelodysplasia as a diagnosis

2- Cytotoxic chemotherapy is likely to be part of his treatment

**3- He is more likely to die from an infection than from leukaemic transformation**

4- If blast cells constitute 1% of the total white cells, this signifies leukaemic transformation.

5- On a blood film, neutrophils typically show toxic granulation

Q2611. A 30-year-old female presents to the antenatal clinic with her first pregnancy. During the interview she reports that she has been entirely well but her sister had suffered a deep vein thrombosis in her second pregnancy. A thrombophilia screen shows that she is heterozygous for factor V Leiden (FV L) . Which is the most appropriate action for this patient?

**1- She should be informed to seek medical attention if she becomes aware of calf swelling or pain**

2- She should be treated with aspirin 75 mg daily

3- She should be treated with prophylactic low molecular weight heparin

4- She should be treated with prophylactic unfractionated heparin

5- She should receive warfarin

Q2612. A 65-year-old lady presents with weight loss, lethargy and lower limb weakness. She is now unable to mobilise without assistance and complains of some urinary incontinence. On examination she is cachectic and there is a fungating mass in her left breast. She is able to move her hips but has quadriceps wasting and fasciculation bilaterally. She is unable to flex or extend her knees with absent knee jerks. She has power 1/5 for dorsiflexion and extension with evidence of clonus and positive Babinski sign. She has reduced anal tone and saddle paraesthesia. What is the diagnosis?

1- Amyotrophic lateral sclerosis

2- Brown-Sequard syndrome

3- Cauda equina syndrome

**4- Conus medullaris syndrome**

5- Subacute combined degeneration of the cord

Q2613. A 45-year-old man is to undergo knee surgery. He has a history of factor IX deficiency. You are concerned about the prospect of significant bleeding during surgery. Which of the following is most likely to reduce his risk of bleeding?

1- Mefenamic acid

**2- Tranexamic acid**

3- Vasopressin

4- Vitamin K

5- von Willebrand factor

Q2614. By what mechanism does topoisomerase catalyse DNA replication?

1- Acts as a promoter

2- DNA synthesis

**3- Helix torsion release**

4- Homologous repair

5- Non-homologous end joining

Q2615. A patient with Hodgkin's lymphoma undergoes mantle field radiotherapy. Several months later the patient complains that when they flex or extend their neck they feel an electric shock phenomenon down their back and into their limbs. What is the patient describing?

1- Cervical arthritis

2- Cervical spine stenosis

**3- Lhermitte's sign**

4- Malignant spinal cord compression

5- Uhthoff's phenomenon

Q2616. A 35-year-old woman presents to the oncology clinic with post-coital bleeding. A cervical biopsy confirmed a squamous cell carcinoma of the cervix. With which of the following strain variations of human papilloma virus (HP V) is she likely to be infected?

1- 1 and 2

2- 2 and 8

3- 8 and 16

**4- 16 and 18**

5- 18 and 22

Q2617. What is the best initial investigation for a patient with suspected malignant spinal cord compression?

1- CT chest, abdomen and pelvis

2- MRI brain

**3- MRI spine**

4- Nerve conduction studies

5- Spinal x ray

Q2618. Which of the following histopathological subtypes is essential for successful treatment with cetuximab?

1- Her-2/neu negative

2- Her-2/neu positive

3- K-ras mutated

**4- K-ras wild-type**

5- VEGF overexpression

Q2619. A 30-year-old woman with a strong family history of breast cancer is referred to the genetics service for counselling. What is the DNA repair mechanism by which the BRCA1 and BRCA2 proteins act?

1- Base excision repair

**2- Double strand DNA break repair**

3- Non-homologous end joining

4- Nucleotide excision repair

5- Single strand DNA break repair

Q2620. A 65-year-old woman presents to the oncology clinic with a two month history of cough and haemoptysis. A suspicious lesion on a recent chest x ray was biopsied and confirms a bronchogenic adenocarcinoma. Currently the patient is short of breath causing her to be in bed for about three hours every day. She can manage the stairs but is markedly breathless when she reaches the top. She is currently unable to work. Her husband helps around the house but she does not need help with her activities of daily living. What is the patient's performance status, as measured on the World Health Organization scale?

1- 0

2- 1

**3- 2**

4- 3

5- 4

Q2621. A 16-year-old girl of African origin presents to the emergency department with a one week history fever and lethargy. Shortly before developing her symptoms she received a course of antibiotics from her GP for an upper respiratory infection. She also complains of two to three days of pain and swelling in her hands. The patient tells you that she has had similar attacks before. On examination she is pyrexial, with a heart rate of 109 and oxygen saturations of 91% on air. There is painful dactylitis of both her hands. The remainder of her examination was normal. Initial investigations reveal haemoglobin of 9.3 g/dL; reticulocytes of 8 % and a white cell count of 13 x 109 /L. ECG, urinalysis and electrolytes are normal. C reactive protein is 76. You decide to treat the patient as a sickle cell crisis. What treatment would you start in the Emergency department?

1- Analgesia

2- Analgesia and oxygen

3- Analgesia, oxygen and hydration

**4- Analgesia, oxygen, hydration and antibiotics**

5- Analgesia, oxygen, hydration, antibiotics and hydroxycarbamide

Q2622. A 67-year-old woman presents with acute severe back pain. She is normally fit and well, but there is a strong family history of osteoporosis. Hb 10.6 g/dl (12-16) MCV 85 (80-90) Calcium 2.9 mmol/l (2.2-2.6) Phosphate 2.2 mmol/l (0.8-1.2) Alkaline phosphatase 126 iu/l (50-150) Total protein 76g/l (60-83) Albumin 30g/l (35-45) What is the most likely underlying diagnosis?

1- Metastatic disease

**2- Multiple myeloma**

3- Osteoporosis

4- Paget's disease

5- Sarcoidosis

Q2623. A 75-year-old lady is brought to the Emergency department by her next of kin after a three week history of having "gone off her feet". A history of back pain radiating anteriorly around her chest and bilateral weakness of her legs is elicited. Physical examination shows a paraparesis. Blood investigations are notable for haemoglobin of 9.5 g/dL, serum calcium of 3.6 mmol/L and a creatinine of 250 µmol/L. Which of the following would be the most appropriate initial investigation?

1- Bone marrow biopsy

2- Serum protein electrophoresis, quantitative immunoglobulins and serum free light chains

3- CT chest, abdomen, pelvis

**4- Urgent magnetic resonance imaging of her spine**

5- Urine for creatinine clearance and Bence Jones protein

Q2624. A 76-year-old woman has had Paget's disease of bone for at least 15 years. She develops a destructive mass in the bony pelvis and a diagnosis of primary tumour is considered. What is the most likely primary tumour?

1- Chondrosarcoma

2- Exostosis

3- Multiple myeloma

4- Osteoma

**5- Osteosarcoma**

Q2625. Which of the following best describes the function of the bcr-abl fusion protein?

1- Epidermal growth factor

2- Fibroblast growth factor

3- p53 inhibitor

**4- Tyrosine kinase**

5- Vascular endothelial growth factor

Q2626. A 65-year-old man has locally advanced pancreatic cancer and has been paying privately for treatment with erlotinib (Tarcev a) for the past nine months. It has worked effectively for that period but a recent CT scan showed further growth in the tumour. Which of the following mechanisms best explains this resistance to treatment with erlotinib?

1- Development of antibodies to erlotinib

2- Lack of autophosphorylation at binding site

3- Malabsorption

**4- Mutation in the ATP binding pocket of the EGFR kinase domain**

5- Reduced expression of EGFR

Q2627. Burkitt lymphoma is associated with a mutation of which of the following genes?

1- BCL-6 gene

2- BCR-ABL gene

3- Cyclin D1 gene

**4- MYC gene**

5- RAR-alpha gene

Q2628. Which of the following cytotoxic agents acts by inhibiting purine synthesis?

1- Bleomycin

2- Cisplatin

3- Doxorubicin

**4- Methotrexate**

5- Vincristine

Q2629. A 53-year-old male is receiving treatment with imatinib for chronic myeloid leukaemia. Which of the following is imatinib?

1- Inhibits guanylate cyclase

2- Inhibits HER

3- Inhibits MAP kinase

4- Inhibits p53

**5- Inhibits tyrosine kinase**

Q2630. A 62-year-old male is diagnosed with chronic myeloid leukaemia and his investigations show that both Philadelphia chromosome and bcr/abl gene is present. What is the significance of the presence of the bcr/abl gene?

1- Acts on stem cell line DNA

2- Blocks apoptosis

**3- Codes for the production of a tyrosine kinase in the leukaemic cells**

4- Increases expression of granulocyte colony stimulating factor receptors on the cell membrane.

5- Increases production of granulocyte colony stimulating factor

Q2631. A 29-year-old woman presents with acute right sided weakness. She has one child aged 4 years and had two spontaneous abortions in the past. After the birth of her child she developed a DVT and required three months' anticoagulation with warfarin. Examination revealed a right hemiparesis. A CT head scan showed a left middle cerebral artery territory infarct. What is the most likely finding on echocardiography?

1- Atrial septal defect

2- Bicuspid aortic valve

3- Left atrial myxoma

**4- Normal appearances**

5- Ventricular septal defect

Q2632. Which of the following statements is true of sickle cell disease?

1- A painful shoulder joint will respond to intra-articular corticosteroid injection

2- Oral iron supplements are required

3- Symptoms of anaemia are usually limiting when Hb equals 8 g/dl

**4- There is often an inability to concentrate urine**

5- The spleen is frequently enlarged

Q2633. A 45-year-old Chinese man is found incidentally to have a severely hypochromic and microcytic blood picture, with Hb 11.2g/dl. He is asymptomatic. Which of the following is the most discriminatory investigation?

1- Barium enema

2- Bone marrow biopsy

3- Gastroscopy

**4- Haemoglobin electrophoresis**

5- Ham test

Q2634. What is the mode of inheritance of hereditary non-polyposis colorectal cancer (Lynch syndrom e) ?

**1- Autosomal dominant**

2- Autosomal recessive

3- Co-dominance

4- Incomplete penetrance

5- X linked

Q2635. Which non-gastrointestinal tumour is frequently associated with Lynch syndrome?

**1- Endometrial**

2- Lung

3- Prostate

4- Renal

5- Sarcoma

Q2636. A 25-year-old woman presents with oligomenorrhoea. On examination she has a large pelvic mass and is referred for further investigation. Prior to a planned biopsy of her pelvic mass, she complains of a dry cough. A subsequent chest x ray reveals multiple rounded opacities throughout both lung fields. What is the best test for monitoring her condition after optimal treatment?

**1- Alpha-fetoprotein (AF P) 2- CA-125**

3- None

4- Regular abdominal ultrasound

5- Regular pelvic examination

Q2637. What is the best predictive factor for local recurrence of breast cancer after surgery, chemotherapy and radiotherapy?

**1- Age**

2- HER-2/neu status

3- Lymph node status

4- Oestrogen receptor status

5- Tumour grade

Q2638. What is the mechanism by which patients with testicular cancer develop gynaecomastia?

1- Altered fat metabolism

2- Metastatic disease to breast tissue

3- Paraneoplastic phenomenon

**4- Raised oestrogen levels**

5- Raised testosterone levels

Q2639. What is the approximate five year survival for a Dukes' C adenocarcinoma of the colon?

1- 10%

2- 25%

**3- 50%**

4- 80%

5- 95%

Q2640. Which of the following tumour markers are used to assess disease activity in metastatic breast cancer?

1- AFP

2- CA125

3- CA19-9

**4- CA15-3**

5- PSA

Q2641. In an asymptomatic woman, which of the following conveys the greatest risk of developing breast cancer?

1- Early menarche

2- Late menopause

3- Oral contraceptive use

4- Previous fibroadenoma excised aged 25

**5- Two first degree relatives with breast cancer**

Q2642. A 45-year-old woman presents to the oncology clinic with a screen detected left sided breast lump. The final histology following excision is a grade 3, 14 mm invasive carcinoma with clear vascular invasion. Oestrogen and progesterone receptor status is positive, HER-2/neu overexpression is also strongly positive. The patient is considered for adjuvant treatment with Herceptin (trastuzuma b) . What is the best test for monitoring the patient while she is receiving Herceptin (trastuzuma b) ?

1- Monthly CA-15.3 measurement

2- Regular clinical examination

3- Three monthly ECG

**4- Three monthly echocardiogram**

5- Three monthly mammogram

Q2643. A 65-year-old woman is seen in the oncology clinic following a diagnosis of a grade 3, 14 mm invasive breast cancer with no vascular invasion. 0 of 4 axillary lymph nodes were involved and excision margins were complete. Staining for oestrogen receptors and progesterone receptors is strongly positive, HER-2 staining is negative. She is considered for adjuvant chemotherapy and hormone treatments. Which of the following endocrine agents would be prescribed for this patient?

**1- Anastrozole**

2- Exemestane

3- Fulvestrant

4- Letrozole

5- Tamoxifen

Q2644. Which of the following is most commonly associated with prolonged QT interval?

1- Hypercalcaemia

2- Hyperthyroidism

**3- Hypocalcaemia**

4- Hypomagnesaemia

5- Hyponatraemia

Q2645. A 45-year-old Afro-Caribbean obese woman presented with unexplained confusion, shortness of breath, cold and pain in her fingers and toes. She is usually fit and well and had only a transient gastrointestinal upset few weeks ago, after which she has felt increasingly tired with worsening confusion. She had no regular medications, did not smoke or use excessive amounts of alcohol. She has returned from a two day trip to Malaysia yesterday. On examination she was mildly confused, looked generally pale with cold peripheries and very pale nail folds. She was apyrexial, mildly tachycardic and tachypnoeic with normal heart sounds and bibasal crepitations on chest auscultation. She had no focal neurological deficit or cranial nerve palsy but during examination she developed a one minute seizure involving the right side of her body. Her chest x ray showed bilateral peripheral patchy parenchymal opacities and routine bloods showed: Sodium 137 mmol/l (137-144) Potassium 5.8 mmol/l (3.5-4.9) Creatinine 110 µmol/l (60-110) Urea 7.1mmol/l (2.5-7.5) Albumin 36 g/l (37-49) Total bilirubin 28 µmol/l (1-22) Alk.phosphatase 77 IU/L(30-110) ALT 14 IU/L(5-40) LDH 450 IU/L(672) CRP 8 mg/l (<5) Hb 7.9 g/dl(13.0-18.0) Haematocrit 25% WBC 11.6 x 109 /L (4-11) Platelets 20 x 109 /L (150-400) MCV 93 fl(80-96) Prothrombin time 14.2 seconds(11.5-15.5) INR 1.1<1.4 APTT 21.2 seconds(30-40) Peripheral smear shows fragmented schistocytes and an elevated reticulocyte count. What is the most likely cause of this patient's neurological presentation?

1- Cerebral malaria

2- Cerebral venous sinuses thrombosis

3- Haemolytic uraemic syndrome

4- Intracranial haemorrhage due to essential thrombocytopenia

**5- Thrombotic thrombocytopenic purpura (TT P)**

Q2646. The mother of a 16-year-old boy with HbSC comes to your practice and asks for advice with regard to the vaccination requirements of her son. He has had all of his childhood immunisations on schedule.

1- Usual childhood immunisation schedule is all that is required

2- Usual childhood immunisations and meningococcal C vaccine

3- Usual childhood immunisations and yearly influenza vaccine

**4- Usual childhood immunisations, yearly influenza vaccine, five yearly Pneumovax vaccine**

5- Usual childhood immunisations, five yearly Pneumovax vaccine and meningococcal C vaccine

Q2647. A 62-year-old gentleman is being investigated for normochromic, normocytic anaemia. He is diagnosed with diabetes mellitus type II and essential hypertension. His haemoglobin is stable at 9.5 g/dL, his creatinine clearance is calculated at 45 mls/min, ferritin at 50ug/L and his serum erythropoietin level comes back at 8 (normal range: 4-24 mU/m l) . Which of the following is the most appropriate management?

1- Commencement of subcutaneous darbopoietin

**2- Intravenous iron supplementation**

3- Check haemoglobin at 6 monthly intervals

4- Transfusion aiming for Hb of 10-12 g/dL

5- Transfusion aiming for Hb of 12-14 g/dL

Q2648. Which one of the following is a common feature in the presentation of myeloma?

**1- Hypercalcaemia**

2- Hyperglycaemia

3- Hypocalcaemia

4- Hyponatraemia

5- Polycythaemia

Q2649. The most common error in transfusion according to the SHOT (serious hazards of transfusio n) analysis is which of the following?

1- Cross match error in the blood bank laboratory

2- Inability to detect antibodies in the blood bank laboratory

3- Incorrect indication for transfusion

4- Incorrect storage temperature for blood products.

**5- Wrong identification/ mislabelling of patient or sample**

Q2650. Which blood used for an exchange transfusion in a neonate should fulfil these criteria?

1- Any blood less than five days old

2- Any plasma reduced whole blood in CPD

3- Plasma reduced whole blood in CPD which is irradiated

**4- Plasma reduced whole blood in CPD less than five days old and irradiated**

5- Plasma reduced whole blood in CPD less than five days old, irradiated and Rh group should be same as the neonate

Q2651. A 73-year-old man with extensive bony metastases from carcinoma of the prostate is brought to the Emergency department by his family. They are concerned as his pain has worsened over the past few days, but increasing his morphine has only resulted in worsening drowsiness and confusion. Currently he is managed with maximal paracetamol and 120 mg of MST BD. Investigations show: Haemoglobin 14.1 g/dl(13.5-17.7) White cell count 7.2 x 109 /L (4-11) Platelets 193 x 109 /L (150-400) Sodium 140 mmol/l (135-146) Potassium 4.3 mmol/l (3.5-5) Creatinine 152 μmol/l (79-118) Which of the following is the most appropriate way to manage his pain relief?

1- Change him to a three day fentanyl patch

2- Reduce his MST to 80 mg BD

**3- Reduce his MST to 100 mg BD and add naproxen**

4- Start a subcutaneous morphine syringe driver

5- Stop his MST and titrate oramorph to his pain

Q2652. A 45-year-old male is being treated with imatinib for chronic myeloid leukaemia (CM L) . Which of the following the class of agent is imatinib?

1- Angiogenesis inhibitor

2- Epidermal growth factor inhibitor

3- Interferon

4- Proteosome inhibitor

**5- Signal transductase inhibitor**

Q2653. A young woman presents with pallor, tiredness and fatigue. Her full blood count is reported as typical of acute lymphoblastic leukaemia. Which of the following is associated with the worst prognosis in ALL?

1- Female sex

**2- Philadelphia chromosome present**

3- Pre-B phenotype

4- Presentation in childhood

5- WCC of 21 x 109 /L at diagnosis

Q2654. A 28-year-old man presented with recurrent nose bleeds and iron deficiency anaemia. A chest x ray found a shadow over the right lung base and auscultation in this area revealed a bruit. Which of the following is the most likely diagnosis?

1- Ehlers-Danlos syndrome

**2- Hereditary haemorrhagic telangiectasia**

3- Idiopathic thrombocytopenic purpura

4- von Willebrand's disease

5- Wegener's granulomatosis

Q2655. A 28-year-old man presented with recurrent nose bleeds and iron deficiency anaemia. A chest x ray found a shadow over the right lung base and auscultation in this area revealed a bruit. Which of the following is the most likely diagnosis?

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**2- Hereditary haemorrhagic telangiectasia**

3- Idiopathic thrombocytopenic purpura

4- von Willebrand's disease

5- Wegener's granulomatosis

Q2656. A 26-year-old woman presented at 35 weeks of pregnancy with profuse vaginal bleeding. She had suffered two previous miscarriages. She had a pulse of 95 beats per minute, blood pressure of 110/84 mmHg and no fetal heart sounds were audible. Investigations revealed: Haemoglobin 9.8 g/dl11.5 - 16.5 g/dL Platelets 66 x 109 /L 150 - 400 x 109 /L Prothrombin time 21 sec(11.5-15.5) APTT 52 sec (30-40) Fibrinogen 0.5 g/l (2-4) What is the most appropriate next step in management?

1- Antithrombin III infusion

**2- Fibrinogen replacement infusion (cryoprecipitat e) 3- Intravenous heparin**

4- Platelet transfusion

5- Transfusion of two units group O rhesus D negative blood

Q2657. A 65-year-old female is receiving treatment for colon cancer with a combination chemotherapy regime that includes irinotecan. Which of the following best describes the action of iIrinotecan?

1- Alkylating agent

2- DNA antimetabolites

3- Inhibition of protein synthesis

4- RNA/DNA antimetabolites

**5- Topoisomerase inhibitor**

Q2658. A 26-year-old man presents with dark urine, especially in the early morning. Further investigations show that he has haemoglobinuria and haemolytic anaemia. A diagnosis of paroxysmal nocturnal hemoglobinuria (PN H) is made. What is the likely mechanism underlying this condition?

1- Aberrant fusion of two genes

2- Impaired protein degradation

3- Over-expression of cellular oncogene

**4- Post-translational modification**

5- Telomere shortening

Q2659. A 31-year-old male is receiving treatment for testicular carcinoma with cisplatin based chemotherapy. Which of the following best describes the action of cisplatin?

**1- Alkylating agent**

2- DNA antimetabolites

3- Inhibition of protein synthesis

4- RNA/DNA antimetabolites

5- Topoisomerase inhibitor

Q2660. A 29-year-old female student nurse presents with a discrete thyroid swelling. An isotope scan reveals it to be a "cold nodule". She has scattered local cervical lymphadenopathy. What is the likely diagnosis?

1- Anaplastic carcinoma

2- Graves' disease

3- Medullary carcinoma

**4- Papillary carcinoma**

5- Subacute thyroiditis

Q2661. A 35-year-old lady with a history of two previous lower limb deep vein thromboses presents with a further DVT. She has a thrombophilia screen performed, which shows the presence of lupus anticoagulant. What is the best course of action?

1- Aspirin

2- Aspirin and warfarin

3- Long term low molecular weight heparin

4- Warfarin for six months

**5- Warfarin life long**

Q2662. A 17-year-old woman with non-Hodgkin's lymphoma underwent splenectomy for haemolytic anaemia. She understood that she had an enhanced risk of developing overwhelming pneumococcal sepsis and wished to know how long this risk would persist. What is the duration of the risk?

1- Up to six months

2- Up to one year

3- Up to five years

4- Five to 10 years

**5- More than 10 years**

Q2663. A 75-year-old male is admitted with tiredness and lethargy and is found to have an enlarged right supraclavicular mass. Past medical history reveals that he had developed acrocyanosis six months previously and two months ago had been admitted with a chest infection for which he was treated with co-amoxiclav. Investigations reveal: Blood film red cell auto-agglutination Direct antiglobulin test positive Cold agglutinin test positive. What is the most likely diagnosis?

1- Bronchial carcinoma

2- Drug-induced haemolysis

3- Mycoplasma pneumoniae infection

**4- Non-Hodgkin's lymphoma (NH L) 5- Paroxysmal cold haemoglobinuria (PC H)**

Q2664. Which one of the following types of thyroid cancer in a 45-year-old woman has the worst prognosis following optimal treatment?

**1- Anaplastic cancer in a longstanding goitre**

2- Follicular cancer with bone metastases

3- Medullary cancer as part of the MEN type II syndrome

4- Papillary cancer with cervical lymph node metastases

5- Thyroid lymphoma

Q2665. A 35-year-old male with a long history of ulcerative colitis is treated for an acute exacerbation which settles following an alteration of his medication. Six weeks after discharge he is re-admitted with sepsis and his results show: Haemoglobin 10.5 g/dl(13.0-18.0) White cell count 2.0 x 109 /L (4-11) Platelets 90 x 109 /L (150-400) Which one of the following drugs is most likely to be the cause of his pancytopenia?

**1- Azathioprine**

2- Mesalazine

3- Metronidazole

4- Pamidronate

5- Prednisolone

Q2666. A 19-year-old male with glucose-6-phosphate dehydrogenase deficiency wishes to travel to Africa. Which one of the following should he be advised to avoid?

1- Ibuprofen

2- Loperamide

3- Mefloquine

**4- Primaquine**

5- Yellow fever vaccine

Q2667. Which of the following genes encoding oncoproteins is associated with follicular lymphoma?

1- ATM

**2- Bcl-2**

3- BRCA-1

4- BRCA-2

5- p53

Q2668. In porphyria, which of the following is least likely to precipitate an acute attack?

**1- Aspirin**

2- Menstruation

3- Phenytoin

4- Starvation

5- Thiopentone

Q2669. In which of the following chemotherapeutic agents is the cumulative dose limited due to cardiotoxicity?

1- Cisplatin

**2- Epirubicin**

3- Etoposide

4- Herceptin (trastuzuma b) 5- Methotrexate

Q2670. At which point in the cell cycle is the cell most resistant to radiation-induced apoptosis?

1- G0

2- G1

3- G2-M

**4- Late S**

5- S

Q2671. What is the most effective bisphosphonate for use in reducing bone pain and preventing pathological fractures in patients with metastatic breast cancer?

1- Alendronic acid

2- Ibandronic acid

3- Olpadronate

4- Pamidronate

**5- Zoledronic acid**

Q2672. A 20-year-old man is referred to the oncology clinic with a three week history of weight loss and a dry cough. A chest x ray shows a large mediastinal mass which is subsequently biopsied showing a poorly differentiated carcinoma. Which of the following tumour markers confers the best prognosis?

1- CA125

2- CA15.3

3- CA19.9

4- CEA

**5- β-HCG**

Q2673. Which of the following bacteria confer a decreased risk of developing an oesophageal adenocarcinoma?

1- Escherichia coli

**2- Helicobacter pylori**

3- Streptococcus bovis

4- Streptococcus pneumoniae

5- Streptococcus viridans

Q2674. Chemotherapy is often given after the cancer has been completely removed by surgery rather than prior to surgery. What is the reason for this?

1- Because chemotherapy prior to surgery is unproven clinically

2- Because the patient cannot tolerate chemotherapy before surgery

3- To ensure all the cancer cells are in the most sensitive cell cycle phase

4- To reduce the chance of chemotherapy resistance

**5- To reduce the chance of micrometastasis**

Q2675. Which of the following antiemetics is most useful following treatment with a platinum based chemotherapy?

1- Cyclizine

2- Dexamethasone

3- Metoclopramide

**4- Ondansetron**

5- Prochlorperazine

Q2676. What is the best initial treatment for superior vena cava obstruction (SVC O) ?

1- CT scan of the chest

**2- High dose dexamethasone prescription**

3- Referral for urgent radiotherapy to the superior vena cava

4- Referral for urgent stenting of the superior vena cava

5- Therapeutic enoxaparin administration

Q2677. A 45-year-old woman presents with a screen detected left sided breast lump. This is confirmed on biopsy to be an invasive carcinoma, grade 2. She undergoes a wide local excision and axillary node sampling with intra-operative radiotherapy to the tumour bed via MammoSite. Post-operatively, what radiation precautions need to be taken with this patient?

1- Apply a zone of exclusion of 2 metres around the patient for 24 hours

2- Isolate in a lead lined side room for 24 hours

3- Isolate in a side room for 24 hours

**4- None**

5- The patient needs to wear a standard leadlined apron for 24 hours

Q2678. A patient is seen in the oncology clinic with chronic myeloid leukaemia (CM L) . What reciprocal chromosomal translocation is he likely to have?

1- 2 and 9

2- 8 and 14

3- 9 and 12

**4- 9 and 22**

5- 12 and 22

Q2679. A 65-year-old woman is diagnosed with primary breast cancer and is seen in the oncology clinic. As part of her adjuvant treatment she is recommended to start treatment with anastrozole to prevent recurrence of her cancer. A DEXA scan organised at the time of prescription reveals a T score of -2.6 although she has suffered no fragility fractures to date. What is the next correct step in endocrine management of this patient?

1- Continue anastrozole

**2- Continue anastrozole and prescribe a bisphosphonate.**

3- Stop anastrozole

4- Stop anastrozole and convert to exemestane

5- Stop anastrozole and start tamoxifen

Q2680. A 70-year-old woman with known metastatic breast cancer to her lungs and bones presents with a symptomatic pleural effusion whilst taking anastrozole. Subsequent drainage of this effusion reveals it to be malignant in nature. The breast MDT suggests switching her endocrine agent to exemestane. What is the mechanism of action of exemestane?

1- Competitive oestrogen receptor antagonist

2- Non-steroidal aromatase inhibitor

3- Pure oestrogen receptor antagonist

**4- Steroidal aromatase inhibitor**

5- Synthetic progesterone derivative

Q2681. A 35-year-old woman is seen in the oncology clinic following a diagnosis of a grade 3, 14 mm invasive breast cancer with no vascular invasion. 0 of 4 axillary lymph nodes were involved and excision margins were complete. She is considered for adjuvant chemotherapy and hormone treatments. Which of the following endocrine agents would be prescribed for this patient?

1- Anastrozole

2- Exemestane

3- Fulvestrant

4- Letrozole

**5- Tamoxifen**

Q2682. A couple who are expecting their first child present to you for advice. Both parents are known to be carriers of sickle cell trait HbS and want to know if their child will inherit the disease. What do you tell them?

1- There is no chance their child will inherit the disease

**2- There is a 25% chance their child will inherit the disease**

3- There is a 50% chance their child will inherit the disease

4- There is a 75% chance their child will inherit the disease

5- There is a 100% chance their child will inherit the disease

Q2683. A 10-year-old boy is noticed to be jaundiced on return from a holiday in Africa with his parents. He is on antimalarial prophylaxis. His complete blood count shows haemoglobin of 8 g/dL, with Heinz bodies and blister cells on blood film examination. Which of the following relates to this disorder?

1- It is most commonly precipitated by peas

2- This is a common autosomal dominant disorder

3- The antimalarial prophylaxis has no relation to the laboratory findings

4- Transfusion is strictly merited in each case

**5- Treatment involves strict avoidance of known precipitants**

Q2684. Which one of the following is in keeping with a diagnosis of myeloma-induced hypercalcaemia?

1- Acute hepatic failure

2- Colitis

**3- Polyuria and polydipsia**

4- Prolonged Q-T interval on ECG

5- Tetany

Q2685. For which of the following patients would a gamma irradiated blood product be recommended?

**1- A 37-year-old patient with Hodgkin's lymphoma receiving chemotherapy**

2- A 16-year-old thalassaemic receiving regular transfusions

3- A 42-year-old lady receiving adjuvant hormonal therapy for breast cancer post radical mastectomy

4- A 19-year-old nulliparous female after a road traffic accident

5- Post-operatively for carcinoma of the colon in a 50-year-old male

Q2686. You are asked to review urgently a 32-year-old woman who is receiving a blood transfusion following a post partum haemorrhage which occurred after the birth of her second baby. Apparently she required a three unit blood transfusion after the birth of her first child. A short time after the transfusion began she became acutely short of breath, with saturations of only 91% on air, and severe wheezing. On examination she is pyrexial 37.8°C, her BP is 110/60 mmHg, her pulse 89 and regular. She has marked bilateral wheeze on auscultation of her chest. Investigations reveal Haemoglobin 10.4 g/dl(11.5-16.0) White cell count 8.3 x 109 /L (4-11) Platelets 179 x 109 /L (150-400) Serum sodium 138 mmol/l (135-146) Serum potassium 3.7 mmol/l (3.5-5) Serum creatinine 100 μmol/l (79-118) CXR Bilateral pulmonary infiltrates paO2 8.4 kPa(10-13) paCO2 5.2 kPa(4.8-6.1) Which of the following is the most likely diagnosis?

1- Acute haemolytic transfusion reaction

2- Acute non-haemolytic transfusion reaction

3- Cardiogenic pulmonary oedema

4- IgE mediated transfusion reaction

**5- Transfusion associated lung injury**

Q2687. A 40-year-old lady presents with a swollen right calf. She has a history of mental health problems and is on a number of medications. Which of the following treatments increases the risk of thromboembolism?

**1- Antipsychotics**

2- Benzodiazepines

3- Monoamine oxidase inhibitors

4- Selective serotonin reuptake inhibitors

5- Tricyclic antidepressants

Q2688. In idiopathic thrombocytopenic purpura there are antibodies directed at which of the following?

1- ADP receptor

2- Antithrombin III

3- ATP receptor

**4- Glycoprotein IIb/IIIa complex**

5- Platelet-activating factor

Q2689. Which of the following hereditary cancer syndromes is associated with an increased risk of ovarian cancer?

**1- Hereditary non-polyposis colorectal cancer**

2- Multiple endocrine neoplasia

3- Peutz-Jeghers syndrome

4- von Hippel-Lindau syndrome

5- Xeroderma pigmentosa

Q2690. A 16-year-old boy with easy bruising and excessive bleeding from a tooth extraction is found to have von Willebrand's disease. He is due to have further dental extractions and DDAVP is prescribed. What is the mechanism of action of DDAVP in von Willebrand's disease?

1- Acts as a substitute carrier for factor VIII

2- Inhibits breakdown of von Willebrand's factor

3- Prevents renal excretion of von Willebrand's factor

**4- Stimulates release of von Willebrand's factor from endothelial cells**

5- Turns on the gene associated with von Willebrand's factor production

Q2691. A 14-year-old boy presents with excessive bleeding from a tooth cavity following an extraction at the dentist. His investigations show: Haemoglobin 13.2 g/dL(13.0-18.0) Platelet count 260 x 109 /L (150-400 x109) White cell count 8 x 109 /L (4-11 x109) Prothrombin time 14 s(11.5-15.5) Activated partial thromboplastin time 45 s(3

0- 40) Factor VIII 45 U/dL(50-150) Which of the following is the most likely diagnosis?

1- Disseminated intravascular coagulation

2- Haemophilia A

3- Haemophilia B

4- Idiopathic thrombocytopenic purpura

**5- von Willebrand's disease**

Q2692. A previously well 75-year-old lady presented with tiredness and a mildly raised lymphocyte count on her full blood count. A blood film reports 'Smudge cells seen. Is this lady known to have Chronic Lymphocytic Leukaemia?' What is the most appropriate next investigation to confirm this lady's diagnosis?

1- Bone marrow aspirate

2- Bone marrow trephine

**3- Immunophenotyping**

4- Serum immunoglobulins

5- Ultrasound scan

Q2693. A 35-year-old lady presented with left-sided weakness. She has a young family with a 5-year-old son and a 2-year-old daughter. Previously she had two spontaneous abortions. After the birth of her last child she developed a deep vein thrombosis (DV T) and received three months of anticoagulation with warfarin. On examination she has left-sided weakness with pyramidal signs. A CT head scan showed a right middle cerebral artery territory infarct. Which of the following is the most likely diagnosis?

1- Hypertension

2- Kawasaki syndrome

3- Patent foramen ovale

**4- Systemic lupus erythematosus**

5- Thrombotic thrombocytopenic purpura

Q2694. A 22-year-old male presents with episodic nausea and abdominal pain although he has maintained a normal weight. The symptoms have been attributed to irritable bowel syndrome. There are no abnormalities on examination. Blood tests were performed which reveal: Haemoglobin 12.2 g/dl(13.0-18.0) MCV 92 fl(80-96) White cell count 6.5 x 109 /L (4-11) Platelets 310 x 109 /L (150-400) Reticulocytes 5%(0.5-2.4) Bilirubin 42 µmol/l (1-22) AST/ALP Normal Coombs' test Negative Haptoglobin Undetectable Which of the following is the likely diagnosis?

1- Acute intermittent porphyria

2- Dubin-Johnson syndrome

3- Gilbert's syndrome

**4- Hereditary spherocytosis**

5- Viral hepatitis

Q2695. A 48-year-old woman presents with a history of intestinal polyps and multiple lipomas on the arms and back. She now has a small palpable nodule in her neck. Thyroid function tests and thyroid antibodies are normal. Which of the following tumours is she at increased risk of developing?

1- Anaplastic carcinoma of the thyroid

2- Follicular carcinoma of the thyroid

3- Medullary carcinoma of the thyroid

**4- Papillary carcinoma of the thyroid**

5- Thyroid lymphoma

Q2696. A 30-year-old male patient presents with sudden deterioration and haematuria 15 minutes after starting blood transfusion. His pulse rate is 120 beats per minute and blood pressure is 70/ 40 mmHg. Which of the following is the most likely cause?

**1- ABO incompatibility**

2- Anaphylaxis to anaesthetic agents

3- Disseminated intravascular coagulation

4- Graft versus host disease

5- Rhesus incompatibility

Q2697. A 62-year-old male undergoes surgery for caecal carcinoma. Which of the following tumour markers is most appropriate for the continued surveillance of this patient?

1- AFP

2- CA 19-9

3- CA 27-29

4- CA 125

**5- CEA**

Q2698. A 27-year-old woman presented with a history of sudden onset right-sided weakness and dysphasia lasting eight hours. She had returned to the United Kingdom from Australia two days previously. There was no significant past medical history and physical examination was normal. Chest x ray, ECG and a CT head scan were all normal. Which one of the following investigations is most likely to reveal the underlying cause of this episode?

1- Carotid Doppler ultrasonography

2- Cerebral angiography

3- MRI of head

**4- Transoesophageal echocardiography**

5- Transthoracic echocardiography

Q2699. A 52-year-old male presents with a history of lethargy and epistaxis over the last one month. Examination reveals numerous bruises over arms and legs, splenomegaly and retinal haemorrhages. A full blood count shows: Haemoglobin 7 g/dL (13.0-18.0) White cell count 14 x 109 /L (4-11 x109) Platelet count 20 x 109 /L (150-400 x109) His blood film reveals white cells predominantly myeloblasts and promyelocytes Which one of the following investigations would be of most prognostic value?

1- Bone marrow aspiration

2- Bone marrow trephine biopsy

3- Cerebrospinal fluid examination

**4- Cytogenetic karyotype**

5- Immunophenotyping

Q2700. A 65-year-old woman is seen in the oncology clinic following a diagnosis of a strongly oestrogen/progesterone receptor positive breast cancer. She is considered for adjuvant treatment with anastrozole, an endocrine agent. What further investigation does this patient require?

1- Bone scan

2- Chest x ray

3- CT chest, abdomen and pelvis

**4- DEXA scan**

5- Urine dip

Q2701. A 62-year-old male attends the Emergency Department with a severe nose bleed. He is known to have alcoholic cirrhosis. His investigations reveal: Haemoglobin 10.9 g/dl(13.0-18.0) White cell count 5 x 109 /L (4-11) Platelet count 60 x 109 /L (150-400) Prothrombin time 17.5 s(11.5-15.5) APPT 42 s(30-40) Fibrinogen 0.7 g/l (1.8-5.4) What is the most appropriate blood product for this patient?

**1- Cryoprecipitate**

2- Factor VIII

3- Platelets

4- Prothrombin complex concentrate

5- Whole blood

Q2702. A 30-year-old man presents with episodic jaundice and anaemia and has been diagnosed with glucose-6-phosphate dehydrogenase (G6P D) deficiency. On further testing his wife has normal plasma G6PD activity. What is the risk of their children developing this condition? Which one of the following statements is correct?

1- 50% of their children will be affected, irrespective of gender

2- All their children will be affected

3- All their daughters will be affected

4- All their sons will be affected

**5- None of their children will be affected**

Q2703. A 32-year-old man was prescribed an oral antibiotic for a urinary tract infection. Two days later he noticed that his urine was increasingly dark in colour. Investigations revealed: Haemoglobin 8.5g/dL (13.0-18.0) Reticulocytes 147 x 109 /L (25-85 x109) Blood film: marked anisopoikilocytosis and bite cells. What is the most likely diagnosis?

1- Acute myeloid leukaemia

**2- Autoimmune haemolytic anaemia**

3- Haemoglobin H disease

4- Hereditary spherocytosis

5- Paroxysmal cold haemoglobinuria

Q2704. You have been called to the ward by the senior nurse, to review a repeat calcium result. The repeat result is 3.9 mmol/l (2.

2- 2.6), the previous result four hours earlier was 3.2. The patient has a disseminated malignancy with an unknown primary. Which of the following statements is most correct when considering the hypercalcaemia of malignancy?

1- A prolonged QT interval is associated with hypercalcaemia

2- Bisphosphonates inhibit osteoblast function thereby lowering calcium

3- Calcitonin is of greater benefit than bisphosphonates in the treatment of hypercalcaemia of malignancy

4- NSAIDs are indicated for bone pain in this patient

**5- On neurological examination, hyporeflexia may be exhibited**

Q2705. Which of the following patients with Hodgkin's disease has the worst prognosis?

1- 25-year-old man with inguinal lymphadenopathy

2- 25-year-old woman with mediastinal and inguinal lymphadenopathy

**3- 25-year-old woman with mediastinal and inguinal lymphadenopathy and night sweats**

4- 25-year-old man with mediastinal and inguinal lymphadenopathy and pruritis

5- 25-year-old man with cervical and mediastinal lymphadenopathy

Q2706. A 64-year-old man has terminal cancer with hepatic metastases. He is treated with oral morphine (Oramorp h) solution for pain relief. Which is the most important pharmacodynamic factor in determining the appropriate timing between doses?

1- Bioavailability

2- First pass metabolism

3- Gastric emptying

**4- Plasma half life**

5- Renal clearance

Q2707. Which one of the following statements is true of B cell CLL?

**1- Autoimmune thrombocytopenia is uncommon**

2- Diffuse infiltration of bone marrow indicates good prognosis

3- Late transformation to ALL occurs in the majority of patients

4- Reduced immunoglobulins are a risk of recurrent viral infections

5- Stage A disease should be treated with chemotherapy

Q2708. Regarding retinoblastoma which of the following statements is correct?

1- Bilateral involvement is found in 70% of cases.

2- The predisposition may be inherited as an autosomal recessive condition.

3- There is an increased risk of autoimmune disease.

4- They have often metastasised by the time of diagnosis.

**5- They usually present with leukocoria.**

Q2709. A 23-year-old male presents with a deep vein thrombosis (DV T) . He has no past medical history but his mother has suffered from deep vein thromboses. Which of the following is likely to be found on haematological assessment?

**1- Antithrombin deficiency**

2- Factor V (F V) Leiden mutation

3- Lupus anticoagulant

4- Protein C deficiency

5- Protein S deficiency

Q2710. Which of the following statements is true of sarcoidosis?

1- Central caseation occurs in the sarcoid granuloma

2- Hypercalcaemia due to increased renal synthesis of 1-hydroxylase

**3- It can produce Mikulicz's syndrome**

4- Prognosis is poor when sarcoidosis presents acutely with bilateral hilar lymphadenopathy and erythema nodosum

5- Serum angiotensin converting enzyme (AC E) is useful for diagnosis of sarcoidosis

Q2711. Which of the following has been shown to increase the risk of prostate cancer?

1- Caucasian ethnicity

**2- Exposure to cadmium**

3- Family history of colon cancer

4- Low intake of animal fats

5- Occupational exposure to dust

Q2712. Concerning neurofibromatosis type 1 (NF1), which one of the following statements is true?

1- Bilateral acoustic neuromas are common

2- Clinical severity in individuals is similar in a given family

3- New mutations occur rarely

**4- Pigmented spots on the iris are a characteristic feature**

5- The diagnosis is likely if two café au lait patches are present

Q2713. A 64-year-old man presents with haematuria. Cystoscopy discovers a transitional cell carcinoma of the bladder. Occupational exposure to which of the following is a recognised risk factor for bladder cancer?

1- Aflatoxin

**2- Aniline dye**

3- Beryllium

4- Mercury

5- Strongyloides stercoralis

Q2714. Which of the following statements is most true regarding polycythaemia rubra vera (PR V) ?

1- PRV is often associated with hypertension and smoking

2- PRV is usually associated with a high haemoglobin, but with neutropenia and thrombocytopenia

3- PRV may be characterised by a raised packed cell volume (PC V) and decreased plasma volume

**4- The diagnosis of PRV is based on a high red cell mass, normal oxygen saturations and splenomegaly**

5- Venesection treatment will improve long term survival rates

Q2715. A 21-year-old man with non-Hodgkin's lymphoma and haemolytic anaemia is assessed for splenectomy. When should Pneumovax vaccine be administered?

1- One month after surgery

**2- One month before surgery**

3- One week after surgery

4- One week before surgery

5- Perioperatively

Q2716. A 62-year-old Caribbean man with new onset type 2 diabetes presents to the Emergency department. He has increasing lethargy and tiredness since starting a sulphonylurea a few days earlier. On examination he has jaundiced sclerae, his BP is 135/72 mmHg, and pulse is 95. His mucous membranes look a little pale. Investigations show: Haemoglobin 10.2 g/dl (13.5-17.7) (Heinz bodies see n) White cell count 10.2 x 109 /l (4-11) Platelets 198 x 109 /l (150-400) Sodium 138 mmol/l (135-146) Potassium 4.4 mmol/l (3.5-5) Creatinine 88 µmol/l (79-118) Bilirubin 80 µmol/l (<17) Which of the following is the most likely diagnosis?

1- Autoimmune haemolytic anaemia

2- Cold agglutinin disease

**3- Glucose-6-phosphate dehydrogenase deficiency**

4- Obstructive jaundice

5- Paroxysmal nocturnal haemoglobinuria

Q2717. An elderly lady with breast cancer is starting diamorphine elixir for painful bony metastases. Which of the following is the most appropriate comment to make to her caregiver?

**1- A laxative will need to be used**

2- Dependence on diamorphine is likely and could cause problems

3- If pain relief is not adequate cocaine may need to be introduced

4- Sedation is likely to be an ongoing problem with diamorphine

5- The same dose could be given IM to achieve the same effect.

Q2718. A 31-year-old woman comes to the clinic for review of chronic diarrhoea. She tells you she is opening her bowels some four to five times per day, and has lost 5 kg in weight over the past six months. There is no blood and the diarrhoea has a strong smell and is difficult to flush away. On examination her BP is 110/70 mmHg, pulse is 75 and regular, her BMI is 21. Investigations show: Haemoglobin 10.8 g/dl(11.5-16.0) MCV 75 fL(80-96) White cell count 9.3 x 109 /L (4-11) ESR 41 mm/hr(<10) Platelets 182 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 3.6 mmol/l (3.5-5) Creatinine 115 micromol/l (79-118) Albumin 24gL(35-50) Which of the following investigations is likely to be most useful in confirming the diagnosis?

**1- Anti-endomysial antibodies**

2- Colonoscopy

3- CT abdomen

4- Faecal elastase

5- Faecal fat estimation

Q2719. What is the mechanism of action of hydroxycarbamide in the setting of its use in sickle cell disease?

**1- Stimulation of the production of fetal haemoglobin**

2- Decreasing the tendency of HbS to polymerise

3- Reducing the permeability of red blood cell membranes

4- Increasing the life span of sickle shaped red blood cells

5- Causing vasodilation

Q2720. Which of the following are features of acute chest syndrome?

1- Chest pain

2- Shortness of breath

3- Fever

4- Evidence of new infiltration on CXR

**5- All of the above**

Q2721. A pregnant woman attends for her booking antenatal appointment. She lives and is being treated within a high prevalence trust. How will screening for sickle cell disease be undertaken?

1- She will automatically be offered chorionic villus sampling at 8-10 weeks gestation

2- It will depend on the family origin of herself and her partner

**3- She will first be screened for sickle cell carrier status. If that test is positive, her partner will be screened, and only if both are positive will she be offered chorionic villus sampling or amniocentesis**

4- The screening only detects HbS. It does not detect any other haemoglobinopathies

5- Amniocentesis cannot distinguish whether the fetus has sickle cell trait or sickle cell disease

Q2722. A 6-month-old baby is noticed to be pale and listless. His complete blood count shows haemoglobin of 6 g/dL, and his blood picture shows a hypochromic, microcytic picture. Genetic testing shows the ?0?0 genotype. Which is the correct answer relating to this haematological disorder?

1- Iron chelation is only possible with subcutaneous or intravenous infusion of desferrioxamine

**2- A transfusion programme with iron chelation is the best initial approach**

3- Transfusion support should be used sparingly considering the risks of transmission of infections and iron overload

4- The parents and other siblings should not be screened by genetic testing

5- There is no increased risk of gallstone formation or bone deformities

Q2723. A 25-year-old gentleman with Burkitt's lymphoma is admitted and commenced on induction chemotherapy. Within 48 hours it is noticed that his urine output is dropping to 20 mls/hr. Further investigation shows potassium of 6.5 mmol/L, calcium of 1.5 mmol/L, phosphate of 4 mmol/L and creatinine of 250 µmol/L. Which of the following is the most appropriate management of this complication?

1- Allopurinol and intravenous hydration

**2- Intravenous hydration with 3L/m2 and rasburicase.**

3- Intravenous hydration with 3 litres per day

4- Rasburicase only

5- Urinary alkalinisation

Q2724. A regular donor reports yellow discoloration of his eyes and fevers five days after a blood donation. What would be the next most appropriate course of action for the blood bank medical officer?

1- APlatelets are safe to be released in this situation

2- Release all the blood products from this donor if initial testing is negative

**3- Recall blood products from this donor and arrange for retesting of this donor**

4- DSelected blood products such as red cell packs may be released as these have a small volume of plasma

5- The donor needs to be struck off the donor register

Q2725. Which of the following is the blood product with the highest risk of transmission of a bacterial infection related to transfusion?

1- Cryoprecipitate

2- Fresh frozen plasma

3- Factor VIII concentrates

4- Packed red cells

**5- Platelets**

Q2726. A pre-transfusion sample shows that a patient has blood group O. This means that which of the following statements is correct?

**1- The red cells have absent A /B antigen and plasma has anti A and anti B antibodies**

2- The red cells have A /B antigen but no antibodies in the plasma

3- The red cells may have any antigen but plasma has anti A and anti B antibodies

4- The red cells have antigen A and plasma has antiB antibodies

5- The red cells have antigen B and plasma has A antibodies

Q2727. Which of the following is a feature of haemoglobin S?

1- Has a higher affinity for oxygen than HbA

2- It is more negatively charged than HbA and as a result, less soluble

**3- Is a result of a point mutation**

4- It has the effect of shifting the oxygen dissociation curve to the left

5- It contains two ?-like globins and two ?-like globins and two haem molecules

Q2728. Which of the following statements is true about the storage conditions and shelf life of blood products?

**1- Fresh frozen plasma is stored at -30? for up to 24 months**

2- Fresh frozen plasma is stored at -30? for 12 months

3- Packed red cells are stored at 4? for up to 25 days

4- Platelets are stored at 22? for up to 10 days

5- Platelets are stored at 4? for up to five days

Q2729. A 32-year-old woman who has been admitted on two previous occasions with hypertension, agitation and severe abdominal pain is brought to the emergency department by her husband. She has apparently hardly slept over the past few days, staying up all night working and then most recently drinking substantial amounts of alcohol. On examination, her behaviour strikes you as hypomanic. She has a BP of 155/91 mmHg, and a pulse of 85. Her abdomen is soft, but is diffusely tender with active bowel sounds. Investigations Haemoglobin 12.8 g/dl(11.5-16.5) White cells 11.3 x 109 /L (4-11) Platelets 204 x 109 /L (150-400) Sodium 131 mmol/l (135-146) Potassium 4.4 mmol/l (3.5-5) Creatinine 95 μmol/l (79-118) Which of the following is the most likely diagnosis?

**1- Acute intermittent porphyria**

2- Hypothyroidism

3- Irritable bowel syndrome

4- Manic depressive psychosis

5- Stimulant abuse

Q2730. An 18-year-old male presented with excessive bleeding following a tooth extraction. His investigations showed: Platelet count 260 x 109 /L (150-400) Prothrombin time 13 s(11.5-15.5) Activated partial thromboplastin time 86 s (30-40) Factor VIII 110 IU/dl (50-150) Deficiency of which of the following clotting factors is the most likely explanation for this patient?

1- II

2- V

3- VII

**4- IX**

5- X

Q2731. A 17-year-old girl with mild von Willebrand's disease is scheduled for dental extraction. A previous dental extraction resulted in bleeding that had required two unit transfusion. What is the most appropriate treatment prior to dental surgery?

1- Cryoprecipitate

**2- DDAVP**

3- Fresh frozen plasma

4- High purity factor VIII concentrate

5- Recombinant factor VIII concentrate

Q2732. Which of the following statements regarding thrombocytosis is correct?

1- Erythropoietin is the key hormone in the regulation of megakaryocyte differentiation

**2- May occur as a response to exercise**

3- Occurs exclusively in essential thrombocythaemia

4- Secondary thrombocytosis is an indication for hydroxycarbamide therapy

5- The most common cause is essential thrombocythaemia

Q2733. A 60-year-old Chinese man has been started by his general practitioner on quinine for leg cramps. He presents, a week later, with five days of darkened urine and two days of increasing breathlessness, back pain and fatigue. Investigations show a haemoglobin of 7.0 g/dL (13.0-18.0) and raised reticulocyte count. Which of the following best explain this drug reaction?

1- Autoimmune haemolytic anaemia

**2- Glucose-6-phosphate dehydrogenase deficiency**

3- Hereditary spherocytosis

4- Pyruvate kinase deficiency

5- Sickle cell disease

Q2734. A 70-year-old woman is on multiple medications for various conditions and she is found to have a macrocytic anaemia with a low serum B12. Which of the following medications is a possible cause of the B12 deficiency?

1- Amiodarone

2- Ezetimibe

**3- Metformin**

4- Nicotinic acid

5- Sodium valproate

Q2735. Which of the following conditions would be expected to be associated with a raised leukocyte alkaline phosphatase (LA P) score?

1- Chronic myeloid leukaemia

2- Infectious mononucleosis

**3- Myelofibrosis**

4- Pernicious anaemia

5- Thrombocytopenic purpura

Q2736. A 45-year-old lady is found to have thymoma. Which one of the following conditions is associated with thymoma?

1- Acute lymphocytic leukaemia

2- Acute myeloid leukaemia

3- Myelofibrosis

**4- Pure red cell aplasia**

5- Thrombocythaemia

Q2737. A 56-year-old man is found to have a macrocytic anaemia with a megaloblastic bone marrow. Which of the following causes of macrocytosis is the most likely cause here?

1- Alcohol

2- Aplastic anaemia

**3- Folate deficiency**

4- Myelodysplasia

5- Reticulocytosis

Q2738. A 55-year-old gentleman presents to his GP with a six month history of lethargy and left upper quadrant abdominal discomfort. A blood count shows a white cell count of 350 x 109 /L, haemoglobin of 10.5 g/dL and a platelet count of 223 x 109 /L. A bone marrow aspirate shows increased granulocytic precursors and less than 5% blasts. Molecular studies show the patient to be BCR-ABL transcript positive. Which of the following is the most appropriate therapy?

1- Chemotherapy

2- Haemopoietic stem cell transplant

3- Hydroxycarbamide

4- Interferon

**5- Treatment with tyrosine kinase inhibitor, for example, imatinib**

Q2739. A 25-year-old man presents with an enlarged inguinal lymph node with night sweats. The most likely clinical diagnosis is Hodgkin's lymphoma. An excision biopsy of the lymph node is performed. Which one of the following findings on histopathology is associated with the best prognosis in Hodgkin's disease?

1- Lymphocyte depleted

**2- Lymphocyte predominant**

3- Mixed cellularity

4- Nodular sclerosing

5- Reed-Sternberg cells

Q2740. A 16-year-old boy presents with a haemarthrosis that developed in his left knee following an injury in the garden. His investigations show: Platelet count 260 x 109 /L (150-400) Prothrombin time 13 s(11.5-15.5) Activated partial thromboplastin time 80 s(3

0- 40) Factor VIII 110 IU/dl(50-150) Which of the following is the most likely diagnosis?

1- Antiphospholipid syndrome

2- Antithrombin III deficiency

3- Haemophilia A

**4- Haemophilia B**

5- von Willebrand's disease

Q2741. Which of the following is the mechanism of action of warfarin?

1- Activation of gamma-glutamyl carboxylase

2- Chelation of calcium

3- Inhibition of activated factor X

4- Inhibition of vitamin K-dependent carboxylase

**5- Inhibition of vitamin K epoxide reductase**

Q2742. A 78-year-old female who is on warfarin for atrial fibrillation presents with melaena. Her blood pressure is 90/60 mmHg and heart rate is 100 bpm. Investigations show: Haemoglobin 9 g/l (12-16) MCV 87 fl(83-95) INR 7.2(<1.4) A PR examination confirms melaena. Which is the best option for correcting the coagulopathy?

1- FFP

2- IV vitamin K

3- Stop warfarin

4- Stop warfarin and give IV vitamin K

**5- Stop warfarin and give IV vitamin K and prothrombin complex concentrate**

Q2743. A 12-year-old boy was diagnosed with haemophilia A. His uncle on his mother's side also has the same condition although his mother is well. The parents of the boy are worried about their next child suffering with the same condition. What is the chance of the next child having the disease?

1- 0%

**2- 25%**

3- 50%

4- 75%

5- 100%

Q2744. A patient with AML develops jaundice and spiking pyrexia three weeks into induction chemotherapy. The patient remained pyrexial after seven days of intravenous antibiotics. What is the likely diagnosis?

**1- CMV**

2- Fungal infection

3- Hepatic leukaemic deposits

4- Miliary TB

5- Toxoplasmosis

Q2745. A 16-year-old girl presents with bilateral cervical lymphadenopathy. Her lymph node biopsy reveals a nodular sclerosing Hodgkin's disease. Which one of the following features indicates a poorer prognosis?

1- Fatigue

2- Mediastinal mass of 3 cm

**3- Night sweats**

4- Pruritis

5- Recent Epstein-Barr virus infection

Q2746. A 40-year-old man presents with bleeding gums and ease of bruising. His only medication is omeprazole for dyspepsia. Investigations show: Haemoglobin 12.5 g/dL (13.0-18.0) MCV 90 fL (80-96) Platelets 20 x 109 /L (150-400 x109) Prothrombin tim e13.5s (11.5-15.5) Blood film: occasional giant platelets What is the most likely diagnosis?

1- Amegakaryocytic thrombocytopenia

2- Disseminated intravascular coagulation

3- Drug-induced thrombocytopenia

**4- Immune thrombocytopenia**

5- Thrombotic thrombocytopenic purpura

Q2747. A 75-year-old woman receives two units of packed red cells following a hip replacement. One week later her haemoglobin concentration had fallen by 4 g/l. Which one of the following would be most likely to indicate a delayed transfusion reaction?

1- Conjugated hyperbilirubinaemia

2- Elevated D dimer concentration

3- Haemoglobinuria

4- Haemosiderinuria

**5- Positive direct antiglobulin test**

Q2748. Which of the following statements regarding disseminated intravascular coagulation (DI C) is most correct?

1- DIC is associated with a rising platelet count

**2- DIC is associated with an elevated D-dimer**

3- DIC is associated with rising fibrinogen levels

4- Normal clotting parameters effectively exclude a diagnosis of DIC

5- Removal of the underlying cause of the DIC will lead to resolution of the manifestations of DIC

Q2749. A 45-year-old woman being treated for acute myeloid leukaemia fails to get sufficient rises with platelet transfusions. She is 14 days post chemotherapy, afebrile and apart from minor bruising is otherwise well. Which of the following would be the next best step in the management of platelet refractoriness?

1- Avoid further platelet transfusions

2- Continue to monitor for platelet rises with random platelets

**3- Check for a one hour post platelet transfusion platelet count**

4- Prescribe HLA matched platelets

5- Request directed platelet donations

Q2750. A 42-year-old man presented with tiredness, breathlessness and nose bleeds for three weeks. On examination there were several bruises on his arms and legs, 2 cm splenomegaly and fundal haemorrhages. Investigations revealed: Haemoglobin 7.2 g/dl(13.0-18.0) White cell count 13.8 x 109 /L (4-11) Platelet count 24 x 109 /L (150-400) Blood film White cells predominantly myeloblasts and promyelocytes Which one of the following investigations would be of most prognostic value?

1- Bone marrow trephine biopsy

2- Cerebrospinal fluid examination

3- Cytochemistry

**4- Cytogenic karyotype**

5- Immunophenotyping

Q2751. A 60-year-old male presents with bruising and tiredness. Examination reveals four finger breadth splenomegaly and his results reveal: Haemoglobin 11 g/dL (13.0-18.0) White cell count 100 x 109 /L (4-11 x109) Platelets 900 x 109 /L (150-400 x109) Blood film reveals a neutrophilia, basophilia, numerous myelocytes and 4% myeloblasts. Which of the following is likely to be present in this patient?

1- BCR-ABL gene fusion only

2- Deletion 11q13

3- Deletion chromosome 13

4- Normal chromosomal analysis

**5- Translocation 9;22**

Q2752. Whilst being investigated for infertility, a 3

0- year-old woman is noted to have some bruising on her limbs with a palpable spleen on abdominal examination. Investigations reveal: Haemoglobin 10.0 g/dL(11.5-16.5) White cell count 110 x 109 /L (4-11 x109) Neutrophils 60 x 109 /L (1.5-7 x109) Lymphocytes 2 x 109 /L (1.5-4 x109) Monocytes 0.8 x 109 /L (0-0.8 x109) Eosinophils 0.3 x 109 /L (0.04-0.4 x109) Basophils 0.7 x 109 /L (0-0.1 x109) Myelocytes 40 x 109 /L Myeloblasts 4 x 109 /L Platelet count 900 x 109 /L (150-400 x109) What is the most likely diagnosis?

1- Acute myeloid leukaemia

2- Acute promyelocytic leukaemia

**3- Chronic myeloid leukaemia**

4- Essential thrombocythaemia

5- Myelofibrosis

Q2753. An 80-year-old woman has a three month history of progressive numbness and unsteadiness of her gait. On examination, there is a mild spastic paraparesis, with brisk knee reflexes, ankle reflexes are present with reinforcement, extensor plantars, sensory loss in the legs with a sensory level at T10, impaired joint position sense in the toes, and loss of vibration sense below the iliac crests. Investigations were as follows: Haemoglobin 12.2 g/dL (12-16) MCV 95 fL (80-96) What is the most likely diagnosis?

1- Anterior spinal artery occlusion

**2- Dorsal meningioma**

3- Multiple sclerosis

4- Subacute combined degeneration of the cord

5- Tabes dorsalis

Q2754. Which of the following is a feature of hereditary haemorrhagic telangiectasia?

1- A good response to oestrogen therapy

**2- Cerebral arteriovenous malformations**

3- GI haemorrhage is the usual presenting feature

4- Telangiectasia of the mucous membranes, but not the skin

5- Tendency of lesions to become less obvious with age

Q2755. An 18-year-old Asian female is noted by her dentist to have gingival hypertrophy. Which of the following is most likely to be responsible for her presentation?

1- Carbamazepine

2- Lead poisoning

**3- Phenytoin**

4- Scurvy

5- Sodium valproate

Q2756. A 68-year-old woman was admitted to hospital with severe acute dyspnoea. She denied having any chest pain but said that she had become progressively breathless over the past three months. On examination her pulse was 120 beats per minute and regular. Her blood pressure was 95/55 mmHg and her jugular venous pressure was elevated to the angle of the jaw. Her heart sounds were normal. Auscultation of her chest revealved bilateral fine inspiratory crackles to the mid zones. She had haemorrhages in both fundi. Investigations revealed: Haemoglobin 5.6 g/dL(11.5-16.5) Haematocrit 0.19(0.36-0.47) MCV 118 fL(80-96) MCH 33.0 pg(28-32) White cell count 3.4 x 109 /L (4-11) Platelets 95 x 109 /L (150-400) Serum Vitamin B12 Result pending Serum folateResult pending The electrocardiogram (EC G) showed left bundle branch block, which had been documented previously. She is given 80 mg of intravenous furosemide which results in an excellent diuresis. What is the next most appropriate immediate step in her management?

**1- Blood transfusion**

2- Bone marrow aspiration

3- Start intramuscular Vitamin B12 and oral folic acid

4- Start oral ferrous sulphate

5- Thrombolyse with t-PA

Q2757. Heinz bodies in red blood cells in haemolytic anaemia are present in which of the following?

1- Clostridium welchii septicaemia

2- Cold agglutinin disease

**3- Glucose 6 phosphate dehydrogenase deficiency**

4- Paroxysmal nocturnal haemoglobinuria

5- Post splenectomy

Q2758. A 20-year-old Caucasian student returns from Ghana with a spiking temperature and nocturnal sweats. She has 0.5% of red blood cells infected with Plasmodium falciparum. Select one of the following answers relating to quinine therapy in this case.

**1- Glucose levels should be monitored in those being treated with quinine**

2- Pregnancy is a contraindication for quinine

3- Quinine is contraindicated in those taking mefloquine prophylactically

4- Quinine must always be given parenterally initially

5- The dose of quinine should be reduced in liver impairment

Q2759. A 56-year-old female presents at the general practitioner with weakness. A full blood count (FB C) reveals a haemoglobin concentration of 10.5 g/dL (11.5-16.5) and a mean cell volume (MC V) of 104 fL (80-96), but no other abnormality. Which of the following may account for this?

1- Hormone replacement therapy (HR T) 2- Scurvy

3- Thyrotoxicosis

4- Ulcerative colitis

5- Zollinger-Ellison syndrome

Q2760. A mild lymphocytosis of 15 x 109 /L with a few smear cells is reported on a full blood count result in a 70-year-old asymptomatic man attending clinic for an annual review. Which of the following would be the most essential investigation to establish a diagnosis of chronic lymphocytic leukaemia (CL L) ?

1- CT scan of chest abdomen and pelvis

2- Lactic dehydrogenase (LD H) levels

3- Presence of smear cells on the blood film

4- Presence of palpable cervical lymphadenopathy

**5- Peripheral blood flow cytometry**

Q2761. A 19-year-old woman presents for the third time in the past eight months with acute abdominal pain and severe agitation. On the two previous occasions she was admitted by the surgeons and discharged without significant intervention. She has started the oral contraceptive pill within the last year. According to her mother the local GP has considered medicating her because of increasing anxiety. On examination her BP is 155/82 mmHg, pulse is 90 and regular, BMI 22. Her abdomen is generally tender although there are active bowel sounds. Investigations show: Haemoglobin 12.0 g/dl(11.5-16.0) White cell count 9.3 x 109 /L (4-11) Platelets 182 x 109 /L (150-400) Sodium 135 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 92 micromol/l (79-118) You give her opiates for pain. Which of the following is the most important additional therapy during this acute attack?

1- IV cefuroxime and metronidazole

**2- IV glucose**

3- Oral chlorpromazine

4- Oral diazepam

5- Oral propranolol

Q2762. Which of the following chemotherapeutic agents inhibits topoisomerase?

1- Bleomycin

2- Cisplatin

3- Docetaxel

**4- Etoposide**

5- Vincristine

Q2763. Mutation in codon 12 of the Ras oncogene often results in which of the following?

1- Decreased GTP binding

**2- Decreased GTP hydrolysis**

3- Increased GTP binding

4- Increased GTP hydrolysis

5- Increased interaction with SOS

Q2764. A 40-year-old woman with early breast cancer is referred to the oncology clinic for consideration of radiotherapy to her breast following wide local excision. What is the role of adjuvant radiotherapy in this case?

1- To improve wound healing

2- To increase overall survival

3- To reduce keloid scarring

**4- To reduce local recurrence**

5- To reduce skin metastasis

Q2765. Which tumour marker is most commonly raised in ovarian cancers?

1- AFP

2- Beta-HCG

**3- CA125**

4- CA19-9

5- CEA

Q2766. A 60-year-old woman presents with a gradual onset of lumbar spine pain over the past two weeks associated with a gradual deterioration in her mobility. She has a past history of metastatic breast cancer to her bones currently controlled on anastrozole. An emergency MRI reveals widespread metastatic deposits in her spine with encroachment at L2 causing a moderate degree of spinal cord compression. What is the best course of action?

1- Emergency chemotherapy

2- Emergency radiotherapy

3- Emergency surgical decompression

4- Emergency surgical decompression and chemotherapy

**5- Emergency surgical decompression and radiotherapy**

Q2767. A 60-year-old woman presents with a gradual onset of lumbar spine pain over the past two weeks associated with a gradual deterioration in her mobility. She has a past history of metastatic breast cancer to her bones currently controlled on anastrozole. An emergency MRI reveals widespread metastatic deposits in her spine with encroachment at L2 causing a moderate degree of spinal cord compression. What is the best course of action?

1- Emergency chemotherapy

2- Emergency radiotherapy

3- Emergency surgical decompression

4- Emergency surgical decompression and chemotherapy

**5- Emergency surgical decompression and radiotherapy**

Q2768. A 25-year-old man is diagnosed with a testicular seminoma and treated with BEP chemotherapy. His staging CT scan reveals para-aortic lymphadenopathy and he is referred from the multi-disciplinary meeting for external beam radiotherapy. He is admitted after his third fraction of radiotherapy with severe community acquired pneumonia and isolated in a lead-lined sideroom on an oncology ward. Unfortunately he deteriorates and you are fast-bleeped to attend as he is peri-arrest due to impending respiratory failure. What radiation precautions should you take before entering the room?

1- Consult the local rules for radiation protection

2- Do not enter the room unless the patient arrests

**3- None**

4- Wear a disposable apron and gloves

5- Wear a lead-lined apron and disposable gloves

Q2769. Small molecule kinase inhibitors for cancer: A 44-year-old woman presents to the clinic with increasing lethargy and fatigue. She has been treated previously with interferon alpha and has a diagnosis of chronic myeloid leukaemia. Her white blood cell count has risen to 22x103 cells per microlitre, and she is anaemic with a recent haemoglobin of 8.9 g/dl. You decide to start her on imatinib. Which of the following correctly describes the mode of action of imatinib?

**1- Bcr-abl tyrosine kinase inhibitor**

2- Epidermal growth factor receptor (EGF R) kinaseinhibitor

3- Fibroblast growth factor receptor inhibitor

4- HER2 receptor inhibitor

5- Vascular endothelial growth factor (VEG F) inhibitor

Q2770. Approximately 1% of pregnant women develop clinically important red cell antibodies, the most common being rhesus antibodies. The women negative for D antigen develop antibodies on exposure to D positive blood (such as fetomaternal haemorrhage, abortions and transfusion s) . This increases the risk of haemolytic disease of the newborn (HD N) in subsequent pregnancies. From the following, choose the correct statement about rhesus antibodies in pregnancy:

1- D positive women are less likely than D negativewomen to form antibodies to other red cell antigens (such as Kelland Duff y) 2- Following delivery, the degree of FMH should be calculated on a blood sample from a D negative mother

3- Maternal antibody titres do not predict haemolytic disease of new born

4- Pregnant women should be checked for antibodies at 28 weeks as fetomaternal haemorrhage (FM H) occurs only after the second trimester.

5- The fetal Rh type is not dependent on the paternal Rh grouping

Q2771. A 34-year-old man with normal baseline cardiac and respiratory function starts on the ABVD (Adriamycin, bleomycin, vinblastine and dacarbazin e) chemotherapy regimen for his stage IIB Hodgkin's lymphoma. He tolerated the first three cycles of the chemotherapy well. After completion of the fourth cycle he presents with exertional dyspnoea and a dry cough. He is afebrile, a chest x ray and ECG are normal. Which of the following is the most likely diagnostic possibility?

1- Adriamycin related cardiomyopathy

**2- Bleomycin related pulmonary fibrosis**

3- Hyperemesis and reflex cough related to dacarbazine

4- Pneumocystsis carinii pneumonia

5- Vinblastine related neurotoxicity

Q2772. The risk of a viral infection transmitted via a transfusion is widely variable. In the UK, the risk of transmission of hepatitis B would be best described as which of the following?

1- 0.05 per million donations

2- 0.2 per million donations

3- 1 per million donations

**4- Slightly more than 2 per million donations**

5- Slightly less than 0.01 per million donations

Q2773. A patient on a medical ward received a transfusion 48 hours ago for symptomatic anaemia on background of chronic renal disease and obstructive airways disease. He gives a history of previous transfusions in the last year. The patient has now actually dropped his Hb by 2g/L compared to his pretransfusion level and reports a dark coloured urine. The LDH and bilirubin are elevated. The is most likely to represent:

1- acute hepatitis as an infective complication

2- acute haemolytic transfusion reaction

**3- delayed haemolytic transfusion reaction**

4- non haemolytic febrile transfusion reaction

5- transfusion related graft versus host disease

Q2774. Which of the following is the minimum dataset for identifying a patient and a sample for purpose of a blood transfusion request?

1- The full name and gender

**2- The full name, gender, date of birth, address and patient identity number**

3- The full name , gender and patient identity number

4- The full name, gender, address and patient identity number

5- The full name, gender, previous blood grouping details, address and patient identity number

Q2775. You are taking ward referrals on behalf of the renal team and are asked to see a 24-year-old woman who has been undergoing chemotherapy for acute myeloid leukaemia. Unfortunately over the past 24 hours her condition has deteriorated and she is now oliguric; this is associated with a rise in her creatinine to 420 µmol/l (79-118). Which of the following treatments would have been most effective in preventing this episode?

1- Colchicine

2- IV normal saline

3- Naproxen

4- Prednisolone

**5- Rasburicase**

Q2776. A 32-year-old woman presented to the Emergency department with right upper quadrant pain related to cholecystitis. The pain settled with conservative management, but the surgeons noticed when they admitted her that she appears to have splenomegaly. You examine her and confirm that she has an enlarged spleen. On further questioning she tells you that her father had his spleen removed. Investigations show Haemoglobin 10.9 g/dl Spherocytes and reticulocytes seen on film (11.5-16.5) Mean corpuscular volume 102 fl(80-96) White cell count 7.9 x 109 /L (4-11) Platelets 180 x 109 /L (150-400) Serum Sodium 141 mmol/l (135-146) Serum Potassium 4.4 mmol/l (3.5-5) Creatinine 90 μmol/l (79-118) Which of the following is the most appropriate next investigation?

1- Autoimmune profile

2- Bone marrow biopsy

3- Coombs' test

**4- Osmotic fragility test**

5- Ultrasound scan abdomen

Q2777. A 54-year-old man comes to the endocrine clinic for review. He has a history of type 2 diabetes which is currently managed with gliclazide 80 mg BD. Most recently he has been diagnosed with abnormal liver function which the GP suspects is cirrhosis, although he claims he does not drink more than three to four glasses of wine per week. He has split from his partner and admits to erectile dysfunction problems going back over the past three years. On examination he looks tanned and has signs of chronic liver disease. There is sparse secondary sexual hair. Investigations show Haemoglobin 14.8 g/dl(13.5-18) White cell count 6.0 x 109 /L (4-10) Platelets 222 x 109 /L (150-400) Sodium 139 mmol/l (134-143) Potassium 4.7 mmol/l (3.5-5) Creatinine 130 μmol/l (60-120) ALT 230 u/l (5-40) Glucose 10.5 mmol/l (<6.0) Which of the following is the most appropriate single test with respect to revealing the underlying diagnosis?

1- Hepatitis serology

2- Serum ferritin

3- Serum iron

4- Serum testosterone

**5- Transferrin saturation**

Q2778. A 23-year-old man with a teratoma of the testis attended for review following chemotherapy. Which one of the following serum tumour markers is of most value in monitoring the clinical progression of his disease?

**1- Alpha-fetoprotein**

2- Carbohydrate antigen CA 15-3

3- Carbohydrate antigen CA 19-9

4- Carbohydrate antigen CA 125

5- Carcinoembryonic antigen

Q2779. A 17-year-old girl underwent emergency splenectomy after a domestic accident. Which one of the following organisms is most likely to cause life-threatening infection in the future?

1- Actinomycosis

2- Haemophilus influenzae

3- Pseudomonas aeruginosa

4- Staphylococcus aureus infection

**5- Streptococcus pneumoniae**

Q2780. You are asked to provide advice on a 35-yearold woman who is admitted under the maxillo-facial surgeons for extraction of wisdom teeth. The only concern was that she had developed prolonged bleeding following 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 V Leiden

2- Factor IX deficiency

3- Factor XII deficiency

4- Primary antiphospholipid syndrome

**5- von Willebrand's disease**

Q2781. Which of the following haematological disorders is inherited as an autosomal recessive condition?

1- Antithrombin III deficiency

2- Protein C deficiency

3- Glucose-6-phosphate dehydrogenase deficiency

**4- Pyruvate kinase deficiency**

5- Acute intermittent porphyria

Q2782. A 42-year-old man presents with increasing abdominal pain and a feeling of fullness and nausea when he eats. He has also felt constitutionally unwell over the past few weeks and months with some night sweats and gradual weight loss. On examination his BMI is 21, his BP is 126/82 mmHg, pulse 80 and regular, his temperature is 37.4°C. He has an abdominal fullness with some evidence of ascites. Investigations show Haemoglobin 10.9 g/dl(13.5-17.7) White cell count 8.9 x 109 /L (4-11) Platelets 188 x 109 /L (150-400) ESR 67 mm/hr(<10) Serum Sodium 137 mmol/l (135-146) Serum Potassium 4.9 mmol/l (3.5-5) Creatinine 115 μmol/l (79-118) Alanine aminotransferase85 U/l (5-40) ColonoscopyCaecal mass, suggestive of Burkitt's lymphoma Which translocation is likely to be found in the Burkitt's cells?

1- 2:5

**2- 8:14**

3- 8:21

4- 9:21

5- 14:11

Q2783. Which one of the following is true of IgE?

1- Crosses the normal placenta

2- Is increased acutely in an asthmatic attack

**3- Is increased in the serum of atopic individuals**

4- Is involved in type 2 hypersensitivity

5- Is present in plasma in the same concentration as IgG

Q2784. Which of the following malignancies is associated with HTLV-1 infection?

**1- Adult T cell leukaemia**

2- Burkitt's lymphoma

3- Chronic lymphocytic leukaemia

4- Pancreatic cancer

5- Transitional cell carcinoma

Q2785. A 29-year-old man is starting a chemotherapy regime that includes cisplatin. Which of the following is the mechanism of action of cisplatin?

**1- Causes crosslinking in DNA**

2- Degrades preformed DNA

3- Inhibits purine synthesis

4- Reduces the formation of microtubules

5- Stabilises DNA-topoisomerase II complex

Q2786. A 20-year-old man presented to hospital two days after returning from visiting his family in Bangladesh. Within a day of his return to the United Kingdom he suddenly developed profuse watery diarrhoea. He says there had been an outbreak of diarrhoea in his family's village in the week before his return. Stool culture revealed a growth of Vibrio cholerae. Which one of the following blood types is associated with the greatest susceptibilty to severe cholera?

1- Blood Group A

2- Blood Group AB

3- Blood Group B

**4- Blood Group O**

5- Rhesus -ve

Q2787. A 52-year-old woman presents with tiredness and weight gain. She is confirmed to have autoimmune thyroiditis. Which of the following tumours is she at increased risk of developing?

1- Anaplastic carcinoma of the thyroid

2- Follicular carcinoma of the thyroid

3- Medullary carcinoma of the thyroid

4- Papillary carcinoma of the thyroid

**5- Thyroid lymphoma**

Q2788. A 70-year-old male is diagnosed with multiple myeloma and is treated with melphalan and prednisolone. Which of the following when added to this chemotherapeutic regime would be expected to improve survival?

1- Cyclosporin

2- Interferon alpha

3- Methotrexate

4- Simvastatin

**5- Thalidomide**

Q2789. A 55-year-old asymptomatic woman with mild splenomegaly was found to have a platelet count of 650 x 109 /L (150-400 x109) on blood investigation. White blood cells and haemoglobin are within the normal range. What is the next step in management?

1- Anagrelide

2- Hydroxycarbamide

3- Low dose aspirin

**4- Observation**

5- Plateletpheresis

Q2790. A 59-year-old male is referred with an abnormal full blood count (FB C) . He had presented to his general practitioner with a flu-like illness which has since subsided but a FBC revealed a platelet count of 800 x 109 /L (150-400 x109) which has remained persistently elevated but with no other abnormality on the FBC. He is otherwise entirely asymptomatic and no abnormalities are noted on examination. Which of the following is the most appropriate treatment for this patient?

1- Anagrelide

2- Aspirin

3- Hydroxycarbamide

**4- Observation**

5- Plateletpheresis

Q2791. A 62-year-old female with colonic carcinoma is treated with chemotherapy and is receiving ondansetron for intractable nausea and vomiting. Which of the following best describes the pharmacologcal actions of ondansetron?

1- Anticholinergic

2- Cannabinoid

3- Dopaminergic antagonists

4- H1 antihistamine

**5- 5-HT3 antagonist**

Q2792. A man presents with generalised fatigue and weakness. A diagnosis of Eaton-Lambert syndrome is made. An antibody to what cellular component is found in this condition?

1- Anticholinesterase

2- Mitochondria

3- Potassium channels

4- Sodium channels

**5- Voltage gated calcium channels**

Q2793. A 24-year-old female student presented with fever and rigors for two days, fatigue, headache especially retro-orbital and diarrhoea. In particular she complained of a weakness of the left side of her face and drooping of the lip. She had recently returned from a sabbatical in Uganda four weeks previously. She was febrile (39.9° C) , had a mild left facial nerve palsy, lymphadenopathy in her axillae and groin and she had an erythematous, maculopapular rash. Laboratory investigations showed: Haemoglobin 12.0 g/dl (11.5-16.5) WBC 3.0 x 109 /L (4-11 x109) Platelets 150 x 109 /L (150-400 x109) Blood film Lymphopenia, some atypical lymphocytes seen Which of the following is the most likely diagnosis?

**1- Acute HIV infection (seroconversion illnes s) 2- Dengue fever**

3- Infectious mononucleosis

4- Typhoid fever

5- Viral hepatitis

# Chapter 17 2012 Clinical pharmacology

Q2794. Which of the following is correct regarding lead poisoning?

1- Can only result from lead ingestion

**2- Causes a peripheral neuropathy due to demyelination**

3- Causes adrenal suppression

4- Commonly presents with diarrhoea

5- Is associated with a macrocytic anaemia

Q2795. You are asked to review a 71-year-old woman who comes to the clinic complaining that her hearing is not as good as it was after a prolonged period of treatment in hospital for infective endocarditis. On examination you find that she has significant sensorineural hearing impairment and you suspect this may be gentamicin related. What is the mechanism of ototoxicity associated with gentamicin?

1- Cell wall integrity disruption

2- DNA toxicity

3- Interruption of cell division

4- Nitric oxide reduction

**5- Oxygen free radical generation**

Q2796. A 21-year-old nurse comes to the clinic requesting contraception. She works shifts including nights, and so often wakes up at odd times of the day. She has recently married and may want to start a family during the next two years. Her mother suffered a DVT three years ago. On further questioning she has some problems with libido and has heard that progesterone only based preparations may impact on this. On examination she looks well, her BMI is 21, and her BP is 100/70 mmHg. Which of the following is likely to be the most appropriate medication for her?

**1- Combined oral contraceptive pill**

2- Diaphragm

3- Mirena coil

4- Progesterone implant

5- Progesterone only pill

Q2797. A 23-year-old woman presents to the Emergency department with low grade fever and dysuria. Her only medication is the oral contraceptive pill. On examination her temperature is 37.8°C, and she has suprapubic and left loin tenderness consistent with a urine infection and possible pyelonephritis. Investigations show: Haemoglobin 12.5 g/dl11.5-16.5 White cell count 12.8 x 109 /L 4-11 Platelets 209 x 109 /L 150-400 Serum Sodium 139 mmol/l135-146 Serum Potassium 3.9 mmol/l3.5-5 Creatinine 82 µmol/l79-118 Which of the following antibiotics do SIGN guidelines recommend for this patient?

1- Amoxicillin

**2- Ciprofloxacin**

3- Co-trimoxazole

4- Nitrofurantoin

5- Trimethoprim

Q2798. A 61-year-old man presents to the emergency department complaining of lethargy and muscle weakness. He has begun therapy for hypertension with bendroflumethiazide a few weeks earlier. Blood testing reveals a potassium of 2.5 mmol/l. Which of the following is the most likely cause of his hypokalaemia?

1- Increased sodium within the ascending loop of Henle

2- Increased sodium within the descending loop of Henle

3- Increased sodium within the distal collecting duct

**4- Increased sodium within the distal convoluted tubule**

5- Increased sodium within the proximal convoluted tubule

Q2799. A 60-year-old lady presented with heartburn. She is known to have osteoporosis and has been taking alendronate for a number of years. Which of the following is the most likely cause of her symptoms?

1- Achalasia

2- Calcification of lower oesophageal sphincter

3- Crush fracture

4- Ischaemic heart disease

**5- Oesophagitis**

Q2800. A 59-year-old male with type 2 diabetes is attending the foot clinic regularly. He has a neuropathic ulcer complicated by osteomyelitis. A deep wound swab has grown Staphylococcus aureus and Escherichia coli. He also takes warfarin for atrial fibrillation. Which of the following antibiotics will reduce the anticoagulant effect of warfarin?

1- Ciprofloxacin

2- Co-trimoxazole

3- Erythromycin

4- Metronidazole

**5- Rifampicin**

Q2801. A 56-year-old female who is taking warfarin for atrial fibrillation and has had a stable INR of between 2-2.5 over the last one year is noted to have an INR on the last visit of 7.8 (<1.4). Consumption of which of the following may be responsible for this?

1- Carrot juice

**2- Cranberry juice**

3- Oil of evening primrose

4- Orange juice

5- St John's wort

Q2802. A 45-year-old male takes lithium for a bipolar affective disorder. Which of the following drugs would be contraindicated in conjunction with lithium?

1- Atenolol

**2- Bendroflumethiazide**

3- Codeine phosphate

4- Flucloxacillin

5- Thyroxine

Q2803. Which of the following statements regarding Antabuse (disulfira m) is/are correct?

1- Antabuse acts by promoting the metabolism of acetaldehyde

2- Can be used in patients with a history of psychosis in order to limit alcohol excess

3- Can be used to assist abstinence from alcohol in patients with heart disease

**4- Patients using alcohol based perfumes may develop serious reactions**

5- Requires regular dose titration once initiated

Q2804. A 57-year-old man with a history of stable coronary artery disease comes to the clinic for review. He suffered an inferior myocardial infarction some seven years earlier, but has been troubled with only relatively minor chest pain since this time. He takes a number of medications for control of blood pressure, cholesterol and his angina. On examination his BP is 145/72 mmHg, pulse is 70 and regular. His chest is clear and there is no ankle swelling. He tells you that he has been buying sildenafil over the internet for erectile dysfunction. Which of the following medications would concern you most with respect to possible drug interaction?

1- Atorvastatin

2- Bisoprolol

3- Indapamide

**4- Nicorandil**

5- Ramipril

Q2805. In which of the following would the first drug be associated with increased pharmacological action of the second drug?

**1- Erythromycin : theophylline**

2- Phenytoin : ethinyloestradiol

3- Ranitidine : cortiocosteroid

4- Rifampicin : warfarin

5- Valproate : phenobarbitone

Q2806. A 71-year-old man is treated for paroxysmal atrial fibrillation with 200 mg of amiodarone per day. He is finding extreme problems with photosensitivity and wants to discontinue the medication. Which of the following is true of amiodarone therapy?

1- It has a half life of 36 hours so stopping the medication will be associated with an immediate improvement

2- Photosensitivity is a rare occurrence

3- Purple skin discoloration is seen independent of photosensitivity

**4- Skin sensitivity can be prevented by using a sun block**

5- Thyroid dysfunction is seen more commonly in patients who experience photosensitivity

Q2807. A 49-year-old woman presents to the Emergency department with right sided pleuritic chest pain. She has had two previous pulmonary emboli (P E) and is on lifelong warfarin therapy. On examination she is short of breath and in pain. Her BP is 105/70 mmHg and her pulse is 92. Auscultation of the chest is normal. She has a swollen left leg, but she tells you this is chronic since an extensive DVT a few years earlier. Investigations reveal: Haemoglobin 12.5 g/dl (11.5-16.5) White cell count 7.2 x 109 /L (4-11) Platelets 203 x 109 /L (150-400) Serum Sodium 137 mmol/l (135-146) Serum Potassium 4.2 mmol/l (3.5-5) Creatinine 82 µmol/l (79-118) INR 2.22-3 CXR No focal changes paO2 8.2 kPa10-13.3 paCO2 4.2 kPa4.8-6.1 Which of the following is the most appropriate next step?

1- Add aspirin to her therapy

2- Add clopidogrel to her therapy

3- Increase the INR target to 3-4

4- Increase the INR target to 4-5

**5- Refer for an IVC filter**

Q2808. You are investigating a new anti-platelet agent which may have additional effects on top of clopidogrel. To investigate the effects of the new therapy you need to be aware of the mode of action of clopidogrel. Which of the following best describes the action of clopidogrel?

1- 5HT-2 receptor inhibition

2- Cox-1 inhibition

3- Cox-2 inhibition

4- IIb IIIa inhibition

**5- Inhibition of the platelet ADP receptor**

Q2809. A 55-year-old woman, who has a history of atrial fibrillation and is receiving warfarin and digoxin, informs you that she has been feeling down of late and has been self medicating with St John's wort which she obtained from a health shop. Which of the following interactions may be expected between St John's Wort and her current medication?

1- Digoxin concentrations are unlikely to be affected

2- INR is likely to be increased

**3- INR is likely to be reduced**

4- INR is likely to be unaffected

5- There is an increased risk of digoxin toxicity

Q2810. The nurse bleeped you because an obese patient is feeling nauseous and is vomiting. He is also complaining of seeing green and yellow halos. He has recently been treated with a standard intravenous bolus of digoxin for fast atrial fibrillation. His creatinine clearance is normal. Digoxin toxicity is suspected. What do you think is the cause of his symptoms?

1- Decreased hepatic excretion

2- Decreased protein binding

3- Decreased renal clearance

**4- Decreased volume of distribution**

5- Increased half life

Q2811. A 90-year-old man with chronic leukaemia presents with gout which his general practitioner treats with allopurinol. How does allopurinol prevent the accumulation of uric acid?

1- By competing for its transporter to the kidney

2- By enhancing its solubility

**3- By inhibiting purine synthesis**

4- By inhibiting pyrimidine synthesis

5- By inhibiting the inflammatory response it causes

Q2812. A 50-year-old male has a blood pressure of 160/90 mmHg on two consecutive days. You decide that you are going to initiate drug therapy. Which of the following statements regarding your decision is correct?

**1- ACE inhibitors should not be used as first line treatment in Afro-Caribbean patients**

2- An alpha-blocker would be a first line agent in this patient

3- If the patient is non-caucasian a betablocker would be an appropriate first line treatment

4- Potassium monitoring is not required if an ACE inhibitor is prescribed without the addition of spironalactone

5- Spironalactone would be an appropriate second line agent in this patient

Q2813. A 52-year-old woman takes lithium carbonate for manic depression and also takes codeine and diclofenac prescribed by her GP for osteoarthritis. Which one of the following statements is correct?

1- Codeine will reduce the bioavailablity of lithium

2- The analgesic effect of codeine will be reduced by co-administration of diclofenac

3- The nephrotoxicity of diclofenac will be increased in this patient

4- Plasma lithium concentration will be increased by codeine

**5- Plasma lithium concentrations will be raised by diclofenac**

Q2814. A 68-year-old lady with mitral valve disease and atrial fibrillation is taking warfarin. Lately her international normalised (IN R) has fallen and the dose of warfarin has had to be increased. Which of the following new treatments may account for this change?

1- Allopurinol

2- Amiodarone

3- Clarithromycin

4- Sertraline

**5- St John's wort**

Q2815. A 52-year-old man has been started on regular diclofenac for back pain. He is concerned as over the past few days he has been suffering from deteriorating vision. On examination his BP is 142/82 mmHg, pulse is 72 and regular. There is bilateral decreased visual acuity and loss of colour vision. The rest of the neurological examination is unremarkable. Which of the following is most likely to have occurred?

1- Cataract formation

2- Closed angle glaucoma

3- Open angle glaucoma

**4- Optic neuritis**

5- Retinal detachment

Q2816. Which of the following is correct with regard to poisoning / overdose?

1- Aspirin causes acidosis due to hypoventilation

2- Chlormethiazole causes hyperthermia and hypertension

3- Ethylene glycol causes a metabolic alkalosis and renal failure

**4- Methanol causes a metabolic acidosis with an increased anion gap**

5- Phenobarbitone causes a metabolic acidosis

Q2817. You are examining the mechanisms of various agents used in either platelet inhibition or anticoagulation in the management of cardiovascular disease. Which of the following correctly describes a mechanism of action associated with warfarin therapy?

1- 2b3a receptor inhibition

2- Cyclo-oxygenase inhibition

3- P2Y12 inhibition

**4- Reduced levels of factor X**

5- Selective COX-2 inhibition

Q2818. A 45-year-old woman presents to the oncology clinic with metastatic carcinoma of the breast. She wants to take an active role in deciding on the optimal chemotherapy regime for herself, and wants to discuss the relative advantages of capecitabine versus 5-fluorouracil (5-F U) . What would you advise her about capecitabine?

**1- Can be orally administered**

2- Has a greater period of progression free survival than 5-FU

3- Is associated with less blood dyscrasias than 5-FU

4- Is not dependent on renal function

5- Is not usually associated with diarrhoea

Q2819. A patient is suspected of having taken a substance with anticholinesterase effects. Which of the following combinations of signs, if present, would be the most likely to confirm this effect?

**1- Bradycardia and miosis**

2- Bradycardia and mydriasis

3- Bradycardia and urinary retention

4- Tachycardia and diarrhoea

5- Tachycardia and lacrimation

Q2820. A 60-year-old female suffers from bipolar affective disorder and is being treated with lithium. She also has a long history of hypertension for which she is on treatment. During a recent clinic visit her blood pressure was noted to be 170/94 mmHg and a new antihypertensive agent was added. A week later she presents with features of lithium toxicity including tremor, nausea and weakness. The addition of which one of the following drugs was likely to have precipitated the lithium toxicity?

1- Doxazosin

2- Hydralazine

**3- Lisinopril**

4- Minoxidil

5- Moxonidine

Q2821. Which of the following antiemetics functions through inhibition of neurokinin (N K) 1 receptor?

**1- Aprepitant**

2- Domperidone

3- Hyoscine

4- Granisetron

5- Ondansetron

Q2822. A middle-aged lady presents with cervical and inguinal lymphadenopathy. She is also experiencing pins and needles in a glove and stocking distribution, and has gum hypertrophy. She has a previous history of epilepsy and is on regular medication. Which of the following drugs is most likely to cause her symptoms?

1- Carbamazepine

2- Phenobarbitone

**3- Phenytoin**

4- Sodium valproate

5- Vigabatrin

Q2823. Which term best describes the affinity of a drug for its receptor?

1- Efficacy

2- Intrinsic activity

**3- Potency**

4- Selectivity

5- Therapeutic effect

Q2824. A 16-year-old female is admitted with a severe paracetamol overdose. She is treated with IV N-acetylcysteine (NA C) . By replenishing which of the following compounds does N-acetylcysteine function as an antidote in paracetamol overdose?

1- Arginine

2- Cysteine

3- Cystine

**4- Glutathione**

5- Methionine

Q2825. A 60-year-old retired nurse with idiopathic Parkinson's disease presented with motor oscillations and on-off periods. She had received co-beneldopa for five years. Selegiline was added to her treatment. On which one of the following enzymes does selegiline act to cause this adjuvant action?

1- Catechol-o-methyltransferase

2- Dopa decarboxylase

3- Dopamine hydroxylase

**4- Monoamine oxidase**

5- Tyrosine hydroxylase

Q2826. You are asked to see a 42-year-old man who complains of a cough at night. He also tells you that he has wheeze when he has a cold, and he smokes 20 cigarettes per day. He works as a landscaper on a housing development. On examination his BP is 152/91 mmHg, his pulse is 70 and his BMI is 21. There is no significant wheeze. You assess him at intermediate risk of having a diagnosis of asthma. According to BTS guidelines, which FEV1/FVC ratio triggers asthma therapy?

1- 0.5

2- 0.6

**3- 0.7**

4- 0.8

5- 0.9

Q2827. Which of the following is not a cause of druginduced hepatitis?

1- Amiodarone

**2- Ethambutol**

3- Isoniazid

4- Methyldopa

5- Pyrazinamide

Q2828. A 17-year-old boy is diagnosed with asthma and comes to the clinic for review. He is currently managed with 100 mcg BD of inhaled beclomethasone and salbutamol PRN. His mother wants to enrol him in a class teaching the Buteyko technique. What would you advise about its success?

1- It is associated with improved FEV1

2- It is associated with improved FVC

**3- It is associated with improved symptoms**

4- It should not be recommended to adults who require inhaled steroids

5- Patients enrolled tend to use more short acting beta agonists

Q2829. A mother brings her 3-year-old child to the casualty department because she is complaining of earache. You collect her from the waiting room where she is happily playing with toys. This is the second episode over the past year. On examination her temperature is 37.4°C and her right ear drum is pink and bulging consistent with otitis media. According to the SIGN national guidelines, how will you manage the child?

**1- Advise paracetamol and or ibuprofen to relieve her pain**

2- Prescribe clarithromycin for the child and advise her to start it immediately

3- Prescribe penicillin V for the child and advise she starts it immediately

4- Prescribe penicillin V for the child and advise she starts it in 24 hours if the pain does not improve

5- Refer to the ENT surgeons as this is the second episode

Q2830. A 68-year-old man with a history of type 2 diabetes, chronic renal failure and epilepsy is admitted to the emergency department with anorexia, nausea, and increasing lethargy. He also developed tremor and nystagmus, with truncal ataxia and strange choreoathetoid movements. He takes BD mixed insulin for his diabetes, phenytoin for his epilepsy, ramipril and amlodipine for his hypertension. On examination his BP is 159/88 mmHg, his pulse is 90. He has bilateral crackles on auscultation of his chest consistent with fluid overload. Investigations show Haemoglobin 10.5 g/dl(13.5-17.7) White cells 7.8 x 109 /L (4-11) Platelets 182 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 5.7 mmol/l (3.5-5) Creatinine 231 μmol/l (79-118) HbA1c 53 mmol/mol(<35) Phenytoin levels Within the therapeutic range Which of the following is the most likely reason for his phenytoin toxicity?

1- Decreased GI absorption of phenytoin

2- Decreased hydroxylation of phenytoin

**3- Decreased protein binding of phenytoin**

4- Increased protein binding of phenytoin

5- Increased renal cycling of phenytoin metabolites

Q2831. A 45-year-old publican is brought to the Emergency department by ambulance. He is extremely agitated and says that he can see a number of dogs at the door of the side room and they are barking fiercely. On further questioning his wife tells you that he drinks some eight to ten pints of beer and glasses of wine and whisky each day. They have recently had an argument about his drinking and he has not touched any alcohol for the past 12-18 hours. On examination he is agitated and sweating, his BP is 145/84 mmHg, his pulse is 85 and regular. He has changes consistent with chronic liver disease and is tender in the right upper quadrant of his abdomen. Investigations show: Haemoglobin 10.1 g/dl(13.5-17.7) White cell count 8.3 x 109 /L (4-11) Platelets 151 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 90 µmol/l (79-118) Alanine aminotransferase 92 IU/l (5-40) Bilirubin 54 µmol/l (<17) Which of the following is the most likely diagnosis?

**1- Alcoholic hallucinosis**

2- Delirium tremens

3- Hypomanic episode

4- Minor alcohol withdrawal symptoms

5- Stimulant overdose

Q2832. A 28-year-old car mechanic is admitted to the hospital having taken an overdose of methanol after splitting up from his wife. On admission to the Emergency department he is drowsy and intoxicated. His BP is 134/82 mmHg, and he has a tachycardia with a pulse of 95. Investigations show: Haemoglobin 14.0 g/dl(13.5-17.7) White cell count 8.1 x 109 /L (4-11) Platelets 190 x 109 /L (150-400) Serum Sodium 137 mmol/l (135-146) Serum Potassium 4.2 mmol/l (3.5-5) Bicarbonate 17 mmol/l (22-30) Creatinine 130 μmol/l (79-118) Which of the following is the most appropriate antidote for methanol poisoning?

1- Atenolol

**2- Ethanol**

3- Glucagon

4- Insulin

5- Polyethylene glycol

Q2833. A 38-year-old man is admitted with an hour history of chest pain, confusion and agitation after taking a recreational drug. On examination, he is confused, has a temperature of 38.3°C and a blood pressure of 188/102 mmHg. Which of the following drugs is most likely to be responsible for his presentation?

**1- Cocaine**

2- Ecstasy (MDM A) 3- Gamma hydroxybutyrate (GH B) 4- LSD

5- Opiates

Q2834. A 58-year-old male presents with painful breast tissue. Six weeks previously he was treated for atrial fibrillation and had a number of drugs commenced. Which one of the following drugs may have caused this problem?

1- Aspirin

2- Digoxin

3- Flecainide

**4- Spironolactone**

5- Warfarin

Q2835. A 70-year-old man presents with an episode of syncope. On subsequent investigation he is found to have marked postural hypotension. He has been taking felodipine for hypertension for a number of years and he also takes aspirin. On further questioning he appears to have taken up a new healthier lifestyle on his seventieth birthday. Which of the following health supplements is he most likely to have taken that would have contributed to the calcium-channel blocker induced hypotension?

1- Cod liver oil capsules

2- Cranberry juice

3- Ginseng

**4- Grapefruit juice**

5- Vitamin C

Q2836. A 30-year-old patient with learning difficulties is admitted as a medical emergency. The patient complains of headache, anorexia and vomiting. On examination she is febrile with a temperature of 38°C, pulse 110 bpm and is clinically jaundiced. Investigations reveal: Bilirubin60 µmol/L(1-22) Albumin 28 g/L(37-49) AST 400 IU/L(5-40) Alkaline phosphatase 400 IU/L(45-105) Prothrombin time 35 seconds(<14) She was commenced on a new medication within the last three months. Which do you suspect may be contributing to the presentation?

1- Cabergoline

2- Carbamazepine

3- Lamotrigine

4- Metformin

**5- Sodium valproate**

Q2837. A 72-year-old woman comes to the emergency department complaining of nausea and vomiting. Apparently she saw the on-call GP a few days earlier and was prescribed clarithromycin for a respiratory tract infection. Past medical history of note includes COPD for which she takes high dose Seretide, tiotropium and oral theophylline, ischaemic heart disease for which she takes ramipril, amlodipine and indapamide and chronic renal failure. On examination her BP is 132/70 mmHg, and her pulse is 105 (atrial fibrillatio n) . She has bibasal crackles consistent with mild LVF. Investigations show Haemoglobin 11.4 g/dl11.5-16.5 White cell count 7.0 x 109 /L 4-11 Platelets 197 x 109 /L 150-400 Serum Sodium 139 mmol/l135-146 Serum Potassium 4.0 mmol/l3.5-5 Creatinine 145 µmol/l79-118 Which of the following medications is likely to have resulted in her presentation?

1- Amlodipine

2- Indapamide

3- Ramipril

**4- Theophylline**

5- Tiotropium

Q2838. A 33-year-old woman with a history of alcoholism and self-neglect, presents with an episode of blood streaked vomiting. This is attributed to minor Mallory-Weiss tear. She is admitted to hospital and given an intravenous infusion of 5% dextrose. Her serum potassium concentration is noted the following day to have fallen to 1.9 mmol/L (3.5-4.9) on admission. What is the likely mechanism for the fall in potassium concentration?

1- Cortisol release in response to stress increasing renal potassium loss

2- Decompensated liver failure causing aldosterone secretion

**3- Intracellular re-uptake in response to refeeding with glucose**

4- Metabolic acidosis increasing renal potassium excretion

5- Potassium levels falling following gastric loss in vomiting

Q2839. A 64-year-old gentleman consults you in clinic because he is having trouble putting his shoes on due to swelling. He has COPD, hypertension and angina. Which medication is likely to be causing this problem?

**1- Diltiazem**

2- Eplerenone

3- Isosorbide mononitrate

4- Nicorandil

5- Propranolol

Q2840. A 72-year-old woman comes to the Emergency department. She takes warfarin, an anticoagulant for chronic atrial fibrillation, and is usually on a stable warfarin dose of 5 mg every morning. She has had a number of trips to the GP over past weeks for management of her hypertension, a respiratory tract infection, and for treatment of depression. On examination her BP is 142/72 mmHg, her pulse is 80 bpm and regular, she has extensive bruising over her arms and legs. Investigations show: Haemoglobin 13.1 g/dl11.5-16.5 White cell count 8.1 x 109 /L 4-11 Platelets 160 x 109 /L 150-400 Serum Sodium 140 mmol/l135-146 Serum Potassium 4.7 mmol/l3.5-5 Creatinine 106 µmol/l79-118 INR 6.12-3 Which of the following medications is most likely to have caused an increased propensity to bruising?

1- Azithromycin

2- Digoxin

**3- Fluoxetine**

4- Ramipril

5- Simvastatin

Q2841. A 71-year-old man with a history of hypertension, type 2 diabetes and erectile dysfunction comes to the clinic for review complaining of blue vision. He takes amlodipine and ramipril for hypertension, digoxin for atrial fibrillation, sitagliptin and metformin for diabetes, and sildenafil for erectile dysfunction. Which of the following is most likely to be responsible for his blue vision?

1- Amlodipine

2- Digoxin

3- Metformin

**4- Sildenafil**

5- Sitagliptin

Q2842. A 24-year-old female who has previously suffered with severe depression presents with secondary amenorrhoea. She is found to have a prolactin of 645mU/L (normal 50-350). Which of the drugs which she takes may cause this?

1- Becotide

2- Montelukast

3- Omeprazole

**4- Risperidone**

5- Sertraline

Q2843. A 48-year-old man is admitted with nausea and excessive drowsiness after taking an antihistamine tablet. He has previously used the antihistamine but on this occasion he has recently been drinking large amounts of grapefruit juice for his health. Grapefruit juice is suspected of causing a drug interaction in this man. Which of the following liver enzyme systems is affected by grapefruit juice?

**1- Cytochrome p450 3A4**

2- Glucuronidation

3- Glutathione S-transferase

4- Glycine decarboxylase

5- Sulfation

Q2844. Which of the following are centrally acting antihypertensive therapies?

1- Hydralazine

2- Minoxidil

**3- Moxonidine**

4- Phenoxybenzamine

5- Verapamil

Q2845. Which of the following pharmacological agents acts through the opening of potassium channels?

1- Amiloride

2- Glibenclamide

3- Lidocaine

**4- Nicorandil**

5- Phenytoin

Q2846. A 22-year-old male is admitted after drinking engine coolant in an apparent suicide attempt after finding his wife in bed with the postman. Investigations reveal: pH 7.1(7.36-7.44) pO2 15.3 kPa(11.3-12.6) pCO2 3.2 kPa(4.7-6.0) Standard Bicarbonate 2.2 mmol/L(20-28) Serum calcium 1.82 mmol/L(2.2-2.6) After replacing calcium which of the following is the most urgent treatment for this man?

**1- 8.4% bicarbonate infusion**

2- Alcohol infusion

3- Fomepizole infusion

4- Gastric lavage

5- Haemodialysis

Q2847. A 42-year-old man presents with gingival hypertrophy. Which of his cardiac medications is likely to be responsible?

**1- Amlodipine**

2- Atenolol

3- Digoxin

4- GTN

5- Simvastatin

Q2848. A 76-year-old man is reviewed in clinic having recently been diagnosed with severe heart failure (H F) associated with very limiting breathlessness. He was formerly a heavy smoker with a medical history of COPD. His lung function test demonstrates mild to moderate obstructive airways disease and he has 5% airways reversibility. On clinical examination his heart rate is 95 bpm and BP 156/90 mmHg. No wheeze is present. He has an elevated JVP +5 cms but no clinical signs of fluid congestion. He is already taking aspirin 75 mg od, ramipril 10 mg od, furosemide 40 mg od and simvastatin 40 mg nocte. You decide to add in a beta-blocker as the next step. Which would be the most appropriate choice?

1- Atenolol 25 mg od

2- Bisoprolol 5 mg od

**3- Bisoprolol 1.25 mg od**

4- Carvedilol 6.25 mg bd

5- Carvedilol 12.5 mg bd

Q2849. A 63-year-old female presents with dry mouth of three months duration. She is taking medication for hypertension, stress incontinence and reflux oesophagitis. Which of the following may be responsible for her dry mouth?

1- Bendroflumethiazide

2- Cimetidine

3- Doxazosin

4- Hydralazine

**5- Oxybutinin**

Q2850. A 42-year-old woman was taking an antibiotic for a urinary tract infection when she suffered a left Achilles tendon rupture whilst playing badminton. She is very fit, exercising and doing stretching work up to four times per week, and feels the antibiotic may have been responsible. Which of the following antibiotics is the most likely cause?

1- Amoxicillin

2- Cephalexin

3- Co-amoxiclav

**4- Ofloxacin**

5- Trimethoprim

Q2851. A 75-year-old patient being treated for heart failure presents with hyperkalaemia, the potassium being 6.9 mmol/l (NR 3.5-5.0). He was recently commenced on amiloride. The interaction of amiloride with which of his drugs listed below is likely to have caused the hyperkalaemia?

1- Bisoprolol

2- Digoxin

3- Metolazone

**4- Perindopril**

5- Warfarin

Q2852. This symbol appears next to a drug in the BNF. What does this signify?

**1- A drug less suitable for prescribing**

2- A drug that requires closer surveillance for possible side effects

3- Controlled drug

4- Over the counter medication

5- Prescription only therapy

Q2853. This symbol appears next to a drug that you have looked up in the BNF: What does this signify?

**1- Not available for prescription on the NHS**

2- Not recommended for NHS use

3- Only available for specialist use and not for the wider NHS use

4- Over the counter only therapy

5- Specialist licence required for prescription on the NHS

Q2854. Which of the following antiemetics functions as a cholinergic muscarinic antagonist?

1- Aprepitant

2- Domperidone

**3- Hyoscine**

4- Metoclopramide

5- Ondansetron

Q2855. Which of the following antiemetics functions through antagonism of the

**5- hydroxytryptamine 3A receptor?**

1- Aprepitant

2- Domperidone

3- Hyoscine

4- Metoclopramide

**5- Ondansetron**

Q2856. A 17-year-old boy is admitted with a severe paracetamol overdose following an argument with his girlfriend. He is treated with intravenous Nacetylcysteine. Paracetamol is normally metabolised to harmless compounds except in overdose. Which of the following compounds is the toxic metabolite that accumulates during paracetamol overdose and is reduced by treatment with N-acetylcysteine?

1- Glucuronide

2- Homocysteine

3- Methionine

**4- N-acetyl-p-benzoquinoneimine**

5- N-hydroxyacetaminophen

Q2857. A 16-year-old female is admitted after taking an overdose of her mother's propranolol tablets approximately two hours ago. On examination she is drowsy and has a pulse of 40 beats per minute with a blood pressure of 80/40 mmHg. She is treated with activated charcoal, IV fluids and IV atropine but her bradycardia and hypotension fail to respond. Which of the following would be the most appropriate next stage in her management?

1- IV adenaline

2- IV amiodarone

**3- IV glucagon**

4- IV phenytoin

5- Insertion of temporary pacemaker

Q2858. You are asked to advise on analgesia for a 4

4- year-old woman with acute intermittent porphyria who has undergone wisdom teeth extraction. Which of the following drugs is safe for use in her treatment?

1- Cephalexin

2- Cetirizine

3- Diclofenac

4- Erythromycin

**5- Ibuprofen**

Q2859. This symbol appears next to a drug in the BNF: What does it signify?

1- Clinical directive needs to be entered on the prescripton to facilitate prescription

2- Clinically licensed practioners only can prescribe this drug

3- Control dependent prescribing by licensed practioners only

4- Controlled dispensing from certain pharmacies only

**5- Controlled drug requiring licensed prescribing**

Q2860. An 18-year-old woman is admitted after taking drugs at a night club. Which of the following features suggest she had taken ecstasy (MDM A) ?

**1- A pyrexia of 40°C**

2- Hypernatraemia

3- Hypokalaemia

4- Metabolic acidosis

5- Respiratory depression

Q2861. You are discussing the optimal medication for use in a patient who needs to withdraw from heroin. He seems motivated and would like to try tablet therapy. He failed to stay clean during the last month, having used street heroin on up to five occasions. Which of the following is the most appropriate agent for him to combat symptoms of withdrawal?

1- Buprenorphine

**2- Buprenorphine and naloxone combination tablets**

3- Codeine phosphate

4- Dihydrocodeine

5- Morphine

Q2862. A 53-year-old woman is started on a capecitabine based regime for the treatment of metastatic carcinoma. Which of the following is true of capecitabine?

1- Diarrhoea is rarely seen with therapy

2- It is a way to deliver cisplatin orally

**3- It is a way to deliver 5 fluorouracil orally**

4- It is not effective in the treatment of colon carcinoma

5- Capecitabine is more effective than IV agents

Q2863. A patient is treated with hydralazine for the management of her blood pressure. Unfortunately she suffers profound hypotension after only five doses of medication. Which of the following characteristics does she most likely possess?

1- CYP 2D6 polymorphism

2- Fast acetylation

3- HLA-DR2 genotype

4- G6-PD deficiency

**5- Slow acetylation**

Q2864. A 49-year-old woman with a history of hypertension comes to the clinic for review. She has noticed that she has become jaundiced and is concerned one of her medications may be responsible. She has recently had a second anti-hypertensive added to her regime, and is taking an antibiotic for a respiratory tract infection. Investigations show Haemoglobin 12.3 g/dl(11.5-16.0) White cell count 6.2 x 109 /L (4-11) Platelets 195 x 109 /L (150-400) Serum Sodium 138 mmol/l (135-146) Serum Potassium 4.0 mmol/l (3.5-5) Creatinine 105 μmol/l (79-118) Alanine aminotransferase 85 U/l (5-40) Alkaline phosphatase 420 U/l (39-117) Bilirubin 189 μmol/l (<17) Which of the following medications is the most likely cause?

1- Amlodipine

**2- Co-amoxiclav**

3- Enalapril

4- Paracetamol

5- Penicillin V

Q2865. A 45-year-old female is admitted with fatigue, nausea and weight loss. She is known to have abused alcohol for many years and has previously developed delirium tremens. She stopped drinking alcohol two days ago. On examination, she is thin, alert and orientated. She is slightly icteric, with features of chronic liver disease but there is no flapping tremor. Pulse is 88 bpm regular, blood pressure is 106/74 mmHg and temperature is 37°C. She is treated with IV thiamine. Which of the following agents would be recommended for the prevention of acute alcohol withdrawal?

1- IM haloperidol

2- IV diazepam

**3- Oral diazepam**

4- Oral quetiapine

5- No preventative treatment required.

Q2866. A 62-year-old male presented to the urologists with symptoms of urinary hesitancy and dribbling. They diagnose benign prostatic hyperplasia and he is commenced on finasteride. Through which of the following mechanisms does finasteride function?

**1- 5-alpha-reductase inhibitor**

2- Alpha receptor antagonist

3- LHRH analogue

4- LHRH antagonist

5- Testosterone receptor antagonist

Q2867. What does this symbol signify?

1- Controlled drug

2- Intense monitoring required for any adverse events

**3- Medication only available as prescription by licensed practitioner**

4- Pharmacist prescribable drug

5- Prescribing can be optional and medication can be obtained over the counter

Q2868. A 29-year-old man who is a keen amateur photographer with his own development studio presented to the Emergency department with confusion. His partner said he had been under a great deal of stress recently and she found him foolishly drinking a developer solution with a poison symbol on it. He is hypoxic and hypotensive. The local poisons unit suggests a diagnosis of cyanide poisoning. Which of the following would be the most appropriate treatment?

1- Desferrioxamine

**2- Dicobalt EDTA**

3- Gastric lavage with Fuller's earth

4- Haemodialysis

5- Penicillamine

Q2869. A 59-year-old male presents with a three day history of marked muscle aches and weakness. He has ischaemic heart disease for which he takes a number of drugs including simvastatin and has been taking these drugs for a number of years without any problem. On this occasion his CPK confirms a diagnosis of rhabdomyolysis with a level of 4200 iu/l (<200). Which of the following health supplements is he most likely to have taken that would have contributed to the statin-induced rhabdomyolysis?

1- Cod liver oil capsules

2- Cranberry juice

3- Ginseng

**4- Grapefruit juice**

5- Vitamin C

Q2870. A 58-year-old woman presented with unsteadiness and ataxia and gave a recent history of nausea and epigastric pain for which she had been prescribed an antacid and cimetidine. She was an epileptic and had been well controlled with phenytoin for eight years. She had been also been prescribed amitriptyline for depression, was receiving postmenopausal hormone replacement therapy and was self-medicating with St John's wort. Which of the following drugs is most likely to be responsible for her presentation?

1- Amitriptyline

2- Antacid

**3- Cimetidine**

4- Estradiol

5- St John's wort

Q2871. A 72-year-old man presents with painful lumps in his feet and is diagnosed with gout. Following initial treatment with nonsteroidal anti-inflammatory agents he is started on allopurinol. How does this work?

1- Increases urinary uric acid excretion

2- Inhibits cyclooxygenase II

3- Inhibits macrophage tubular formation

4- Inhibits nitric oxide synthase

**5- Inhibits xanthine oxidase**

Q2872. A 16-year-old boy reports palpitations, excessive sweating and tremor occurring almost daily when he walks past a car park where he was mugged four weeks ago. He is finding the symptoms very troublesome and has started missing school to avoid the car park. Which of the following psychiatric illnesses does he have?

**1- Adjustment disorder**

2- Agoraphobia

3- Anorexia nervosa

4- Cynophobia

5- Generalised anxiety disorder

Q2873. A 68-year-old woman comes to the cardiology clinic for review. She complains of pitting oedema of both ankles and is concerned that some of her medication for heart disease or hypertension may be responsible. On examination her blood pressure is 142/72 mmHG, pulse is 78 and regular. Her chest is clear, but there is pitting oedema of both lower legs, which she says gets worse towards the end of each day. Which of the following medications is most likely to be responsible?

**1- Diltiazem**

2- Isosorbide dinitrate

3- Indapamide

4- Nicorandil

5- Ramipril

Q2874. A 22-year-old woman attends the GP concerned that she has a positive pregnancy test. She maintains that she never missed a pill over the course of the last three months. Which of the following, when taken concurrently with the combined contraceptive pill, is most likely to increase the risk of pregnancy?

1- Cimetidine

2- Erythromycin

3- Fluconazole

4- Fluoxetine

**5- St John's wort**

Q2875. A 74-year-old woman with chronic renal failure is admitted to the unit with infective endocarditis. You elect to begin treatment with IV benzylpenicillin and gentamicin. On examination her temperature is 38.2°C, and she has a pansystolic murmur loudest at the left sternal edge, her BP is 125/82 mmHg, her pulse is 80 bpm and regular and she weighs 80 kg. Investigations show Haemoglobin 10.5 g/dl11.5-16.5 White cell count 7.0 x 109 /L 4-11 Platelets 202 x 109 /L 150-400 Serum Sodium 138 mmol/l135-146 Serum Potassium 4.8 mmol/l3.5-5 Creatinine 190 µmol/l79-118 Which of the following is likely to represent the most appropriate dosing regime for the gentamicin?

1- 0.75 mg/kg OD

2- 1 mg/kg BD

**3- 1 mg/kg OD**

4- 1 mg/kg TDS

5- 1.5 mg/kg OD

Q2876. You are asked to see a 27-year-old woman on the oncology ward. She has been admitted for a course of chemotherapy and has been taking high dose steroids for a few days. The nurses report that she is very agitated and talks about trying to open the window of her room and jump out from the fourth floor. You review her notes and see that she admits to drinking a few glasses of wine per week and has smoked cannabis on a few occasions. On examination her BP is 145/88 mmHg, her pulse is 80 and regular and she looks agitated and upset. Investigations show: Haemoglobin 12.1 g/dl(11.5-16.5) White cell count 16.2 x 109 /L (4-11) Platelets 200 x 109 /L (150-400) C-reactive protein 9 nmol/l (<10) Sodium 140 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 92 μmol/l (79-118) Which of the following is the most likely diagnosis?

1- Alcohol withdrawal

2- Cannabis-related psychosis

**3- Corticosteroid-related psychosis**

4- Manic depressive psychosis

5- Personality disorder

Q2877. A 44-year-old woman is taking lithium for bipolar disorder. She also suffers from hypertension and angina and recently underwent a medication review at her GP. She also suffers from osteoarthritis of her knees and has suffered a recent respiratory tract infection. Over the past few days she has become increasingly drowsy, with ataxia, dizziness and slurred speech. A lithium level is measured at 4 mmol/l. Which of the following is most likely to have resulted in her presentation with lithium toxicity?

1- Amoxicillin

2- Atenolol

3- Paracetamol

**4- Ramipril**

5- Verapamil

Q2878. A 55-year-old woman is attending clinic a number of months after having had a myocardial infarction. She has been commenced on appropriate drugs to reduce cardiovascular risk and has made dietary modifications for healthy living. Recently, however, she complains of muscle aches and pains and is found to have an elevated CPK. Consumption of which of the following is likely to have contributed to increased statinassociated myotoxicity?

1- Carrot juice

2- Cranberry juice

3- Garlic cloves

**4- Grapefruit juice**

5- Omega-3 fish oils

Q2879. A 45-year-old female attends the clinic complaining of headache and vomiting for five days. She has a history of scleroderma complicated by stage V chronic kidney disease. On examination, she is tachycardic and has a blood pressure of 240/130 mmhg. Fundoscopy reveals grade 3 hypertensive retinopathy. Which of the following is a centrally acting antihypertensive agent?

1- Diazoxide

2- Hydralazine

3- Minoxidil

**4- Moxonidine**

5- Sodium nitroprusside

Q2880. Which of the following drugs interacts with cranberry juice?

1- Amiodarone

2- Digoxin

3- Propranolol

4- Simvastatin

**5- Warfarin**

Q2881. A 35-year-old man is admitted following a serious attempt at paracetamol overdose. Despite efforts to treat him he develops liver failure. Which of the following is most likely with the ensuing liver failure?

1- Better prognosis in older patients

2- Better prognosis in those with high alcohol consumption

3- Hypoglycaemia rarely happens within 12 hours of onset of encephalopathy

4- It is harmful to give N-acetylcysteine

**5- Lactic acidosis is recognised complication**

Q2882. A 60-year-old man who has been prescribed lisinopril for hypertension presents with an irritating cough. What is the mechanism responsible for ACEinduced cough?

1- Angiotensin I accumulation

2- Asthma

**3- Bradykinin accumulation**

4- Laryngeal irritation

5- Renin accumulation

Q2883. Miss L is a 25-year-old woman attending the general medical clinic. For the last six months she has felt generally fatigued and has noticed abdominal bloating and occasional diarrhoea. She has multiple symptoms that have been troubling her for the last few years and her GP would like some advice on diagnosis and management. She has also been troubled by large, painful mouth ulcers that can be so severe that she is unable to eat. She says that she has had mouth ulcers since she was a teenager and gets them at least once per week. She complains of joint pains affecting her hands and knees, and reports one brief episode of swelling of the right knee that resolved after a week or so of painkillers. Last year, she was seen urgently by the ophthalmologists when she developed an acutely red and painful left eye associated with blurred vision and photophobia. She cannot remember what the diagnosis was, but was treated with steroid drops and this has not bothered her since. On further questioning, you find out that she has also been seen in the GUM clinic complaining of painful vulval ulceration. Swabs and blood samples were taken, but no diagnosis was reached. The symptoms have recurred twice since the first episode two years ago. You read the referral letter from her GP who describes an episode of erythema nodosum last year. He also mentions that she was treated for a DVT following a trip to Cyprus when she was 17. What is the likely unifying diagnosis?

1- Crohn's disease

2- Brucellosis

3- Fibromyalgia

**4- Behcet's disease**

5- Systemic lupus erythematosus

Q2884. An 18-year-old woman is brought to the Emergency department with shortness of breath, stridor, and an urticarial rash. On examination her BP is 90/50 mmHg and she has a tachycardia of 95 beats per minute. You give her hydrocortisone and an IV fluid challenge but her BP fails to improve. You decide to administer adrenalin. Which of the following is the most appropriate method of administration and dosage?

**1- 0.5 ml of 1:1000 adrenalin IM**

2- 0.5 ml of 1:10000 adrenalin IV

3- 1 mcg/min IV adrenalin infusion

4- 1 ml of 1:10000 adrenalin IM

5- 4 mcg/min IV adrenalin infusion

Q2885. You have a 23-year-old female patient who suffers from complex partial epilepsy. When she comes to her clinic appointment she tells you she is worried because her fit frequency has increased and wants more medication. On examination you also notice that she has a significant fungal infection. Medication includes the oral contraceptive pill. Which of the following agents is likely significantly to increase her risk of getting pregnant?

1- Fluconazole

2- Ketoconazole

3- Lamotrigine

4- Levetiracetam

**5- Phenytoin**

Q2886. A 52-year-old accountant presents with a five hour history of confusion and agitation. He is known to have an alcohol problem but has avoided all alcohol for the last three days. On examination, he is sweating, is agitated and disorientated. His temperature is 37.5°C, pulse 110 bpm regular and blood pressure is 152/74 mmHg. He claims to see things on the walls. His investigations reveal: FBCNormal U&EsNormal Plasma glucose4.6 mmol/l (3.6-6) Which of the following agents would be the most appropriate treatment for this man?

1- IV haloperidol

**2- Oral lorazepam**

3- IV phenobarbital

4- IV phenytoin

5- Oral diazepam

Q2887. You look up a drug in the BNF and note the following against it: ??????? missed sympol ?????? What does this signify?

1- Drug is not available on the NHS

2- Over the counter therapy

3- Prescription only drug

**4- Report any potential adverse event**

5- Report only potentially serious adverse events

Q2888. A 55-year-old man on treatment for hypertension, epilepsy and gasto-oesophageal reflux disease presented with an urticarial skin eruption. A drug reaction is suspected since he has recently started a new drug. Which of the following medications is most likely to be responsible?

**1- Aspirin**

2- Atorvastatin

3- Omeprazole

4- Paracetamol

5- Sodium valproate

Q2889. A 55-year-old male who is being treated with lithium for a bipolar disorder has a long history of hypertension for which he is receiving escalating doses of medication. On his most recent visit to clinic his blood pressure was noted to be 166/102 mmHg and a new antihypertensive was added to his current antihypertensive therapy. Five days later he presents with features of lithium toxicity including tremor, nausea and weakness. The addition of which of the following drugs was likely to have precipitated the lithium toxicity?

1- Doxazosin

2- Hydralazine

**3- Irbesartan**

4- Minoxidil

5- Moxonidine

Q2890. A new drug is being studied to find the most appropriate dose in a dose response study. Small doses of the drug lead to a linear increase in serum drug concentration. At higher doses there is an exponential rise in serum drug concentration. Which of the following best describes the pharmacokinetic properties of this new drug?

1- First order kinetics

2- First pass effect

3- Long plasma half life

**4- Saturation kinetics**

5- Zero order kinetics

Q2891. A farmer on treatment for depression is admitted acutely one hour following an intentional overdose of an unidentified substance. On examination he is bradycardic, hypotensive, disorientated, hypersalivating, and has small pupils. Which of the following is he most likely to have ingested?

1- A tricyclic antidepressant (TC A) 2- An organophosphate insecticide

3- Cyanide

4- Paracetamol

5- Paraquat

# Chapter 18 2012 Respiratory

Q2892. A 21-year-old female presents with joint pains and rash. On examination her blood pressure was 140/100 mmHg. Investigations reveal: Creatinine 90 µmol/l (60-110) Anti dsDNA antibodies Strongly positive(0-73) 24 hour urinary protein excretion 1.7 g(<0.2) Renal biopsy Membranous nephropathy What is the most appropriate next treatment for her nephropathy?

**1- ACE inhibitor for blood pressure control**

2- Cyclophosphamide

3- NSAIDs for arthralgia

4- Prednisolone for immunosuppression

5- Warfarin anticoagulation

Q2893. A 41-year-old woman comes to the clinic with increasing shortness of breath. She has a history of systemic sclerosis, takes omeprazole for reflux symptoms and nifedipine slow release for Raynaud's disease. On examination her BP is 155/85 mmHg, pulse is 82 and regular. There is peripheral calcinosis on examination of the hands and pinching of the corners of the mouth consistent with scleroderma. Auscultation of the chest reveals scattered inspiratory crackles across both lung fields. Investigations show: Haemoglobin 12.2 g/dl(11.5-16.0) White cell count 8.3 x 109 /L (4-11) Platelets 199 x 109 /L (150-400) ESR 62 mm/hr(<10) Sodium 138 mmol/l (135-146) Potassium 4.3 mmol/l (3.5-5) Creatinine 131 micromol/l (79-118) CXR - Bilateral interstitial infiltrates. Echocardiogram - Ejection fraction 53%. Which of the following is the most likely diagnosis?

1- Bacterial pneumonia

2- Cryptogenic fibrosing alveolitis

3- Eosinophilic pneumonitis

**4- Interstitial fibrosis**

5- Pulmonary oedema

Q2894. A 24-year-old man presents to the Emergency department and complains of shortness of breath. Before his chest x ray is taken he tells the casualty officer that he is known to have an 'azygous lobe'. In what region of the chest x ray would you expect to see an 'azygous lobe'?

1- Left lower zone

2- Left mid zone

3- Left upper zone

4- Right lower zone

**5- Right upper zone**

Q2895. A 23-year-old man presents to the Emergency department with sudden onset left sided pleuritic chest pain. He has had a chronic cough over the past few days and says the pain came on after a coughing fit. On examination his BP is 148/82 mmHg, pulse is 82 and regular, his saturations are 95% on air. Chest sounds appear normal. Investigations show: pH 7.42(7.35-7.45) pCO2 4.8 kPa(4.8-6.1) pO2 10.2 kPa(10-13.3) CXR Small left sided pneumothorax (<5%) Which of the following is the most appropriate way to manage him?

1- Admit for overnight oxygen therapy

2- Chest drain

3- Discharge and review in 24 hours

**4- Discharge and review in the clinic in two to three weeks**

5- Pleural aspiration

Q2896. A 45-year-old man has been diagnosed with pulmonary tuberculosis. Which of the following investigations is essential prior to starting antituberculous therapy?

1- Full blood count

**2- Liver function test**

3- Plasma glucose

4- Urine for acid-fast bacilli

5- Vitamin B6

Q2897. You are asked to see a patient who attends the emergency department with shortness of breath. The chest x ray shows right lower lobe consolidation. Which of the following features should prompt admission to hospital?

1- Audible bronchial breathing

2- A paO2 of 9.8 kPa (11-13)

**3- A respiratory rate of 32/min**

4- A SaO2 of 95%

5- A white cell count of 16.8 x 109 /L (4-10)

Q2898. A 65-year-old man with known chronic obstructive pulmonary disease (COP D) , treated with inhalers, was admitted with a six week history of gradually increasing shortness of breath. He was apyrexial, mildly confused with a respiratory rate of 26 breaths per minute and there were no changes on the chest x ray. Investigations revealed: paO2 7.8kPa (9-12.6) paCO2 8.5kPa (4.7-6.0) pH 7.3 (7.36-7.44) What is the most appropriate immediate management?

1- High flow oxygen therapy

2- Intravenous aminophylline

3- Intravenous hydrocortisone

4- Intubation and mechanical ventilation.

**5- Nebulised salbutamol and ipratropium bromide.**

Q2899. Which of the following statements regarding the sweat test is true?

1- At least 25 mg of sweat is necessary for a reliable result.

2- False/positive results may be encountered in children with nephrotic syndrome.

**3- More than 60 mmol/L of chloride in sweat is diagnostic of cystic fibrosis.**

4- Sweating is enhanced by application of atropine.

5- The filter paper is left on for a total of about four hours.

Q2900. A 27-year-old woman is referred to the respiratory clinic with increasing shortness of breath and episodes of syncope. On further questioning it transpires that her mother suffered from a lung / circulatory condition and died a few years after a heart lung transplant, and her aunt died at a young age, from a condition which they were told was heart failure. Her BP is 145/82 mmHg, her pulse is 85 and regular, and her BMI is 22. There is a murmur of tricuspid regurgitation, and bilateral pitting oedema of the ankles. Investigations show: Haemoglobin 12.6 g/dl(11.5-16.0) White cell count 6.8 x 109 /L (4-11) Platelets 205 x 109 /L (150-400) Sodium 136 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 119 µmol/l (79-118) Echocardiogram Evidence of increased right sided pressures Which of the following is the most likely mode of inheritance?

**1- Autosomal dominant**

2- Autosomal recessive

3- De-novo mutation

4- X linked dominant

5- X linked recessive

Q2901. You review a 52-year-old gentleman with COPD in chest clinic three weeks after a recent admission for an exacerbation. He has had repeated admissions to hospital with exacerbations of his COPD, but until now has refused to quit smoking. He now reports that he is keen to quit smoking and is requesting help to achieve this. Which of the following smoking cessation methods is most likely to be successful in this patient?

1- Acupuncture

2- Bupropion plus counselling

3- Counselling

4- Hypnosis

**5- Nicotine replacement patches plus counselling**

Q2902. A 53-year-old dental secretary presents with a four month history of dry cough. She has never smoked. She denies haemoptysis, weight loss and dyspnoea. There is no post nasal drip. Her medical history consists only of hypertension for one year. She is on ramipril 2.5 mg, bendroflumethiazide 2.5 mg and amlodipine 10 mg. On examination her JVP is not raised and her chest is clear. A CXR was requested. What would be the most likely cause of her cough?

1- Allergic rhinitis

2- Bronchiectasis

**3- Drug induced**

4- Interstitial lung disease

5- Lung cancer

Q2903. A 58-year-old man presents to the Emergency department with an acute episode of breathlessness and pleuritic-sounding chest pain. He is currently receiving treatment for metastatic prostate cancer. On examination he is dyspnoeic, tachycardic (heart rate of 121 bp m) and has saturations of 85% on air. His blood pressure is 107/67 mmHg. Following assessment of his clinical probability, he is categorised as a high risk for a pulmonary embolism (P E) - Wells score 5.5. The attending medical doctor requests a CTPA. What treatment, if any, should this patient receive before the results of his imaging are known?

**1- Low molecular weight heparin (LMW H) 2- No treatment until the result of the CTPA is known**

3- Thrombolysis

4- Unfractionated heparin (UF H) 5- Warfarin

Q2904. A stable hand is referred to the medical admission unit with increasing breathlessness over the last six months since starting work at a new yard. He reports initially symptoms of dyspnoea in the evenings with a dry cough. He has also noted occasional fevers at night. His breathing has become steadily worse. A chest x ray is performed which shows some fluffy nodular shadowing. What is the most likely causative agent for his condition?

1- Avian proteins

2- Epicoccum nigrum

3- Klebsiella

4- Penicillium species

**5- Thermophilic Actinomyces bacteria**

Q2905. A 47-year-old male presents with marked shortness of breath which has deteriorated over the last two weeks. On examination he has a hard irregular thyroid mass and has some difficulty breathing. There appears to be no retrosternal extension and he appears clinically euthyroid. What is the most likely diagnosis?

**1- Anaplastic carcinoma of thyroid**

2- Bleed into a thyroid nodule

3- Follicular thyroid carcinoma

4- Medullary thyroid carcinoma

5- Multinodular goitre

Q2906. A 71-year-old man presents with a tender left calf and has a background history of headaches, tiredness and dizziness. He is a smoker of 20 cigarettes daily and drinks 45 units of alcohol weekly. On examination he was plethoric, had a blood pressure of 186/102 mmHg and has a swollen, hot tender and erythematous left calf. Dopplers confirm the presence of a deep vein thrombosis. Investigations reveal: Haemoglobin 19 g/dl(13-18) Haematocrit 0.58(0.40-0.52) White cell count 12.5 x 109 /L (4-11) Platelet count 500 x 109 /L (150-400) Which one of the following is the most appropriate investigation to establish the diagnosis?

1- Abdominal ultrasound scan

2- Arterial blood gases

3- Bone marrow trephine

4- Leucocyte alkaline phosphatase score

**5- Red blood cell mass**

Q2907. An 80-year-old man with a five year history of diet controlled type 2 diabetes mellitus presents with a one month history of cough and weight loss. He was a non-smoker and had difficulty expectorating. Investigation revealed a HbA1c of 7% (3.8-6.4) but his chest x ray showed a cavitating left apical shadow. Which of the following investigations would be most useful in establishing the cause of this lesion?

**1- Bronchoscopy**

2- CT scan of the chest

3- Gastric aspirate for acid-fast bacilli

4- Percutaneous lung biopsy

5- Sputum for acid-fast bacilli

Q2908. Which of the following statements is true of infections with Mycobacterium tuberculosis?

1- A positive tuberculin test indicates active disease

2- In pregnant women treatment should not be given until after delivery

3- Lymph node positive disease requires longer treatment than pulmonary disease

**4- Non-sputum producing patients are noninfectious**

5- Pyrazinamide has high activity against active extracellular organisms

Q2909. A 16-year-old boy with cystic fibrosis (C F) presents with abdominal pain. Which of the following is most likely to be the cause?

1- Irritable bowel syndrome

**2- Meconium ileus equivalent syndrome**

3- Pyelonephritis

4- Renal calculi

5- Ulcerative colitis

Q2910. A 41-year-old woman comes to the clinic with increasing shortness of breath. She has a history of systemic sclerosis, takes omeprazole for reflux symptoms and nifedipine slow release for Raynaud's disease. On examination her BP is 155/85 mmHg, pulse is 82 and regular. There is peripheral calcinosis on examination of the hands and pinching of the corners of the mouth consistent with scleroderma. Auscultation of the chest reveals scattered inspiratory crackles across both lung fields. Investigations show: Haemoglobin 12.2 g/dl(11.5-16.0) White cell count 8.3 x 109 /L (4-11) Platelets 199 x 109 /L (150-400) ESR 62 mm/hr(<10) Sodium 138 mmol/l (135-146) Potassium 4.3 mmol/l (3.5-5) Creatinine 131 micromol/l (79-118) CXR - Bilateral interstitial infiltrates. Echocardiogram - Ejection fraction 53%. Which of the following is the most likely diagnosis?

1- Bacterial pneumonia

2- Cryptogenic fibrosing alveolitis

3- Eosinophilic pneumonitis

**4- Interstitial fibrosis**

5- Pulmonary oedema

Q2911. A 45-year-old female pigeon fancier comes to the emergency department with shortness of breath and flu-like symptoms. She tells you that some of her birds have also been unwell. There is no past medical history of note. On examination her BP is 110/60 mmHg, her pulse is 65 and regular, and temperature is 38.2C. There are scattered crackles and wheeze on auscultation of the chest. Investigations show: Haemoglobin 11.8 g/dl(11.5-16.0) White cell count 3.9 x 109 /L (4-11) Platelets 193 x 109 /L (150-400) ESR 72 mm/hr(<10) Sodium 136 mmol/l (135-146) Potassium 4.4 mmol/l (3.5-5) Creatinine 118 micromol/l (79-118) Alanine aminotransferase 102 U/l (5-40) Alkaline phosphatase 230 U/l (39-117) CXR - Widespread hazy opacities affecting both lower lobes. Which of the following is the most likely diagnosis?

1- Avian influenza

2- Legionnaire's disease

**3- Psittacosis**

4- Streptococcus pneumoniae

5- Q fever

Q2912. A 55-year-old gentleman has recently been diagnosed with idiopathic pulmonary fibrosis. He has been on the internet researching pulmonary fibrosis and wants to know if he is suitable for steroid therapy. Which of the following is most likely to be associated with a response to steroid therapy?

1- Absence of pulmonary hypertension on an ECHO

2- Age at diagnosis

**3- Bronchoalveolar lavage lymphocytosis**

4- paO2 of 8.6kPa

5- Predominant reticular pattern on HRCT

Q2913. A 72-year-old patient with COPD would like to spend two weeks in Australia. He lives in Manchester. His FEV1 is 60%. He was last admitted to hospital a year ago because of an infective exacerbation of COPD. His O2 sat is 96% on air. He takes regular inhalers. What advice would you give?

1- Advise him not to fly

2- Advise inflight oxygen 28%

3- Advise inflight oxygen 35%

**4- Allow flight and no oxygen required**

5- Perform a hypoxic challenge test

Q2914. Which of the following is true of BCG vaccination?

1- Is a killed polysaccharide antigen vaccine

2- Is contraindicated in neonates

3- Is presently routinely offered in the UK at age 16 years

**4- Provides protection against leprosy**

5- Should be given to all children who have a strongly positive tuberculin test

Q2915. A 48-year-old woman presents to her GP with Cushingoid facies and hyperpigmentation of the skin on her face and chest. She has smoked 20 cigarettes per day for 30 years. Examination reveals no gross abnormalities. Her chest x ray reveals a 2 cm irregularly shaped mass in the right upper lobe, in proximity to the mediastinum. A CT guided needle biopsy of the lung lesion is performed. Which would be the most likely cytologic finding?

1- Adenocarcinoma

2- Benign bronchial adenoma

3- Bronchoalveolar cell carcinoma (BA C) 4- Small cell (oat cel l) carcinoma

5- Squamous cell carcinoma

Q2916. A 53-year-old man presents to the respiratory clinic. He has been involved in nuclear power plant construction for much of his life and has increasing shortness of breath and chronic cough over the past 12 months. On examination his BP is 138/82 mmHg, pulse is 72 and heart sounds are normal. There are occasional crackles on auscultation of the chest. Investigations show: Haemoglobin 12.4 g/dl(13.5-17.7) White cell count 10.2 x 109 /L (4-11) Platelets 203 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 122 micromol/l (79-118) CXR - Bilateral hilar lymphadenopathy. Which of the following is the most likely diagnosis?

1- Asthma

**2- Berylliosis**

3- COPD

4- Cryptogenic fibrosing alveolitis

5- Sarcoidosis

Q2917. A 43-year-old Caribbean female comprehensive school teacher complains of slowly increasing breathlessness. She has no smoking history. Investigations reveal she has bilateral enlarged hilar lymph nodes, elevated serum calcium, interstitial lung disease, and enlarged liver and spleen. What is the most likely diagnosis?

1- Coccidioidomycosis

2- Hyperparathyroidism

3- Hypervitaminosis D

**4- Sarcoidosis**

5- Tuberculosis

Q2918. A 67-year-old man who has a long history of chronic bronchitis is admitted from home with an acute exacerbation. Investigations show: pCO2 11 kPa(4.7-6) pO2 6.7 kPa(10-13.3) Which of the following would be expected in this patient?

1- A metabolic acidosis with a low bicarbonate would be expected

**2- Extensor plantar responses may be expected**

3- Gentamicin would be a reasonable initial treatment until cultures are available

4- Oxygen therapy should aim to increase the pO2 to above 8 kPa (60 mmH g) 5- Peripheral oedema indicates coexisting heart failure

Q2919. A 24-year-old male presents after developing a bluish discolouration of the body, lips and nails. He denies any relevant past medical history. Examination reveals a central cyanosis and a grey complexion. Investigation revealed: Haemoglobin 17.0 g/dl(13.0-18.0) paO2 13.0 kPa(11.3-12.6) SaO2 (using an oximete r) 85%(>95) What is the most likely diagnosis?

1- Argyria

2- Cyanotic congenital heart disease

3- Haemochromatosis

**4- Methaemoglobinaemia**

5- Methylene blue poisoning

Q2920. A 56-year-old woman is recently diagnosed with small cell carcinoma of the lung. Which of the following non-metastatic manifestations is she most likely to develop?

**1- Eaton-Lambert syndrome**

2- Ectopic PTH-related peptide secretion

3- Erythema gyratum repens

4- Hypertrophic pulmonary osteoarthropathy (HPO A) 5- Myasthenia gravis

Q2921. A 24-year-old woman presents to the respiratory clinic some nine months after the birth of her first child. She has suffered increasing shortness of breath over the past few weeks and months, so much so that she can barely walk up stairs or to the bus stop at the end of her street. On examination she looks short of breath at rest. Her JVP is elevated and there is mild bilateral ankle swelling. Her lung fields are clear. Investigations show: Haemoglobin 13.2 g/dl(11.5-16.0) White cell count 7.3 x 109 /L (4-11) Platelets 201 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 116 micromol/l (79-118) Echocardiogram - Evidence of pulmonary hypertension. VQ scan - no evidence of pulmonary embolism. Which of the following is the most appropriate initial management?

1- Beta blocker

2- Calcium antagonist

**3- Endothelin receptor antagonist**

4- PDE-5 inhibitor

5- Prostaglandin infusion

Q2922. A 29-year-old man is referred to the respiratory clinic with increasing shortness of breath. He smokes 5-10 cigarettes per day and drinks 30 units of alcohol per week. He reports wheeze and a chronic cough so his GP has been managing him for asthma. On examination his BP is 132/72 mmHg, pulse is 80 and regular. There is scattered wheeze and coarse crackles on auscultation of the chest. Investigations show: Haemoglobin 13.5 g/dl(13.5-17.7) White cell count 8.0 x 109 /L (4-11) Platelets 232 x 109 /L (150-400) Sodium 140 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 115 µmol/l (79-118) Alanine aminotransferase 110 U/l (5-40) CXR Predominant lower lobe emphysema Pulmonary function testingobstructive defect, FEV 42% of predicted According to NICE, which of the following is the most appropriate treatment?

1- Alpha-1-antitrypsin

2- Home oxygen therapy

**3- Inhaled corticosteroids and long acting beta agonist therapy**

4- Ipratropium as required

5- Rotating antibiotics

Q2923. A 39-year-old chef, who arrived in the United Kingdom from Pakistan eight months ago, presents to the chest clinic with a two month history of weight loss, dry cough and night sweats. Investigations reveal he has multi-drugresistant tuberculosis (MDR-T B) . What is the minimum overall duration of treatment for MDR-TB once the sputum is negative?

1- 3 months

2- 6 months

**3- 9 months**

4- 12 months

5- 24 months

Q2924. A 48-year-old woman presents to the Emergency department with a one week history of a non-productive cough and increasing breathlessness. She reports her breathing is much worse on exertion. Her past medical history includes hypertension, migraines and a renal transplant for end stage hypertensive nephropathy. Examination reveals mild pyrexia of 37.8°C and most notably she was profoundly hypoxic with oxygen saturations of 80% on air. An arterial blood gas confirmed her hypoxia. A CXR showed some patchy bilateral infiltrates, more pronounced on the left. She is diagnosed with community-acquired pneumonia and treated empirically with recommended antibiotics. The next day she deteriorates and requires intubation and ventilation. What is the most likely causative organism?

1- Chlamydia pneumoniae

2- Legionella pneumophila

3- Pneumocystis carinii

**4- Pneumocystis jiroveci**

5- Pseudomonas aeruginosa

Q2925. According to the latest NICE guidance, which of the below combinations of results is now classed as severe airflow obstruction in chronic obstructive pulmonary disease (COP D) ? Note: all values are post bronchodilator.

1- FEV1/FVC <0.7 & FEV1 predicted <30%

**2- FEV1/FVC <0.7 & FEV1 predicted 30-49%**

3- FEV1/FVC <0.7 & FEV1 predicted 50-79%

4- FEV1/FVC <0.75 & FEV1 predicted <30%

5- FEV1/FVC <0.75 & FEV1 predicted 30-49%

Q2926. Carcinoid tumours of the lung (bronchial adenoma s) originate from which of the following cell types?

1- Ciliated cell

2- Clara cell

**3- Kulchitsky ( K) cell**

4- Mucus (goble t) cell

5- Type 2 alveolar cell

Q2927. A 62-year-old man, who has worked for a long period of his life as a boiler lagger, presents to the clinic for review. He is worried as over the past year he has suffered increasingly severe shortness of breath with a dry cough. He also reports that his fingers have begun to change shape. His GP has given him a salbutamol inhaler but it has had little effect on his symptoms. Other history includes smoking of 10 cigarettes per day, and hypertension for which he takes indapamide. On examination his BP is 142/72 mmHg, his pulse is 80 and regular, and he looks short of breath at rest. There are inspiratory basal crackles. Investigations show: Haemoglobin 13.1 g/dl(13.5-17.7) White cell count 7.1 x 109 /L (4-11) Platelets 152 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 110 micromol/l (79-118) pH 7.42(7.35-7.45) pCO2 4.2 kPa(4.8-6.1) pO2 9.3 kPa(10-13.3) CXR - Nodular opacification. What is the diagnosis?

**1- Asbestosis**

2- Asthma

3- COPD

4- Cryptogenic fibrosing alveolitis

5- Tuberculosis

Q2928. A 58-year-old woman presents with early features of COPD. She is a heavy smoker and asks about drugs that may help her to stop smoking. In particular, she has heard about a new drug that is now available called Champix (vareniclin e) . Varenicline is an agent used in the treatment of smokers to help them quit. Which of the following best describes its mechanism of action?

1- A tricyclic antidepressant with mostly noradrenergic properties

2- An a2-noradrenergic agonist that suppresses sympathetic activity

3- Is a nicotine replacement therapy

**4- Is a partial agonist of the alpha4beta2 nicotinic receptor**

5- Reduces uptake of dopamine, serotonin and norepinephrine

Q2929. A 9-year-old boy presents with a history of headache and persistent green nasal discharge. At night he has a cough and snores loudly. The headache is exacerbated by leaning forwards. On examination he is apyrexial, but has a persistent nasal obstruction and nasal speech. He is tender over the maxillae and forehead. What is the most likely diagnosis?

1- Allergic rhinitis

2- Asthma

3- Croup

4- Gastroesophageal reflux

**5- Sinusitis**

Q2930. A 67-year-old man presents with a long history of cough, breathlessness on minimal exertion and ankle swelling. He smokes 30-40 cigarettes per day. Investigations are as follows: Haemoglobin 19g/dl White blood count 7.3 paO2 (ai r) 6.2kPa paCO2 (ai r) 8.9kPa Serum [H+]44 nmol/l Serum [HCO3]36 mmol/l What is the most likely explanation of these results?

1- Acute respiratory acidosis

**2- Chronic respiratory acidosis**

3- Chronic respiratory alkalosis

4- Metabolic acidosis

5- Metabolic alkalosis

Q2931. A 22-year-old man presents with increased shortness of breath, a dry cough, right sided pleuritic chest pain and extreme lethargy. He has no significant medical history of note but says a few other people have been ill in his class at university over the past few weeks. On examination he is pyrexial 38.2C, BP is 110/72 mmHg, pulse is 85 and regular. There is scattered wheeze, more marked on the right than the left, but the signs seem unremarkable compared to how ill he feels. Investigations reveal: Haemoglobin 11.4 g/dl(11.5-16.0) White cell count 11.9 x 109 /L (4-11) Platelets 163 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.3 mmol/l (3.5-5) Creatinine 122 micromol/l (79-118) ESR 83 mm/hr(<10) CXR - Right lower lobe pneumonia. Which of the following is the most appropriate antibiotic choice for him?

1- Amoxicillin

2- Benzyl penicillin

3- Ciprofloxacin

**4- Clarithromycin**

5- Doxycycline

Q2932. A 62-year-old man comes to the clinic with increasing shortness of breath and a dry cough. He is known to have worked previously in the ship building industry. On examination he is mildly short of breath at rest. There is finger clubbing and bilateral inspiratory crackles on auscultation of the chest. It is noted on his pulmonary function testing that the DLCO is reduced. Which of the following is likely most to affect interpretation of the test?

1- Consumption of two units of alcohol the night before the test

2- Mild kyphosis

3- Mild scoliosis

**4- Smoking on the morning of the test**

5- Use of salbutamol

Q2933. A 71-year-old man presents with severe emphysema. He is on maximal therapy including high dose Seretide and tiotropium. He tells you that he is so unwell that he can barely manage the walk of 200 metres to the corner shop. On examination he looks short of breath at rest. His BP is 155/72 mmHg, pulse is 75 and regular. There are quiet breath sounds, occasional coarse crackles and wheeze on auscultation of the chest. Investigations show: Haemoglobin 14.1 g/dl(13.5-17.7) White cell count 8.1 x 109 /L (4-11) Platelets 292 x 109 /L (150-400) Sodium 136 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 123 micromol/l (79-118) pH 7.42(7.35-7.45) pCO2 7.4 kPa(4.8-6.1) pO2 9.8 kPa(10-13.3) CXR - Predominant upper lobe emphysema. FEV1 - 30% of predicted. Which of the features of his history, examination or investigations would preclude referral for lung reduction surgery?

**1- pCO2 7.4**

2- pO2 9.8

3- FEV1 30% predicted

4- Predominant upper lobe emphysema

5- Severe limitation of exercise capacity

Q2934. A patient is admitted to the intensive care unit for ventilatory support several hours after being admitted to the emergency department following a near drowning incident. He is extremely hypoxic and a chest x ray shows bilateral infiltrates. He is diagnosed with acute respiratory distress syndrome (ARD S) . Which of the following is a direct pulmonary cause of ARDS?

1- Anaphylaxis

2- Burns

3- Post arrest

4- Sepsis

**5- Tuberculosis**

Q2935. Which one of the following is true regarding acute pulmonary embolism?

1- A normal ECG excludes the diagnosis

2- Embolectomy is more effective than thrombolysis in improving survival

3- Heparin is as effective as thrombolytic therapy

4- The presence of hypoxaemia is an indication for thrombolysis

**5- Thrombolysis administered through a peripheral vein is as effective as through a pulmonary artery catheter**

Q2936. A 56-year-old man presents with night time sweats, nocturia, poor concentration and daytime somnolence. To which of the following conditions does this diagnosis predispose?

1- Hypoglycaemia

2- Hypotension

3- Insulin sensitivity

4- Osteoporosis

**5- Stroke**

Q2937. A 68-year-old gentleman with a 45 year pack history is referred to the respiratory clinic by his GP with increasing breathlessness over the last 12 months. He has a cough productive of clear sputum, which appears to be present most days. He has no weight loss and no history of haemoptysis. His spirometry results are as follows; FEV1/FVC0.65% FEV1 (% predicte d) 71% Based on the latest NICE guidelines, what (if an y) is the severity of this gentleman's airflow obstruction?

1- Mild

**2- Moderate**

3- No airflow obstruction

4- Severe

5- Very severe

Q2938. A 40-year-old man is undergoing investigation for acromegaly. MRI of the pituitary fossa is normal, but a routine chest x ray reveals a large centrally based mass. The patient is a non-smoker. What is the most likely type of this lung tumour?

1- Adenocarcinoma

**2- Carcinoid**

3- Large cell

4- Small cell

5- Squamous cell

Q2939. A 75-year-old woman presents with an acute infective exacerbation of her longstanding chronic obstructive airways disease. Blood gas analysis whilst she was receiving oxygen shows: pH 7.14 (7.36-7.44) pO2 18 kPa (11.3-12.6) pCO2 10.5 kPa (4.7-6.0) What is the most appropriate immediate management for this patient?

1- CPAP

2- Doxapram infusion

3- Invasive ventilation

4- Nebulised salbutamol with ipratropium

**5- Reduce inspired oxygen concentration**

Q2940. In restrictive lung disease due to respiratory muscle weakness, which of the following statements is true?

1- Low FEV1/FVC, high RV/TLC

2- Low FEV1/FVC, normal TLC

3- Low VC, low FEV1, normal TLC, low RV/TLC

4- Low VC, low RV, low TLC

**5- Low VC, low TLC, high RV/TLC**

Q2941. An 18-year-old attending the emergency department is noted to have central cyanosis. She is perfectly well but was told to go to the emergency department by her friends who said she looked blue. What is the most likely cause?

1- Anorexia nervosa

2- Carbon monoxide poisoning

**3- Drinking water contaminated with nitrates**

4- Lead poisoning

5- Severe anaemia

Q2942. A 35-year-old homeless gentleman is admitted to the acute medical unit with a four month history of cough, weight loss and night sweats. A chest x ray is highly suggestive of miliary tuberculosis (T B) . Which of the following statements is true regarding this condition?

1- A negative tuberculin test excludes diagnosis

2- A normal chest x ray excludes this diagnosis

3- Anti-TB drugs should not be given unless patient is sputum positive (for acid fast bacill i) 4- Nodules are typically 4-6 mm

**5- Tuberculous meningitis is also seen in 15- 20% of patients with miliary TB**

Q2943. A 74-year-old gentleman with known metastatic carcinoma of the pancreas presents with an acute episode of dyspnoea and pleuritic-sounding chest pain. He is tachycardic with a rate of 118 bpm and his oxygen saturations on pulse oximetry are 84% on 2L of oxygen. He is investigated for a presumed pulmonary embolism and a CTPA confirms a clot in the right middle lobe. Which of the following forms part of the Wells scoring criteria for pulmonary embolism?

1- Chest pain

2- Classical ECG changes (S1Q3T3)

**3- Haemoptysis**

4- Signs of right ventricular failure

5- Widened A-a gradient on arterial blood gas sampling

Q2944. A 40-year-old gentleman is referred to the chest clinic with worsening asthma symptoms. He had been diagnosed with late onset asthma aged 35 years. On questioning the patient reports a short history of malaise, fever and tender subcutaneous nodules on his legs. He has had no haemoptysis. A full blood count is performed and the results are as follows: Hb 14.5 g/dl(11.5-16g/d l) PLT 240 x 109 /L (4-11 x 109 / L) WBC 12.5 x 109 /L (neut 7.8, lymph 2.5, monocytes 0.1, eosinophils 2.0, basophils 0.09) (4-11 x 109 / L) A full blood count from three years earlier was reviewed and its results were as follows: Hb 12.5 g/dl (11.5-16g/d l) PLT 162 x 109 /L (4-11 x 109 / L) WBC 9.5 x 109 /L (neut 5.5, lymph 3.5, monocytes 0.5, eosinophils 0.9, basophils 0.1) (4-11 x 109 / L) A chest x ray is performed which shows patchy pulmonary infiltrates. Given the patient's history and the results of initial investigations, which is the most likely diagnosis?

1- Acute respiratory distress syndrome

**2- Churg-Strauss syndrome**

3- Instrinsic asthma

4- Microscopic polyangiitis

5- Wegener's granulomatosis

Q2945. A 38-year-old man presents with a two week history of recurrent haemoptysis which he has noted over the last 18 months. He is unaware of any chest pain and is a smoker of five cigarettes daily. A chest x ray reveals collapse of the left lower lobe. What is the most likely diagnosis?

**1- Bronchial carcinoid**

2- Bronchial carcinoma

3- Brochiectasis

4- Inhaled foreign body

5- Pulmonary embolism

Q2946. A 45-year-old male with type 2 diabetes presented to the clinic as his wife complained that he snored excessively. Which of the following would suggest a diagnosis of obstructive sleep apnoea?

**1- Daytime sleepiness**

2- Nasal polyps

3- Nocturnal cough

4- Poor memory

5- Stridor

Q2947. Progressive massive fibrosis (PM F) is most likely to be found in which of the following?

**1- Complicated silicosis**

2- Extrinsic allergic alveolitis

3- Lobar pneumonia

4- Sarcoidosis

5- Simple coal worker's pneumoconiosis

Q2948. A 38-year-old gentleman with known emphysema secondary to alpha 1-antitrypsin (A1A T) deficiency attends the local chest clinic for follow up. He is also known to have liver cirrhosis. Which of the following conditions is associated with A1AT deficiency?

**1- Bladder carcinoma**

2- Churg-Strauss vasculitis

3- Polyarteritis nodosa

4- Primary biliary cirrhosis

5- Pulmonary fibrosis

Q2949. Which of the following is true regarding primary pulmonary tuberculosis?

1- Commonly leads to miliary TB

2- Is highly infective

3- Leads to pleural effusion

**4- May be totally asymptomatic**

5- Usually produces cavitation

Q2950. A 55-year-old man who has a 25 year pack history of smoking presents with productive cough with mucoid sputum of two year duration. On examination he has scattered rhonchi and wheezing. The likeliest diagnosis is:

1- Bronchial asthma

2- Bronchiectasis

**3- Chronic bronchitis**

4- Fibrosing alveolitis

5- Pneumonitis

Q2951. Which of the following statements is not true of primary pulmonary tuberculosis?

**1- A positive tuberculin skin test develops within two weeks of infection**

2- It is characteristically asymptomatic

3- Miliary spread is commoner in a younger age group

4- Pleural effusion occurs before tuberculin skin testing is positive

5- The initial immunological response causes hilar lymphadenopathy

Q2952. A 58-year-old man presents with weight loss and haemoptysis. He has smoked most of his life. On examination he is clubbed and has clinical evidence of right pleural effusion. His serum calcium is 3.2 mM (2.2-2.6 mmol/ l) . A bone scan is normal. From which of the following histological type of lung cancer is he most likely to suffer?

1- Adenocarcinoma

2- Large cell carcinoma

3- Mesothelioma

4- Small cell carcinoma

**5- Squamous cell carcinoma**

Q2953. A 72-year-old man with severe COPD presents to the clinic for review. He is on maximal Seretide and tiotropium inhalers yet is suffering from significant shortness of breath and is able to walk only 50-100 m before having to stop. On examination his BP is 148/88 mmHg, pulse is 82 (atrial fibrillatio n) , there are coarse crackles and wheeze on auscultation of the chest. Investigations show: Haemoglobin 18.5 g/dl(13.5-17.7) White cell count 9.1 x 109 /L (4-11) Platelets 280 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 120 micromol/l (79-118) pH 7.40 (7.35-7.45) pCO2 6.1 kPa(4.8-6.1) pO2 7.8 kPa(10-13.3) Which of the above features is an indication for LTOT?

1- pCO2 6.1

2- pO2 7.8

**3- Hb 18.5 with current ABG results**

4- Presence of atrial fibrillation

5- Significant exercise limitation

Q2954. A 30-year-old man is referred to the chest clinic with an eight month history of progressive shortness of breath. He has smoked 20/day for 15 years. Investigations reveal a diagnosis of severe panacinar emphysema. On questioning he informs the consultant that his father died from COPD in his early 40s. Following a diagnosis of alpha-1 antitrypsin (A1A T) deficiency, he undergoes genetic testing. Given his history what is most likely to be his genotype?

1- PiMM

2- PiMS

3- PiSZ

**4- PiZZ**

5- PiSS

Q2955. A 39-year-old gentleman is referred to the chest clinic with an eight month history of progressive shortness of breath. He has smoked 20/day for 20 years. Investigations reveal a diagnosis of moderate emphysema. On questioning he informs the consultant that his father died from COPD in his early 50s. Following a diagnosis of alpha-1 antitrypsin (A1A T) deficiency, he undergoes genetic testing and is found to have the PiSZ genotype. What levels of alpha1 antitrypsin would be expected if they were to be measured?

1- 10% of normal

2- 20% of normal

**3- 40% of normal**

4- 60% of normal

5- 80% of normal

Q2956. A 19-year-old smoker presents to the Emergency department with right sided pleuritic chest pain and dyspnoea. He has no previous medical history. His BP is 120/75 mmHg. A CXR is done and confirms a right sided pneumothorax with a rim of 2.5 cm. Aspiration was done and was successful. He is about to go on holiday abroad in three days time. Which of the following advice would you give?

1- Advise not to drive

2- Advise not to swim

3- Allow flight but advise not to do any diving

**4- Do not advise any flight for at least one week**

5- Repeat CXR before the flight and allow if no residual pneumothorax

Q2957. A 19-year-old smoker presents to the Emergency department with right sided pleuritic chest pain and dyspnoea. He has no previous medical history. His BP is 120/75 mmHg. A CXR is done and confirms a right sided pneumothorax with a rim of 2.5 cm. Which of the following is the best course of action?

1- Advise to stop smoking and discharge

**2- Aspirate**

3- Check arterial blood gases and only if hypoxic aspirate

4- Insert a chest drain

5- Repeat the CXR in two hours

Q2958. A 47-year-old male presents with shortness of breath. He has cirrhosis secondary to hepatitis C infection. He gives a chronic history of progressive shortness of breath on exertion, and now gets short of breath walking up steps. He gives a history of being more short of breath whilst sitting up, preferring to sleep with no pillows. The blood pressure is 110/70 mmHg, heart rate 85 beats per minute, and pulse oximetry, breathing room air, shows saturations of 95% lying flat and 87% sitting up. Which of the following tests is the most appropriate to confirm the diagnosis?

**1- Contrast echocardiography**

2- High resolution CT chest

3- MRI chest

4- Pulmonary angiography

5- V:Q scan

Q2959. A 34-year-old woman with severe asthma comes to the clinic for review. She is currently taking 800 mcg per day of inhaled beclomethasone, yet still feels significantly short of breath and is coughing at night nearly every night. On examination her PEFR is 340, compared to 500 predicted. She has extensive wheeze on auscultation of both lung fields. Which of the following is the most appropriate next intervention?

**1- Add salmeterol 50 mg/day**

2- Change to fluticasone 400 mcg/day

3- Increase beclomethasone to 1600 mcg/day

4- Start montelukast 10 mg/day

5- Start prednisolone 5 mg/day

Q2960. A 25-year-old mane presents to the Emergency department with shortness of breath. One week ago he developed influenza and has become more short of breath and fatigued in the last 24 hours. His temperature is 38.5°C, his SaO2 is 90% on 2L of oxygen, a blood pressure 100/60 mmHg and heart rate 120/min. The CXR shows patchy consolidation. Which antibiotic therapy should you select for this man?

1- Amoxicillin

2- Amoxicillin and flucloxacillin

**3- Co-amoxiclav and clarithromycin**

4- Co-amoxiclav

5- Flucloxacillin

Q2961. A 42-year-old woman presents with an acute attack of asthma. She is able to speak in short sentences. Her respiratory rate is 28 breaths per minute and the peak expiratory flow rate 120 L/min (predicted 480 L/mi n) . What is the most appropriate treatment for this patient?

1- Intravenous aminophylline

2- Intravenous salbutamol

**3- Nebulised salbutamol**

4- Oral salbutamol

5- Oral theophylline

Q2962. The pulmonary vascular system is different from the systemic circulation in that the pulmonary system demonstrates which of the following?

1- High pressures, high flow rates, highly compliant vessels

2- High pressures, high flow rates, low compliance vessels

3- Low pressures, high flow rates, high compliance vessels

**4- Low pressures, low flow rates, high compliance vessels**

5- Low pressures, low flow rates, low compliance vessels

Q2963. Which of the following statements is true regarding smoking in pregnancy?

1- Dysmorphic facies is a recognised complication.

2- Maternal smoking may adversely affect testicular function in male children.

3- Smoking assists in maturation of the fetal lung.

4- The newborn baby may require adjustments in drug dosages because of it.

**5- The reduction in birth weight is related to the number of cigarettes smoked per day.**

Q2964. A 45-year-old woman is referred to the respiratory clinic with shortness of breath. She has been unable to work due to a long term back injury and is therefore on long term sickness benefit. On examination her BP is 155/85 mmHg, pulse is 85 and regular. Her BMI is 32, there is bilateral lower limb pitting oedema with varicose vein formation. Heart sounds are normal, auscultation of the chest is clear. Investigations show: pH 7.43 (7.35-7.45) pCO2 5.8 kPa (4.8-6.1) pO2 9.9 kPa (10-13.3) Which of the following is likely to be the most effective therapy?

1- Furosemide

2- Salbutamol

3- Seretide

4- Tiotropium

**5- Warfarin**

Q2965. A 43-year-old woman presents to the respiratory clinic with increasing shortness of breath and a dry cough. She also has fever and night sweats which have worsened over the past six to nine months and has lost a few kg in weight. On examination her BMI is 23, BP is 135/72 mmHg, pulse is 73, and there are scattered crackles on auscultation of the chest. She also has erythema nodosum on examination of both lower limbs. Investigations show: Haemoglobin 12.1 g/dl(11.5-16.0) White cell count 9.1 x 109 /L (4-11) Platelets 192 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 108 µmol/l (79-118) pH 7.41(7.35-7.45) pCO2 4.7 kPa(4.8-6.1) pO2 9.8 kPa(10-13.3) CXR - Bilateral hilar lymphadenopathy. Which of the following is the most appropriate initial treatment?

1- Azathioprine

2- Hydroxychloroquine

3- Infliximab

4- Methotrexate

**5- Prednisolone**

Q2966. A 21-year-old woman presents to the Emergency department with an hour history of chest tightness, dyspnoea, tingling in her hands and light-headedness. She has neither past medical history nor family history of note. Examination is unremarkable aside from an elevated respiratory rate. Her pulse oximetry shows saturations of 96% on air, which do fall when she walks across the room. A chest x ray is also normal. An arterial blood gas sample (on air and at res t) is obtained and the results are as follows: pH 7.52(7.36 - 7.44) pCO2 2.2kPa(4.7 - 6.0) pO2 9.1kPa(11.3 - 12.6) HCO3 25 mmol/L(20 - 28) What is the most likely diagnosis?

1- Acute asthma attack

2- Hyperventilation (psychogeni c) 3- Pulmonary embolism

4- Respiratory muscle disease

5- Volume depletion

Q2967. A 25-year-old man presented to the Emergency department with cough, shortness of breath and headache. He had been treated by his GP with amoxicillin but did not improve. He had recently been on holiday in Spain. On examination he had bilateral crackles. His liver enzymes were deranged. Which antibiotic should be used?

1- Co-amoxiclav

**2- Clarithromycin**

3- Intravenous cefuroxime

4- Metronidazole

5- Oseltamivir (Tamifl u)

Q2968. A patient's arterial blood gas analysis gives the following results: pO2 10 kPa/75mmHg(11.3-12.6 kP a) pCO2 7 kPa/52 mmHg(4.7-6.0 kP a) pH 7.47(7.36-7.44) Bicarbonate37 mmol/L(20-28) Which of the following is the most likely cause?

1- Acute exacerbation of chronic obstructive pulmonary disease

2- Chronic hyperventilation syndrome

3- Diabetic coma

4- Pulmonary embolism

**5- Pyloric obstruction**

Q2969. An 18-year-old woman presents with an acute pulmonary embolism in the ninth week of pregnancy. What is the most appropriate treatment for this patient throughout her pregnancy?

1- Aspirin

2- Intravenous unfractionated heparin

**3- Subcutaneous low molecular weight heparin (LMW H) 4- Subcutaneous unfractionated heparin**

5- Warfarin

Q2970. A 27-year-old female with adult respiratory distress syndrome (ARD S) is ventilated on intensive care. Her inspired oxygen is 100%, positive end expiratory pressure is 15 cmH20 and peak airway pressure is 40 cmH2O. Her arterial blood gas shows: paO2 6 kPa(11.3-12.6) paCO2 6.9 kPa(4.7-6.0) SpO2 88%(>92%) What treatment has been shown to decrease mortality in this patient group?

1- High frequency oscillatory ventilation (HFO V) 2- Increasing tidal volume and respiratory rate on the ventilator

3- Inhaled nitric oxide therapy

4- Prone position

**5- None**

Q2971. A 26-year-old man with a history of alcohol and drug abuse was admitted with a 14 day history of fever, cough and fatigue. He was emaciated. His temperature was 39.4 C. Cervical and axillary lymphadenopathy were present. Chest x ray revealed bilateral areas of pulmonary shadowing. Which of the following is the most likely diagnosis?

1- Alcoholic cardiomyopathy

2- Pneumococcal pneumonia

**3- Pneumocystis pneumonia**

4- Pulmonary tuberculosis

5- Tricuspid endocarditis

Q2972. Which of the following is found in subjects acclimatised to life at high altitudes?

1- Increased mean corpuscular haemoglobin concentration

**2- Increased pulmonary artery pressure**

3- Periodic respiration

4- Increased airway resistance

5- Reduced cardiac output

Q2973. Sleep apnoea syndrome is best diagnosed by which the following?

1- Blood gases during apnoeic episodes

2- EEG

**3- Polygraphic sleep studies**

4- Presence of HLA-DR2 and DQw1

5- Therapeutic trial of amphetamines

Q2974. A 55-year-old man presents with ataxia and bilateral gynaecomastia. Which of the following is the most likely diagnosis?

**1- Bronchial carcinoma**

2- Hypereosinophilic syndrome

3- Kleinfelter's syndrome

4- Long term treatment with cyclophosphamide for Wegener's granulomatosis

5- Long term treatment with oral steroids for chronic asthma

Q2975. A 27-year-old woman with a known history of asthma who lives in the countryside comes to the clinic for review. She has progressively worsening disease and is currently taking high dose Seretide and montelukast. Apparently she coughs every night, occasionally with frank haemoptysis and is finding it impossible to do any regular exercise at all. On examination her BP is 128/82 mmHg, pulse is 74 and regular. There is extensive wheeze and scattered coarse crackles on auscultation of the chest. Her peak flow is 320 (580 predicte d) . Investigations show: Haemoglobin 12.7 g/dl(11.5-16.0) White cell count 7.9 x 109 /L (4-11) Eosinophil count 1.2 x 109 /L (0.04-0.4) Platelets 173 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 98 micromol/l (79-118) Which of the following is the best investigation?

**1- Aspergillus precipitins**

2- CT thorax

3- CXR

4- IgE

5- Sputum culture

Q2976. A patient presents to chest clinic with an eight month history of cough and progressive breathlessness. Simple spirometry is performed and the results are below: FEV 11.2L (54% predicte d) FVC 2.3L (61% predicte d) FEV1/ FVC 0.79 Which of the below conditions are associated with this lung function picture?

1- Bronchiectasis

2- Emphysema

**3- Obesity**

4- Obliterative bronchiolitis

5- Simple coal worker's pneumoconiosis

Q2977. A 22-year-old woman comes to the clinic with tiredness and shortness of breath. She is 30 weeks pregnant. The pregnancy has been uneventful so far. On examination her BP is 122/72 mmHg, pulse is 75 and regular, saturations are 95% on air. Respiratory, cardiovascular and abdominal examinations are unremarkable, her BMI is 24. Investigations show: Haemoglobin 9.5 g/dl(11.5-16.0) White cell count 8.0 x 109 /L (4-11) Platelets 200 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 4.1 mmol/l (3.5-5) Creatinine 90 µmol/l (79-118) Which of the following is the next most appropriate investigation?

1- B12

2- Faecal occult bloods

**3- Ferritin**

4- Folate

5- Upper GI endoscopy

Q2978. You are an SHO working in the Emergency department when a 67-year-old gentleman with known COPD attends via ambulance. He has a short history of increasing breathlessness. He denies a productive cough. On arrival he is dyspnoeic with a respiratory rate of 33. Other observations are as follows saturations 88% on 28% O2, HR 105 bpm, BP 118/86 mmHg, temperature 36.9C. On examination he has a widespread polyphonic wheeze. A blood gas 45 minutes after arrival and following initial treatment is performed, results are as below. pH 7.24 (7.36 - 7.44) pCO2 8.8 (4.7 - 6.0 kP a) pO2 8.4 (11.3 - 12.6 kP a) What should your management be?

**1- Call ITU for consideration on invasive ventilation**

2- Continue controlled oxygen and repeated nebuliser therapy - repeat gas in 45 minutes

3- Continue controlled oxygen, nebulised therapy and IV antibiotics (repeat gas in 45 minute s) 4- Start non-invasive ventilation (NI V) on settings 10 IPAP and 4 EPAP

5- Start non-invasive ventilation (NI V) on settings 14 IPAP and 4 EPAP

Q2979. A 25-year-old man presented to the Emergency Department with cough, shortness of breath and headache. He had been treated by his GP with amoxicillin but did not improve. He had recently been on holiday in Spain. On examination he had bilateral crackles. His liver enzymes were deranged. What would be the most useful diagnostic test?

1- Chest x ray

2- O2 saturation at rest and on exertion

3- Viral serology

4- White cell count

**5- Urinary antigen**

Q2980. A 60-year-old man is admitted with a productive cough with flecks of blood in his sputum. Chest x ray reveals a mass lesion in the right mid zone. Investigations reveal: Sodium 110 mmol/L(137-144) Potassium 4.0 mmol/L(3.5-4.9) Bicarbonate 24 mmol/L(20-28) Urea 3.0 mmol/L(2.5-7.5) Creatinine 80 µmol/L(60-110) Which of the following findings suggest a diagnosis of the syndrome of inappropriate ADH (SIAD H) secretion?

1- Plasma osmolality 236 mosmol/kg (278- 305)

2- Presence of ascites

3- Urine flow rate 20 mL/hour

4- Urine osmolality 250 mosmol/kg (350-1000)

**5- Urine sodium 110 mmol/L**

Q2981. A 62-year-old woman presents with stridor associated with a retrosternal goitre. What is the most appropriate investigation of her airways obstruction?

1- FEV1/FVC ratio

**2- Flow volume loop**

3- Peak expiratory flow rate

4- Spirometry

5- Transfer factor

Q2982. A 60-year-old man presents with inspiratory stridor with a chest x ray revealing compression of the trachea by a retrosternal goitre. Which of the following investigations is the most useful to assess the severity of his airways obstruction?

**1- Flow/volume loop**

2- Forced expiratory volume

3- Forced vital capacity

4- Peak expiratory flow rate

5- Residual volume

Q2983. A 65-year-old woman, a heavy smoker for many years, has had worsening dyspnoea for the past five years, without a significant cough. A chest x ray shows increased lung size along with flattening of the diaphragm, consistent with emphysema. Over the next several years she develops worsening peripheral oedema. Her BP is 115/70 mmHg. Which of the following cardiac findings is most likely to be present?

1- Constrictive pericarditis

2- Left ventricular aneurysm

3- Mitral valve stenosis

4- Non-bacterial thrombotic endocarditis

**5- Right ventricular hypertrophy**

Q2984. A 47-year-old woman presenting with breathlessness has arterial blood gases taken which give the following results: pO2 8.7 kPa/65mmHg (11.3-12.6) pCO2 4.4 kPa/33mmHg (4.7-6.0) pH 7.46 (7.36-7.44) HCO3 24 mmol/L (20-28) Which of the following is the most likely diagnosis?

**1- Acute severe asthma**

2- Emphysema

3- Hyperventilation syndrome

4- Kyphoscoliosis

5- Opiate overdose

Q2985. Which of the following is not true with regard to the radiological appearance of a chest x ray?

**1- Consolidation of the left lower lobe will elevate the left hemidiaphragm**

2- Consolidation of the lingular lobe will obliterate the aortic knuckle and pulmonary trunk in the PA view

3- Consolidation of the right anterior segment of the right middle lobe will extend to the right transverse fissure and the right hilum in PA view

4- Consolidation of the right apical segment will extend to the horizontal fissure in the PA view

5- Consolidation of the right middle lobe will obliterate the right atrial shadow in the PA view

Q2986. A 65-year-old man presents to the clinic with progressively increasing shortness of breath over the past three years. He is a non-smoker and worked until retirement in a bank office. There is no past medical history of note. On examination he is clubbed, his BP is 142/72 mmHg, pulse is 73 and regular. There are widespread bilateral inspiratory crackles on auscultation. Chest x ray reveals a honeycomb appearance. You suspect cryptogenic fibrosing alveolitis. What is the chance of this being responsive to corticosteroids?

1- 1 in 50

2- 1 in 20

3- 1 in 10

**4- 1 in 5**

5- 1 in 2

Q2987. A 67-year-old man with known COPD attends the emergency department via ambulance with a severe exacerbation. On arrival the ambulance crew hand over the oxygen alert card provided to him by his local chest clinic. Which of the following pieces of information is listed on the standardised oxygen alert cards?

1- His previous oxygen saturations (when wel l) 2- His previous pCO2 reading (when wel l) 3- His previous pO2 reading (when wel l) 4- The oxygen concentration via venturi mask to be used

5- Underlying respiratory condition

Q2988. A 65-year-old man is admitted from home with a community-acquired pneumonia (CA P) . He has a history of skin rash to penicillin documented in his medical notes. He has adverse prognostic features and a CURB score of 4. What would be an appropriate empirical antibiotic choice?

1- Augmentin

2- Augmentin and gentamycin

**3- Cefotaxime and erythromycin**

4- Cefuroxime and metronidazole

5- Ciprofloxacin and clarithromycin

Q2989. 65-year-old man came to the hospital for worsening breathlessness. He was a chronic smoker and previously diagnosed with lung cancer. Chest x ray revealed elevation of left hemidiaphragm and left phrenic nerve palsy was suspected. Which of the following findings on fluoroscopy of diaphragm will confirm the diagnosis?

1- No movement of the left hemidiaphragm

2- No movement of the right hemidiaphragm

3- Normal movement of both hemidiaphragms

**4- Paradoxical movement of the left hemidiaphragm**

5- Paradoxical movement of the right hemidiaphragm

Q2990. A 64-year-old man presented with shortness of breath. On examination he had the signs of a large right-sided pleural effusion. Investigations revealed: Pleural fluid analysis:protein 48 g/L What is the most likely cause?

1- Cardiac failure

2- Constrictive pericarditis

3- Hepatic cirrhosis

**4- Mesothelioma**

5- Nephrotic syndrome

Q2991. A 19-year-old intravenous drug user presents to the emergency department with a fever of 38.5°C, dyspnoea, and right sided pleuritic chest pain. Bilateral cavitating lesions are seen in both lungs on his chest x ray. What is the most likely diagnosis?

1- Aspiration pneumonia

**2- Endocarditis of the tricuspid valve**

3- Pneumocystis carinii pneumonia (PC P) 4- Pulmonary embolic disease

5- Pulmonary tuberculosis

Q2992. A 68-year-old male is admitted with a two month history of difficulty raising his arms, ascending stairs, and is also aware of a dry mouth. He smokes 15 cigarettes daily and admits to heavy alcohol consumption. On examination he has proximal weakness affecting all four limbs with absent tendon reflexes. His chest x ray shows a right pleural effusion. What is the most likely diagnosis?

1- Alcohol induced myopathy

**2- Eaton-Lambert syndrome**

3- Myasthenia gravis

4- Polymyalgia rheumatica

5- Polymyositis

Q2993. In the normal lung which of the following is correct?

1- Cartilage is present in all respiratory bronchioles.

2- The majority of airway resistance is generated by small airways.

3- There is an intrapleural pressure of 30 cmH2O (3kP a) at the end of normal expiration.

4- There is a resting pulmonary blood flow of 10L/min.

**5- The V:Q ratio is greater in apical than basal segments of the lung when upright and at rest.**

Q2994. In asbestos related disorders which of the following statements is correct?

1- Basal fibrotic shadowing on CXR suggests coincidental idiopathic fibrosing alveolitis

**2- Increased incidence of primary lung cancer**

3- Pleural effusion develops more than 20 years after causative asbestos exposure

4- Pleural plaques are recognised precursors of mesothelioma

5- The risk of malignant mesothelioma is greatly increased in smokers compared with non-smokers

Q2995. A 17-year-old female presents with acute breathlessness. She has had asthma for approximately three years and recently commenced new therapy. Which agent may be responsible for this exacerbation?

1- Beclomethasone

2- Ipratropium bromide

3- Montelukast

**4- Salmeterol**

5- Theophylline

Q2996. A 65-year-old man, with a history of smoking presents with chronic cough, haemoptysis and weight loss. His chest x ray shows a cavitating lesion. What is the likely diagnosis?

1- Adenocarcinoma

2- Alveolar cell carcinoma

3- Undifferentiated large cell carcinoma

4- Small cell carcinoma

**5- Squamous cell carcinoma**

Q2997. A 23-year-old woman attends the clinic for asthma review. She remains significantly short of breath and has wheeze and coughing in the early hours of the morning. At her last appointment you instigated treatment with salmeterol as she was already on a stable dose of 400 mcg per day inhaled beclomethasone. On examination in the clinic her BP is 100/70 mmHg, her pulse is 70 and regular. She has scattered wheeze on auscultation of the chest and her PEFR is 380 (predicted 550). This is similar to prior to starting the salmeterol from which she perceives she has gained no benefit. According to asthma guidelines which of the following is the most appropriate next step?

1- Add low dose oral steroids

2- Add montelukast

3- Add theophylline

4- Increase inhaled corticosteroid to 800 mcg/day

**5- Stop salmeterol and increase inhaled corticosteroid to 800 mcg/day**

Q2998. A 45-year-old man presents with a three month history of wheezing and dyspnoea whilst at work. His symptoms improve significantly when at home and at weekends. What is the likely causative agent?

1- Asbestos

2- Cotton dust

**3- Isocyanates**

4- Silica

5- Simple coal worker's lung

Q2999. A 44-year-old man with advanced HIV/AIDS presents with a two week history of fever, weight loss (8 k g) and sweats. His latest CD4 Tlymphocyte count (taken four weeks previousl y) was 20 cells/mm3 . He had failed multiple regimens of antiretroviral therapy and was not currently taking any prescribed medications other than co-trimoxazole as prophylaxis against Pneumocystis carinii pneumonia. Investigations: Hb 8.2 g/dL(13.0-18.0) Total WBC 2.1 x 109 /L (4-11) Platelets 75 x 109 /L (150-400) A bone marrow aspirate showed acid/alcohol fast bacilli on light microscopy. Which one of the following mycobacteria is the most likely cause of his presenting illness?

**1- Mycobacterium avium**

2- Mycobacterium bovis

3- Mycobacterium chelonae

4- Mycobacterium fortuitum

5- Mycobacterium marinum

Q3000. A 17-year-old man presented with a strongly positive Mantoux test. Which one of the following statements regarding his immune reaction is correct?

1- If a skin biopsy were taken, immunohistochemistry would show immune complex deposition

**2- It is a cell mediated immune response**

3- The area of induration will be less than 10 mm in diameter

4- The reaction typically develops within 24 hours

5- The response is mediated by B lymphocytes

Q3001. A 16-year-old male was presents to his GP with exertional breathlessness. The chest x ray reveals a lesion in the anterior mediastinum. Which one of the following is the most likely cause for such an appearance?

1- Ascending aorta

2- Hilar lymph nodes

3- Left atrium

4- Oesophagus

**5- Thymus gland**

Q3002. In a study of a new drug for asthma, a researcher wishes to compare average serum drug concentrations in volunteers four hours after taking the drug: A. In the fasting state then B. After a meal. Which of the following would be the most appropriate statistical test to use?

1- Chi-squared test

2- Pearson's correlation coefficient

**3- Student's paired t test**

4- Student's unpaired t test

5- Wilcoxon test

Q3003. A 63-year-old man presents with recurrent gradually increasing shortness of breath over the last few weeks. His chest x ray is shown: On examination his hands showed the following: What is the diagnosis?

1- Chronic mucocutaneous candidiasis

2- Iron deficiency

3- Ochronosis

4- Polychondritis

**5- Yellow nail syndrome**

Q3004. A 32-year-old woman presents to the clinic with symptoms of pneumonia and you suspect she has an underlying Mycoplasma infection. On examination she is pyrexial, 38.2°C, her BP is 110/70 mmHg and her pulse is 90. She looks pale and has signs of a right sided pneumonia. You suspect that she may have haemolytic anaemia. Which of the following would you expect to find on laboratory testing?

1- Decreased LDH

2- Decreased reticulocyte count

3- Increase in bilirubin (predominantly conjugate d) 4- Increased haptoglobin

**5- Presence of spherocytes on the blood film**

Q3005. A 58-year-old man presents with a month history of breathlessness. He is a non-smoker. On examination, his temperature was 36.7°C, with a respiratory rate of 20 breaths per minute and normal breath sounds to auscultation and a pulse of 92 bpm. Arterial blood gases on air showed: pH 7.51 (7.36 - 7.44) pO2 8.4 kPa(11.3 - 12.6) pCO2 4.0 kPa(4.7 - 6.0) What is the most likely diagnosis?

1- Atypical pneumonia

2- Fibrosing alveolitis

3- Hysterical hyperventilation

4- Inhaled foreign body

**5- Pulmonary thromboembolism**

Q3006. Which one of the following is correct regarding long acting beta-2 agonists?

1- Are beneficial in acute viral croup.

2- Become less effective over time (toleranc e) .

**3- Can be used to prevent activity-induced symptoms without anti-inflammatory therapy.**

4- Protect against allergen challenge for up to 48 hours.

5- Should not be used in association with erythromycin.

Q3007. A 40-year-old female is admitted with a suspected pulmonary embolism. A ventilation perfusion scan is requested. Which of the following is true of lung ventilation perfusion scanning in suspected pulmonary embolism (P E) ?

**1- A normal perfusion scan virtually excludes pulmonary embolism (P E) 2- It is contraindicated if the patient is pregnant**

3- It is contraindicated in those with iodine hypersensitivity

4- There is reduced perfusion in the upper lobes in mitral stenosis

5- The appearances of the scan is very different in those with pulmonary embolism and those with emphysema

Q3008. Which of the following statements concerning industrial lung disorders is correct?

**1- Occupational asthma occurs more frequently in atopic persons**

2- Pneumoconiosis can be diagnosed in the absence of chest x ray abnormalities

3- Silo filler's disease is caused by allergy to grain

4- Widespread crepitations are typically heard in extrinsic allergic alveolitis (EE A) 5- Symptoms occur within minutes of exposure to mouldy hay in farmer's lung

Q3009. A 54-year-old woman with multiple medical problems attends the respiratory clinic with increasing shortness of breath. Medication of note includes dosulepin, omeprazole, amlodipine, ramipril and atorvastatin. On examination her BP is 132/78 mmHg, pulse is 72 and regular. There are scattered inspiratory crackles throughout both lung fields. Pulmonary function testing reveals a restrictive defect. Which of the following agents is most likely to be responsible?

1- Amlodipine

2- Atorvastatin

**3- Dosulepin**

4- Omeprazole

5- Ramipril

Q3010. A 62-year-old man presents to the respiratory clinic with increasing shortness of breath and reduced exercise tolerance over the past few months. He has recently commenced a course of immunosuppressive therapy for mixed connective tissue disease. On examination his BP is 125/72 mmHg, pulse is 80 and regular, saturations are 94% on air. There are fine inspiratory crackles on auscultation of the chest, and a CXR reveals evidence of diffuse interstitial shadowing. Which of the following is the most likely causative agent?

1- Cyclophosphamide

**2- Methotrexate**

3- Penicillamine

4- Prednisolone

5- Sulphasalazine

Q3011. You are called to see a 67-year-old lady on the ward because of severe dyspnoea. She was admitted three days ago with an exacerbation of COPD. Her respiratory rate is 36 /min, temp 37.2°C and BP 136/80 mmHg with a pulse of 102 / min. O2 sat is 88% on 35 % O2 (venturi mas k) . Her chest shows scattered wheezes with decreased air entry. She is on IV antibiotics, nebulised B2 agonists, ipratropium and oral prednisolone 30 mg. You check her blood gases and the results are as follows: ph 7.28(7.35-7.45) pCO2 9.4(4.7-6.0) PO2 6.8(11.3-12.6) Bicarbonate 29mmol/L(21-29) Which is the best option for her next treatment?

**1- BIPAP (bilevel positive airway pressure )**

2- CPAP ( continuous positive airway pressur e) 3- Decrease O2 to 28%

4- Intravenous corticosteroids

5- Mechanical ventilation

Q3012. A 72-year-old man is referred to the chest clinic with a progressive history of dyspnoea, and a dry cough over the last eight months. He currently smokes 20/day and has done for 53 years. He has had several episodes of acute shortness of breath for which he has received antibiotics from his GP. On examination he is clubbed, and basal inspiratory crepitations are heard on auscultation. His oxygen saturations are 87% on air. He undergoes a high-resolution computed tomography (HRC T) which demonstrates bilateral basal and subpleural reticular changes with honeycombing evident. What is the most likely diagnosis?

1- Cryptogenic organising pneumonia (CO P) 2- Desquamative interstitial pneumonia (DI P) 3- Non-specific interstitial pneumonia (NSI P) 4- Respiratory bronchiolitis - interstitial lung disease (RB-ILD

**5- Usual interstitial pneumonia (UI P)**

Q3013. Listed below are the five causes of hypoxia. Which one of the five inevitably causes an increased paCO2?

1- Diffusion impairment

**2- Hypoventilation**

3- Low inspired pO2

4- Right-to-left shunt

5- Ventilation-perfusion mismatch

Q3014. A 32-year-old man who is a lifelong nonsmoker presents to the respiratory clinic with shortness of breath, wheeze and a chronic cough. He works as a stone mason carving grave stones and has a property on a farm. At the same time, his father maintains that he only ever used to smoke between five and ten cigarettes per day, yet he is 59-years-old with severe COPD on home oxygen. On examination the patient has bilateral wheeze and coarse crackles consistent with obstructive lung disease. Investigations show Haemoglobin 12.1 g/dl(13.5-17.7) White cell count 6.2 x 109 /L (4-11) Platelets 172 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 88 μmol/l (79-118) Alanine amino transferase 86 U/l (5-40) PEFR 280 l/min(Predicted 550) Chest x ray Evidence of lower lobe emphysema Which of the following is the most likely diagnosis?

**1- Alpha-1 antitrypsin deficiency**

2- Asthma

3- Chronic bronchitis

4- Extrinsic allergic alveolitis

5- Silicosis

Q3015. Which of the following statements is true of psittacosis (ornithosi s) ?

1- Infection responds rapidly to penicillin therapy

**2- It does spread from person to person**

3- It is more of a risk to children than to adults who are exposed to birds

4- It is only a risk from contact with psittacines (parrot s) , not other birds

5- It usually causes many polymorphs to be present in the sputum

Q3016. A 29-year-old man is diagnosed with pulmonary tuberculosis. A blood sample is sent to determine his acetylator status prior to starting therapy. This showed that he was a fast acetylator. He was subsequently started on antituberculous therapy that included isoniazid. Which of the following statements is correct?

1- There is an increased risk of convulsions

2- There is a higher plasma drug concentration

**3- There is an increased risk of hepatitis**

4- There is an increased risk of megaloblastic anaemia

5- There is an increased risk of peripheral neuropathy

Q3017. A 7-month-old boy is presented to a doctor by his parents with symptoms of reccurent upper respiratory tract infections. No other members of the family suffer from any smiliar infections. Physical examination showed mild facial hypoplasia. Biochemistry investigations revealed hypocalcaemia. Microbiological investigations were normal and immunoglobulins were within normal limits. The infant's immune function would show which of the following deficiencies?

1- B cell number and function

2- Complement deficieny

3- Macrophage number and function

4- Plasma cell

**5- T cell number and function**

Q3018. A lifelong non-smoker is diagnosed with emphysema. Which of the following would be the most likely aetiological agent?

1- Asbestos

**2- Cadmium exposure**

3- Isocyanates

4- Steel

5- Zinc

Q3019. A 45-year-old man develops facial swelling and breathlessness. His chest x ray reveals paratracheal lymphadenopathy. Which of the following statements is most accurate regarding the superior vena caval obstruction (SVC O) ?

1- The most common cause is squamous cell carcinoma

2- Treatment of choice is radiotherapy

**3- It may be associated with voice hoarseness**

4- It is associated with Kussmaul's sign

5- The commonest symptom is stridor

Q3020. A 67-year-old retired plumber presents to the clinic with increasing shortness of breath and dull left sided chest pain. You understand that this has been a problem for some six months or more. There is no past medical history of note apart from essential hypertension for which he takes ramipril 10 mg / day. Investigations show: Haemoglobin 13.6 g/dl(13.5-17.7) White cell count 9.1 x 109 /L (4-11) Platelets 252 x 109 /L (150-400) Sodium 137 mmol/l (135-146) Potassium 3.7 mmol/l (3.5-5) Creatinine 119 µmol/l (79-118) pH 7.41(7.35-7.45) pCO2 6.2 kPa(4.8-6.1) pO2 9.6 kPa (10-13.3) CXR Large left pleural effusion Which of the following is the optimal investigation to deliver the diagnosis?

1- Blind pleural biopsy

2- CT thorax

3- Sputum cytology

4- Thoracocentesis

**5- Thoracoscopy with drainage and biopsy**

Q3021. A 32-year-old man is admitted by ambulance after being caught up in a house fire and gas explosion whilst trying to rescue a neighbour. He has been resuscitated at the scene, but on arrival in the Emergency department is extremely unwell. His saturations are 91% on a non-rebreather; his BP is 142/82 mmHg with a pulse of 84. There is audible stridor and bibasal crackles on auscultation of the chest. Portable chest is suggestive of pulmonary oedema. Which of the following is the most appropriate management?

1- BIPAP

**2- Intubation and ventilation**

3- IV furosemide

4- IV nitrate

5- IV noradrenaline

Q3022. A 31-year-old woman is brought to the Emergency department by ambulance. She has just got off a long-haul flight and collapsed at the baggage carousel. On examination in the department she is hypotensive with a BP of 80/50 mmHg, her pulse is 95 and regular. Her chest is clear and her abdomen is soft and non-tender. You notice that her left leg appears swollen. Investigations show: pH 7.38 (7.35-7.45) pO2 9kPa (10-13.3) on non-rebreather pCO2 3.6kPa (4.8-6.1) ECG - Right heart strain Which of the following would be an indication for thrombolysis in this patient?

**1- BP 80/50**

2- ECG showing right heart strain

3- pCO2 3.6

4- pH 7.38

5- pO2 9

Q3023. A 76-year-old lady with COPD wants to visit a friend in Japan. Her FEV1 is 40 %. Her last hospital admission was four months ago. She is known to have significant kyphoscoliosis. Her O2 sat on air is 93 %. You perform a hypoxic challenge and her pO2 is 7.8. What would you advise?

1- Advise inflight oxygen 28%

2- Advise inflight oxygen 35%

3- Advise not to fly

**4- Allow flight and no oxygen required**

5- Perform a walking test

Q3024. A 73-year-old woman is referred to the emergency medical take with a lower respiratory tract infection. She has seen the GP because of an increasingly problematic cough, productive of rusty coloured sputum and severe shortness of breath. On examination in the Emergency department her blood pressure is 135/82 mmHg. Her temperature is 38.5°C and her pulse is 80 and regular. Her respiratory rate is 22. Auscultation of the chest reveals right lower lobe consolidation. Investigations show: Haemoglobin 12.1 g/dl(11.5-16.0) White cell count 12.2 x 109 /L (4-11) Platelets 209 x 109 /L (150-400) Serum Sodium 135 mmol/l (135-146) Serum Potassium 4.4 mmol/l (3.5-5) Creatinine 125 μmol/l (79-118) Urea 10.2 mmol/l (2.5-6.7) Glucose 5.4 mmol/l (4.5-5.6) Chest x ray Right lower lobe pneumonia Which of the following features is consistent with scoring a point on the CURB criteria?

1- BP 135/82

2- Creatinine 125

3- Respiratory rate 22

**4- Urea 10.2**

5- White cell count 12.2

Q3025. A 19-year-old student has been brought to the emergency department by his housemates. He was diagnosed with chicken pox a few days earlier by a GP, told to go home, rest, stay well hydrated and take regular paracetamol. He now presents with a dry cough and increasing shortness of breath. On examination he looks unwell and is pyrexial 37.8°C. He has a widespread rash consistent with chicken pox. His BP is 132/72 mmHg and his respiratory rate is 29. There is wheeze on auscultation of the chest. Saturation is 92% on air. Investigations show: Haemoglobin 13.8 g/dl(13.5-18) White cell count 8.1 x 109 /L (4-10) Platelets 191 x 109 /L (150-400) Sodium 140 mmol/l (134-143) Potassium 4.0 mmol/l (3.5-5) Creatinine 100 μmol/l (60-120) CXR Bilateral pneumonitis Which of the following is the most appropriate management?

**1- IV aciclovir**

2- IV penicillin

3- Oral aciclovir

4- Supportive care with fluids and paracetamol

5- Varicella zoster immunoglobulin

Q3026. A 42-year-old lady re-attends the chest clinic following investigations that have confirmed a diagnosis of sarcoidosis. Which of the following would be a poor prognostic sign?

1- Caucasian race

2- Current smoker

3- Erythema nodosum

**4- Lupus pernio**

5- Markedly elevated serum ACE level

Q3027. A 58-year-old man is admitted with bacterial pneumonia following influenza. He initially improved but subsequently developed a cough productive of purulent blood-stained sputum and swinging fevers. On examination he is pyrexial 38.4°C, has a BP of 110/70 mmHg and a pulse of 105. You can hear coarse crackles throughout both lung fields, decreased air entry and a stony dull percussion note at the right base. Investigations reveal Haemoglobin 12.8 g/dl(13.5-18) White cell count 13.1 x 109 /L (4-10) Platelets 192 x 109 /L (150-400) Sodium 141 mmol/l (134-143) Potassium 4.3 mmol/l (3.5-5) Creatinine 145 μmol/l (60-120) CXR Bilateral basal consolidation, right-sided pleural effusion Which of the following is the next appropriate investigation?

1- Blood cultures

2- CT thorax

**3- Diagnostic pleural fluid sampling**

4- MRI thorax

5- Ultrasound thorax

Q3028. A 50-year-old lady presented to the Emergency department with cough and dyspnoea for the past two days. She was previously well. She smokes 20 cigarettes per day. She has a temperature of 38.3°C and is agitated and confused. Her pulse is 110/min and her blood pressure is 88/60 mmHg. Her oxygen saturation is 89% on air and she has a respiratory rate of 40/min. Chest x ray shows left basal consolidation. Results show: Sodium 143 mmol/L(137-144) Potassium 3.8 mmol/L(3.5-4.9) Urea 9.2 mmol/L(2.5-7.5) Creatinine 85 µmol/L(60-110) Her CURB score is documented and she is admitted to hospital with severe pneumonia. Which of the following would count towards her CURB score?

1- Consolidation on chest x ray

2- Oxygen saturation

3- Peak expiratory flow rate

**4- Raised blood urea**

5- Temperature

Q3029. Which of the following is not employed in the laboratory diagnosis of respiratory viral infections?

1- ELISA

2- Haemagglutination

3- Immunofluorescence

**4- Single radial haemolysis (SR H) 5- Tissue culture**

Q3030. An 18-year-old woman presents with red, tender lumps on her shins and arthralgia. Chest x ray shows bilateral hilar lymphadenopathy and clear lung fields. A clinical diagnosis of sarcoidosis is made. Which one of the following is the most appropriate management plan?

1- 24 hour urinary calcium measurement

**2- Follow up appointment with chest x ray in three months**

3- Mediastinoscopy and lymph node biopsy

4- Skin biopsy

5- Thoracic CT scan

Q3031. A 58-year-old man is admitted to the Emergency department some five days after becoming unwell with influenza. Over the past 48 hours he has become progressively more short of breath with a cough productive of purulent and bloody sputum. On examination he is pyrexial 38.6, his BP is 95/60 mmHg, pulse is 95 and regular. His saturations are 93% on air. There are signs of extensive right sided consolidation. Investigations show: Haemoglobin 13.4 g/dl(13.5-17.7) White cell count 14.9 x 109 /L (4-11) Platelets 191 x 109 /L (150-400) Sodium 135 mmol/l (135-146) Potassium 4.1 mmol/l (3.5-5) Creatinine 132 micromol/l (79-118) CXR - Right sided consolidation with evidence of cavitation. Which of the following is the most appropriate therapy?

1- Benzylpenicillin

2- Ciprofloxacin

3- Clarithromycin

4- Doxycycline

**5- Flucloxacillin**

Q3032. A 21-year-old student presents to the Emergency department with fever, cough and significant wheeze; he has returned a few days ago from a long trip working with an aid organisation in East Asia. On examination he is pyrexial 37.8oC, his pulse is 88 and regular and his BP is 110/72 mmHg. He has marked wheeze on auscultation of his chest. There is an urticarial rash on his buttocks and he has some abdominal discomfort. Investigations show: Haemoglobin 12.3 g/dl(11.5-16.0) White cell count 7.1 x 109 /L (4-11) Eosinophils 0.8 x 109 /L (0.04 - 0.4) Platelets 182 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 4.1 mmol/l (3.5-5) Creatinine 102 µmol/l (79-118) Which of the following is the most likely cause?

1- Enterobius

2- Diphyllobothrium

3- Schistosomiasis

**4- Strongyloides**

5- Taenia

Q3033. A 69-year-old lady is seen in chest clinic for her increasing breathlessness. She has a significant smoking history having smoked 40/day for 50 years. When questioned she reports that she notices that she has to walk slower than her husband and friends due to her breathlessness. When walking at her own pace she often stops every 300 m, again due to breathlessness. What grade of dyspnoea does she have accordingly to the MRC dyspnoea scale?

1- Grade I

2- Grade II

**3- Grade III**

4- Grade IV

5- Grade V

Q3034. Which of the following conditions may result in pulmonary hypertension (P H) by causing pulmonary venous hypertension?

1- Acute respiratory distress syndrome (ARD S) 2- Chronic obstructive airways disease (COA D) 3- Chronic thromboembolism

4- Intersitial lung disease (IL D) 5- Veno-occulsive disease

Q3035. A 48-year-old gentleman with moderate chronic obstructive pulmonary disease (COP D) , and multiple previous presentations to the Emergency department presents with a two hour history of mild pleuritic chest pain. He is minimally breathless, with oxygen saturations of 96% on air (he usually has saturations of 95-97%). A chest x ray is performed and an observant CT1 recognises a 1.8 cm (18 m m) apical pneumothorax on a background of chronic changes consistent with emphysema/emphysematous changes. Accordingly to current guidelines, what intervention should be undertaken?

1- Admit and treat with high flow oxygen and repeat CXR in 24 hours

**2- Aspirate and admit for 24 hours observation**

3- Aspirate and discharge home after 12 hours if well

4- Discharge with advice to return if symptoms worsen

5- Intercostal chest drain insertion (Seldinger techniqu e)

Q3036. A 26-year-old man who works in a car body shop spray painting vehicles comes to the respiratory clinic complaining of increasing shortness of breath and wheeze. He says that he is fine at the end of a weekend off, and particularly well when he goes on holiday, but steadily gets worsening symptoms from Monday to Friday. He is a non-smoker who has no significant past medical history. On examination his BP is 125/75 mmHg, his pulse is 75 and regular. He has significant bilateral wheeze and a nonproductive cough. Investigations show Haemoglobin 14.9 g/dl(13.5-17.7) White cell count5.6 x 109 /L (4-11) Platelets 192 x 109 /L (150-400) Serum Sodium 140 mmol/l (135-146) Serum Potassium 4.0 mmol/l (3.5-5) Creatinine 90 μmol/l (79-118) PEFR245 l/min Which of the following is the best initial way to elucidate any link between the workplace and possible asthma?

1- Bronchial hyper-responsiveness testing

2- Radioallergosorbent testing

**3- Serial peak flow measurement including weekdays and weekends**

4- Skin testing

5- Specific bronchial provocation testing

Q3037. A 45-year-old man presents to the clinic for review. Over the past few months he has suffered increasing night sweats, fatigue, weight loss and a chronic cough. In addition he has presented to his GP with bilateral parotid swelling and red, painful eyes on three occasions in the past year. Most recently he has suffered a weakness of the left side of his face. On examination his BP is 135/75 mmHg, pulse is 80 and regular, there are bilateral scattered crackles on auscultation of the chest and bilateral parotid swellings. He has a left lower motor neurone seventh nerve palsy. Investigations show: Haemoglobin 14.1 g/dl(13.5-17.7) White cell count 6.2 x 109 /L (4-11) Platelets 312 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 3.8 mmol/l (3.5-5) Creatinine 110 micromol/l (79-118) Which of the following is the most likely diagnosis?

1- Felty's syndrome

**2- Heerfordt's syndrome**

3- Lofgren's syndrome

4- Meig's syndrome

5- Turner's syndrome

Q3038. An 18-year-old female is admitted with a depression of her conscious level. Arterial blood gas analysis revealed: pH 7.26 (7.36-7.44) pO2 12.1 kPa (11.3-12.6) pC02 3.9 kPa (4.7-6.0) Standard bicarbonate 14.7 mmol/L (20-28) Which one of the following would account for these results?

1- Analytical error

**2- Metabolic acidosis**

3- Persistent vomiting

4- Respiratory acidosis

5- Respiratory alkalosis

Q3039. A 16-year-old girl presents with an acute exacerbation of asthma. On examination her respiratory rate was 30 per minute, her heart rate was 120 beats per minute and a peak expiratory flow rate (PEF R) was 30% of the predicted value. Her blood gas analysis on air shows: paO2 9 kPa(11.3-12.6) paCO2 3.5 kPa(4.7-6.0) After the administration of oxygen and corticosteroids what is the most appropriate next step in management?

1- Intravenous aminophylline

2- Intravenous salbutamol

3- Ipratropium bromide via oxygen-driven nebuliser

**4- Salbutamol via oxygen-driven nebuliser**

5- Salmeterol via breath-actuated inhaler

Q3040. A 50-year-old male presented with acute respiratory failure during an episode of acute pancreatitis and was thought to have developed adult respiratory distress syndrome (ARD S) . Which of the following would support a diagnosis of ARDS?

**1- High protein pulmonary oedema**

2- High pulmonary capillary wedge pressure

3- Hypercapnia

4- Increased lung compliance

5- Normal chest x ray

Q3041. Which of the following is true concerning whooping cough (pertussi s) ?

1- Is a greater threat to children during the second six months of life, after maternal antibody has declined, than during the first six months

2- Is associated with convulsions less frequently than is the case with other febrile conditions

3- Is characteristically associated with a polymorph leucocytosis

**4- May lead to hemiplegia**

5- Rapidly resolves with antibiotic treatment

Q3042. A 67-year-old patient with a history of COPD is being assessed by the community COPD team for his suitability for treatment at home (under the Hospital at Home schem e) for his latest exacerbation. Which of the following is a contraindication to Hospital at Home (Ha H) treatment?

**1- Acute changes on a chest x ray**

2- Dementia

3- Increasing age

4- Long term oxygen therapy (LTO T) 5- Longer duration of COPD

Q3043. A 47-year-old woman with a history of asthma is referred with deteriorating symptoms from a lower respiratory tract infection. She has been laid up in bed for the whole of the previous week with influenza, but most recently, as her upper respiratory symptoms have improved, she has begun to develop a cough productive of purulent blood stained sputum and has severe right lower pleuritic chest pain. On examination she is pyrexial 38.2°C, her BP is 105/65 mmHg, and her pulse is 108. There is right-sided consolidation. Investigations show Hb 12.9 g/dl(13.5-18) WCC 15.2 x 109 /L (4-10) PLT 213 x 109 /L (150-400) Na 135 mmol/l (134-143) K 4.5 mmol/l (3.5-5) Cr 139 µmol/l (60-120) CRP 210 mg/l (<10) CXR Extensive right lower lobe consolidation with cavitation Which of the following is the most likely infective organism?

1- Chlamydia

2- Klebsiella

3- Legionella

**4- Staphylococcus**

5- Streptococcus

Q3044. A 15-year-old girl was admitted eight hours after taking an overdose of diazepam 30 mg and methotrexate 400 mg which her mother had been prescribed for rheumatoid arthritis. On examination her Glasgow coma score (GC S) was 10. Which one of the following is the most appropriate immediate action?

**1- Assess respiratory function**

2- Perform immediate gastric lavage

3- Treat with activated charcoal

4- Treat with folinic acid

5- Urgent liver function tests

Q3045. A new publication describes a new test for cystic fibrosis. You want to know what proportion of patients with cystic fibrosis would be correctly identified by this new test. Which one of the following values would identify this?

1- Accuracy

2- Negative predictive value

3- Positive predictive value

**4- Sensitivity**

5- Specificity

Q3046. The morphological appearance of Pneumocystis carinii infection in the lung is best characterised as which one of the following?

1- A bronchopneumonia with abscess formation

2- A haemorrhagic and necrotising pneumonia

3- An acute respiratory distress syndrome (ARD S) with widespread hyaline membrane formation

**4- An interstitial pneumonitis with foamy intra-alveolar exudate**

5- An organising bronchopneumonia

Q3047. A 48-year-old woman presented with shortness of breath, cough with heavy sputum production, and a low grade fever. She has smoked 20 cigarettes per day for 30 years. Her arterial blood gases revealed: pH 7.4 (7.36-7.44) pCO2 45 mmHg (35-45) pO2 78 mmHg (90-110) What is the most likely diagnosis?

1- Bronchial asthma

**2- Chronic bronchitis**

3- Cryptogenic fibrosing alveolitis

4- Paraneoplastic syndrome

5- Pulmonary embolism

Q3048. A 23-year-old man is taking part in an expedition in the Andes and has recently ascended to above 3000 metres. Even accounting for sleeping in a small expedition tent he has a very poor night's sleep and begins to vomit profusely with a severe headache. On examination his BP is 145/72 mmHg, pulse is 85 and regular. There are bilateral crackles on auscultation of his chest. You are the expedition doctor and suspect he is suffering from acute altitude sickness. Which of the following is the optimal next step?

1- Acetazolamide

**2- Descent**

3- Dexamethasone

4- Furosemide

5- Oxygen therapy

Q3049. Which one of the following statements is true of chronic obstructive pulmonary disease (COP D) ?

1- Patients show at least a 15% improvement in the FEV1 after nebulised bronchodilator

**2- Inhaled corticosteroid usage does not improve long-term prognosis**

3- Breathlessness is uncommon until the FEV1 falls to approximately 50% of predicted

4- Emphysema is associated with increased transfer factor

5- In advanced cases there is reduced pulmonary vascular resistance

Q3050. Which of the following is true of cystic fibrosis?

**1- A sweat chloride concentration of 80 mmol/l is diagnostic**

2- Is an autosomal dominant condition.

3- Is associated with mental retardation.

4- Is due to mutation of CFTR gene on chromosome 17

5- Median survival rate is 10 to 15 years.

Q3051. With which of the following is obstructive sleep apnoea characteristically associated?

**1- Hypersomnolence**

2- Impotence

3- Insomnia

4- Macrognathia

5- Polydipsia

Q3052. A 45-year-old seaman presents with cough and fever. A CXR demonstrates a cavitating lung lesion. Which of the following is the most likely cause?

1- Amoebiasis

2- Brucellosis

**3- Histoplasmosis**

4- Sarcoidosis

5- Syphilis

Q3053. A 35-year-old woman presents with a three month history of arthralgia, increasing fatigue and occasional nose bleeds. More recently she has become short of breath and has had two episodes of haemoptysis. On investigation she is found to have acute kidney injury, with a creatinine of 656 μmol/L and urine dipstix is positive for blood and protein. A chest x ray is performed which shows several nodules throughout both lung fields. The treating physician suspects Wegener's granulomatosis. Which of the below autoantibodies are most associated with this condition?

1- Anti-dsDNA

2- Anti-GBM

3- MPO-ANCA

4- p-ANCA

**5- PR3-ANCA**

Q3054. A 72-year-old man is referred to the lung cancer MDM by his respiratory physician for discussion of treatment following his recent diagnosis with stage IIIa non-small cell lung cancer (NSCL C) . According to NICE guidelines, what is the first choice treatment in eligible patients with this stage of NSCLC?

1- Chemotherapy

**2- Chemotherapy and radical radiotherapy**

3- Radical radiotherapy

4- Surgery

5- Symptomatic management including palliative RT

Q3055. A 65-year-old obese man presents with night time sweats, nocturia, poor concentration and day time somnolence. To which of the following conditions does this diagnosis predispose?

1- Hypoglycaemia

2- Hypotension

3- Insulin sensitivity

4- Osteoporosis

**5- Sudden death**

Q3056. A 52-year-old woman who complains of exertional breathlessness presents to the clinic as she is desperate to stop smoking. She has had a number of unsuccessful attempts to stop smoking over the years and has tried nicotine patches. Which of the following would be an appropriate choice to assist in her attempts at smoking cessation?

1- Acupuncture

2- Hypnotism

3- Nicotine gum

4- Nortriptyline

**5- Varenicline**

Q3057. A 52-year-old man presented to the Emergency Unit with a two day history of increasing breathlessness, productive cough and fever. He was previously fit and well with no past history of note. He was not a cigarette smoker. On examination he was febrile, temperature was 38.5°C, pulse rate 100/ minute and regular, blood pressure 120/80 mmHg and respiratory rate of 25 breaths/ minute. Investigations: Hb 15.0 g/dl (13.0-18.0) WBC 18.5 x 109 /L (4-11) Platelets 350 x 109 /L (150-400) Serum sodium 137 mmol/l (137-144) Serum potassium 4.5 mmol/l (3.5-4.9) Serum urea 5.1 mmol/l (2.5-7.5) Serum creatinine 110 µmol/l (60-110) paO2 (Arterial blood, on ai r) 9.0 kPa (11.

3- 12.6) Chest x ray showed right middle lobe consolidation What is the most appropriate choice of antibiotics?

**1- Amoxicillin**

2- Amoxicillin plus erythromycin

3- Ceftriaxone

4- Ciprofloxacin

5- Co-amoxiclav

Q3058. A 70-year-old man presented with increasing dyspnoea. In his history he had suffered a myocardial infarction two years previously which had been complicated by ventricular arrhythmias. At admission his oxygen saturations were 85% on air and a chest x ray revealed bilateral patchy infiltration of both lung fields with a cardiothoracic ratio of 20/30 cm. Which of the following drugs that he has been prescribed is most likely to explain these findings?

**1- Amiodarone**

2- Aspirin

3- Atorvastatin

4- Furosemide

5- Ramipril

Q3059. A 74-year-old man is admitted to the Emergency department after collapsing in church. On reviewing his notes you see this is the third time that it has happened in the past eight months, and each time it is when he is dressed in a suit. There is a past medical history of hypertension but nil else of note. According to a bystander his pulse seemed very slow at the time of the collapse. On examination his BP is 135/70 mmHg, his pulse is 80 and regular. General physical review is unremarkable. Investigations show: Haemoglobin 13.2 g/dl(13.5-17.7) White cell count 7.8 x 109 /L (4-11) Platelets 282 x 109 /L (150-400) Sodium 135 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 123 µmol/l (79-118) ECG - Old inferior myocardial infarction CXR - Unremarkable Which of the following is the most appropriate next investigation?

**1- Ambulatory ECG monitoring**

2- CT head

3- EEG

4- Exercise test

5- Tilt table test

Q3060. A 72-year-old lifelong smoker presents with progressive dyspnoea on exertion. He has a chronic, non-productive cough. On examination he is thin, breathing with pursed lips, respiratory rate 25/min, with mild wheezing on chest auscultation. Investigations show FEV1 0.8 L FVC 1.6 L pH 7.35 paCO2 6kPa (45mmH g) paO2 7.2kPa (55mmH g) What is the predominant mechanism of the airflow limitation in this gentleman?

1- Bronchospasm

2- Foreign body obstruction

3- Increased airways resistance

**4- Loss of elastic recoil**

5- Mucus plugging in the small airways

Q3061. A 65-year-old woman, has smoked 50 cigarettes a day for 40 years. She has had increasing dyspnoea for the several years, but no cough. A chest x ray shows increased lung size along with flattening of the diaphragms, consistent with emphysema. Over the next several years she develops worsening peripheral oedema. Her vital signs show T 36.7 C, P 80, RR 15, and BP 120/80 mm Hg. Which of the following cardiac findings is most likely to be present?

1- Constrictive pericarditis

2- Left ventricular (L V) aneurysm

3- Mitral valve stenosis

4- Non-bacterial thrombotic endocarditis

**5- Right ventricular hypertrophy**

Q3062. Which of the following recognised associations is correct?

**1- Bronchopulmonary aspergillosis and wheezing**

2- Lung carcinoids and pleural effusion

3- Pneumoconiosis and clubbing

4- Pulmonary embolus and left bundle branch block

5- Pulmonary fibrosis and hypercapnia

Q3063. A 22-year-old woman recently returned from a holiday in Malta was admitted with a three day history of fever, generalised lymphadenopathy and a macular rash over the trunk and legs. Which of the following is the most likely diagnosis?

1- Actinomycosis

2- Familial Mediterranean fever

**3- Infectious mononucleosis**

4- Sarcoidosis

5- Tuberculosis

Q3064. A 67-year-old man with severe COPD managed with tiotropium, high dose Seretide and salbutamol nebulisers comes to the clinic for review. He tells you that he is increasingly short of breath and finds it very difficult to do anything at all around the house, and asks about long term oxygen therapy (LTO T) . Which of the following features would permit long term home oxygen therapy to be initiated under current NICE guidance?

1- FEV1 45% of predicted

2- paCO2 5.8kPa repeated whilst stable

**3- paO2 7.1kPa repeated whilst stable**

4- pH 7.35

5- Two or more exacerbations in the past year

Q3065. You are reviewing use of non-invasive ventilation (NI V) by the acute medical admissions team as part of a hospital audit. According to the latest BTS guidelines, which of the following features on history, examination or investigations would be a criterion for considering NIPPV?

1- pH 7.42

**2- pCO2 6.5 kPa**

3- Na 139 mmol/l

4- Respiratory rate 32

5- pO2 9.2 kPa

Q3066. A 57-year-old smoker presents to the Emergency department with right sided pleuritic chest pain and dyspnoea. He has no previous medical history. His BP is 120/75 mmHg. A CXR is done and confirms a right sided pneumothorax with a rim of 2.5 cm. What is the best plan of action?

1- Advise to stop smoking and discharge

2- Aspirate

3- Check arterial blood gases and only if hypoxic aspirate

**4- Insert a chest drain**

5- Repeat the CXR in two hours

Q3067. According to current guidelines, which of the below is the recommended duration of warfarin therapy in a patient recently diagnosed with their first pulmonary embolism (P E) in the presence of temporary risk factors?

**1- 4-6 weeks**

2- 3 months

3- 6 months

4- 12 months

5- Lifelong

Q3068. A 62-year-old man with non-small cell lung cancer is being considered for surgical resection. Which of the following would be regarded as a contraindication to surgery?

**1- FEV1 1.2L**

2- Horner's syndrome

3- Hypercalcaemia

4- Peripheral neuropathy

5- Previous history of myocardial infarction

Q3069. A 49-year-old man with a long history of alcoholism presents with cough, haemoptysis and pleuritic chest pain. He has had night sweats and 10 kg weight loss in the last three months. On chest x ray there is a subtle nodular pattern throughout the lung. He underwent a transbronchial biopsy which showed multinucleated giant cells, epithelioid cells and necrotic debris. Which of the following is the most likely diagnosis?

1- Aspergillosis

2- Pneumocystis carinii pneumonia

3- Small cell carcinoma

4- Squamous cell carcinoma

**5- Tuberculosis**

Q3070. A 16-year-old girl presented with acute Guillain-Barré syndrome and has developed worsening proximal muscle weakness. Which one of the following tests should be used to monitor her respiratory function?

1- Arterial blood gas

2- Chest expansion

3- FEV1/FVC ratio

4- Peak expiratory flow rate

**5- Vital capacity**

Q3071. A 35-year-old man presents after three months of chronic cough with purulent sputum and shortness of breath on exertion. He gives a history of at least two sinus or bronchial infections per year requiring treatment with antibiotics. He also says he and his wife have been unable to have children. He smokes 15 cigarettes per day. Examination is normal except for some wheezing and an area of focal crackles at the left lung base. Chest x ray shows patchy infiltrates at both bases. Investigations revealed FEV1 2.0 L FVC 2.7 L pH 7.38 paCO2 40 mmHg paO2 82 mmHg What is the most likely diagnosis?

1- Alpha-1-antitrypsin (antiproteas e) deficiency

2- Asthma

3- Cystic fibrosis

4- Hypogammaglobulinaemia

**5- Immotile cilia syndrome**

Q3072. A 63-year-old woman presents with a five day history of progressive shortness of breath. Her family brought her in because she was increasingly sleepy during the last 24 hours. She was diagnosed with chronic obstructive pulmonary disease (COP D) three years ago and has a FEV1 less than 50% of predicted. She has an oxygen concentrator at home. Examination revealed depressed consciousness and a respiratory rate of 24 with shallow breaths. There were decreased breath sounds with minimal air movement. If an arterial blood gas on room air were to be performed which of the following results would you expect?

1- pH 7.16 paCO2 70 paO2 50 HCO3 24

**2- pH 7.24 paCO2 80 paO2 55 HCO3 30**

3- pH 7.32 paCO2 60 paO2 70 HCO3 30

4- pH 7.41 paCO2 40 paO2 50 HCO3 24

5- pH 7.48 paCO2 30 paO2 85 HCO3 24

Q3073. A 20-year-old male student is assessed for shortness of breath that occurs whilst running. He has no other symptoms and does not smoke. Examination, full blood count, and chest x ray are normal. Which of the following is most likely to be helpful in confirming the suspected diagnosis?

1- Arterial blood gas studies before and after exercise

2- Determination of lung volumes and diffusing capacity

3- Measurement of venous blood lactate before and after exercise

4- Spirometry before and after administration of bronchodilators

**5- Spirometry before and after exercise**

Q3074. Which of the following statements regarding cryptogenic fibrosing alveolitis (CF A) is correct?

**1- Active inflammation may be suggested by a CTscan**

2- 80% of patients initially respond well to immunosuppression

3- Lung volumes show a raised residual volume/total lung capacity ratio

4- Peak flow rate is a good guide to severity

5- Peak incidence seen in the fourth decade

Q3075. A 25-year-old woman is referred to the respiratory clinic as two of the children in her kindergarten class have recently been diagnosed with tuberculosis. Clinical examination reveals a BP of 125/72 mmHg, pulse is 70 and regular. Her chest is clear. A Mantoux test results in a reaction measured at 17 mm. Which of the following is the correct way to manage her?

1- Arrange for a bronchoscopy

**2- Arrange for sputum samples to be collected**

3- Reassure her she is immune to TB and requires no further action

4- Start anti-tuberculous chemotherapy

5- Vaccinate her with BCG

Q3076. A 30-year-old patient attends the hospital's asthma clinic. She has had asthma since childhood and her control is variable. At present she is on low dose beclomethasone inhaler, and is using her salbutamol inhaler at least eight times a day. She has recently been commenced on a long acting beta 2 agonist and noticed some improvement in her symptoms. On questioning she also reports her asthma symptoms are waking her at night once or twice a week. On examination she is not acutely dyspnoeic and her oxygen saturations through pulse oximetry are 98% on air. She has scattered wheeze throughout her lung fields on auscultation. Accordingly to the current British Thoracic Society guidelines what adjustments should be made to her asthma regime?

1- Add a leukotriene receptor antagonist

2- Add oral corticosteroids

3- Arrange admission to medical assessment unit

**4- Increase the dose of the inhaled corticosteroid**

5- Stop the long acting beta 2 agonist

Q3077. Based on the current British Thoracic Society (BT S) guidelines, which is the first line empiric antibiotic therapy regime for patients with moderate severity community acquired pneumonia (CA P) based on a CURB-65 score of 2?

1- Amoxicillin 500 mg TDS

**2- Amoxicillin 1 g TDS and clarithromycin 500 mg BD**

3- Benzylpenicillin 1.2 g QDS and levofloxacin 500 mg BD

4- Co-amoxiclav 1.2 g TDS and clarithromycin 500 mg BD

5- Doxycycline 200 mg loading dose and then 100 mg OD

Q3078. A 21-year-old woman presents to the Emergency department with a one hour history of shortness of breath, and chest tightness. The symptoms occurred acutely, and she has suffered identical attacks previously which are increasing in frequency. Her GP has treated her with a salbutamol inhaler, although she has not had any formal pulmonary function testing. Usage of her salbutamol inhaler has not helped her shortness of breath. On examination she is distressed and chest examination shows vesicular breath sounds with an elevated respiratory rate. Oxygen saturation is 98% on air which is sustained on exertion. Chest x ray is normal and arterial blood gas analysis shows: pH 7.52 (7.35-7.45) pCO2 2.2 kPa(4.7-7.45) pO2 18 kPa (increased from 15)(10.0-13.0) HCO3 25(22.0 - 30.0) Which of the following would be your diagnosis?

1- Acute asthma attack (mil d) 2- Hyperventilation (psychogeni c) 3- Pulmonary embolism

4- Respiratory muscle disease

5- Volume depletion

Q3079. A 42-year-old man presented to his GP with increasing shortness of breath. He has been previously noted to have a raised ALT, which was put down by the GP to a problem with excessive drinking. He was given a salbutamol inhaler which brought about some relief, particularly when he was playing football with his friends, but most recently he has had to give up due to reduced exercise tolerance. On examination his BP is 142/82 mmHg. He is thin with a BMI of 19 kg/m2 , and his chest looks hyper-expanded. There is scattered wheeze throughout both lung fields. Abdominal examination is normal. Investigations show Hb 12.9 g/dl(13.5-18) WCC 8.1 x 109 /L (4-10) PLT 203 x 109 /L (150-400) Na 138 mmol/l (134-143) K 4.4 mmol/l (3.5-5) Cr 110 µmol/l (60-120) FEV1 70% of predicted FEV1/FVC60% of predicted Which of the following is the most likely diagnosis?

**1- Alpha-1 antitrypsin deficiency**

2- Asthma

3- Chronic bronchitis

4- Idiopathic pulmonary fibrosis

5- Primary biliary cirrhosis

Q3080. A 31-year-old female with pulmonary hypertension complains of increasing shortness of breath. She is 36 weeks gestation in her first pregnancy. Which of the following statements is correct?

1- Chest x ray is contraindicated

2- Elevated D-dimers rule out PE

3- Enoxaparin dose should be halved in pregnancy

4- Nifedipine is contraindicated in pregnancy

**5- Risk of maternal mortality in patients with pulmonary hypertension is 30%**

Q3081. A 42-year-old restaurateur who has been human immunodeficiency virus (HI V) positive for eight years presents with progressive shortness of breath on exercise. The chest x ray shows normal lung fields with prominent pulmonary arteries. Pulse oximetry demonstrates that he desaturates on exercise. Which is the most likely diagnosis?

1- Anaemia

2- Intracardiac shunt across an atrial septal defect

**3- Pneumocystis jiroveci pneumonia (PC P) 4- Primary pulmonary hypertension**

5- Pulmonary embolic disease

Q3082. A 62-year-old man is found to have squamous cell carcinoma of the lung after being investigated for haemoptysis. Which one of the following would be a contraindication to surgical resection?

1- Finger clubbing

2- Hypercalcaemia

3- Hypertrophic pulmonary osteoarthropathy

4- Pleural effusion

**5- Superior vena cava obstruction**

Q3083. A 70-year-old male presents with haemoptysis. Bronchoscopy reveals a tumour in the proximal right main bronchus. Which of the following is a contraindication to radical radiotherapy?

1- Adenocarcinoma

**2- FEV1 of 25% predicted**

3- Involvement of the pulmonary artery

4- Ischaemic heart disease

5- Superior vena caval obstruction

Q3084. A 36-year-old woman presents with dyspnoea, cough and fever. Crackles are heard on auscultation of the lungs. Circulating precipitans to Micropolyspora faeni are positive. Which of the following is the most likely diagnosis?

1- Allergic bronchopulmonary aspergillosis

2- Brucellosis

**3- Farmer's lung**

4- Malt worker's lung

5- Pigeon fancier's lung

Q3085. A 40-year-old worker presents with wheezing and breathlessness which seem to improve over weekends and holiday periods when he is not working. To which of the following is he most likely to be exposed at work?

1- Aspergillus clavatus

2- Avian bloom

3- Exposure to spores of Actinomyces

**4- Platinum salts**

5- Work in the silver industry

Q3086. A 28-year-old man who works on a local mushroom farm comes to the clinic with increased shortness of breath. In addition to feeling increasingly short of breath, he has suffered intermittent fevers and sweats over the past few months. On examination his BP is 135/72 mmHg, pulse is 72 and regular. There are fine inspiratory crackles at both bases on auscultation of his chest. Investigations show: Haemoglobin 13.5 g/dl(13.5-17.7) White cell count 9.3 x 109 /L (4-11) Platelets 204 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.3 mmol/l (3.5-5) Creatinine 116 µmol/l (79-118) CXR - Diffuse interstitial shadowing. Spirometry - mixed restrictive / obstructive picture. Which of the following is the most appropriate course of action for the longer term?

**1- Change of job plan**

2- Inhaled anticholinergics

3- Inhaled high dose Seretide

4- Oral prednisolone

5- Regular azithromycin

Q3087. A 22-year-old woman is brought to the Emergency room by her boyfriend. She has been suffering from a heavy cold over the past few days and now has worsening wheeze and a dry cough. There is a past history of asthma for which she takes high dose Seretide and salbutamol prn. On examination her BP is 135/72 mmHg, her pulse is 95 and regular. She has severe wheeze on auscultation of the chest and her respiratory rate is 34/ min. Investigations show: pH 7.42(7.35-7.45) pCO2 4.5 kPa(4.8-6.1) pO2 12.9 kPa(10-13.3) PEFR 170ml / min (32% of predicte d) Which of the following features in her presentation is consistent with life - threatening asthma?

1- pH 7.42

2- pO2 12.9 kPa

3- pCO2 4.5 kPa

**4- Peak flow 170 ml/min**

5- Respiratory rate 34/min

Q3088. A 42-year-old rough sleeper is admitted from the local park where he has been found collapsed after drinking a flask of amyl nitrate. On examination his skin is blue grey in colour, his pulse is 100 and regular, and his BP is 105/60 mmHg. He is unconscious, respiratory examination is unremarkable apart from an increased respiratory rate of 31. The pulse oximeter reads 90%. Which of the following is the most appropriate treatment?

1- Ascorbic acid

2- Cimetidine

3- Hyperbaric oxygen

**4- Methylene blue**

5- Omeprazole

Q3089. You are examining rates of Aspergillus positive sputum samples received at the hospital as part of an audit. With respect to increasing the positive test rate, which of the following is most likely to be associated with Aspergillus colonisation?

1- Asthma

2- Bronchial carcinoma

3- COPD

**4- Cystic fibrosis**

5- HIV

Q3090. A 70-year-old lady with a significant smoking history is referred to the rapid access chest clinic with a three month history of weight loss, a cough and three episodes of haemoptysis. She is otherwise fit and well. On questioning she has a troublesome cough, some mild right sided chest pain which she describes as an ache and finds she gets fatigued more easily. However she is still able to complete the majority of her usual tasks unaided, although she finds these take her longer than before. According to the World Health Organisation (WH O) classification, what is her performance status?

1- 0

**2- 1**

3- 2

4- 3

5- 4

Q3091. A 48-year-old man with a history of cirrhosis comes to the respiratory clinic for a consultation because of increased shortness of breath. He smokes 10 cigarettes per day and has done so since the age of 17. Medication of note includes propranolol, but nil else of note. On examination his BP is 112/70 mmHg, pulse is 62 and regular. Apart from signs of chronic liver disease, you also notice that he has scattered wheeze throughout both lung fields. Investigations show: Haemoglobin 12.9 g/dl(13.5-8) White cell count 5.7 x 109 /L (4-10) Platelets 203 x 109 /L (150-400) Sodium 138 mmol/l (134-143) Potassium 4.8 mmol/l (3.5-5) Creatinine 110 μmol/l (60-120) Chest x ray Evidence of hyperexpanded lung fields Pulmonary function tests FEV1 55% of predicted FVC 90% of predicted Reduced KCO Which of the following is the most likely diagnosis?

1- Asthma

2- Chronic bronchitis

**3- Emphysema**

4- Hypoventilation

5- Pulmonary fibrosis

Q3092. What is the most likely cause of upper lobe fibrosis on chest x ray?

**1- Ankylosing spondylitis**

2- Cryptogenic fibrosing alveolitis

3- Rheumatoid arthritis

4- Scleroderma

5- Systemic lupus erythematosus

Q3093. A 16-year-old girl presents with shortness of breath and insomnia prior to an examination. Clinical examination is normal. CXR and PEFR are normal. Which of the following investigations is most suggestive of asthma?

**1- Diurnal variation in PEFR >20%**

2- Increased total IgE

3- Past medical history of hay fever and eczema

4- Positive skin prick test to common allergens

5- Resolution of symptoms the day after the examination

Q3094. An 18-year-old female 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 steroids 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

Q3095. An 80-year-old coal miner who stopped working 16 years previously presents with deteriorating dyspnoea. Investigations show: FEV 11.4 L (predicted 2.5) FVC 2.8L (predicted 3.0) What is the most likely diagnosis?

**1- Chronic obstructive pulmonary disease**

2- Cryptogenic fibrosing alveolitis

3- Extrinsic allergic alveolitis

4- Silicosis

5- Simple pneumoconiosis

Q3096. In which of the following cases of lung cancer would surgical resection of the tumour be a reasonable therapeutic option?

1- A 56-year-old woman with an adenocarcinoma of the right lung. CT scan shows enlarged lymph nodes in the right and left hilum. PFTs show an FEV1 of 2.25 L. (55% predicte d) .

2- A 59-year-old man who is found at bronchoscopy to have a tumour in the right mainstem bronchus extending to within 1 cm of the carina. Pulmonary function tests (PFT s) show an FEV1 of 2.1 litres (65% of predicted norma l) .

3- A 62-year-old lady with a small peripheral mass who has elevated liver enzymes and a computed tomography (C T) scan showing probable metastatic deposits in the liver. Lung function tests show an FEV1 of 3.5 litres (80% of predicted norma l) .

4- A 70-year-old man with a right lower lobe tumour 2 cm in diameter with no evidence of regional adenopathy or distant spread of disease. Lung funcion studies show an FEV1 of 0.8 litres (28% predicte d) .

**5- A 71-year-old man with a 3 cm tumour obstructing the right lower lobe bronchus. Lung function tests show an FEV1 of 2.1 L. (60% predicte d) .**

Q3097. Which of the following statements is true of the diffusion capacity of carbon monoxide?

**1- Depends on the thickness of the alveolar wall.**

2- Is a specific measure of lung perfusion.

3- Is increased in cigarette smokers.

4- Is increased in emphysema.

5- Is not affected by changes in the surface area available for gas exchange.

Q3098. A 25-year-old woman is admitted with a four month history of cough productive of mucoid sputum streaked with bright red blood, wheezing and diarrhoea. Her chest and abdominal examination are normal. Which of the following investigations is the most discriminatory?

**1- Bronchoscopy**

2- Chest x ray

3- Computed tomography (C T) of chest

4- Echocardiogram

5- Ventilation-perfusion scan

Q3099. A 41-year-old man with a history of nasal congestion, breathlessness, cough and wheeze presents with a left foot drop. Which of the following is the most likely diagnosis?

**1- Churg-Strauss syndrome**

2- Diabetes mellitus

3- Polyarteritis nodosa

4- Pulmonary eosinophilia

5- Wegener's granulomatosis

Q3100. A patient with rheumatoid arthritis complains of progressive breathlessness. Which of the following is the most likely cause?

1- Asthma

**2- Fibrosing alveolitis**

3- Pulmonary embolus

4- Pulmonary eosinophilia

5- Pulmonary nodules

Q3101. A patient who is listed for excision of his operable squamous cell lung cancer, suffers a life threatening haemoptysis on the ward. Which of the following is the most appropriate treatment?

1- Antibiotics

**2- Bronchial embolisation**

3- Conservative care

4- Radiotherapy

5- Tranexamic acid

Q3102. Which is the most likely explanation for the high prevalence of cystic fibrosis in European populations?

**1- Heterozygotes may have an advantage because of increased resistance to cholera.**

2- Inbreeding is common among Europeans.

3- Many different mutations can cause cystic fibrosis.

4- Most of the disease genes are hidden in heterozygotes.

5- The locus has a high mutation rate.

Q3103. A 54-year old woman was admitted with acute breathlessness. On examination she had a temperature of 37°C, a respiratory rate of 32 breaths per minute, a pulse of 120 beats per minute, a blood pressure of 100/60 mmHg, and a peak expiratory flow rate of 250 litres per minute. Auscultation of the heart and chest was normal. The chest x ray was normal and blood gases on air showed: pH 7.35 (7.36-7.44) paO2 6.0 kPa(11.3-12.6) PaC02 3.9 kPa(4.7-6.0) Serum bicarbonate 20 mmol/l (20-28) She was started on high flow oxygen. What is the most important next treatment?

1- Aminophylline intravenously

2- Amoxicillin intravenously

3- Intravenous fluids

**4- Low molecular weight heparin (LMW H) 5- Nebulised salbutamol**

Q3104. A 16-year-old girl presents with a two day history of deteriorating breathlessness and dyspnoea. Blood gas analysis on admission shows: pH 7.257.35-7.45 pCO2 7.0kPa4.7-6.0 pO2 8.5kPa9.3-13.3 base excess-4 mmol?3 to +3 Which of the following interpretations is correct?

1- Bicarbonate may be necessary to correct the acidosis.

2- Blood gases suggest type 1 respiratory failure.

3- Immediate intubation is required.

4- Results are consistent with bronchopulmonary dysplasia.

**5- Results are consistent with late severe asthma.**

Q3105. A 17-year-old boy with known cystic fibrosis is under regular follow up at his local specialist centre. Which one the following conditions (associated with cystic fibrosi s) , is he most likely also to have?

1- Biliary cirrhosis

**2- Delayed puberty**

3- Gallstones

4- Nasal polyps

5- Sinusitis

Q3106. A 75-year-old man with squamous cell carcinoma is thought to have resectable disease. Which of the following would be a contraindication to surgery?

1- Clubbing

**2- Forced expiratory volume (FE V) 1 of 0.75 L**

3- His age of 75 years

4- Pleural effusion

5- Syndrome of Inappropriate ADH

Q3107. A 32-year-old woman is admitted from a party complaining of extreme light-headedness and pleuritic chest pain she also says she has pins and needles in both hands. She has a past history of asthma which is controlled with a beclomethasone inhaler and prn salbutamol. On examination her BP is 110/72mmHg, her pulse is 95 and regular. There is scattered wheeze on auscultation of her chest but good air entry bilaterally. Her peak flow is 500, (580 predicte d) . Investigations show: pH 7.52 (7.35-7.45) pCO2 3.5 kPa(4.8-6.1) pO2 12.9 kPa(10-13.3) Which of the following is the most appropriate therapy with respect to reducing the likelihood of future attendance in the Emergency department?

**1- Diaphragmatic breathing exercises**

2- Diazepam

3- Fluoxetine

4- Montelukast

5- Seretide

Q3108. An otherwise healthy 78-year-old female presents complaining of a three day history of tiredness and breathlessness. Her pulse oximetry shows oxygen saturation of 90%. Arterial blood gas analysis performed on air shows pH 7.3(7.36-7.44) pO2 7.8 kPa(11.3-12.6) pCO2 7.5 kPa(4.7-6.0) Bicarbonate30 mmol/L(20-28) What is the most likely cause?

1- Bronchial asthma

2- Left ventricular failure

3- Lobar pneumonia

**4- Neuromuscular weakness**

5- Pulmonary embolism

Q3109. An otherwise healthy 32-year-old man was the driver of a car involved in a high speed RTA three days ago. He has sustained a closed fracture of his femur which has been treated surgically with an intramedullary nail, as well as fractures of his right clavicle and left radius. He was managed according to ATLS protocol when he attended the emergency department. On examination, he is acutely short of breath and has a temperature of 37.5°C. The patient seems confused when you speak to him, and as you examine him, you note petechial haemorrhages. What do you think is the most likely diagnosis?

1- Asthma attack

2- Chest infection

**3- Fat embolism**

4- Pulmonary embolism

5- Tension pneumothorax

Q3110. A 45-year-old man is seen in the Emergency department complaining of cough and dyspnoea. On examination he is disorientated and febrile at 38.5°C. He has a pulse of 100/min and his blood pressure is 85/55 mmHg. He has oxygen saturations of 89% on air and has a respiratory rate of 36/min. Chest x ray shows left basal consolidation. Results show: Sodium 140 mmol/l (137-144) Potassium 4.0 mmol/l (3.5-4.9) Urea 10.2 mmol/l (2.5-7.5) Creatinine 96 µmol/l (60-110) Which of the following is not part of the CURB score?

1- Blood urea concentration

2- Confusion

**3- Consolidation on chest x ray**

4- Hypotension

5- Tachypnoea

Q3111. A 70-year-old man presents with weight loss and dyspnoea and is diagnosed with small cell lung cancer. Which one of the following is an adverse prognostic feature?

1- Cavitation on x ray

2- Finger clubbing

3- Hypernatraemia

4- Hypertrophic pulmonary osteoarthropathy

**5- Increased alkaline phosphatase**

Q3112. A 61-year-old heavy smoker with a BMI of 37 presents with impotence, nocturia and depression. He is hypoxic at rest on air and has ankle oedema. Which is the most appropriate investigation to determine the aetiology?

1- Arterial blood gas

2- Chest x ray

**3- Sleep study**

4- Thyroid function test

5- Ventilation–perfusion scan

Q3113. A 40-year-old male, with disseminated malignancy and unknown primary, presents with oedema of the arms and face, with dilated neck veins. You suspect superior vena cava obstruction (SVC O) . Which of the following statements is correct?

1- IV dexamethasone is of no benefit

2- Loss of pulsation in the venous system of the neck is of no clinical use in the diagnosis of SVCO

**3- Mediastinal radiotherapy relieves symptoms in 90% of patients**

4- Palliative treatment alone is indicated

5- Small cell lung cancer is unlikely to be the cause

Q3114. A 28-year-old man who had had tuberculosis of the mediastinal lymph nodes diagnosed two weeks previously and who had been started on chemotherapy with rifampicin, isoniazid and pyrazinamide was admitted because of the increasing dyspnoea and stridor. Chest x ray showed compression of both main bronchi by carinal lymph node enlargement. What is the next step in management?

1- Mediastinoscopy and biopsy

2- Refer for tracheal stent insertion/tracheostomy

3- Refer for urgent CT scan of the mediastinum

**4- Start corticosteroids**

5- The addition of ethambutol

Q3115. Which of the following statements regarding prognosis in lung cancer is true?

1- Combined modality therapy (chemotherapy, radiation therapy and surger y) has improved overall lung cancer survival to 40% at five years.

**2- Overall lung cancer survival is less than 15% at five years.**

3- Patients undergoing radiation therapy have a five year survival of 40%.

4- Patients who qualify for surgery have a 50% five year survival.

5- With chemotherapy, overall survival in small cell (oat cel l) carcinomas has risen to 60% at five years.

Q3116. A 65-year-old female presents with a three week history of malaise and blood in her sputum. Bronchoscopy reveals a mass in the right main bronchus, and histology demonstrates it to be a small cell carcinoma. Further investigation fails to show any metastases. What is the most appropriate step in management?

**1- Chemotherapy**

2- Endobronchial laser therapy

3- Palliative therapy

4- Radiotherapy

5- Surgery

Q3117. Which of the following is not a recognised feature of Pancoast's tumour?

1- Erosion of the first rib

2- Ipsilateral Horner's syndrome

3- Pain in the arm radiating to the fourth and fifth fingers

4- Wasting of the dorsal interossei

**5- Weakness of abduction at the shoulder**

Q3118. A 23-year-old man presents to the Emergency department with sudden onset left sided pleuritic chest pain. He has had a chronic cough over the past few days and says the pain came on after a coughing fit. On examination his BP is 148/82 mmHg, pulse is 82 and regular, his saturations are 95% on air. Chest sounds appear normal. Investigations show: pH 7.42(7.35-7.45) pCO2 4.8 kPa(4.8-6.1) pO2 10.2 kPa(10-13.3) CXRSmall left sided pneumothorax (<5%) Which of the following is the most appropriate way to manage him?

1- Admit for overnight oxygen therapy

2- Chest drain

3- Discharge and review in 24 hours

**4- Discharge and review in the clinic in two to three weeks**

5- Pleural aspiration

Q3119. Based on the current British Thoracic Society (BT S) guidelines, which is the first line empiric antibiotic therapy regime for patients with severe community acquired pneumonia (CA P) based on a CURB-65 score of 4?

1- Amoxicillin 500 mg TDS

2- Amoxicillin 1 g TDS and clarithromycin 500 mg BD

3- Benzylpenicillin 1.2 g QDS and levofloxacin 500 mg BD

**4- Co-amoxiclav 1.2 g TDS and clarithromycin 500 mg BD**

5- Doxycycline 200 mg loading dose and then 100 mg OD

Q3120. A 17-year-old girl with known cystic fibrosis presents with a chest infection. What antibiotic would be most suitable for her?

1- Amoxicillin

2- Augmentin

3- Cefotaxime

**4- Ceftazidime**

5- Gentamicin

Q3121. A 38-year-old man presents with episodic wheeze and non-productive cough which occurs particularly at night. He has been employed in the plastics industry. Which of the following suggests a diagnosis of occupational lung disease?

1- Absent family history of asthma

2- Commencement of symptoms on his first day in this employment

3- Elevated serum IgE concentration

**4- Improved symptomatology when on holiday**

5- Increased bronchial reactivity

Q3122. A 40-year-old man presents with a long history of productive cough and breathlessness. He had complained of halitosis and exacerbations of productive sputum, chest pain and haemoptysis. Examination revealed bilateral inspiratory crackles. Which of the following treatments is likely to decrease the frequency of his exacerbations?

1- Cyclical antibiotic therapy

2- Inhaled corticosteroids

3- Nebulised bronchodilators

**4- Postural drainage**

5- Surgical resection

Q3123. A 48-year-old man with a known history of chronic alcohol abuse presented with a three day history of fevers, night sweats and a cough productive of purulent sputum. There was no past history of respiratory disease. On examination he was febrile (39.1° C) . Percussion note was dull over the right apex and there was bronchial breathing in this area on auscultation. The chest x ray showed right upper lobar consolidation. Other investigations revealed: WBC 23 x 109 /L (4-11 x109) Neutrophils 18.3 x 109 /L (1.5-7 X109) What is the most likely diagnosis?

1- Aspiration pneumonia

**2- Klebsiella pneumonia**

3- Legionella pneumonia

4- Mycoplasma pneumonia

5- Primary tuberculosis

Q3124. A 63-year-old woman with diabetes presents with a pyrexia, productive cough and shortness of breath for five days. She has RLL consolidation and a small unilateral pleural effusion on CXR. Which is a marker of poor prognosis?

1- Her age

2- Her CXR signs

**3- Her diabetes**

4- Temp >38°C

5- WCC > 15

Q3125. A 65-year-old woman presented with increasing fatigue, dyspnoea and a dry cough. Her chest x ray shows an area of dense pneumonia-like consolidation in the right lower lobe. A course of antibiotics did not improve her symptoms or chest x ray. Bronchioalveolar lavage (BA L) retrieved 'atypical' cells. What is the most likely diagnosis?

**1- Bronchioloalveolar cell carcinoma**

2- Mycoplasma pneumonia

3- Pulmonary alveolar proteinosis

4- Pulmonary embolism with infarction

5- Sarcoidosis

Q3126. In which of the following have randomised controlled trials shown that long term oxygen therapy (LTO T) reduces mortality?

1- Asthma

**2- Cor pulmonale due to chronic airflow obstruction**

3- Cryptogenic fibrosing alveolitis

4- Cystic fibrosis

5- Pulmonary sarcoidosis

Q3127. Which one of the following cells in the lung parenchyma produces surfactant?

1- Alveolar macrophage

2- Endothelial cell

3- Goblet cell

4- Type I pneumocyte

**5- Type II pneumocyte**

Q3128. A 43-year-old man with asthma develops worsening breathlessness and his full blood count has revealed an eosinophilia. A diagnosis of allergic bronchopulmonary aspergillosis (ABP A) is suspected. Which of the following statements is true with regard to this diagnosis?

**1- Circulating IgG precipitins to Aspergillus fumigatus are positive**

2- Pleural effusion is a complication

3- Recurrent haemoptysis is a characteristic feature

4- The CO transfer factor is unaffected

5- The immediate skin test to an extract of Aspergillus fumigatus is negative

Q3129. A 28-year-old woman comes to see you with her partner. She has a brother who has been diagnosed with cystic fibrosis and her partner has tested positive as a carrier for the disease. They want to know about what the future holds if one of their children is born with cystic fibrosis. Which of the following is true?

**1- Constipation is common in patients with CF**

2- Diabetes only occurs in those patients who are overweight

3- Females with the disease are infertile

4- Median survival is expected to be around 27 years

5- Pancreatic enzyme supplements are only required if patients cannot maintain their weight

Q3130. A 64-year-old patient is discussed at the lung cancer MDT following a recent diagnosis of non-small cell lung cancer (squamous subtyp e) . He is a current smoker, and is known to have COPD for which he takes inhalers. The lesion appears confined to the right middle lobe, but surgical resection would require a pneumonectomy. Which of the following is a contraindication to his having radical surgery?

1- Clubbing

**2- FEV1 1.8L**

3- Hypertrophic pulmonary osteo-arthropathy (HPO A) 4- Hyponatraemia

5- Mediastinal lymph node measuring 0.9 cm on staging CT

Q3131. Which of the following is classified as a minor risk factor in the development of venous thromboembolism (relative risk 2-4)?

1- Caesarean section

2- Fracture

3- Institutional care

**4- Oral contraceptive pill**

5- Varicose veins

Q3132. A 31-year-old motorcyclist becomes confused and dyspnoeic on the orthopaedic ward 24 hours after fracturing his right femur in an accident. Which of the following skin lesions may be found on examination?

**1- Multiple petechiae in both axilla**

2- Palpable purpura on buttocks and legs

3- Target lesions on his chest

4- Tender red nodules on his shins

5- Vesicular lesions on his torso

Q3133. Which of the following is classified as a major risk factor in the development of venous thromboembolism (relative risk 5-20)?

1- COPD

2- Hormone replacement therapy (HR T) 3- Obesity

4- Oral contraceptive pill

**5- Varicose veins**

Q3134. A 20-year-old female with cystic fibrosis presents in early pregnancy wanting advice. Genetic analysis reveals that her partner is a carrier of the cystic fibrosis gene. Which of the following percentages best represents the chance of her child having cystic fibrosis?

1- 10%

2- 25%

**3- 50%**

4- 75%

5- 100%

Q3135. A 60-year-old man was admitted with community-acquired pneumonia and deteriorated over the next few hours. Which one of the following indicates a poor prognosis?

1- A total white cell count of 17 x 109 /L (4-11)

2- Blood pressure of 110/70 mm Hg

**3- Respiratory rate of 35 breaths/min**

4- Rigors

5- Temperature of 39°C

Q3136. Which of the following would be the least likely finding in a patient with sarcoidosis?

1- Hepatic granulomas

2- Restrictive pulmonary function tests

3- Skin lesions

4- Uveitis

**5- X bodies on bronchoalveolar lavage (BA L) fluid**

Q3137. Which one of the following is correct regarding severe bullous emphysema?

1- Helium dilution is more accurate than body plethysmography in measuring residual volume.

2- Hypoxaemia at rest will improve with exercise.

3- Pulmonary compliance is reduced.

4- Reduced elastic recoil opposes airway collapse in expiration.

**5- The carbon monoxide transfer factor is reduced.**

Q3138. A 55-year-old female is admitted with a chest infection. Investigations reveal consolidation in the right base on the chest x ray and urinary legionella antigen is found to be positive. Which one of the following is the most appropriate treatment for this woman?

1- Cefotaxime

**2- Clarithromycin**

3- Co-amoxiclav

4- Minocycline

5- Vancomycin

Q3139. A 51-year-old businessman complains of dyspnoea on exertion. He recently returned from a business trip to the USA. He has distant heart sounds on auscultation of the chest. A chest radiograph reveals that there is a thin rim of calcification surrounding the cardiac outline. Which of the following conditions is most likely responsible for these findings?

1- Group B coxsackie virus

2- Metastatic carcinoma

3- Sarcoidosis

**4- Tuberculosis**

5- Uraemia

Q3140. A 22-year-old student who is known to have severe asthma is brought to the Emergency department by his flatmates. He has been suffering from influenza over the past few days, and been getting progressively increasing cough, wheeze and shortness of breath. He takes regular high dose Seretide and montelukast. His usual peak flow is 460 (predicted 590). On examination his BP is 123/80 mmHg, his pulse is 105 and regular, respiratory rate is 35. There is marked wheeze on auscultation of his chest. Investigations show: pH 7.43(7.35-7.45) pCO2 6.4 kPa(4.8-6.1) pO2 10.3 kPa(10-13.3) Which of the features is consistent with near fatal asthma according to BTS guidelines?

1- Pulse 100

2- Peak flow 280

3- pO2 10.3

**4- pCO2 6.4**

5- Respiratory rate 35

Q3141. A 19-year-old smoker presents to the Emergency department with right sided pleuritic chest pain and dyspnoea. He has no previous medical history. His BP is 120/75 mmHg. A CXR is done and confirms a right sided pneumothorax with a rim of 2.5 cm. What is the pathogenesis of pneumothorax?

1- Leak from pulmonary alveoli

2- Oesophageal rupture

**3- Ruptured apical bullae on lung surface**

4- Underlying asthma

5- Underlying emphysema

Q3142. A 75-year-old woman with a productive cough was admitted by her GP. She has a temperature of 38.2°C. She is not oriented to time or place. On examination she right basal crackles. Her BP is 110/60 mmHg and respiratory rate is 34/min. Pulse is 105 and regular. O2 saturation is 92%. Chest x ray shows right basal consolidation. The patient was given IV antibiotics for the first three days, improved and she was switched to oral antibiotics. Investigations show: White cell count 15 x 109 /L (4 - 11 x 109 / L) CRP 75 mg/L(<10 mg/ L) Na 140 mmol/L(137 - 144 mmol/ L) K 3.8 mmol/L(3.5 - 4.9 mmol/ L) Urea 9.4 mmol/L (2.5 - 7.5 mmol/ L) Serum Creatinine 100 μmol/L (60 - 110 μmol/ L) The patient is now ready for discharge. What is the best plan of action?

1- Check full blood count , U/E and CRP in four weeks

**2- Chest x ray in six weeks**

3- CT chest

4- Discharge with a prescription of oral antibiotics for five to seven days

5- Refer to a respiratory physician

Q3143. A 67-year-old man with a 35 pack/year history is referred to the rapid access lung cancer clinic by the GP following a suspicious chest x ray. He undergoes a CT scan of his thorax. The report is as follows: 'There is a 4.5 cm mass in the right upper lobe which is involving the right main bronchus. There are several ipsilateral lymph nodes, the largest measuring 2.3 cm. There is no evidence of distant metastases. The overall appearance is in keeping with a lung carcinoma, most likely non-small cell'. Based on the TNM (tumour, nodes, and metastase s) classification, what is the radiological staging of this patient's lung cancer?

**1- T2N1M0**

2- T2N2M0

3- T2N3M0

4- T3N1M0

5- T3N2M0

Q3144. A 19-year-old man presents with sudden onset left-sided pleuritic chest pain and dyspnoea. He has no past medical history of note and takes no regular medication. On examination he looks in pain. He has a respiratory rate of 35 and his BP is 110/70 mmHg, with a pulse of 95. His chest sounds appear normal. Investigations show Haemoglobin 14.8 g/dl(13.5-18) White cell count 5.0 x 109 /L (4-10) Platelets 201 x 109 /L (150-400) Sodium 141 mmol/l (134-143) Potassium 4.8 mmol/l (3.5-5) Creatinine 94 μmol/l (60-120) CXR Small rim of air <2 cm on the left hand side Which of the following is the most appropriate management?

**1- Air aspiration**

2- Discharge for review the following day

3- Large bore chest drain

4- Observe and give oxygen

5- Small bore chest drain

Q3145. A 32-year-old female smoker presents with acute severe asthma. The SaO2 are 80% on 15 L of oxygen and the pO2 is 8.2kPa (10.5-13). There is widespread expiratory wheeze throughout the chest. She is given IV hydrocortisone, 100% oxygen and 5 mg of nebulised salbutamol. What is the next step in your management?

1- IV Augmentin

**2- IV magnesium**

3- IV potassium

4- IV theophylline

5- Oral prednisolone

Q3146. A 21-year-old gentleman with cystic fibrosis presents with infertility. What is the most likely cause for this?

1- Chronic prostatic insufficiency

**2- Failure of development of the vas deferens**

3- Increasing alkalinisation of semen

4- Primary failure of testosterone production

5- Production of anti-sperm antibodies

Q3147. A 28-year-old man had been treated for pulmonary tuberculosis with rifampicin, isoniazid, pyrazinamide and ethambutol for four weeks. Pre-treatment liver function tests (LFT s) were normal but his most recent investigations revealed: Serum total bilirubin 98 µmol/l (0-18) Serum alanine aminotransferase 620u/l (5-45) Serum aspartate aminotransferase 450 u/l (

5- 45) Serum alkaline phosphatase 720 u/l (40-110) Which one of the following is the most appropriate next step?

**1- Stop all treatment**

2- Stop ethambutol

3- Stop isoniazid

4- Stop pyrazinamide

5- Stop rifampicin

Q3148. An 18-year-old boy is suspected of having cystic fibrosis (C F) . Which of the following results would be most suggestive of this condition?

1- Abnormalities in lung function tests

2- Abnormal pancreatic function tests

3- Bronchiectasis on a chest x ray

**4- Elevated sweat chloride concentration**

5- Low immunoreactive plasma trypsinogen

Q3149. A 60-year-old female presents with recent onset dyspnoea and noisy breathing. Her chest x ray showed right deviation of the trachea due to a retrosternal goitre. Which of the following tests is most useful in the assessment of airflow obstruction due to the goitre?

**1- Flow volume curve**

2- Forced expiratory flow volume in one second

3- Forced vital capacity

4- Peak expiratory flow rate

5- Residual volume

Q3150. A 60-year old man with a history of non-small cell lung cancer was treated with a right lower lobectomy 12 months ago. He had an abdominal CT scan one month ago which revealed hepatic mass lesions and hilar lymphadenopathy. He now presents with malaise and fatigue. His results show: Urinalysis Protein +++ 24 hour urine protein 2.7 g/24hr Serum Urea 30 mmol/L (2.5-7.5) Serum creatinine 450 µmol/L (60-110) A renal biopsy shows focal deposition of IgG and C3 with a granular pattern. What is the most likely diagnosis?

1- Goodpasture's syndrome

**2- Membranous glomerulonephritis**

3- Minimal change glomerulonephritis

4- Nodular glomerulosclerosis

5- Rapidly progressive glomerulonephritis

Q3151. A 19-year-old woman became breathless while travelling on an aeroplane. Which one of the following features most strongly supports a diagnosis of acute hyperventilation related to a panic disorder?

**1- Carpal spasm**

2- Finger paraesthesia

3- Hypotension

4- Light-headedness

5- Loss of consciousness

Q3152. A 60-year-old man with ankylosing spondylitis presents with cough, weight loss and tiredness. His CXR shows longstanding upper lobe fibrosis. Three sputum tests stain positive for acid fast bacilli (AF B) but are consistently negative for Mycobacterium tuberculosis on culture. Which of the following is the most likely cause?

1- Allergic bronchopulmonary aspergillosis

2- Micropolyspora faeni

**3- Mycobacterium avium intracellulare complex**

4- Sarcoidosis

5- Tuberculosis

Q3153. A 60-year-old man with breathlessness, fever and headache is suspected of having farmer's lung. A CXR shows diffuse nodular shadowing predominantly in the mid and lower zones. What would be the most useful diagnostic test?

1- Blood culture

2- Sputum culture

3- Serum precipitating antibodies to Aspergillus clavatus

4- Serum precipitating antibodies to Cryptostroma corticale

**5- Serum precipitating antibodies to Micropolyspora faeni**

Q3154. A 60-year-old man who has known small cell lung cancer presents to the clinic for 12 month review. He has completed five cycles of initial intensive chemotherapy and radiotherapy. His six month review showed shrinkage of his primary lung tumour. Over the past few weeks however he has felt increasingly short of breath and has suffered three episodes of haemoptysis. On examination he is apyrexial, his BP is 155/90 mmHg, and his pulse is 70 and regular. There are coarse crackles throughout both lung fields consistent with COPD. Investigations show: Haemoglobin 11.7 g/dl(13.5-17.7) White cell count 8.2 x 10(9)/l (4-11) Platelets 183 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.4 mmol/l (3.5-5) Creatinine 131 micromol/l (79-118) Alanine aminotransferase 280 U/l (5-40) Alkaline phosphatase 245 U/l (39-117) CXR - Right sided original tumour appears to have increased in size, bilateral hilar lymphadenopathy, two new left sided lung lesions noted. He suspected he may have a recurrence and brought with him some information on topotecan, downloaded from the internet. Which of the following is true about topotecan in his case?

1- He is only suitable for oral therapy if the first line regime is not appropriate

**2- He is only suitable for oral therapy if the first line regime is not appropriate and cyclophosphamide, vincristine and doxorubicin (CA V) is inappropriate**

3- He is suitable for IV therapy

4- Small cell carcinoma makes him ineligible for therapy

5- Topotecan is recommended for the treatment of all patients with small cell lung cancer

Q3155. A 71-year-old man presents to the Emergency department with an influenza-like illness. He says this has been accompanied by a dry cough and diarrhoea over the past few days, and his wife tells you that he is becoming increasingly drowsy and forgetful. They have returned from a hotel in Spain some two days earlier, where they were staying for the winter. On examination he is pyrexial 38.2 deg C, pulse is 92 and BP is 100/60 mmHg. There is bilateral wheeze on auscultation of the chest. Investigations show: Haemoglobin 13.0 g/dl(13.5-17.7) White cell count 13.0 x 109 /L (4-11) Platelets 222 x 109 /L (150-400) Sodium 130 mmol/l (135-146) Potassium 4.1 mmol/l (3.5-5) Creatinine 129 µmol/l (79-118) Alkaline phosphatase 30 U/l (39-117) CXR Left sided pleural effusion and patchy consolidation Which of the following is the most likely diagnosis?

1- Klebsiella pneumoniae

**2- Legionella pneumophila**

3- Mycoplasma pneumoniae

4- Staphylococcus aureus

5- Streptococcus pneumoniae

Q3156. A 42-year-old farmer is admitted with a severe cough, fevers and shortness of breath. You understand that he has been clearing out a shed over the past few days which were previously used for over-wintering cattle. On examination he has a temperature of 38.2C, his BP is 110/70 mmHg and his pulse is 95 and regular. There are widespread coarse crackles on auscultation. Investigations show: Haemoglobin 13.9 g/dl(13.5-17.7) White cell count 12.8 x 109 /L (4-11) Platelets 222 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.1 mmol/l (3.5-5) Creatinine 110 micromol/l (79-118) CXR - diffuse consolidation. Which of the following is the most appropriate treatment?

1- Amphotericin B

2- Clarithromycin

3- Fluconazole

4- Penicillin

**5- Prednisolone**

Q3157. Which of the following is a recognised treatment for complications of cystic fibrosis?

1- DNase to assist in reinflating collapsed lung segments

2- Hypotonic saline drinks for hypernatraemic dehydration

**3- Nebulised tobramycin for Pseudomonas colonisation of the lower respiratory tract**

4- Pancreatic transplant for diabetes mellitus

5- Rectal pull-through and anastamosis for rectal prolapse

Q3158. A 49-year-old man is diagnosed with small cell lung cancer. Despite a normal brain MRI he develops progressive truncal ataxia. Which of the following would be most useful in the diagnosis of his condition?

**1- Anti-Purkinje cell antibody levels**

2- Lumbar puncture

3- Serum calcium

4- Serum sodium

5- Visual evoked potentials

Q3159. A 24-year-old man presents to the Emergency department and complains of shortness of breath. Before his chest x ray is taken he tells the casualty officer that he is known to have an 'azygous lobe'. In what region of the chest x ray would you expect to see an 'azygous lobe'?

1- Left lower zone

2- Left mid zone

3- Left upper zone

4- Right lower zone

**5- Right upper zone**

Q3160. A 73-year-old male smoker presents with haemoptysis of three weeks duration. Examination reveals left supraclavicular lymphadenopthy. A chest radiograph reveals a left sided hilar mass. Which of the following would be an appropriate next step in the investigation of this patient?

1- Bronchoscopy

2- CT guided biopsy

3- Lymph node biopsy

4- PET scanning

**5- Sputum cytology**

Q3161. A 68-year-old man presents with a one month history of dyspnoea and a 3 kg weight loss. On examination there were signs of a large left pleural effusion, confirmed on chest x ray. Investigations revealed: Pleural fluid analysis: Protein 38 g/L Cytologya few lymphocytes and red blood cells. Which one of the following investigations should be considered next?

1- Bronchoscopy

**2- CT scan of thorax**

3- Repeat pleural aspiration with biopsy

4- Thoracoscopic pleural biopsy

5- Tuberculin test

Q3162. A 45-year-old solicitor had an onset of severe, crushing, substernal chest pain while attending a football match. He collapsed on his way to the car. Bystander cardiorespiratory resuscitation was begun immediately and he is cardioverted for VF by the attending paramedics. He arrives intubated and ventilated in the casualty department where his 12 lead ECG shows inferior ST elevation. Blood gas analysis revealed: pH 7.13(7.35-7.45) paO2 560 mmHg(90-110) paCO2 18 mmHg(35-45) Bicarbonate5 .8 mmol/l (20-30) SaO2 98%(>90) Based on these laboratory values, which of the following statements best describes his current pathophysiology?

1- He has a large right to left intracardiac shunt

2- He is demonstrating a primary respiratory acidosis

3- His anion gap is likely to be normal

4- His oxyhaemoglobin curve is shifted to the left

**5- His pulmonary artery pressure is likely to be elevated**

Q3163. The parents of a child with cystic fibrosis (C F) consult you wishing to know what is the risk of their next child being a carrier of the condition. Which one of the following percentages is the correct risk?

1- 0%

2- 25%

**3- 50%**

4- 75%

5- 100%

Q3164. A 24-year-old asthmatic female is admitted with acute severe asthma. Which of the following statements regarding the diagnosis is correct?

**1- A high inspired oxygen concentration should be used routinely**

2- Agitation should be managed with a benzodiazepine

3- Inhaled salmeterol is indicated as first line therapy

4- Normal arterial pCO2 is reassuring

5- Pulsus paradoxus is a reliable sign of severity

Q3165. A 37-year-old patient presents with dyspnoea and right pleuritic chest pain. He previously had right pneumothorax eight months ago for which he had a chest drain. He works as plumber. He is an ex-smoker. On examination he had decreased air entry on right side and hyper-resonance. A CXR confirms a large pneumothorax. A chest drain was inserted and the lung completely reexpanded. What is the best plan of action?

1- Advise bed rest for two weeks and then repeat CXR

2- Chemical pleurodesis through the chest drain

3- Recheck if he still smokes and advise to quit.

4- Remove drain and discharge

**5- Video assisted thoracoscopic surgery**

Q3166. A 26-year-old patient presented to the Emergency department with severe shortness of breath. His BP drops to 80/50 mmHg. He is tachycardic and apyrexial. His O2 sat is 74%. Examination has revealed raised JVP and trachea deviated to the left side. What is the immediate next step?

1- Aspirate left side of chest using a large bore cannula

2- Insert a chest drain on the left side

**3- Insert a chest drain on the right side**

4- Request an urgent portable CXR and administer high flow O2 while waiting

5- Request urgent arterial blood gases

Q3167. A 62-year-old man comes to the respiratory clinic. He was diagnosed with COPD several years ago. He is on regular steroid inhalers, long acting B2 agonist and ipratropium. He has been discharged from hospital following an infective exacerbation two weeks ago. On examination he is apyrexial and his chest is clear. His FEV1 is 1.2 L. His blood gases on air show the following: pH 7.4(7.35-7.45) pCO2 5.5 kPa (4.7-6.0) paO2 7.3 kPa (11.3-12.6) He stopped smoking six months ago. Which of the following will you consider?

1- Discharge from clinic

2- Give a course of oral steroids

3- Prescribe oral antibiotics

**4- Repeat blood gases on air in three months**

5- Start LTOT (long term oxygen therap y) .

Q3168. A 25-year-old Afro-Caribbean patient presents to the GP with a progressive history of dyspnoea and a cough. She is initially treated for possible asthma but this fails to alleviate symptoms. The GP organises a CXR and spirometry. The CXR is reported as bilateral hilar lymphadenopathy and upper lobe pulmonary infiltrates. On review in the chest clinic, spirometry shows a mild restrictive defect and serum angiotensive converting enzyme (SAC E) is positive. She is diagnosed with pulmonary sarcoidosis. What is the stage (radiologica l) of her disease?

1- Stage 0

2- Stage I

**3- Stage II**

4- Stage III

5- Stage IV

Q3169. A 17-year-old patient with known atopic asthma presents to the Emergency department with an acute asthma attack. He had been over at his friend's house playing with his dog about 10 minutes before he felt wheezy and short of breath. He is given bronchodilators and has a good response. He is discharged later that day following a period of observation with an asthma management plan. Which of the below immunomodulators is involved in this immediate response (bronchoconstrictio n) ?

1- Eosinophil catatonic protein (EC P) 2- Leukotriene C4 (LTC4)

3- Major basic protein (MB P) 4- Platelet activating factor (PA F) 5- TH2 lymphocytes

Q3170. A known case of chronic obstructive pulmonary disease (COP D) presents to the Emergency department, distressed and cyanosed. Arterial blood gases reveal: pH 7.2(7.36-7.44) paO2 8.3 kPa(11.3-12.6 kP a) paCO2 10 kPa(4.7-6.0 kP a) He is given high concentration oxygen together with a salbutamol nebuliser. Intravenous hydrocortisone is also given. The patient becomes even worse with poorer breathing effort although pulse oximetry showed SaO2 of 93%. What is the cause of patient's deterioration?

1- Constriction of bronchioles in response to salbutamol nebuliser

**2- High concentration oxygen administration**

3- Pulmonary artery relaxation causing mismatch between perfusion and ventilation

4- Pulmonary vein relaxation causing mismatch between perfusion and ventilation

5- Reaction to IV hydrocortisone

Q3171. A 45-year-old female presents with a six month history of exertional dyspnoea and is diagnosed with pulmonary fibrosis (P F) . Over the last one year she has received a variety of medications. Which of the following drugs could be responsible?

1- Dexamethasone

2- Ibuprofen

3- Nalidixic acid

4- Penicillamine

**5- Sulfasalazine**

Q3172. A 56-year-old female presents with a six month history of deteriorating non-productive cough and exertional dyspnoea. On examination she is noted to be cyanosed, has clubbing of the fingers and there are bilateral basal crackles. A chest x ray reveals bilateral basal shadowing and pulmonary investigations show: paO2 (on ai r) 8.5 kPa (11.5-12.5) FEV1/FVC ratio 85% Which one of the following investigations is most likely to establish the diagnosis?

1- Bronchoalveolar lavage

**2- Chest CT scan**

3- Diffusion capacity studies

4- Echocardiography

5- Serum ACE level

Q3173. A 60-year-old woman presents with deteriorating dyspnoea and cough productive of a purulent sputum. She has a two year history of recurrent chest infections and is a smoker of 15 cigarettes daily for the last 30 years. On examination, she appeared breathless with a pulse of 100 bpm and her temperature was 39°C. Investigations revealed: Haemoglobin 19.5 g/dl(11.5-16.5) White cell count 15.7 x 109 /L (4-11) Platelet count 350 x 109 /L (150-400) paO2 6.8 kPa (11.3-12.6) CarboxyHaemoglobin 15.5%(3-15) Red cell mass 147%(75-125) What is the most likely explanation for these findings?

**1- Chronic obstructive airways disease**

2- Ectopic erythropoietin production

3- Myelofibrosis

4- Primary polycythaemia

5- Pseudo-polycythaemia

Q3174. A 15-year-old boy presented with wheezing when playing football and nocturnal cough. Which is the best test to confirm the underlying condition?

1- A trial of inhaled corticosteroids

2- A trial of inhaled salbutamol

3- A trial of oral corticosteroids

**4- Serial peak expiratory flow rate measurements**

5- Spirometry alone

Q3175. Which of the following is a recognised cause of a phrenic nerve palsy?

**1- Aortic aneurysm**

2- Dermoid

3- Ganglioneuroma

4- Pericardial cyst

5- Sarcoidosis

Q3176. A 61-year-old man presents with a four day history of dry cough and increasing confusion. He has also suffered diarrhoea and headaches which have increased in severity over the past day. Past history of hypertension for which he takes perindopril and indapamide is noted as is recent travel to a medical convention in Spain. On examination his BP is 110/70 mmHg, pulse is 92, he is pyrexial 38.2 C. There are coarse basal crackles bilaterally and signs of a left sided pleural effusion. Investigations show: Haemoglobin 13.7 g/dl(13.5-17.7) White cell count 11.9 x 109 /L (4-11) Platelets 173 x 109 /L (150-400) Sodium 133 mmol/l (135-146) Potassium 4.8 mmol/l (3.5-5) Creatinine 132 micromol/l (79-118) Alanine aminotransferase 180 U/l (5-40) Alkaline phosphatase 220 U/l (39-117) CXR - Patchy bilateral consolidation, left pleural effusion. Which of the following is the best treatment for him?

1- Benzyl penicillin

2- Ciprofloxacin

**3- Clarithromycin**

4- Doxycycline

5- Rifampicin

Q3177. A 45-year-old woman solicitor presents with shortness of breath and a dry cough. She has been treated by her GP with a salbutamol inhaler but tells you that this has made no difference at all to her symptoms. In addition she has an itchy raised rash on both shins. On examination her BP is 145/82 mmHg, pulse is 80 and regular. Her BMI is 28. Lungs appear normal on auscultation. There is a rash on her shins consistent with erythema nodosum. Which of the following investigations is most likely to confirm the diagnosis?

1- AAFB staining

2- Bronchoalveolar lavage

3- CT thorax

4- Serum ACE

**5- Transbronchial biopsy**

Q3178. A 72-year-old ex-miner with a significant smoking history and proven diagnosis of COPD, is attending chest clinic for review. He currently takes only a short acting beta agonist (salbutamo l) . His last FEV1 was 45%. He feels his symptoms are not currently controlled on his current drug regime. According to the latest guidelines, what changes should be made to his medication?

1- Inhaled corticosteroid (IC S) 2- Long acting beta agonist (LAB A) 3- Long acting beta agonist and inhaled corticosteroid

4- Long acting beta agonist and inhaled corticosteroid and long acting muscarinic agonist.

5- Long acting muscarinic agonist (LAM A) and long acting beta agonist

Q3179. A 19-year-old girl with known cystic fibrosis is under regular follow up at her local specialist centre. Which one the following conditions associated with cystic fibrosis is she most likely also to have?

1- Biliary cirrhosis

2- Infertility

3- Nasal polyps

**4- Pancreatic Insufficiency**

5- Sinusitis

Q3180. A 65-year-old man with severe COPD is suspected of having pulmonary hypertension (P H) secondary to his underlying lung disease. Following an echocardiogram which was inconclusive, a right heart catheterisation is organised. Which of the listed values of mean arterial pressure taken at rest is the lowest value associated with a diagnosis of pulmonary hypertension?

1- >10 mmHg

2- >14 mmHg

3- >18 mmHg

4- >20 mmHg

**5- >25 mmHg**

Q3181. A 32-year-old presents to the Emergency department of her local hospital. She is complaining of increasing breathless on exertion over the last few weeks. She also reports a dry cough and occasional night sweats. Of note, she is under the care of the infectious disease team for HIV and is also 28 weeks pregnant. Examination reveals that she is hypoxic, with her oxygen saturations falling still when she is asked to walk. A departmental chest x ray demonstrates bilateral infiltrates. What is the most appropriate antibiotic treatment for this patient given the likely diagnosis?

1- Amphotericin

2- Clindamycin and primaquine

3- Pentamide

4- Rifampicin, ethambutol, isoniazid, pyrazinamide

**5- Trimethoprim sulfamethoxazole (TMP-SM X)**

Q3182. A 36-year-old man complains of a persistent cough. A CXR shows fibrosis of both upper lobes. What is the most likely diagnosis?

**1- Allergic bronchopulmonary aspergillosis**

2- Ankylosing spondylitis

3- Cystic fibrosis

4- Primary pulmonary hypertension

5- Systemic sclerosis

# Chapter 19 2012 Statistics

Q3183. A large multi-centre secondary prevention study reports a reduction in the annual incidence of recurrent subarachnoid haemorrhage from 10% in a medically treated group to 6% in the group treated with medical therapy plus radiological intervention (p<0.005). The additional cost of the new treatment is £3000 per patient. In the first year of treatment, what would be the predicted additional cost of preventing a single recurrent subarachnoid haemorrhage?

1- £3000

2- £12 000

3- £30 000

**4- £75 000**

5- £90 000

Q3184. A new treatment for osteoarthritis has been developed and shown to be effective in animal models plus its effects in small numbers of patients appears promising. However, there are some concerns with regard to possible hepatoxicity but no cases have been observed in studies thus far. Which is the most appropriate next step in this drug's development?

1- Case control study

**2- Double blind randomised placebo controlled study**

3- Drug development should be suspended due to the hepatoxicity

4- Open label study

5- Single blind randomised placebo controlled study

Q3185. A study of an established antihypertensive agent against placebo reports that the risk of death due to cardiac causes is lower on treatment. It gives five year mortality due to cardiac causes as 12% on placebo and 8% on treatment. The authors conclude that 'a 33% reduction in cardiac deaths is seen with treatment'. The figure '33%' represents which of the following?

1- Absolute risk reduction

2- Control event rate

3- Experimental event rate

4- Number needed to treat

**5- Relative risk reduction**

Q3186. In significance testing which of these statements is correct?

1- A type I error is to reject the alternative hypothesis when it should be accepted.

2- A type II error is to accept the alternative hypothesis when it should be rejected.

**3- The probability associated with a type I error is the significance level.**

4- The significance level is determined at the end of a significance test.

5- The significance level is always set to 5%.

Q3187. A study of the intellectually handicapped was performed. The 112 subjects put through programme A showed an increase in their mean IQ score of 6 points. The 115 subjects put through programme B showed an increase in their mean IQ score of 4. The p value was >0.05 . Which of the following is true?

1- The numbers are too large for a Student's t test

2- The study demonstrates the usefulness of programme A

3- The distribution of individual values is not important

**4- Even though the difference between the means is not significant it would be appropriate to calculate confidence intervals**

5- The above results would be found by chance in less than 1:20

Q3188. A publication assesses a new diagnostic test for thyroid cancer. Which of the following terms would reflect the number of cases of thyroid cancer correctly identified by this new test?

1- Accuracy

2- Negative predictive value

3- Positive predictive value

**4- Sensitivity**

5- Specificity

Q3189. A new antiplatelet agent has been proven to reduce the risk of stroke in a year from 10% in patients treated with conventional treatment to 6% in patients treated with conventional treatment plus the new agent. The cost of this new drug is £100 per month. How much extra would a hospital need to spend to prevent one stroke?

1- £1200

2- £6000

3- £18000

**4- £30000**

5- £100000

Q3190. In a study of elderly patients with atrial fibrillation, patients receiving warfarin (n= 6000), 6% had strokes or died as a consequence of stroke, whereas in subjects treated with aspirin (n = 8000), 9% had strokes or death from a stroke over the three year study period (p=0.001). The risk of stroke in an untreated population with atrial fibrillation over this time was 12%. Which of the following percentages is the approximate annual incidence of stroke in the treated population in this study?

**1- 2.6%**

2- 3.3%

3- 5.5%

4- 6.9%

5- 7.7%

Q3191. A new test is developed for the diagnosis of HIV. Blood from 10,000 patients was analysed by the gold standard technique and by the new method. There were 100 positive results with the gold standard technique but there were 150 positive results using the new technique. Approximately which of the following values reflects the positive predictive value of the new technique?

1- 33%

2- 50%

3- 66%

4- 75%

**5- 90%**

Q3192. In a study of 1000 subjects with adrenal incidental tumours a new serological marker for adrenal carcinoma was assessed against formal histology. The following results were obtained: Test positiveTest negative Histology positive4010 Histology negative50900 To what does the specificity approximate?

1- 50%

2- 60%

3- 70%

4- 80%

5- 90%

Q3193. In a study of elderly patients with atrial fibrillation, patients receiving warfarin (n = 6000), were found to have a rate of stroke of 6%, whereas subjects treated with aspirin (n = 8000), had a stroke rate of 9.9% over the 3 year study period (p = 0.001). The risk of stroke in an untreated population with atrial fibrillation over this time was 12%. To what do these numbers relate?

1- Absolute risk

**2- Incidence**

3- Odds risk

4- Prevalence

5- Relative risk

Q3194. Which of the following are correct concerning an intention to treat analysis?

1- It is a study comparing the effects of treatment with placebo or active treatment and also a similar group of nonstudy participants

**2- It is a study that analyses all patients randomised to the study**

3- It is a study where all included patients are treated with the active drug

4- It is a study where all non-compliant patients are removed from analysis

5- It is a variation of a meta-analysis analysing specifically studies employing double blind placebo controlled trials

Q3195. In a study of blood pressures in a specific ethnic population, the researcher is concerned that his spread of blood pressures is larger than that described in the general population. Which of the following terms most appropriately describes the spread of blood pressures?

1- Mean

2- Median

3- Mode

**4- Standard deviation**

5- Standard error of the mean

Q3196. In a trial of statin therapy in the secondary prevention of ischaemic heart disease, therapy is shown to reduce cardiovascular mortality from 12% to 8% over the five years duration of the study. In comparison with standard therapy, what is the number of patients that needs to be treated to prevent one death over five years?

1- 5

2- 10

3- 20

**4- 25**

5- 50

Q3197. A letter to a medical journal suggested that an established antidepressant may cause photosensitivity. The manufacturer wished to set up a study to determine rapidly and efficiently whether this was a true association. Which one of the following techniques is most appropriate?

1- A case-control study

2- A dose ranging study

3- A double blind, randomised, placebo controlled study

**4- A meta-analysis**

5- A sequential trial

Q3198. A publication describes a new diagnostic test for myocardial infarction. You want to know what proportion of patients with a confirmed myocardial infarction will be identified by the test. Which one of the following measurements would indicate this?

1- Accuracy

2- Negative predictive value

3- Positive predictive value

**4- Sensitivity**

5- Specificity

Q3199. The upper and lower limit of normal, of a biochemical test in the hospital laboratory, is two standard deviations of the population. What percentage of the population is represented by two standard deviations?

1- 85%

**2- 95%**

3- 97%

4- 99%

5- 99.7%

Q3200. In a study of 950 subjects with a BMI below 25 kg/m2 , a new serological marker for coeliac disease was assessed against the gold standard test of jejunal biopsy. The following results were obtained: Test positive Test negative Biopsy positive 40 10 Biopsy negative 60 840 What is the sensitivity of this test?

1- 40%

2- 55%

3- 66%

**4- 80%**

5- 93%

Q3201. There is presently no known effective treatment for a chronic disease. A new treatment is known to be effective in animal models and shows promise in short term studies in patients. There are some theoretical concerns regarding possible hepato- and bone marrow toxicity although, thus far, no toxicity has been observed in studies. What is the most appropriate next step in the drug's development?

1- A case-control study

**2- A randomised double-blind placebocontrolled study**

3- A randomised single-blind placebocontrolled study

4- An open study

5- No further studies should be done and drug development should be stopped

Q3202. A trial is proposed to see whether excess alcohol use is a risk factor for osteoporosis. It is decided to perform a case-control study rather than a cohort study. Which of these is an advantage of a casecontrol study?

1- It can provide information on a wide range of outcomes

2- It is expensive to perform

3- It is possible to measure the incidence of a disease directly

**4- It is possible to study diseases that are rare**

5- The time sequence of events can be assessed

Q3203. In a study of 26,000 females, 1300 subjects were found to have either overt or subclinical hypothyroidism. Within this group, the risk of demonstrating either overt or subclinical hypothyroidism was therefore 5%. What is the best descriptive term of this 5% risk?

1- Absolute risk

2- Incidence

**3- Prevalence**

4- Relative risk

5- Specificity

Q3204. In a study of 1000 patients with autoimmune hepatitis a new serological test for the disease was assessed against diagnostic liver biopsy. The following results were obtained: Test positive Test negative Histology positive 80 20 Histology negative 100 800 To what does the sensitivity of the new test approximate?

1- 50%

2- 60%

3- 70%

**4- 80%**

5- 90%

Q3205. In a study to find out if concentration of drug X is related to weight, subjects were given 500 mg of the drug and serum levels were measured two hours later. Which of the following is the best statistical test to evaluate the results?

1- Chi squared test

2- Log regression analysis

**3- Pearson's coefficient**

4- Student's paired t test

5- Student's unpaired t test

Q3206. Which of the following would invalidate the use of the unpaired t test in the comparison of mean drug concentrations between two groups of subjects?

1- Insufficient statistical power

**2- Non-normal distribution of data**

3- Small sample size

4- Small standard error

5- Unequal sample sizes in both groups

Q3207. A randomised double-blind placebo-controlled study of a cholesterol-lowering drug in the primary prevention of coronary heart disease was conducted over a five year follow up period. The absolute risk of myocardial infarction (M I) in the group receiving placebo during this time was 10%. The relative risk of those given the cholesterol lowering medication was 0.8. What number of patients will need to be treated with active drug for five years to prevent one myocardial infarction?

1- 20

2- 40

**3- 50**

4- 80

5- 100

Q3208. Which of the following statements is correct regarding standard error of the mean (SE M) and standard deviation (S D) ?

1- Standard deviation invariably falls with increasing sample size

**2- Standard deviation may be greater than the mean even if all values are positive numbers**

3- Standard error of mean increases with sample size

4- Standard error of mean is calculated by taking the square root of the standard deviation of the sample means

5- Student's t test is a non-parametric test

Q3209. Adequate randomisation can be assumed in which of the following circumstances?

1- All consecutive patients attending a tertiary referral centre

2- A sample based on a family cluster

3- A sample of those judged to be appropriate for inclusion in the study

4- A sample using healthy volunteers

**5- A stratified random sample**

Q3210. A clinical trial assessing a new lipid-lowering therapy for stroke allocates 1000 patients to active treatment and another 1000 patients to placebo. Results demonstrate that number needed to treat (NN T) is 20 for the prevention of the primary end-point. Which of the following best describes the results?

1- 20 patients in the treatment group were protected from stroke.

2- 20 extra patients in the placebo group had a stroke

3- For 1000 patients treated with active therapy, there would be 20 fewer strokes

**4- For 1000 patients treated with active therapy, there would be 50 fewer strokes.**

5- For every 1000 patients treated with active therapy there would be 100 fewer strokes

Q3211. A new rapid test is developed for the screening of malaria. Blood from 200 patients was analysed by the gold standard laboratory technique and by the new method. There were 100 positive results with the gold standard technique but there were only 50 positive results using the new technique. Approximately which of the following values reflects the negative predictive value of the new technique?

1- 33%

2- 50%

3- 66%

4- 90%

**5- It cannot be determined**

Q3212. A new rapid test is developed for the screening of leptospirosis. Blood from 100 patients was analysed by the gold standard laboratory technique and by the new method. There were 20 positive results with the gold standard technique but there were 40 positive results using the new technique. The new technique correctly identified all cases that were later confirmed with the gold standard technique. Approximately which of the following values reflects the positive predictive value of the new technique?

1- 33%

**2- 50%**

3- 66%

4- 75%

5- 90%

Q3213. In a double blind controlled trial assessing the impact of a new antihypertensive in the treatment of stroke versus conventional antihypertensive therapy in the secondary prevention of stroke, the authors report an absolute annual risk reduction in the incidence of stroke of 0.5% and a relative risk reduction of 20% (p = 0.032). The cost of the new treatment is £100 more expensive per year than conventional therapy. What would be the cost of implementing the new therapy for each stroke prevented?

1- £2000

2- £4000

3- £10,000

**4- £20,000**

5- £50,000

Q3214. A study was performed to assess the usefulness of a new autoantibody test for the detection of suspected Hashimoto's disease. The test was undertaken in 1000 subjects who complained of tiredness and all test results were compared with FNA biopsy results which provided a gold standard for the diagnosis of Hashimoto's disease. The following table lists the results: Antibody +ve Antibody –ve Total Hashimoto's disease confirmed at FNA 35 15 50 No evidence of disease at FNA 30 920 950 Approximately, what is the sensitivity of the antibody test for the detection of Hashimoto's disease?

1- 50%

2- 60%

**3- 70%**

4- 80%

5- 90%

Q3215. In a primary prevention study of stroke comparing a new antihypertensive with conventional antihypertensive therapy, the number of patients who had a stroke over the study period was 200 in group 1 with the new therapy (n = 5200) versus 250 with conventional therapy (n = 4750). Which of the following is the approximate odds ratio for the new therapy?

1- 0.25

2- 0.5

**3- 0.75**

4- 1

5- 1.5

Q3216. A clinical investigation examined the effectiveness of a new test for diagnosing pancreatic carcinoma. The sensitivity was reported as 70%. Which one of the following statements is correct?

1- 70% of people will be correctly classified as having or not having the disease

2- 70% of people with a normal test result will not have the disease

3- 70% of people with an abnormal test result will have the disease

4- 70% of people with the disease will have a normal test result

**5- 70% of people with the disease will have an abnormal test result**

Q3217. A randomised double-blind placebo controlled study of a cholesterol-lowering drug for the primary prevention of coronary heart disease was conducted. It had a five-year follow up period. The results showed an absolute risk of myocardial infarction (M I) , in the group receiving placebo, was 10 per cent. The relative risk reduction of those given the cholesterol lowering medication was 0.8. Approximately what number of patients will need to be treated with the drug for five years to prevent one myocardial infarction?

1- 10

**2- 12.5**

3- 15

4- 20

5- 25

Q3218. Which of the following statements is true regarding statistical interpretation of data?

1- The cumulative incidence rate is usually given over a 10 year period.

**2- The incidence equals the number of newly affected individuals divided by the number of people at risk for the disease for a given duration.**

3- The mortality rate is a kind of cumulative prevalence rate.

4- The prevalence rate is defined as the total number of cases divided by the total number in the population.

5- Prevalence in always higher than incidence.

Q3219. In a trial of a new drug, 13/28 treated improved over a one month period, compared with 3/28 on placebo. For Chi2 testing which of the following is correct?

1- A value of Chi2 of 4.6 would imply that the result would have been obtained by chance in 46/100 trials.

2- The figures should first be converted to percentages.

3- The results would almost certainly suggest that more cases were needed to obtain a significant result.

**4- There is one degree of freedom.**

5- The results would be invalidated if a disproportionate number of cases treated with the new drug had developed side effects.

Q3220. A letter published in a medical journal suggests that an established antidepressant may cause photosensitivity. The manufacturer wishes to set up a study to determine rapidly and efficiently whether this is a true association. Which one of the following techniques is most appropriate?

1- Case-control study

2- Dose ranging study

3- Double blind, randomised, placebo controlled study

**4- Meta-analysis**

5- Sequential trial

Q3221. In a study assessing two different antiplatelet agents in the prevention of stroke, 10,000 subjects were randomised to receive either the standard therapy or the new therapy. Over the study period of five years, the side effect of major gastrointestinal (G I) bleeding was 3% in the standard therapy group compared with 2% in the new therapy group. Which of the following is the absolute risk reduction associated with the new therapy in major GI bleeds?

**1- 1%**

2- 3%

3- 10%

4- 15%

5- 33%

Q3222. A clinical trial is published demonstrating an absolute risk reduction of 2.5% on treatment with a new pharmaceutical agent. Which of the following statements best describes absolute risk reduction?

1- Number of patients who need to be treated to prevent one event

2- The odds of an event in the control group divided by the odds of an event in the treatment group

**3- The risk of an event in the control group minus the risk of an event in the treatment group**

4- The risk of an event in the treated group divided by the risk of an event in the control group

5- The risk reduction divided by the initial risk in the control group

Q3223. A researcher compared the mean scores for nausea on a rating scale between standard therapy and a new drug in the treatment of chemotherapy induced nausea. Which one of the following is the most appropriate statistical test?

1- Chi-square test

2- Life table analysis (log rank tes t) 3- Paired t test

4- Pearson correlation

**5- Unpaired t test**

Q3224. An experienced group of surgeons report on a randomised placebo-controlled trial comparing a particular carotid surgery technique to a sham operation. Their study concludes that 'using this advanced surgical technique reduces the risk of stroke from 4.3% to 3.8% (p <0.05)'. What has this study proved about the surgical procedure?

1- Acceptability

2- Effectiveness

**3- Efficacy**

4- Safety

5- Usefulness

Q3225. In a chronic disease which has no known effective treatment, a new treatment is known to be effective in animal models and shows promise in short term studies in patients. There are some theoretical concerns about toxicity involving liver and bone marrow although no cases have been observed in studies so far. What is the most appropriate next step in the drug's development?

1- Case-control study

2- No further studies should be done and drug development should be stopped

3- Open study

**4- Randomised double blind placebo controlled study**

5- Randomised single blind placebo controlled study

Q3226. A study is designed to test the accuracy of faecal occult blood (FO B) testing in excluding a certain type of bowel cancer. Faecal occult bloods are compared to a gold standard which consists of a battery of tests and pathological diagnoses. In the study 200 prospective patients undergo faecal occult blood testing and are followed up with the gold standard investigations. The gold standard results test demonstrated that malignancy was present in 100 of the 200 patients tested. Of these 100 patients with proven malignancy, faecal occult blood testing was positive in 90 patients. Of those testing negative, FOBs were negative in 80 patients. Approximately which of the following values reflects the negative predictive value of the faecal occult blood testing in this study?

1- 33%

2- 50%

3- 66%

4- 75%

**5- 89%**

# Chapter 20 2012 Rheumatology

Q3227. A 30-year-old man with longstanding psoriasis has a six week history of persistently swollen, painful, and tender right knee. The early morning stiffness lasts for over an hour, and he has partial relief from the use of NSAIDs. He is negative for rheumatoid factor. A knee x ray is normal. What is the next step in his long term management?

1- Alternative NSAID

2- Anti-TNFα agents

**3- Disease modifying antirheumatic drugs (DMARD s) 4- Intra-articular corticosteroids**

5- Oral corticosteroids

Q3228. A 70-year-old man developed acute monoarthritis of his right ankle on the second postoperative day following an elective inguinal hernia repair. He was on a diuretic for hypertension. On examination his temperature was 38oC. What is the most likely diagnosis?

1- Acute rheumatoid arthritis

**2- Gout**

3- Pseudogout

4- Septic arthritis

5- Traumatic synovitis

Q3229. A 65-year-old male is referred due to inadequate pain relief for his hip osteoarthritis. His GP has prescribed paracetamol and codeine 30 mg four times daily but he has found little improvement in his pain relief. He has a past history of asthma for which he occasionally takes an inhaler. What is the most likely explanation for the lack of clinical efficacy associated with this medication?

1- Fast acetylator status

2- Impaired absorption of codeine

**3- Inadequate dose of codeine**

4- Interaction of paracetamol with codeine

5- Ipratropium accelerates the metabolism of codeine

Q3230. A 79-year-old woman presents with mild dyspnoea and confusion. Of note in her past medical history is a one year history of Raynaud's phenomenon. On examination her pulse is 118 beats per minute, she has a blood pressure of 122/88 mmHg and she has a small ulcer on her right big toe. Auscultation of her chest reveals bibasal crackles and she has mild ankle oedema. Her investigations show: Haemoglobin 9.5 g/dl(11.5-16.5) White cell count 3.5 x 109 /L (4-11) Platelet count 110 x 109 /L (150-400) Serum total protein 120 g/l (61-76) Serum immunoglobulins: IgA 0.8 g/l (0.8-3.0) IgG 15 g/l (6.0-13.0) IgM 70 g/l (0.4-2.5) Which of the following complications is she likely to develop?

1- Acute renal failure

2- Atypical pneumonia

3- Erythema repens gyratum

**4- Hyperviscosity syndrome**

5- Pathological bone fracture

Q3231. A 45-year-old male attends for an insurance medical and is in good health. Examination was normal but investigations reveal that he has a serum urate concentration of 0.55 mmol/L (0.25-0.45). Which of the following is the most appropriate management for this patient?

**1- Lifestyle advice**

2- Start allopurinol

3- Start colchicine

4- Start diclofenac

5- Start prednisolone

Q3232. A 42-year-old female with a recent diagnosis of systemic sclerosis, is referred to hospital with a complaint of headaches and blurred vision. She has a medical history of asthma. On examination, her blood pressure is 230/120 mmHg and there is bilateral papilloedema. Which of the following medications should be prescribed immediately?

1- IV furosemide

2- IV labetolol

3- IV sodium nitroprusside

**4- Oral enalapril**

5- Sublingual nimodipine

Q3233. A 62-year-old female presents with deteriorating arthralgia associated with longstanding rheumatoid arthritis. She was prescribed celecoxib in place of naproxen. Which of the following concerning celecoxib is correct?

1- Anti-inflammatory effects of celecoxib are superior to those of naproxen

2- Celecoxib acts by inhibiting a different enzyme than naproxen

**3- Celecoxib has a lower level of anti-platelet activity than naproxen**

4- Celecoxib is associated with reduced hepatotoxicity compared with naproxen

5- Co-treatment with diuretic can be given more safely than with naproxen

Q3234. A 78-year-old man presents with an acute onset of severe pain and swelling of the left wrist which had developed since 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 investigation for this patient?

1- Erythrocyte sedimentation rate

2- Full blood count

**3- Joint aspiration**

4- Serum urate concentration

5- x Ray of the joint

Q3235. A young woman has acne and is taking oral medication. She develops polyarthritis and has raised liver enzyme tests. Investigations show: AST 95 U/l (1-31) ALT 170 U/l (5-35) Bilirubin 16 µmol/l (1-22) Antinuclear antibodiesStrongly positive at 1/20 Negative at 1/640 Which of the following drugs is she most likely to have been prescribed?

1- Erythromycin

2- Isotretinoin

**3- Minocycline**

4- Oxytetracycline

5- Trimethoprim

Q3236. A 74-year-old man has had increasingly severe, throbbing headaches for several weeks, centered on the right. There is a palpable tender cord-like area over his right temple. His heart rate is regular with no murmurs, gallops, or rubs. Pulses are equal and full in all extremities, BP is 110/85 mmHg. A biopsy of this lesion is obtained, and histologic examination reveals a muscular artery with lumenal narrowing and medial inflammation with lymphocytes, macrophages, and occasional giant cells. He improves with a course of high-dose corticosteroid therapy. Which of the following laboratory test findings is most likely to be present with this disease?

1- Anti-double stranded DNA titre of 1:1024

**2- Erythrocyte sedimentation rate of 110 mm/hr**

3- HDL cholesterol of 0.6 mmol/L

4- pANCA titre of 1:160

5- Rheumatoid factor titre of 80 IU/mL

Q3237. A 75-year-old man has persistent back pain for several months that is unrelated to physical activity. He has lost 12 kg in weight during this time. Laboratory findings include a white cell count of 6.7 x 109 /L with a differential of 5.4 neutrophils, 1.2 lymphocytes and 0.2 monocytes. Haemoglobin is 11.2 g/dl, haematocrit 33.3%, MCV 88 fl, and platelet count 89 x 109 /L. The biochemistry shows a sodium concentration of 144 mmol/l, potassium 4.5 mmol/l, chloride 100 mmol/l, bicarbonate 26 mmol/l, urea 14 mmol/l, creatinine 90 µmol/l, and a glucose of 5.4 mmol/l. A CT scan of the spine reveals scattered 0.4 to 1.2 cm bright lesions in the vertebral bodies. Which of the following additional laboratory test findings is he most likely to have?

1- Blood culture positive for Neisseria gonorrhoeae

2- Parathyroid hormone, intact, of 100 pg/ml (normal <65)

3- Positive serology for Borrelia burgdorferi

4- Serum calcium of 1.4 mmol/l

**5- Serum prostate specific antigen of 35 microgram/l**

Q3238. A 68-year-old woman presents with pain at the base of her right thumb. There is 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

Q3239. A 41-year-old African man has a history of multiple episodes of sudden onset of severe abdominal pain and back pain lasting for hours. Each time this happens, his peripheral blood smear demonstrates numerous sickled erythrocytes. A haemoglobin electrophoresis shows 94% Hgb S, 5% Hgb F, and 1% Hgb A2. He now has increasing pain in his right groin radiating to the anterior aspect of the thigh and to the knee. His temperature was 38°C and examination of his hip revealed pain on internal rotation. A radiograph reveals irregular bony destruction of the femoral head. What is the organism most likely to be responsible for these findings?

1- Candida albicans

2- Clostridium perfringens

3- Group B Streptococcus

**4- Salmonella species**

5- Yersinia pestis

Q3240. A 50-year-old man presents with a two month history of progressive painless weakness affecting the proximal arms and legs. He has noticed difficulty getting out of a low chair and some difficulty swallowing but denies any rashes or visual symptoms. Investigations shows a CK of 5000 IU/l. Which of the following is the most likely diagnosis?

1- Guillain-Barre syndrome

2- Hypothyroidism

3- Myasthenia gravis

4- Polymyalgia rheumatica (PM R) 5- Polymyositis

Q3241. A study has been designed to investigate whether a certain drug plus physiotherapy treatment is better than drug treatment alone in the management of rheumatoid arthritis. After randomising the patients a small proportion of the drug plus physiotherapy group decide to drop out of the study or omit some treatment sessions specified in the research protocol. What is the correct way of analysing the subsequent data?

1- Assume the patients have withdrawn their consent

2- Exclude these patients from all analysis

3- Extend the trial recruitment to make up the numbers

**4- Include these patient outcomes in the drug plus physiotherapy group**

5- Interview the patients and report their group separately

Q3242. A 55-year-old lady returns for her three month follow up in your inflammatory arthropathy clinic. She reports satisfactory symptom relief with 10 mg prednisolone daily after failing several other disease modifying agents. Her past medical history includes coeliac disease and Smith's fracture. You advise that this may be her long term treatment of choice. Regarding preservation of bone mineral density, which further measures are necessary before proceeding?

**1- Alendronate 70 mg weekly**

2- Calcichew D3 forte

3- DXA scan and treat at T-score -1.5

4- DXA scan and treat at T-score -2.5

5- None of the above

Q3243. A 28-year-old lady presents to clinic with a one year history of intermittently painful fingers. The pain occurs commonly in low ambient temperatures and there is commensurate skin colour change from white to blue to red. Each episode lasts approximately 15 - 20 minutes. She tells you that her mother suffered from rheumatoid arthritis and Raynaud's. Which bedside test could you perform that may indicate an underlying connective tissue disorder as the probable diagnosis?

1- Capnography

2- Cold water challenge

3- Digital artery closing temperature

4- Finger systolic pressure

**5- Nailfold capillaroscopy**

Q3244. A 55-year-old homeless man presents with a six month history of periodic knee pains and aching legs. These have been occurring monthly and episodes last up to two weeks. He has noticed a 'bumpy' rash to his lower legs and complains of feeling more tired than usual. He has no significant past medical history. He is currently reporting to a pharmacy daily for methadone. Clinical examination demonstrated; pulse 88 (regula r) , normal heart sounds and chest sounds, painful but full active range of knee motion and palpable purpura to the lower extremities. Blood tests revealed; Hb 11.9 g/dL(13-18) MCV 93fL(80 - 96) WCC 9.8 x 109 /L (4 - 11) ALT 150 iu/L(5 - 35) AST 90 iu/L(1 - 31) Complement C4 64 mg/dL(75-135) Which test is most likely to assist you in the management of this man's illness?

1- ANA

2- Anti-CCP

3- Cryoglobulin serology

**4- Hepatitis C serology**

5- Rheumatoid factor

Q3245. A 65-year-old woman is referred by her GP for a six month history of acute onset, progressively worsening shoulder pain, occurring bilaterally and associated with morning stiffness lasting approximately one hour. The GP's letter states that basic bloods demonstrated: Westergren ESR 55 mm/Hr0 - 30 CRP 1mg/L<10 Rheumatoid factor titre 1:80>1:40 Which one of the following increases the probability of a diagnosis other than polymyalgia rheumatica?

1- Advanced age

2- Duration of morning stiffness

3- ESR 55 mm/Hr

**4- Rheumatoid factor titre 1:80 mg/L**

5- Symmetry of shoulder pain

Q3246. A 44-year-old woman has a three month history of progressive pain, swelling and stiffness in both wrists, and the majority of her metacarpophalangeal joints (MCPJ s) . The symptoms are worse in morning, and it takes an hour to loosen up her joints. There have been no recent illness and there is no personal or family history of chronic skin conditions. She drinks alcohol occasionally. On examination there is synovitis in both wrists, and MCPJs. Examination of skin, nails and other joints is normal. These are results of recent blood tests: Haemoglobin 13.1gm/dl(11.5 - 16.5 g/ L) WBC 8.2 x 109 /L (4 - 11 x 109 / L) Neutrophils 5.1 x 109 /L (1.5 - 7 x 109 / L) Platelets 280 x 109 /L (150 - 400 x 109 / L) ESR 48 mm/hr(0 - 20 mm/1st h r) Rheumatoid factor: positive (1:256)(<30 k IU/ L) Urea, electrolytes and creatinine: Normal What most appropriate first step in her long term management?

1- Anti-TNFα agents

**2- Disease modifying antirheumatic drugs**

3- Intra-articular corticosteroids

4- NSAIDs

5- Oral corticosteroids

Q3247. A 66-year-old man has a painful, swollen right knee and difficulty in walking for three days. He had two self-limiting episodes of severe pain and swelling in the right big toe last year. He drinks 26 cans of beer/week. On examination, his temperature is 36.8?. The right knee is red, swollen, warm and tender and has restricted movement. The knee aspirate shows no organisms on Gram stain, plenty of leucocytes, and negatively birefringent crystals on polarised light microscopy. The results of recent blood tests are: Hb 12.3 g/dl(13.0 - 18.0 g/d L) WBC 14.3 x109 /µl(4 - 11 x 109 / L) Neutrophils 88%(40-75%) Platelet 340 x 109 /L (150 - 400 x 109 / L) Urea, electrolytes and creatinine: Normal ESR 79 mm/hr(0 - 15 mm/1st h r) Urate 521 µmol/l (210-415µmol/ l) What is the most likely diagnosis?

**1- Gout**

2- Osteoarthritis

3- Pseudogout

4- Reactive arthritis

5- Septic arthritis

Q3248. A 65-year-old woman with chronic hepatitis C presents with a six week history of extensive non-blanching rash on her legs. She has also developed swelling and stiffness in the MCP and IP joints. On examination, there is pitting oedema, her BP is 130/90 mm Hg, and urine dipstick shows 3+ proteins. Recent blood tests are as follows: Haemoglobin 13.1g/dl(11.5 - 16.5 g/d L) WBC 8.2 x 109 /L (4 - 11 x 109 / L) Neutrophils 5.1 x 109 /L (1.5 - 7 x 109 / L) Platelets 280 x 109 /L (150 - 400 x 109 / L) ESR 48 mm/hr(0 - 30 mm/1st h r) Bilirubin 27 μmol/L(1 - 22 μmol/ L) Albumin 25 g/L(37 - 49 g/ L) Alkaline phosphatase 160 U/L(45 - 105 U/L (over 14 year s) ) Rheumatoid factor positive (1:2048) (< 30 k IU/ L) ALT 58 IU/L Urea, electrolytes and creatinine: Normal What is the diagnosis?

**1- Cryoglobulinaemia**

2- Hepato-renal syndrome

3- Polyarteritis nodosa

4- Rheumatoid arthritis

5- Systemic lupus erythematosus

Q3249. A 55-year-old woman on treatment for longstanding rheumatoid arthritis has recently become short of breath on mild exertion and developed a dry cough. Oxygen saturation was found to be 87% on air, and chest x ray showed a diffuse bilateral interstitial infiltrate. An extensive infection screen was negative and her symptoms were thought to be drug-induced. Which drug is most likely to have caused this adverse effect?

1- Azathioprine

2- Cyclosporin

3- Hydroxychloroquine

**4- Methotrexate**

5- Sulphasalazine

Q3250. A 38-year-old publican with a two month history of bloody diarrhoea, abdominal pain, and weight loss presents with a three week history of painful and swollen left knee. There is no other significant past or family history. Stool cultures done by her GP have been negative for C. difficile toxin, and have not grown any pathogenic organisms. On examination, the left knee is warm, tender, and there is a large effusion. What is the most likely diagnosis?

1- Carcinomatous arthropathy

2- Gout

**3- Inflammatory arthritis associated with inflammatory bowel disease**

4- Reactive arthritis

5- Psoriatic arthirtis

Q3251. A 55-year-old woman with longstanding well controlled seropositive RA, treated with methorexate (20 mg/wee k) and folic acid 5 mg/day, presents with cough productive of green phlegm, fever (38.5° C) , and severe sore throat. On examination, the BP is 110/70 mmHg, SaO2 is 98% on air, there is an occasional crackle at the right base. A chest x ray is normal. FBC, UEC, and LFTs are also normal. The CRP is 34 mg/L. Which of the following is the most appropriate course of action?

1- IV antibiotics, continue methotrexate

2- IV antibiotics, stop methotrexate, and give folinic acid rescue

**3- IV antibiotics, stop methotrexate temporarily**

4- Oral antibiotics, continue methotrexate

5- Stop methotrexate

Q3252. A 30-year-old man with longstanding psoriasis has a six week history of persistently swollen, painful, and tender right knee. The early morning stiffness lasts for over an hour, and he has partial relief from the use of NSAIDs. He is negative for rheumatoid factor. A knee x ray is normal. What is the next step in his long term management?

1- Alternative NSAID

2- Anti-TNFα agents

**3- Disease modifying antirheumatic drugs (DMARD s) 4- Intra-articular corticosteroids**

5- Oral corticosteroids

Q3253. A 62-year-old woman presents with a one year history of worsening bilateral, anterior knee pain. The pain is increased by climbing stairs. Both knees are stiff for five to 10 minutes in morning. There is no history of knee swelling. The pain is partially controlled by paracetamol 1 g up to four times a day. She has a history of diabetes, and angina. On examination, she is overweight. There is crepitus and during active and passive movement of both knees. There is no knee effusion. A recent knee x ray shows joint space narrowing in the medial tibio-femoral joint. What is the next step in her management?

1- Acupuncture

2- Oral NSAIDs

3- Rest

**4- Topical NSAIDs**

5- Transcutaneous electrical nerve stimulation (TEN S)

Q3254. A 25-year-old lady with SLE (ANA positive, 1:1280), had a healthy term baby boy. At the time of birth he was noted to have macular erythematous rash on his face, and trunk. He is otherwise well. What is the most likely cause of his rash?

1- Discoid lupus erythematosus

2- Erythema toxicum

**3- Neonatal lupus**

4- Staphylococcus aureus

5- Systemic lupus erythematosus

Q3255. A 54-year-old man presents with a six day history of sharp shooting pain radiating from his back to the lateral aspect of his leg. The pain is associated with pins and needles. On examination, he has sensory loss on the lateral aspect of leg, dorsum of foot, and there is a partial foot drop. Which lumbar spine nerve root is affected?

1- L2

2- L3

3- L4

**4- L5**

5- S1

Q3256. A 52-year-old woman presents with increasing lower back pain for the last six months. The pain is increased by working as a floor-layer, and is worse in the evening. There is no weight loss, night pain, or fever. Her back is stiff for 15 minutes in morning. Over the last few months she has developed firm to hard swelling on several distal and proximal interphalangeal joints, and has anterior knee pain worsened by climbing stairs. A full blood count, ESR, and CRP done by the GP have been normal. What is the diagnosis?

1- Ankylosing spondylitis

2- Discitis

**3- Generalised osteoarthritis**

4- Metastasis

5- Osteoporosis

Q3257. A 25-year-old man complaining of low back pain and stiffness gradually increasing in severity for six months presents to the outpatient department. He has no past medical history and the only medications he takes are anti-inflammatories that ease the pain. On examination, his back movements are stiff with decreased range of movement due to pain, but the spine curvature is normal. Which one of the options below is the most likely diagnosis?

**1- Ankylosing spondylitis (A S) 2- Metastatic disease of the spine**

3- Muscular strain

4- Reactive arthritis

5- Scheuermann's disease

Q3258. A 42-year-old woman presents with a small joint polyarthritis and significant morning stiffness which has increased over the past few months. On examination she has a symmetrical small joint polyarthritis affecting the proximal interphalangeal joints, metatarsophalangeal joints, wrists, elbows and knees; otherwise the physical examination is unremarkable. Haemoglobin 12.0 g/dl(11.5-16) White cell count 7.1 x 109 /L (4-10) Platelets 201 x 109 /L (150-400) Sodium 141 mmol/l (134-143) Potassium 4.3 mmol/l (3.5-5) Creatinine 82 μmol/l (60-120) Rheumatoid factor negative Anti-CCP antibody Positive Which of the following is the most likely diagnosis?

1- Polymyalgia rheumatica

2- Reactive arthritis

**3- Rheumatoid arthritis**

4- Seronegative arthritis

5- SLE

Q3259. A 17-year-old girl who had completed treatment for acute lymphoblastic leukaemia six months previously presents with a short history of marked, right hip pain and associated limp. What is the most likely diagnosis?

**1- Avascular necrosis of the femoral head**

2- Gout

3- Osteoarthritis

4- Pseudogout

5- Septic arthritis

Q3260. A 40-year-old man presents with acute monoarthritis of the right knee. Gout is confirmed following joint aspiration and examination of the fluid under polarised light microscopy. He underwent endoscopy three weeks earlier because of dyspepsia and this confirmed a duodenal ulcer. Which of the following would be the best initial treatment for him?

1- Allopurinol

2- Indomethacin alone

3- Indomethacin and lansoprazole

4- Indomethacin and misoprostol

**5- Intra-articular corticosteroid injection**

Q3261. A 55-year-old gentleman has been taking methotrexate 7.5 mg weekly for seronegative erosive rheumatoid arthritis with considerable clinical and symptomatic improvement. He has been on this dose for three months. His most recent investigations, performed two days ago, reveal the following: Haemoglobin 12.9 g/dl(12-16.5) White cell count 5.3 x 109 /L (4-11) Platelets 183 x 109 /L (150-400) Urea 4.2 mmol/l (2.5-7.5) Creatinine 88 µmol/l (60-110) Alkaline phosphatase 92 U/l (60-110) AST 22 U/l (1-31) ALT 15 U/l (5-35) When should the next FBC be performed?

1- One week

2- Two weeks

**3- One month**

4- Six months

5- One year

Q3262. A 71-year-old man with a history of chronic renal impairment and atrial fibrillation for which he takes warfarin, presents with an acutely tender and red left big toe. Investigations reveal: Serum Creatinine 200 micromol/l (50-100) Serum urate 0.5 mmol/l (0.12-0.42) Which of the following is the most appropriate treatment for this man's presentation?

1- Allopurinol

2- Colchicine

3- Diclofenac

4- Paracetamol

**5- Prednisolone**

Q3263. A 73-year-old female presents with difficulty opening jars and bottles. On examination there is tenderness with crepitus and bony swelling over the base of the first metacarpal and wasting of the right thenar eminence. Investigations reveal an ESR of 30 mm/1st hr (0-20), a C-reactive protein of 8mg/L (<10), a urate concentration of 0.40 mmol/L (0.1

9- 0.36) and a rheumatoid factor was 60 IU/L (<30). An x ray of the right hand showed a loss of the joint space with articular sclerosis and osteophytes of the first carpo-metacarpal joint. What is the most likely diagnosis?

1- DeQuervain’s tenosynovitis

2- Gouty arthritis

**3- Osteoarthritis**

4- Pyrophosphate arthritis

5- Rheumatoid arthritis

Q3264. A 30-year-old woman presents with Raynaud's phenomenon. Which one of the following clinical features suggests an underlying connective tissue disease?

**1- Episodes lasting in excess of one hour**

2- Involvement of toes

3- One previous miscarriage in early pregnancy

4- Symmetrical involvement of fingers

5- Symptoms developed as a teenager

Q3265. A 26-year-old male presents with a three month history of arthralgia, mouth ulceration and eye irritation. On examination he was apyrexial, had some ulceration of the mouth, bilaterally swollen wrists and effusions, with reduced range of movements of both knees. Examination of the external genitalia revealed a scrotal ulcer. His investigations showed: White cell count 12 x 109 /L (4-11) C reactive protein 120 mg/l (<10) Rheumatoid factor negative What is the most likely diagnosis?

**1- Behçet's syndrome**

2- Inflammatory bowel disease

3- Psoriatic arthritis

4- Reiter's syndrome

5- Sjögren's syndrome

Q3266. A 68-year-old woman presents to the casualty department with a two day history of pain and swelling of the right ankle. She could not recall any history of recent trauma. On examination she was febrile, temperature 38.1°C. The right ankle was swollen and very tender with a reduced range of movement. Which of the following investigations would be of most help in establishing the diagnosis?

**1- Aspiration of the right ankle**

2- Blood cultures

3- Erythrocyte sedimentation rate

4- Serum urate level

5- x Ray of the right ankle

Q3267. A 29-year-old professional singer presents with a prolonged history of epistaxis and rapidly progressive shortness of breath. The KCO and eosinophil count are raised. Which of the following is the most likely diagnosis?

1- Alveolar proteinosis

2- Churg-Strauss syndrome

3- Goodpasture's syndrome

4- Microscopic polyangiitis

**5- Wegener's granulomatosis**

Q3268. A 40-year-old woman presents with a year history of Raynaud's phenomenon, dyspepsia and arthralgia. On examination she has sclerodactyly and synovitis of the small joints of the hands. Her ESR is 40 mm/hr (<20, antinuclear antibody (AN A) is positive and rheumatoid factor is negative. Which one of the following is most likely to develop as a further complication of this disorder?

1- Anterior uveitis

2- Butterfly rash

3- Erosive joint disease

4- Erythema nodosum

**5- Malabsorption**

Q3269. Bone densitometry performed on a 48-yearold woman demonstrates bone mass decreased more than 2 standard deviations below the mean for her age in her left femoral head, wrist, and lumbar vertebral region. Six months later the amount of bone loss is seen to be increased by repeat densitometry examination. These findings are most likely to be associated with with which of the following serum laboratory test abnormalities?

**1- Cortisol of 2060 mmol/l (110 - 607)**

2- Intact parathormone of 5 pmol/l (1.2 - 5.8)

3- Total cholesterol of 10 mmol/l (< 5.17)

4- Total serum globulin of 35 g/l

5- Uric acid of 930 µmol/l (149 - 446)

Q3270. A 52-year-old woman presents with a two week history of malaise and lower limb joint pain, associated with a vasculitic rash over her shins, thighs and buttocks. Investigations revealed: Haemoglobin 9.8 g/dL (11.5-16.5) Platelet count 275 x 109 /L (150-400 x109) Serum creatinine 452 µmol/L (60-110) Antinuclear antibodies negative Antineutrophil cytoplasmic antibodies negative Antiglomerular basement membrane antibodies negative Dipstix urinalysis Blood +++, protein + What is the most likely diagnosis?

1- Amyloidosis

2- Haemolytic uraemic syndrome (HU S) 3- Henoch-Schönlein purpura

4- Membranous nephropathy

5- Myeloma

Q3271. A 50-year-old woman presents with dry eyes, a dry mouth, an erythematous rash and polyarthralgia. Investigations show: Anti-nuclear antibody Strongly positive (1:1600) Anti-Ro/SSA antibodies Strongly positive Rheumatoid factor Positive IgG 45 g/L (<15) IgM Normal IgA Normal Kappa/lambda ratio Normal What is the most likely diagnosis?

1- Hyperviscosity syndrome

2- Myeloma associated vasculitis

**3- Primary Sjogren's syndrome**

4- Rheumatoid arthritis with secondary Sjogren's syndrome

5- Systemic lupus erythematosus

Q3272. A 20-year-old woman presents with typical erythema nodosum. She has a low grade fever and bilateral ankle arthritis but no other symptoms and has no medical history. There is no history of travel abroad and she is on no medication. Which of the following would be the most appropriate investigation for this patient?

1- Barium enema

**2- Chest x ray**

3- Erythrocyte sedimentation rate (ES R) 4- Upper gastointestinal (G I) endoscopy

5- Viral titres

Q3273. Which of the following auto-antibodies may have a role in monitoring disease activity?

**1- Anti-ds DNA antibodies in systemic lupus erythematosus (SL E) 2- Antinuclear antibodies in systemic lupus erythematosus**

3- Anti-Ro (SS A) antibodies in Sjogren's syndrome

4- Anti-Sm antibodies in systemic lupus erythematosus

5- Rheumatoid factor in rheumatoid arthritis

Q3274. A 50-year-old man presents with lethargy, polyuria, polydipsia and pain and stiffness of the hands. He has evidence of an arthropathy affecting the second and third metacarpo-phalangeal (MC P) joints of both hands with radiographic evidence of degenerative disease at these sites. He also has 5 cm hepatomegaly. Which of the following is the most likely diagnosis?

1- Gout

**2- Haemochromatosis**

3- Osteoarthritis

4- Pyrophosphate arthropathy

5- Rheumatoid arthritis with amyloidosis

Q3275. A 21-year-old woman presents with a six month history of bilateral wrist pain, generalised aching, morning stiffness and an intermittent subjective fever. She has a medical history of grade 4 acne, which she states has become worse over her nasal bridge and cheeks despite being commenced on minocycline one year ago. She tells you that her mother has rheumatoid arthritis. An autoimmune screen demonstrated positivity for ANA, P-ANCA and anti-DNA histone; negative anti-ds DNA antibody; normal complement C3, C4 levels. Which of the following should your first management step?

1- 15 mg methotrexate

2- 80 mg methylprednisolone

3- 400 mg hydroxychloroquine

4- 500 mg naproxen BD

**5- Stop minocycline**

Q3276. A 42-year-old lady presents with fatigue and tiredness. Recently, she has noted that her eyes feel dry and gritty, and she requires water to swallow her food. On examination, there is salivary gland enlargement in her neck. Recent blood tests are: Hb 12.1g/dl(11.5 - 16.5 g/d L) WBC 7.8 x 109 /L (4 - 11 x 109 / L) Neutrophils 70%(40-75%) Platelet 270 x 109 /L (150 - 400 x 109 / L) ESR 36 mm/hr (0 - 20 mm/1st h r) Anti-nuclear antibodypositive (1:80) (Negative at 1:20 Di l) Anti-centromere antibody negative (Negative at 1:40 Di l) Anti-Scl70 antibody negative (Negativ e) Anti-U1RNP negative (Negativ e) Anti-Ro/La antibody positive (Negativ e) Urea, electrolytes and creatinine normal What is the diagnosis?

1- Discoid lupus erythematosus

2- Mixed connective tissue disease

**3- Sjogren's syndrome**

4- Systemic lupus erythematosus

5- Systemic sclerosis

Q3277. A 29-year-old lady presents with recurrent troublesome acne, episodes of palmo-plantar pustules, and painful swelling of the acromioclavicular joint. Recent blood tests are: Hb 12.1g/dl(11.5 - 16.5 g/ L) WBC 7.8 x 109 /L (4 - 11 x 109 / L) Neutrophils 70%(40-75%) Platelet 270 x 109 /L (150 - 400 x 109 / L) ESR36 mm/hr(0 - 20 mm/1st h r) Bilirubin 17 µmol/L(1 - 22 μmol/ L) ALT 34 IU/L(5 - 35 U/ L) AST 36 IU/L(1 - 31 U/ L) Alkaline phosphatase 215 U/L45 - 105 U/L (over 14 year s) Urea, electrolytes and creatinine Normal What is the diagnosis?

1- Multicentric reticulohistiocytosis

2- Osteomyelitis

3- Reactive arthritis

4- Reiter's syndrome

**5- SAPHO syndrome**

Q3278. A 30-year-old architect presents with a three month history of low back pain, and stiffness. This is worse in the morning and improves with activity. There are no other symptoms. There is no significant past or family history. He has tried over the counter ibuprofen (400 mg up to three times a da y) , which led to a significant improvement in his symptoms. A lumbar spine and pelvic radiograph done by his GP is reported as normal. Blood tests show a normal FBC, UEC and liver function tests. The CRP is 23 mg/L and the ESR is 32 mm/hr. What is the most likely diagnosis?

**1- Ankylosing spondylitis**

2- Discitis

3- Mechanical back pain

4- Osteoarthritis

5- Spondylolisthesis

Q3279. A 45-year-old man presents with a six month history of gradually worsening right knee pain, swelling, and restricted movements. There is no history of injury, or recent infections. He does not take any long term medications, and there is no significant past or family history of note. On examination, the knee is grossly swollen, warm, non-tender, and there is restricted flexion and extension. The synovial fluid aspirated is brown stained. What is the diagnosis?

1- Acute CPP crystal arthritis (pseudogou t) 2- Gout

3- Meniscal tear

**4- Pigmented villonodular synovitis**

5- Reactive arthritis

Q3280. A 67-year-old man with Wegener's granulomatosis, previously treated with cyclophosphamide, is currently on azathioprine. His vasculitis is well controlled. He was found to have microscopic haematuria on two occasions a month apart. Urine culture showed no growth. There is no proteinuria, abdominal pain, and a renal ultrasound is normal. He has normal inflammatory markers and stable urea electrolytes and creatinine over the last year. What is the next step in his management?

**1- Cystoscopy**

2- Prolonged urinary culture

3- Renal angiogram

4- Renal biopsy

5- Urine culture for TB

Q3281. A 50-year-old man presented with a six week history of general malaise and a two day history of a right foot drop, a left ulnar nerve palsy and a widespread purpuric rash. He complained of arthralgia but had no clinical evidence of inflammatory joint disease. Investigations revealed: ESR 100 mm/hr (0-20) ANCA Negative ANA Negative Rheumatoid factor Strongly positive C3 0.8 g/L (0.75-1.6) C4 0.02 g/L (0.14-0.5) Urine dipstick blood ++, No protein An echocardiogram was normal and two sets of blood cultures were negative. What is the most likely diagnosis?

1- ANA negative SLE

**2- Cryoglobulinaemia**

3- Infective endocarditis

4- Polyarteritis nodosa

5- Rheumatoid arthritis

Q3282. A 50-year-old man with insulin dependent diabetes presents with a two week history of an acutely painful, erythematosus, swollen left mid-foot for the last two weeks. He does not drink alcohol, and has had no recent injuries to the foot. On examination, the mid-foot is warm. Pedal pulses are intact. There is sensory loss in a glove and stocking distribution bilaterally. Recent blood tests show a normal FBC, CRP, urea and electrolytes and creatinine. What is the most likely diagnosis?

1- Cellulitis

**2- Charcot joint**

3- Deep venous thrombosis

4- Fragility fracture

5- Gout

Q3283. A 36-year-old woman presents with an acutely painful red eye and painful lumpy redblue lesions on her shin. On enquiry she gives a history of recurrent episodes of oral and genital ulcers in the last year. Some of these ulcers have been scarring. Recent blood tests show a normocytic normochromic anaemia, normal LFTs, UE&C, and a raised ESR of 56 mm/hr. What is the diagnosis?

**1- Behcet's disease**

2- Reactive arthritis

3- Sarcoidosis

4- Stevens-Johnson syndrome

5- Systemic lupus erythematosus

Q3284. A 75-year-old woman presents with a three week history of new-onset headache. She had an episode of transient visual loss one week ago but ocular examination is now normal. She reports that when she chews food, she gets aching in her jaw. Blood tests reveal: C reactive protein 90 mg/L(< 10 mg/ L) Erythrocyte sedimentation rate 120 mm/hour (0 - 30 mm/1st h r) Haemoglobin 9.5 g/dL (11.5 - 16.5 g/d L) Platelet 528 x 109 /L.150 - 400 x 109 /L What treatment needs be given that day? Select the single best answer.

1- Aspirin 300 mg by mouth

2- Nothing

**3- Methylprednisolone 500 mg IV**

4- Prednisolone 40 mg by mouth

5- Prednisolone 60 mg by mouth

Q3285. A 30-year-old man is referred to the outpatient clinic complaining of persistent low back pain associated with prolonged morning stiffness. His father has a long history of back problems. Which is the best option to confirm a diagnosis of ankylosing spondylitis?

1- Blood test for HLA-B27

2- Clinical examination showing reduced mobility of the spine

3- MRI of the sacroiliac joints and spine

4- x Ray of the lumbar spine

**5- x Ray of the sacroiliac joints**

Q3286. A 66-year-old man presented to the ophthalmologist with a two day history of sudden loss of vision in his left eye, with which he had awoken. He also had left jaw claudication and tingling and numbness in his hands with difficulty in performing fine movements for the last 10 days. In addition he has had stiffness in his shoulders and neck with difficulty getting up from a chair for a few weeks. He has lost a stone in six weeks and has had night sweats. He has not travelled recently. He is a non-smoker and does not drink alcohol. His past medical history includes late onset asthma, recurrent sinusitis and allergic rhinitis. Examination revealed no perception of light in left eye, weak hand grip and power 4/5 in proximal muscles of the lower limbs with normal reflexes and down going plantars. He was pyrexial with a temperature of 38.9°C. Fundoscopy revealed a possible left retinal artery infarct. His temporal arteries were palpable and non-tender. Full blood count revealed: WCC 37(4 - 11 x 109 / L) Eosinophils 14(0.04 - 0.4 x 10 9 / L) Neutrophils 14(1.5 - 7 x 109 / L) Platelets 574(150 - 400 x 109 / L) Hb 12.9(13.0 - 18.0 g/d L) Plasma viscosity 1.82(1.50 - 1.72 mPa/ s) CRP 211(< 10 mg/ L) CK 802(24 - 195 U/ L) CXR revealed a thickened right middle lobe fissure. CT head demonstrated fluid within the left maxillary sinus, and normal intracranial appearances. His immunology revealed a high titre of P-ANCA with MPO 82, and PR3 2. ANA was negative and immunoglobulins were normal. Total IgE was 233 (normal range 4.2-595U/m l) . Muscle biopsy showed no evidence of myositis. What is the most probable diagnosis?

1- Allergic bronchopulmonary aspergillosis

**2- Churg-Strauss syndrome**

3- Giant cell arteritis

4- Hypereosinophilic syndrome

5- Wegener's granulomatosis

Q3287. June, a 45-year-old woman has had arthritis for 16 weeks. She has morning stiffness lasting two hours. The hands, wrists, right elbow and knees are swollen. She also complains of painful feet. The ESR is 41 mm/hr and C reactive protein is 34 mg/L. The full blood count is normal. Which antibody test would you request if you suspected that she had early rheumatoid arthritis?

1- Antinuclear antibodies (AN A) 2- Anticyclic citrullinated peptide antibodies (anti-CCP antibodie s) 3- Antiphospholipid antibodies

4- Complement

5- Antineutrophil cytoplasmic antibodies (ANC A)

Q3288. A 25-year-old female was started on minocycline for the treatment of acne. Seven days later she presented with fever, myalgia, arthralgia and a fixed erythematous rash over the malar eminences that spared the nasolabial folds. Which autoantibody test would confirm the diagnosis?

1- Anti ds-DNA

**2- Antihistone**

3- Anti-Jo-1

4- Anti-RNP

5- Anti-SCl70

Q3289. A 40-year old lady presents to clinic complaining of an 18 month history of dorsoradial wrist pain. She is a keen tennis player. On examination she has tenderness localised to the dorsoradial aspect of the wrist and passive motion of the thumb causes crepitus in the same region. Finkelstein's test is positive. Which of the following is the likely diagnosis?

1- Carpal tunnel syndrome

**2- De Quervain's tenosynovitis**

3- Golfer's elbow

4- Tennis elbow

5- Ulnar tunnel syndrome

Q3290. A 60-year-old lady develops a fracture of the wrist following a fall; dual energy x ray absorptiometry (DEX A) scan reveals osteoporosis in lumbar spine and hip. She has been commenced on once weekly alendronate 70 mg weekly and also takes a Calcichew tablet. By what mechanism does the bisphosphonate function in the treatment of osteoporosis?

1- Enhancing the absorption and action of vitamin D

2- Enhancing the absorption of calcium from the gut

3- Enhancing the survival and function of osteoblasts

4- Enhancing the survival and function of osteoclasts

**5- Reducing the survival and function of osteoclasts**

Q3291. A 75-year-old female presents with hyperosmolar non-ketotic hyperglycaemia. She has a red, hot and swollen knee. Which of the following is most useful in the diagnosis of the swollen knee joint?

1- ANA

2- CRP

**3- Joint aspiration**

4- Orthopaedic referral for joint washout

5- Rheumatoid factor

Q3292. A 62-year-old lady is followed up with a one year history of ultrasound positive, bilateral carpal tunnel syndrome. It is refractory to previous physiotherapy and two subcutaneous injections. Her past medical history includes multiple myeloma. Her BMI is 33 kg/m2 . You refer her for a carpal tunnel release and request that a biopsy sample is taken to refute amyloidosis. Which of the following is a pathological feature of amyloidosis?

1- Congo red histological staining - negative birefringence

2- Crystallisation in water and buffers of low ionic strength

**3- Electron micrography - fibrillar appearance**

4- Haematoxylin and eosin staining - amorphous granulomatous appearance

5- x Ray diffraction pattern - alpha helical structure

Q3293. A 24-year-old male has been receiving sulfasalazine at a stable dose for six months as treatment for Reiter's disease. His most recent series of blood tests were normal. When should he next be screened?

1- Two weeks

2- One month

**3- Three months**

4- Six months

5- One year

Q3294. A general practice covers a population of 20,000 patients in the United Kingdom. How many newly diagnosed patients with rheumatoid arthritis would be expected in this population each year?

1- 1000

2- 500

**3- 5**

4- 100

5- 50

Q3295. A 35-year-old female presents with a six month history of joint pain and stiffness of hands and feet. Examination reveals a synovitis of the distal interphalangeal joints of the left index finger and the right ring finger together with the right wrist and ankle joints. Her ESR was 35 mm/hr (0-10). Which one of the following conditions is most likely to exhibit this pattern of joint involvement?

1- Osteoarthritis

**2- Psoriatic arthritis**

3- Reactive arthritis

4- Rheumatoid arthritis

5- Systemic lupus erythematosus

Q3296. A 51-year-old female has rheumatoid arthritis. She states that she is allergic to penicillin and co-trimoxazole. Therefore, which of the following drugs is contraindicated?

1- Azathioprine

2- Ciclosporin

3- Gold therapy

4- Methotrexate

**5- Sulphasalazine**

Q3297. A 22-year-old female presents with a six month history of increasing fatigue and arthralgia of the wrists and ankles. More recently, she has also noted a symmetrical rash on her cheeks and some hair loss. What is the most likely diagnosis?

1- Dermatomyositis

2- Hypothyroidism

3- Porphyria cutanea tarda

4- Scleroderma

**5- Systemic lupus erythematosus (SL E)**

Q3298. A 31-year-old female presents with red scaly plaques on her cheeks, forehead and sides of the neck. On close inspection of the lesions there was plugging of some hair follicles with keratin and atrophy of the skin. What is the most likely diagnosis?

1- Atopic eczema

**2- Discoid lupus erythematosus**

3- Polymorphic light eruption

4- Porphyria cutanea tarda

5- Psoriasis

Q3299. A 74-year-old woman with longstanding hypertension and rheumatoid arthritis present with dyspnoea. On examination she is in atrial fibrillation and is normotensive. The jugular venous pressure (JV P) is elevated. She has bilateral pitting lower limb oedema and ascites. Her echocardiogram shows normal left ventricular systolic function and bi-atrial enlargement. What is the most likely diagnosis?

**1- Constrictive pericarditis**

2- Hypertensive heart disease

3- Hypothyroidism

4- Lymphatic obstruction

5- Pulmonary fibrosis

Q3300. A 25-year-old female with systemic lupus erythematosus (SL E) attends at 20 weeks into her pregnancy for her routine obstetric appointment. The fetal heart rate is 50 beats per minute. Fetal echocardiography shows complete heart block. Which one of the following maternal autoantibodies is likely to be present?

1- Anti-dsDNA

2- Anti-Jo 1

3- Anti-La (SS B) 4- Anti-mitochondrial

**5- Anti-Ro (SS A)**

Q3301. A 52-year-old man with a history of diabetes mellitus presented with hepatomegaly. Investigations revealed: Albumin 30 g/L (37-49) Total bilirubin 22 µmol/L (1-22) Alkaline Phosphatase 134 U/L (60-110) ALT90 U/L (5-35) Gamma-glutamyl transferase 125 U/L (<50) Ferritin 1450 µg/L (15-300) Which of the following features would be most suggestive of a diagnosis of haemochromatosis?

**1- Chondrocalcinosis**

2- Gynaecomastia

3- Migratory polyarthritis

4- Myxoedema

5- Rash

Q3302. A 70-year-old man from Lancashire has noted increasing back and leg pain for several years. x Rays reveal bony sclerosis of the sacroiliac, lower vertebral, and upper tibial regions with cortical thickening, but without mass effect or significant bony destruction. He also says his hat does not fit him anymore. He has difficulty hearing on the left and has orthopnoea and pedal oedema. Blood tests reveal an elevated serum alkaline phosphatase. What is the most likely pathologic process that explains these findings?

1- Metastatic adenocarcinoma

2- Mineral density

**3- Paget's disease of bone**

4- Renal failure with renal osteodystrophy

5- Vitamin D deficiency

Q3303. A 37-year-old man presents with fever, dry cough, recurrent episodes of sinusitis, and weight loss for last three weeks. This has failed to respond to oral amoxicillin prescribed by his GP. On admission, he is noted to have a temperature of 37.0°C, BP 128/70 mm Hg, and pedal oedema. He has blood-stained nasal discharge, and is noted to have a stridor. Recent blood tests are: Hb 11.1gm/dl(13.0 - 18.0 g/d L) WBC 12.8 x 109 /L (4 - 11 x 109 / L) Neutrophils 88%(40-75%) Lymphocytes 10%(20-45%) Eosinophils 2%(1-6%) Platelet 470x109 /µl(150 - 400 x 109 / L) ESR 86 mm/hr(0 - 15 mm/1st h r) CRP 103 mg/L(< 10 mg/ L) Anti-proteinase 3 antibody Positive (Negativ e) anti-nuclear antibody Negative (Negative at 1:20 Di l) ANCA Positive (cytoplasmic patter n) Urea, electrolytes & creatinine normal What is the diagnosis?

1- Anti-GBM syndrome

2- Churg-Strauss syndrome

3- Microscopic polyangiitis

4- Polyarteritis nodosa

**5- Wegener's granulomatosis**

Q3304. Which of the following drugs is most likely to cause drug-induced lupus erythematosus (DIL E) syndrome?

1- Baclofen

2- Isoniazid

3- Methotrexate

**4- Procainamide**

5- Sulfasalazine

Q3305. A 73-year-old male presented with an acute attack of gout in his left knee. What is the most likely underlying metabolic cause?

**1- Decreased renal excretion of uric acid**

2- Endogenous overproduction of uric acid

3- Excessive dietary purine intake

4- Lactic acidosis

5- Starvation

Q3306. A 25-year-old lady gives birth to a baby with complete heart block who subsequently requires pacemaker insertion. Which of the following antibodies is most likely to be detected in the maternal serum?

1- Anti-dsDNA antibodies

2- Anti-endomysial antibodies

**3- Anti-Ro/SSA antibodies**

4- Anti-SCL70 antibodies

5- Rheumatoid factor

Q3307. A 64-year-old lady is referred to your connective tissue disease clinic by her GP. She has been complaining of four months of progressively worsening lower mandibular pain and gum swelling to the premolar region. This was commensurate with a dental extraction for an ipsilateral cavity thought to be the culprit. The residual wound has failed to heal. Her past medical history includes multiple myeloma, and she takes zoledronic acid once monthly. A CT scan of her mandible demonstrates disruption to cortical bone, a pathological fracture line and a large region of central bone loss. What is the pathological process underlying this presentation?

1- Actinomyces induced osteonecrosis

**2- Bisphosphonate induced osteonecrosis of the jaw**

3- Osteolysis secondary to multiple myeloma

4- Osteoradionecrosis secondary to radiation therapy

5- Primary (A L) amyloidosis

Q3308. A 62-year-old man presents with a six month history of a painless lesion to his left subcostal region. The lesion was noticed by his wife and he is asymptomatic. He has no significant past medical history and takes no regular medication. The lesion (pictured belo w) was non tender, dry, indurated and slightly coarse to palpation. Basic bloods demonstrate; Hb 12.7g/dL(13-18) MCV 88fL(80 - 96) WCC 6.5 x 109 /L (4 - 11) Westergren ESR 10/hr(0 - 20) CRP 5mg/L<10> IgM 5.2g/dL(0.05-3.2g/d L) IgG 2.1g/dL(0.6-1.7g/d L) ANA - positive, anti-histone - positive, antiCu/Zn superoxide dismutase - positive. What is the diagnosis?

1- Diffuse systemic sclerosis

2- Discoid lupus erythematosus

3- Eosinophilic fasciitis

4- Limited systemic sclerosis

**5- Morphea (localised scleroderm a)**

Q3309. A 50-year-old man is brought in by ambulance complaining of a two day history of malaise, subjective fever, sweating, nausea, abdominal pains and foul smelling diarrhoea. He has a past medical history of Crohn's disease, which has been quiescent for three years following the initiation of immunosuppressive therapy. He was commenced on allopurinol three weeks ago, after suffering another flare of his gout. Clinical examination demonstrated; he is confused, clinically dehydrated, GCS 14, temperature 35.1°C, pulse 101 + regular, BP 95/66 mmHg, normal chest sounds, generalised abdominal tenderness with hyperkinetic bowel sounds. Blood tests revealed; Hb 12.0g/dL(13.0 - 18.0) MCV 90fL(80 - 96) WCC 1.5 x 109 /L (4 - 11) Neutrophils 1 x 109 /L (1.5 - 7) Lymphocytes 0.8 x 109 /L (1.5 - 4) Platelets 50 x 109 /L (150 - 400) Creatinine 150 µmol/L(60 - 110) Urea 8.9 mmol/L(2.5 - 7.5) Alanine aminotransferase 50 U/L(5 - 35) Amylase 70 U/L(60 - 180) CRP 10 mg/L(<10) Westegren ESR 25 mm/hr(0 - 20) Uric acid 200 mmol/L What is the most likely underlying cause of his presentation?

1- Acute pancreatitis

2- Allopurinol toxicity

**3- Azathioprine toxicity**

4- Calcium pyrophosphate deposition disease (CPP D) 5- Crohn's flare

Q3310. A 30-year-old housewife with SLE had some blood tests. Results of investigations are as follows: Hb 12.1g/dl(11.5 - 16.5 g/d L) WBC 8.9 x 109 /L (4 - 11 x 109 / L) Neutrophils 84%(40 - 75%) Platelet 90 x 109 /L (150 - 400 x 109 / L) ESR 14 mm/hr(0 - 20 mm/1st h r) INR 1.1(<1.4) aPTT 48 seconds(30 - 40 s) did not normalise after addition of normal plasma Blood film thrombocytopenia, no schistocytes Urea, electrolytes and creatinine: Normal What is most likely explanation for the abnormal aPTT?

**1- Antiphospholipid antibody syndrome**

2- Disseminated intravascular coagulation

3- Idiopathic thrombocytopenic purpura

4- Thrombotic thrombocytopenic purpura

5- Haemolytic uraemic syndrome

Q3311. A 58-year-old man has a one year history of anterior knee pain increased by climbing stairs, and walking. There is no rest or night pain. There is no history of joint swelling, alcohol use or chronic skin conditions. On examination, there is crepitus on active and passive knee movements and knee flexion is painful beyond 110?. Hip and back movements are normal. What is the most likely diagnosis?

1- Gout

**2- Osteoarthritis**

3- Osteonecrosis

4- Psoriatic arthritis

5- Rheumatoid arthritis

Q3312. A 28-year-old woman with a 15 year history of Raynaud's phenomenon and no other symptoms had some blood tests with her GP. These show that she has a homogeneous pattern anti-nuclear antibody in a titre of 1:5120, and that she is negative for antidsDNA antibody using the Crithidia luciliae assay. A full blood count, urea electrolyte and creatinine, liver function tests, and C3 and C4 are normal. What is the most likely diagnosis?

1- Discoid lupus erythematosus

**2- Primary Raynaud's phenomenon**

3- Scleroderma

4- Sjogren's syndrome

5- Systemic lupus erythematosus (SL E)

Q3313. A 76-year-old lady with stable congestive cardiac failure presents to the Emergency department at 11 pm with a two day history of a painful hot swollen right knee. She is unable to weight bear. She lives alone. Her temperature is 37.4?. Which of the following is the most crucial step in her management?

**1- Aspirate the right knee for urgent Gram stain, microscopy,culture and sensitivity**

2- Provide non-steroidal anti-inflammatory for pain relief

3- Prescribe paracetamol and discharge home with GP follow up

4- Take a full history from the patient, in particular, enquire into any previous episodes of joint pain

5- x Ray the right knee

Q3314. A 75-year-old woman with polymyalgia rheumatica (PM R) presents with a two week history of sudden onset right temporal headache, pain whilst brushing her hair. There are no visual symptoms. She is currently on prednisolone 8 mg/day. On examination, there is tenderness overlying the right temporal artery. Recent blood tests show: Hb 11.1g/dl(11.5 - 16.5 g/d L) WBC 7.8 x 109 /L (4 - 11 x 109 / L) Neutrophils 70%(40-75%) Platelet 270 x 109 /L (150 - 400 x 109 / L) ESR 76 mm/hr(0 - 30 mm/1st h r) CRP 93 mg/L(< 10 mg/ L) Urea, electrolytes and creatinine Normal What is the next step in her management?

1- Admit for intravenous methyl prednisolone.

2- Arrange temporal artery biopsy

3- Increase prednisolone to 15 mg/day.

4- Increase prednisolone to 40 mg/day

**5- Increase prednisolone to 40 mg/day, and arrange a temporal artery biopsy**

Q3315. You see a 44-year-old woman with a three month history of progressive pain, swelling and stiffness in both knees. Her symptoms are worse in the morning, and it takes an hour or so to loosen up the joints. She has had no recent preceding illness and there is no personal or family history of any chronic skin conditions. Since she was a teenager she has had painful fingers and toes when they are exposed to cold weather, but her digits do not change colour. She has also recently had pain and stiffness in her fingers and toes in the morning, and this fluctuates from day to day. She occasionally drinks alcohol. On examination you find reduced flexion and extension and an effusion in both knees. She has bilateral metatarsalgia on squeezing her toes. Examination of her fingers is normal and there is no psoriasis of her skin or nails. Recent blood tests showed: Haemoglobin 13.1gm/dl(13.0 - 18.0 g/d L) White cell count 8.2 x103 /µl(4 - 11 x 109 / L) Neutrophil count 5.1 x103 /µl(1.5 - 7 x 109 / L) Platelet count 280 x103 /µl(150 - 400 x 109 / L) ESR 48 mm/hr(0 - 20 mm/1st h r) Urea 5.0 mEq/L(2.5 - 7.5 mmol/ L) Creatinine 82 mEq/L(60 - 110 μmol/ L) Sodium 142 mEq/L(137 - 144 mmol/ L) Potassium 4.2 mEq/L(3.5 - 4.9 mmol/ L) Rheumatoid factor (R F) : positive (1:256) Antinuclear antibody (AN A) : positive (1:40) What is the most likely diagnosis?

**1- Rheumatoid arthritis**

2- Reactive arthritis

3- Systemic lupus erythematosus

4- Pseudogout

5- Psoriatic arthritis

Q3316. A 51-year-old man presents with increasing lethargy over the past few months. He has had to give up his job as a storeman, and it now takes him 15 minutes to get up one flight of stairs and he has difficulty getting up out of a chair. On examination his BP is 135/82 mmHg, pulse is 85 and regular. His heart sounds are normal and his chest is clear. He has clear proximal muscle weakness, with sparing of distal muscle power. His CK is elevated at 1200. Which of the following antibodies is most likely to be elevated?

**1- Anti-Jo antibody**

2- Anti-La antibody

3- Anti-nuclear antibody

4- Anti-Rho antibody

5- Anti-smooth muscle antibody

Q3317. A 16-year-old girl comes to the surgery feeling under the weather. She has recently suffered from a streptococcal throat infection but feels that she has not really picked up since, although she did have a course of oral penicillin. She complains of an extensive purpuric rash which is affecting her buttocks, the back of her legs, and the ulnar side of her arms. There is also a history of abdominal and joint pains. On examination her BP is 105/70 mmHg, with a pulse of 75. She has a purpuric rash, mainly affecting her buttocks and the tops of her legs. Investigations show Haemoglobin 11.5 g/dl(11.5-16.0) White cell count 11.2 x 109 /L (4-11) Platelets 230 x 109 /L (150-400) Serum Sodium 140 mmol/l (135-146) Serum Potassium 4.2 mmol/l (3.5-5) Creatinine 135 μmol/l (79-118) Urine Blood ++ Protein ++ Which of the following immunoglobulins is most likely to be raised?

**1- IgA**

2- IgD

3- IgE

4- IgG

5- IgM

Q3318. A 57-year-old woman presents to the clinic with increasing shortness of breath. She has a history of hypertension for which she takes amlodipine, reflux oesophagitis, and Raynaud's phenomenon. On examination you notice that her skin has a speckled appearance, and she has peripheral calcinosis on examination of her hands. Respiratory examination reveals inspiratory crackles consistent with pulmonary fibrosis. Investigations reveal Haemoglobin 10.4 g/dl(11.5-16) White cell count 9.2 x 109 /L (4-10) Platelets 190 x 109 /L (150-400) Sodium 140 mmol/l (134-143) Potassium 4.9 mmol/l (3.5-5) Creatinine 139 μmol/l (60-120) SaO2 on air94%(?96%) CXR Interstitial shadowing consistent with fibrosis Which of the following autoantibodies is most associated with her respiratory picture?

1- Anti-centromere antibodies

2- Anti-PM/Scl antibodies

**3- Anti-Scl-70 antibodies**

4- Anti-smooth muscle antibodies

5- Rheumatoid factor antibodies

Q3319. A 50-year-old Asian lady with severe rheumatoid arthritis has failed on most traditional disease modifying anti-rheumatic drugs (DMAR D) treatments. She is currently on methotrexate 20 mg weekly and for the last six months has been receiving regular infusions of the anti-tumour necrosis factor (TN F) -alpha monoclonal antibody, infliximab. Her joint disease has dramatically improved. She now presents with fevers, pleuritic chest pain and a large left sided pleural effusion, but little evidence of joint synovitis. What is the most likely diagnosis?

1- Primary bronchial carcinoma

2- Pulmonary embolus

3- Pulmonary metastases

4- Rheumatoid related effusion

**5- Tuberculosis**

Q3320. A 55-year-old lady has recently commenced on 20 mg of leflunomide daily for seronegative rheumatoid arthritis. At baseline, prior to commencing the drug, her AST was 33 U/l (1-31) and her ALT was 40 U/l (5-35). She attends for routine blood monitoring. Her FBC is normal but her liver function tests (LFT s) reveal: AST 58 U/l (1-31) ALT 71 U/l (5-35) Alkaline phosphatase 100 U/l (45-105) Bilirubin 12 µmol/l (1-22) What is the most appropriate management option for this patient?

1- Continue leflunomide and monitor LFTs in one month

2- Continue leflunomide and monitor LFTs in two weeks

**3- Reduce the dose and recheck LFTs in one week**

4- Stop leflunomide and commence washout procedure

5- Stop the leflunomide and repeat tests in two weeks

Q3321. A 60-year-old lady with rheumatoid arthritis has been on long term therapy to control her disease. She presents with increasing shortness of breath and a chest x ray shows 'bilateral interstitial shadowing'. Which of the following medications is the most likely cause for her symptoms?

1- Azathioprine

2- Hydroxychloroquine

3- Infliximab

**4- Methotrexate**

5- Sulfasalazine

Q3322. A 33-year-old female presents with pain at the elbow which she has been aware of for the last two weeks. Which of the following would be consistent with a diagnosis of tennis elbow?

1- Pain on extension of the elbow

2- Pain on flexion of the fingers against resistance

3- Pain on pressure over the medial epicondyle

4- Pain on pronation of the forearm

**5- Pain on wrist extension against resistance**

Q3323. A 34-year-old nulliparous woman attends clinic because she wants to start a family as soon as possible. She is currently receiving weekly methotrexate for rheumatoid arthritis, but her rheumatologist has suggested that she would be able to stop taking it soon. Assuming that there are no other contraindications to her becoming pregnant, how long should she wait before stopping the oral contraceptive pill (OC P) and trying to conceive in relation to her discontinuing methotrexate treatment?

1- She can stop the OCP at the same time as she stops methotrexate

2- She should continue the OCP for at least two weeks after stopping methotrexate.

3- She should continue the OCP for at least one month after stopping methotrexate

**4- She should continue the OCP for at least three months after stopping methotrexate**

5- She should continue the OCP for at least one year after stopping methotrexate

Q3324. A 16-year-old girl developed pulmonary haemorrhage and acute renal failure requiring dialysis. She has a history of recurrent epistaxis. Investigations revealed: Renal biopsyCrescentic glomerulonephritis Which one of the following antibodies is most likely to be found in the blood?

1- Anticardiolipin

2- Anticentromere

3- Antimitochondrial

**4- Antimyeloperoxidase**

5- Antinuclear

Q3325. A 34-year-old man with psoriasis has a three week history of painful swollen right knee and difficulty walking. He has early morning stiffness of over an hour. He drinks six units of alcohol/week and has not had any recent infections. On examination there is a right knee effusion, and swollen and tender distal interphalangeal joints in right hand index and middle finger. Here are the results of recent blood tests: Haemoglobin 14 g/dl(13.0 - 18.0 g/d L) WBC 9 x 109 /L (4 - 11 x 109 / L) Neutrophils 6 x 109 /L (1.5 - 7 x 109 / L) ESR 45 mm/hr(0 - 15 mm/1st h r) Urea, electrolytes and creatinine: Normal Rheumatoid factor: Negative What is the most likely diagnosis?

1- Gout

2- Osteoarthritis

**3- Psoriatic arthritis**

4- Reactive arthritis (R A) 5- Rheumatoid arthritis

Q3326. A 28-year-old woman without any past medical history presents with a three month history of arthralgia. She has no past medical history of note. Examination reveals swelling of the distal interphalangeal joints of the middle and ring fingers of the hand and wrist on the right plus a swollen left ankle. Investigations show: ESR 40 mm/hr (0-10) Which of the following is the most likely diagnosis?

1- Acute exacerbation of osteoarthritis

**2- Psoriatic arthropathy**

3- Reactive arthritis

4- Rheumatoid arthritis

5- Systemic lupus erythematosus

Q3327. A 25-year-old student presents to the casualty department with a systemic illness. She appears unwell, with a swinging fever, 3 kg weight loss over two months, generalised myalgia, polyarthralgia affecting wrists, knees, ankles, elbows and metacarpophalangeal joints, and a sore throat. Investigations demonstrate normochromic normocytic anaemia 9.8 g/l, ESR 81 mm in the first hour, CRP 31 g/l, serum ferritin 1756 mg/dl, RF negative, ANA negative, ENA negative, ASO titre <200 IU. What is the most likely diagnosis?

**1- Adult onset Still's disease (AOS D) 2- Polymyositis**

3- Rheumatic fever

4- Seronegative rheumatoid arthritis

5- Systemic lupus erythematosus

Q3328. A 60-year-old man presents with right foot drop, left foot and left hand numbness, fever, malaise, weight loss, polymyalgia and polyarthralgia of approximately one month duration. On examination, he appears ill, with a temperature of 38.5°C and blood pressure of 180/100 mmHg. Investigations reveal: Haemoglobin 8.0 g/dL(13.0-18.0) Erythrocyte sedimentation rate 100 mm/hr(

0- 20) Serum Creatinine 180 µmol/L(60-110) Urine analysis: Blood ++ Urine microscopy: White cells and red cell casts Which one of the following is the most likely diagnosis?

1- Antiphospholipid syndrome

2- Giant cell arteritis

3- Paraneoplastic syndrome

4- POEMS syndrome

**5- Polyarteritis nodosa (PA N)**

Q3329. A 25-year-old female is admitted with acute dyspnoea and chest pain. A diagnosis of pulmonary embolism is confirmed and her investigations reveal urine dipstick protein ++ but no blood, anti-double standed DNA antibodies of 200 U/mL (0 - 73), with a 24 hour urinary protein concentration of 5g (< 0.2). Which one of the following diagnoses is most likely to be found on renal biopsy?

1- AA amyloid

2- Focal segmental glomerulosclerosis

3- IgA nephropathy

**4- Membranous nephropathy**

5- Minimal change nephropathy

Q3330. A 43-year-old female presented with a week's history of pain and stiffness in her shoulders and wrists which was worse in the mornings. On examination, there was synovitis of both wrists. There was no proximal muscle tenderness or weakness. Her erythrocyte sedimentation rate (ES R) was 50 mm/hr (0 - 20). What is the most likely diagnosis?

1- Polymyalgia rheumatica (PM R) 2- Polymyositis

3- Reactive arthritis

**4- Rheumatoid arthritis**

5- Systemic lupus erythematosus

Q3331. A man in his 20s begins to note persistent lower back pain and stiffness that diminishes with activity. In his 30s he also develops hip and shoulder arthritis and in his 40s he is bothered by decreased lumbar spine mobility. He has no other major medical problems. For which of the following are these findings most typical?

**1- Ankylosing spondylitis**

2- Calcium pyrophosphate dihydrate deposition disease

3- Lyme disease

4- Osteoarthritis

5- Rheumatoid arthritis

Q3332. An otherwise healthy middle-aged man with no prior medical history has had increasing back pain and right hip pain for the past 10 years. The pain is worse at the end of the day. He has bony enlargement of the distal interphalangeal joints. A radiograph of the spine reveals the presence of prominent osteophytes involving the vertebral bodies. There is sclerosis with narrowing of the joint space at the right acetabulum seen on a radiograph of the pelvis. Which of the following pathologic processes is most likely to be taking place in this patient?

1- Gout

2- Lyme disease

**3- Osteoarthritis**

4- Osteomyelitis

5- Rheumatoid arthritis

Q3333. Which of the following is a pro-inflammatory cytokine?

1- C reactive protein

2- IL-4

3- IL-10

4- Serum amyloid precursor protein

**5- Tumour necrosis factor - alpha**

Q3334. A 16-year-old girl presents with a three month history of polyarthralgia and marked early morning stiffness. Her symptoms respond well to diclofenac but she is becoming increasingly concerned about her symptoms which appear to be progressing. She is otherwise well apart from a history of acne which is well controlled on minocycline. Her mother has severe rheumatoid arthritis. Investigations: ESR 50 mm/hr (0-20) CRP 100 mg/L (<10) Rheumatoid factor negative ANAStrongly positive (1:1600) Anti-dsDNA antibodies negative IgG25 g/L (<15) What is the most likely cause?

**1- Drug-induced SLE**

2- Fibromyalgia

3- Rheumatoid arthritis

4- Sero-negative spondyloarthropathy

5- Systemic lupus erythematosus (SL E)

Q3335. Which of the following has the greatest specificity for Wegener's granulomatosis?

1- Atypical ANCA and positive antibodies to myeloperoxidase

2- cANCA and positive antibodies to lactoferrin

3- cANCA and positive antibodies to myeloperoxidase

**4- cANCA and positive antibodies to proteinase 3**

5- pANCA and positive antibodies to myeloperoxidase

Q3336. A 23-year-old teacher presents with a three week history of fever, weight loss, and erythematous nodular lesions on the shin. There is no peripheral adenopathy nor abnormal enlargement of an organ (organomegal y) . A chest x ray showed bilateral hilar adenopathy and a CT guided biopsy of the mediastinal lymph nodes was performed. This showed chronic inflammation with multiple non-caseating granulomas. What is the most likely diagnosis?

1- Histoplasmosis

2- HIV

3- Lymphoma

**4- Sarcoidosis**

5- Tuberculosis

Q3337. A 27-year-old British man presents with a two year history of progressively worsening, atraumatic lower back pain and stiffness. The pain radiates to the gluteal region bilaterally and is worse in the evenings. He reports some relief with exercise. Recently, he has also noted intermittent pains in his left shoulder and the heel of his left foot. Clinical examination demonstrated limited spinal flexion in the sagittal and frontal planes. Left shoulder pain was reproducible with resisted abduction; there was a diminished left calf squeeze test with a tender and swollen left Achilles tendon. Given the probable diagnosis, which of the following is likely to be positive?

1- Anti-CCP antibody

**2- HLA B\*2705**

3- HLA B\*2706

4- Gonorrhoea antigen

5- None of the above

Q3338. A 62-year-old lady is suffering from pain and stiffness of her shoulders and difficulty getting out of a chair. Which of the following would support a diagnosis of polymyalgia rheumatica?

1- Ankle stiffness

**2- Low grade fever**

3- Muscle tenderness

4- Proximal muscle weakness

5- Weight gain

Q3339. A 36-year-old alcoholic has an endoscopy some 16 hours after his admission with a variceal haemorrhage. This is his second admission in six months with an upper GI bleed and he has required a 4 unit blood transfusion. Endoscopy reveals a number of large varices, including one with adherent clot. Which of the following is the therapy with the best evidence with respect to reducing the risk of a variceal bleed over the next few months?

1- High dose omeprazole

2- Propanolol

3- Sclerotherapy

**4- Variceal banding**

5- Vasopressin

Q3340. A 34-year-old skier comes to the Emergency department with pain and swelling over the first metacarpophalangeal joint (MCP join t) after a fall whilst practising on the dry ski slope. On examination there is extensive swelling and bruising over the ulnar aspect of the joint. What is he most likely to have injured?

1- Accessory collateral ligament

2- Proximal phalanx

3- Radial collateral ligament

4- Scaphoid bone

**5- Ulnar collateral ligament**

Q3341. A 24-year-old woman who is known to suffer from mitral valve prolapse comes to the emergency department complaining of sudden, terrible, tearing pain between her shoulder blades. She notes that her mother died suddenly when she was aged 38. On examination her BP is 166/94 mmHg, her pulse is 95 and regular. Her chest is clear. Her skin seems rather thin and pale white, you can see extensive bruising over her shins, and her blood vessels are easily visible as you look at her arms. She has a number of keloid scars, which appear to have occurred after relatively minor skin injuries. She is given oxygen and diamorphine for pain relief. Investigations show Haemoglobin 12.0 g/dl(11.5-16.5) White cells 6.8 x 109 /L (4-11) Platelets 180 x 109 /L (150-400) Sodium 140 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 90 μmol/l (79-118) AP chest x ray Mediastinum width 9.5 cm ECG 3 mm inferior ST elevation Which of the following is the most appropriate initial therapy?

1- Alteplase

2- Angioplasty

3- Heparin and IV nitrate

**4- IV beta-blockade**

5- Streptokinase

Q3342. A previously fit 47-year-old man presents with lower back pain which is shown to be a consequence of vertebral collapse due to osteoporosis. Which of the following would be the most appropriate investigation for this patient?

1- Oestrogen concentration

2- Prolactin concentration

3- Prostate-specific antigen concentration

**4- Testosterone concentration**

5- Thyroid function tests

Q3343. A 23-year-old student presents with a four month history of low back pain and buttock pain worse in the morning. This improves with activity and with over the counter ibuprofen. There is no significant past or family history. On examination there is restricted chest wall expansion (3 c m) and the Schober's test is positive. Lumbar spine and pelvic radiographs are normal. Blood tests show a normal FBC, UEC and liver function tests. The CRP is 13 mg/L and the ESR is 32 mm/hr. Which of the following is the most appropriate investigation for this patient?

1- 99m-Tc bone scan

2- HLA B-27

3- MRI lumbar spine

**4- MRI sacroiliac joints**

5- PET-CT

Q3344. A 25-year-old lady with SLE (anti-nuclear antibody positive [1:6400], anti-dsDNA antibody positiv e) presents with a few weeks' history of feeling generally unwell, tired, worsening malar rash, and has mild pedal oedema. On examination, the BP is 190/100 mm Hg, and there are 3+ proteins, 3+ blood in her urine. What is the diagnosis?

**1- Diffuse proliferative glomerulonephritis**

2- Membranous glomerulonephritis

3- Mesangial glomerulonephritis

4- Minimal change glomerulonephritis

5- Nephrotic syndrome

Q3345. A 25-year-old woman with Sjogren's syndrome (dry eyes, dry mouth, anti-Ro/La positiv e) is 32 weeks pregnant. Which of the following is a risk to the fetus?

1- Complete heart block

2- Congestive cardiac failure (CC F) 3- Hydrops fetalis

4- Neonatal lupus

**5- All of the above**

Q3346. A 45-year-old man with poorly controlled diabetes presents with a painful swollen right knee and difficulty in walking which he has had for one day. He has had no recent infections, rarely drinks alcohol, and there is no significant past or family history. On examination, his temperature is 37.8?. The right knee is warm, tender, and there is a tense right knee effusion. Knee flexion is painful and restricted. Which of the following is the most appropriate investigation for this patient?

**1- Aspirate right knee**

2- Blood culture

3- CRP

4- MRI right knee

5- Serum urate

Q3347. A 55-year-old woman with longstanding well controlled sero-positive rheumatoid arthritis, treated with methotrexate (20 mg/wee k) and folic acid 5 mg/day, presents with neck pain, gradually worsening difficulty in walking and getting up from sitting position. On examination, the power is 4/5 in lower limbs. The knee and ankle jerks are brisk bilaterally, and the plantars are extensor. What is the most likely cause of her symptoms?

**1- Atlantoaxial subluxation**

2- Cauda equina syndrome

3- Cervical spine disc prolapsed

4- Pseudobulbar palsy

5- Spinal stenosis

Q3348. According to NICE guidelines, which of the following has a role in the treatment of osteoarthritis (O A) ?

1- Acupuncture

2- Chondroitin sulphate

3- Glucosamine hydrochloride

4- Intra-articular hyaluronic acid

**5- Transcutaneous electrical nerve stimulation**

Q3349. A 24-year-old woman presents to her physician with triphasic Raynaud's phenomenon. It affects her daily activities and can be very painful. In particular, it is exacerbated when handling refrigerated items at her work in the local supermarket. She smokes 20 cigarettes a day. An examination is unremarkable. Initial investigations show her to be antinuclear antibody (AN A) negative. What is the best initial line of management?

1- Admit to hospital electively for five days of IV iloprost

**2- Advise on lifestyle changes to reduce the frequency of the attacks, such as heated gloves, stopping smoking and liaising with her employer's occupational therapy department to change her duties avoiding the cold environments**

3- Commence on nifedipine Retard

4- Sympathectomy

5- Refer for nail fold capillaroscopy

Q3350. A 37-year-old carpenter comes to the rheumatology clinic complaining of pain going from the lateral aspect of his elbow and down his forearm, with further pain on flexion of the wrist. He has been recently working excessive overtime on a housing project. On examination he has pain on palpation over the lateral aspect of the humerus, and on resisted dorsiflexion of the wrist. Which of the following is the most likely diagnosis?

1- Carpal tunnel syndrome

2- Cervical nerve root entrapment

**3- Lateral epicondylitis**

4- Olecranon bursitis

5- Osteoarthritis of the elbow

Q3351. A 52-year-old woman presents with left loin pain. Past history includes hypertension and progressive cognitive decline. On examination she is pyrexial, has livedo reticularis and a blood pressure of 180/100 mmHg. Examination of the abdomen reveals no masses but there is tenderness in the left flank. Investigations revealed: Haemoglobin 12.9 g/dl(11.5-16.5) White cell count 8.7 x 109 /L (4-11) Platelet count 83 x 109 /L (150-400) Serum Creatinine 106 mol/l (60-110) Urine dipstick analysis: Blood +++ Protein + Which one of the following tests is most likely to be positive?

**1- Anticardiolipin antibody**

2- Antiglomerular basement membrane antibody

3- Antimitochondrial antibody

4- Antineutrophil cytoplasmic antibody

5- Antistreptolysin O antibody

Q3352. A 31-year-old nurse presents with chronic pain. The pain changes from day to day, but often focuses in the lower back. She is pale and looks unwell. She complains of waking up frequently at night, and feels unrefreshed in the morning. She also complains of intermittent constipation and diarrhoea. Examination is essentially normal - but the patient complains of tenderness in multiple areas on palpation. Basic blood tests are normal. What is the most likely diagnosis?

1- Depressive disorder

**2- Fibromyalgia**

3- Hypothyroidism

4- Schizophrenia

5- Somatoform disorder

Q3353. A 56-year-old woman presents with a six day history of sharp shooting pain radiating to her right forearm, with paraesthesia. On examination, she has sensory loss affecting the centre of her palm and the right hand middle finger. Elbow and finger extension are weak and the triceps jerk is absent. Which cervical spine nerve root is affected?

1- C5

2- C6

**3- C7**

4- C8

5- T1

Q3354. A 47-year-old woman presented with a history several years of dysphagia, hard calcified nodules in the fingers, and cold hands. Examination revealed calcified nodules, sclerodactyly and facial telangiectasia. Which one of the following antibodies is most likely to be found in the blood?

1- Anticardiolipin

**2- Anticentromere**

3- Anti-DNA antibodies

4- Antimitochondrial

5- Antimyeloperoxidase

Q3355. A 30-year-old male presents with a week history of a painful right leg. Past medical history reveals that he had erythema nodosum and recurrent oral and scrotal ulceration. Examination reveals a diffusely swollen left leg, and acute tenderness with erythema of the right lower leg.. What is the most likely cause of his swollen leg?

1- Cellulitis

2- Lymphoedema

3- Pyomyositis

4- Ruptured popliteal (Baker' s) cyst

**5- Venous thrombosis**

Q3356. A 52-year-old man who has a long history of chronic alcohol abuse presents with gouty tophi. He is commenced on allopurinol but develops severe joint pains two days later. On examination he has a temperature of 39°C, and erythematous swelling of his hands, knees and ankles. Investigations reveal: Urate0.55 mmol/L (0.23-0.46) C reactive protein150 mg/L (<10) Which of the following is the most likely cause for his presentation?

1- Acute pyrophosphate arthropathy

2- Acute rheumatoid arthritis

3- Allopurinol allergy

4- Septic arthritis

**5- Treatment with allopurinol**

Q3357. A 50-year-old woman complains of arthritis and swelling of approximately four months duration. On examination she has a symmetrical inflammation with painful movements of the hands and feet and also swelling of both knees suggesting a diagnosis of rheumatoid arthritis. Regarding her joint disease which of the following suggest an adverse prognosis?

1- Acuteness of presentation

**2- Articular erosions on x ray**

3- Elevated C reactive protein

4- Enthesitis

5- Sero-negative for rheumatoid factor

Q3358. A 60-year-old woman attends the casualty department with a six week history of lethargy, neck pain, weakness in the upper limbs and gait disturbance. She describes occasional episodes of electrical sensation shooting down her spine on flexing her neck. She has a long history of lower back pain, primary generalised osteoarthritis, and vitiligo. She takes Voltarol regularly. She neither smokes nor drinks. She is of Pakistani origin and has been in this country for the past six years. There is no history of recent foreign travel. On examination she is afebrile. General examination is unremarkable except for vitiligo. Examination of the cranial nerves is normal. There is no wasting of the limbs but there are a few fasciculations in brachioradialis and biceps on the right. Tone is mildly increased. Apart from mild weakness of elbow, wrist and finger flexion and extension, more marked on the right, power is normal. There is inversion of the right supinator reflex, and triceps, jerks are reduced bilaterally. Sensation is mildly reduced in the C5 and C6 dermatomes. Investigations show: Hb 11.3 g/L(11.5-16.5) WCC 7 x 109 /L (4-11 x109) Platelets 160 x 109 /L (150-400 x109) Coagulation screen Normal ESR 27 mm/h(0-30mm/1st hou r) CRP 17 mg/L(<10) Sodium 137 mmol/l (137-144) Potassium 4.2 mmol/l (3.5-4.9) Urea 5.7 mmol/l (2.5-7.5) Creatinine 87 µmol/l (60-110) Protein 73 g/L(61-76) Albumin 38 g/L(37-49) Calcium 2.23 mmol/l (2.2-2.6) Phosphate 1.2 mmol/l (0.8-1.4) LFTs Normal CXR: Normal x Ray cervical spine:Extensive osteophytes. Normal alignment. What is the most likely diagnosis?

**1- Degenerative cervical spondylosis**

2- Motor neurone disease

3- Multiple myeloma

4- Polymyalgia rheumatica

5- Syringomyelia

Q3359. Which of the following regarding infliximab is most true?

1- Is a monoclonal antibody to the glycoprotein IIb-IIIa receptor

2- Is authorised for the treatment of severe ulcerative colitis

**3- Is licensed for the treatment of rheumatoid arthritis**

4- It prevents relapse of Crohn's disease in patients who are in remission

5- Must not be used in combination with methotrexate due to increased toxicity

Q3360. In which of the following situations would a percutaneous needle biopsy of the kidney be most helpful and appropriate?

1- Fever with suspected acute pyelonephritis

2- Premature neonate with suspected polycystic kidney disease

3- Prostatic hyperplasia with suspected hydronephrosis

4- Suspected renal cyst

**5- Systemic lupus erythematosus (SL E) and acute renal failure**

Q3361. Which of the following statements is true of the immunology of rheumatoid arthritis?

1- It is an example of an organ-specific disease.

2- It is likely that joint specific antigens have been sequestered during the time when immunological tolerance was being established.

3- Joint damage is the consequence of mast cell degranulation.

**4- Rheumatoid factor is an antibody with reactivity to the heavy chain of IgG.**

5- Rheumatoid factor is detected by a test utilising the patient's B lymphocytes.

Q3362. Which of the following is associated with hyperuricaemia?

1- Can be reduced with low dose aspirin therapy

2- Can be treated with uricosuric drugs even in renal failure

3- In primary gout is inherited in an autosomal dominant manner

4- Is usually due to an excess purine consumption

**5- Occurs in association with acute lymphoblastic leukaemia**

Q3363. Which one of the following diagnoses is associated with acute iritis?

1- Keratoconus

2- Lyme disease

3- Osteogenesis imperfecta

**4- Psoriatic arthropathy**

5- Refsum's disease

Q3364. A 30-year-old housewife with SLE (ANA positive 1:1280, dsDNA positive, and anticardiolipin antibody positive on two occasion s) , developed a right below knee DVT. She has no past history of arterial or venous thrombosis. Which of the following is the most appropriate management plan for her?

1- Warfarin, and aspirin 75 mg/day for life

2- Warfarin for 3 months

3- Warfarin for 3 months, followed by aspirin 75 mg/day

4- Warfarin for 6 months, followed by aspirin 75 mg/day

**5- Warfarin for life**

Q3365. A 70-year-old man complains of pain and stiffness in both his shoulders. He has lost one stone in the last eight weeks and complains of feeling lethargic with loss of appetite. Investigations revealed a very high ESR (100 mm/h r) , normochromic normocytic anaemia and a positive rheumatoid factor. Which of the following is the most likely diagnosis?

1- Polyarteritis nodosa

**2- Polymyalgia rheumatica**

3- Polymyositis

4- Rheumatoid arthritis

5- SLE

Q3366. A 65-year-old man who has recently fractured his left femur presents with thirst, headache and lower back pain. Blood tests reveal a haemoglobin of 8.2 and corrected calcium of 2.89. Radiographs revealed lytic lesions in the vertebrae and skull. Which of the following is least likely to be present in this patient?

1- Bence Jones protein

2- Decreased resistance to infection

3- Infiltration of flat bones by plasma cells

**4- Macroglobulinaemia**

5- Monoclonal gammopathy

Q3367. A 22-year-old boy with known hereditary angioneurotic oedema (HA O) presents with a recurrent fever, arthralgia and a rash on the face and the upper chest. Despite treatment for his HAO, he has always been troubled by recurrent attacks and has required adrenaline on several occasions. His C4 levels have been persistently reduced secondary to his HAO. What is the most likely cause for his current symptoms?

1- Dermatomyositis

2- Drug rash

3- Psoriasis with arthropathy

**4- Systemic lupus erythematosus (SL E) 5- Viral illness**

Q3368. A 69-year-old lady presents for follow up of her rheumatoid arthritis. She complains of only satisfactory symptomatic control, but admits to intermittently missed doses. She has a past medical history of a perforated gastric ulcer, likely secondary to chronic alcohol abuse. She consumes approximately 45 units of alcohol per week. A recent DXA scan is performed and demonstrates a T-score of -4.0 SD below the peak bone mineral density. What is the best strategy for primary prevention of osteoporosis?

1- Alendronate

2- Calcium and vitamin D

**3- Denosumab**

4- Parathyroid hormone replacement

5- Raloxifene

Q3369. A 35-year-old lady presents for follow up for a right-sided Colles' fracture. This was sustained following a slip in the kitchen at home. You are suspicious given the apparent low velocity mechanism of injury. Which of the following measurements would correspond to a diagnosis of osteoporosis?

1- T-score -1.5

2- T-score -2.5

3- Z-score -1.5

**4- Z-score -2.0**

5- None of the above

Q3370. You are reviewing a 42-year-old woman in clinic. She was diagnosed with rheumatoid arthritis last year after presenting with small hand joint synovitis and stiffness. At that time her rheumatoid factor and antiCCP levels were 1:20 titre and 700U/ml respectively. Unfortunately, despite 12 months on a combination of prednisolone, methotrexate and leflunomide, she still has moderate disease activity based on a DAS-28 (disease activity scor e) score of 3.2. She is being considered for etanercept. Preliminary tests demonstrate a normal chest radiograph, but positive QuantiFERON test. She is asymptomatic. Her only other medical history is multiple sclerosis. From the following options, which is the most appropriate treatment?

1- Consider infliximab as an alternative

2- Hold etanercept until treatment is completed for active TB

**3- None of these**

4- Prescribe etanercept and monitor closely

5- Prescribe etanercept with TB prophylaxis

Q3371. A 68-year-old woman presents with a one week history of acute onset right-sided headache, symmetrical shoulder pains and malaise. Her food intake has reduced which she attributes to a loss of appetite and aching of her jaw and tongue occurring during meals. She reports one transient episode of a curtain apparently descending over her right eye before spontaneously resolving. Clinical examination demonstrated a tender, beaded and pulseless temporal artery. Fundoscopy revealed a swollen and pale right optic disc with haemorrhages. There was a relative afferent pupillary defect. Her ESR measured 55 mm/Hr (0 - 30). Which one of the following increases the likelihood of a positive temporal artery biopsy?

1- Arthralgia

**2- Jaw claudication**

3- Lethargy

4- Loss of appetite

5- Subjective fever

Q3372. A 75-year-old lady presents with a six week history of shoulder and hip pain, restriction in movement, and early morning stiffness lasting for more than an hour. There is no history of weight loss and fever. On examination, active shoulder movements are restricted globally due to pain while there is full range of shoulder movement passively. Muscle strength is normal. Recent blood tests show: Hb 11.1g/dl(11.5 - 16.5 g/d L) WBC 7.8 x 109 /L (4 - 11 x 109 / L) Neutrophils 70%(40-75%) Platelet 270 x 109 /L (150 - 400 x 109 / L) ESR 86 mm/hr(0 - 20 mm/1st h r) Urea, electrolytes and creatinine Normal CRP 43 mg/L(< 10 mg/ L) Rheumatoid factor negative What is the diagnosis?

1- Frozen shoulder

**2- Polymyalgia rheumatica**

3- RA

4- Rotator cuff tear

5- Subacromial bursitis

Q3373. A 23-year-old teacher presents with an eight month history of pain and stiffness in the lower back. This is worse in the morning and improves with activity, and with ibuprofen. There is no significant past or family history. The Schober's test is positive. Sacroiliac joint MRI shows sacroiliitis and erosions. The FBC, UEC and liver function tests are normal. What is the next step in his management?

1- Anti-TNFα agents

2- Methotrexate

**3- NSAIDs - regular**

4- Pamidronate

5- Tramadol

Q3374. A 67-year-old woman with a long history of rheumatoid arthritis comes to the clinic for review. Her rheumatoid is poorly controlled and she is receiving regular doses of methotrexate and low dose prednisolone. Most recently she has begun to suffer from increasing pitting oedema. On examination her BP is 145/84 mmHg and her pulse is 85. She has pitting oedema to the mid shin. Investigations show Haemoglobin 11.0 g/dl(11.5-16.0) White cell count 8.3 x 109 /L (4-11) Platelets 159 x 109 /L (150-400) Serum Sodium 140 mmol/l (135-146) Serum Potassium 4.4 mmol/l (3.5-5) Creatinine 130 μmol/l (79-118) Serum Albumin 24 g/l (36-50) Urine protein ++ Which of the following is the most appropriate investigation likely to elucidate the underlying diagnosis?

1- Liver biopsy

**2- Rectal biopsy**

3- Renal biopsy

4- Renal ultrasound scan

5- Skin biopsy

Q3375. A 29-year-old man presents with a painful swollen right knee one month after an episode of gastroenteritis. There is no personal or family history of chronic skin diseases and he drinks alcohol occasionally. On examination there is a right knee effusion, and the knee aspirate shows plenty of leucocytes, no crystals, and no organisms on Gram stain or culture. What is the next step in his management?

1- Commence disease modifying antirheumatic drug (DMAR D) 2- Intra-articular corticosteroids

3- Oral antibiotics for five days

4- Oral antibiotics for six weeks

**5- Oral NSAIDs**

Q3376. According to NICE guidelines, which of the following has a role in the treatment of OA?

1- Acupuncture

2- Chondroitin sulphate

3- Glucosamine hydrochloride

4- Intra-articular hyaluronic acid

**5- Transcutaneous electrical nerve stimulation**

Q3377. A 30-year-old woman who is 12 weeks pregnant presents with a history of systemic lupus erythematosus (SL E) . With regard to SLE in pregnancy, which of the following is correct?

1- Fertility rates are lower in SLE than in the general population.

2- If anti-Ro and anti-La antibodies are negative, there is a higher risk of congenital heart block associated with SLE.

**3- Azathioprine can be continued in pregnancy.**

4- It is necessary to stop hydroxychloroquine if breast-feeding.

5- Risk of pre-eclampsia is the same as in the general population.

Q3378. A 45-year-old man presented to casualty with a 48 hour history of bilateral swollen ankles. He is known to have a history of an acute gout episode affecting his left first MTPJ. He had recently been travelling in Europe and returned yesterday. During his trip he had had one episode of night sweats which he put down to the possiblity of having caught flu, but he did mention that he had noticed feeling less fit than previously during activities. Clinically he had a low grade pyrexia of 37.7°C but was otherwise well. Blood results showed an elevated ESR 40 and CRP 15, FBC, renal profile and LFTs were otherwise unremarkable. Physical examination revealed normal abdominal, chest and cardiovascular findings. There were two patches of raised rash over his knees, which were painful. There were no features of synovitis elsewhere. Which of the following would be the most appropriate next investigation?

1- Ankle aspirate

2- Blood cultures

**3- CXR**

4- Serum urate

5- Skin biopsy

Q3379. A 45-year-old man is referred to the outpatient clinic with a three day history of a painful swollen left knee. He drinks 34 units of alcohol per week. His mother has psoriasis. Physical examination demonstrates nail pitting. ESR is elevated at 90 mm/hr. White cell count is normal. What is the next most appropriate step in his management?

1- Commence NSAID

**2- Joint aspiration and analysis of synovial fluid for Gram stain, microscopy and culture**

3- Commence allopurinol

4- Check rheumatoid factor, anticyclic citrullinated peptide antibody and knee radiograph

5- Commence oral steroids and a DMARD

Q3380. A 29-year-old male smoker presents with a two week history of cough, fever and haemoptysis. A chest x ray demonstrates diffuse alveolar infiltrates. A urine dipstick demonstrates red cell casts. The full blood count shows: Hb 10.8 g/dl WCC 5.1 x 109 Plt 376 x 109 ANCA positive at titre 1 in 3600. Which of the following is the most likely diagnosis?

1- Alport's syndrome

**2- Goodpasture's syndrome**

3- Polymyositis

4- Relapsing polychondritis

5- Systemic lupus erythematosus

Q3381. An 18-year-old male presents with a six week history of a painful swollen right knee. He had been treated for a sexually transmitted disease three months ago. On examination there was a large effusion in the right knee. Synovial fluid analysis revealed a white cell count of 16 x 109 /L (4-11) but culture was negative. Which one of the following organisms is the most likely cause?

1- Human papilloma virus

2- Herpes simplex

**3- Neisseria gonorrhoeae**

4- Treponema pallidum

5- Trichomonas vaginalis

Q3382. A 52-year-old woman with a three year history of sero-positive erosive rheumatoid arthiritis has recently commenced methotrexate therapy initiated at the rheumatology clinic. Which one of the following agents should she also be receiving in conjunction with her methotrexate?

**1- Folic acid**

2- Omeprazole

3- Thiamine

4- Vitamin C

5- Zinc supplements

Q3383. A 42-year-old woman presents with a six month history of dyspepsia. She has a three year history of Raynaud's phenomenon. On examination she has telangiectasia. Her investigations reveal an ESR of 40 mm/hr (

0- 10) and positive anticentromere antibodies. Which of the following is a typical late complication of this disorder?

1- Alopecia

2- Butterfly skin rash

3- Erosive polyarthropathy

4- Myositis

**5- Pulmonary hypertension**

Q3384. A 43-year-old patient with rheumatoid arthritis is sent to the clinic with increasing shortness of breath over a 6 week period. Lung function tests demonstrate a fall in the FEV1 , which is markedly lower than tests last taken two months ago. The residual volume (R V) is increased by two litres but the measurements of diffusion are normal. The patient is a smoker. Which of the following is the most likely diagnosis?

**1- Bronchiolitis obliterans**

2- Caplan's syndrome

3- Chronic obstructive pulmonary disease

4- Atypical pneumonia

5- Acute interstitial pneumonitis

Q3385. A 24-year-old promising athlete is diagnosed with chronic fatigue syndrome. Which of the following treatments is indicated?

**1- Graded exercise therapy**

2- Group therapy

3- Prednisolone

4- Seroxat

5- Thyroxine

Q3386. A 53-year-old woman with rheumatoid arthritis was referred with iron deficiency anaemia. Endoscopy revealed several superficial antral erosions, with small bowel biopsy showing mild villous blunting, apopotic bodies, occasional eosinophils and mild increase in chronic inflammatory cells. Colonoscopy was reported as normal. What is the most likely cause of these findings?

1- Coeliac disease

2- Crohn's disease

**3- Non-steroidal anti-inflammatory drug therapy**

4- Small bowel lymphoma

5- Whipple’s disease

Q3387. A 70-year-old retired sea captain develops weakness of the shoulders and hips over a four month period. He has also noticed weak finger flexors with normal strength in straightening them. He has had some difficulty swallowing liquids. There is no past medical history, apart from a sexually transmitted disease picked up in the South Pacific some forty years before. This was treated with antibiotics and he is not sure of the diagnosis. He smokes a pipe and drinks one or two tots of rum at the weekend. A creatinine kinase level comes back at 120. Which investigation is most likely to give a definite diagnosis?

1- Anti Jo 1 antibody titres

2- CT scan of the chest

3- EMG

**4- Muscle biopsy with electron microscopy**

5- 24 hour urine collection for myoglobin

Q3388. A 79-year-old female suffers a fracture neck of femur following a fall at home. Investigations are normal but her x ray shows the bones to be rather 'thin'. It is assumed that she is osteoporotic and she is started on alendronate therapy. Which of the following is correct concerning this drug?

1- Enhances vitamin D action on bone

2- Increases absorption of calcium

3- Increases osteoblast activity

4- Increases the action of oestrogen on bone

**5- Inhibits osteoclast activity**

Q3389. A 45-year-old man has noted pain in his right knee for several years. There is no joint swelling. As he moves about during the day, the pain decreases. The underlying disease process is probably which of the following?

**1- Osteoarthritis**

2- Osteochondroma

3- Osteomalacia

4- Osteopetrosis

5- Osteoporosis

Q3390. Which of the following is commonly associated with psoriasis?

1- Angular stomatitis

**2- Koebner phenomenon**

3- Optic neuritis

4- Response to chloroquine

5- Scarring alopecia

Q3391. Which of the following may be responsible for an acute relapse of systemic lupus erythematosus (SL E) in a 38-year-old female?

1- Hydralazine therapy

**2- Pregnancy**

3- Progesterone only contraceptive pill

4- Salmeterol therapy

5- Winter holiday in Lapland

Q3392. Which of the following is a recognised feature of polymyalgia rheumatica?

1- A peak incidence in the fourth decade of life

2- An association with bronchial carcinoma

3- Elevated serum creatine phosphokinase activity

4- Weakness of distal muscle groups

**5- Weight loss**

Q3393. An 85-year-old woman presented with bilateral osteoarthritis of the knees. She had no history of previous gastrointestinal disease. Which of the following is the most appropriate initial treatment for her?

1- Celecoxib

2- Dihydrocodeine

3- Naproxen

**4- Paracetamol**

5- Topical diclofenac.

Q3394. A 30-year-old woman presents with a deep vein thrombosis. Of note in her past medical history is three early miscarriages. Investigations revealed: Haemoglobin 12.8 g/dl (11.5-16.5) White cell count 3.6 x 109 /L (4-11) Platelet count 35 x 109 /L (150-400) Select the investigation which is most likely to be abnormal.

**1- Antiphospholipid antibodies**

2- Homocystine concentration

3- Indium-labelled white cell scan

4- Platelet function test

5- Protein C concentration

Q3395. Which one of the following drugs works by inhibiting tumour necrosis factor -alpha (TNF g) ?

1- Cyclosporin

**2- Infliximab**

3- Methotrexate

4- Montelukast

5- Sulfasalazine

Q3396. Which of the following most accurately describes the mechanism of action of the bisphosphonates?

1- Calcium resorption in the distal tubule

2- Fibroblast proliferation in bone marrow

3- Improved vascular supply to bone marrow

**4- Inhibition of osteoclast activity**

5- Upregulation of osteoblast activity

Q3397. A 27-year-old man presents with fever, urethritis and arthralgia. He is found to have a swollen ankle with a pustular rash on the dorsal aspect of his foot. What is the most likely diagnosis?

**1- Disseminated gonorrhoea**

2- Lyme disease

3- Reactive arthritis

4- Staphylococcal arthritis

5- Tuberculous arthritis

Q3398. A 28-year-old man presented with acute stiffness and swelling of his knees and ankles, and a painful rash on his legs. The erythrocyte sedimentation rate (ES R) was 86 mm in the first hour (0-15). Chest x ray showed hilar lymphadenopathy. What is the most likely outcome?

1- Chronic arthritis

2- Pulmonary fibrosis

3- Renal failure

4- Skin ulceration

**5- Spontaneous improvement**

Q3399. A 23-year-old female presents with left knee pain and a two month history of weight loss. She has a good appetite but has had occasional episodes of diarrhoea over this time and tends to pass a loose motion at least twice daily. She is not taking any medication and there is a family history of hypothyroidism. She is a non-smoker and drinks modest quantities of alcohol. Examination reveals a swollen, tender left knee joint with a small effusion. Which is the most likely diagnosis?

1- Behcet's disease

**2- Inflammatory bowel disease**

3- Reactive arthritis

4- Thyrotoxicosis

5- Tuberculosis

Q3400. A 64-year-old woman with a history of rheumatoid arthritis comes to the clinic for review. She is taking weekly methotrexate to control her rheumatoid and is concerned as she has had two episodes of pneumonia over the past nine months. On examination her BP is 122/72 mmHg, pulse is 75 and regular. There are occasional crackles on auscultation of the chest, and evidence of active rheumatoid on examination of the small joints of the hands. Investigations show: Haemoglobin 11.4 g/dl(11.5-16.0) White cell count 8.8 x 109 /L (4-11) Platelets 182 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 118 micromol/l (79-118) CXR - Nodular changes, unchanged over the past two years. Which of the following is the most appropriate management with respect to her chest disease?

1- Add infliximab

2- Add low dose prednisolone

3- Decrease methotrexate dose

4- Increase methotrexate dose

**5- Observation**

Q3401. A 66-year-old man has a painful, swollen right knee and difficulty in walking which he has had for three days. He had two self-limiting episodes of severe pain and swelling in the right big toe in the last year. A knee aspirate shows no organisms on Gram stain, plenty of leucocytes, and negatively birefringent crystals on polarised light microscopy. Recent blood tests show a normal renal function, and a raised serum urate 452 µmol/l (210-415). Once the acute attack of gout has subsided, which of the following is the most appropriate drug in his long term management?

**1- Allopurinol**

2- Corticosteroids

3- Dietary advice

4- Febuxostat

5- Ibuprofen

Q3402. A 29-year-old woman with a history of SLE gives birth to her first child. She has suffered two previous miscarriages and has been managed with low molecular weight heparin injections during her pregnancy. The labour is uneventful, but the midwives notice that the child has an erythematous rash. He is also bradycardic with a pulse of 75. Which of the following antibodies is most likely to be linked to the illness in the baby?

1- Anti-LKM

**2- Anti-Ro/SSA**

3- Anti-smooth muscle

4- c-ANCA

5- Rheumatoid factor

Q3403. A 32-year-old woman is referred from her general practice following a presentation with shortness of breath, myalgia, arthralgia and a skin rash. Which of the following antibodies when found in this patient is most specific for systemic lupus erythematosus (SL E) ?

1- ANA

2- Anti-Ro

**3- Anti-Sm**

4- cANCA

5- Rheumatoid factor

Q3404. A 48-year-old female with rheumatoid arthritis has the following full blood count results: Haemoglobin 11.4 g/dL (11.5-16.5) Platelets 470 x 109 /L (150-400) White cell count 9.0 x 109 /L (4-11) MCV 102 fL(80-96) Which drug is she likely to be taking?

1- Ciclosporin

2- Hydroxychloroquine

3- Leflunomide

**4- Methotrexate**

5- Myocrisin

Q3405. A 70-year-old female who has a history of chronic anxiety presents with a three day history of severe left temporal headache radiating from the eye to the scalp. She had also experienced discomfort during eating. Which one of the following drugs should be given to this patient while awaiting the results of diagnostic tests?

1- Aciclovir

2- Carbamazepine

3- Diclofenac

**4- Prednisolone**

5- Sumatriptan

Q3406. A female presents with headache, lethargy and weight loss. Which of the following would make the diagnosis of giant cell arteritis (GC A) unlikely?

1- A normal ESR

2- Bilateral headache

3- Non-tender temporal arteries

**4- Papilloedema without visual loss**

5- The patient is 50-years-old

Q3407. An 81-year-old female presents with bilaterally painful knees. There was no history of gastrointestinal diseases. On examination she had crepitus but had a full range of movement of both knees. Which one of the following is the most appropriate initial treatment for her painful knees?

1- Celecoxib

2- Dihydrocodeine

3- Naproxen

**4- Paracetamol**

5- Topical diclofenac

Q3408. A 45-year-old woman notices that she develops tingling and numbness over the palmar surface of her thumb, index, and middle fingers after several hours at her computer workstation doing word processing. Pain in the same area often occurs at night as well. Which of the following pathologic findings most likely accounts for her symptoms?

1- Gout

2- Hypertrophic osteoarthropathy

**3- Entrapment neuropathy**

4- Rheumatoid arthritis

5- Toxic peripheral neuropathy

Q3409. A 62-year-old man has back pain. An FBC reveals the following: WBC 3.7 x 109 /L (4-11) Haemoglobin 10.3 g/dl(14-18) MCV 85 fl(80-100) Platelets 110 x 109 /L (150-400) His total serum protein is 85 g/l with an albumin of 41 g/l. A chest x ray shows no abnormalities of heart or lung fields, but there are several lucencies in the vertebral bodies. You perform a sternal bone marrow aspirate and get a dark red jelly-like material in the syringe. The smear of the aspirate is most likely to show which of the following cell types as a prominent feature?

1- Fibroblasts

2- Giant cells

3- Metastatic renal cell carcinoma cells

4- Osteoblasts

**5- Plasma cells**

Q3410. A 35-year-old woman who was two months postpartum presented with a four week history of joint pain, facial rash and fever. Blood tests reveal an ESR of 40 mm/hour (

0- 20). What is the most likely diagnosis?

1- Reactive arthritis

2- Rheumatoid arthritis

3- Sarcoidosis

**4- Systemic lupus erythematosus (SL E) 5- Viral arthritis**

Q3411. A 38-year-old woman from Pakistan presents with a six week history of non-productive cough, subjective fever, chills and progressively worsening shortness of breath. She reports that recently she has been able to walk for only five to 10 minutes before having to stop and rest for breath. She has lost 2 kg over this period. There is no recent travel history or guests visiting from endemic regions. She has a 10 year diagnosis of rheumatoid arthritis for which she was commenced on etanercept six months ago. Clinical examination demonstrated: temperature 38.0°C, pulse 100 regular, normal heart sounds, respiratory rate 18, mild mid zone inspiratory crepitations , SaO2 98% (pre-exertio n) , 89% (post exertio n) . Basic bloods show; Hb 10.7g/dL(11.5-16.5) MCV 88fL(80 - 96) WCC 4.9 x 109 /L (4 - 11) Westergren ESR 44/hr(0 - 20) CRP 34mg/L(<10) Chest radiography demonstrates diffuse bilateral infiltrates. Which test is most likely to be diagnostic?

1- Aspergillosus precipitin

**2- Bronchoalveolar lavage**

3- High resolution CT

4- Mycoplasma serology

5- QuantiFERON

Q3412. A 72-year-old man presents with a three day history of acute onset, progressively worsening knee pain which began 24 hours after returning from a walking holiday in the New Forest. There is associated knee joint stiffness in the morning lasting approximately 20 minutes. He has an intermittent subjective fever. He is currently partially weight bearing and reports particular difficulty ascending the stairs at home. His temperature is 37.2°C, pulse 88, blood pressure 128/90 mmHg. The left knee is swollen, tender and normothermic with crepitus present during a markedly reduced active range of motion. Initial investigations demonstrated the following; FBC normal Westergren ESR 38mm/hr(0 - 30) CRP <5mg/L(< 10) Rheumatoid factor titre 1:80(>1:40) Synovial fluid aspirate WCC 1800/mm3 (<2000) Which one of the following is the most likely diagnosis?

1- Borrelia burgdorferi monoarticular synovitis

2- Calcium pyrophosphate arthropathy

**3- Patellofemoral osteoarthritis**

4- Prepatellar bursitis

5- Rheumatoid arthritis

Q3413. A 25-year-old lady presents with rapidly worsening Raynaud's phenomenon, and skin tightness. On examination, there is sclerodactyly, skin thickening to the shoulders, and bi-basal crepitations. Muscle strength is normal. Recent blood tests are: Hb 12.1g/dl(11.5 - 16.5 g/d L) WBC 7.8 x 109 /L (4 - 11 x 109 / L) Neutrophils70%(40-75%) Platelet 270 x 109 /µl(150 - 400 x 109 / L) ESR 36 mm/hr(0 - 20 mm/1st h r) Anti-nuclear anti-body positive (1:6400) (Negative at 1:20 Di l) Anti-centromere antibody negative (Negative at 1:40 Di l) Anti-Scl70 antibody positive (1:640) (Negativ e) Anti-U1RNP negative (Negativ e) Anti-Ro/La antibody negative (Negativ e) Urea, electrolytes and creatinine Normal What is the diagnosis?

1- Dermatomyositis

**2- Diffuse cutaneous systemic sclerosis**

3- Limited cutaneous systemic sclerosis

4- Mixed connective tissue disease

5- Sjogren's syndrome

Q3414. A 76-year-old man presents with a painful, swollen right knee and difficulty in walking for three days. On examination, his temperature is 36.8 C. The right knee is red, swollen, warm and tender and has restricted movement. The knee aspirate shows no organisms on Gram stain, 200 leucocytes/mm3 , and weakly positively birefringent crystals on polarised light microscopy. The results of recent blood tests are: Hb 12.3 g/dl(13.0 - 18.0 g/d L) WBC 14.3 x 109 /L (4 - 11 x 109 / L) Neutrophils 88%(40-75%) Platelet 340 x 109 /L (150 - 400 x 109 / L) Urea, electrolytes and creatinine: Normal ESR 79 mm/hr(0 - 20 mm/1st h r) Urate 321 µmol/l (210-415µmol/ l) What is the most likely diagnosis?

1- Gout

2- Osteoarthritis

**3- Pseudogout**

4- Reactive arthritis

5- Septic arthritis

Q3415. A 37-year-old lady with well controlled asthma since teenage presents with a six week history of gradually worsening asthma, sinusitis, weight loss, and fatigue. On examination, there is scattered wheeze bilaterally, and there is a non-blanching petechial rash on the shin. Muscle strength is normal. Recent blood tests show: Hb 11.1gm/dl(11.5 - 16.5 g/d L) WBC 14.8 x 109 /L (4 - 11 x 109 / L) Neutrophils 60%(40-75%) Lymphocytes 10%(20-45%) Eosinophils 30%(1-6%) Platelet 270 x 109 /L (150 - 400 x 109 / L) ESR 86 mm/hr(0 - 20 mm/1st h r) CRP 143 mg/L(< 10 mg/ L) Anti-myeloperoxidase antibody Positive pANCA Positive cANCA negative Urea, electrolytes & creatinine normal What is the diagnosis?

1- Allergic bronchopulmonary aspergillosis

**2- Churg-Strauss syndrome**

3- Eosinophilic pneumonia

4- Hypersensitivity pneumonitis

5- Wegener's granulomatosis

Q3416. A 67-year-old woman with polymyalgia rheumatica was commenced on prednisolone 15 mg/day, and had excellent therapeutic response. The steroid dose has now been reduced to 10 mg/day, and the plan is to continue tapering the prednisolone dose by 1 mg/month, aiming to discontinue prednisolone in a year's time. Which of the following is the best approach to osteoporosis prophylaxis for her?

1- Alendronic acid

**2- Alendronic acid, and calcium carbonate + vitamin D**

3- Calcium carbonate

4- Calcium carbonate + vitamin D

5- Check bone mineral density

Q3417. An 84-year-old man presents with right upper arm pain which he has had for the last few months. The pain is worsening progressively, and wakes him up at night. He is known to have Paget's disease involving lumbar spine and pelvis, and is on oral bisphosphonates for this. There is no history of injury. On examination the shoulder movements are free, and normal. What is the most likely cause of his arm pain?

1- Fracture

2- Osteoarthritis

3- Osteonecrosis

**4- Osteosarcoma**

5- Paget's disease

Q3418. A 80-year-old man presents with deteriorating lumbar and bilateral hip pains. He has recently been seen by his GP with symptoms of prostatism. Investigations revealed: Full blood count Normal Corrected Calcium 2.3 mmol/l (2.2-2.6) ESR 22 mm/1st hr(1-10) Alkaline phosphatase 985 U/l (60-110) Gamma-GT 33 U/l (<50) Prostate specific antigen 6.6 pg/l (0-6) What is the most likely cause of this man's pain?

1- Multiple myeloma

2- Osteomalacia

**3- Paget's disease of the pelvis**

4- Polymyalgia rheumatica (PM R) 5- Prostatic carcinoma with metastases

Q3419. A 55-year-old lady presents with swelling, increased sweating, persistent erythema, and increased pain sensitivity in her right hand, and forearm for the last few months. She had a right Colles fracture four months ago, and has been discharged from orthopaedics with good fracture healing. On examination, the affected limb is swollen, erythematous, sweaty and there is increased pain sensitivity on the affected side. Fine touch is perceived as painful. Recent blood tests have been normal. What is the diagnosis?

1- Cellulitis

**2- Complex regional pain syndrome type I**

3- Complex regional pain syndrome type II

4- Deep vein thrombosis

5- Osteomyelitis

Q3420. A 52-year-old businessman presents to the emergency department complaining of worsening pain in his right big toe and knee. He has recently been diagnosed by his GP with gout, and you can see from the computer that his urate at the time was 0.55 mmol/l (0.18-0.42). Current medication is 300 mg of allopurinol per day. On examination he has severe pain and swelling over his right first MTP joint, consistent with gout. What is the most appropriate management?

1- Add colchicine to his regime

**2- Add naproxen to his regime**

3- Decrease allopurinol to 100 mg

4- Decrease allopurinol to 200 mg

5- Stop allopurinol for a few days

Q3421. A 72-year-old lady presents with pain and swelling of the left wrist. Three weeks ago she received an intraarticular steroid injection into the wrist as treatment of chronic pain which was thought to be due to osteoarthritis. On examination the joint is erythematous, swollen and tender. Results reveal: White cell count 12.5 x 109 /L (4-11 x109) Rheumatoid factor 34 U/L(<20) x Ray of wrist revealed a bony destruction of the joint and wrist aspiration revealed only a dry tap. What is the most likely diagnosis?

1- Acute gout

2- Acute inflammatory reaction related to osteoarthritis

3- Acute rheumatoid arthritis

4- Pyrophosphate arthropathy

**5- Septic arthiritis**

Q3422. A 52-year-old woman with type 2 diabetes presents with a two month history of painful hands and feet. Investigations confirm a diagnosis of seropositive erosive rheumatoid arthritis. She has some pain relief from non-steroidal antiinflammatory agents. She currently takes metformin 500 mg tds and has good glycaemic control as reflected by a HbA1c of 6.7% (3.8-6.4). Which of the following DMARDS would be most appropriate initial treatment of her early rheumatoid arthritis?

1- Ciclosporin

2- Etanercept

3- Hydroxychloroquine

4- IM gold

**5- Methotrexate**

Q3423. A 55-year-old woman receiving 10 mg of methotrexate and 5 mg of folate\* weekly presents with a sore right finger after cutting herself in the garden. On examination she has a swollen erythematous right ring finger up to the proximal interphalangeal joint and you diagnose a cellulitis. You give her a prescription for erythromycin as she is allergic to penicillins. She has been receiving the methotrexate for just over one year with no problems and all routine blood monitoring has been normal. Whilst monitoring the response of the infection to treatment, what is the most appropriate strategy regarding her methotrexate therapy?

1- Continue methotrexate and folate unchanged.

2- Continue methotrexate unchanged and increase folate supplements to 10 mg daily.

3- Reduce dose of methotrexate to 5 mg weekly

4- Stop methotrexate only if full blood count reveals a neutropenia.

**5- Stop methotrexate until the infection has resolved.**

Q3424. A 36-year-old man attends clinic for advice. He is currently taking methotrexate 7.5 mg weekly. His wife is fit and well, with no past medical history of note and not taking any medication apart from the oral contraceptive pill. They are keen to start a family and want to know about continued contraception and whether there is a need to stop methotrexate. Which of the following would you advise?

1- They can dispense with contraception now and the husband can continue with the methotrexate

2- They can dispense with contraception now but the husband needs to stop taking methotrexate

3- They should continue with adequate contraception for at least four weeks after the husband stops the methotrexate

**4- They should continue with adequate contraception for at least three months after the husband stops the methotrexate**

5- They should continue with adequate contraception for at least one year after the husband stops the methotrexate

Q3425. A 35-year-old woman presents with malaise, thirst and increasing nocturia over the last month. Six months ago she attended the Emergency department with an episode of renal colic. One month previously her GP had noted an eruptive, painful, erythematous rash on the anterior shins, which was self-limiting. What is the likely cause of her symptoms?

**1- Hypercalcaemia**

2- Hyperglycaemia

3- Hypocalcaemia

4- Hypokalaemia

5- Hyperoxaluria

Q3426. Which of the following best describes the mode of action of alendronate?

**1- Inhibits osteoclast activity**

2- Promotes bone matrix calcification

3- Promotes collagen synthesis

4- Promotes renal absorption of calcium

5- Stimulates osteoblast activity

Q3427. A 39-year-old female presents with weakness, diplopia and fatigue. She had recently been diagnosed with rheumatoid arthritis. On examination there is bilateral ptosis and weakness of abduction of both eyes and mild proximal weakness of the arms and legs but normal reflexes and sensation. What is the most likely diagnosis?

1- Guillain-Barré syndrome

2- Mononeuritis multiplex

3- Multiple sclerosis

**4- Myasthenia gravis**

5- Polymyositis

Q3428. A 72-year-old man presents with an acutely painful right knee. On examination, he has a temperature of 37°C with a hot, swollen right knee. Of relevance amongst his investigations, is a white cell count of 12.6 x 109 /L (4-11 x 109 ) and a knee radiograph which shows reduced joint space and calcification of the articular cartilage. Culture of aspirated fluid reveals no growth. What is the most likely diagnosis?

1- Gout

**2- Pseudogout**

3- Psoriatic monoarthropathy

4- Rheumatoid arthritis

5- Septic arthritis

Q3429. You are investigating the properties of a novel oral TNF-alpha antagonist in late stage clinical trials. Which of the following would be an expected property of this agent?

1- Decreased endothelial reactivity

2- Decreased HDL cholesterol

3- Decreased insulin sensitivity

**4- Decreased protein catabolism**

5- Increased acute phase protein production

Q3430. Which of the following arteries are branches of the axillary artery?

1- Inferior ulnar collateral artery

2- Internal thoracic artery

3- Profunda brachii artery

**4- Subscapular artery**

5- Superior ulnar collateral artery

Q3431. A 24-year-old man presents with proteinuria, haematuria and sensorineural deafness. Which of the following protein structures is likely to be abnormal?

1- Fibrillin

2- Laminin

3- Type 1 collagen

4- Type 3 collagen

**5- Type 4 collagen**

Q3432. Which of the following does N-acetylcysteine replenish?

1- Cystathionine

2- Cytochrome P450

3- Glucuronyl transferase

**4- Glutathione**

5- Sulfatase

Q3433. Which of the following genetic mutations is responsible for Marfan syndrome?

1- Collagen

2- Elastin

**3- Fibrillin**

4- Mircrofilament

5- Microtubule

Q3434. Suppose you are attempting to find a diseasecausing gene, and you have identified a number of families in which the disease is transmitted. If you have no knowledge of the gene product and no reasonable candidate locus, which of the following would be the first technique you would be most likely to use?

1- Denaturing gradient gel electrophoresis (DGG E) 2- DNA sequencing

3- Fluorescence in situ hybridisation (FIS H) 4- Linkage analysis

5- Single strand conformation polymorphism (SSC P) analysis

Q3435. In one gene mapping technique, denatured deoxyribonucleic acid (DN A) from metaphase chromosomes is hybridised with a radioactively labelled probe. This DNA is then exposed to film to reveal the approximate chromosomal location of the DNA in the probe. Which technique does this best describe?

1- Fluorescence in situ hybridisation (FIS H) 2- In situ hybridisation

3- Single strand conformation polymorphism (SSC P) analysis

4- Southern blotting

5- Somatic cell hybridisation

Q3436. A 35-year-old male is struck on the lateral aspect of his right knee by the bumper of a car travelling at low velocity. On examination he is unable to dorsiflex the ankle, evert the foot and extend the toes. There is loss of sensation of the dorsum of the foot. He is most likely to have damaged which structure?

**1- Common peroneal nerve**

2- Deep peroneal nerve

3- Saphenous nerve

4- Sural nerve

5- Tibial nerve

Q3437. Which of the following statements regarding the hindbrain is/are accurate?

1- The locus caeruleus receives fibres from the facial nerve

2- The medulla oblongata opens into the third ventricle

3- The nucleus ambiguous gives rise to the hypoglossal nerve

4- The pyramidal tracts decussate prior to the hindbrain

**5- The vermis lies medial to the cerebellar hemispheres**

Q3438. During a neurological examination of the upper limb you attempt to elicit the triceps reflex. You place the patient's arm across the chest, with the elbow flexed at 90°. The triceps tendon is struck with the tendon hammer. Which nerve (and its nerve roo t) are you testing?

1- Median nerve C6

2- Median nerve C7

3- Radial nerve C5

4- Radial nerve C6

**5- Radial nerve C7**

Q3439. A 70-year-old woman presented with bone pains in her back, shoulders and pelvis. Investigations reveal: Serum corrected Calcium 2.2 mmol/L(2.2-2.6) Serum Phosphate 0.6 mmol/L(0.8-1.4) Serum alkaline phosphatase 160 U/L(45-105) What further investigation would be most helpful in making the diagosis?

1- DEXA bone scan.

2- Parathyroid hormone concentration.

**3- Serum vitamin D concentration.**

4- Thyroid function test.

5- Urine Bence Jones protein estimation

Q3440. Which of the following medications can cause hypomagnesaemia?

1- Aminophylline

2- Amitriptyline

**3- Cisplatin**

4- Co-trimoxazole

5- Lithium

Q3441. Which of the following are antibodies to which enzymes involved in glucose metabolism may be found in primary biliary cirrhosis?

1- All of the following

2- Glucokinase (generates glucose-6- phosphate from glucos e) 3- Lactate dehydrogenase (generates lactate from pyruvat e) 4- Pyruvate dehydrogenase (generates acetylcoA from pyruvat e) 5- Pyruvate kinase (generates pyruvate from phosphoenolpyruvat e)

Q3442. A 43-year-old woman presents with weight gain and menstrual irregularities. Her BMI is 29 kg/m2 , blood pressure is 150/90 mmHg and urinalysis shows + glucose. Which of the following investigations should be performed initially?

**1- 24 hour urine cortisol**

2- Aldosterone

3- HbA1c

4- Plasma testosterone

5- Prolactin

Q3443. Which of the following statements regarding myosin is correct?

1- Contains an cAMP-binding sites

2- Forms filaments in a pentameric array with two heavy chains and three light chains

3- Has no function when not part of a filament

4- It drives smooth muscle contraction

**5- Myosin heavy chain mutations are associated with development of familial hypertrophic cardiomyopathy**

Q3444. A 65-year-old man with a history of myocardial infarction four years earlier was admitted with progressive shortness of breath and decreasing exercise tolerance. He has smoked 40 cigarettes per day for the last 45 years. He takes lansoprazole, aspirin and lisinopril. Which of the following laboratory tests would help identify the reason for his symptoms?

**1- Brain natriuretic peptide (BN P) 2- Clotting screen**

3- C reactive protein

4- Full blood count

5- Urea and electrolytes

Q3445. Which of the following is most likely be associated with hyperkalaemia?

1- Bartter's syndrome

2- Beta adrenergic stimulation

3- Cushing's syndrome

**4- Cyclosporin**

5- Mannitol

Q3446. Which of the following statements is true concerning gamma glutamyl transferase (GG T) ?

**1- Increased GGT is found in 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 the liver

5- Serum activity is typically elevated in pregnancy

Q3447. A 46-year-old man was seen for an insurance medical examination. He was entirely asymptomatic, but his serum urate concentration was noted to be 0.5 mmol/L (0.23 - 0.46). What is the most appropriate management for this patient?

1- Allopurinol

2- Colchicine

3- Ibuprofen

**4- Lifestyle intervention**

5- Sulphinpyrazone

Q3448. Metabolic alkalosis is characteristically found in which of the following?

1- An infusion of sodium chloride

2- Ileostomy

3- Mineralocorticoid deficiency

**4- Pyloric stenosis**

5- Salicylate poisoning

Q3449. A 75-year-old man presents with a long history of shortness of breath and ankle oedema. His serum biochemistry shows sodium 122 mmol/L (137-144) and potassium of 2.9 mmol/L (3.5-4.9). He now complains of weakness. Which of the following is likely to explain the above biochemical picture?

1- Addison's disease

**2- Diuretic therapy**

3- Nephrotic syndrome

4- Primary hyperaldosteronism

5- SIADH

Q3450. A 72-year-old man is found to have the following biochemistry: Calcium1.98 mmol/L (2.2-2.6) Phosphate 0.55 mmol/L (0.8-1.4) Alkaline phosphatase450 U/L (60-110) Which of the following is the most likely explanation for his biochemistry?

**1- Osteomalacia**

2- Osteoporosis

3- Paget's disease

4- Renal failure

5- Tertiary hyperparathyroidism

Q3451. An Afro-Carribean male aged 48 years presents with gradual onset of exertional dyspnoea, non-productive cough, malaise, weight loss and polyarthralgia. Schirmer's test indicates a dry eye. x Ray of the hand shows punched out osteopenic lesions. Which of the following investigations is unlikely to be helpful in establishing the diagnosis of this condition?

1- Quantitative immunoglobulins.

2- Serum calcium

3- Serum phosphorus

**4- Thallium scan**

5- Urea and electrolytes

Q3452. With which of the following is lipoprotein lipase deficiency associated?

1- Abetalipoproteinaemia

2- Combined hyperlipidaemia

3- Familial combined hyperlipidaemia

4- Familial hypercholesterolaemia

**5- Marked hypertriglyceridaemia**

Q3453. A 37-year-old man presents with an anterior myocardial infarction. He admits to smoking 20 cigarettes per day. His lipid screening on admission reveals total cholesterol of 9.5 mmol/l, triglycerides are at the upper end of the normal range. Which of the following is the most likely abnormality?

1- Apolipoprotein A mutation

2- Apolipoprotein B mutation

3- HDL receptor mutation

**4- LDL receptor mutation**

5- Triglyceride receptor mutation

Q3454. You are doing a stint in chemical pathology and are asked to review the evening's significantly abnormal results. One set from a 72-year-old man particularly concerns the laboratory staff: Investigations show: Haemoglobin 12.9 g/dl(13.5-17.7) White cell count 8.0 x 109 /L (4-11) Platelets 158 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 2.5 mmol/l (3.5-5) Bicarbonate 14 mmol/l (22-30) Creatinine 133 µmol/l (79-118) Which of the following is the most likely diagnosis?

1- Addison's disease

2- Bartter's syndrome

3- Conn's syndrome

4- Gitelman's syndrome

**5- Ureteric diversion**

Q3455. A pregnant woman is referred with an elevated alkaline phosphatase (AL P) level. Her other liver function tests are normal. She is otherwise well. What is the most likley cause?

1- Autoimmune hepatitis

2- Bone metatases

3- Paget's disease

**4- Placental production of ALP**

5- Transient hyperphosphatasia of infancy

Q3456. The enterohepatic circulation primarily involves which part of the gastrointestinal tract?

1- Anus

2- Jejunum

3- Pancreas

4- Rectosigmoid junction

**5- Terminal ileum**

Q3457. Oxygen-requiring metabolic reactions occur predominantly in which type of liver cells?

1- Ito (stellat e) cells

**2- Zone 1 hepatocytes**

3- Kupffer cells

4- Zone 2 hepatocytes

5- Zone 3 hepatocytes

Q3458. Which of the following statements regarding glucagon-like peptide 1 (GLP-1) effects in humans is correct?

1- GLP-1 increases the rate of gastric emptying

2- GLP-1 inhibits glucose-induced insulin secretion

3- GLP-1 is secreted predominantly by pancreatic islet cells

4- GLP-1 reduces satiety in the brain

**5- GLP-1 suppresses postprandial glucose secretion**

Q3459. Apoptosis is induced by which of the following?

**1- Activation of caspases**

2- Antibodies

3- DNA synthesis

4- Necrosis

5- The MAP kinase pathway

# Chapter 21 2012 Basic Science

Q3460. A 17-year-old female is affected by an inherited disorder. She has two brothers who are unaffected. She has two sisters both are affected. Her father is affected but not her mother. Which of the following modes of inheritance is the best explanation?

1- Autosomal dominant

2- Autosomal recessive

3- Mitochondrial

**4- X linked dominant**

5- X linked recessive

Q3461. Which of the following disorders is characterised by an autosomal recessive mode of inheritance?

1- Achondroplasia

**2- Congenital adrenal hyperplasia**

3- Familial hypercholesterolaemia

4- Hereditary haemorrhagic telangiectasia

5- Huntington's disease

Q3462. A 34-year-old man with polycystic kidney disease attends the transplant clinic with his 19-year-old brother. His most recent creatinine has been measured at 342 µmol/l, and he is on several anti-hypertensive drugs and erythropoietin injections to maintain his haemoglobin, which was recently measured as 10.4 g/l. On examination his BP is 149/87 mmHg. Other findings are consistent with chronic renal failure. His father had end stage renal failure for some years before his death. Which of the following most accurately reflects the chances of his brother being able to donate a kidney to him?

1- 0%

2- 25%

3- 33%

**4- 50%**

5- 100%

Q3463. A 25-year-old male presents with symptoms of gait ataxia and pes cavus. His father developed similar symptoms at the age of 36. Which of the following genetic phenomena explains the age of his presentation?

**1- Anticipation**

2- Complex traits

3- Epistasis

4- Expansion

5- Microdeletion

Q3464. Which of the following is a polygenic disorder?

**1- Ankylosing spondylitis**

2- Erythropoietic porphyria

3- Fragile X syndrome

4- Huntington's disease

5- Pendred's syndrome

Q3465. Which one of the following conditions is a polygenic disorder?

**1- Amyotrophic lateral sclerosis (AL S) 2- Congenital adrenal hyperplasia (CA H) 3- Friedreich’s ataxia**

4- Huntington’s disease

5- Klinefelter’s syndrome

Q3466. With respect to lipoprotein transport and metabolism in the body, the following statements are correct, except which?

1- Arterial walls contain cells with LDL receptors

2- Cholesterol is required for the formation of red blood cell membranes

**3- Chylomicrons are synthesised in the liver**

4- HDL is assembled in the extracellular space

5- VLDL transformation to LDL occurs in the liver

Q3467. A 59-year-old woman has had insulin dependent diabetes mellitus for over two decades. The degree of control of her disease is characterised by the laboratory finding of a HbA1c of 10.1%. She complains of repeated episodes of abdominal pain following meals. These episodes have become more frequent and last for longer periods over the last couple of months. On physical examination, there are no abdominal masses and she has no enlarged liver, spleen or kidneys and no tenderness to palpation. Which of the following findings is most likely to be present?

1- Acute pancreatitis

2- Chronic renal failure

3- Hepatic infarction

**4- Mesenteric artery occlusion**

5- Ruptured aortic aneurysm

Q3468. In meiosis which of the following is true?

1- Anaphase lag results in one of the two daughter cells receiving an extra part of one chromosome.

2- At the beginning of meiosis 2, each cell contains 23 single chromosomes.

3- DNA replication occurs during meiosis 1.

**4- Non-disjunction at mitosis (meisois 2) results in mosaicism.**

5- The incidence of Down's syndrome due to translocation increases with increasing maternal age.

Q3469. Regarding benign essential tremor which of the following is true?

**1- Alcohol improves the tremor**

2- Is autosomal recessive in inheritance

3- Is present characteristically at rest

4- Occurs in liver disease

5- Occurs with lesion in sub thalamus

Q3470. A 15-year-old boy comes to the dermatology clinic as his parents are concerned about some changes they have noticed in his skin. He is from a travelling community, and as such his parents have previously shunned medical services. On examination you notice that he has a number of facial and periungual fibromata. He also has a number of hypomelanotic areas (at least fou r) on examination of his skin. You also notice gingival fibromata and pitting of his tooth enamel on examination of his mouth. On which chromosome is the abnormality associated with this disease likely to be found?

1- Chromosome 2

2- Chromosome 6

**3- Chromosome 9**

4- Chromosome 11

5- Chromosome 12

Q3471. Autosomal recessive conditions include which of the following?

1- Huntington's chorea

2- Manic depression

3- Turner's syndrome

4- Vitamin D resistant rickets

**5- Wilson's disease**

Q3472. Which of the following is not true regarding the polymerase chain reaction?

1- It can be used to detect the presence of viral DNA in human disease

2- It is used to amplify DNA but not RNA

3- It utilises the thermostable properties of Taq DNA polymerase

4- Synthetic short DNA primers which flank the sequence of interest are required to initiate the amplification

**5- The amount of DNA required makes it unsuitable for early prenatal diagnosis**

Q3473. Mutation in which of the following is associated with Alport syndrome?

1- Collagen type I gene

**2- Collagen, type IV, alpha 5 gene**

3- Fibrillin- gene

4- FMR-1 gene

5- Type II procollagen gene

Q3474. A 29-year-old male presents to you seeking advice regarding starting a family. He has common variable immunodeficiency and wants to know what is the risk of passing this on to his children?

**1- Less than 5%**

2- 25%

3- 33%

4- 50%

5- Over 70%

Q3475. Which of the following abnormalities is associated with short stature?

**1- 45, XO karyotype**

2- 47, XXY karyotype

3- 47 XYY karyotype

4- Fragile X syndrome

5- Homocystinuria

Q3476. Which of the following is characteristically inherited in an autosomal recessive manner?

1- Achondroplasia

2- Adult polycystic kidney disease (APK D) 3- C1 esterase deficiency

4- Familial hypercholesterolaemia

**5- Friedreich's ataxia**

Q3477. In X linked recessive inheritance, which of the following is true?

**1- Daughters of affected males will all be carriers**

2- Each daughter of a female carrier has a 1:4 risk of being a carrier

3- Each son of a female carrier has a 1:4 risk of being affected

4- The family history is often positive since new mutations are rare

5- The male to female ratio is 2:1

Q3478. Which of the following disorders is characterised by an autosomal dominant mode of inheritance?

1- Beta-thalassaemia

2- Cystic fibrosis

**3- Marfan syndrome**

4- Wilson's disease

5- Xeroderma pigmentosa

Q3479. You are reviewing the results of a clinical trial of a new agent for treating type 2 diabetes mellitus. There are a number of analyses presented as part of the study. Which of the following would be considered the most robust?

1- All patients who took one dose of medication

**2- Intention to treat**

3- One month completer

4- Per protocol

5- Trial completer

Q3480. One of the scientists at your university claims to have discovered a new mutation screen which is useful for the diagnosis of a particular subtype of chronic myeloid leukaemia (CM L) . The prevalence of this subtype is 10% of all cases of CML, and the test has a sensitivity of 100% with a specificity of 97%. Which of the following approximates most closely to the positive predictive value?

1- 100%

2- 97%

**3- 77%**

4- 27%

5- 10%

Q3481. A 23-year-old male is diagnosed with diabetes. He has frontal balding, and tells you that he has previously been diagnosed with a cardiomyopathy. Which of the following genetic phenomena is associated with this genetic condition?

1- Chromosome instability

2- Deletion

3- Epistasis

4- Microdeletion

**5- Trinucleotide repeats**

Q3482. Mutation in which of the following is associated with Ehlers-Danlos syndrome?

**1- Collagen type 1 gene**

2- FGFR3 gene

3- Fibrillin- gene

4- FMR-1 gene

5- Type II procollagen gene

Q3483. Mutation in which of the following is associated with Marfan's syndrome?

1- Collagen type 1 gene

2- Collagen type 5 gene

**3- Fibrillin-1 gene**

4- FMR-1 gene

5- Type II procollagen gene

# Chapter 22 2012 Dermatology

Q3484. A 22-year-old female is diagnosed with cystinuria following recurrent episodes of renal colic. Which of the following is characteristic of cystinuria?

1- Autosomal dominant inheritance

2- Cataracts

3- Cystine deposition within the liver

4- Premature coronary artery disease

**5- Radio-opaque renal calculi**

Q3485. A 28-year-old lady presents with multiple cafe au lait spots. A diagnosis of neurofibromatosis (N F) type 1 is made. Which of the following is true of the NF1 gene?

1- Inherited in a recessive fashion

2- Inherited in an X linked fashion

**3- On chromosome 17**

4- On mitochondrial genome

5- Related to NF2 gene

Q3486. Which of the following organelles contains enzymes responsible for the digestion of constituents of cells and tissues?

1- Endoplasmic reticulum

2- Golgi apparatus

**3- Lysosomes**

4- Microtubules

5- Mitochondria

Q3487. Are the following true concerning antineutrophilic cytoplasmic autoantibodies?

1- ANCA positive glomerulonephritis characteristically causes nephrotic syndrome

2- Cause neutropenia in SLE

3- Increased in systemic lupus erythematosus (SL E) 4- Positive only in Wegener's syndrome associated with renal disease

**5- Present in inflammatory bowel disease**

Q3488. A 20-year-old South Asian man presents to the emergency department with a six week history of fever, night sweats and weight loss. Chest x ray reveals bilateral upper zone cavitatory lesions. What is the next most important investigation?

1- CT scan of chest

2- HIV test

3- Interferon-gamma releasing assay (IGR A) 4- Sputum for acid fast bacilli (AF B) examination

5- Sputum for M/C&S

Q3489. A 24-year-old female presents with a two day history of a painful swollen erythematous left leg. On examination, she is confused and hypotensive. What is the likeliest cause of her infection?

1- Group G Streptococcus

2- Mixed coliforms and anaerobes

3- MRSA

4- Clostridium perfringens 5- S. pyogenes

Q3490. A nurse presents with severe swelling around the mouth following her lunch. She was treated for suspected anaphylaxis and on further questioning she says that previously she has had an itchy rash on her hands after wearing latex gloves. Which of the following fruit is the most likely to have been in her lunch to explain this reaction?

1- Apple

**2- Banana**

3- Gooseberry

4- Pineapple

5- Star fruit

Q3491. A 45-year-old lady presented with a four month history of malaise, weight loss and, more recently, dyspnoea. Clinical examination and CXR reveals a pleural effusion and malignancy is suspected as an underlying cause. Tumour markers are requested as part of the workup. Investigation shows: CA 15-3 9 U/ml (< 40) CA 19-9 60 U/ml (< 33) CA125 620 U/ml (< 35) Which of the following diagnoses is the most likely?

1- Breast cancer

2- Hepatoma

**3- Ovarian fibroma**

4- Pancreatic cancer

5- Small cell lung cancer

Q3492. A 52-year-old man enquired about the advisability of vaccination prior to a holiday abroad. He had been treated for asthma with long term steroids and regularly required doses of prednisolone in excess of 30 mg daily to control acute exacerbations. Which one of the following vaccinations would be contraindicated in this man?

**1- Bacillus Calmette-Guérin - BCG**

2- Diphtheria toxoid 3- H. influenzae B

4- Meningococcus

5- Tetanus toxoid

Q3493. A 47-year-old woman presents with high fever, rigors and myalgia. Nasal aspirate is positive for influenza virions. Which of the following is true of her B cell response?

1- Affinity maturation takes place in the blood stream

2- Deficiency of either CD40 or CD40L still allows an IgG response

**3- Her B cells express immunoglobulin on their surface**

4- Memory cells are not formed as repeated infections with influenza often occur

5- The antibody response to the virus does not require T cell help

Q3494. A 53-year-old woman presents with a six month history of recurrent facial and tongue swelling. She associated the attacks with consuming certain food additives and with contact with some cosmetics and cleaning fluids. Her only regular medication was hormone replacement therapy. Investigations reveal: Total serum IgE 145 kU/L (0-120) Serum C3 105 mg/dL (65-190) Serum C4 35 mg/dL (15-50) What is the most likely diagnosis?

1- C1 esterase inhibitor deficiency

2- Chemical intolerance

**3- Food allergy**

4- Idiopathic angio-oedema

5- Mastocytosis

Q3495. Which of the following is a typical feature of farmer's lung?

**1- Basal crackles**

2- Eosinophilia

3- Haemoptysis

4- Increased pCO2

5- Positive serum paraproteins

Q3496. Which one of the following statements concerning T lymphocytes is correct?

1- Are infected by Epstein-Barr virus in infectious mononucleosis

2- Are the primary host response in bacterial infection

**3- Compose the majority of lymphocytes in plasma**

4- Produce IgG

5- T cell lymphoma has a better prognosis than B cell lymphoma

Q3497. A 24-year-old pregnant female delivers at term by normal vaginal delivery. Antenatal screening for hepatitis B had revealed the following results: Hepatitis B core Ab positive Hepatitis B surface Ag positive Hepatitis BeAg negative What are the most appropriate measures to reduce the risk of mother to child transmission?

**1- Accelerated hepatitis B immunisation at 0,1,2 and 12 months**

2- Accelerated hepatitis B immunisation and hepatitis B immunoglobulin

3- Advise against breast feeding

4- Hepatitis B immunisation at 0,1 and 6 months

5- Offer reassurance

Q3498. A 75-year-old man has a history of chronic lymphocytic leukaemia. He has had treatment with several courses of chemotherapy and has now been admitted to hospital with pneumonia. His medical history revealed that he had suffered several previous upper respiratory tract infections over the previous six months. Which of the following components of his immune system is likely to be deficient?

1- Complement

**2- Immunoglobulin G**

3- Macrophages

4- Mast cells

5- T lymphocytes

Q3499. A 25-year-old sexually active Afro-Caribbean female presents with a non-traumatic swollen left knee. A knee aspirate reveals numerous polymorphs and gram negative diplococci. What is the likeliest cause of infection?

1- H. influenzae 2- N. gonorrhoeae 3- N. meningitidis 4- S. aureus 5- S. pyogenes

Q3500. A 34-year-old female is admitted to hospital with neutropenic sepsis following recent chemotherapy for acute myeloid leukaemia. Cultures are taken and she is commenced on intravenous tazobactam/piperacillin and gentamicin. Five days later her fever is still persisting and a chest x ray reveals patchy infiltrates throughout both lung fields. What is the likeliest diagnosis?

1- Hospital-acquired bacterial pneumonia

2- Influenza

**3- Invasive aspergillosis**

4- PCP

5- Pulmonary TB

Q3501. A healthcare worker sustained a needle stick injury from a known HIV seropositive patient not taking antiretroviral therapy. Assuming the healthcare worker is HIV seronegative, what is the risk of transmission?

1- 1/3

2- 1/30

**3- 1/300**

4- 1/3000

5- 1/30000

Q3502. A 62-year-old man who has recently had his medication for hypertension altered presents with flushing, stridor, shortness of breath and hypotension. He comes to the emergency department and receives intravenous hydrocortisone, intramuscular adrenaline, and intravenous antihistamine. After a slow recovery he is discharged home for planned review at the allergy clinic. Which of the following medications is most likely to be responsible for his presentation?

1- Amlodipine

2- Atenolol

3- Bendroflumethiazide

4- Doxazosin

**5- Ramipril**

Q3503. A 24-year-old nurse is admitted to the Emergency department with symptoms of anaphylaxis. She is known to be allergic to latex and collapsed whilst having a fruit salad for her lunch with colleagues. You suspect that she has the latex fruit syndrome. On examination her BP is 95/60 mmHg and her pulse is 105. She has audible stridor and a very flushed facial appearance. She responds to treatment with IV hydrocortisone, nebulised salbutamol and s/c adrenaline. Which of the following inflammatory mediators is thought to be important in anaphylaxis?

1- IL1

2- IL2

**3- IL4**

4- IL6

5- IL10

Q3504. Class I major histocompatibility complexes (MHC s) react with which of the following on T cells to result in immune system activation?

1- CD 1

2- CD 2

3- CD 5

**4- CD 8**

5- CD 10

Q3505. Class II major histocompatibility complexes (MHC s) are present on which of the following cells?

**1- B cells**

2- Erythrocytes

3- Natural killer cells

4- Platelets

5- Resting T cells

Q3506. The Mantoux reaction is an example of which type of hypersensitivity reaction?

1- Humoral immune response

2- Type I hypersensitivity

3- Type II hypersensitivity

4- Type III hypersensitivity

**5- Type IV hypersensitivity**

Q3507. Are the following true regarding leukotrienes?

1- Are formed from the cyclo-oxygenase pathway

2- Are synthesised by fibroblasts

3- Decrease vascular permeability

4- Leukotriene D4 has been identified as SRS-A which causes bronchial wall smooth muscle relaxation

**5- Stimulate mucus secretion**

Q3508. A healthcare worker sustained a needle stick injury from a known hepatitis B chronic carrier of high infectivity. Assuming the healthcare worker is susceptible to hepatitis B, what is the risk of transmission?

**1- 1/3**

2- 1/30

3- 1/300

4- 1/3000

5- 1/30000

Q3509. Which of the following is true regarding the genetics of bronchial asthma?

1- Genetic linkage is to a single chromosome 13

2- Leukotriene concentrations are influenced by genetic factors

3- Mendelian recessive inheritance

4- Similar concordance in monozygotic and dizygotic twins

**5- There is a contribution from HLA alleles**

Q3510. A 43-year-old United Kingdom born HIV seropositive patient is admitted to hospital with a three week history of fever, weight loss and night sweats. He had been non-compliant with his antiretroviral therapy. On admission CD4 count was 35 x 106 /l and CXR normal. What is the likeliest cause of his fevers?

1- Cryptococcus neoformans

**2- Mycobacterium avium**

3- Mycobacterium tuberculosis

4- Salmonella enteritidis

5- Streptococcus pneumoniae

Q3511. A 45-year-old female presents with symptoms and signs suggestive of a pyelonephritis. A MSU reveals +++ WBCs and a heavy growth of an extended spectrum beta-lactamase (ESB L) producing Escherichia coli is isolated. What is the most appropriate treatment?

1- Amoxicillin

2- Ciprofloxacin

3- Co-amoxiclav

**4- Imipenem**

5- Trimethoprim

Q3512. Which one of the following is correct concerning mast cells?

1- Are lipophilic cells involved in inflammatory and immune responses

2- Cross-linkage of surface IgA molecules by antigen may cause an anaphylactic reaction

**3- Degranulation releases lytic enzymes and inflammatory mediators from storage granules**

4- Depletion of circulating mast cells can cause mastocytosis

5- Do not contain heparin

Q3513. A 22-year-old female develops a wheeze and extensive rash whilst eating a Chinese takeaway. On examination, she has extensive wheeze and stridor, with urticaria covering her upper and lower limbs and trunk. Her BP is 80/45 mmHg. What is the likely diagnosis?

1- C1 esterase deficiency

2- Food poisoning

3- Idiopathic urticaria

4- Monosodium glutamate syndrome

**5- Peanut allergy**

Q3514. Which of the following statements regarding B-type natriuretic peptide (BN P) is correct?

1- BNP augments sodium reabsorption in the kidney

**2- BNP causes arterial and venous smooth muscle vasodilatation**

3- BNP is synthesised predominantly in the cerebrovascular circulation

4- BNP synthesis is decreased by thyroid hormone

5- The stimulus for BNP release is increased ventricular pressure load

Q3515. A 55-year-old nurse developed bronchospasm and urticaria twenty minutes into surgery under general anaesthesia. The mast cell tryptase concentration confirmed an acute allergic reaction. Later, it transpired that she had developed allergic reactions at her dentist and had developed frequent episodes of wheezing when assisting at sterile procedures. What is the most likely diagnosis?

1- Allergy to anaesthetic induction agents

2- Allergy to local anaesthetic agents

**3- Latex allergy**

4- Pressure urticaria

5- Systemic mastocytosis

Q3516. Which of the following statements is true of xenotransplantation?

1- Has not yet been performed in humans

2- Is characterised by a vigorous early cellmediated immune response

**3- Is the transfer of organs between species**

4- Is the transfer of tissue grown in-vitro

5- Requires a close HLA match

Q3517. Which of the following statements concerning the thymus is true?

1- A proportion of alpha/beta+ thymocytes undergo isotype switching to produce gamma/delta+ T cells.

2- CD4/CD8 double positive cells are eliminated by a process of negative selection.

3- Mature thymocytes express surface IgM and IgD.

4- The majority of cortical thymocytes express either CD4 or CD8.

**5- Thymocytes whose TcR bind with high affinity to self Ag/MHC complexes are clonally deleted.**

Q3518. A 50-year-old African-American woman presents with episodic toe and finger problems characterised by pallor, cyanosis, suffusion and pain of the fingers and toes in response to cold. She later develops difficulty in swallowing and dyspnoea. Inspiratory crackles are heard on auscultation. Which of the following immunological investigations is the most specific for this lady's condition?

1- Anticentromere antibody

2- Anti-ds DNA antibody

**3- Antitopoisomerase I (Scl-70) antibody**

4- Rheumatoid factor

5- Topoisomerase I

Q3519. A healthcare worker sustained a needle stick injury from a known chronic hepatitis C carrier who has not been previously treated. Assuming the healthcare worker is hepatitis C negative, what is the risk of transmission?

1- 1/3

**2- 1/30**

3- 1/300

4- 1/3000

5- 1/30000

Q3520. Which of the following cell types have a prime role in recognising and destroying virus infected cells in an HLA class I-restricted manner?

1- B cells

**2- CD8+ T lymphocytes**

3- Dendritic cells

4- Macrophages

5- Platelets

Q3521. A 45-year old UK born male presents with a swollen left knee two months after an arthroscopy. A knee aspirate reveals ++PCs and ++ Gram positive cocci in clumps. What is the likeliest cause of infection?

1- H. influenzae 2- N. gonorrhoeae 3- N. meningitidis 4- S. aureus 5- S. pyogenes

Q3522. A 65-year-old smoker presents to a respiratory clinic with a four week history of cough and weight loss. CXR appears normal. Mycobacterium avium is cultured from a sputum sample. What is the next appropriate investigation?

1- Bronchoscopy

2- CT scan of chest

3- Interferon-gamma releasing assay

4- Sputum for AFB examination

**5- Sputum for M/C&S**

Q3523. Which of the following statements is true about immunological reactions?

1- Angioneurotic oedema is the most severe form of type I reaction

**2- Deficiencies in the terminal components of complement increase the risk of meningococcal disease**

3- Graves' disease is caused by a type IV reaction

4- Serum sickness is caused by a type II reaction

5- Urticaria usually responds to cimetidine

Q3524. A 16-year-old female develops an urticarial reaction and is suspected of peanut allergy yet measurement of peanut-specific IgE antibodies on RAST testing is within the normal range. Which of the following would be the next most appropriate investigation?

1- C1 esterase concentrations

2- Food provocation testing

3- Mast cell degranulation testing

4- No other test necessary diagnosis can be secured on history

**5- Skin prick testing**

Q3525. A 37-year-old woman underwent a kidney transplant which 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- Ig A

2- Ig D

3- Ig E

**4- Ig G**

5- Ig M

Q3526. A 51-year-old man presents with wheals and urticaria. He takes a variety of medications. Which drug is the most likely to have caused this reaction?

**1- Aspirin**

2- Glyceryl trinitrate

3- Omeprazole

4- Paracetamol

5- Simvastatin

Q3527. Which of the following statements regarding the genetic and immunological basis of coeliac disease is correct?

1- 50% of patients are HLA-DQ 2 or HLA-DQ 8 positive

2- Alpha-gliadin specific CD8 cells can be identified in the intestinal wall of untreated patients with coeliac disease

3- Cow's milk proteins may precipitate an immune-related enteropathy indistinguishable from coeliac disease

**4- Tissue transglutaminase generates the antigenic epitopes present in alpha-gliadin**

5- TNF-alpha plays a critical role in the inflammatory response in the intestinal wall of patients with untreated coeliac disease

Q3528. Which of the following concerning IgG is correct?

1- It has a molecular weight of 50,000 kd.

2- It is monovalent.

**3- It comprises the majority of circulating antibody in serum.**

4- It differs from other isotypes in not being able to cross the placental barrier.

5- It is the major antibody produced during the primary response.

Q3529. Which molecule is produced in the nucleus, matures in the cytoplasm, binds to the ribosome and initiates protein synthesis?

**1- Messenger RNA**

2- Ribosomal RNA

3- RNA nucleotide

4- RNA polymerase

5- Transfer RNA

Q3530. Where does RNA splicing occur?

1- Cytoplasm

2- Endoplasmic reticulum

3- Mitochondria

**4- Nucleus**

5- Ribosome

Q3531. Which of the following are found in eukaryotic and prokaryotic cells?

1- Chromosomes

2- Introns

3- Linear DNA

4- Nuclear membrane

**5- Ribosomes**

Q3532. In which one of the following conditions is deoxyribonucleic acid (DN A) analysis the most useful diagnostic test?

1- Adult polycystic kidney disease

2- Down's syndrome

**3- Huntington's chorea**

4- Hypertrophic obstructive cardiomyopathy

5- Klinefelter's syndrome

Q3533. Which one of the following has its own selfreplicating DNA?

1- Golgi body

2- Lysosomes

**3- Mitochondria**

4- Peroxisome

5- Rough endoplasmic reticulum

Q3534. Transcription RNA (tRN A) has three bases specific for a particular amino acid with which it binds to messenger RNA (mRN A) . Which of the following is this specific area of tRNA?

**1- Anticodon**

2- Codon

3- Exon

4- Intron

5- Transposon

Q3535. Which of the following is true of restriction enzymes?

1- Are involved in cell cycle arrest

**2- Cut DNA**

3- Degrade DNA

4- Join two pieces of DNA together

5- Synthesise DNA

Q3536. Which of the following is true regarding proteins known as cyclins?

**1- Are differentially expressed throughout the cell cycle**

2- Regulate antibody production

3- Regulate DNA transcription

4- Regulate the cycling of receptors between the cell surface and the cytoplasm

5- Regulate the menstrual cycle

Q3537. The level of cellular telomerase activity will affect which of the following?

1- Cell death

2- Cell survival

3- RNA synthesis

**4- The number of cell divisions a cell is capable of undergoing**

5- The rate of cell growth

Q3538. Is it true that phosphorylation of protein tyrosine residues is associated with the following?

1- Alzheimer's disease

**2- Cell signalling pathways**

3- Creutzfeldt-Jakob disease

4- Protein degradation

5- Protein synthesis

Q3539. Northern blotting is a technique that can be used to detect which of the following?

1- Antibodies

2- DNA

3- Plasmids

4- Protein

**5- RNA**

Q3540. Which of the following stimulate the generation of cyclic AMP as the second messenger?

**1- Cholera toxin**

2- Growth hormone (G H) 3- Nitric oxide

4- Pioglitazone

5- Tissue necrosis factor (TN F) alpha

Q3541. Apoptosis is the process of programmed cell death and occurs in cells that have damaged DNA. A mediator of this process is a tumour suppressor gene that inhibits mitosis and promotes apoptosis. This gene is which of the following?

1- BCL-2

2- Caspases

3- Fas (CD95)

**4- p53**

5- Ras

Q3542. A plasmid is best described as which of the following?

1- A recombinant section of DNA

2- A small viral particle

**3- Bacterial DNA separate from the chromosome**

4- Consisting of multiple copies of a single gene

5- Having multiple origins of replication

Q3543. The polymerase chain reaction (PC R) is used to amplify small amounts of deoxyribonucleic acid (DN A) for further analysis. First the DNA double helix must be split into two strands. By which of the following is this achieved?

1- Alkali solution

2- Centrifugation

3- DNA polymerase

**4- Heating to nearly 100°C**

5- Viral reverse transcriptase

Q3544. A patient is found to have an acquired syndrome associated with defective breakdown and disposal of intracellular fatty acids. Which intracellular organelle is concerned with the breakdown of fatty acids?

1- Golgi appartus

2- Lysosomes

3- Mitochondria

**4- Peroxisomes**

5- Smooth endoplasmic reticulum

Q3545. A 59-year-old woman presents with a two week history of back pain. On admission, WCC is 24 x 109 /L (4-11). MR scan reveals a thoracic spine discitis associated with an epidural abscess. What is the likeliest cause?

1- Brucella melitensis

2- Escherichia coli 3- M. tuberculosis

4- Methicillin-resistant S. aureus (MRS A) 5- Methicillin-sensitive S. aureus (MSS A)

Q3546. An 80-year-old man is admitted to hospital with a CVA. Due to incontinence secondary to immobility, a urinary catheter is inserted. Five days later the patient becomes severely septic. What is the likeliest cause of his sepsis?

1- Aspiration pneumonia

2- Clostridium difficile diarrhoea

3- Infected intravascular catheter

4- Infected pressure sores

**5- Urinary tract infection, catheter associated**

Q3547. A 69-year-old woman develops a fever 10 days after gastrointestinal surgery. She is receiving total parenteral nutrition (TP N) . Blood cultures grow Candida albicans. What is the likeliest source of her candidaemia?

1- Gastrointestinal (G I) tract

**2- Intravascular catheter**

3- None of these

4- Sputum

5- Urine

Q3548. A 59-year-old female presents with dizziness, malaise and a fluctuating Glascow coma score (GC S) . CT scan of the head is normal. CSF examination reveals the following: WCC 4480 (99% neutrophil s) < 1 RCC 700<1 Protein2.02g/L<0.4 Glucose 1.4 mmol/L (plasma glucose 5.6 mmol/ L) Blood cultures reveal Gram positive cocci in pairs. What is the likeliest cause of this patient's meningitis?

1- L. monocytogenes 2- N. meningitidis 3- S. agalactiae 4- S. aureus

**5- Streptococcus pneumoniae**

Q3549. A 43-year-old female presents with fever, headache and confusion. CT scan reveals a space occupying lesion. In theatre, pus is aspirated from the lesion and a Gram stain reveals a large number of polymorphs, and gram positive cocci in chains. What is the likeliest cause of this brain abscess?

1- Enterococcus faecalis

2- Group A Streptococci

3- Group B Streptococci 4- S. milleri

5- Streptococcus pneumoniae

Q3550. A 15 week pregnant woman is exposed to a family member with chickenpox. What is the most appropriate next step?

1- Advise serial ultrasound scans

**2- Check varicella zoster IgG status**

3- Counsel high risk of congenital varicella syndrome

4- Give varicella zoster immunoglobulin (VZI g) 5- Reassure

Q3551. A patient with TB is receiving the following drugs as induction phase during treatment; rifampicin, isoniazid, pyrazinamide, ethambutol and pyridoxine. Which drug is most likely to cause peripheral neuropathy?

1- Ethambutol

**2- Isoniazid**

3- Pyrazinamide

4- Pyridoxine

5- Rifampicin

Q3552. What is the mechanism of resistance for rifampicin resistant Mycobacterium tuberculosis?

1- Alteration in cell wall permeability

**2- Alteration of the DNA dependent RNA transcriptase**

3- Alteration of penicillin binding proteins (PBP s) 4- Efflux mechanism

5- Production of the inactivating enzyme, penicillinase

Q3553. What is the mechanism of resistance for penicillin resistant Streptococcus pneumoniae?

1- Alteration in cell wall permeability

2- Alteration of the DNA dependent RNA transcriptase

**3- Alteration of penicillin binding proteins (PBP s) 4- Efflux**

5- Production of the inactivating enzyme, penicillinase

Q3554. A 45-year-old male intravenous drug user (IVD U) presents to hospital with fever and a productive cough. On examination, a pansystolic murmur is heard at the left sternal edge. CXR reveals multiple cavitatory lesions. What is the likeliest explanation?

1- Aortic valve endocarditis with embolisation

2- Aspiration pneumonia

3- Mitral valve endocarditis with embolisation

4- Pulmonary TB

**5- Tricupsid valve endocarditis with embolisation**

Q3555. A patient is diagnosed with an abnormality of oligopeptide disposal. Which intracellular organelle is associated with the metabolism of oligopeptides?

1- Golgi apparatus

**2- Lysosomes**

3- Peroxisomes

4- Ribosomes

5- Smooth endoplasmic reticulum

Q3556. A 45-year-old Ghanaian man presents to hospital with a right sided middle lobe pneumonia. Streptococcus pneumoniae is isolated from blood cultures. What is the likeliest underlying association?

1- Common variable immunodeficiency (CVI D) 2- HIV

3- HTLV-1

4- IgA deficiency

5- Terminal complement deficiency

Q3557. A 45-year-old Indian man is seen by his GP with oropharyngeal candidiasis and treated with fluconazole. One month later he developed a dry cough, night sweats and shortness of breath (SO B) on exertion. On admission to hospital CXR revealed bilateral ground glass shadowing. What is the likeliest diagnosis?

1- Late onset asthma

2- Pneumococcal pneumonia

**3- Pneumocystis carinii pneumonia (PC P) 4- Tuberculosis (T B) 5- Viral pneumonitis (H1N1)**

Q3558. An 85-year-old woman was admitted to hospital complaining of a swollen right leg. On examination she had extensive right leg erythema with blisters. Subsequently she became confused and hypotensive and was transferred to ITU for ventilation and ionotropic support. What is the likeliest cause of her condition?

1- Group C Streptococcus

2- Group G Streptococcus

3- MRSA 4- S. aureus 5- S. pyogenes (Group A Streptococcu s)

Q3559. A multiple drug resistant Escherichia coli was isolated from the urine of a patient with severe sepsis. What is the likely mechanism of resistance?

1- Alteration of drug target

2- Drug efflux

3- Drug impermeability

**4- Extended spectrum beta-lactamase (ESB L) production**

5- Penicillinase production

Q3560. A 15 week pregnant woman is exposed to a family member with an erythematous rash. She has previously been immunised with MMR twice. What is the most appropriate next test?

1- CMV IgG

**2- Erythrovirus B19 IgG**

3- Measles IgG

4- Rubella IgG

5- Toxoplasma IgG

Q3561. A 43-year-old Nigerian presents with an eight month history of weight loss, fever and night sweats. On examination she had left axillary lymphadenopathy. What is the likeliest cause of her illness?

1- Carcinoma of the breast

2- HIV infection

3- Lymphoma

4- SLE

**5- Tuberculosis (T B)**

Q3562. A patient with multiple drug resistant (MD R) TB is receiving prolonged treatment with moxifloxacin. Which side effect is likely to occur as a result of prolonged administration?

**1- Achilles tendinitis**

2- Hepatotoxicity

3- Nephrotoxicity

4- Peripheral neuropathy

5- Retinopathy

Q3563. Gentamicin, 7 mg/kg once daily, is administered to an elderly patient with severe urosepsis. Twenty-four hours post administration gentamicin levels are more than 2 mg/l. Which of the following complications would you expect?

1- Hepatotoxicity

**2- Nephrotoxicity**

3- Ototoxicity

4- Peripheral neuropathy

5- Retinopathy

Q3564. What is the mechanism of action of ciprofloxacin?

1- Cell wall inhibition

2- Inhibition of protein synthesis (translatio n) 3- Inhibition of protein synthesis (transcriptio n) 4- Inhibition of folic acid metabolism

**5- Interference with DNA replication**

Q3565. What is the mechanism of action of trimethoprim?

1- Cell wall inhibition

2- Inhibition of protein synthesis (translatio n) 3- Inhibition of protein synthesis (transcriptio n) 4- Inhibition of folic acid metabolism

5- Interference with DNA replication

Q3566. What is the mechanism of action of glycopeptides (for example, vancomyci n) ?

**1- Cell wall inhibition**

2- Inhibition of protein synthesis (translatio n) 3- Inhibition of protein synthesis (transcriptio n) 4- Inhibition of folic acid metabolism

5- Interference with DNA replication

Q3567. What is the mechanism of action of gentamicin, when used synergistically with benzylpenicillin to treat an infective endocarditis caused by Streptococcus viridans?

1- Cell wall inhibition

**2- Inhibition of protein synthesis (translatio n) 3- Inhibition of protein synthesis (transcriptio n) 4- Inhibition of folic acid metabolism**

5- Interference with DNA replication

Q3568. You would be likely to observe the lowest heritability score in:

1- Cleft lip/palate

2- Congenital heart disease

3- Cystic fibrosis

**4- Mumps**

5- Spina bifida

Q3569. A 17-year-old male who appears tall and thin for his age, presents with a high arch palate, chest wall deformities and livedo reticularis. Which of the following is also associated with this syndrome?

1- Autosomal dominance

**2- Methionine accumulation**

3- Osteopetrosis

4- Positive Guthrie test

5- Upward dislocation of the lens

Q3570. Which of the following conditions is most likely to be detectable by growth monitoring?

1- Hyperthyroidism

**2- Hypothyroidism**

3- Insulin dependent diabetes mellitus

4- Pseudohypoparathyroidism

5- XYY syndrome

Q3571. A 69-year-old patient is admitted for routine hernia surgery. Pre-operatively, his serum sodium concentration is 122 mmol/l. The surgical team have asked for medical advice regarding the cause of his hyponatraemia. You have assessed him and believe he has diureticinduced hyponatraemia and dehydration. According to guidelines, which fluid should be used to resuscitate him?

1- 0.45% Saline

2- 0.9% Saline

3- 5% Dextrose

4- Gelofusine

**5- Hartmann's solution**

Q3572. Which physiological mechanism controls water loss (aquaresi s) without loss of sodium (natriuresi s) ?

**1- Arginine vasopressin**

2- Atrial natriuretic peptides

3- Renal glomerular filtration rate

4- Renin-angiotensin-aldosterone system (RAA S) 5- Thirst

Q3573. Which gut hormone promotes the synthesis of intrinsic factor?

1- Cholecystokinin (CC K) 2- Gastric inhibitory peptide (GI P) 3- Gastrin

4- Secretin

5- Vasoactive intestinal peptide (VI P)

Q3574. A 22-year-old woman is admitted with symptoms of shortness of breath, facial and laryngeal oedema, erythema and hypotension consistent with anaphylaxis. She had been stung by a wasp and remembers a very severe reaction in which her whole forearm swelled up the last time she was stung by a wasp some three years earlier. Production of which of the following cytokines is most likely to be involved in the pathogenesis of this patient's condition?

1- IL-2

**2- IL-4**

3- IL-18

4- Interferon alpha

5- Interferon gamma

Q3575. You are designing a study of a novel autoimmune modulator which shows promise in the treatment of rheumatoid arthritis with extra-articular manifestations, such as pleural effusion. As a possible test to define which population is suitable, you are considering human leucocyte antigen (HL A) subtyping. Which HLA antigen type is associated with this type of presentation?

1- DQ-2

2- DR-1

3- DR-2

4- DR-3

**5- DR-4**

Q3576. Which of the following is true of autosomal dominant breast cancer?

1- Autosomal dominant breast cancer affects females but not males

**2- BRCA 2 mutations increase the risk of prostate cancer**

3- Females with the BRCA1 mutation will develop breast cancer

4- It accounts for nearly half of all breast cancer cases in the United States

5- Penetrance is close to 100%, with nearly all gene carriers developing breast cancer by age 80

Q3577. Which of the following is typically elevated in Gaucher's disease?

**1- Acid phosphatase**

2- Alkaline phosphatase

3- Amylase

4- Glucocerebrosidase

5- Lipase

Q3578. Alpha-glucosidase is defective in which of the following disorders?

1- Andersen disease (glycogen storage disorder type 4)

2- Cori's disease (glycogen storage disorder type 3)

3- McArdle's disease (glycogen storage disorder type 5)

**4- Pompe's disease (glycogen storage disorder type 2)**

5- Von Gierke's disease (glycogen storage disorder type 1)

Q3579. A 78-year-old man who lives alone and prepares his own food is found to have numerous ecchymotic haemorrhagic areas around his hair follicles. The hairs are fragmented and several haematomas are present in the muscles of the arms and legs. Except for the absence of teeth, the rest of the physical examination is unremarkable. Laboratory examination reveals a normal prothrombin time, APTT and full blood count is normal except for a haematocrit of 28%. eficiency of which of the following is most likely to explain this patient's presentation?

1- Folate

2- Vitamin A

**3- Vitamin C**

4- Vitamin K

5- Zinc

Q3580. Which of the following suggests a diagnosis of Hurler's syndrome rather than Hunter's syndrome?

1- Cardiomyopathy

**2- Cloudy cornea**

3- Mental retardation

4- Skeletal abnormalities

5- X linked inheritance

Q3581. Which of the following is true regarding chromosomes?

1- A fetus with triploidy will have 47 chromosomes

2- Down's syndrome is most commonly due to an extra copy of chromosome21 inherited from the father

3- Heterochromatin is mostly composed of active genes

4- Telomeres provide the point of attachment to the mitotic spindle

**5- The normal human karyotype contains 22 pairs of autosomes**

Q3582. You are looking after a 48-year-old patient with alcohol-related liver disease and varices. She was admitted the previous day with haematemesis and is currently nil-by-mouth awaiting an endoscopy with variceal banding. She weighs 50 kg. Her blood test results are as follows: Test result reference range: Na 122 mmol/l135-145 K 4.2 mmol/l3.5-5.2 Creatinine 82 µmol/l80-120 You wish to assess her requirements for IV fluids, while she is nil-by-mouth. What is her daily potassium requirement?

1- None

2- 10 mmol/l

3- 25 mmol/l

**4- 50 mmol/l**

5- 120 mmol/l.

Q3583. What serious complication can occur when hyponatraemia is corrected too rapidly?

**1- Cerebral demyelination**

2- Cerebellar dysarthria

3- Gait disturbance

4- Peripheral neuropathy

5- Postural hypotension

Q3584. Which of the following situations can cause a reduction in total body magnesium content?

1- Acute pancreatitis

**2- Long term treatment with omeprazole**

3- Myocardial infarction

4- Recovery from diabetic ketoacidosis

5- Refeeding syndrome

Q3585. Which gut hormone is made in the I cells of the duodenum and jejunum?

**1- Cholecystokinin (CC K) 2- Gastric inhibitory peptide (GI P) 3- Gastrin**

4- Secretin

5- Vasoactive intestinal peptide (VI P)

Q3586. What is the most characteristic symptom of hypocalcaemia?

1- Abdominal pain due to peptic ulceration

2- Polyuria and polydipsia

3- Renal calculi

**4- Tetany**

5- Weakness due to hypokalaemia

Q3587. Parents of a 6-year-old boy present concerned that their son may be carrying the gene for Huntington's disease. The father was diagnosed with the disease at age 32. The mother has been genetically screened and is not a carrier of the gene. What is the likelihood of their son suffering with Huntington's disease?

1- 0 risk

**2- 1 in 2**

3- 1 in 4

4- 1 in 8

5- 3 in 4

Q3588. It has been suggested that cystic fibrosis (C F) (autosomal recessiv e) has a high prevalence in some populations because heterozygotes are resistant to the effects of chloride-secreting diarrhoea. This is best described as an example of:

1- Gene flow

2- Genetic drift

3- Linkage disequilibrium

4- Mutation

**5- Natural selection**

Q3589. What test is used to confirm the diagnosis of Gaucher disease?

1- Abdominal ultrasound

2- Alkaline phosphatase

3- Bone marrow biopsy with Gaucher's cells identified

4- Clinical examination

**5- Enzyme studies of blood leucocytes**

Q3590. Which one of the following statements regarding X-linked recessive diseases is correct?

1- Are not usually associated with immune deficiency

2- Are usually associated with male infertility

**3- Can occur with equal severity in males and females**

4- Do not show anticipation

5- Include G6PD deficiency, ornithine transcarbamylase deficiency, hypophosphataemic rickets and von Willebrand's disease

Q3591. Which of the following is a characteristic feature of acute intermittent porphyria?

1- Autosomal recessive inheritance

2- Excessive faecal protoporphyrin excretion

**3- Excessive urinary porphobilinogen during an acute attack**

4- Hypernatraemia during attacks

5- Photosensitivity

Q3592. Which of the following would be most in keeping with a diagnosis of polymyalgia rheumatica (PM R) ?

1- Erythema nodosum

**2- Increased alkaline phosphatase**

3- Raised creatine kinase (C K) 4- Shoulder and pelvic girdle pain in a 40-yearold man

5- Sudden loss of vision in one eye

Q3593. Which factor inhibits the release of growth hormone (G H) from the pituitary?

1- Fasting

2- Ghrelin

3- Hypoglycaemia

**4- Somatostatin**

5- Stress

Q3594. Hypermagnesaemia can occur during which of the following clinical situations?

1- Chronic administration of omeprazole

**2- Chronic kidney disease**

3- Refeeding syndrome

4- Untreated pre-eclampsia

5- Untreated renal calculi

Q3595. What is the mechanism of action of cyanide?

1- Inhibition of enzyme acetylcholinesterase

**2- Inhibition of enzyme cytochrome oxidase c**

3- Inhibition of enzyme pyruvate dehydrogenase

4- Prevention of mitochondrial replication

5- Promoting mutations in DNA

Q3596. Chronic alcohol abuse is typically associated with which abnormal laboratory results?

1- Hypermagnesaemia

**2- Increased carbohydrate deficient transferrin**

3- Microcytosis

4- Reduced AST:ALT ratio

5- Reduced iron and ferritin concentrations

Q3597. A previously well 35-year-old patient presents with anxiety and weight loss. Serum corrected calcium is 2.95 mmol/l. What is the most likely cause of his hypercalcaemia?

1- Addison's disease

2- Secondary hyperparathyroidism

**3- Thyrotoxicosis**

4- Vitamin D toxicity

5- Williams' syndrome

Q3598. Which apolipoprotein is characteristically found in low density lipoproteins (LD L) ?

1- Apo A-I

**2- Apo B-100**

3- Apo B-48

4- Apo C III

5- Apo E

Q3599. What is the treatment for life-threatening hypokalaemia?

1- 10 ml 10% calcium gluconate with IV 0.9% NaCL with 40 mmol/l KCl infused over four hours

2- 10 ml 10% calcium gluconate with oral Sando-K tablets

**3- 1L IV 0.9% NaCL with 40 mmol/l KCl infused over four hours**

4- Dialysis

5- Insulin and 50% dextrose infusion

Q3600. What is the main role of the gut hormone secretin?

1- Promotes gastric acid formation

**2- Promotes secretion of bicarbonate by the pancreas**

3- Reduces bile flow

4- Stimulates lipolysis and glycolysis

5- Vasodilatation and relaxation of smooth muscle in gut

Q3601. Which tumour marker has the highest specificity when used appropriately?

1- AFP

**2- Bence Jones protein**

3- CA 125

4- CA 19-9

5- LDH

Q3602. The CAPRIE study looked at whether aspirin or clopidogrel was most appropriate in patients at increased risk of cardiovascular disease to prevent the MACE composite endpoint, which consists of stroke, MI or cardiovascular death, re-hospitalisation or bleeding. A substudy looked at 3,866 patients with a history of diabetes and found an event rate of 17.7% for patients taking aspirin, versus 15.6% for patients taking clopidogrel. What is the number needed to treat (NN T) to prevent one event for patients taking clopidogrel versus aspirin?

1- 2.1

2- 15.6/17.7

**3- 100/2.1**

4- 100/15.6

5- 100/17.7

Q3603. A 24-year-old man presents to the clinic with his wife. They are keen to start a family, but are concerned because his brother suffers from hereditary haemorrhagic telangiectasia (HH T) and has suffered a number of upper GI haemorrhages over the past few years. Indeed, his father died of a large GI haemorrhage. He has suffered no bleeding episodes over the past few years and has no skin vascular abnormalities. On examination his blood pressure is normal at 125/72 mmHg, and there are no skin abnormalities. Physical examination is entirely normal. What is the approximate percentage chance of a male child of this couple inheriting HHT?

**1- 0%**

2- 25%

3- 50%

4- 66%

5- 100%

Q3604. A 26-year-old man presented with exertional thigh cramps. He described his urine turning to burgundy colour especially after prolonged exertion. Investigations in the recent past had excluded presence of any significant ischaemic or inflammatory condition affecting his lower limbs. On examination, pulse was 74 beats per minute, blood pressure was 122/66 mmHg, heart sounds were normal and there was no abnormal enlargement of any organ found on abdominal examination. Investigations showed: Serum urea 4.6 mmol/L (2.5-7.5) Serum creatinine 88 µmol/L (60-110) Serum corrected Calcium 2.32 mmol/L (2.

2- 2.6) Serum Phosphate 0.92 mmol/L (0.8-1.4) Serum creatine kinase 76 U/L (24-195) Urine tested positive for myoglobulin What is the next most appropriate investigation?

1- Bone marrow examination for gaucher's cells

2- Kidney biopsy

3- Liver biopsy

**4- Muscle biopsy**

5- Urine for porphyrins

Q3605. A 24-year-old man presented with exertional thigh cramps. He described his urine turning to burgundy colour especially after prolonged exertion. Investigations in the recent past had excluded the presence of any significant ischaemic or inflammatory condition affecting his lower limbs. On examination, his pulse was 74 beats per minute, blood pressure was 122/66 mmHg, heart sounds were normal and there was no abnormal enlargement of any organ found on abdominal examination. Investigations revealed: Serum urea 4.4 mmol/L (2.5-7.5) Serum creatinine 88 mol/L (60-110) Serum corrected Calcium 2.32 mmol/L (2.

2- 2.6) Serum Phosphate 1.3 mmol/L (0.8-1.4) Serum creatine kinase 88 U/L (24-195) Urine testpositive for myoglobulin What is the most likely diagnosis?

1- Acute intermittent porphyria

2- Alkaptonuria

3- Gaucher's disease

**4- Glycogen storage disease**

5- Multiple myeloma

Q3606. A 23-year-old obese female with known tuberculosis presents with ulcerating nodules on the back of her legs. Which of the following is the most likely diagnosis?

**1- Erythema induratum (E I) 2- Erythema marginatum**

3- Erythema nodosum

4- Lupus pernio

5- Lupus vulgaris

Q3607. This 35-year-old woman developed this rash associated with facial swelling three weeks after she was started on oral carbamazepine for new-onset epilepsy. She was also found to be febrile and had raised liver enzymes. What treatment will she require?

**1- High-dose oral corticosteroids**

2- Intravenous immunoglobulins

3- Oral antibiotics

4- Oral anti-fungals

5- Topical corticosteroids

Q3608. This 35-year-old woman developed this rash associated with facial swelling three weeks after she was started on oral carbamazepine for new-onset epilepsy. She was also found to be febrile and had raised liver enzymes. What is her diagnosis?

1- Angioedema

**2- Drug reaction with eosinophilia and systemic symptoms (DRES S) 3- Fixed drug eruption**

4- Toxic epidermal necrolysis

5- Viral exanthem

Q3609. This child has this facial abnormality present since birth. What other medical problems might she suffer from?

1- Aortic coarctation

**2- Epilepsy**

3- Liver haemangiomas

4- Posterior fossa abnormality

5- Renal artery stenosis

Q3610. A 16-year-old boy has severe inflammatory acne that has not responded to treatment with oral antibiotics. His dermatologist has decided to start him on oral isotretinoin. Which of the following pairs of laboratory tests are required before and during treatment with oral isotretinoin?

**1- Liver function tests and fasting lipid levels**

2- Liver function tests and platelet levels

3- Platelet levels and serum electrolytes

4- Serum electrolytes and fasting lipid levels

5- Serum electrolytes and liver function tests

Q3611. A young male presented with multiple nontender umbilicated papules in the suprapubic region and the scrotum. What is the most likely diagnosis?

1- Folliculitis

2- Lichen planus

**3- Molluscum contagiosum**

4- Psoriasis

5- Verruca vulgaris

Q3612. A young female presented with multiple nontender, non-scaly, verrucous lesions on the leg and foot. What is the most likely diagnosis?

1- Folliculitis

2- Lichen planus

3- Molluscum contagiosum

4- Psoriasis

**5- Verruca vulgaris**

# Chapter 23 2012 Ethics and law

Q3613. A patient presents with multiple vesicular lesions surrounded by erythema as shown following ingestion of sulfamethoxazoletrimethoprim. What is the most likely diagnosis?

**1- Erythema multiforme**

2- Fixed drug eruption

3- Herpes zoster

4- Irritant contact dermatitis

5- Toxic epidermal necrolysis

Q3614. A young HIV positive male presented with white discoloration of the nail plate. What is the most likely diagnosis?

**1- Candidal onychomycosis**

2- Chronic paronychia

3- Irritant contact dermatitis

4- Pachyonychia congenita

5- Psoriatic nail dystrophy

Q3615. A 12-year-old child presents with an itchy rash around her ears which develops 24 to 48 hours after wearing earings. She gives history of past episodes of similar complaints. What is the most likely diagnosis?

**1- Allergic contact dermatitis**

2- Folliculitis

3- Herpes zoster

4- Irritant contact dermatitis

5- Paederus dermatitis

Q3616. Which of the following suggests a diagnosis of molluscum contagiosum rather than chickenpox?

**1- Absence of erythema surrounding lesions**

2- Lesions disappearing within a month

3- Positive contact history

4- Presence of macules and papules

5- Presence of pruritis

Q3617. A 30-year-old farmer from a tropical country presented with painless swelling of his foot of six months duration. He volunteered a history of a trivial trauma while working his fields eight to nine months back. Following the injury he noticed a gradually progressive painless swelling in the mid sole which subsequently discharged black grains from sinuses which developed over the swelling. Plain radiograph revealed soft tissue swelling with a well preserved skeletal architecture. What is the most likely diagnosis?

1- Folliculitis

2- Impetigo

3- Lupus vulgaris

**4- Mycetoma foot**

5- Osteomyelitis

Q3618. A 16-year-old boy presents with scaly patches on his scalp. Examination reveals well-circumscribed, circular areas of hair loss, 2-5 cm in diameter with scaling and raised margins. There is no scarring. What is the most likely cause in this patient?

1- Discoid lupus erythematosus

2- Lichen planus

3- Morphoea

4- Systemic lupus erythematosus

**5- Tinea capitis**

Q3619. A 22-year-old female returns from a fortnight holiday in Cyprus with a tan and numerous scaly hypopigmented lesions on the neck and upper trunk. What is the most likely diagnosis?

1- Chronic plaque psoriasis

2- Discoid eczema

3- Pityriasis rosea

**4- Pityriasis versicolor**

5- Seborrhoeic dermatitis

Q3620. A 70-year-old female presents with a four month history of a dry, pruritic rash affecting the upper back and shins. What is the most appropriate initial management of this patient?

1- Avoidance of contact irritants

**2- Emollients**

3- Skin biopsy

4- Take a detailed history to ascertain contact allergen

5- Topical corticosteroids

Q3621. A 17-year-old boy is diagnosed with scabies. Which of the following statements regarding scabies is correct?

1- Is best treated by salicylate emulsion

2- It can be spread by a droplet infection

**3- It causes itchiness in the skin even where there is no obvious lesion to be seen**

4- It is caused by Staphylococcus aureus

5- Typically affects the face

Q3622. A 60-year-old woman presents with raised, erythematous lesions on the limbs and blistering in the mouth and eyes. She had been taking a number of drugs prescribed by her GP. Which may be responsible for her presentation?

1- Nifedipine

2- Paracetamol

3- Paroxetine

4- Prednisolone

**5- Sulfasalazine**

Q3623. A 50-year-old man presented in the summer complaining of itching and blistering of his hands and forehead. On examination there were small areas of excoriation on the backs of his hands. What is the most likely diagnosis?

1- Dermatitis herpetiformis

2- Lupus erythematosus

3- Pemphigoid

4- Pemphigus

**5- Porphyria cutanea tarda (PC T)**

Q3624. Which of the following concerning pityriasis rosea is correct?

**1- It is characterised by flat scaly patches**

2- It is due to a fungal infection

3- It is frequently associated with oro-genital itching

4- May be preceded by intense itching

5- Tends to recur after apparent cure

Q3625. A 75-year-old female presents with generalised erythema and pustule formation. She has a history of psoriasis and has recently been treated with oral prednisolone for asthma. What is the most appropriate next course of action?

**1- Admission to hospital**

2- Patch testing

3- Psoralen with ultraviolet-A therapy (PUV A) 4- Skin biopsy

5- Treatment with erythromycin as an outpatient

Q3626. A 45-year-old woman is admitted with a spiking temperature and sweats. She has been unwell for the last three weeks with flitting arthralgia and lethargy. There is a rash over her trunk which is most prevalent in the mornings. Blood cultures are sterile. Her recent transthoracic echocardiogram is normal. ESR is 56 mm/hour. Her ferritin is elevated at 6000 mg/l. Autoimmune screen is negative. What is the likely diagnosis?

**1- Adult onset Still's disease**

2- Bacterial endocarditis

3- Meningitis

4- Rheumatoid arthritis

5- Systemic lupus erythematosus

Q3627. A 12-year-old girl has severe atopic dermatitis which has not been well controlled with topical treatments, despite good compliance. Her dermatologist has decided to start her on treatment with oral ciclosporin. Which of the following parameters needs to be regularly monitored while she is on treatment with ciclosporin?

1- Blood glucose levels

**2- Blood pressure**

3- Bone age

4- Height

5- Pubertal staging

Q3628. Deficiency of which one of the following trace elements is implicated as a cause of cardiomyopathy?

1- Chromium

2- Copper

3- Manganese

**4- Selenium**

5- Zinc

Q3629. A young 3-month-old presented with a rash of two days' duration along lips, nose and adjacent right cheek. The mother gave history of a short febrile illness preceding the rash. Past history of similar complaints was present. What is the most likely diagnosis?

1- Allergic contact dermatitis

2- Folliculitis

3- Hand, foot and mouth disease

**4- Herpes simplex**

5- Impetigo

Q3630. A 30-year-old mother with her 6-year-old daughter presents with itching of the scalp with hair loss of one month duration. Examination revealed patches of partial alopecia, sharply cut off circular in shape, with numerous broken-off, dull grey hairs in the alopecic patches. Wood's lamp examination revealed green fluorescence. What is the most likely diagnosis?

1- Alopecia areata

2- Seborrhoeic dermatitis

3- Secondary syphilis

**4- Tinea capitis**

5- Trichotillomania

Q3631. Which of the following is true regarding diabetic foot ulceration?

1- Autonomic neuropathy results in reduced peripheral blood flow

**2- Callus formation at pressure areas is an important predictor of ulceration**

3- Plantar ulceration is most commonly due to atherosclerosis

4- Skin infection is the most common initiating event in ulceration

5- Radiography can readily distinguish between Charcot's joint and osteomyelitis

Q3632. A 59-year-old patient of South Asian origin presents with a widespread blistering rash. Which of the following features would be consistent with a diagnosis of pemphigus?

1- Acanthosis

2- Blisters arising within the subepidermal area

3- IgA antibodies

**4- Oral involvement**

5- Treatment with methotrexate

Q3633. An 82-year-old lady had a history of a red facial rash and has suffered with venous eczema of the legs. She was treated for acne rosacea. On examination, she was noted to have bluegrey discolouration of both legs. What drug is most likely to have caused this?

1- Amiodarone

2- Ciprofloxacin

3- Doxycycline

**4- Minocycline**

5- Oxytetracycline

Q3634. A 35-year-old woman presents with a facial rash which had been present for one year. On examination she had erythematous, scaly, indurated plaques on both cheeks with areas of scarring alopecia. Hyperkeratosis over dilated hair follicles was also seen. What is the diagnosis?

1- Acne rosacea

**2- Discoid lupus erythematosus**

3- Impetigo

4- Lupus pernio

5- Psoriasis

Q3635. A 74-year-old man with a thirty year history of psoriasis presented with generalised erythroderma of three days duration. Examination reveals him to be shivering but otherwise well. He was treated as an inpatient with emollients and attention to fluid replacement and temperature control but failed to improve after five days. What is the most appropriate next treatment?

1- Oral hydroxychloroquine

**2- Oral methotrexate**

3- Oral prednisolone

4- Topical coal tar

5- Topical Dithranol

Q3636. Which of the following is true of cutaneous anthrax?

1- Causes a black eschar which overlies pus

2- Is very likely to occur in subjects exposed to anthrax spores

**3- Lesions are associated with marked oedema**

4- Lesions are usually painful and tender

5- Mortality is approximately 20% despite antibiotic therapy

Q3637. Which of the following is aggravated by exposure to sunlight?

1- Acne vulgaris

2- Acute intermittent porphyria

**3- Pellagra**

4- Pseudoxanthoma elasticum

5- Psoriasis

Q3638. A 25-year-old woman has just been diagnosed with chronic cutaneous lupus erythematosus. She has no other clinical or laboratory evidence to suggest systemic involvement. Apart from advice on sun avoidance, her dermatologist has decided to start her on oral hydroxychloroquine. While on treatment with hydroxychloroquine, she requires pre-treatment evaluation and regular monitoring by which of the following specialists?

1- Cardiologist

2- Gastroenterologist

3- Haematologist

4- Neurologist

**5- Ophthalmologist**

Q3639. A 3-year-old child is brought to you with a boggy swelling over the scalp with multiple pustules surmounting the swelling along with alopecia. What is the most likely diagnosis?

1- Favus

2- Folliculitis

3- Impetigo

**4- Kerion**

5- Seborrheic dermatitis

Q3640. An elderly male presented with dystrophic nail plates as shown along with an itchy rash of six months' duration on the adjacent areas of the fingers and both groins. What is the most likely diagnosis?

1- Chronic Paronychia

2- Irritant contact dermatitis

**3- Onychomycosis**

4- Pachyonychia congenita

5- Psoriatic nail dystrophy

Q3641. A middle aged female patient presented an anaesthetic plaque on the face of three months duration. What is the most likely diagnosis?

1- Granuloma annulare

**2- Hansen's disease**

3- Sarcoidosis

4- Tertiary syphilis

5- Urticaria

Q3642. A young child with a known case of plain warts on the face developed the shown linear distribution of the lesions. What is this phenomenon called?

1- Auspitz' sign

2- Carpet tack sign

3- Gorlin sign

**4- Koebner phenomenon**

5- Raynaud's phenomenon

# Chapter 24 2012 Psychiatry

Q3643. A middle aged male farmer presented with multiple itchy inflammatory lesions over the chin. He volunteered a history of working at a cattle farm. What is the most likely diagnosis?

1- Allergic contact dermatitis

2- Carbuncle

3- Folliculitis

**4- Kerion**

5- Sycosis

Q3644. A 5-year-old boy was brought in with crops of asymptomatic rash over the trunk of two months' duration. Examination revealed skin coloured to pearly white and hemispherical to umbilicated papular lesions. Each one is approximately 4 mm in diameter and there are approximately 20 of these lesions present. What is the most likely diagnosis?

1- Cutaneous cryptococcosis

2- Folliculitis

3- Herpes simplex

**4- Molluscum contagiosum**

5- Warts

Q3645. An 18-year-old woman attends antenatal clinic 12 weeks into her pregnancy where the doctor incidentally notes numerous small lumps over her trunk and freckles in her axillae. She reported that none of her relatives had any similar features. What is the most likely diagnosis?

1- Acanthosis nigricans

2- Dysplastic naevus syndrome

3- Mastocytosis

**4- Neurofibromatosis**

5- Tuberous sclerosis

Q3646. This 8-year-old boy presents with a bizarre pattern of non-scarring hair loss which started about one year ago. He has no other systemic complaints. On examination, you notice short hairs of different lengths within the areas of alopecia. What is your most likely diagnosis?

1- Androgenetic alopecia

2- Alopecia areata

3- Secondary syphilis

4- Telogen effluvium

**5- Trichotillomania**

Q3647. A 16-year-old boy presents with erythema nodosum. Which of the following should be considered?

1- Cytomegalovirus infection

2- Kawasaki disease

3- Reiter's disease

4- Toxoplasmosis

**5- Ulcerative colitis**

Q3648. This 45-year-old man presents with these lesions on his face for the past three years. The lesions are worse after sun exposure. A skin biopsy will reveal which of the following histological patterns?

**1- Interface dermatitis**

2- Intraepidermal bulla

3- Panniculitis

4- Spongiotic dermatitis

5- Subepidermal bulla

Q3649. A young female patient presented with an acute onset itchy rash on the face following the use of a new face cream for the first time. What is the most likely diagnosis?

1- Allergic contact dermatitis

2- Atopic dermatitis

3- Erythema multiforme

4- Herpes zoster

**5- Irritant contact dermatitis**

Q3650. A middle aged male presented with a lesion of six months' duration on his neck (as show n) with a history of recurrent episodes of pustulation and scarring. Plain radiograph of the chest revealed nonhomogenous opacities in both lungs. What is the most likely diagnosis?

**1- Lupus vulgaris**

2- Miliary tuberculosis

3- Scrofuloderma

4- Squamous cell carcinoma

5- Tuberculous chancre

Q3651. A middle aged male presented with dystrophic nail plates as shown with an itchy rash of six months' duration in both groins. What is the most likely diagnosis?

1- Chronic paronychia

2- Irritant contact dermatitis

**3- Onychomycosis**

4- Pachyonychia congenita

5- Psoriatic nail dystrophy

Q3652. A middle aged male with a known case of bronchial asthma presented with recurrent episodes of itching, vesiculation and oozing over the cubital fossae and popliteal fossae. What is his diagnosis?

**1- Atopic dermatitis**

2- Dermatitis herpetiformis

3- Impetigo

4- Irritant contact dermatitis

5- Pemphigus vulgaris

Q3653. A middle aged male presented with sudden onset non-tender annular erythematous plaques with pustulation. He had been managed with systemic steroids in the recent past for an acute exacerbation of bronchial asthma. He gave a history of recurrent episodes of scaly plaques in the past. What is the most likely diagnosis?

1- Allergic contact dermatitis

2- Folliculitis

3- Pemphigus vulgaris

**4- Pustular psoriasis**

5- Subcorneal pustular dermatosis

Q3654. A 2-year-old child presented with multiple (more than thre e) hypopigmented lesions on the anterior chest wall and trunk since the age of one year. Parents volunteered a history of recurrent seizures. Examination also revealed few rubbery pinkish plaques on the low back. What is the most likely diagnosis of the hypopigmented lesions?

**1- Ash leaf macule**

2- Hansen's disease

3- Nevus depigmentosus

4- Pityriasis alba

5- Vitiligo

Q3655. A 12-year-old child presents with the above depressed sclerotic linear lesion over the right frontoparietal scalp of five years duration. There is a history of initial progression and thereafter a static phase for the past two years. Radiographs and neuroimaging reveal no abnormal findings. There is no history of seizures or any history of neurological involvement. What should be the first line of management?

1- High dose IV methylprednisolone

**2- No active management**

3- Prophylactic anti-epileptics

4- Systemic corticosteroids

5- Urgent surgery

Q3656. A middle aged lady working in a restaurant kitchen presented with swelling of her right thumb of two months duration. What is the most likely diagnosis?

1- Acute paronychia

**2- Candidal paronychia**

3- Dermatophytosis

4- Ingrowing toe nail

5- Pustular psoriasis

Q3657. A young male presented with multiple nodulocystic lesions and comedones over the face. What is the most likely diagnosis?

**1- Acne**

2- Folliculitis

3- Hidradenitis suppurativa

4- Pyoderma faciale

5- Sycosis barbae

Q3658. A 17-year-old man comes to the clinic. He has recently returned from a holiday to Spain with his friends and is very disappointed with the quality of his tan, as there appear to be large depigmented areas on the skin of his abdomen and on his back. He says the areas are itchy. On examination you confirm the depigmentation, and there is superficial scaling over the areas. Which of the following is the most appropriate treatment?

1- Oral antifungals

2- Oral corticosteroids

3- Reassurance

**4- Topical antifungals**

5- Topical corticosteroids

Q3659. A 45-year-old man is referred to the dermatology clinic, with an intensely itchy, red, scaling rash which affects his scalp predominantly and is worse in spring and winter time. He also has a patch on his chest and around his beard. On examination he has a severe scalp rash with crusting and scaling of skin. Investigations show Haemoglobin 13.1 g/dl(13.5-18) White cell count 5.9 x 109 /L (4-10) Platelets 192 x 109 /L (150-400) Sodium 139 mmol/l (134-143) Potassium 4.3 mmol/l (3.5-5) Creatinine 101 μmol/l (60-120) Scalp biopsy Hyperkeratosis, acanthosis and focal spongiosis He tells you he cares most about his scalp. Which of the following is the most appropriate first line treatment for him?

1- Coal tar shampoo

**2- Ketoconazole shampoo**

3- Oral prednisolone

4- Tacrolimus ointment

5- Topical betamethasone

Q3660. A 31-year-old woman comes to the dermatology clinic complaining that a mole on her forearm has changed shape, enlarging to nearly three quarters of a centimetre in diameter, and although it was previously homogeneous in colour, parts of it have now become a very dark black. She has no significant past medical history but admits to significant use of tanning beds and having spent a few years living in California. Investigations show: Haemoglobin 13.0 g/dl(13.5-18) White cell count 5.4 x 109 /L (4-10) Platelets 200 x 109 /L (150-400) ESR 11 mm/hr(1-20) Sodium 139 mmol/l (134-143) Potassium 4.2 mmol/l (3.5-5) Creatinine 110 μmol/l (60-120) Excision biopsy: 5 mm thick lesion, no ulceration. Which of the following features is most associated with a poor prognosis in this patient?

**1- Depth of the melanoma lesion**

2- Female sex

3- Her age

4- Lack of ulceration

5- Significant exposure to sun beds

Q3661. A 45-year-old teacher presents six weeks after he returns from a hiking holiday in South America with a shallow, painless ulcer of the nose. What is the likely diagnosis?

1- Fusobacterium ulcerans

**2- Leishmaniasis**

3- Squamous cell carcinoma

4- Trichomoniasis

5- Trypanosomiasis

Q3662. A 41-year-old female presents with a six month history of a pruritic vesicular-papular rash on the elbows, knees and buttocks associated with numerous blistering eruptions and excoriations. Her GP has prescribed topical steroid therapy but this has not helped. What is the most likely diagnosis?

1- Atopic eczema (dermatiti s) 2- Dermatitis herpetiformis (D H) 3- Lichen planus

4- Psoriasis

5- Scabies

Q3663. A 24-year-old female attends clinic complaining of numerous depigmented areas on the arms and legs. Which of the following diseases is most likely to accompany this skin condition?

1- Addison's disease

2- Hypoparathyroidism

**3- Pernicious anaemia**

4- Systemic lupus erythematosus

5- Tuberous sclerosis

Q3664. A 55-year-old woman presents with a nonpruritic rash that had developed over the last two months. Examination revealed several, circular, erythematous, raised, smoothsurfaced lesions of variable size from 1-5 cm in diameter on the elbows, extensor aspects of the forearms and knuckles. What is the most likely diagnosis?

1- Eczema

**2- Granuloma annulare**

3- Psoriasis

4- Tinea corporis

5- Urticaria

Q3665. A 68-year-old woman presents with a two month history of a widespread pruritic rash. Examination reveals widespread erythema with several small blisters containing strawcoloured fluid and one or two larger serosanguineous blisters. What is the most likely diagnosis?

1- Bullous impetigo

**2- Bullous pemphigoid**

3- Insect bite

4- Scabies

5- Urticarial vasculitis

Q3666. Which statement regarding tinea capitis is correct?

1- It causes patches that fluoresce dull green under Wood's lamp

2- It is effectively treated with topical nystatin ointment

**3- It is most commonly caused by the fungus Trichophyton tonsurans**

4- It often results in permanent alopecia

5- Its presence should suggest immunological deficiency

Q3667. Which of the following concerning leg ulcers is correct?

1- Diuretics have been shown to improve ulcer healing when associated with oedema

**2- In diabetic ulcers, the dressing should be left in situ for no more than one week**

3- Large gravitational ulcers are always painful

4- Treating superficial infection with antibiotics has been shown to be beneficial

5- Ulcers caused by arterial disease are typically treated by compression bandaging

Q3668. A 21-year-old soldier presented with any itchy rash of two weeks' duration affecting his hands, feet, groins and buttocks. The rash was typically more itchy at night. The patient gave a history of his dormitory colleagues suffering from similar complaints. Examination revealed numerous excoriated papules and burrows primarily localised to the web spaces of hands and feet as well as the natal cleft. What is the most likely diagnosis?

1- Allergic contact dermatitis

2- Dermatophytosis

3- Folliculitis

4- Impetigo

**5- Scabies**

Q3669. A 43-year-old woman with atopic dermatitis (atopic eczem a) presented with an acute generalised exacerbation of her disease. She was admitted to hospital but failed to improve with emollients, topical betamethasone 17-valerate and oral antihistamine. Which one of the following drugs is the most appropriate treatment?

1- Acitretin

2- Amoxicillin

3- Colchicine

**4- Cyclosporin**

5- Dapsone

Q3670. An elderly patient presented with an acute onset painful rash (abov e) on the face. What is the most likely diagnosis?

1- Allergic contact dermatitis

2- Atopic dermatitis

3- Erythema multiforme

**4- Herpes zoster**

5- Irritant contact dermatitis

Q3671. A middle aged male with diabetes presented with a tender lesion (as show n) over his buttock of two days' duration. What is the most likely diagnosis?

**1- Carbuncle**

2- Ecthyma

3- Folliculitis

4- Impetigo

5- Sycosis

Q3672. A 3-month-old infant presented to the dermatologist with a red lesion over the left side of the face. It was flat initially at birth and had progressively become elevated and boggy. What is the most likely diagnosis?

1- Aplasia cutis

2- Cystic hygroma

**3- Haemangioma**

4- Squamous cell carcinoma

5- Lymphangioma

Q3673. A 5-year-old boy was brought with pigmentation around his mouth and oral mucosa of six months duration. What is the most likely diagnosis?

1- Condylomata lata

2- Congenital melanocytic naevus

3- Freckles

4- Mucosal lichen planus

**5- Peutz-Jegher's syndrome**

Q3674. A 1-month-old otherwise healthy baby presented with a rash on the scalp with greasy scaling. What is the most likely diagnosis?

1- Allergic contact dermatitis

**2- Cradle cap**

3- Folliculitis

4- Impetigo

5- Tinea capitis

Q3675. An HIV positive male presented with whitish discolouration of tongue and oral mucosa. What is the most likely diagnosis?

1- Aphthous stomatitis

2- Geographical tongue

3- Herpetic gingivostomatitis

**4- Mucosal candidiasis**

5- Mucosal lichen planus

Q3676. A young male athlete presented with multiple itchy scaly lesions over his legs and thighs. Historically he had had similar lesions in the past which had been treated with unspecified local medications. On examination he was found to have multiple erythematous scaly plaques with a raised peripheral margin, a clear centre with hyper-pigmentation. What is the most likely diagnosis?

1- Allergic contact dermatitis

2- Fixed drug eruption

3- Psoriasis

4- Sarcoidosis

**5- Tinea corporis**

Q3677. A 20-year-old male presents with a very itchy rash afflicting both groins and suprapubic region of four weeks duration. On examination he had multiple annular scaly plaques with spreading peripheral borders and central clearing. What is his diagnosis?

1- Allergic contact dermatitis

**2- Dermatophytosis**

3- Fixed drug eruption

4- Psoriasis

5- Sarcoidosis

Q3678. A 33-year-old female attends her GP concerned regarding a mole. Which of the following characteristics of the lesion would raise suspicion that it is a malignant melanoma?

**1- Lesion has irregular edge**

2- Lesion is 5 mm in diameter

3- Lesion is pigmented uniformly

4- Lesion is present on face

5- Lesion is smoothly raised

Q3679. Which of the following determines the primary mechanical properties of skin?

1- Dermis

2- Stratum basale

**3- Stratum corneum**

4- Stratum granulosum

5- Subcutaneous tissue

Q3680. A 25-year-old female presents with concerns regarding the unsightly appearance of her toe nails. They have a whitish discolouration extending up the nail bed in a number of the toes of both feet. They are entirely painless and she is otherwise well. What is the most appropriate treatment?

1- Oral fluconazole

**2- Oral terbinafine**

3- Topical benzoic acid

4- Topical fluconazole

5- Topical terbinafine

Q3681. A 22-year-old female is referred with symmetrical, depigmented areas on the arms and legs but has been otherwise quite well. Which one of the following diseases is most likely to be associated with her skin disease?

1- Diabetes mellitus

2- Hyperparathyroidism

**3- Pernicious anaemia**

4- Scleroderma

5- Systemic lupus erythematosus (SL E)

Q3682. A 17-year-old pregnant female attends antenatal clinic and is noted to have scattered small, raised lesions on her trunk and axillary freckles. She was not aware of any of her family members having these lesions. What is the likely mode of inheritance of this condition?

**1- Autosomal dominant**

2- Autosomal recessive

3- Trinucleotide repeating

4- X linked dominant

5- X linked recessive

Q3683. A 33-year-old female is admitted with erythema multiforme (E M) and erythematous lesions of the mouth and eyes. Which one of the following drugs may account for her presentation?

1- Diazepam

2- Fluoxetine

3- Mebeverine

4- Oral contraceptive

**5- Sulfasalazine**

Q3684. A 36-year-old female presents with raised erythematous tender lesions on both legs which have developed since she had a throat infection two weeks ago. Which one of the following investigations is most likely to establish the diagnosis?

**1- Anti-streptolysin-O titre (ASO T) 2- Chest x ray**

3- Mantoux test

4- Throat swab cultured for bacteria

5- Throat swab cultured for viruses

Q3685. Which of the following statements regarding psoriasis is most true?

1- Ciclosporin is ineffective in the treatment of psoriasis

2- Diagnosis requires histological confirmation

3- Guttate psoriasis often arises after staphylococcal infection

**4- T cells play a prominent role in the pathogenesis of psoriasis**

5- Twin studies have identified no genetic basis for psoriasis

Q3686. A 20-year-old male presents with extensive, coalescing, hypopigmented, slightly scaly lesions on his back and chest. The rash had been present for two years and had gradually become more extensive. He had otherwise been in good health. The lesions were not symptomatic but he was concerned about their appearance. What is the most appropriate treatment for his condition?

1- Aciclovir cream

**2- Ketoconazole cream**

3- Nystatin cream

4- Oral itraconazole

5- Oral terbinafine

Q3687. A previously fit 30-year-old female presents with a four day history of intractable pruritus and urticaria. What is the most appropriate initial management?

**1- Chlorpheniramine**

2- Prednisolone

3- Ranitidine

4- Topical hydrocortisone

5- Topical mepyramine

Q3688. A 26-year-old man is noted to have cyanosis of the lower limbs and clubbing of the toes but not the fingers. Which of the following statements is true?

1- He has coarctation of the aorta

**2- He has Eisenmenger's syndrome**

3- He has had a Blalock shunt operation

4- He is likely to have a loud continuous 'machinery' murmur below the left clavicle

5- He is likely to need urgent surgery

Q3689. A 40-year-old man presented with pityriasis versicolor. What is the most appropriate treatment?

1- Methotrexate

2- Oral terbinafine

3- Phototherapy with ultraviolet light (UV B) 4- Psoralen with ultraviolet light (PUV A) therapy

**5- Topical selenium sulphide**

Q3690. A 17-year-old girl presents with a two week history of urticaria. Over the last couple of days she has been aware of new lesions occurring on a daily basis. Which one of the following statements is most likely to be correct?

1- She is likely to have an associated asthma

2- She is likely to have taken penicillin recently

**3- She is unlikely to have any identifiable trigger factor**

4- The lesions will be present for at least 24 hours

5- There is likely to be a nut allergy

Q3691. A 23-year-old female presents with a problem with her nails. Over the last two months they have become rather unslightly and brittle. She has taken a selection of medications for acne. Examination reveals onycholysis. Which of the following preparations may be responsible for the onycholysis?

1- Dianette

2- Erythromycin

3- Isotretinoin

**4- Tetracycline**

5- Topical benzoic acid

Q3692. This 24-year-old woman presents with this rash for the past two weeks. She also complains of bilateral knee and ankle pains for the same duration of time. What finding will be shown on a skin biopsy?

**1- Fibrinoid necrosis and neutrophils within the walls of dermal capillaries**

2- Intraepidermal clefting with eosinophils

3- Neutrophils within walls of medium sized arteries in the subcutis

4- Septal panniculitis

5- Subepidermal bulla with eosinophils

Q3693. A 35-year-old man has just been diagnosed with dermatitis herpetiformis. Besides starting on a gluten-free diet, his dermatologist has decided to start him on oral dapsone. What laboratory test needs to be within the normal range before commencing therapy?

1- Fasting glucose

2- Fasting lipids

**3- Glucose-6-phosphate dehydrogenase (G6P D) levels**

4- Haemoglobin-A1C levels (HbA1 C) 5- Thiopurine methyltransferase (TPM T) levels

Q3694. This 6-month-old infant, who was born prematurely, presents with this lesion on his arm which was first noticed during the second week of life. It then progressively enlarged and deepened in colour over the next few months. What is your most likely diagnosis?

1- Angiosarcoma

2- Lymphatic malformation

**3- Haemangioma**

4- Venous malformation

5- Kasabach-Merritt syndrome

Q3695. This 18-year-old man presents with this recurrent rash on both feet for the past two years. It worsened when football training started. He also has a history of allergic rhinitis. What is your most likely diagnosis?

1- Bullous tinea pedis

2- Bullous pemphigoid

3- Erythema multiforme

**4- Pompholyx / dyshidrotic eczema**

5- Zoster

Q3696. A young male presented with an itchy rash (abov e) on the buttocks and groins. What is the most likely diagnosis?

1- Allergic contact dermatitis

2- Atopic dermatitis

**3- Dermatophytosis**

4- Irritant contact dermatitis

5- Scabies

Q3697. A young male patient presented with sharply circumscribed hyperpigmented skin lesions over the back. What is the most likely diagnosis?

1- Allergic contact dermatitis

2- Erythema multiforme

**3- Fixed drug eruption**

4- Folliculitis

5- Lichen planus

Q3698. A young otherwise healthy adolescent with multiple linear lacerations with the linear lesions shown presented in various stages of healing with a vague history of possible antecedent causes. What is the most likely primary diagnosis?

1- Contact dermatitis

**2- Dermatitis artefacta**

3- Hypertrophic scars

4- Keloids

5- Striae distensae

Q3699. A young adolescent girl presented with a rash in both axillary regions occurring a day after application of a new deodorant. What is the most likely diagnosis?

**1- Irritant contact dermatitis**

2- Erythrasma

3- Herpes zoster

4- Intertrigo

5- Impetigo

Q3700. A young adolescent male presented with multiple lesions on the face. What is the most likely diagnosis?

1- Allergic contact dermatitis

**2- Comedones**

3- Nodulocystic acne

4- Sycosis barbae

5- Tinea barbae

Q3701. A 15-year-old boy was treated with permethrin cream for scabies infestation. On follow-up three weeks later he was found to have continuing infestation. What is the most likely reason for this?

1- Facial skin was not treated

2- Non-disposal of underwear

**3- Other household members were not treated**

4- The organism is resistant to permethrin

5- The treatment was not repeated as prescribed

Q3702. A young adolescent male presents with dystrophic nails, with debris on the under surface of the nails and elevated distal end of nail plate. He also had scaly plaques on his elbows and knees. What is the most likely diagnosis?

1- Alopecia areata associated nail dystrophy

2- Irritant contact dermatitis

3- Onychomycosis

**4- Psoriasis**

5- Trachyonychia

Q3703. A 60-year-old male presents with a sudden onset eruption of blisters. He gives a history of pain in the affected area a day prior to the eruption of the blisters for which he applied a topical analgesic. What is the most likely diagnosis?

1- Allergic contact dermatitis

2- Folliculitis

**3- Herpes zoster**

4- Irritant contact dermatitis

5- Paederus dermatitis

Q3704. A mother brought her three children aged less than 10 years, all with the complaints of a rash around mouth and nose of 10 days duration. The youngest child was affected first following which the other two children were affected. The lesions have been rapidly spreading in the affected area. Examination revealed 1-3 cms crusted erosions with golden yellow crusts around the lips and nares in all three children. The youngest child also had similar lesions on his hands. What is the most likely diagnosis?

1- Ecthyma

2- Herpes simplex

**3- Impetigo**

4- Perioral dermatitis

5- Warts

Q3705. A 40-year-old male presented with progressive discolouration of his great toe nail, which initially affected the distal part of the nail plate and progressively involved the more proximal parts of the same nail over a period of three months. He also noticed a rash in the groins which had appeared approximately four weeks back. Examination revealed a moth-eaten appearance of the right great toe nail with a scaly annular rash with an active peripheral margin in both groins. What is the most likely diagnosis?

1- Allergic contact dermatitis

2- Fixed drug eruption

**3- Onychomycosis with tinea cruris**

4- Psoriasis

5- Reiter's disease

Q3706. A father, 48-year-old, and his son, 20-year-old, presented with multiple itchy red lesions over their trunks and groins. The son had developed the rash initially after working out in the local gym following which his father noticed a similar rash afflicting him. What is the most likely diagnosis?

1- Allergic contact dermatitis

2- Fixed drug eruption

3- Psoriasis

4- Sarcoidosis

**5- Tinea corporis**

Q3707. A 38-year-old woman has erythematous plaques with hyperpigmentation at the edge and central hypopigmentation. Serological tests are unremarkable and the patient is diagnosed with discoid lupus. Which of the following therapeutic strategies is most appropriate initially?

1- Cyclophosphamide

2- Dapsone

3- Methotrexate

4- Oral prednisolone

**5- Sun protective measures**

Q3708. A 51-year-old male presents with a rash that has been present intermittently over the last two years. On examination there is a symmetrical rash over the cheeks, nose and chin, with multiple papules and pustules. What is the most appropriate therapy for this patient?

1- Flucloxacillin

2- Hydroxychloroquine

3- Isotretinoin

**4- Oxytetracycline**

5- Prednisolone

Q3709. Which of the following statements regarding psoriasis is correct?

1- 1% of patients have associated psoriatic arthropathy

2- Guttate psoriasis is the most common form of the disease

3- Psoriasis is more common at lower geographical altitudes

**4- Psoriatic arthropathy precedes cutaneous lesions in roughly 20% of cases**

5- The prevalence in the United Kingdom is 10%

Q3710. A 65-year-old female who has a history of long-standing psoriasis and heavy alcohol intake, presents with a severe exacerbation of psoriasis. She was admitted and received topical therapy and over the month of her admission, her gamma-GT concentration had fallen from 400 U/L to 150 U/L (4-35). Six weeks after discharge she was seen in outpatients where her psoriasis remained under control, but she complained of generalised hair loss. What is the most likely cause for her hair loss?

1- Alopecia areata

2- Iron deficiency

**3- Telogen effluvium**

4- Thiamine deficiency

5- Trichotillomania

Q3711. A 38-year-old female presents with red target lesions confined to the hands and is diagnosed with erythema multiforme. Which of the following could be the cause?

1- Cytomegalovirus infection

2- Group B streptococci

3- Langerhan's cells histiocytosis

**4- Penicillin V**

5- Ureaplasma urealyticum

Q3712. A 70-year-old woman complained of a rash that had developed over a month. She had otherwise been fit and well. On examination, there were numerous tense, fluid filled blisters over the trunk and limbs, but no mucosal involvement was evident. What is the most likely diagnosis?

1- Dermatitis herpetiformis

2- Erythema multiforme

3- Herpes simplex

**4- Pemphigoid**

5- Pemphigus vulgaris

Q3713. A 30-year-old woman presents with a skin rash. On applying pressure to an unaffected area of skin it was relatively easy to induce trauma. Increased fragility of the skin is characteristic of which of the following conditions?

1- Acute intermittent porphyria

**2- Epidermolysis bullosa**

3- Neurofibromatosis

4- Pseudo-xanthoma elasticum

5- Tuberous sclerosis

Q3714. An 18-year-old girl presents with this rash on both her upper arms and thighs for the past few years. It is generally asymptomatic. Which of the following may be an associated skin condition?

**1- Atopic dermatitis**

2- Lichen planus

3- Nodulocystic acne

4- Pilonidal sinus

5- Psoriasis vulgaris

Q3715. A middle aged female patient presented with a non-itchy scaly rash on the scalp, elbows and knees. What is the most likely diagnosis?

1- Allergic contact dermatitis

2- Atopic dermatitis

3- Irritant contact dermatitis

**4- Psoriasis**

5- Tinea capitis

Q3716. A young farmer presented with web space infection as shown. What is the most likely causative organism?

1- Candida

2- Dermatophytes

**3- Pseudomonas**

4- Staphylococcus

5- Streptococcus

Q3717. A 30-year-old female presented with mildly itchy violaceous papular eruptions on the dorsum of feet, ankles, wrist and low back. What is the most likely diagnosis?

**1- Lichen planus**

2- Papular urticaria

3- Pityriasis rosea

4- Psoriasis

5- Scabies

Q3718. A young female patient presented with the above rash of few hours duration after tending her garden. She had a similar milder rash on the arms a few weeks ago. What is the most likely diagnosis?

**1- Allergic contact dermatitis**

2- Folliculitis

3- Herpes zoster

4- Irritant contact dermatitis

5- Paederus dermatitis

Q3719. A 50-year-old male presented with bullous lesions on both his feet. He also had dystrophic nails and an itchy scaly rash affecting the groins and interdigital web spaces of his feet. What is the most likely diagnosis?

1- Bullous impetigo

2- Bullous pemphigoid

**3- Bullous tinea pedis**

4- Erythema multiforme

5- Herpes zoster

Q3720. A 12-year-old child presents with the above depressed sclerotic linear lesion of two years duration with a history of initial progression and thereafter a static phase. What is his diagnosis?

1- Acrodermatitis chronica atrophicans

2- Aplasia cutis

**3- En coup de sabre**

4- Post traumatic scar

5- Scleroedema

Q3721. A young male athlete presented with pedal hyperhidrosis with a non-itchy rash on both soles, with foul odour. Examination revealed well sculpted painless pits of varying depths along both soles symmetrically. What is the most likely diagnosis?

1- Corns

2- Erythrasma

**3- Pitted keratolysis**

4- Plantar warts

5- Tinea pedis

Q3722. A 43-year-old female presents with a weepy, erythematous rash mainly affecting the forehead, scalp, neck and upper back. Three days earlier she had used red hair dye at home to self-administer 'highlights'. What is the likely diagnosis?

1- Acne rosacea

**2- Contact allergic dermatitis**

3- Lupus erythematosus

4- Psoriasis

5- Seborrhoeic dermatitis

Q3723. A 40-year-old female presents with a six month history of pruritic papules, vesicles and excoriations on the elbows, knees, buttocks and scalp. Her GP has prescribed topical betamethasone therapy which has been unhelpful. What is the most likely diagnosis?

1- Atopic dermatitis (eczem a) 2- Dermatitis herpetiformis (D H) 3- Henoch-Schönlein purpura (HS P) 4- Psoriasis

5- Scabies

Q3724. During a follow up visit at an asthma clinic a 38-year-old female complains of the appearance of a mole. Which of the following characteristics of the lesion would raise suspicion that it is a malignant melanoma?

**1- Lesion has irregular outline**

2- Lesion is deeply pigmented

3- Lesion is present on face

4- Lesion is raised

5- Lesion is 6 mm in diameter

Q3725. A 40-year-old female presents with a long history of excessive localised armpit sweating. She finds the problem embarrassing and has problems staining clothes. She has tried antiperspirants without relief. Which is the most appropriate treatment that you would offer this patient?

1- Amitriptyline

2- Axillary surgery

**3- Botulinum toxin injection**

4- Propantheline

5- Topical aluminium salts

Q3726. A 20-year-old female with a history of systemic lupus erythematosus presents with symmetrical reticulated, violaceous patches, which become more prominent in cold weather involving both lower limbs. Which of the following is the likely diagnosis?

1- Erythema ab igne

2- Erythema marginatum

3- Erythema nodosum

**4- Livedo reticularis**

5- Pyoderma gangrenosum

Q3727. A 72-year-old woman presents with a longstanding leg ulcer. Which of the following minerals is most important in wound healing?

1- Copper

2- Magnesium

3- Potassium

4- Selenium

**5- Zinc**

Q3728. A 52-year-old female presents with blistering of the hands and arms which deteriorates during the summer. She is otherwise well and drinks approximately 20 units of alcohol weekly. Examination of her skin revealed erosions and scarring on the backs of her hands and forearms, and some mild hirsutism. Which one of the following is the most likely diagnosis?

1- Acute intermittent porphyria

2- Erythropoietic protoporphyria

3- Pemphigoid

**4- Porphyria cutanea tarda (PC T) 5- Subacute lupus erythematous (L E)**

Q3729. A 16-year-old girl is seen in clinic as she is concerned due to areas of hair loss on the scalp. Past medical history includes atopic eczema and she has a number of depigmented areas on her hands. What is the most likely diagnosis?

**1- Alopecia areata**

2- Hypothyroidism

3- Seborrhoeic dermatitis

4- Systemic lupus erythematosus

5- Trichotillomania

Q3730. In the treatment of psoriasis, which of the following statements is correct?

1- Etanercept is not effective in psoriatic arthritis

**2- Infliximab is associated with tuberculosis**

3- PUVA is ineffective

4- Retinoids are the most useful monotherapy in psoriatic patients

5- Vitamin D analogues are associated with cutaneous atrophy

Q3731. A 58-year-old man has a history of obesity, gastro-oesophageal reflux disease, low back pain and IHD. He presents with large, itchy weals over the trunk and limbs and a sensation of tightness in the throat. Which one of the following drugs is the most likely to have triggered this skin eruption?

**1- Aspirin**

2- GTN (nitrat e) spray

3- Omeprazole

4- Paracetamol

5- Simvastatin

Q3732. Which is true regarding eczema herpeticum?

1- Is invariably fatal if untreated

2- Is more severe in reactivation disease

**3- Is typically associated with a high fever for over a week**

4- Only a single crop of vesicles usually appear

5- Usually has an indolent onset

Q3733. What is the most common presenting feature of porphyria cutanea tarda?

1- Acute blistering crises affecting the trunk and limbs

2- Acute redness and swelling following sun exposure

3- Erythroderma

4- Generalised hypertrichosis

**5- Skin fragility and blistering affecting the hands, face and scalp**

Q3734. A 75-year-old female presents with chronic leg ulceration which is a consequence of venous insufficiency. Which one of the following is the most appropriate management?

1- Appropriate systemic antibiotic in preparation for skin grafting

**2- Compression bandaging**

3- Improve the venous return by limb elevation

4- Skin biopsy to exclude neoplasm

5- Vein surgery exclusion of neoplasm by skin biopsy

Q3735. An 85-year-old lady with advanced Alzheimer's dementia has inhaled her hearing aid. The respiratory rate is 35. A bronchoscopy is proposed. Which of the following apply with regard to obtaining consent for the procedure?

1- If the mini mental score is above 20/30, consent can be taken from patient

2- Psychogeriatric opinion is needed before consent can be obtained

3- Relatives/next of kin will have to consent for the patient

4- The doctor will be able to consent for the patient

**5- The procedure does not require a written consent**

# Chapter 25 2012 Ophthalmology

Q3736. A patient of yours suffers a myocardial infarction and dies in Spain. His relatives arrange for his body to be repatriated and plan for him to be cremated. You last saw him alive seven days before his death. Which of the following is true with respect to completion of cremation forms?

1- A colleague should complete form 4

**2- A cremation may only take place if a coroner rules that no inquest or post mortem is needed**

3- The Spanish doctor who originally treated him should complete form 4

4- You are allowed to complete form 5

5- You are allowed to complete forms 4 and 5

Q3737. You are the general practitioner of a 76-yearold man who has been suffering from bronchial carcinoma for the past one and a half years. He is requiring increasing amounts of morphine to cope with his pain, and he dies in his sleep. You certify the cause of death as bronchial carcinoma. His wife who requests cremation asks to see form 4. Which of the following is true with respect to her viewing the form?

1- She is not allowed to view it in any circumstances

2- The form should be typewritten if possible

3- The name of the completing doctor must be obscured

**4- You can apply for certain information not to be disclosed by discussing this with the referee**

5- You cannot prevent her from reviewing all aspects of the form

Q3738. A 30-year-old male is unconscious on admission following a road traffic accident. He was the driver of the car and there is the suspicion that he was responsible for the accident in which a passenger of another car died. In attendance with the patient is his wife who was uninjured in the accident. The police are keen to obtain a blood sample for alcohol measurement but the patient is incapable of giving consent for this procedure. What is the most appropriate action in these circumstances?

1- Inform the police that you may only take blood samples on medical grounds.

**2- Draw a blood sample for later analysis when the patient is competent to consent.**

3- Draw a blood sample which can be analysed immediately.

4- Obtain consent from his wife, as next of kin, to draw the blood sample.

5- Refuse to obtain a blood sample until the patient is competent to provide consent.

Q3739. You intend to undertake a study of patients who have undergone excision of minor lumps and bumps over the last five years. Specifically you wish to compare postoperative infection rates and also whether there are any differences between the clinical diagnosis and the histological diagnosis between the differing grades of practitioner performing the procedure. Which of the following statements are correct concerning this study?

**1- Approval for the study must be obtained from the local ethics committee.**

2- If a study has already published with exactly the same concept then this constitutes plagiarism.

3- If such a study has already been published then the investigators must obtain consent from the original authors to replicate their work.

4- The study is flawed in its design and should not be performed.

5- This is an audit and does not require ethical committee approval.

Q3740. You are intending to publish a case report as a fascinoma of the month within a national medical journal. As part of the publication you provide an image from the MRI film of the abdomen. Medical Illustration have transferred the film to electronic format and have removed all patient identification markings. The case report itself is otherwise completely anonymous. Which of the following concerning consent is correct?

1- Consent for publication may not be required depending on the journal to which the manuscript is submitted

2- Consent for publication must be sought from the local ethics committee

3- Consent for publication of the image must be obtained from the radiologist

4- Patient consent for publication is not required

**5- Patient consent must be provided for publication**

Q3741. Does integrity refer to a virtue that requires the physician to do the following?

1- Acknowledge and respond to the suffering of patients

2- Ignore irrelevant differences between the physician and the patient

**3- Practise medicine according to intellectual and moral standards of excellence**

4- Risk health and life in the care of patients

5- Treat in the best interests of the patient

Q3742. By which of the following are most deaths determined?

1- Absent pulse

2- Brain stem tests

3- Loss of pupilary reflex

**4- The absence of vital signs**

5- The coroner

Q3743. A placebo is defined as which of the following?

1- A standard treatment against which a newer treatment is compared

2- A substance given as a treatment for a disorder

3- A way to deceive a patient into taking a medication

**4- An inert substance given as a medicine in an assessment of its suggestive effect**

5- The medication given to a patient for a specific type of ailment

Q3744. Which medical procedure highlighted the need for new methods of defining and determining death in the face of continued cardiorespiratory function?

1- Artificial resuscitation

2- Brain surgery

3- ITU ventilation

4- Open heart surgery

**5- Organ transplantation**

Q3745. A 76-year-old female was admitted 24 hours ago following a fall. The orthopaedic senior house officer asks for your help because the patient is shouting out on the ward keeping all the other patients in the bay awake. He tells you that he is not able to reason with her and that she is distracted and incoherent. On arrival you note that her left leg is shortened and externally rotated. Which one of the following additional findings would suggest a diagnosis of delirium rather than dementia?

1- A positive Urine dipstick

2- MMSE of 28 in the patient's notes that was done six months ago

3- The patient has been given lorazepam with minimal effect

4- The patient is febrile at 38?

**5- The patient was coherent and compliant on admission**

Q3746. A 63-year-old smoker has been investigated for a cough and chest pain and a diagnosis of bronchial carcinoma is made on a plain chest x ray examination. Before a tissue diagnosis can be made, he dies in hospital of a large and unexpected haemoptysis and a post mortem examination is carried out with the consent of the relatives. At this examination, the correct diagnosis is shown to be tuberculosis and there is no carcinoma. In this circumstances, is it mandatory to make a report to a particular authority, and if so, which?

**1- Consultant in Communicable Diseases Control**

2- Coroner

3- General Medical Council

4- Health and Safety Executive

5- Strategic Health Authority

Q3747. You are completing a list of cremation form 5s for patients in the hospital where you work. You examine one form where the junior doctor has completed the cause of death as stroke, but the patient appears to have fallen at home. The husband wants to arrange cremation as soon as possible. Apparently the junior doctor is working nights and has gone home, so you cannot easily get hold of him to question him further. Which of the following is true with respect to completion of the form?

1- Completion of form 5 to show that examination of the case has been "adequate" would be acceptable

2- It is acceptable in this case not to question the doctor

3- Medical referees will not mind if you have not contacted the doctor

4- When completing form 5 you must only be reasonably sure that the patient suffered a stroke

**5- You should wait to complete the form until the doctor is available to answer questions**

Q3748. A female patient of yours unfortunately goes into premature labour at 23 weeks. The fetus is not viable. She wishes to have the fetal remains cremated. Which of the following is true with respect to legal aspects of this case?

**1- Cremation of the remains is not subject to the Cremation Act**

2- Only a pathologist is allowed to complete form 4

3- Only form 4 need be completed

4- Only form 5 need be completed

5- The case must be discussed with the coroner

Q3749. You are working for the elderly care team in the hospital when an 82-year-old woman under your care is found dead by the nursing staff in the early hours of the morning. She was not resuscitated due to a history of severe chronic obstructive pulmonary disease (COP D) . You have written the cause of death as old age and you complete cremation form 4. Which of the following is true with respect to completion of the forms?

1- Civil proceedings have been taken against doctors who have inappropriately completed form 5

**2- Old age is usually not an acceptable cause of death for cremation purposes when completing form 4**

3- The consultant who heads up the team may complete form 5

4- The locum staff grade who qualified three years ago in India may sign form 5

5- Your brother who is a house officer on another team at the hospital may sign form 5

Q3750. A 23-year-old female attends clinic for a routine appointment regarding a six month history of occasional fits. She has seen the neurologists who have diagnosed idiopathic epilepsy and have prescribed lamotrigine. She informs you that she is doing well with this medication and has not had a fit for two months. She has been told that she must stop driving but you have seen that she drove to attend the clinic. You discuss this with her and insist that she stops driving to which she informs you that she had stopped driving but since she is fit free she must continue to drive because of her employment. Which of the following is the most appropriate action to take in these circumstances?

**1- Inform patient that you will notify the DVLA**

2- Inform patient that you will notify the police

3- Inform the epilepsy clinic that she is still driving and allow them to deal with this issue.

4- You cannot inform any external body due to patient confidentiality.

5- Your only action is to write in the notes that the patient has been repeatedly warned but chose to ignore advice as she presents no serious risk in view of her epilepsy control.

Q3751. A 78-year-old male dies and is found by his children the following morning (after having seen him alive the night befor e) . His GP attends to certify him dead. The patient had a known history of ischaemic heart disease and was treated in the local hospital where angiography performed nine months previously for angina had revealed some insignificant coronary artery disease of two vessels for which medical therapy was deemed most appropriate. He had also been diagnosed eight years previously with diabetes mellitus for which he took metformin and gliclazide. He had seen the practice nurse two weeks ago for review of his diabetes. One month ago he had seen the diabetologists for his annual review and had seen the cardiologists approximately six months ago. He had last seen a partner in the practice six weeks ago for advice concerning driving licence registration. The family are keen to have a death certificate issued and proceed to cremation. They do not want any post mortem examination. Which of the following is true with regard to issuing of a death certificate in this scenario?

1- The certifying doctor may issue a death certificate

**2- The death needs to be referred to the coroner**

3- The diabetologist can certify the death

4- The partner in the practice may issue a death certificate

5- The practice nurse can certify the death

Q3752. Withholding the truth about a patient's illness is a violation of which of the following?

**1- Autonomy**

2- Beneficence

3- Informed consent

4- Infringement of the Human Rights Act

5- The Bolam principle

Q3753. A 75-year-old woman presents with a 6-12 Hz tremor in the hands. The tremor initially started in the right hand, but has worsened over time and now involves both hands. The tremor has also slowly increased in severity. She remembers that her father suffered from 'the shakes' as well. Which additional finding would suggest a diagnosis of essential tremor rather than Parkinson's disease?

**1- Action tremor**

2- Bradykinesia

3- Kinetic tremor

4- Postural tremor

5- The tremor increases with emotional stress

Q3754. A 70-year-old man is brought to the memory clinic by his wife. The patient appears calm and composed and does not have any complaints. His wife said over the last three months her husband lost his way back home in the evening three times and was brought back by the neighbours. Choose the appropriate diagnosis from the following list.

1- Alcoholism

2- Chronic subdural haematoma

3- Depression

**4- Dementia**

5- Transient global amnesia

Q3755. Which of the listed common conditions can mimic the signs and symptoms of an acute stroke?

1- Cardiac arrest

**2- Hypoglycaemia**

3- Hypothyroidism

4- Pneumothorax

5- Stokes-Adams attacks

Q3756. Which of the following drugs would improve prognosis in heart failure?

**1- ACE - I**

2- Atenolol

3- Digoxin

4- Furosemide

5- Nitrates

Q3757. Which one of the following deaths should be reported to the coroner?

1- A 52-year-old male with a long history of alcohol abuse is admitted with confusion. He dies two days later with hepatic failure.

2- A 62-year-old male with a two year history of severe dementia is admitted from a nursing home with fever and breathlessness. He dies three days later with pneumonia.

**3- A 69-year-old male with pneumoconiosis is admitted with fever and breathlessness. He dies two days later from pneumonia.**

4- A 72-year-old male is admitted with a myocardial infarction and dies 48 hours following admission.

5- A 73-year-old female who had undergone a hip replacement two months previously presents with severe chest pain and breathlessness. She is diagnosed with pulmonary embolism but dies.

Q3758. A 22-year-old female is admitted following severe injuries sustained in a road traffic accident. She is communicative but in shock with low blood pressure and tachycardia. You realise that without a transfusion she will die but she informs you that she has recently become a Jehovah's Witness and that she adamantly refuses transfusion, despite knowledge that she could die. Her distraught parents tell you that she has only recently joined the Jehovah's Witnesses and implore you to transfuse her, as they insist that she does not know her own mind. Together with other intervention which she permits, what is the most appropriate action regarding possible transfusion?

1- Declare her incompetent and transfuse

**2- Do not transfuse even if it means that she will die**

3- Get immediate psychiatric intervention to section her and then transfuse

4- Transfuse immediately, irrespective of the patient's wishes

5- Wait until she becomes unconscious and then get consent from her parents to transfuse

Q3759. Which of the following defines ethics?

1- Codes and statements of professional organisations of physicians about appropriate conduct

2- Obedience to the law

3- Prescriptions found in Scripture

**4- The study of morality**

5- The study of the human conscience

Q3760. In which of the following cases is the individual's right to autonomy violated?

1- A Jehovah's witness patient with symptomatic anaemia who refuses blood transfusion

2- An athlete who seeks a second opinion

3- An infant whose parents elect for surgery to correct a congenital heart defect

**4- An older man whose physician and family coerce him into having foot surgery**

5- An older woman who refuses to undergo back surgery

Q3761. A 17-year-old male is brought to clinic as his parents are concerned about changes in his behaviour. Which of the following suggest a diagnosis of schizophrenia?

1- Auditory hallucinations with clouding of consciousness

2- Feelings of panic in buses and shops

3- Grandiose ideations

**4- Incongruity of affect**

5- Memory impairment

Q3762. The parents of an 8-year-old boy have noticed increased blinking and throat clearing. He had normal development and is doing well at school until recently when he was sent home for shouting swear words during assembly. His parents have not noticed any change in behaviour, with normal appetite, sleep and energy. He takes no medication. His father suffers with partial seizures. What is the likely diagnosis?

1- Epilepsy

2- Huntington´s disease

3- Rett syndrome

**4- Tourette syndrome**

5- Wilson's disease

Q3763. A 32-year-old man visits his GP complaining that he is totally depressed and fixated by the loss of his wife and child who were killed by a hit and run driver around one year earlier. He says that he has taken to drinking large quantities of alcohol every day and occasionally even smoking heroin in an attempt to forget what happened and stop the memories of the event playing back in his mind. He cannot hold down a job because he finds it impossible to concentrate, is constantly irritable and hardly sleeps at night. He attends the clinic with his mother who tells you that he has not cried since the event. Which of the following is the most appropriate treatment for him?

**1- Cognitive therapy**

2- Diazepam

3- Mirtazapine

4- Paroxetine

5- Phenelzine

Q3764. A 45-year-old female with chronic schizophrenia was recently converted to a new antipsychotic agent. She presented two weeks later with a sore throat and fever. Her full blood count shows: Haemoglobin 12.5 g/dl(11.5-16.5) White cell count 1.3 x 109 /L (4-11) Platelets 135 x 109 /L (150-400) What drug is she likely to have commenced?

**1- Clozapine**

2- Haloperidol

3- Olanzapine

4- Quetiapine

5- Risperidone

Q3765. A 22-year-old woman presented following an overdose. She had had an argument with her boyfriend and had then driven to an isolated country lane where she had swallowed 20 paracetamol tablets and a bottle of wine. Which one of the following is the strongest predictor that she may later make a fatal suicide attempt?

1- Female gender

**2- Location of the suicide attempt**

3- Taking alcohol with the tablets

4- The argument with the boyfriend

5- The number of tablets

Q3766. A 70-year-old woman had a major depressive disorder which was unresponsive to antidepressant medication. Which one of the following statements is correct?

1- Associated dementia is unlikely

**2- Electroconvulsive therapy (EC T) is likely to improve her mood**

3- If she recovers, relapse is unlikely

4- The risk of suicide is low

5- Underlying physical illness is unlikely

Q3767. A 30-year-old man is admitted to the psychiatric unit after abnormal behaviour in a police cell. He told police that there was a conspiracy against him and he began behaving irrationally. Thirty six hours after admission to the psychiatric unit the patient has a grand-mal seizure. Which of the following is the most likely cause of the seizure?

1- Amphetamine withdrawal

2- Hypercalcaemia

3- Idiopathic epilepsy

4- LSD withdrawal

**5- Withdrawal from barbiturates**

Q3768. Which of the following statements concerning the causation and dynamics of schizophrenia is correct?

1- Decline in IQ scores during childhood may be a harbinger of psychotic symptoms in adults.

2- In monozygotic twins the risk of the second twin developing schizophrenia if the first is affected is of the order of 10%

3- Schizophrenia is commoner in higher socioeconomic groups

**4- Schizophrenia is commoner in individuals in unstable relationships**

5- The lifetime risk of developing schizophrenia if one parent is affected is of the order of 50%

Q3769. Which of the following features is most strongly suggestive of a diagnosis of somatisation disorder?

1- Below average intelligence

2- Male gender

3- Having a close relative with a physical illness

**4- Many admissions to medical wards as an adult**

5- Symptoms of a bizarre nature

Q3770. Regarding puerperal psychosis which of the following statements is true?

1- Often takes the form of schizophrenia

2- Recurrence of puerperal psychosis in subsequent pregnancies is the rule

3- The onset is usually insidious

**4- The prognosis is usually good**

5- Usually begins after the second week of the puerperium

Q3771. Which of the following is considered indicative of an abnormal grief reaction?

1- Adopting mannerisms of the deceased

2- Anger

3- Denial

**4- Duration longer than 12 months**

5- Hallucinations

Q3772. A 63-year-old man was found collapsed. A department of psychiatry outpatient card was found in his jacket, together with a bottle of procyclidine tablets. He was febrile (38.2° C) , conscious but unresponsive to commands. The blood pressure was 160/105 mmHg and there was marked muscle rigidity. What is the most likely diagnosis?

1- Acute catatonic schizophrenia

2- Bacterial meningitis

3- Cerebral malaria

**4- Neuroleptic malignant syndrome**

5- Procyclidine overdose

Q3773. A 34-year-old female presents with swallowing difficulties. She says that she feels a "lump in her throat" that is worse in the morning. There is no associated pain and she had a steak sandwich for supper. Her family feels that she has lost weight since her partner left her eight months ago. On meeting her you note sweaty palms and tremor. She has a BMI 22. What is the most likely diagnosis?

1- Anorexia nervosa

2- Barrett's oesophagus

**3- Globus hystericus**

4- Hyperthyroidism

5- Pheochromocytoma

Q3774. A 65-year-old gentleman presents with a two month history of memory impairment. His wife has noticed that he often needs prompting for daily tasks and can be quite drowsy on some days. His memory fluctuates but is not necessarily better in the morning or evening. He has also started to act bizarrely, talking to himself and reaching out for things that do not appear to be there. On examination he has cog-wheeling with a mask-like face and shuffling gait. What is the most likely diagnosis?

1- Alzheimer's disease

**2- Lewy body dementia**

3- Normal pressure hydrocephalus

4- Parkinson's disease

5- Wilson's disease

Q3775. Which of the following might be a reason for someone to be judged to lack mental capacity using the functional test of capacity (for example, as used by the Mental Capacity Act 2005)?

1- Contradicting previously expressed wishes

**2- Inability to understand the relevant information**

3- Irrational decision making

4- Loss of hearing aid

5- Presence of mental illness

Q3776. Which of the following demographic factors is associated with a higher than normal risk of completed suicide?

1- Age below 35 years

2- Female sex

3- Marriage

4- Socio-economic group 1

**5- Unemployment**

Q3777. Which of the following is a biological feature of depression?

1- Derailment

**2- Early morning wakening**

3- Low mood

4- Negativism

5- Thought block

Q3778. A 25-year-old male is brought to casualty by his family. He has become isolative, and is talking in a disorganised fashion. He complains that his thoughts are 'leaking' from his head and can be read by all. What is the likely diagnosis?

1- Borderline (emotionally unstabl e) personality disorder

2- Delirium

3- Persistent delusional disorder

4- Psychotic depression

**5- Schizophrenia**

Q3779. A 34-year-old woman comes to the clinic complaining of chronic fatigue. She has felt increasingly tired over the past few months, and just walking her children to school makes her so tired that she has to lie down for a rest for two to three hours. She has even had to give up her part time job selling cosmetics. There have also been increasing headaches, and occasional palpitations. Her only past medical history of note includes irritable bowel syndrome. On examination her BP is normal at 115/70 mmHg, pulse is 62 and regular and her BMI is 22 kg/m2 . Cardiovascular, respiratory and abdominal examination is normal. Investigations show Haemoglobin 12.0 g/dl(11.5-16.0) White cell count 5.6 x 109 /L (4-11) Platelets 187 x 109 /L (150-400) Serum Sodium 137 mmol/l (135-146) Serum Potassium 4.2 mmol/l (3.5-5) Creatinine 90 μmol/l (79-118) Thyroid stimulating hormone 1.2 mu/l (0.

5- 5.0) Glucose 5.0 mmol/l (4.5-5.6) Calcium 2.3 mmol/l (2.20-2.67) Which of the following is the most appropriate intervention?

1- Amitriptyline

2- Fluoxetine

**3- Graded exercise therapy**

4- Melatonin

5- Multi-vitamin replacement

Q3780. A 27-year-old woman complained of palpitations, breathlessness and chest pain, radiating to the left arm. These symptoms had developed six weeks previously, after she had witnessed her father dying from a myocardial infarction. In the past 10 years she had been investigated for abdominal pain, headaches, joint pains, and dyspareunia, without serious cause being found for these symptoms. What is the most likely diagnosis?

1- Depressive episode

2- Factitious disorder

3- Generalised anxiety disorder

4- Obsessive compulsive disorder

**5- Somatisation disorder**

Q3781. A 35-year-old man with a known history of acute intermittent porphyria because he carries a medical emergency card is brought to the Emergency department by the police; he has been violent with acute psychosis. Which of the following sedatives would be the safest to use in this circumstance?

1- Chloral hydrate

**2- Chlorpromazine**

3- Diazepam

4- Haloperidol

5- Phenobarbitone

Q3782. A 57-year-old man is admitted following a serious suicide attempt. He tries to leave hospital stating he is going to 'do the job properly'. Under advice from your consultant, you use a section 5(2) holding power of the Mental Health Act (MH A) 2007 to detain him. Which of the following is permitted in a section 5(2)?

**1- Conversion to section 2 (assessment orde r) or 3 (treatment orde r) of the MHA 2007**

2- Detention for 28 days

3- Leave if agreed with the responsible clinician

4- Transfer to a psychiatric hospital

5- Treatment with an antidepressant

Q3783. A 42-year-old man presented with confusion following a seizure. He has a history of epilepsy and is also known to the community psychiatry team. Examination reveals that he has a temperature of 37°C, BP 138/84 mmHG, coarse tremor and a pulse of 90 bpm. Which of the following is the most likely underlying diagnosis?

1- Benzodiazepine overdose

2- Carbamazepine toxicity

**3- Lithium toxicity**

4- Neuroleptic malignant syndrome

5- Tricyclic overdose

Q3784. A 67-year-old man is referred as an emergency by his general practitioner. The night before he attempted to smother his wife whilst he was fast asleep. The following day, whilst oblivious to the potentially dangerous situation, he reports remembering dreaming about fighting a bear. His father had experienced a similar event some years before being diagnosed with Parkinson's disease. Which of the following is the most likely diagnosis?

1- Adult attention deficit hyperactivity disorder (ADH D) 2- Lewy body dementia

3- Night terrors

**4- REM sleep behaviour disorder**

5- Schizophrenia

Q3785. An 82-year-old male with longstanding Alzheimer's dementia presents as his carers are concerned about his increased episodes of aggression. Physically he is well. Which is the most appropriate treatment for his aggressive outbursts?

1- Diazepam

**2- Quetiapine**

3- Risperidone

4- Temazepam

5- Valproate

Q3786. A 27-year-old female presents with persistent fatigue, myalgia, poor concentration and irritability following a flu-like illness 18 months previously. A diagnosis of chronic fatigue syndrome (CF S) is made. What is the appropriate initial management of this patient?

1- Antidepressants

**2- Cognitive behavioural therapy**

3- ECT

4- Psychoanalysis

5- Reversion therapy

Q3787. An 18-year-old woman presented with a history of 15 kg weight loss in the previous four months. She has been amenorrheic for some months. On examination she had fine lanugo hair and a blood pressure of 110/60 mmHg. Which one of the following laboratory results would support the most likely clinical diagnosis?

1- High plasma follicle stimulating hormone (FS H) concentration

2- High serum ferritin concentration

3- Low plasma cortisol concentration

4- Low plasma testosterone concentration

**5- Suppressed thyroid stimulating hormone (TS H) concentration**

Q3788. A 28-year old man complained of voices which told him to self-harm. He was unemployed, having dropped out of university two years previously. Dependence on which of the following is the most likely cause?

1- Alcohol

**2- Amphetamines**

3- Benzodiazepines

4- Gamma-hydroxybutyrate (GH B) 5- Opiates

Q3789. A 50-year-old business man who has been drinking heavily for at least two years, states that he drinks alcohol on his way into work as he suffers from anxiety attacks. Which one of the following statements is true regarding these episodes?

1- They are imagined

2- They are not accompanied by tremor

3- They are still present after drinking

4- They will deteriorate after three weeks of abstinence from alcohol

**5- They will improve after three weeks of abstinence from alcohol**

Q3790. With respect to symptoms of withdrawal related to chronic alcohol use, which of the following statements is correct?

1- Benzodiazepines are ineffective in the treatment of seizures secondary to alcohol withdrawal, due to cross tolerance with ethanol a type A gamma-aminobutyric acid receptor

**2- Carbamazepine is as effective as benzodiazepines in the acute treatment of the symptoms of alcohol withdrawal**

3- Phenytoin is an effective treatment for seizures related to alcohol withdrawal

4- Withdrawal reflects enhanced neurotransmission in type A gammaaminobutyric acid pathways

5- Withdrawal reflects reduced neurotransmission in N-methyl-Daspartate pathways

Q3791. A patient on the ward is diagnosed with schizophrenia. You are asked to speak with the mother and father of the patient. They ask you about prognostic features of schizophrenia. Which of the following features of their son's illness, character, and lifestyle, which they raise are poor prognostic indicators in schizophrenia?

1- A preciptitating cause

2- High intelligence

**3- Strong family history**

4- Sudden onset of symptoms

5- Unstable social background

Q3792. You are asked to consent a patient for electroconvulsive therapy (EC T) . Which of the following is not a hazard of ECT?

1- Amnesia

2- Crush fracture of the vertebral bodies

3- Induction of cardiac arrhythmia

**4- Induction of dementia**

5- Memory loss

Q3793. A 45-year-old woman presents with polydypsia and polyuria. She says that she is having difficulty sleeping as she is constantly thirsty, drinking many glasses of water during the day, and passing urine excessively at night. She has a history of anxiety and depression and is currently managed with fluoxetine to control her symptoms. She also has a history of mild hypertension, which is controlled with ramipril 5 mg. On examination her BP is 135/70 mmHg, and a general physical examination is normal. Investigations show Hb 13.1 g/dl(11.5-16.5) WCC 5.6 x 109 /L (4-11) PLT 203 x 109 /L (150-400) Na 134 mmol/l (135-146) K 4.0 mmol/l (3.5-5) Cr 90 µmol/l (79-118) Glucose 5.6 mmol/l (4.5-5.6) Ca 2.2 mmol/l (2.2-2.67) Plasma osmolality 275 mOsm/l (282-295) Which of the following is the most likely diagnosis?

1- Cranial diabetes insipidus

2- Hyperglycaemia-related polyuria

3- Nephrogenic diabetes insipidus

**4- Psychogenic polydypsia**

5- Syndrome of inappropriate antidiuretic hormone hypersecretion (SIAD H)

Q3794. A 50-year-old woman presents with multiple recurrent and frequently changing symptoms that are 'functional' in nature (somatisation disorde r) . Which of the following statements concerning her management is correct?

1- Antidepressant medication is unlikely to help

2- An understanding of her early childhood experiences is necessary

**3- Her progress will be slower if she thinks her doctors do not believe her**

4- Medical staff need to minimise their contact with her relatives

5- She should be persuaded to understand that her symptoms are psychological

Q3795. A 24-year-old male presents with shortness of breath, chest pains and cough. He is a smoker of 10 pack/years and occasionally uses cocaine and ketamine. He uses PRN salbutamol inhaler for asthma diagnosed in childhood. He has been treated by his GP for chest infections four times in the past seven months, with different courses of antibiotics. On examination he has a white exudate on his tongue and throat. His examination is otherwise normal. The nursing staff tells you that his saturations drop to 74% on room air when walking to the bathroom. What test will confirm your diagnosis?

1- Chest x ray

2- ECG

3- Peak expiratory flow

4- Sputum culture

**5- Sputum immunofluorescence**

Q3796. A 27-year-old woman is suffering with headaches that have occured daily for the past three months. They occur at different times of the day and affect the frontal and occipital areas. She has no neck stiffness or rash. She does not have any visual symptoms. She has noticed cramps and tingling in her lips and fingers associated with palpitations and a feeling of suffocation. She takes no medication. She is concerned because her father died from glioblastoma 12 months ago. What is the likely cause of her headaches?

**1- Anxiety neurosis**

2- Benign intracranial hypertension

3- Glioblastoma

4- Nelson's syndrome

5- Neurosarcoidosis

Q3797. A 70-year-old man with vascular dementia is recuperating on the stroke rehabilitation ward after a middle cerebral artery infarct. Despite several conversations he does not realise he is in hospital but is usually settled, accepts medication and is not on any neuroleptics; however on two nights in the last week he has tried to leave the ward at night, having to be forcibly returned. His doctors and nurses agree his rehabilitation is in his best interests, although likely to take weeks. What is the best medico-legal framework for his management?

1- Common law

**2- DOLS (deprivation of liberty safeguardin g) 3- Mental Capacity Act**

4- Mental Health Act

5- Nothing - he should be allowed to leave

Q3798. You see a 45-year-old man in clinic with symptoms of akathisia from his antipsychotic medication. You discuss reducing his antipsychotic but he insists that every time medication is reduced below the current dosage his delusions get much worse. What would be your next best therapeutic manoeuvre?

1- Antimuscarinic (for example, procyclidin e) 2- Benzodiazepine (for example, clonazepa m) 3- Beta-blocker

4- Dopamine agonist (for example, pramipexol e) 5- Vitamin E

Q3799. You are asked to review a 35-year-old man who was transferred from a psychiatric ward a week ago with unexplained pyrexia. Nurses say he is deteriorating: on examination he has reduced conscious level, a temperature of 38.5°C, BP 90/ 50 mmHg, pulse 110 bpm. There is generalised muscle stiffness but no neck stiffness and no focal neurology. Basic screening bloods in casualty show mild leucocytosis and dehydration with CRP 50. The rest of the FBC and biochemistry including liver function tests are essentially normal. Infection screen - including CXR, midstream urine (MS U) and blood cultures - is negative. Which of the following would be the best investigation to perform next?

1- Brain CT (computerised tomograph y) 2- Creatine kinase (C K) 3- Lumbar puncture

4- Repeat blood culture

5- Sputum m, c and s (microscopy, culture and sensitivit y)

Q3800. Which of the following is the most useful imaging modality of the brain when investigating Lewy body dementia?

1- CT

**2- DaTscan™ (dopamine transporter sca n) 3- HMPAO PET**

4- MRI

5- Skull x ray

Q3801. A 24-year-old man is admitted to the Emergency department via the police. He was found trying to kick in the windows of a local department store. His flatmates tell you that he has been acting increasingly strangely over the past few weeks, and has covered the inside of his room with silver paper. On examination he looks agitated, his BP is 155/80 mmHg, and his pulse is 90. He tells you to stop the voices in the room from commenting on his actions and his personality. Investigations show Hb 12.9 g/dl(13.5-18) WCC 6.7 x 109 /L (4-11) PLT 256 x 109 /L (150-400) Na 139 mmol/l (135-146) K 4.5 mmol/l (3.5-5) Cr 120 mmol/l (79-118) Urine Positive for cannabinoids Which of the following is the most likely diagnosis?

1- Drug-induced psychosis

2- Encephalitis

3- Hypomania

4- Personality disorder

**5- Schizophrenia**

Q3802. A 72-year-old man presents to the Emergency department. He has an unshakable belief that he has stomach cancer and has taken an overdose of paracetamol tablets after making a decision to end it all. He has been off his food for the past six months, having lost 6 kg. He is finding it difficult to fall asleep and wakes in the early hours of the morning at about 4 am. He sees nothing positive in his current situation and has lost all interest in work. On examination he looks unkempt, has clearly not washed or shaved for many days. Investigations show: Haemoglobin 13.1 g/dl(13.5-18) White cell count 7.2 x 109 /L (4-10) Platelets 203 x 109 /L (150-400) Sodium 141 mmol/l (134-143) Potassium 4.7 mmol/l (3.5-5) Creatinine 99 μmol/l (60-120) ESR 5 (<10) Which of the following is the most likely diagnosis?

1- Carcinoma of the stomach

**2- Depression**

3- Hypomania

4- Personality disorder

5- Schizophrenia

Q3803. A 21-year-old history student has returned to university after a field trip to the US. His girlfriend has called the student health service as he has begun dressing in ceremonial robes and has announced to her that he is the dean of the faculty and orders her to wait on his every need. He has been known to use cannabis in the past and has used ecstasy on several other occasions. Additionally, he has been using some caffeine tablets to help him stay up at night to prepare an essay for submission and has been suffering from worsening headaches over the past few weeks. The student health service persuades him to come in for an urgent appointment, where on examination, he is wearing a very bright shirt and trousers, and a black academic robe and mortar board hat. His BP is 112/70 mmHg, his pulse is 80 and regular. Physical examination is unremarkable but you identify both pressure of speech and flight of ideas on mental state examination. Investigations show Haemoglobin 13.1 g/dl(13.5-8) White cell count 6.1 x 109 /L (4-10) Platelets 209 x 109 /L (150-400) Sodium 142 mmol/l (134-143) Potassium 4.6 mmol/l (3.5-5) Creatinine 110 μmol/l (60-120) Which of the following is the most likely diagnosis?

1- Drug induced psychosis

2- Intracerebral mass lesion

**3- Mania**

4- Personality disorder

5- Schizophrenia

Q3804. A 52-year-old male is admitted after taking an overdose. Which single feature best suggests a high risk of future suicide?

1- Ingestion of alcohol with the overdose drug

2- Ingestion of more than one drug

3- Ingestion of more than 100 tablets

**4- Making plans before the overdose to avoid discovery**

5- Previous history of overdose

Q3805. Which of the following is a typical side effect of olanzapine?

**1- Akathisia**

2- Hypoadrenalism

3- Hypoglycaemia

4- Macroglossia

5- Steven-Johnson syndrome

Q3806. A 22-year-old man consults his GP complaining of redness and itching on his face and hands. He has regularly visited another GP for similar complaints within the last two years and has been signed off on sick leave from employment as a builder. He is in receipt of benefits and reports that he is in the process of making an insurance claim for loss of earnings. He says that there was one ointment that cured the problem but he had not been able to find any proprietary medication that works. Examination showed no skin lesions and no apparent rash. What is the most likely diagnosis?

1- Conversion disorder

2- Delusional disorder

**3- Malingering**

4- Munchausen syndrome

5- Obsessive compulsive disorder

Q3807. A 45-year-old woman has, approximately four hours ago, taken an unknown quantity of amitriptyline tablets that were being prescribed for her depression. She is feeling drowsy, agitated and has a dry mouth. An ECG shows wide QRS complexes with arrhythmias. Blood gas analysis revealed: pH 7.2 (7.36-7.44) paO2 10 kPa(11.3-12.6) paCO2 4 kPa(4.7-6.0) What is the most appropriate treatment?

1- Activated charcoal

2- Gastric lavage

3- Haemodialysis

4- Intravenous insulin

**5- Intravenous sodium bicarbonate**

Q3808. A 41-year-old female is brought into the Emergency department after taking an uncertain quantity of paracetamol two hours previously and trying to hang herself. She becomes agitated and insists that she wants to go home immediately. You judge that she is at high risk of suicide. Which of the following is the most appropriate course of action for this patient?

1- Ask her to sign a 'discharge against medical advice' form and let her go

**2- Call the duty psychiatrist, and with other staff in the emergency department attempt to restrain her under common law until they arrive**

3- Call the duty psychiatrist, but let the patient go if she insists and the duty psychiatrist does not arrive in time to see her

4- Call the hospital security services, restrain her and sedate her

5- Detain her under section 5(2) of the Mental Health Act

Q3809. A 81-year-old male presents with difficulty coping at home and is found to be depressed. Which one of the following statements regarding this patient is correct?

**1- Electroconvulsive therapy (EC T) would be contraindicated if he had a previous cerebrovascular accident**

2- He is unlikely to have had previous episodes of depression

3- Monoamine oxidase inhibitors are the most appropriate treatment for this patient

4- Somatic symptoms would be an unexpected feature

5- Suicide would be unlikely in a patient of this age

Q3810. A 76-year-old male attends clinic with his wife who states that her husband has become disinterested and withdrawn. Which of the following would favour a diagnosis of dementia rather than depression?

1- Agitation

2- Poor short term memory

3- Reduced libido

4- Self-reported concern of poor memory

**5- Urinary incontinence**

Q3811. A 40-year-old ex-footballer presents requesting treatment for alcoholism and is prescribed disulfiram. What is the mode of action of disulfiram?

1- Decreases severity of alcohol withdrawal

2- Helps alcoholics to drink safely

**3- Inhibits acetaldehyde dehydrogenase activity**

4- Inhibits alcohol dehydrogenase activity

5- Reduces the desire for alcohol

Q3812. All of the following lead to the increased risk of developing schizophrenia or a schizophrenic-like illness, except which?

1- Amphetamine addiction

**2- Being brought up in an institution**

3- Sibling with schizophrenia

4- Social Class V

5- Temporal lobe epilepsy

Q3813. A 21-year-old woman is known to suffer from anorexia nervosa. Which of the following metabolic disturbances would be a characteristic finding?

1- A decrease in cortisol levels

2- An increase in LH levels

3- Hyperkalaemia

**4- Impaired glucose tolerance**

5- Raised androgen levels

Q3814. Which of the following features is characteristic of early Alzheimer's disease?

1- Ataxic gait

**2- Impaired short term memory**

3- Myoclonic jerks

4- Urinary incontinence

5- Visual hallucinations

Q3815. A 17-year-old girl presents after having ingested 50 of her mother's fluoxetine tablets, approximately five hours previously. Which one of the following clinical features is compatible with this history?

1- Heart rate of 30 beats per minute

2- Pupillary constriction

3- QRS duration of 120 ms (<100)

4- Respiratory rate of six breaths per minute

**5- Vomiting**

Q3816. A 17-year-old female is referred with a six month history of amenorrhoea and weight loss, for which no organic cause can be found. Which of the following features would support a diagnosis of anorexia nervosa (A N) ?

**1- Delusion of being overweight**

2- Delusions of poisoning

3- Hypergonadotrophic hypogonadism

4- Hypotrichosis

5- Watery diarrhoea

Q3817. Which of the following is true regarding depersonalisation syndrome?

1- Characteristically precedes derealisation

2- Is a feeling that other people have changed

3- Is an indication for electroconvulsive therapy (EC T) 4- Is associated with depression

5- Precedes the onset of schizophrenia

Q3818. A 30-year-old male presented with a paranoid psychosis accompanied by visual hallucinations which resolved over the next three days. Which one of the following is the most likely diagnosis?

**1- Alcohol withdrawal.**

2- Diazepam dependence.

3- Fluoxetine overdose.

4- Heroin withdrawal.

5- Smoking cannabis.

Q3819. A student is worried that she may not be able to take her final university examinations in three months time because she says she becomes faint and dizzy when she does examinations. What is the most appropriate course of action?

1- 24 hour ECG monitoring

2- Advise her to withdraw from examinations on medical grounds

**3- Arrange counselling, with relaxation training**

4- Prescribe diazepam

5- Prescribe fluoxetine

Q3820. A 22-year-old woman complains of haemoptysis, abdominal pains and pyrexia for a month. She is admitted to hospital and found to be apyrexial and haemodynamically stable. There are numerous crusted, linear lesions on her forearms. What is the most likely diagnosis?

1- Acute intermittent porphyria

**2- Factitious disorder**

3- Systemic lupus erythematosus

4- TB

5- Wegener's granulomatosis

Q3821. Which of the following is true of obsessional neurosis (obsessive compulsive disorde r) ?

1- Low intelligence is a common feature

**2- Patients have good insight**

3- Patients often act on their aggressive impulses

4- The onset is usually after the age of 50 years

5- There is often a history of faulty toilet training

Q3822. Which of the following symptoms is more suggestive of a functional disorder?

1- Disorientation in time

2- Inability to retain new information

**3- Mutism**

4- Perseveration

5- Visual hallucinations

Q3823. A 17-year-old student presented with recurrent attacks of dizziness. Which one of the following additional features is most suggestive that she has an anxiety disorder?

1- Elevated diastolic blood pressure

2- Nocturia

**3- Paraesthesia in the hands**

4- Rotational vertigo

5- Tinnitus

Q3824. An 18-year-old female is reluctant to eat food that is prepared for her. Which one of the following would be most consistent with a diagnosis of anorexia nervosa?

1- She believes the food is poisoned

**2- She has a full-time job**

3- She has bouts of heavy drinking

4- She regards herself as ill

5- She secretly abuses anabolic steroids

Q3825. A 25-year-old male with learning difficulties presents with behavioural problems. He confessed to smoking the occasional cannabis joint. Which of the following is most likely to be the cause of his behavioural problems?

1- Cannabis

2- Dementia

**3- Depression**

4- Mania

5- Schizophrenia

Q3826. An 18-year-old man had repeated episodes of breathlessness and palpitations, lasting about 20 minutes and resolving gradually. There were no abnormal physical signs. What is the most likely cause of these features?

1- Drug abuse

**2- Panic disorder**

3- Paroxysmal supraventricular tachycardia (SV T) 4- Personality disorder

5- Thyrotoxicosis

Q3827. Which of the following conditions is associated with a pathognomonic retinal change?

1- Infective endocarditis

2- Polycythaemia rubra vera

**3- Sickle cell anaemia**

4- Toxoplasmosis

5- Wilson's disease

Q3828. A 50-year-old man presented with a three day history of floaters and blurred vision in his left eye. What is the diagnosis?

1- Angioid streaks

2- Arteriolar embolus

3- Diabetic retinopathy

4- Macular degeneration

**5- Reactivation of Toxoplasma chorioretinitis**

Q3829. A 45-year-old woman presents with a three day history of red right eye associated with an aching pain. She reports the pain is so severe it keeps her awake at night. Her vision is unaffected. Photo of her right eye shows vasodilation of the deep and superficial episcleral vessels, which did not blanch on application of topical phenylephrine 2.5%. Her globe was tender and she experienced pain on eye movements. Her past medical history includes Crohn's disease. What is the diagnosis?

1- Acute anterior uveitis

2- Blepharoconjunctivitis

3- Conjunctivitis

4- Episcleritis

**5- Scleritis**

Q3830. A 53-year-old woman presents with a five day history of a painful left eye. On examination there is a small white infiltrate on the inferior aspect of her left cornea, which is close to the limbal edge, but separated from it by an area of clear cornea. The infiltrate stains with fluorescein and there is significant blepharitis affecting both lid margins. She reports no contact lens wear. Her past medical history includes rheumatoid arthritis. What is the diagnosis?

1- Anterior uveitis

2- Corneal abrasion

3- Herpes simplex keratitis

4- Hypopyon

**5- Marginal keratitis**

Q3831. A 50-year-old man presented with a three day history of red eye associated with pain, blurring of vision and photophobia. Examination revealed cells in the anterior chamber. He was diagnosed with anterior uveitis. A photo of his eye is shown with a characteristic sign of anterior uveitis. What is the diagnosis?

1- Corneal oedema

2- Hypopyon

**3- Keratic precipitates**

4- Posterior synechiae

5- Punctuate epithelial erosions

Q3832. A 47-year-old man, who is currently being treated with quadruple therapy for pulmonary tuberculosis comes to the Emergency department complaining of a sudden deterioration in the visual acuity in his left eye and loss of colour vision. Which of the following anti-tuberculous agents is most likely to have been responsible?

**1- Ethambutol**

2- Isoniazid

3- Pyrazinamide

4- Rifampicin

5- Streptomycin

Q3833. A 47-year-old man, otherwise fit and healthy, complained of a one week history of not being able to see objects placed at the centre of his visual fields, even with both eyes opened. An objective visual fields test revealed an incongruous binasal hemianopia. What is the most likely diagnosis?

1- Carotid-cavernous sinus fistula

2- Craniopharyngioma

3- External carotid artery dissection

**4- Internal carotid artery displacement**

5- Pituitary tumour

Q3834. Which one of the following diseases is most likely to be associated with scleritis?

1- Ankylosing spondylitis

2- Crohn's disease

**3- Rheumatoid arthritis**

4- SLE

5- Ulcerative colitis

Q3835. A 26-year-old tall, thin, lady with a known cardiac valvulopathy, was reported to have skin laxity and folds on the back of the neck and her underarms. Fundoscopy revealed bilateral angioid streaks with optic disc drusens. What is the most likely diagnosis?

1- Ehlers-Danlos syndrome

2- Marfan's syndrome

3- Menkes syndrome

4- Osteogenesis imperfecta

**5- Pseudoxanthoma elasticum**

Q3836. A 28-year-old Lebanese lady developed left branch retinal artery occlusion ( BRA O) one week after an uneventful elective caesarean section. She also developed some mouth and vulval ulcers two weeks post-partum. Visual acuity in the affected left eye was counting fingers. Full blood picture, U&Es and coagulation screen were all within normal limits. CRP was 28. Anti-nuclear antibody, ANA titre was 1:20. What is the most likely cause of her left BRAO?

1- Amniotic fluid embolus

**2- Behçet's disease**

3- Fat embolus

4- Reiter's syndrome

5- SLE

Q3837. A 64-year-old man presents with redness affecting his right eye, having noticed it on waking two days earlier. He reports no pain, watering or discharge and his vision is unaffected. There was no corneal staining with fluorescein. What is the diagnosis?

1- Conjunctivitis

2- Episcleritis

3- Herpes simplex keratitis

4- Iritis

**5- Subconjunctival haemorrhage**

Q3838. Which of the following may be associated with optic atrophy (O A) ?

1- Anti-acetylcholinesterase antibodies

2- Intense iron deposition on liver biopsy

3- Low plasma caeruloplasmin

**4- Red ragged fibres on muscle biopsy**

5- XXY karyotype

Q3839. A 31-year-old man presented with raised yellow lesions above the left upper eye lid. What is the diagnosis?

1- Acne rosacea

2- Eczema

**3- Herpes simplex**

4- Herpes zoster ophthalmicus

5- Molluscum contagiosum

Q3840. A 24-year-old wearer of daily disposable contact lenses presented with a two day history of red eye with associated soreness. Examination revealed a small corneal ulcer on her right eye. What would be first line treatment?

1- Brolene drops two hourly

2- Chloramphenicol drops four times a day

3- Fucithalmic ointment twice a day

**4- Levofloxacin hourly**

5- Predsol drops four times a day

Q3841. A 28-year-old man presents with a three day history of 'gritty pain' in his right eye with pain on blinking. He recollects no history of trauma. He is otherwise well but occasionally experiences cold sores. On examination there are multiple linear epithelial defects. Which of the options below must be included in the management?

1- Aciclovir ointment

**2- Everting the eyelid**

3- Oral antibiotics

4- Orbital x ray

5- Topical steroid drops

Q3842. A 33-year-old man presents with a four day history of painful loss of vision. His past medical history includes eczema and hay fever. On examination his cornea is opaque and appears to be protruding. The corneal surface appears irregular but there is no staining with fluorescein. What is the diagnosis?

1- Acute anterior uveitis

**2- Acute corneal hydrops**

3- Episcleritis

4- Herpes simplex keratitis

5- Scleritis

Q3843. An 18-year-old man was found to have multiple small pigmented lesions in the peripheral retina of both eyes. These lesions resembled bear tracks. However, his visual acuity was 6/6 on the Snellen chart in both eyes. His father also had similar lesions. Which one of the following would be the best next step in managing this man's condition?

1- Referral to cardiology

2- Referral to endocrinology

**3- Referral to gastroenterology**

4- Referral to infectious disease specialist

5- Referral to ophthalmology

Q3844. A 45-year-old lady with rheumatoid arthritis attended a routine appointment at the rheumatology clinic, and was complaining of a two day history of right red eye with dull pain. She denied any photophobia and there was no ocular discharge noted. What is the most likely diagnosis?

1- Acute angle closure glaucoma

2- Conjunctivitis

3- Inflammation caused by corneal melt

**4- Scleritis**

5- Scleromalacia perforans

Q3845. A 34-year-old man, who has just recovered from gastroenteritis following a recent trip to Turkey, suddenly developed progressive gait ataxia and restriction of eye movements in all directions of gaze. There was no nystagmus. What is the most likely diagnosis?

1- Acute cerebellar degeneration

2- Millard-Gubler syndrome

**3- Miller-Fisher syndrome**

4- Parinaud's syndrome

5- Subacute combined degeneration of the spinal cord

Q3846. A 61-year-old emmetropic female nurse presented with a three day history of missing steps when walking down the stairs as she was seeing double of each of the steps. She reported no such problems when walking up the stairs. She admitted to bumping her head moderately hard when trying to get out of her car four days ago. She denied any deterioration of her visual acuity. No horizontal diplopia was elicited. What is the most likely cause of her problems?

1- Right inferior oblique palsy

2- Right inferior rectus palsy

**3- Right superior oblique palsy**

4- Right superior rectus palsy

5- This patient needs glasses for distance

Q3847. A 60-year-old man presents with an acute red eye. Of the following conditions which is the most likely cause?

**1- Closed angle glaucoma**

2- Optic neuritis

3- Retinal vein occlusion

4- Retinal detachment

5- Vitreous haemorrhage

Q3848. A 34-year-old man presented with a two day history of red eye, associated with sharp pain, watering, photophobia and blurring of vision. He does not wear contact lenses. He reports having two similar episodes over the past two years. Examination revealed reduced corneal sensation and an irregular epithelial defect. What is the diagnosis?

1- Episcleritis

**2- Herpes simplex keratitis**

3- Marginal keratitis

4- Microbial keratitis

5- Recurrent corneal erosion syndrome

Q3849. A patient presents with deteriorating vision. On examination, fundoscopy reveals retinitis pigmentosa. Which of the following conditions would be unlikely to be responsible for this presentation?

1- Abetalipoproteinaemia

**2- Friedreich's ataxia**

3- Kearns-Sayre syndrome

4- Laurence-Moon-Biedl syndrome

5- Refsum's disease

Q3850. This is the appearance of the eye of a 3

2- year-old man who presents with blurring of vision. Which of the following conditions would give rise to this appearance?

1- Cushing's syndrome

2- Diabetes mellitus

3- Hypertension

**4- Marfan's syndrome**

5- Reactive arthritis

Q3851. A 37-year-old homosexual male presented to the medical take with an acute onset of reduced vision in his left eye. Fundoscopy of the left eye revealed an extensive 'brushfire-like' lesion in the major superior temporal arcade with a large patch of white fluffy lesion mixed with extensive retinal haemorrhages. What is the most likely diagnosis?

**1- CMV retinitis**

2- Ocular histoplasmosis

3- Syphilitic choroiditis

4- Syphilitic neuroretinitis

5- Tuberculous periphlebitis

Q3852. A 65-year-old hypermetropic lady was seen in an acute unselected medical take. She presented with a three hour history of dull pain, lacrimation, photophobia and reduced vision in the right eye. She had no significant past medical history. Ocular examination revealed a painful red eye with an oval shaped pupil. What is the most likely diagnosis?

**1- Acute angle closure glaucoma**

2- Episcleritis

3- Iritis

4- Keratoconjunctivitis

5- Scleritis

Q3853. A 75-year-old man developed a gradual problem of not being able to look down over the last eight months. Then about two months ago, he was also not able to look up. He denied any diplopia, ocular pain or headaches. There was no evidence of convergence retraction nystagmus, proptosis or ptosis. What is the most likely diagnosis?

**1- Chronic progressive external ophthalmoplegia**

2- Ocular myasthenia

3- Ocular myositis

4- Parinaud's syndrome

5- Thyroid eye disease

Q3854. A 24-year-old lady with a BMI of 36 and on the combined oral contraceptive pill presented with a one month history of increasing vertex headaches, worse in the mornings and worse on coughing and sneezing. She also complained of blurry vision in both eyes. Fundoscopy revealed bilateral extensive papilloedema with a lot of flame shaped haemorrhages around and on the optic discs. Which one of the following is the best long term management of this patient?

1- Changing the combined oral contraceptive pill to an oestrogen based one

2- Commence on aspirin

3- Perform lumbar puncture

**4- Reduce weight**

5- Start oral acetazolamide

Q3855. A 17-year-old male with learning difficulties is brought for review by his worried parents after he described acute blurring of vision in his right eye. Examination reveals ectopia lentis. What is the most likely diagnosis?

1- Ehlers-Danlos syndrome

**2- Homocystinuria**

3- Maple syrup urine disease

4- Marfan's syndrome

5- Metachromatic leukodystrophy

Q3856. A 53-year-old man presented with a one week history of bilateral red eyes, which started in his right eye and after three days spread to his other eye. He reports associated soreness, watering but no discharge or change in his vision. He states his symptoms were preceded by an upper respiratory tract infection. He has a history of ulcerative colitis and reports his father had glaucoma. On examination his vision is normal and there are bilateral conjunctival follicles. What is the diagnosis?

1- Acute angle closure glaucoma

2- Acute anterior uveitis

3- Bacterial conjunctivitis

4- Episcleritis

**5- Viral conjunctivitis**

Q3857. A 24-year-old lady presented with anisocoria, with the right pupil larger than the left, both in a brightly lit room and in a dim lit room. Her mother noticed this only five days ago. The anisocoria was less marked in the dim lit room. Deep tendon reflexes were present and brisk throughout. She occasionally noted horizontal diplopia with a right sided headache. There was no ptosis. Visual acuity was 6/6 on the Snellen chart in both eyes. Which one of the following statements is most accurate?

1- The diagnosis is Holmes-Adie's syndrome

2- The diagnosis of a brain tumour needs to be excluded urgently

**3- The diagnosis of a posterior communicating artery aneurysm needs to be excluded urgently**

4- The pathological (disease d) pupil is actually the left pupil, diagnosis being Argyll Robertson pupil

5- When doing a swinging light test of the pupils, a right relative afferent papillary defect is to be expected

Q3858. A 25-year-old man presented with night blindness and gradual deterioration of his peripheral visual fields bilaterally. Ocular examination revealed bony spiculed lesions in the peripheral retina of both eyes with attenuated retinal blood vessels. His only other past medical history is that of a first degree heart block. Which one of the following statements is most correct?

1- There is a one in two chance of him passing this disease on to his offspring

2- There is a one in four chance of him passing this disease on to his offspring

3- There is a one in 10 chance of him passing this disease on to his offspring

4- There is a 100% chance of him passing this disease on to his offspring

**5- There is no chance of him passing this disease on to his offspring**

Q3859. A 75-year-old man, known to have ischaemic heart disease, with a previous history of alcohol abuse, presented with a one week history of deterioration of central vision in the right eye. He denied any ocular pain or headache. An objective visual fields test was done and he was found to have a right central scotoma. What is the most likely diagnosis?

1- Alcohol toxic amblyopia

**2- Macular degeneration**

3- Ocular ischaemic syndrome

4- Vitamin A deficiency

5- Vitamin B12 deficiency

Q3860. A 23-year-old man with an otherwise insignificant past medical history, presented with a sharp painful left eye over the last one day. Ocular examination revealed a left mildly red eye with mild reduction of visual acuity. There were no ocular discharges to note. What is the most likely diagnosis?

1- Episcleritis

**2- Herpetic keratitis**

3- Iritis

4- Posterior uveitis

5- Scleritis

Q3861. A 45-year-old asthmatic man presented with bilateral blurry vision of gradual onset over the last two months. On examination he was found to have bilateral posterior subcapsular cataract, more so in the right than the left. His other past medical history was that he had galactosaemia when he was still a baby, but this has since been treated. He is on bronchodilator inhalers and steroid inhalers to control his asthma. His oral medication includes amiodarone, aspirin and simvastatin. What is the most likely cause of his cataracts?

1- Amiodarone

2- Galactosaemia

3- Inhaled bronchodilators

**4- Inhaled steroids**

5- Simvastatin

Q3862. A 42-year-old lady presented with a two week history of noticing both her eyes were skewed towards the temporal side. She denied ocular pain and headaches. Her visual acuity was 6/6 on the Snellen chart in both eyes. She was not able to adduct both eyes, but up and down gaze was fine. She had two previous episodes of optic neuritis in the right eye. The last episode happened four months ago. Her walking was normal, and her deep tendon reflexes were present. She also had recovered from gastroenteritis three weeks ago. What is the most likely condition with which the patient had presented?

1- Chronic progressive external ophthalmoplegia

**2- Internuclear ophthalmoplegia**

3- Miller Fisher syndrome

4- Ocular myasthenia

5- Parinaud's syndrome

Q3863. Regarding pneumonia caused by Legionella pneumophila, which of the following is true?

**1- Is associated with hyponatraemia**

2- Is best treated with intravenous amoxicillin and clavulanic acid

3- Is common in AIDS patients

4- Is readily diagnosed by standard aerobic culture of sputum

5- Should be managed on the ward in a respiratory isolation cubicle

Q3864. Which of the following concerning Corynebacterium diphtheriae is correct?

**1- Can cause skin infection**

2- Infection is often complicated by myocardial fibrosis after recovery from severe infection

3- Is most unlikely to cause infection in an individual with a positive Schick test

4- Mitis strain is generally more virulent than the intermedius strain

5- Toxin is better absorbed through the anterior nasal than the pharyngeal mucosa

Q3865. A 35-year-old female who returned from holiday in Costa Rica two months ago now reports having ulceration around her neck with cervical lymphadenopathy. The lesion was initially a papule then it turned into a nodule and is now an ulcer. The ulcer is pruritic with raised undulated borders. The thin smears of dermal scraping show amastigotes when stained with Giemsa. What is the most likely aetiological agent?

**1- Cutaneous leishmaniasis**

2- Lepromatous leprosy

3- Mycobacterium tuberculosis ulceration

4- Visceral leishmaniasis

5- Visceral ulceration

Q3866. A 20-month-old baby is brought to the Emergency department with a two day history of irritability, fever and non-blanching rash. BP was normal. What is the likeliest diagnosis?

1- H. influenzae 2- L. monocytogenes 3- N. meningitidis 4- S. aureus

5- Streptococcus pneumoniae

Q3867. A 24-year-old IV drug abuser presents with jaw spasm to the emergency department. She says she re-used a heroin needle a few days ago and a couple of her sites look infected. She has suffered recurrent admissions with pneumonia over the past two years and has been using heroin for the past four years. On examination she is pyrexial 37.8°C. She has jaw spasm, significant neck stiffness and looks in pain. Examination of her groin and left antecubital fossa reveals discharging sinuses from where she has injected heroin previously. Investigations show Hb 11.4 g/dl(13.5-18) WCC 10.8 x 109 /L (4-10) PLT 179 x 109 /L (150-400) Na 139 mmol/l (134-143) K 4.5 mmol/l (3.5-5) Cr 129 µmol/l (60-120) She is given immunoglobulin. Which of the following antibiotic treatments is most appropriate in addition?

1- Chloramphenicol

2- Ciprofloxacin

3- Erythromycin

**4- Metronidazole**

5- Oxytetracycline

Q3868. Following your morning surgery, you receive a telephone call from the lab at the local hospital regarding an 82-year-old patient of yours whom you admitted from her nursing home with headache, photophobia and neck stiffness. When you saw her, her temperature was 39.0oC, pulse rate 115 beats/min and there were no skin rashes or focal neurological signs. Her Glasgow coma scale was 15/15. Following admission, CSF was obtained and Gram stain showed Gram-negative coccobacilli, subsequent culture confirms a Haemophilus influenzae meningitis. What chemoprophylaxis should be offered to the nurses at her home?

1- Azithromycin

2- Ceftriaxone

3- Ciprofloxacin

4- No chemoprophylaxis required

**5- Rifampicin**

Q3869. An 18-year-old student presented to hospital two days after returning from visiting family in India. Within twenty four hours of his return to the United Kingdom he suddenly developed profuse watery diarrhoea. Initially he did not have any nausea, vomiting or stomach cramps, but these developed within a day. He described the diarrhoea as looking like cloudy water but without any blood or mucus. He was opening his bowels over 20 times per day. On examination he looked pale; he was afebrile. Skin turgor was reduced and mucous membranes were dry. Stool culture revealed a growth of Vibrio cholerae. Which is the most appropriate antibiotic to administer?

1- Ceftriaxone

**2- Doxycycline**

3- Meropenem

4- Metronidazole

5- Piperacillin plus gentamicin

Q3870. A 51-year-old lady presented to hospital with a two day history of malaise and headache. On the day of admission the headache had become more intense and was associated with pain in her neck. Her husband reported that she had also been febrile and confused at times. She had previously been well and had no significant past medical history. On examination, she was febrile 38.1°C, looked unwell and was photophobic. Kernig's and Brudzinski's signs were positive. The fundi were normal with no evidence of papilloedema. Following a normal CT scan a lumbar puncture was performed and CSF analysis showed: White cells 200/mm3 Red cells 2/mm3 CSF protein 0.9 g/l (0.15-0.45) CSF glucose 1.6 mmol/l (3.3-4.4) Plasma glucose 5.3 mmol/l (3.0-6.0) What is the most likely causative organism?

1- Eschericia coli

2- Listeria monocytogenes

3- Mycobacterium tuberculosis

**4- Streptococcus pneumoniae**

5- Streptococcus pyogenes

# Chapter 26 2012 Infectious disease

Q3871. A 17-year-old male presented to casualty complaining of difficulty breathing. He had been brought to hospital by ambulance, having collapsed shortly after being stung on the hand by a bee. On examination, his blood pressure was 80/40 mmHg, and facial swelling was noted. Which one of the following investigations is most likely to confirm the nature of the reaction?

1- Haemolytic complement (CH50) level

**2- Plasma tryptase activity**

3- Serum complement C3 level

4- Serum total IgE level

5- Serum venom-specific IgE level

Q3872. You are considering starting a patient on griseofulvin. Which of the following statements concerning its pharmacology is true?

1- It is active against Aspergillus

2- It is active against Candida albicans

**3- It is associated with drug-induced StevensJohnson syndrome**

4- It is used for a maximum of two weeks

5- It should not be used in renal failure

Q3873. An 87-year-old woman was referred to clinic with a two month history of alternating constipation and diarrhoea, night sweats and fatigue. The patient was not sure if she had lost any weight. On examination she appeared thin and pale. Her pulse was 80/minute and regular. A systolic murmur was audible at the apex, radiating to the axilla. No diastolic murmurs were heard. Investigations revealed blood cultures to be positive, and transthoracic echocardiogram revealed a vegetation on the mitral valve. What is the most likely causative organism in this case?

1- Coagulase-negative Staphylococcus

2- Staphylococcus aureus

**3- Streptococcus bovis**

4- Streptococcus mitis

5- Streptococcus viridans

Q3874. Which of the following is a feature of vancomycin-resistant enterococci?

1- Cause resistant infective diarrhoea

2- Produce an enzyme that inactivates vancomycin

**3- May be found in healthy community volunteers not recently hospitalised**

4- High dose ampicillin is the treatment of choice

5- Are commonly vancomycin-dependent

Q3875. You review a 30-year-old HIV positive man with Pneumocystis carinii pneumonia (PC P) . Blood gases reveal a pO2 of 55 mmHg (75-100) whilst breathing 28% oxygen. Which of the following would be indicated in the treatment?

1- Atovaquone

2- Clindamycin

3- Leucovorin

4- Pentamidine

**5- Trimethoprim-sulphamethoxazole**

Q3876. A 32-year-old woman complains of an offensive clear yellow vaginal discharge, with associated vulval itch and soreness. She admits to beginning a relationship with a new partner some four weeks earlier. On examination her vulva looks slightly erythematous and there is a clear discharge that has a fishy odour. Which of the following is the most likely diagnosis?

1- Bacterial vaginosis 2- C. trachomatis

3- Herpes simplex infection 4- N. gonorrhoeae 5- T. vaginalis

Q3877. A 31-year-old African man presented with a history of fever, night sweats, shortness of breath and weight loss for two months. His chest radiograph showed a moderately severe left pleural effusion only. He consented to an HIV test which was positive. What is the most likely cause of pleural effusion?

1- Hodgkin's lymphoma

**2- Pleural tuberculosis**

3- Pneumocystis jirovecii pneumonia (PC P) 4- Pulmonary aspergillosis

5- Pulmonary Kaposi's sarcoma

Q3878. A young girl returns from a trip to India with a protracted history of watery diarrhoea. Giardiasis is suspected but three stool samples are negative. What is the best investigation to confirm Giardia as a diagnosis?

1- CT abdomen

2- Rectal biopsy

3- Serum IgM Giardia antibodies

**4- Small intestine biopsy**

5- Stool microscopy

Q3879. Three elderly patients presented with cough, fever and general malaise on return from holiday to Spain. The group of 50 had travelled together, engaging in visits to hillside forestry, and fishing in mountain streams. They had been housed in different hotels. The three people who presented with illness all stayed in the same hotel. Which of the following organisms is most likely to be responsible for their illness?

1- Borrelia burgdorferi

**2- Legionella pneumophila**

3- Leptospira icterohaemorrhagiae

4- Mycoplasma pneumoniae

5- Pneumococcus

Q3880. A 56-year-old man diagnosed with systemic inflammatory response syndrome (SIR S) secondary to pneumonia is admitted to the high dependency unit. On examination, he has a temperature of 39°C, a respiratory rate of 30/min, has a pulse of 109 beats/min and a blood pressure of 89/74 mmHg despite receiving IV fluids and urine output of 25 ml/hour after catheterisation. Which of the following should be instituted immediately and should be accomplished within the first six hours of presentation?

1- Administer drotrecogin alfa (activated protein C) 2- Administer intravenous furosemide

3- Administer low dose steroids

4- Institute tight glucose control

**5- Obtain blood cultures prior to antibiotic administration**

Q3881. During an outbreak of influenza A, which of the following may provide appropriate prophylaxis for healthcare workers?

1- Amantadine

2- Ganciclovir

3- Lamivudine

**4- Oseltamivir**

5- Zidovudine

Q3882. Transplacental transmission of all of the following organisms is a recognised cause of fetal malformations and disease except which of the following?

1- Cytomegalovirus

**2- Mumps**

3- Rubella

4- Toxoplasma gondii

5- Varicella zoster virus

Q3883. A 42-year-old man with advanced HIV disease presented with a tonic-clonic seizure. He had been diagnosed with HIV 10 years previously, but had elected not to take antiretroviral therapy. A CT scan of his brain showed a 2 cm ringenhancing lesion in the right parietal lobe. What is the probable causative agent?

1- Cryptococcus neoformans

2- Mycobacterium avium intracellulare

3- Mycobacterium tuberculosis

4- Pneumocystis carinii

**5- Toxoplasma gondii**

Q3884. Which of the following is true of the antibiotic combination quinupristin and dalfopristin?

1- Administered orally.

**2- Effective against multi-resistant Staph. aureus**

3- Effective against resistant mycobacterium TB.

4- Indicated in subjects with chronic renal impairment.

5- Particularly effective in the treatment of Pseudomonas infection in cystic fibrosis.

Q3885. You are an occupational health physician and have been asked by an anxious employee about contraindications to pertussis immunisation. Which of the following is a contraindication?

1- Cow's milk protein intolerance.

2- Eczema

**3- Fever to 39.5°C following the first dose.**

4- Hydrocephalus

5- Redness of >2.5cm at the injection site after the first dose.

Q3886. A 19-year-old man returned to the United Kingdom two weeks after working in a refugee camp in sub-Saharan Africa. On examination he was febrile, dyspnoeic and widespread inspiratory crackles were present. He had an extensive maculo-papular rash, conjunctivitis, generalised stomatitis and some bluish-grey spots on the buccal mucosa. What is the most likely diagnosis?

1- Epidemic typhus

2- Epstein-Barr virus infection

3- Leptospirosis

**4- Measles**

5- Parvovirus infection

Q3887. A 72-year-old female presents with a two month history of poor appetite, lethargy, intermittent fever and night sweats. She has poor dentition and over the last 12 months has required dental extraction. On examination, a murmur consistent with mitral regurgitation is heard. A transthoracic echocardiogram reveals a vegetation on the mitral valve. What is the likeliest cause of her endocarditis?

1- C. burnetii 2- E. faecalis

3- MRSA 4- S. aureus 5- S. mutans

Q3888. A 72-year-old male presents with a two month history of poor appetite, lethargy, intermittent fever and night sweats. Four months previously he had undergone TURP for benign prostatic hypertrophy. On examination a murmur consistent with mitral regurgitation is heard. A transthoracic echocardiogram reveals a vegetation on the mitral valve. What is the likeliest cause of his endocarditis?

1- C. burnetii 2- E. faecalis

3- MRSA 4- S. aureus 5- S. mutans

Q3889. A 21-year-old man returns from a trip to Spain with a group of male friends, complaining of pus-like urethral discharge and pain on passing urine. He admits to unprotected sex with three different female partners during the course of the holiday. On examination he is apyrexial, his BP is 115/70 mmHg, and his pulse is 70 and regular. Respiratory and abdominal examinations are unremarkable. You can easily express pus-like discharge from his urethral meatus. Investigations show: Haemoglobin 13.9 g/dl(13.5-17.7) White cell count 9.6 x 109 /L (4-11) Platelets 282 x 109 /L (150-400) Serum Sodium 139 mmol/l (135-146) Serum Potassium 4.4 mmol/l (3.5-5) Creatinine 88 micromol/l (79-118) Microscopy of pus sample Gram negative diplococci Which of the following is the most appropriate treatment for him?

**1- Ceftriaxone 250 mg IM as a single dose**

2- Ciprofloxacin 500 mg BD for 7 days

3- Clarithromycin 500 mg PO BD for 7 days

4- Doxycycline 100 mg PO daily for 7 days

5- Penicillin V 500 mg PO for 7 days

Q3890. A 32-year-old woman comes to the clinic. She complains of very foul smelling diarrhoea, abdominal bloating and excessive flatulence some two weeks after returning from a holiday to Mauritius with her husband. They admit to having eaten food from street vendors on a number of occasions during the course of the holiday. On examination her BP is 122/72 mmHg, there is no postural drop. Her pulse is 70 and regular. Respiratory examination is normal and abdominal examination reveals a soft but mildly distended abdomen, with active bowel sounds. Investigations show Haemoglobin 11.8 g/dl(11.5-16.5) White cells 8.9 x 109 /L (4-11) Platelets 192 x 109 /L (150-400) Sodium 140 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 110 μmol/l (79-118) Albumin 40 g/l (35-50) Which of the following is the most likely diagnosis?

1- Campylobacter

**2- Giardiasis**

3- Salmonella

4- Shigella

5- Tropical sprue

Q3891. A 27-year-old man presents with pulmonary tuberculosis. He was released from a Chinese jail where he was a prisoner for some six years and has now applied for residency in the United Kingdom. On examination you notice that he has a number of violaceous plaques on both lower limbs. Oral candidiasis is also present. Investigations show: Haemoglobin 11.4 g/dl(13.5-18) White cell count 4.2 x 109 /L (4-10) Platelets 195 x 109 /L (150-400) Sodium 139 mmol/l (134-143) Potassium 4.2 mmol/l (3.5-5) Creatinine 120 µmol/l (60-120) Which of the following is the most likely cause of his skin changes?

1- Coxsackie B

2- Herpes zoster

3- Human herpes virus 6

**4- Human herpes virus 8**

5- Human papilloma virus

Q3892. A 48-year-old African man with HIV was prescribed a combination of antiretroviral therapy. He developed increased diffuse pigmentation of the nails in both hands and toes. What is the most likely cause of the increased pigmentation of the nails?

1- Efavirenz

2- Lamivudine

3- Nevirapine

4- Tenofovir

**5- Zidovudine**

Q3893. A 47-year-old man presents with progressive right hand swelling two days after being bitten by a dog. On examination there is a puncture wound with pus over the dorsum of the hand, cellulitis, ascending lymphangitis and tender axillary lymphadenopathy. What is the most appropriate antibiotics therapy in this case?

1- Benzylpenicillin and flucloxacillin

2- Ceftriaxone

3- Ciprofloxacin

**4- Co-amoxiclav**

5- Erythromycin

Q3894. A 35-year-old man presented with cellulitis of his right leg. On examination he was mildly confused and febrile (40.1° C) with a pulse of 120/minute and BP 80/55 mmHg. He was treated with intravenous benzylpenicillin and flucloxacillin. Group A Streptococcus was isolated from two sets of blood cultures. There was no significant clinical improvement after 24 hours. What antibiotic should be added?

1- Ciprofloxacin

**2- Clindamycin**

3- Gentamicin

4- Rifampicin

5- Vancomycin

Q3895. A 43-year-old male presents with right iliac fossa pain and bloody diarrhoea for two days. He had a fever, headache and myalgia the day before diarrhoeal illness. He is passing liquid bloody stools 10 times daily. He has a history of HIV and is on HAART. His CD4 count has been well controlled, above 400 cells/µl. What is the cause for his diarrhoea?

1- Appendicitis

2- Antiretroviral medication

**3- Campylobacter**

4- Cryptosporidium parvum

5- Cytomegalovirus

Q3896. Which of the following is true of the the T cell response to antigen?

1- A process of affinity maturation of the T cell receptor occurs.

2- Intact antigen is presented in association with self MHC molecules.

**3- Co-operation with other cell types is required for T cell recognition of antigen.**

4- Gamma/delta + T cells respond to antigen presented in association with MHC class II molecules.

5- Interactions of the TcR with an appropriate Ag/MHC complex activates a resting T cell.

Q3897. A 20-year-old-woman presented with a solitary, crusted, thickened lesion on her face one month after returning from a holiday in Central America. What is the most likely diagnosis?

1- Cutaneous anthrax

**2- Cutaneous leishmaniasis**

3- Impetigo

4- Leprosy

5- Onchocerciasis

Q3898. A 25-year-old male presents with fever malaise and lethargy two weeks after visiting family in India. A blood film for malaria parasites is reported as negative. What is the next most appropriate investigation?

**1- Blood culture**

2- Chest x ray

3- Interferon gamma releasing assay (IGR A) 4- Urine culture

5- Widal test

Q3899. A 17-year-old girl presents with three day history of vaginal discharge and pruritis. What is the most likely causative organism?

1- Bacterial vaginosis

**2- Candida albicans**

3- Chlamydia trachomatis

4- Neisseria gonorrhoeae

5- Trichomonas vaginalis

Q3900. A 72-year-old gentleman presents with increasing shortness of breath, fever and cough. A chest x ray shows findings consistent with a right middle lobe pneumonia. Which factor is associated with a worse prognosis?

1- Blood pressure of 120/80 mmHg

2- Respiratory rate of 18/min

3- Temperature of 37.2

**4- Urea of 18 mmol/l**

5- White cell count of 15x109

Q3901. A 45-year-old woman was diagnosed with bacterial endocarditis. What is the characteristic fundoscopic feature of this disease?

1- Cherry red macula

2- Janeway lesions

3- Macular star

4- Retinal artery aneurysms

**5- Roth's spots**

Q3902. A 14-year-old boy presents with fever. Which of the following might contribute to a diagnosis of rheumatic fever?

1- A CRP of 10

**2- A prolonged PR interval on ECG**

3- Finding target lesions on the hands

4- Finding tender nodules in the fingertips

5- Positive Romberg's sign

Q3903. A 16-year-old boy from India presents with fever of four months duration and splenomegaly. What is the most likely diagnosis?

1- Coccidioidomycosis

2- Giardiasis

3- Tropical sprue

4- Typhoid

**5- Visceral leishmaniasis**

Q3904. Twenty of 30 patients in an adult ward develop colicky abdominal pain and diarrhoea without vomiting between 21:00 and 01:00 hrs. Meat stew was served for lunch at noon. Which of the following is the likely diagnosis?

1- Bacillus cereus

**2- Clostridium perfringens**

3- Enterotoxigenic Escherichia coli

4- Enterovirus

5- Staphylococcus aureus

Q3905. A 30-year-old renal transplant recipient presented with non-Hodgkin's lymphoma. Which virus is most likely to be of aetiological significance?

1- Adenovirus

2- Cytomegalovirus

**3- Epstein-Barr virus**

4- Herpes simplex type 1

5- Varicella zoster

Q3906. A 27-year-old Somali female presents with a two month history of weight loss, fever and night sweats. Chest x ray reveals right upper lobe infiltrates. 3 x sputa are smear -ve. What is the next most appropriate investigation?

**1- Bronchoalveolar lavage (BA L) 2- CT scan of chest**

3- HIV test

4- Interferon gamma releasing assay (IGR A) 5- Tuberculin skin test (TS T)

Q3907. A 45-year-old man returned from a two week trip in Zimbabwe. Fourteen days later he presented with fever, sore throat, headaches and a widespread maculopapular rash. On examination there was generalised lymphadenopathy and a widespread maculopapular rash. What is the most likely diagnosis?

**1- Acute HIV infection**

2- Schistomsomiasis

3- Strongyloidiasis

4- Tick typhus

5- Typhoid fever

Q3908. A 16-year-old boy presented with fever, headache and neck stiffness for 24 hours. He had an identical illness requiring admission to hospital for one year previously. Cerebrospinal fluid analysis shows white cells of 400/ml with a 90% neutrophilia and Gram stain revealed scanty Gram-negative diplococci. Which component of the immune system is likely to be defective?

1- B lymphocytes

**2- Complement pathway**

3- Immunoglobulin

4- Neutrophils

5- T lymphocytes

Q3909. Which of the following is a cause of isolated Bcell immune deficiency?

1- Infection with measles

**2- Multiple myeloma**

3- Treatment with azathioprine

4- Treatment with corticosteroids

5- Treatment with cyclophosphamide

Q3910. A 19-year-old man presented with purulent urethral discharge. Microscopy of an urethral swab showed neutrophils but no organisms. Which of the following antibiotics should be started?

1- Ciprofloxacin

2- Co-amoxiclav

**3- Doxycycline**

4- Metronidazole

5- Penicillin

Q3911. A 30-year-old intravenous drug abuser develops acute aortic regurgitation due to infective endocarditis. Which of the following is not typical of acute aortic regurgitation?

1- Decrescendo diastolic murmur

2- Hypotension

3- Mitral valve pre-closure

4- Normal cardiac output

**5- Peripheral vasodilatation**

Q3912. Which of the following is correct regarding human varicella zoster immunoglobulin (VZI G) ?

1- Is invariably protective against severe varicella.

2- Is recommended for all patients with eczema exposed to chickenpox.

3- Is used to treat severe chicken pox infection

4- Should be given to a 6 week old baby whose mother has developed chickenpox

**5- Should be given to an 18 week pregnant non-immune female who has been exposed to a case of chicken pox.**

Q3913. Which of the following micro-organisms is generally sensitive to benzylpenicillin?

1- Bordetella pertussis

2- Cryptococcus neoformans

3- Legionella pneumophila

4- Mycoplasma pneumoniae

**5- Streptococcus pneumoniae**

Q3914. A 23-year-old aid worker returns from a spell working alongside locals in a river delta area of Thailand. During his journey home he developed profuse watery diarrhoea with nausea and vomiting. He opened his bowels some 30 times during the flight. Despite the airline staff trying to give him regular fluids he faints on his arrival in the United Kingdom and is brought to the Emergency department. On examination his BP is 130/70 mmHg, with a pulse of 90. He has a postural drop of 30 mmHg on standing. There is diffuse abdominal tenderness and very active bowel sounds. Investigations show: Hb 14.1 (13.0 - 18.0 g/d L) WCC 11.2 (4 - 11 x 109 / L) PLT 395 (150 - 400 x 109 / L) Na 144 (137 - 144 mmol/ L) K 3.1 (3.5 - 4.9 mmol/ L) Cr 199 (60 - 110 µmol/ l) Urea 15.1 (2.5 - 7.5 mmol/ L) Which of the following is the most important initial therapy?

1- Ciprofloxacin

2- Doxycycline

**3- Fluid resuscitation**

4- Metronidazole

5- Penicillin

Q3915. A 25-year-old male homosexual is admitted with dyspnoea and weight loss of two months duration. He is diagnosed with Pneumocystis pneumoniae due to AIDS. Which of the following concerning Pneumocystis pneumonia is true?

**1- May have an extra pulmonary presentation**

2- It is always associated with x ray changes

3- It is caused by a bacterium

4- Elevated serum antibodies to P. carinii are helpful diagnostically

5- It is best treated with intravenous pentamidine

Q3916. Which of the following is true of Giardia lamblia infection?

**1- Causes steatorrhoea**

2- Diagnosed by stool culture

3- Is eradicated by mebendazole

4- Is often symptomatic

5- Is usually spread by contaminated meats

Q3917. A 23-year-old male presented with a two week history of dysuria and purulent penile discharge. Gram stain of a urethral swab showed Gram negative intracellular diplococci. Which one of the following is the most likely causative organism?

1- Chlamydia trachomatis

2- Cytomegalovirus

3- Mycoplasma hominis

**4- Neisseria gonorrhoeae**

5- Ureaplasma urealyticum

Q3918. A 23-year-old woman presents 16 weeks into her pregnancy with a vaginal discharge. Further investigation confirms infection with Chlamydia trachomatis. Which of the following is the most appropriate treatment for this patient?

1- Ciprofloxacin

2- Co-trimoxazole

3- Doxycyline

**4- Erythromycin**

5- Metronidazole

Q3919. An 18-year-old male presented with a two week history of dysuria and purulent penile discharge. Gram stain of a urethral swab showed Gram negative intracellular diplococci. What specific treatment should he receive?

**1- Cefixime**

2- Cephradine

3- Ciprofloxacin

4- Co-amoxiclav

5- Crystalline penicillin

Q3920. One of the nurses working on the care of the elderly ward sustains a needlestick injury while taking blood from a patient. What is the most appropriate immediate management?

1- Administer prophylactic hepatitis B immunoglobulin (HBI G) regardless of vaccine status

2- Exclude the nurse from performing exposure-prone procedures for three months until a negative HIV antibody test has been obtained

3- Immediately take the nurse’s blood to test for antibodies to hepatitis B, hepatitis C and human immunodeficiency viruses

4- Prompt administration of antiretroviral therapy

**5- Wash the wound with soap under running water**

Q3921. A 19-year-old male student attends the Emergency department complaining of an urethral discharge one week after having casual unprotected sex. Gram stain shows numerous neutrophils, some of which contain Gram negative intracellular diplococci. The patient is treated with ceftriaxone 250 mg as an intramuscular injection. Five days later, the patient reattends with persisting discharge. Which of the following is the most likely cause of this discharge?

**1- Chlamydia trachomatis**

2- Penicillin-resistant Neisseria gonorrhoeae

3- Re-infection with Neisseria gonorrhoeae

4- Ureaplasma urealyticum

5- Urethral stricture

Q3922. In the diagnosis of rheumatic fever, which of the following may be helpful?

1- A generalised macular-papular rash

2- ASO titre of less than 1:200

**3- Polyarthritis**

4- Splinter haemorrhages

5- Staphylococcus aureus grown on throat culture

Q3923. A 52-year-old woman was admitted with malaise and leg weakness. Her illness started with a sore throat while travelling in eastern Europe. On examination she was febrile (39.1° C) with several areas of exudates on her pharynx and extensive cervical lymphadenopathy. There was weakness of the legs with absent tendon reflexes. What is the most likely diagnosis?

1- Acute myeloid leukaemia

2- Cytomegalovirus infection

**3- Diphtheria**

4- Glandular fever

5- Streptococcal tonsillitis

Q3924. A 18-year-old homosexual male developed progressive pneumonia not responding to antibiotics. Methenamine silver staining of the sputum showed small circular cyst and Giemsa staining demonstrated the small, punctate nuclei of the trophozoites and intracystic sporozoite. Which is the most likely organism?

1- Cryptococcus neoformans

2- Leishmania donovani

**3- Pneumocystis carinii**

4- Toxoplasma gondii

5- Trypanosoma cruzi

Q3925. A 25-year-old female recently returned from Nigeria, presents to the Emergency department with a two day history of fever and rigors. Subsequently she develops a seizure. What is the next most appropriate immediate investigation?

1- Blood culture

**2- Blood film for malarial parasites**

3- CT scan of head

4- Lumbar puncture

5- MR scan of head

Q3926. Which of the following is true regarding varicella zoster infection?

1- Associated pneumonitis is equally common in smokers and non-smokers

**2- Causes congenital limb deformity**

3- Causes urinary incontinence

4- Gamma interferon is an effective treatment.

5- Produces latent infection within the anterior horn cells

Q3927. Two strains of Escherichia coli are isolated and both are resistant to ampicillin. Strain A retains its resistance to ampicillin when grown from multiple generations in the absence of ampicillin. However strain B loses its resistance when grown in the absence of ampicillin. Which of the following best explains the loss of antibiotic resistance in strain B?

1- Changes in the bacterial DNA gyrase

2- Downregulation of the resistance gene

**3- Loss of a plasmid containing the resistance gene**

4- Mutations in the resistance gene

5- Transposition of another sequence into the resistance gene

Q3928. A 29-year-old man from Southampton with human immunodeficiency virus (HI V) infection (CD4 cell count 150 cells/mm3 ) is admitted to hospital with a 10 day history of fever (temperature 38.8° C) , a dry cough, weight loss and night sweats. There is a history of previous tuberculosis. His current medications include TDF/3TC/EFV and inhaled pentamidine. Physical examination reveals crackles in the upper lung fields. Chest radiography reveals bilateral upper lobe infiltrates. Initial results of his induced sputum examination demonstrate no organisms seen on Gram, fungal, acid-fast and Pneumocystis jiroveci pneumonia staining. Which regimen would be most effective against the likely cause of this man's symptoms?

1- Clarithromycin and Amoxil

2- Ganciclovir

3- Isoniazid, rifampin, ethambutol and pyrazinamide

4- Itraconazole

**5- Trimethoprim-sulfamethoxazole**

Q3929. You are asked to be part of a team reviewing the passengers on a cruise ship. Over the course of the past four days there has been a massive increase in cases of diarrhoea and vomiting and the ship has returned to port. Currently over 300 passengers are estimated to be unwell. Apparently a number of passengers ate at the speciality seafood restaurant or are sharing cabins with passengers who did. Out of 10 passengers admitted to the local hospital so far, all of them showed signs of dehydration, but no signs of raised white cell count. Which of the following is the most likely infective agent?

1- Campylobacter

**2- Norovirus**

3- Rotavirus

4- Salmonella 5-

Q3930. A 35-year-old HIV positive African woman presented with weakness of both legs and double incontinence. CSF showed increased protein and neutrophils with normal glucose. What is the most likely cause of her weakness?

**1- CMV polyradiculomyelopathy**

2- Guillain-Barré syndrome

3- Herpes virus encephalitis

4- HIV encephalopathy

5- Toxoplasma encephalitis

Q3931. Deficiency of which of the following components of the complement system predisposes to infection with Neisseria meningitidis?

1- C1q

2- C1r

3- C1s

**4- C3**

5- C4

Q3932. A 30-year-old schoolteacher is admitted with headache, photophobia and neck stiffness. His temperature is 39.0°C, pulse rate 120 beats/min and he has no skin rash or focal neurological signs. His Glasgow coma scale is 15/15. A CT scan shows no contraindication to lumbar puncture. CSF is obtained and Gram stain shows Gram positive cocci, subsequent culture confirms a pneumococcal meningitis. What chemoprophylaxis should be offered to his pupils?

1- Azithromycin

2- Ceftriaxone

3- Ciprofloxacin

**4- No chemoprophylaxis required**

5- Rifampicin

Q3933. A 35-year-old man is seen six months after a cadaveric renal allograft. He receives azathioprine and prednisolone. He has felt generally unwell for the past week with a pyrexia of 38.6°C, anorexia and a cough productive of thick green sputum. Chest x ray reveals a left lower lobe nodule of approximately 5 cm diameter with central cavitation. Analysis of the sputum reveals long, crooked, branching and beaded Gram positive filaments. Which of the following antimicrobials is the most appropriate initial therapy for this patient?

1- Ceftazidime

2- Co-amoxiclav

**3- Co-trimoxazole**

4- Erythromycin

5- Rifampicin and isoniazid

Q3934. Regarding diphtheria which of the following statements is correct?

1- About 50 cases per year are seen in the UK.

2- It is characterised by an inflammatory exudate forming a greyish membrane on the buccal mucosa.

3- It is predominantly spread from cutaneous lesions.

**4- It produces a toxin which affects the myocardium, nervous and adrenal tissues.**

5- 3 doses of toxoid provides 75% protection.

Q3935. Which of the following is true of Koplik's spots?

**1- Are diagnostic of measles**

2- Located opposite the incisor teeth.

3- Only appear when fever is over 39°C

4- They appear as red papules on the plamar surface of the hands

5- Typically appear two days after the rash.

Q3936. A 47-year-old Portuguese former intravenous drug abuser presented with a two week history of right hemiparesis. He was found to have hepatitis B and C infection. His absolute lymphocyte count was 0.6 x 109 . CT of the head showed multiple ringenhanced lesions. What would be your next best course of action?

1- Manage him conservatively with physiotherapy

2- Refer him to a neurosurgeon for urgent brain biopsy

3- Refer him to a stroke specialist

**4- Request an HIV antibody test**

5- Start thrombolysis treatment

Q3937. Four members of a football team develop diarrhoea due to Salmonella enteritidis. Eating which food was the most likely source of the infection?

**1- Chicken at a fast food outlet 20 hours earlier**

2- Fried rice at a takeaway 4 hours earlier

3- Raw eggs in milk 6 hours earlier

4- Raw oysters at a hotel 24 hours earlier

5- Soft cheeses 48 hours earlier

Q3938. Reverse transcriptase-PCR is used to amplify which of the following?

1- Antibodies

2- DNA

3- Plasmids

4- Protein

**5- RNA**

Q3939. A 28-year-old woman comes to the clinic complaining of a thin fishy smelling discharge. She does not however have any vaginal irritation, redness or itching. Despite using body wash and showering twice per day, she says the smell and discharge persists. She is in a stable relationship with her husband and has two young children. Which of the following is the most likely diagnosis?

**1- Bacterial vaginosis 2- C. trachomatis**

3- Herpes simplex infection 4- N. gonorrhoeae 5- T. vaginalis

Q3940. A 42-year-old single man comes to the clinic some two weeks after a tour to Thailand. During his trip he admits to unprotected sex with a number of prostitutes. Since his return he has been suffering fevers and night sweats over the past few days and has noticed some swollen lymph nodes in his neck, arm pits and groin. He has also felt nauseous and been off his food. On examination you confirm that he has a low-grade fever of 37.60C, and lymphadenopathy. He also has pharyngitis. Investigations: Haemoglobin 12.9 g/dl(13.5-17.7) White cell count 9.8 x 109 /l (4-11) Platelets 272 x 109 /l (150-400) Serum Sodium 138 mmol/l (135-146) Serum Potassium 4.0 mmol/l (3.5-5) Creatinine 80 micromol/l (79-118) Alanine aminotransferase 129 U/l (5-40) You are wondering about acute HIV infection. Which of the following would be an appropriate test to detect this?

1- Anti-HIV antibody by ELISA

2- Anti-HIV antibody by western blot

3- CD4 count

4- CD8 count

**5- P24 antigen**

Q3941. A 22-year-old student presents to the clinic complaining of a large crop of intensely painful blisters/ulcers and tingling pain affecting her vulva. She gives a history of unprotected sex on two occasions in the past two weeks, with a new partner who she met at a party. She feels under the weather, is experiencing dysuria and has noticed vaginal discharge. On examination you notice a number of small blisters/ ulcers over her vulva and tender inguinal lymph nodes. Which of the following is the most likely diagnosis?

1- Bechet's syndrome

2- Chancroid

**3- Genital herpes simplex**

4- Genital herpes zoster

5- Syphilis

Q3942. A 16-year-old boy is to be admitted to the hospital for elective splenectomy. Which of the following booking times before surgery should he be given to receive his pneumococcal vaccination?

1- Three days

2- One week

**3- Four weeks**

4- Two months

5- Three months

Q3943. A 72-year-old woman presents to her GP a few days after discharge from hospital after a community acquired pneumonia with some cellulitis around an old IV site on her left hand. On examination she is pyrexial at 37.6°C, and has a 5 cm x 3 cm area of erythema and some discharging pus from the entry site of the needle. Investigations show Haemoglobin 11.6 g/dl(11.5-16.5) White cell count 11.2 x 109 /L (4-11) Platelets 193 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.3 mmol/l (3.5-5) Creatinine 110 μmol/l (79-118) Swab from cellulitis site MRSA Which of the following is the most appropriate empirical antibiotic for her whilst awaiting sensitivities?

1- Co-trimoxazole

**2- Doxycycline**

3- Flucloxacillin

4- Trimethoprim

5- Vancomycin

Q3944. A 34-year-old Thai lady presented with a left hemiparesis of two weeks duration. HIV antibody test was positive. CT scan of the head showed multiple ring-enhanced lesions. What is the most likely cause of her weakness?

1- Amoebic brain abscesses

**2- Cerebral toxoplasmosis**

3- Herpes simplex encephalitis

4- Primary brain lymphoma

5- Progressive multifocal leucoencephalopathy

Q3945. Which of the following is correct concerning oseltamivir?

1- It is a direct viral cytotoxic agent

2- It is a haemaglutinase inhibitor

3- It is administered via an inhaler

4- It is effective if administered within 72 hours of symptoms of flu

**5- It is of value in prophylaxis against influenza**

Q3946. Which one of the following measures would be most effective in reducing transmission of E coli O157:H7 during an outbreak of diarrhoea caused by this organism?

1- Drinking only boiled water

**2- Ensuring that meat products are thoroughly cooked**

3- Giving antibiotics to individuals who are positive for E. coli on stool culture

4- Hand washing before preparing food

5- Isolation of individuals with diarrhoea

Q3947. An 35-year-old man presented with high fever, headache and mild jaundice on returning from a holiday in Spain. The group of 20 had travelled together visiting forestry on the hills with fishing trips in mountain streams. Which of the following organisms is most likely to be responsible for his illness?

1- Borrelia burgdorferi

2- Legionella pneumophila

**3- Leptospira icterohaemorrhagiae**

4- Mycoplasma pneumoniae

5- Pneumococcus

Q3948. One of the surgical wards in your hospital notes an outbreak of methicillin-resistant Staphylococcus aureus (MRS A) infections. What is the best mechanism for reducing further transmission of this infection?

1- Cleaning the floors and walls of the ward with chlorhexidine

2- Close the ward for one month

**3- Encourage regular hand washing by ward staff**

4- Screen ward staff using nasal swabs and exclude those with positive cultures for MRSA

5- Treatment of culture-positive patients with vancomycin

Q3949. Which of the following is a contraindication to immunisation?

1- A child with cerebral palsy.

2- A child with congenital adrenal hyperplasia on oral cortisone.

3- A history of prolonged jaundice.

4- Infantile eczema requiring topical steroids.

**5- Oral poliomyelitis vaccine to a child on oral steroids.**

Q3950. A 51-year-old homosexual Caucasian HIV positive man developed multiple violaceous painless lesions on his trunk. Which one of the following is the most likely cause of his skin lesions?

1- Cytomegalovirus (CM V) 2- Human herpes virus 8 (HHV8)

3- Human herpes virus 10 (HHV 10)

4- Human papilloma virus 16 (HPV 16)

5- Pox virus

Q3951. A 27-year-old pop singer presented with a two month history of loose motions and weight loss. He underwent an HIV antibody test and was found to be positive. The presence of which of the following diseases most likely indicates a diagnosis of AIDS?

1- Brucellosis

2- Glandular fever

3- Lyme disease

4- Oral candidiasis

**5- Pulmonary tuberculosis**

Q3952. An 82-year-old female is reviewed after the staff of the nursing home in which she resides expressed concern regarding a vaginal discharge. She has been in the nursing home for the last year and has profound Alzheimer's dementia. Culture of the discharge reveals Neisseria gonorrhoeae. Which is the most appropriate course of action for this patient?

1- Contact the police

2- Contact tracing of sexual partners

3- Informal enquiry to the nursing home

**4- Seek advice from the Medical Defence Union (MD U) 5- Treat the patient and discharge back to the nursing home**

Q3953. Seventeen of twenty-four passengers on a Nile cruise develop bloody diarrhoea on the third day. Which of the following organisms is the likely cause?

1- Entamoeba histolytica

2- Giardia lamblia

3- Schistosoma mansonii

**4- Shigella dysenteriae**

5- Vibrio cholerae

Q3954. Which of the following statements regarding Japanese encephalitis is most true?

1- Is endemic in East Africa

2- It is a DNA virus

3- It is only recognised in travellers who have spent prolonged periods in endemic areas

4- Previous exposure to a flavivirus predisposes to increased risk of death on infection with Japanese encephalitis

**5- Transplacental transmission occurs**

Q3955. A 15-year-old girl presents with fever, malaise and sore throat. Examination reveals a temperature of 38.3°C with cervical lymphadenopathy. Her results show: Haemoglobin 12.8 g/dL (11.5-16.5) White cell count 9.8 x 109 /L (4-11 x109) Neutrophils 3 x 109 /L (1.5-7 x109) Lymphocytes 4.5 x 109 /L (1.5-4 x109) Blood film reveals atypical mononuclear cells. What is the most likely diagnosis?

1- Acute lymphoblastic leukaemia

2- Brucellosis

**3- Epstein-Barr viral (EB V) infection**

4- Hodgkin's disease

5- Sarcoidosis

Q3956. A 70-year-old man presented to his GP with a two day history of increasing confusion. He also complained of a headache. He was febrile on examination; nuchal rigidity was noted. A lumbar puncture was performed and CSF microscopy revealed: WBC 800 cells/mL (< 5) 90% neutrophils. A few Gram positive diplococci were also noted. What is the cause of his meningitis?

1- Cryptococcus neoformans

2- Haemophilus influenzae

3- Listeria monocytogenes

4- Neisseria meningitidis

**5- Streptococcus pneumoniae**

Q3957. A 50-year-old man comes to clinic and asks for advice about his risk of infection. Twenty years ago he had been involved in a road traffic accident and had sustained a splenic laceration, requiring an emergency splenectomy. Which of the following options offers the best advice?

1- He does not need prophylactic antibiotics due to the amount of time that has elapsed since his surgery

2- He has no increased risk of acquiring malaria when travelling to an endemic region

3- He has no increased risk of infection since he has been well for 20 years following surgery

**4- He should receive pneumococcal vaccine**

5- There is no increased risk of infection in patients who undergo splenectomy due to trauma

Q3958. An elderly woman who had her right first metatarsal amputated two weeks previously for diabetic gangrene, presented with right foot pain, rash and fever. There were features of inflammation around the amputated area. Which one of the following investigations would you like to order to confirm the diagnosis?

1- Bone scan

2- CT scan

3- Indium-labelled leukocyte scanning

**4- MRI scan**

5- Right foot x ray

Q3959. A 25-year-old Turkish woman arrived in the United Kingdom with a three month history of weight loss and intermittent fevers. On examination, the patient was emaciated, febrile (39° C) and pale, and an enlarged liver (5 cm below the costal margi n) and spleen (10 cm below the costal margi n) were present. Investigations revealed: Haemoglobin 7.2 g/dL (11.5-16.5) White cell count 2.4 x 109 /L (4-11 x109) Platelet count 117 x 109 /L (150-400 x109) Thick and thin films no parasites identified. CXR normal. What is the most likely diagnosis?

1- HIV infection

2- Infectious mononucleosis

3- Malaria

4- Miliary tuberculosis

**5- Visceral leishmaniasis**

Q3960. Which of the following is true of anthrax?

**1- Eschars are usually painless.**

2- Gastrointestinal anthrax is the most usual form of disease in humans.

3- It causes trivial disease in the host herbivore population.

4- It is caused by an aerobic, Gram negative rod.

5- Sputum culture has a high yield in inhalational anthrax.

Q3961. A 25-year-old male has a history of travel to South East Asia on holiday for two weeks. Five weeks ago he developed fever, pharyngitis, myalgia and a skin rash. The patient also has a generalised lymphadenopathy. There two Paul-Bunnell tests which are negative one week apart. What is the most likely diagnosis?

**1- Acute HIV syndrome**

2- CMV mononucleosis

3- Infectious mononucleosis

4- Streptococcal pharyngitis

5- Toxoplasmosis

Q3962. A 35-year-old Nigerian female was assessed in an antenatal clinic. She was clinically well. Antenatal screening for syphilis revealed the following results: Treponemal EIA total Detected Treponemal EIA IgM Not detected Treponemal TPPA Detected 1:160 Treponemal RPR Not detected What is the likely diagnosis?

1- Acute syphilis infection

2- Early latent syphilis infection

**3- Late latent syphilis infection**

4- Non-specific reactivity

5- Yaws

Q3963. Which one of the following drugs is associated with hypersensitivity reactions?

1- Atazanavir

2- Lamivudine

**3- Nevirapine**

4- Tenofovir

5- Zidovudine

Q3964. A 57-year-old woman develops a blistering rash around the midriff and is diagnosed with Herpes zoster. She is treated with aciclovir. Which of the following is responsible for the activation of aciclovir?

1- Integrase

2- Polymerase

3- Protease

4- Reverse transcriptase

**5- Thymidine kinase**

Q3965. A 22-year-old woman is referred to hospital with a one week history of fever, headache and fatigue. She was a 'mail order' bride who had recently moved to the United Kingdom from Thailand to live with her new husband. Based on her travel history which disease can be excluded from the following list of differentials?

1- Cerebral toxoplasmosis

2- HIV seroconversion illness

3- Japanese B encephalitis

4- Tuberculosis

**5- Yellow fever**

Q3966. A 22-year-old female student attended the casualty department complaining of fever and rigors for two days. She had returned from a sabbatical in Africa six weeks previously. She was febrile (39.9° C) and a mild petechial rash was also noted. Laboratory investigations showed: Hb 10.1 g/dL (11.5-16.5) WBC 3.0 x 109 /L (4-11 x109) Platelets 115 x 109 /L (150-400 x109) Prothrombin tim eNormal What is the most likely diagnosis?

**1- Acute HIV infection (seroconversion illnes s) 2- Cytomegalovirus (CM V) infection**

3- Dengue fever

4- Plasmodium falciparum malaria

5- Typhoid fever

Q3967. A 35-year-old man returned from a two week holiday complaining of pain in the loins and painful swollen knees. On examination he was afebrile and had significant bilateral knee effusions. Mild penile erythema was also noted. Laboratory investigations showed: Hb 15.6 g/dl(13.0-18.0) WBC 16.2 x 109 /L (4-11) Neutrophils 14.1 x 109 /L (1.5-7) ESR 65 mm/hr(0-15 mm/1st h r) Rheumatoid factor 10 U/l Urinalysis No cells, casts or bacteria seen What is the most likely diagnosis?

**1- Arthritis due to Neisseria gonorrhoeae infection**

2- Lymphogranuloma venereum

3- Reactive arthritis

4- Reiter's syndrome

5- Rheumatoid arthritis

Q3968. A 30-year-old man developed a febrile illness three days after returning from a holiday in Thailand. He was admitted complaining of severe myalgia. On examination he was febrile (39 C) with a diffuse macular rash on the trunk. There was no lymphadenopathy. Investigations revealed: Haemoglobin 15.1 g/dL(13.0-18.0) White cell count 7.5 x 109 /L (4-11) Platelet count 105 x 109 /L (150-400) Serum total bilirubin 18 µmol/L(1-22) Serum alanine aminotransferase 120 U/L(

5- 35) What is the most likely diagnosis?

1- Acute HIV infection (seroconversion illnes s) 2- Dengue fever

3- Hepatitis E

4- Secondary syphilis

5- Typhoid

Q3969. Which of the following investigations is used to monitor the treatment of infective endocarditis?

1- Blood culture

**2- C reactive protein**

3- Echocardiography

4- Erythrocyte sedimentation rate

5- Serum bactericidal titres of antibiotics

Q3970. Which of the following infections is least likely to cause myocarditis?

1- Chagas disease

2- Coxsackie virus

3- Diphtheria

**4- Syphilis**

5- Toxoplasmosis

Q3971. A 63-year-old female presents with a one day history of confusion with headaches. On examination she is confused, with a Glasgow coma scale of 13 and a temperature of 39.5°C. She has nuchal rigidity and photophobia. CSF examination reveals a glucose of 0.5 mmol/l (3.3-4.4), a white cell count of 2500 per mm and Gram positive cocci in pairs. Which of the following is correct?

1- A characteristic rash would be expected

**2- Nerve deafness would be a common complication in this case**

3- Rifampicin should be given to close contacts

4- The most likely infective organism is Staphylococcus aureus

5- The organism is likely to be penicillin resistant

Q3972. A 69-year-old male presented with fever and difficulty in breathing. He is alert and well co-ordinated with respect to time and place but has trouble placing words or pictures into categories. He used to be bilingual but now has lost the ability to speak French and he can speak only English. He also has trouble following some verbal commands. The coronal FLAIR magnetic resonance image looks as follows: What is the most likely diagnosis?

1- Cryptococcal meningitis

2- Haemophilus meningitis

**3- Herpes simplex encephalitis**

4- Neurosyphilis

5- Progressive multifocal leukoencephalopathy

Q3973. A 24-year-old patient presents with acute lymphoblastic leukaemia for which she is taking chemotherapy. One week after having her glucocorticoids tapered the patient now reports having a cough with progressive difficulty in breathing, a fever and night sweats. On examination the patient has severe dyspnoea, central cyanosis and is febrile to touch. The patient has oral thrush. Her temperature 38.5°C, BP 118/76 mmHg and HR-140 beats/minute. The oxygen saturation is 84% at rest and 76% on exertion. The respiratory rate is 40 beats/minute, there are some basal crepitations and the rest of the examination findings are not significant. On doing a bronchial alveolar lavage and stained with methenamine silver the patient's chest radiograph looks as follows. What is the most likely diagnosis?

1- Legionellosis

2- Lymphocytic interstitial pneumonia

**3- Pneumocystis jiroveci pneumonia**

4- Pulmonary embolism

5- Tuberculosis

Q3974. A 19-year-old gap year student presents to the GP feeling unwell with fevers, lethargy, right upper quadrant pain, a dry cough and shortness of breath over the past few days. She has returned from an operation Raleigh assignment in Uganda a few weeks ago. Her only past medical history of note is that she reports an itchy area of skin on her upper thigh shortly after swimming in a local lake. Examination is unremarkable apart from some right upper quadrant tenderness. Investigations show Haemoglobin 11.4 g/dl(11.5-16.5) White cell count 11.2 x 109 /L (Raised eosinophil s) (4-11) Platelets 180 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.4 mmol/l (3.5-5) Creatinine 110 μmol/l (79-118) Which of the following is the most likely diagnosis?

1- Churg-Strauss syndrome

2- Extrinsic allergic asthma

3- Hydatid disease

**4- Schistosomiasis**

5- Weil's disease

Q3975. A 62-year-old lady is due to attend her dentist for a hygiene appointment for scaling. She has a history of mitral valve prolapse with regurgitation and is allergic to penicillin. Which of the following antibiotics would be the most appropriate choice for prophylaxis in this lady?

**1- No antibiotic prophylaxis**

2- Oral clindamycin

3- Oral doxycycline

4- Oral erythromycin

5- Oral ofloxacin

Q3976. A patient presents with a 36 hour history of Varicella zoster in the T4 dermatome. She complains of severe pain in the skin supplied by T4. What is the most appropriate management?

**1- Aciclovir**

2- Carbamazepine

3- Famciclovir

4- Nothing

5- Prednisolone

Q3977. A 57-year-old woman develops a blistering rash around the midriff and is diagnosed with herpes zoster. She is treated with aciclovir. Through inhibition of which of the following does aciclovir function?

1- Integrase

**2- Polymerase**

3- Protease

4- Reverse transcriptase

5- Thymidine kinase

Q3978. A 38-year-old male with a diagnosis of HIV presents with lethargy, confusion, personality change and a seizure. CT shows multiple ring enhancing mass lesions in both cerebral hemispheres. What treatment is indicated?

1- Broad spectrum antibiotics

2- Corticosteroids

3- Ketoconazole

**4- Pyrimethamine and sulfonamide**

5- Rifampicin and pyrazinamide

Q3979. A 15-year-old boy is referred by his GP with a two week history of general malaise, fatigue and pharyngitis. On examination multiple small lymph nodes were palpable in the neck, axillae and groins. Investigations revealed: Haemoglobin 12.5g/dl(13.0-18.0) WBC 16.0 x 109 /L (4-11) Platelets 160 x 109 /L (150-400) Blood film Lymphocytosis noted What is the most likely diagnosis?

1- Acute lymphoblastic leukaemia

2- Cytomegalovirus infection

**3- Epstein-Barr virus infection**

4- Hodgkin's disease

5- Toxoplasmosis

Q3980. A 35-year-old woman presents with fever, rigors, malaise and weight loss. She had undergone prosthetic valve replacement one month before. C3 level was reduced and echocardiography showed small vegetations. Which micro-organism is most likely to be responsible for this?

1- Candida

2- Coxiella burnetii

3- Staphylococcus aureus

**4- Staphylococcus epidermidis**

5- Streptococcus viridans

Q3981. A 50-year-old man presented to hospital feeling generally unwell for three days. He had returned from a business trip to Thailand six weeks previously and had taken mefloquine as prophylaxis against malaria. On examination he was afebrile, temperature 36.5°C, pulse was 100/minute and regular, his BP was 85/60 mm Hg. Investigations showed: Hb 14.2 g/dL (13.0-18.0) WBC 19.0 x 109 /L (4-11 x109) Neutrophils 18.0 x 109 /L (1.5-7.0 x109) AST 72 U/L (1-31) Alkaline phosphatase 255 U/L (45-105) What is the most likely diagnosis?

1- Acute HIV infection (seroconversion illnes s) 2- Dengue fever

**3- Gram negative bacteraemia**

4- Hepatitis B

5- Mefloquine-induced hepatitis

Q3982. Which of the following is correct regarding toxoplasmosis?

**1- Can present with fits in patients with AIDS**

2- Infection in the first trimester of pregnancy is seldom harmful to fetus

3- Infection is usually by respiration

4- Prophylactic immunoglobulins should be given to pregnant women if their IgM antitoxoplasma antibodies detected

5- Raw eggs are an important source of infection

Q3983. A 43-year-old Pakastani female presents with a two month history of weight loss, fever and night sweats. Chest x ray reveals a large right sided pleural effusion. What investigation is most likely to confirm a diagnosis of suspected TB?

1- CT scan of thorax

2- Interferon gamma releasing assay (IGR A) 3- Pleural aspirate

**4- Pleural biopsy**

5- Sputum analysis

Q3984. A 36-year-old Caucasian woman was successfully treated for Pneumocystis jirovecii pneumonia (PC P) . She was re-admitted with acute breathlessness with left-sided chest pain ten days after her discharge from the hospital. Examination revealed that she was hypoxic and found to have diminished breath sounds on the left side of chest. What is the most likely cause of her recent admission?

1- Acute myocardial infarction

2- Acute pericarditis

3- Acute pulmonary embolism

4- Left lobar pneumonia

**5- Pneumothorax**

Q3985. A 50-year-old female presents with dyspnoea, a new murmur and fever and is diagnosed with infective endocarditis. Which of the following is associated with the best prognosis?

1- Aortic valve infection

2- Culture negative endocarditis

3- Low complement levels

4- Staphylococcus aureus infection

**5- Streptococcus viridans infection**

Q3986. A 41-year-old male has been diagnosed with infective endocarditis. Which of the following is associated with the best prognosis?

1- Aortic valve infection

2- Intravenous drug abuse

3- Prosthetic valve infection

4- Staphylococcus aureus infection

**5- Streptococcus viridans infection**

Q3987. A 65-year-old woman is diagnosed as having subacute bacterial endocarditis and appropriate antibiotic therapy started. Which of the following investigations is the most useful in order to monitor her response to antibiotics?

1- Serial blood cultures

2- Serial full blood count, monitoring the white cell count

3- Serial transthoracic echocardiography

4- Serum bactericidal activity

**5- Serum C reactive protein (CR P) concentration**

Q3988. A 40-year-old farmer presented to the Emergency department with a 24 hour history of fever and increasing confusion. On examination he was febrile 39.5°C. A generalised erythematous rash covering most of his body was observed. He also had a paronychial infection of his right index finger with lymphangitis extending caudally and with axillary lymphadenopathy. His heart rate was measured at 120 beats per minute with a blood pressure of 80/60 mmHg. What is the most likely diagnosis?

1- Hantavirus infection

2- Leptospirosis

3- Orf

**4- Staphylococcal toxic shock syndrome**

5- Stevens-Johnson syndrome

Q3989. A 15-year-old girl presents to casualty with mild gastrointestinal upset. She had recently returned from holiday where she had been swimming in the hotel pool. What is the most likely causative organism?

1- Campylobacter jejuni

**2- Cryptosporidium parvum**

3- Salmonella enteridis

4- Shigella flexneri

5- Staphylococcus aureus

Q3990. Which of the following statements concerning zoonotic diseases is true?

1- Brucellosis is characterised by neutrophil leucocytosis

**2- Brucellosis is a recognised cause of spondylitis**

3- Serological evidence of toxoplasmosis is rare in adults

4- Toxoplasmosis causes vasculitic anterior uveitis

5- Toxoplasmosis causes visceral larva migrans

Q3991. Which of the following is the drug of choice for the treatment of Chlamydia trachomatis infection during pregnancy?

**1- Amoxicillin**

2- Cephazolin

3- Clindamycin

4- Metronidazole

5- Tetracycline

Q3992. A 70-year-old woman developed herpes zoster ophthalmicus. Which one of the following is most likely to be a complication of this condition?

1- Hyphaema

**2- Keratitis**

3- Keratoconus

4- Posterior subcapsular cataract

5- Scleromalacia

Q3993. Of which of the following is chronic liver disease not a complication?

1- Alpha1 antitrypsin deficiency

2- Cystic fibrosis

3- Haemochromatosis

**4- Haemosiderosis**

5- Hepatitis C

Q3994. A sexually active female presents to a GU clinic with multiple painful genital ulcers. What is the likeliest cause?

1- Chlamydia trachomatis

**2- Herpes simplex**

3- Haemophilus ducreyi

4- Primary HIV infection

5- Treponema pallidum

Q3995. A 27-year-old man comes to the Emergency department with his partner at 5 am. He has developed torrential diarrhoea a few hours after eating a Chinese takeaway with fried rice. Apparently he bought the meal at the beginning of the evening when he thought it would be most fresh. On examination he is dehydrated with a BP of 110/70 mmHg, a pulse of 90 and a significant postural drop. Investigations show: Haemoglobin 15.0 g/dl(13.5-17.7) White cell count 6.6 x 109 /L (4-11) Platelets 292 x 109 /L (150-400) Serum Sodium 142 mmol/l (135-146) Serum Potassium 3.7 mmol/l (3.5-5) Creatinine 122 μmol/l (79-118) Which of the following is the most likely cause of his gastroenteritis?

**1- Bacillus cereus**

2- Norovirus

3- Rotavirus

4- Staphylococcus aureus

5- Staphylococcus typhi

Q3996. A 67-year-old man is referred with symptoms of fatigue and a low grade fever. He has lost a few pounds in weight over the past few weeks and suffered from persistent night sweats. Past history of note includes chronic gum disease and a number of broken teeth. He is also allergic to penicillin. On examination he has a temperature of 37.8°C, and his BP is 105/70 mmHg with a pulse of 95. There are splinter haemorrhages on examination of the fingers on both hands. He has a systolic murmur loudest in the mitral area. Investigations show Haemoglobin 10.8 g/dl(13.5-18) White cell count 11.1 x 109 /L (4-10) Platelets 201 x 109 /L (150-400) Sodium 139 mmol/l (134-143) Potassium 4.5 mmol/l (3.5-5) Creatinine 135 μmol/l (60-120) C reactive protein 125 mg/l (<10) Which of the following is the most appropriate empirical antibiotic regime?

1- Benzylpenicillin and gentamicin

2- Ceftazidime and metronidazole

3- Flucloxacillin and gentamicin

4- Linezolid and gentamicin

**5- Vancomycin and gentamicin**

Q3997. Which one of the following antiretrovirals is likely to cause increased pigmentation of the skin in a black African patient?

1- Didanosine

2- Efavirenz

**3- Emtricitabine**

4- Nevirapine

5- Stavudine

Q3998. A 45-year-old HIV-seropositive man attended the outpatient clinic for the results of a fasting serum lipid test. He had been diagnosed with HIV disease two years previously and was started on highly active antiretroviral therapy. One year after commencing antiretrovirals, his CD4 count had risen from 10 cells/ mm3 to 120 cells/ mm3 with an undetectable viral load. His current medications consisted of zidovudine, lamivudine, lopinavir, aciclovir, fluconazole and co-trimoxazole. Fasting lipid profile revealed: Serum cholesterol4.1 mmol/l (<5.2) Serum triglyceride18.2 mmol/l (0.45-1.69) Which of the following medications is most likely to be responsible for these results?

1- Co-trimoxazole

2- Fluconazole

3- Lamivudine

**4- Lopinavir**

5- Zidovudine

Q3999. A 15-year-old female is a close contact of a student who has developed meningitis C. The last contact she had with her friend was two days ago when her friend developed headache. She has not received any previous vaccination for meningitis. What is the most appropriate action for this girl?

1- No treatment is required and the girl can be reassured

2- She should receive the meningococcal A and C vaccination only

**3- She should receive the meningococcal A and C vaccination plus rifampicin**

4- She should receive meningococcal immunoglobulin only

5- Treat with rifampicin only

Q4000. A 17-year-old male presented with a widespread maculopapular rash. He had been prescribed amoxicillin for exudative tonsillitis. What is the most likely diagnosis?

1- Acute HIV infection

2- Cytomegalovirus infection

**3- Infectious mononucleosis**

4- Parvovirus infection

5- Streptococcal infection

Q4001. A 25-year-old, previously healthy, woman has worsening fatigue with dyspnoea, palpitations, and fever over the past one week. Her vital signs on admission to the hospital show temperature 38.9oC, respiratory rate 30/min, pulse 105 bpm and BP 95/65 mmHg. Her heart rate is irregular. An ECG shows diffuse ST-T segment changes. A chest x ray shows mild cardiomegaly. An echocardiogram shows slight mitral and tricuspid regurgitation, but no valvular vegetations. Her troponin I is 12 ng/mL (<0.04). She recovers over the next two weeks with no apparent sequelae. Which of the following laboratory test findings best explains the underlying aetiology for these events?

1- ANCA titre of 1:80

2- Anti-streptolysin O titre of 1:512

3- Blood culture positive for streptococcus, viridans group

**4- Coxsackie B serologic titre of 1:160**

5- Total serum cholesterol of 9.6 mmol/l

Q4002. A patient is planning to travel through the southern states of America but is worried about West Nile virus. Which of the following statements regarding West Nile virus is correct?

1- Infection is non-fatal

2- Is a member of the arbovirus family

**3- May be associated with poliomyelitis-like paralysis**

4- Transplacental transmission does not occur

5- Treatment with interferon is effective in West Nile virus encephalitis

Q4003. A 27-year-old woman is suffering with headaches that have occured daily for the past three months. They occur at different times of the day and affect the frontal and occipital areas. She has no neck stiffness or rash. She does not have any visual symptoms. She has noticed cramps and tingling in her lips and fingers associated with palpitations and a feeling of suffocation. She takes no medication. She is concerned because her father died from glioblastoma 12 months ago. What is the likely cause of her headaches?

**1- Anxiety neurosis**

2- Benign intracranial hypertension

3- Glioblastoma

4- Nelson's syndrome

5- Neurosarcoidosis

Q4004. A 67-year-old man is referred as an emergency by his general practitioner. The night before he attempted to smother his wife whilst he was fast asleep. The following day, whilst oblivious to the potentially dangerous situation, he reports remembering dreaming about fighting a bear. His father had experienced a similar event some years before being diagnosed with Parkinson's disease. Which of the following is the most likely diagnosis?

1- Adult attention deficit hyperactivity disorder (ADH D) 2- Lewy body dementia

3- Night terrors

**4- REM sleep behaviour disorder**

5- Schizophrenia

Q4005. A 33-year-old woman with epilepsy presents with visual problems. Examination reveals a constriction of visual fields to confrontation. Which of the following may be responsible for her visual deterioration?

1- Gabapentin

2- Lamotrigine

3- Phenytoin

4- Sodium valproate

**5- Vigabatrin**

Q4006. A 32-year-old woman presents with a left sided postural tremor, a shuffling gait, dysarthric speech, ataxia and difficulty swallowing. Which is the most important initial test?

**1- Caeruloplasmin levels**

2- CT head scan

3- Dopamine levels

4- Genetic testing

5- Serum copper

Q4007. A 60-year-old man presents with mobility problems. On examination he has Lhermitte's phenomenon, is Romberg's positive, and has a wide-based gait that deteriorates on eye closure, absent ankle jerks and extensor plantars. He takes thyroxine for an underactive thyroid, no other medical problems. He is concerned as he had an uncle who developed unsteadiness and ended up in a wheelchair. Which of the following is the likely diagnosis?

1- Cervical spondylosis

2- Friedreich's ataxia

3- Multiple sclerosis

**4- Subacute combined degeneration of the cord.**

5- Under-replacement of thyroxine

Q4008. To difficulty in which of the following does optic ataxia refer?

**1- Controlling hand-eye coordination**

2- Moving the eyes

3- Seeing colours

4- Seeing objects

5- Shifting gaze

Q4009. Cerebral malaria is caused by which of the following?

1- Plasmodium knowlesi

**2- Plasmodium falciparum**

3- Plasmodium malariae

4- Plasmodium vivax

5- Plasmodium yoelii

Q4010. A 72-year-old man comes to the neurology clinic with his wife. He is driving her mad as almost every night when he tries to go to bed he feels that something is crawling over his legs and he has an irresistible urge to scratch, rub or move them, and eventually has to get up and pace around the room. He has no significant past medical history, apart from essential hypertension for which he takes ramipril 10 mg per day. On examination his blood pressure is 139/73 mmHg, his pulse is 70 and regular and he has no murmurs. Respiratory, abdominal and neurological examinations are entirely normal. Investigations show: Haemoglobin 11.8 g/dl (13.5-17.7) White cells 4.9 x 109 /L (4-11) Platelets 230 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.4 mmol/l (3.5-5) Creatinine 122 μmol/l (79-118) Glucose 4.9 mmol/l (<5.5) Which of the following is the most appropriate treatment?

1- Baclofen

2- L-dopa

3- Oxycodone

**4- Ropinirole**

5- Sodium valproate

# Chapter 27 2012 Neurology

Q4011. A 29-year-old woman comes to the clinic because she is concerned that her left pupil is abnormally large. Her boyfriend noticed it and suggested she should see the doctor. She has no past medical history of note, apart from an episode of shingles a few months earlier, and takes the oral contraceptive pill as her only medication. On further questioning she admits to unprotected sexual intercourse on two to three occasions over the past three to four years. On examination her left pupil is clearly larger than the right. It hardly reacts to light at all, but does accommodate to near vision. You notice that re-dilatation is very slow however. Her BP is normal at 132/72 mmHg, and general physical examination is unremarkable. How best can you confirm the diagnosis?

1- Chest x ray

2- Lumbar puncture

3- MRI brain

**4- Reaction to weak miotic eye drops**

5- Syphilis serology

Q4012. A 56-year-old male with diabetes presents with a two day history of weakness of the left foot being aware of a feeling of dragging the toes along the floor when walking. He has been diabetic for two years and on previous annual review no abnormalities were noted. On examination he is unable to dorsiflex his left foot together with eversion of the foot. The right foot is unaffected. Plantar flexion and inversion are normal. Which sensory abnormality would you expect to find in association with this motor defect?

1- No associated sensory loss

2- Sensory loss over the big toe

3- Sensory loss over the entire foot to the ankle.

**4- Sensory loss over the lateral part of the leg and dorsum of the foot**

5- Sensory loss over the plantar aspect of the foot

Q4013. A 20-year-old female presents with seizures. She is fit and healthy but had been unwell for three days prior to admission with flu-like symptoms. The patient's friends tell you that prior to the seizure she had become confused and her behaviour had been out of character. On examination the patient is post-ictal, with a fever of 39.1°C. She has a pulse of 100 bpm and a blood pressure of 130/71 mmHg. A CT head shows no abnormalities. CSF examination shows no organisms, with a white cell count of 353/ mm3 (<5) mostly lymphocytes with a protein concentration of 2.3 g/l (0.29-1.98) and glucose of 3.2 mmol/l (3.0-6.0mmol/ l) . What is the likely diagnosis?

1- Epilepsy

**2- Herpes simplex encephalitis**

3- Meningococcal meningitis

4- Pneumococcal meningitis

5- Viral meningitis

Q4014. A 69-year-old male presents with sudden onset weakness of his legs associated with urinary retention. Five years previously he was diagnosed with sigmoid colonic carcinoma which was surgically resected. Examination revealed a flaccid paraparesis of the legs with absent tendon reflexes and plantar responses. Pinprick and temperature sensations were absent to T12 level, but there was a relative sparing of light touch and joint position sensation. What is the most likely diagnosis?

**1- Anterior spinal artery occlusion**

2- Intramedullary spinal cord metastasis

3- Spinal cord compression due to vertebral metastasis

4- T11/12 central disc prolapse

5- Transverse myelitis

Q4015. A 54-year-old male presents with progressive pins and needles and numbness in both feet which have deteriorated over the last six months. He has a 10 year history of type 2 diabetes mellitus and had cervical spondylosis for which he underwent surgery eight years ago. He also confessed to drinking approximately 40 units of alcohol weekly. On examination he had a mild bilateral weakness of foot dorsiflexion, both ankle reflexes were absent and plantar responses were flexor. There was absent sensation to light touch to mid-shin level with loss of joint position sensation in the toes and absent vibration sensation below the hips. He had a marked sensory ataxia and pseudoathetosis of upper limbs. He had no evidence of a retinopathy and urinalysis was normal. What is the most likely diagnosis?

1- Alcohol-induced neuropathy

2- Central lumbar disc prolapse

3- Cervical cord compression

4- Diabetic peripheral neuropathy

**5- Vitamin B12 deficiency**

Q4016. A 16-year-old girl is noted to have persistent polyuria in excess of 4 litres per day whilst recovering from a head injury she sustained in a road traffic accident. Investigations reveal: Potassium 4.1 mmol/L (3.5-4.9) Calcium 2.4 mmol/L (2.2-2.6) Glucose 5.6 mmol/L (3.0-6.0) Which one of the following is the most effective method of confirming the diagnosis?

1- Autoantibodies to vasopressin neurones

2- MRI of the hypothalamus and pituitary

3- Therapeutic trial of low dose DDAVP

4- Vasopressin concentration

**5- Water deprivation test**

Q4017. A 38-year-old woman is referred to the casualty department 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 had large palpable cervical lymph nodes bilaterally. Her pharynx was inflamed with areas of exudate on the pharyngeal wall. Neurological examination revealed global weakness of both legs and absent reflexes. What is the most likely diagnosis?

1- Cytomegalovirus infection

**2- Diphtheria**

3- Epstein-Barr virus infection

4- Hodgkin’s disease

5- Streptococcal tonsillitis

Q4018. A 30-year-old female presents with weight gain, some hair loss and a tremor six months after commencing single drug treatment. Which one of the following drugs is most likely to be responsible for her symptoms?

1- Carbamazepine

2- Lamotrigine

3- Phenytoin

**4- Sodium valproate**

5- Topiramate

Q4019. A 50-year-old woman is referred with a two week history of difficulty walking and weakness in her arms. On examination, there was proximal and distal limb weakness which was more marked in the legs than the arms. All tendon reflexes were absent and the plantar responses were flexor. There was no sensory loss. Blood pressure in the supine position was 140/78 mmHg (lyin g) and was 110/70 mmHg on standing. What is the most likely diagnosis?

1- Cervical cord compression

**2- Guillain-Barré syndrome**

3- Myasthenia gravis

4- Poliomyelitis

5- Polymyositis

Q4020. A 70-year-old woman presented with a relatively short history of headaches and episodic impairment of consciousness. What is the most likely cause?

1- Alzheimer-type dementia

**2- Chronic subdural haematoma**

3- Creutzfeldt-Jakob disease

4- Depressive stupor

5- Normal pressure hydocephalus

Q4021. Which of the following features is characteristic of myasthenia gravis?

**1- Diplopia**

2- Equal sex incidence

3- Fasciculation

4- Lid lag

5- Loss of pupillary reflexes

Q4022. By which of the following is a demyelinating polyneuropathy typically caused?

1- Diabetes

2- Excessive alcohol

**3- Hereditary motor sensory neuropathy**

4- Renal failure

5- Vitamin B12 deficiency

Q4023. A 17-year-old male has been diagnosed with schizophrenia four weeks ago. He was started on haloperidol. Two weeks later he was found confused and drowsy. On examination he was pyrexial (40.7° C) , rigid with blood pressure of 200/100 mmHg. Which of the following treatments will you initiate?

1- Aciclovir

2- Cefuroxime

**3- Dantrolene**

4- Diazepam

5- Phenytoin

Q4024. A 40-year-old man presents with a two year history of intermittent strictly unilateral headaches. The pain is excruciatingly severe. It is located around the orbital region. The headache usually lasts 45-60 minutes. It usually occurs in the early hours of the morning. There is associated ptosis and lacrimation on the side of the headache. Which of the following is the most likely diagnosis?

**1- Cluster headaches**

2- Giant cell arteritis

3- Migraine

4- Tension type headache

5- Trigeminal neuralgia

Q4025. A 20-year-old female presents with acute onset of left foot drop. Examination reveals weakness of ankle dorsiflexion and eversion. There is a small area of sensory loss in the first web space. Reflexes were all present and plantars flexor. Which of the following nerves is likely to be involved?

**1- Common peroneal nerve**

2- Femoral nerve

3- Inferior gluteal nerve

4- Sciatic nerve

5- Tibial nerve

Q4026. A 60 year-old male who had been admitted a month ago with a left hemiparesis due to a right thalamic infarction re-presents with painful subluxation of his left shoulder. Two weeks later he develops severe, constant burning left shoulder pain which radiates down his arm. He found no relief from paracetamol. Which of the following is most likely to relieve his pain?

1- Depo-Medrone injection into the shoulder

2- Diclofenac

3- Dihydrocodeine

**4- Gabapentin**

5- Tramadol

Q4027. The incidence of Down's syndrome in children born to women aged less than 30 years is approximately which of the following?

1- 1:500

**2- 1:1000**

3- 1:5000

4- 1:10000

5- 1:15000

Q4028. A 71-year-old woman consults you. She has recently been started on an antihypertensive but she has noticed a dry mouth and dizziness on standing. Which medication is it likely to be?

**1- Doxazosin**

2- Enalapril

3- Isosorbide mononitrate

4- Nicardipine

5- Olmesartan medoxomil

Q4029. You are called to see a man in the Emergency department who has been in a road traffic accident. His memory of events is poor but he thinks he banged his head. His main complaint now is of extreme pain in his right eye. On examination he has reduced visual acuity (counting fingers onl y) , proptosis and complete ophthalmoplegia of his right eye. You notice that the eye is injected, chemotic and on closer inspection appears to be pulsating. Which of the following is the most likely diagnosis?

1- Acute glaucoma

2- Blow-out fracture

**3- Caroticocavernous fistula**

4- Cavernous sinus thrombosis

5- Retinal haemorrhage

Q4030. A 23-year-old woman presents to the clinic after waking up with difficulty seeing. She reports no past medical history and is currently on no medication. On examination she has decreased visual acuity of the left eye and red desaturation. She is concerned that she has multiple sclerosis. You explain that this is not by definition multiple sclerosis. What is her chance of developing multiple sclerosis?

1- 25%

2- 33%

**3- 50%**

4- 75%

5- 100%

Q4031. A 30-year-old woman presents to the emergency room after an episode of transient left sided weakness lasting 30 minutes. She reports that she was driving at the time and describes a white zigzag before developing a headache. She then describes a descending numbness and weakness on the left-side of her body. She stopped the car and called an ambulance. On arrival at the hospital her blood pressure was 130/80 mmHg, pulse was regular at 90 beats per minute. She is alert and orientated. She follows commands, has full strength in her limbs and symmetric reflexes and normal tone. Her cranial nerves are intact and fundoscopy is unremarkable. Visual fields are full on direct confrontation and the eye movements are intact. There is a family history of stroke in her mother, and her sister has migraines. Her past medical history is notable for migraines and hyperthyroidism. What is the most likely explanation?

1- Cerebrovascular accident

**2- Complicated migraine**

3- Confusion migraine

4- Migraine with aura

5- Transient ischemic attack

Q4032. A 4-year-old girl presents to the office with her mother. The mother reports that the child is minimally interactive with others. On examination the child is of short stature. She sits quietly rubbing her hands together and appears disinterested in the visit. What is the most likely diagnosis?

1- Austism spectrum disorder

**2- Rett syndrome**

3- Turner's syndrome

4- Emery-Dreifuss muscular dystrophy

5- Absence seizure

Q4033. A 29-year-old woman who has a history of epilepsy comes to the clinic complaining of worsening hair loss. She has generalised tonic clonic seizures and has been taking her medication for the past two to three years. Her epilepsy is currently well controlled. Which of the following medications is she most likely to be taking?

1- Carbamazepine

2- Gabapentin

3- Lamotrigine

**4- Valproate**

5- Vigabatrin

Q4034. A 26-year-old female is admitted to ICU with severe asthma. She is ventilated for one week and receives IV co-amoxiclav/clarithromycin, magnesium, prednisolone, sedatives and muscle relaxants. She improves gradually but two days after stopping muscle relaxants she still is unable to be weaned from ventilatory support. On examination, she is alert but has flaccid weakness of all limbs. Which of the following is the likely diagnosis?

1- Critical illness polyneuropathy

2- Guillain-Barré syndrome

3- Hypermagnesaemia

**4- Prolonged neuromuscular blockade**

5- Steroid induced myopathy

Q4035. A 66-year-old male presents with a sudden onset of ataxia, vomiting and headache, followed by increasing drowsiness. What is the most likely diagnosis?

**1- Acute cerebellar haemorrhage**

2- Acute subdural haemorrhage

3- Frontal subdural empyema

4- Herpes simplex encephalitis

5- Pituitary apoplexy

Q4036. A 55-year-old male presents with a history of low back pain and sciatica. The pain radiates to the little toe, the ankle reflex is absent and the patient has difficulty in everting the foot. Which nerve root is likely to be trapped?

1- L3

2- L4

3- L5

**4- S1**

5- S2

Q4037. Which of the following statements regarding phenylketonuria is correct?

1- Inheritance is X linked recessive

2- Is classically due to deficiency of tyrosine hydroxylase

3- Mental retardation does not occur if the patient adheres to a phenylalanine free diet

4- Serum tyrosine levels are typically low

**5- Urinary phenylalanine metabolites are typically high**

Q4038. A 30-year-old lady who suffers from migraine complains that taking the recommended dose of paracetamol during an attack fails to relieve her headache. She has no other significant past medical history. She is a smoker of 15 cigarettes per day and also drinks alcohol 16 units per week. Which of the following factors most likely explains the lack of efficacy of paracetamol in this lady?

1- Bacterial overgrowth

**2- Delayed gastric emptying**

3- First pass metabolism

4- p450 enzyme induction

5- p450 enzyme inhibition

Q4039. A 40-year-old male presents to casualty with weakness and paraesthesia of the right arm and leg. The symptoms developed 12 hours after the onset of a piercing left sided headache. There is no neck stiffness, but there is a pain in the left side of the neck and occiput. Kernig's sign is negative. The patient is afebrile, and blood results are normal. What is the single best investigation of choice?

**1- Contrast arteriography**

2- CT head

3- Duplex scanning of the neck vessels

4- Lumbar puncture

5- MRI brain

Q4040. A 47-year-old patient with diabetes is referred from the Emergency department complaining of dizziness and vomiting. On examination he is alert and orientated, his pulse is 80 irregularly irregular and BP 160/90 mmHg. There is nystagmus on left lateral gaze and his speech is slurred. On examination of the limbs you note intention tremor and past pointing. He is ataxic when mobilised. What is the likely diagnosis?

1- Brainstem infarction.

**2- Cerebellar CVA**

3- Sub-acute combined degeneration of the cord

4- Viral labyrinthitis

5- Wernicke’s encephalopathy

Q4041. An 85-year-old woman with diabetes mellitus presented with sudden onset of wild flinging movements of the left arm which disappeared during sleep. What is the most likely explanation?

**1- Contralateral subthalamic nucleus infarction**

2- Focal motor seizures

3- Hypoglycaemia

4- Ipsilateral caudate nucleus infarction

5- Ipsilateral cerebellar infarction

Q4042. A 68-year-old female presents with a four month history of weight loss, headaches and had recently developed double vision. Six years previously she underwent a right mastectomy for breast carcinoma and remains on treatment with tamoxifen. Examination revealed tenderness over the temporal region and a left sixth nerve palsy. Her chest x ray was reported as normal, but she had an ESR of 100 mm/hr (0-30) and her Hb was 10.8 g/dL (11.5-16.5). Which of the following statements is correct?

1- An isotope bone scan should be performed

2- An urgent CT brain scan is required

3- She should be given diamorphine

**4- She should be treated with prednisolone immediately**

5- She should have a lumbar puncture

Q4043. A 28-year-old female, three days postpartum, develops severe headache associated with seizures. During her pregnancy her blood pressure had been mildly elevated in the third trimester. On examination, she had a GCS of 15 but was slightly confused and drowsy. Her temperature was 37.5°C, she had mild nuchal rigidity but neurological examination was otherwise normal. What is the most likely diagnosis?

1- Bacterial meningitis

**2- Cortical vein thrombosis**

3- Eclampsia

4- Intracerebral haemorrhage

5- Subarachnoid haemorrhage

Q4044. A 26-year-old man presented with a 24 hour history of blurred vision in the left eye and mild left frontal headache. He had a ten year history of diabetes mellitus. Examination of the left eye revealed a central scotoma. What is the most likely diagnosis?

1- Central retinal artery occlusion

2- Diabetic retinopathy

3- Migraine

**4- Optic neuritis**

5- Pituitary tumour

Q4045. A 63-year-old man presents with a three month history of tremor affecting his left arm. In his past medical history he had suffered from a depressive psychosis for 10 years for which he had received intermittent chlorpromazine and amitriptyline but had had not taken any therapy for the last four months. He describes that his two brothers also had tremors. On examination he had a resting tremor of his left hand, with cogwheel rigidity of that arm and he had a mild generalised bradykinesia. What is the most likely diagnosis?

1- Benign essential tremor

2- Drug-induced parkinsonism

**3- Idiopathic Parkinson’s disease**

4- Multiple system atrophy

5- Wilson’s disease

Q4046. A 69-year-old man is admitted with pain and numbness in his right foot following a right hip replacement. In his past medical history he had been treated for lower backache by his GP. On examination there was weakness of all movements at the right ankle, with absent right ankle jerk, and sensory impairment on the lateral aspect and sole of the foot. Where is the most likely site of the lesion?

1- Femoral nerve

2- Lumbosacral plexus

3- Obturator nerve

**4- Sciatic nerve**

5- S1 spinal root

Q4047. A 39-year-old painter presents with a burning pain in both feet, which has deteriorated over the last six months. He drinks 60 units of alcohol weekly and has a family history of pernicious anaemia. On examination he has impairment of all modalities of sensation in both feet but particularly pain, temperature and absent ankle jerks. What is the most likely diagnosis?

**1- Alcoholic peripheral neuropathy**

2- Chronic inflammatory demyelinating polyradiculopathy

3- Hereditary sensory neuropathy

4- Lead neuropathy

5- Vitamin B12 deficiency

Q4048. A 25-year-old woman presented with a history of confusion and fever that had worsened gradually over the preceding four days. On examination she was drowsy and had mild neck stiffness. Neurological examination revealed an extensor left plantar response. A CT scan of her brain showed an area of low attenuation in the right temporo-parietal region. What is the most likely diagnosis?

1- Cerebral toxoplasmosis

**2- Herpes simplex encephalitis**

3- Listerial meningoencephalitis

4- Pneumococcal meningitis

5- Pyogenic brain abscess

Q4049. A 62-year-old man seeks an opinion due to a tremor mostly affecting the right hand but also latterly the left hand which has gradually deteriorated over five years. Past medical history includes asthma for which he takes inhaled salbutamol, hypertension for which he takes bendroflumethiazide and lisinopril and depression for which he takes amitriptyline. He smoked 10 cigarettes daily and drank approximately 15 units of alcohol weekly, noting an improvement in his tremor following alcohol. Examination revealed some mild titubation and a postural tremor in both arms with no worsening during finger-nose testing. What is the most likely diagnosis?

**1- Benign essential tremor**

2- Hyperthyroidism

3- Parkinson's disease

4- Physiological tremor

5- Salbutamol-induced tremor

Q4050. A 62-year-old man seeks an opinion about a tremor which mostly affects his right hand but also latterly his left hand and which has gradually deteriorated over five years. His medical history includes asthma for which he takes inhaled salbutamol, hypertension for which he takes bendroflumethiazide and lisinopril and depression for which he takes amitriptyline. He smokes 10 cigarettes daily and drinks approximately 15 units of alcohol weekly, noting an improvement in his tremor following alcohol. Examination reveals some mild titubation and a postural tremor in both arms with no worsening during finger-nose testing. What is the most likely diagnosis?

**1- Benign essential tremor**

2- Hyperthyroidism

3- Parkinson's disease

4- Physiological tremor

5- Salbutamol-induced tremor

Q4051. A 60-year-old woman presented with a small right pupil, right ptosis and impaired sweating over the ipsilateral forehead. Sweating on the rest of the face was unaffected. Where is the most likely site of this lesion?

1- Cervical spinal cord

2- Common carotid artery

3- Hypothalamus

**4- Internal carotid artery**

5- Lateral medulla

Q4052. A 24-year-old man presents with a headache that has been present for nine months. He has headache almost every day, mainly frontal, sometimes with nausea. Current medication includes paracetamol, brufen and codeine with only transient relief of symptoms. He has a history of depression. Examination was normal. What is the most likely diagnosis?

**1- Analgesic misuse headache**

2- Cluster headache

3- Frontal brain tumour

4- Headache due to depression

5- Migraine

Q4053. Which of the following relate to dopadecarboxylase inhibitors?

1- Enhance the effect of levodopa on the substantia nigra

**2- Reduce the extracerebral complications of L-dopa therapy**

3- Have anticholinergic activity

4- Should not be given in combination with dopamine agonists

5- Prevent L-dopa associated dyskinesias

Q4054. Which of the following would be the result of a spinal lesion at the level of C8?

1- A reduced brachioradialis reflex

2- Inability to abduct the shoulder

3- Loss of sensation over the lateral aspect of the arm

4- Winging of the scapula

**5- Weakness of finger flexion**

Q4055. Which of the following would be expected following distal occlusion of the posterior cerebral artery?

1- Cerebellar ataxia

2- Contralateral hemiplegia

3- Dysarthria

**4- Homonymous hemianopia**

5- Palatal palsy

Q4056. A 50-year-old male epileptic presents with paraesthesia of hands and feet. He also has unsteadiness when walking. On examination he has Dupuytren's contracture in his left hand, a peripheral sensory neuropathy and palpable lymph nodes in his neck and axillae. Which of the following drugs is the most likely cause of these features?

1- Carbamazepine

2- Clonazepam

3- Lamotrigine

**4- Phenytoin**

5- Sodium valproate

Q4057. Which of the following is true of the anticonvulsant, levetiracetam?

1- Acts via the gamma-aminobutyric acid (GAB A) receptor

2- Is associated with increased plasma concentrations of sodium valproate

3- Is associated with induction of hepatic cytochrome p450 enzymes

4- Is used as monotherapy for the treatment of generalised convulsions

**5- Is well absorbed via the oral route**

Q4058. A 72-year-old female presents with general slowness. Examination reveals a tremor of the hands. What frequency of tremor would you suspect in Parkinson's disease?

1- 1 Hz

2- 2 Hz

**3- 5 Hz**

4- 8 Hz

5- 10 Hz

Q4059. A 56-year-old woman presents with problematical tremor which has deteriorated over the last three months and she notes that it is exacerbated by changes in position. She has a past history of asthma for which she is taking inhaled salbutamol and one year ago she underwent liver transplantation for primary biliary cirrhosis for which she takes cyclosporin. On examination she seems quite well but has a noticeable coarse tremor of her outstretched hands. There are no other abnormalities noticeable on neurological examination. How should this patient be managed?

1- Add benzhexol

2- L-dopa

3- Propranolol

**4- Reduce dose cyclosporin**

5- Reduce dose salbutamol

Q4060. Which of the following is true concerning baclofen?

1- Acts directly on skeletal muscle

**2- Causes hallucinations when withdrawn**

3- Causes rhabdomyolysis

4- Reduces Ca2+ release from sarcoplasmic reticulum

5- Reduces cerebral but not spinal spasticity

Q4061. TAR DNA-binding protein 43 (TDP-43) is associated with which neurological dysfunction?

1- Demyelinating disease

2- Myopathic disease

**3- Neurodegenerative disease**

4- Neuro-oncologic disease

5- Peripheral neuropathies

Q4062. A 40-year-old man presents to the Emergency department. His wife says he has not been himself for the past few days, becoming aggressive over trivial things and yesterday he could not work out how to use the TV remote control. When she confronted him he told her that he had a headache. Today she found him in the kitchen picking at his clothes and smacking his lips. He would not respond to her when she called him. This lasted for a few minutes. Afterwards he was confused and unable to remember this episode. On examination his temperature is 37.9°C and he is becoming increasingly drowsy. Blood tests show a leucocytosis. Which of the following is the most likely diagnosis?

1- Bacterial meningitis

**2- HSV encephalitis**

3- Listerial rhombencephalitis

4- Drug overdose

5- Subdural haemorrhage

Q4063. A 40-year-old man is admitted with a one day history of increasing drowsiness. He had a diarrhoeal illness two weeks ago from which he made a full recovery. His wife says that over the past three days he had developed double vision and had begun to 'walk like he was drunk'. On examination he has mild proximal weakness and brisk symmetrical reflexes. Sensation is intact and plantars are down going. Which of the following is the most likely diagnosis?

**1- Bickerstaff's encephalitis**

2- Miller-Fisher variant Guillain-Barre syndrome

3- Multiple sclerosis

4- Wallenberg's syndrome

5- Weber's syndrome

Q4064. A 72-year-old man is brought to the Emergency department by his wife. He became agitated and confused whilst out shopping. He is really very upset and complains that he has no recollection about what has happened that day and has no idea at all how he suddenly got to the supermarket with his wife. He has a history of hypertension for which he takes ramipril, and he takes aspirin 75 mg on the advice of his doctor, but has no other significant past medical history. On examination is BP is well controlled at 135/75 mmHg, his pulse is 70 and regular. Neurological examination is normal and he behaves appropriately when asked to perform set tasks. Investigations show: Haemoglobin 13.5 g/dl(13.5-17.7) White cell count 7.0 x 109 /L (4-11) Platelets 190 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 4.3 mmol/l (3.5-5) Creatinine 108 µmol/l (79-118) CT head Normal Which of the following is the most appropriate therapy for him?

1- Clopidogrel

2- Dipyridamole SR and aspirin in combination

3- Fluoxetine

**4- Reassurance**

5- Sodium valproate

Q4065. A 67-year-old man presents with a severe headache, the worst he has ever had, affecting the back of his head and his neck. On admission to the Emergency department he is very agitated and requires opiate based pain relief for his headache. He has a history of hypertension for which he takes ramipril, amlodipine and indapamide. His BP is elevated at 185/100 mmHg and he has a tachycardia of 90 BPM. He is severely photophobic and finds it impossible to comply with ophthalmoscopy. Neurological examination, as far as you can tell, is normal. Investigations show Haemoglobin 11.1 g/dl(13.5-17.7) White cell count 4.2 x 109 /L (4-11) Platelets 231 x 109 /L (150-400) Sodium 143 mmol/l (135-146) Potassium 4.3 mmol/l (3.5-5) Creatinine 90 μmol/l (79-118) CT headLeft parietal lobe haemorrhage What neurological finding would you most expect?

**1- Acalculia**

2- Dysphagia

3- Expressive dysphasia

4- Left hemiplegia

5- Contralateral homonymous superior quadrantanopia

Q4066. A 28-year-old woman who is getting married soon comes to the clinic complaining that her right pupil is much larger than the other. She says that she first noticed this a few weeks ago after suffering from an attack of shingles. On examination the pupil is larger than the other, reacts poorly to light, but appears to have a normal near reflex. Which of the following is the most likely diagnosis?

1- Argyll-Robertson pupil

**2- Holmes-Adie pupil**

3- Horner's syndrome

4- Normal variant

5- Third nerve palsy

Q4067. A 49-year-old owner of a pub is admitted in a confused and agitated state. He has recently tried to stop drinking and according to his wife it is 24 hours since his last drink. When you see him his BP is elevated at 155/90 mmHg, pulse at 90, and he looks agitated. There are signs of chronic liver disease on physical examination. He is trying to pull the sheets over his head as he tells you he can see a large dog in the next bed. Investigations show: Haemoglobin 10.9 g/dl(13.5-18) White cell count 8.2 x 109 /L (4-10) Platelets 190 x 109 /L (150-400) Sodium 139 mmol/l (134-143) Potassium 4.3 mmol/l (3.5-5) Creatinine 110 μmol/l (60-120) Glucose 4.5 mmol/l (3.6-5.8) ALT 190 IU/l (5-60) Which of the following is the most likely diagnosis?

**1- Alcoholic hallucinosis**

2- Delirium tremens

3- Hypomania

4- Schizophrenia

5- Wernicke's encephalopathy

Q4068. A 46-year-old man is found to have nystagmus. On closer examination it is downbeat nystagmus. Which of the following conditions is the most likely to cause this clinical finding?

1- Aqueduct stenosis

2- Central cerebellar lesion

**3- Chiari type I malformation**

4- Unilateral medial longitudinal fasciculus lesion

5- Wernicke's encephalopathy

Q4069. A 72-year-old man presents with Parkinson's disease. Which of the following is a likely mechanism underlying the neurodegeneration seen in this condition?

1- Aberrant fusion of 2 genes

**2- Impaired protein degradation**

3- Over expression of cellular oncogene

4- Post-translational modification

5- Telomere shortening

Q4070. A 67-year-old man has drunk 8 units of alcohol a day for most of his adult life. He has worsening symptoms of poor memory, a wide-based gait and urinary incontinence for ten months. What is the most likely diagnosis?

1- HIV encephalitis

2- Meningovascular syphilis

**3- Normal pressure hydrocephalus**

4- Syringomyelia

5- Wernicke-Korsakoff syndrome

Q4071. A 35-year-old man with a known history of epilepsy presents with a skin rash, lymphadenopathy and gingival hypertrophy. Which of the following medications is most likely to be responsible for his symptoms?

1- Carbamazapine

2- Lamotrigene

3- Lorazepam

**4- Phenytoin**

5- Sodium valproate

Q4072. A 19-year-old girl presents with recurrent episodes of loss of consciousness. Over the last two years she has had blackouts which last approximately 30 seconds.. They typically occur when she is standing. These have occurred more frequently over the last week. The last episode was witnessed by her boyfriend who noted that she collapsed without any abnormal movements. On coming round she was rather drowsy initially but generally fine and recovered relatively quickly. What is the most likely diagnosis?

1- Addison's disease

2- Atonic seizures

3- Cardiac syncope

4- Complex partial seizures

**5- Vasovagal syncope**

Q4073. A 30-year-old male presents with a week history of right arm weakness. Originally the problem began with severe pain in the neck which radiated into the right shoulder, which was followed by weakness. Examination revealed winging of the right scapula with weakness of right shoulder abduction and elbow extension. There was some sensory loss over the lateral aspect of the right shoulder and right triceps reflex was absent. What is the most likely diagnosis?

1- C7 entrapment radiculopathy

2- Central C5/6 disc prolapse

**3- Neuralgic amyotrophy**

4- Suprascapular nerve entrapment

5- Traction of lateral cord of brachial plexus

Q4074. A 55-year-old woman with multiple sclerosis is treated for severe hip adductor muscle spasticity and two days later develops double vision. Which one of the following treatments is she likely to have been given?

**1- Botulinum toxin**

2- Dantrolene

3- Intrathecal baclofen

4- Oral baclofen

5- Tizanidine

Q4075. A 70-year-old man is admitted with an acute stroke. Examination revealed a left Horner's syndrome, loss of corneal reflex on the left together with loss of pinprick sensation on the left face. His left gag reflex was also decreased. He had left limb ataxia with right hemi-sensory loss of pain and temperature sensation. Which one of the following arterial territories has been affected?

1- Basilar

2- Left posterior communicating

**3- Left posterior inferior cerebellar**

4- Right posterior inferior cerebellar

5- Right superior cerebellar

Q4076. A 50-year-old man presents with a 12 month history of deteriorating memory. He has otherwise been well and takes no medication. Which one of the following is most typical of frontal lobe dysfunction?

1- Inability to draw a clock face

**2- Inability to generate a list rapidly**

3- Inability to perform serial 7s

4- Sensory inattention

5- Visual field defects

Q4077. A 30-year-old woman complains of daily frontal headaches for the preceding year. They occur at various times of the day and are worse with stress. On examination, the left pupil is 2 mm larger than the right. It is reactive to accommodation but not to light. Which of the following features would be inconsistent with the diagnosis?

1- Absent biceps jerk

2- Exaggerated response to dilute pilocarpine drops instilled in the left eye

3- Fine hand tremor

**4- Ptosis**

5- Resolution of anisocoria with time

Q4078. A 50-year-old man presented with paraesthesia in the ring and little fingers of his right hand. On examination there was wasting of the hypothenar eminence of his right hand. Which one of the following movements would you expect to be weak in this patient?

1- Abduction of the thumb

**2- Adduction of the thumb**

3- Extension of the little finger

4- Flexion of the index finger

5- Opposition of the thumb

Q4079. A 70-year-old woman has a history of dyspnoea and palpitations for six months. An ECG at that time showed atrial fibrillation. She was given digoxin, diuretics and aspirin. She now presents with two short-lived episodes of altered sensation in the left face, left arm and leg. There is poor co-ordination of the left hand. ECHO was normal as was a CT head scan. What is the most appropriate next step in management?

**1- Anticoagulation**

2- Carotid endarterectomy

3- Clopidogrel

4- Corticosteroid treatment

5- No action

Q4080. A 92-year-old man was admitted in a confused state. He has a history of immobility due to severe lower back pain. He had been losing weight for three months and had complaints of weakness, urinary frequency, thirst, poor urinary stream and constipation. Lumbar spine x rays show severe osteopenia and collapse of the body of the vertebra at L3. Investigations show: Haemoglobin 9.6 g/dl(13.0-18.0) Sodium 144 mmol/l (137-144) Potassium 3.9 mmol/l (3.5-4.9) Urea 10.4 mmol/l (2.5-7.5) Creatinine 120 mol/l (60-110) Glucose 8 mmol/l (3.0-6.0) Dipstick urine Blood ++, protein + What is the most important immediate investigation?

1- Chest x ray

2- Monosodium urate (MS U) 3- Prostate specific antigen

**4- Serum calcium**

5- Serum protein electrophoresis

Q4081. A 23-year-old man presents with visual loss in his right eye and this is diagnosed as optic neuritis. Which one of the following statements would be seen in an afferent pupillary defect?

**1- Accommodation response is unaffected**

2- Hypersensitive response to pilocarpine in the affected eye

3- Irregular pupil of the affected eye

4- Pupil of affected eye larger than the unaffected eye

5- Pupil of affected eye smaller than the unaffected eye

Q4082. Which of the following statements about the spinal cord is true?

1- A lesion of the left side of the spinal cord at C5 causes pyramidal weakness of the right leg

2- Centrally placed spinal cord lesions affect joint position sense before other modalities of sensation

3- Conus medullaris lesions cause lower motor neurone signs with absent reflexes

4- The spinal cord ends at the lower border of the L3 vertebra

**5- The spinothalamic tracts are supplied principally by the anterior spinal artery**

Q4083. Which of the following is true of myasthenia gravis (M G) ?

**1- Electrical recordings of single motor unit activity commonly reveal variation in the latency of the various muscle fibre responses (jitte r) 2- Neurotransmitter released at the motor end plate is greatly reduced**

3- Repetitive stimulation of a motor nerve produces a reduction in the amplitude of the fifth response compared with the first in 98% of cases (electrodecremental tes t) 4- Subjective improvement in muscle strength following edrophonium is diagnostic of the condition

5- There is a strong association with antinoradrenergic receptor antibodies

Q4084. A 40-year-old male is diagnosed with dystrophia myotonica. Which one of the following features would be expected in this patient?

1- Autosomal recessive inheritance

**2- Cataracts**

3- Fasciculations would predominate

4- Preserved tendon reflexes despite muscle wasting

5- Progressive external ophthalmoplegia

Q4085. A 72-year-old male presents with diplopia. Which one of the following features would suggest a third nerve palsy?

1- Enophthalmos

2- Constricted pupil

3- Convergent strabismus

4- Increased lacrimation

**5- Unreactive pupil to light**

Q4086. Which of the following investigations best supports a diagnosis of new variant CJD?

1- CSF analysis

2- CT brain

3- EMG

**4- MRI brain**

5- VEPs

Q4087. A 25-year-old woman was recently diagnosed with rheumatoid arthritis. She has developed weakness, double vision and tiredness. Examination reveals bilateral weakness of eye abduction, bilateral ptosis, slightly reduced proximal motor power in the limbs, normal reflexes and sensation. What is the diagnosis?

1- Chronic progressive external ophthalmoplegia.

2- Guillain-Barre syndrome.

3- Multiple sclerosis.

**4- Myasthenia gravis.**

5- Polymyositis

Q4088. A 75-year-old man presents with 12 months history of cognitive impairment, parkinsonism, intermittent confusion and generalised myoclonus. He was started on 62.5 three times daily of Sinemet. In the following two months he has started experiencing visual hallucinations. Which of the following is the most likely diagnosis?

1- Alzheimer's disease

**2- Diffuse Lewy body disease**

3- Idiopathic Parkinson's disease

4- Multiple system atrophy

5- Progressive supranuclear palsy

Q4089. A 65-year-old man presents with four months history of swallowing difficulties (worse with liquids than solid s) . He also complains of nasal regurgitation, coughing and choking episodes during meals and slight dysarthria. He lost one stone over the last eight weeks. Which of the following investigations is the most appropriate for this case?

**1- Acetyl choline receptors antibodies**

2- Barium swallow

3- CXR

4- Gastroscopy

5- Tumour markers

Q4090. An 18-year-old female presents with a three day history of progressive weakness and numbness of her legs, urinary retention and back pain for two weeks following an upper respiratory infection. On examination there is spastic paraparesis, sensory level up to T5, extensor plantars. Examination of cranial nerves and upper limbs is normal. MRI of the spine is normal. Of the following, which is the most likely diagnosis?

1- Anterior spinal artery occlusion

2- Guillain-Barre syndrome

3- Multiple sclerosis

**4- Post-infectious transverse myelitis**

5- Thoracic disc prolapse

Q4091. Which of the following is caused by a lesion of the frontal lobe?

1- Apraxia

**2- Broca's (expressiv e) aphasia**

3- Cortical blindness

4- Homonymous hemianopia

5- Visuospatial neglect

Q4092. Which of the following may cause a downbeat nystagmus?

1- Aqueduct stenosis

2- Benign paroxysmal vertigo

3- Central cerebellar lesion

**4- Chiari type I malformation**

5- Unilateral medial longitudinal fasciculus lesion

Q4093. Which of the following associations of muscles and nerve supply are not true?

1- Deltoid and C5

2- Gastrocnemius and S1

**3- Long flexors of fingers and C6**

4- Quadriceps and L3

5- Triceps and C7

Q4094. A 43-year-old gentleman has been brought to the Emergency department by his partner. He was diagnosed with HIV infection 10 years ago and his CD4 count has been maintained on triple therapy. He has recently been dismissed from work for poor performance. He has lost interest in cooking and socialising over the past 10 months. There has been a slurring in his speech. His partner feels he has been more aggressive and withdrawn, however in the past few days he has started to have hallucinations. What is the likely diagnosis?

1- Cryptococcal meningitis

**2- HIV dementia**

3- Progressive multifocal leukoencephalopathy

4- Schizophrenia

5- Toxoplasmosis

Q4095. A 58-year-old man presents with central back pain which shoots down to his left foot. There is paraesthesia over the lateral aspect of the left foot, impaired ankle jerk and weakness of plantarflexion. His right leg is normal. What is the most likely cause of his pain?

1- Cervical disc prolapse

2- Cauda equina syndrome

3- L3/4 disc prolapse

4- L4/5 disc prolapse

**5- L5/S1 disc prolapse**

Q4096. A 45-year-old woman presents to the GP with loss of sensation over the lateral three and a half fingers of her right hand, tenderness over her right forearm and inability to make a tight fist. She complains of pain in her right arm when twisting door handles anticlockwise. Phalen's and Tinnel's tests are negative. She is otherwise neurologically intact. What is the most likely diagnosis?

1- Carpal tunnel syndrome

2- Diabetic polyneuropathy

3- Multiple sclerosis

**4- Pronator teres syndrome**

5- Stroke

Q4097. An old man presents to his GP with difficulty driving. He reports not seeing cars approaching from the right. On examination he has a right inferior homonymous quadrantanopia. What is the most likely diagnosis?

1- Right occipital lobe

**2- Left parietal lobe**

3- Right temporal lobe

4- Left optic tract

5- Optic chiasm

Q4098. A 64-year-old man presents to the hospital with bleeding. He has a heavy dependence on alcohol. On examination he has petechiae and bleeding gums. What is the likely vitamin deficiency?

1- B1

2- B12

**3- C**

4- E

5- K

Q4099. Which area supplied by the median nerve will be spared if the problem is at the carpal tunnel?

1- Hypothenar eminence

2- Lateral three digits

3- Medial two digits

**4- Thenar eminence**

5- Volar surface of the hand

Q4100. What is the likelihood of being seizure-free after a second or third antiepileptic in patients previously untreated for epilepsy?

1- 8%

**2- 14%**

3- 20%

4- 35%

5- 47%

Q4101. What is the mechanism of action of fingolimod?

1- Inhibits IL-2 transcription

**2- Ceramide synthase inhibitor**

3- Interferon agonist

4- Monoclonal antibody to anti-alpha 4 integrin

5- Shifts Th1 cell to Th2 cell populations

Q4102. You are asked to review a 32-year-old woman on the labour ward. She has just given birth to a healthy female child and was recovering on the ward when the midwives noticed a deterioration in her conscious level and a grand mal seizure which was self-terminating after about five minutes. A few minutes before the seizure they said that she had increasing problems with nausea, vomiting and a severe frontal headache. Apparently there was a short period of hypotension associated with the delivery. On examination she is drowsy with a GCS of 12, her BP is 145/91 mmHg. She has bilateral papilloedema and appears to have bilateral third nerve palsies. Investigations show Haemoglobin 11.1 g/dl(11.5-16.5) White cell count 5.2 x 109 /L (4-11) Platelets 180 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 88 μmol/l (79-118) Which of the following is the most likely diagnosis?

**1- Cerebral venous thrombosis**

2- Embolic stroke

3- Idiopathic epilepsy

4- Migraine

5- Subarachnoid haemorrhage

Q4103. In herpes simplex encephalitis which of the following statements is correct?

1- Brain magnetic resonance imaging (MR I) is characteristically normal

2- Cold sores or genital herpes are usually present

3- Fits are uncommon

**4- Temporal lobe involvement is common**

5- Viral identification by polymerase chain reaction (PC R) on cerebrospinal fluid (CS F) is non-specific

Q4104. A 17-year-old female presents with three headaches over a six month period. She describes the headaches as severe, rightsided and lasting for twelve hours and associated with nausea and photophobia. Each is preceded by spots before her eyes. What is the most appropriate initial treatment for this patient?

1- Diclofenac at the onset of the next attack

2- Ergotamine suppository at the onset of the next attack

**3- Paracetamol plus metoclopramide at the onset of the next attack**

4- Prophylaxis with propranolol

5- Sumatriptan at the onset of the next attack

Q4105. A 40-year-old woman presents with fatigue. She has a six month history of secondary amenorrhoea and galactorrhoea. Examination shows an obese lady with a BMI of 36 kg/m2 . Neurological examination is normal. A prolactin is measured at 3124 mU/L (normal <550mU/ L) and thyroid function tests reveal a Free T4 of 7.5 nmol/l and a TSH of 120 mU/l . A CT scan shows a bulky pituitary gland. Which of the following is the likely diagnosis?

1- Cushing's syndrome

**2- Hypothyroidism**

3- Macroprolactinoma

4- Microprolactinoma

5- Type 2 diabetes

Q4106. A 21-year-old man is admitted with severe acute onset headache. He is disoriented and drowsy and has neck stiffness. Investigations suggest a diagnosis of subarachnoid haemorrhage (SA H) . What grade of SAH does this patient have based on the Hunt & Hess classification?

**1- Grade three**

2- Grade one

3- Grade two

4- Grade four

5- Grade five

Q4107. A 65-year-old man presents with unsteadiness, rigidity of movement and tremor of the right hand. Which of the following features most strongly suggest idiopathic Parkinson's disease?

1- Intention tremor

2- Slowness of the movement

**3- The asymmetry of tremor**

4- Titubation

5- Tremor that disappears when he sleeps

Q4108. A 65-year-old male presents with bilateral leg pain. There is no relevant past medical history, and no excess alcohol use. Both knee reflexes are reduced. Fasting glucose is 6.5 mmol/L. Which is the next investigation most likely to confirm the diagnosis?

1- B12 and folate

2- Chest x ray

3- CSF examination

4- MRI spine

**5- Oral glucose tolerance test**

Q4109. A 30-year-old female was commenced 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 bioavailablity of carbamazepine

Q4110. A 15-year-old girl presents with a two week history of headaches and double vision. She had also noticed an episode where her vision dimmed after sneezing. On examination her BMI was 32.4 kg/m2 , she had bilateral optic disc swelling and a partial left sixth cranial nerve palsy was present. What is the most likely diagnosis?

**1- Benign intracranial hypertension**

2- Graves' ophthalmopathy

3- Multiple sclerosis

4- Pituitary tumour

5- Sagittal vein thrombosis

Q4111. An 18-year-old female presents 12 weeks into an unplanned pregnancy. She had been diagnosed with epilepsy six years ago which was well controlled on sodium valproate and had been taking the combined oral contraceptive pill for three years. Which of the following is correct concerning this patient?

1- Lamotrigine should be substituted for sodium valproate

2- She should be advised to have a termination of her pregnancy.

3- Sodium valproate interaction with the oral contraceptive increased the risk of pregnancy.

4- The dose of sodium valproate should be increased.

**5- There is an increased risk of a neural tube defect in her fetus.**

Q4112. A 25-year-old male presents to casualty with weakness of his right hand. Examination reveals weakness of right wrist and finger extension. What is the most likely diagnosis?

1- Axillary nerve palsy

2- C8 nerve root lesion

3- Proximal median nerve lesion

**4- Radial nerve lesion**

5- Ulnar nerve lesion at the elbow

Q4113. A 48-year-old female patient develops an acute, severe and isolated right C6 radiculopathy affecting both the motor and sensory roots. She is examined in an EMG clinic three weeks after the onset of symptoms. Which of the following statements is true?

**1- Absent sensory nerve potentials would be expected on examination of the thumb and index finger on the right.**

2- A repeat examination 12 months later is likely to reveal rapidly recruited low amplitude short duration motor units in the clinically involved muscle on EMG.

3- Fibrillation potentials would be expected in the right extensor carpi ulnaris and extensor pollicis brevis.

4- Triceps tendon jerk is likely to be depressed or absent.

5- Voluntary motor unit activity may be absent in the right biceps.

Q4114. A 4

8- year-old man presented with a two week history of recurrent severe right-sided peri-orbital headache, frequently nocturnal and occurring at least once daily, usually lasting an hour. He had noticed lacrimation from the right eye and blockage of the right nostril during the headache. At the time of the examination he was free from headache and there were no abnormal physical signs. Which of the following is the most likely diagnosis?

1- Cluster headache

2- Intracranial aneurysm

3- Orbital pseudotumour

4- Right maxillary sinusitis

5- Trigeminal neuralgia

Q4115. A 57-year-old woman is referred to the clinic with progressive hearing loss affecting her left ear and tinnitus. She had been diagnosed with Meniere's disease some two years earlier and feels that her problems are slowly getting worse with vertigo and double vision recent additional features. Her GP prescribed some betahistine but it does not seem to be working. On examination her BP is 134/72 mmHg, pulse is 70 and regular, her BMI is 29. There is coarse nystagmus when she looks towards the left, nystagmus is rapid when she looks to the right. There is a deficient corneal reflex on the left. Audiometry reveals significant sensorineural hearing loss affecting the left side. Which of the following is the most appropriate next intervention?

1- Added cyclizine

2- CT brain

3- Increased dose of betahistine

**4- MRI brain**

5- Referral for Hallpike manoeuvre

Q4116. Which of the following is true regarding cerebral palsy?

**1- Epilepsy is present in 40%.**

2- Hearing loss is present in 5%.

3- Learning impairment is present in 30%.

4- The incidence is 2 per 100 live births.

5- Visual impairement occurs in 50%.

Q4117. The action of noradrenaline (N A) released at sympathetic nerve endings is terminated by which of the following?

1- Enzymatic decarboxylation

2- Enzymatic inactivation by catechol-Omethyl transferase

3- Oxidative deamination by monoamine oxidase

4- Removal by the circulating blood

**5- Re-uptake of noradrenaline by the axonal terminals**

Q4118. A 15-year-old boy presents with tremor of both hands. Over the previous months he has developed a mild dysarthria. He has a history of behavioural problems, of a depressive / psychotic nature. Which of the following is the most likely diagnosis?

1- Alzheimer's disease

2- Huntington's disease

3- Neuroacanthocytosis

4- Variant Creutzfeldt-Jakob disease

**5- Wilson's disease**

Q4119. A 50-year-old old man is admitted to hospital unconsious, and smelling of alcohol. One hour after admission, he becomes suddenly sweaty with a regular tachycardia of 110 bpm and a BP of 100/50 mmHg. What is the diagnosis?

1- Alcohol withdrawal.

2- Hepatic encephalopathy.

**3- Hypoglycaemia.**

4- Subdural haematoma.

5- Wernicke's encephalopathy.

Q4120. A 36-year-old man has a three month history of pain in his feet and lower legs. He was diagnosed as having diabetes at age 14 and treated with insulin. He is a cannabis smoker and drinks 30 units of alcohol per week. On examination he has impaired pain and temperature sensation in feet and lower legs, normal joint position and vibration sense. His reflexes are normal. What is the diagnosis?

1- Alcoholic polyneuropathy.

2- Chronic inflammatory demyelinating polyneuropathy (CID P) 3- Diabetic polyneuropathy.

4- Syringomyelia.

5- Vitamin B12 deficiency.

Q4121. A 50-year-old woman presented to her GP with a four month history of progressive distal sensory loss and weakness of both legs and arms. The weakness and numbness had extended to the elbows and knees. She had great difficulty in fine manipulation and had become unsteady on her feet. She had osteoarthritis in her neck, but did not take any regular medication. She was a nonsmoker and did not drink any alcohol. There was no family history of any neurological disease. On examination, cranial nerves and fundoscopy were normal. Examination of the upper limb revealed bilaterally reduced tone at the elbows and wrists with absent biceps, triceps and supinator jerks. There was mild weakness of shoulder abduction and adduction 4/5 with marked weakness of handgrip and elbow flexion, extension 3/5. Sensory examination revealed reduced pinprick sensation extending from the hand to the elbow and vibration was felt at the elbow. Lower limb examination revealed some mild weakness of hip flexion and extension with marked weakness of dorsiflexion and plantarflexion. Both knee and ankle jerks were absent and both plantar responses were mute. There was absent sensation to all modalities affecting both feet extending to the knees. A lumbar puncture was performed and yielded the following data: Opening pressure 14 cm H2O (5-18) CSF protein 0.75 g/L(0.15-0.45) CSF white cell count 10 cells per ml(<5 cell s) CSF white cell differential 90% lymphocytes CSF red cell count 2 cells per ml(<5 cell s) Nerve conduction studies showed multifocal motor and sensory conduction block with prolonged distal latencies. What is the likely diagnosis in this patient?

1- Cervical spondylosis

**2- Chronic inflammatory demyelinating neuropathy (CID P) 3- Guillain-Barré syndrome**

4- Hereditary motor and sensory neuropathy (HMS N) 5- Multifocal motor neuropathy

Q4122. A 19-year-old girl presents at the antenatal clinic. She is approximately six weeks pregnant and the pregnancy was unplanned. She has a two year history of grand mal epilepsy for which she takes carbamazepine. She has had no fits for approximately six months. She wants to continue with her pregnancy if it is safe to do so. She is worried about the anticonvulsant therapy and its effects on the baby. She asks how she should be managed. Which of the following management plans is the most appropriate in this case?

1- Advise termination due to drug teratogenicity

**2- Continue with carbamazepine**

3- Stop carbamazepine until the second trimester

4- Switch therapy to phenytoin

5- Switch therapy to sodium valproate

Q4123. A 19-year-old girl presents at the antenatal clinic. She is approximately six weeks pregnant and the pregnancy was unplanned. She has a two year history of grand mal epilepsy for which she takes carbamazepine. She has had no fits for approximately six months. She wants to continue with her pregnancy if it is safe to do so. She is worried about the anticonvulsant therapy and its effects on the baby. She asks how she should be managed. Which of the following management plans is the most appropriate in this case?

1- Advise termination due to drug teratogenicity

**2- Continue with carbamazepine**

3- Stop carbamazepine until the second trimester

4- Switch therapy to phenytoin

5- Switch therapy to sodium valproate

Q4124. Frontal lobe brain damage is associated with which of the following?

1- Astereognosis

2- Auditory agnosia

3- Dressing apraxia

4- Focal epileptic fits

**5- Perseveration**

Q4125. A 25-year-old female presents with a two day history of diplopia and unsteadiness. Two weeks ago she suffered an upper respiratory tract infection. On examination there is complete ophthalmoplegia, areflexia and gait ataxia. Which of the following blood tests is the most likely to confirm the underlying diagnosis?

1- Acetylcholine receptors antibodies

2- Anti GM1 antibodies

**3- Anti GQib antibodies**

4- Anti-Hu antibodies

5- Anti-Purkinje cell antibodies

Q4126. A 50-year-old man presented with 18 months history of parasthesia of his feet and hands. On examination there is numbness of glove and stocking distribution with generalised hyporeflexia. Nerve conduction studies revealed demyelinative sensory polyneuropathy. Which of the following conditions is the most likely diagnosis?

1- Alcohol abuse

**2- Chronic inflammatory demyelinating polyneuropathy**

3- Diabetes

4- Vasculitis

5- Vitamin B12 deficiency

Q4127. A 68-year-old man presents with progressive visual impairment. On examination there is an incongruous homonymous hemianopia. What is the most likely anatomical site of the neurological lesion?

1- Chiasma

2- Occipital lobe

3- Optic nerve

4- Optic radiation

**5- Optic tract**

Q4128. A 35-year-old man has wrist drop of his right hand. Examination reveals a small area of sensory loss on the dorsum of the hand. Which of the following nerves is likely to be involved?

1- Long thoracic nerve

2- Median nerve

**3- Radial nerve**

4- T1 nerve root

5- Ulnar nerve

Q4129. A 35-year-old woman was admitted to the Emergency department six months ago with urinary retention. She was catheterised and discharged the same day having recovered function. She now is suffering with sudden onset blurred vision and pain on looking upwards. She works in an agrochemical laboratory. She takes no medication. There is a family history of breast cancer. What test is likely to confirm diagnosis?

1- Ceruloplasmin level

2- CT brain

3- Lumbar puncture

**4- MRI brain**

5- Organophosphate level

Q4130. A 19-year-old woman presents to the Emergency department with a severe headache, vomiting and right hemiplegia. She has recently begun the progesterone only pill, but has no other past medical history of note. On examination her blood pressure is 155/80 mmHg, her pulse is 80 and regular and she is in obvious pain. There is a 3/5 power weakness affecting both her right upper and lower limb. Her reflexes are normal. Investigations show: Haemoglobin 12.0 g/dl(11.5-16.0) White cell count 6.1 x 109 /L (4-11) Platelets 241 x 109 /L (150-400) ESR 9 mm/hr(<10) Sodium 139 mmol/l (135-146) Potassium 4.0 mmol/l (3.5-5) Creatinine 82 µmol/l (79-118) MRI brain normal Which of the following is the most appropriate treatment for her?

1- Acetazolamide

**2- Diclofenac**

3- Ergotamine

4- Sumatriptan

5- Zolmitriptan

Q4131. A 54-year-old man being seen in the neurology clinic for a tremor is noted to have a shuffling gait. Examination reveals difficulty with vertical gaze and an AMTS of 6/10. What is the most likely diagnosis?

1- Corticobasal degeneration

2- Idiopathic benign essential tremor

3- Parkinson's disease

**4- Progressive supranuclear palsy (PS P) 5- Wilson's disease**

Q4132. A 40-year-old patient is being evaluated in your clinic for headaches. On examination you notice that the left pupil constricts and then enlarges and constricts again while shining the pen torch on the eye. What is this finding called?

**1- Hippus**

2- Horner's pupil

3- Iridocyclitis

4- Relative afferent papillary defect

5- Tonic pupil

Q4133. A 55-year-old man presents with neck pain. One week previously he had attended for a sigmoidoscopy and was given intravenous sedation during this procedure. One day prior to admission his neck and shoulders had become stiff. On examination, the temperature was 38.0°C, blood pressure was 100/60 mmHg and heart rate 100 bpm. There were absent biceps jerks and weakness of trapezius, deltoid and triceps bilaterally. The cranial nerves and lower limbs were normal. There was a soft systolic murmur, and the chest was clear. Which examination is likely to confirm the diagnosis?

1- Cervical spine X-ray

2- CT head

3- Echocardiography

4- Lumbar puncture

**5- MRI neck**

Q4134. Which one of the following statements is correct?

1- The abducens nerve supplies the lacrimal gland

2- The facial nerve supplies the parotid salivary gland

3- The oculomotor nerve supplies the dilator pupillae muscle

4- The trochlear nerve supplies the superior rectus muscle

**5- The vagus nerve supplies the palatal muscles**

Q4135. A 32-year-old scientist presents to the emergency department with a right facial weakness. He has recently returned from a conference in the USA. There is no history of systemic illness but on examination he has mild neck stiffness and a painful right wrist and knee with a right facial palsy. Investigations were as follows: Hb 12 g/dl(13.0-18.0) WCC 7 x 109 /L (4-11) Platelets 190 x 109 /L (150-400) Clotting Normal ESR 32 mm/1st hour(0-15) Sodium 138 mmol/l (137-144) Potassium 4.0 mmol/l (3.5-4.9) Urea 6.9 mmol/l (2.5-7.5) Creatinine 76 µmol/l (60-110) Calcium and LFTs Normal CXR Normal CT head Normal CSF: Protein 1.2 g(0.15-0.45) CSF: WCC 67 (97% lymphocyte s) CSF No organisms seen What is the most likely diagnosis?

1- Behçet's disease

2- HIV associated neuropathy

**3- Lyme disease**

4- Sarcoidosis

5- Tuberculous meningitis

Q4136. Which vertebral level and corresponding structure is correct?

**1- C4 and bifurcation of the carotid artery**

2- T2 and manubriosternal joint

3- T8 and aortic opening in the diaphragm

4- T10 and opening for vena cava in diaphragm

5- T12 and oesophageal opening in the diaphragm

Q4137. An adolescent boy presents with unexplained neurological illness. Which one of the following would suggest a specific cause of substance abuse?

1- A history of attention deficit disorder.

2- A history of family conflict.

3- A history of low self-esteem.

4- A history of social isolation.

**5- Deposits around the mouth.**

Q4138. A 45-year-old female primary school teacher presents with shortness of breath and weakness. There is a diarrhoeal illness going around her school. She is normally fit and well, and takes no medication. On examination she has marked weakness in her left and right legs, power 2/5 in ankle and knee extension, increasing to 3/5 in hip extension. There is an absence of knee and ankle reflexes, with up going plantar reflex. Sensation is intact. Considering the likely diagnosis, what test would you order next?

1- Anti-GQ1b antibodies

2- Campylobacter jejuni antibody level

3- CT brain

4- Nerve conduction testing

**5- Vital capacity**

Q4139. Causes of dilated pupils include which of the following?

1- Argyll Robertson pupil

**2- Ethylene glycol poisoning**

3- Myotonic dystrophy

4- Organophosphate poisoning

5- Pontine haemorrhage

Q4140. A 67-year-old gentleman presents with purulent cough and fever. He has a right lower lobar consolidation on x ray. This is his third hospital admission for right sided pneumonia. He is not a smoker. His wife reports that he has been choking on food for the past few months and she has noticed that he has been stumbling and dragging his left foot for about five months. On examination he has atrophy of his quadriceps bilaterally with fasciculations. There is loss of ankle jerk on the left with power 3/5, positive Babinski sign and normal sensation. His right leg has hyperreflexic ankle jerks but absence of knee jerk. There is also marked weakness throughout and fasciculations. Sensation is intact. What is the likely diagnosis?

**1- Amyotrophic lateral sclerosis**

2- Charcot-Marie-Tooth disease

3- Huntington's disease

4- Miller Fisher syndrome

5- Multiple sclerosis

Q4141. A 46-year-old father of three has just been diagnosed with Huntington's disease. His oldest daughter is 21-years-old and thinking about starting a family soon. He asks you what the chances are of his daughter also having Huntington's disease?

1- She will be a carrier as it is X linked.

2- She will definitely inherit it.

3- She will not have it as it is X linked

**4- There is a 50% chance that she will have it**

5- There is a 25% chance that she will have it.

Q4142. A 78-year-old man presents to the Emergency Department with a right sided facial palsy affecting the whole of the right side of his face. Of the following, which is the most likely cause?

1- Left sided infarct affecting the internal capsule

2- Left sided infarct affecting the frontal lobe

3- Right sided infarct affecting the internal capsule

**4- Right sided seventh nerve palsy**

5- Right sided fifth nerve palsy

Q4143. A 70-year-old man presents with difficulty speaking. He has a history of diabetes, hypertension, hypercholesterolaemia, chronic obstructive pulmonary disease. He is currently on aspirin, simvastatin, amlodipine and hydrochlorothiazide. On examination the patient is awake, his blood pressure is 150/70 mmHg. His pulse is irregularly irregular. He has 4/5 strength in the right arm and leg and 5/5 strength on the left. When asked to point to the window he does this correctly. When told to raise his arms and place his hands out he is seen to have a pronator drift on the right. He is shown a pen and asked what it is. His answer is unintelligible. He is asked to use it appropriately and begins to write on a piece of paper perfectly. When asked to repeat "Today is a sunny day", he attempts it but appears severely dysarthric and cannot be understood. This type of dysphasia localises to?

**1- Aphemia**

2- Fluent aphasia

3- Non-fluent aphasia

4- Transcortical motor aphasia

5- Transcortical sensory aphasia

Q4144. A 70-year-old man presents with difficulty speaking. He has a history of diabetes, hypertension, hypercholesterolaemia, chronic obstructive pulmonary disease. He is currently on aspirin, simvastatin, amlodipine and hydrochlorothiazide. On examination the patient is awake; his blood pressure is 150/70 mmHg. His pulse is irregularly irregular. He has 4/5 strength on the right arm and leg and 5/5 strength on the left. When asked to point to the window he appears unable to do so. When told to raise his arms and place his hands out he does not. When visually shown the same action he is able to perform it. When asked to repeat 'Today is a sunny day', he is unable to do so. He appears frustrated and makes no intelligible words. With what type of dysphasia is this consistent?

1- Broca's aphasia

**2- Global aphasia**

3- Transcortical motor aphasia

4- Transcortical sensory aphasia

5- Wernicke's aphasia

Q4145. What is the mechanism of action of tetrabenazine?

1- Antimuscarinic

2- Monoamine oxidase inhibitor

3- Activates GABAa receptors

4- Dihydropyridine calcium channel antagonist

**5- VMAT inhibitor (vesicular monoamine transporter-2)**

Q4146. A 62-year-old male presents with weakness of the right hand. You note global wasting of the small hand muscles, there is also sensory loss over the medial border of the forearm around the elbow. Which nerve root is damaged?

1- C5

2- C6

3- C7

4- C8

**5- T1**

Q4147. A 21-year-old male is admitted with acute onset headache and is drowsy. He is opening his eyes spontaneously, is disoriented and is localising painful stimuli. He has a normal computed tomography scan. Which of the following is the next most appropriate investigation for this patient?

1- Cerebral angiography

**2- Lumbar puncture**

3- Magnetic resonance angiography

4- Magnetic resonance imaging

5- No further investigations necessary

Q4148. A 21-year-old female is diagnosed with Guillain-Barre syndrome. On examination her legs are areflexic and she has decreased sensation in her legs and arms. What is the best investigation for monitoring respiratory function in this patient?

1- Chest expansion

2- FEV1

3- FEV1/FVC ratio

4- PEFR

**5- Vital capacity**

Q4149. A 27-year-old woman presents to the Emergency department complaining of a diffuse headache for about a week. She says that her eyes have been 'going funny' every time she bends down to put on her shoes and she has vomited every morning for the past five days. You notice that she frequently attends the Emergency department with minor problems - pelvic pain, low mood and most recently ear ache. Which of the following is the most important diagnosis to consider?

**1- Cerebral sinus thrombosis**

2- Depression

3- Drug misuse

4- Otitis interna

5- Pregnancy

Q4150. Hearing losses of a mild degree or worse (>25dB ) are present in around 10% of the population. As the population ages, the percentage of people with hearing loss also increases. Which of the following age-percentage loss combinations is not correct for the general population?

1- At birth approximately 0.3% affected

2- Aged 50-59: approximately 10% affected

3- Aged 60-69: approximately 25% affected

4- Aged 70-79: approximately 50% affected

**5- Aged 80-89: approximately 50% affected**

Q4151. A 65-year-old male presents with acute severe headache, ataxia and vomiting. Six hours later he became drowsy. On examination he had left horizontal nystagmus, a partial left sixth cranial nerve palsy and extensor plantar responses. His blood pressure was 188/110 mmHg. What is the most likely cause for this deterioration?

**1- Brain stem herniation**

2- Cerebral oedema

3- Dehydration

4- Malignant hypertension

5- Non-convulsive status epilepticus

Q4152. 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

Q4153. A 55-year-old man with alcohol dependency presents with a seizure which is attributed to alcohol withdrawal. Which one of the following statements regarding these seizures is correct?

1- Long term diazepam therapy is indicated

2- Long term therapy with phenytoin is indicated

3- Seizures are likely to be accompanied by hallucinations

4- Seizures may be termed "alcoholic blackouts"

**5- Seizures typically occur within 48 hours of alcohol withdrawal**

Q4154. A 35-year-old woman presents with pains in the right arm. On examination she has wasting and weakness of the intrinsic muscles of the right hand, absent tendon reflexes in the right arm and impaired pinprick sensation in the right hand and forearm. What is the most likely diagnosis?

1- Combined median and ulnar nerve lesions

2- Lower trunk brachial plexus lesion

3- Neuralgic amyotrophy

**4- Syringomyelia**

5- Thoracic outlet syndrome

Q4155. A young woman who has suffered from cerebral venous sinus thrombosis associated with pregnancy is most likely to have been affected during which of the following periods?

1- During birth

2- In the 1st trimester

3- In the 2nd trimester

4- In the 3rd trimester

**5- In the postpartum period**

Q4156. A 26-year-old male epileptic is admitted with temperature and rash. Over the last one week a rash has developed and he has become increasingly ill. Recently he has had some problems with epileptic control and has commenced carbamazepine with valproate. Examination reveals an unwell patient with a temperature of 39°C, a diffuse erythematous, painful rash with evidence of some lateral sliding of these erythematous areas on palpation. There is also blistering and inflammation of the oral cavity. What is the likely diagnosis?

1- Erythema elevatum diutinum

2- Exfoliative dermatitis

3- Pustular psoriasis

**4- Toxic epidermal necrolysis**

5- Toxic shock syndrome

Q4157. An 80-year-old man presented to his GP having developed uncontrollable flinging movements of his right arm and leg in the last few days. He had been previously well prior to the event. The movements were irregular involving the proximal limb muscles and did not follow a particular pattern. They occurred several times a minute and had led to several falls. He had a past medical history of hypertension and ischaemic heart disease and took regular ramipril and aspirin. He was a smoker of 10 cigarettes per day and did not drink any alcohol. There was no family history of neurological disease. On examination he was alert and orientated, but had several episodes of flinging proximal movements of his right upper and lower limb that made examination difficult. Tone, power and reflexes all appeared normal and there were no obvious cranial nerve abnormalities. General examination revealed a blood pressure of 140/90mmHg, pulse of 78/min and regular and heart sounds were normal. Investigations revealed: Haemoglobin 15.2 g/dl(13.0 - 18.0 g/d L) Mean cell volume 92 fL(80 - 96 f L) White cell count 10.5 x 109 /L (4 - 11 x 109 / L) Platelets 299 x 109 /L (150 - 400 x 109 / L) Serum Sodium 135 mmol/L (137 - 144 mmol/ L) Serum Potassium 4.5 mmol/L (3.5 - 4.9 mmol/ L) Serum Urea 3.6 mmol/L (2.5 - 7.5 mmol/ L) Serum Creatinine 98 umol/L (60 - 110 umol/ L) Fasting plasma glucose 8.9 mmol/L (3 - 6 mmol/ L) Serum cholesterol 6.2 mmol/L (< 5.2 mmol/ L) What is the most likely diagnosis in this patient?

1- Functional disorder

2- Huntington disease

3- Infarction within the substantia nigra

**4- Infarction within the subthalamic nucleus**

5- Senile chorea

Q4158. A 73-year-old man presents with an abrupt onset of double vision and left leg weakness. Examination shows weakness of abduction of the right eye and right-sided facial weakness affecting upper and lower parts of the face. He also has a left hemiparesis. Where is the lesion?

1- Left frontal lobe

2- Left lateral medulla

3- Right corpus striatum

4- Right midbrain

**5- Right pons**

Q4159. 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. 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**

Q4160. A CT shows blood in the sylvian fissure. In which compartment is this blood?

1- Epidural

**2- Subarachnoid**

3- Subcortical

4- Subdural

5- Subgaleal

Q4161. A 43-year-old woman develops a progressive, ascending motor weakness over several days. She is hospitalised and requires intubation with mechanical ventilation. She is afebrile. A lumbar puncture is performed with normal opening pressure and yields clear, colourless cerebrospinal fluid (CS F) with normal glucose, increased protein, and cell count of 5/microlitre, all lymphocytes. She gradually recovers over the next month. Which of the following conditions most likely preceded the onset of her illness?

1- Ketoacidosis

2- Staphylococcus aureus septicaemia

3- Systemic lupus erythematosus

**4- Viral pneumonia**

5- Vitamin B12 deficiency

Q4162. A 72-year-old woman has a five year history of worsening mental functioning with trouble remembering things. She has no problems with movement. She is noted on an MRI scan of the brain to have symmetrically increased size of the lateral ventricles along with cerebral cortical atrophy in a mainly frontal and parietal distribution. A lumbar puncture reveals a normal opening pressure, and analysis of the clear, colorless cerebrospinal fluid (CS F) reveals glucose and protein which are in normal ranges. Cell count on the CSF shows 3 WBCs (all lymphocyte s) and 1 RBC. A fundoscopic examination is normal. Which of the following findings is most likely associated with her underlying disease process?

1- Increased numbers of Lewy bodies

2- Loss of Betz cells

3- Loss of gamma aminobutyric acid (GAB A) 4- Perivascular mononuclear inflammation

**5- Presence of the e4 allele of apolipoprotein E**

Q4163. Which one of the following would support a diagnosis of subacute combined degeneration of the cord (SACD C) rather than multiple sclerosis (M S) ?

**1- Absent ankle jerks**

2- Autonomic symptoms

3- Cerebellar signs

4- Extensor plantars

5- Visual problems

Q4164. Which of the following is correct concerning pseudotumour cerebri (benign intracranial hypertensio n) ?

1- A mildly increased CSF cell count is typical.

2- Frequently presents with ataxia.

3- Is distinguished from hydrocephalus by the absence of suture separation.

4- Is typically associated with focal long tract signs.

**5- May be caused by prolonged steriod therapy.**

Q4165. Which of the following is a characteristic feature of transient global amnesia?

1- Abnormal behaviour

2- Apraxia

3- Confabulation

4- Loss of personal identity

**5- Normal perception**

Q4166. Which of the following would be expected features of a left posterior cerebral artery occlusion?

**1- A right homonymous hemianopia**

2- Decerebrate state

3- Internuclear ophthalmoplegia

4- Pure aphasia (that is, without alexi a) 5- Wernicke's aphasia

Q4167. Which of the following is least likely to cause choreiform movements?

**1- Polyarteritis nodosa (PA N) 2- Polycythaemia rubra vera**

3- Rheumatic fever

4- Systemic lupus erythematosus

5- Thyrotoxicosis

Q4168. For which of the following could a right carotid artery stenosis not account?

1- Contralateral hemiplegia

2- Contralateral hemisensory loss

**3- Drop attacks**

4- Dysphasia

5- Right amaurosis fugax

Q4169. A 30-year-old female presents to the eye clinic with an acute history of pain and blurring in the right eye. Examination reveals a visual acuity of 6/36 in the right eye but 6/6 in the left eye, a central scotoma in the right eye, with a right swollen optic disc. What is the most likely diagnosis?

1- Cavernous sinus thrombosis

2- Compression of the optic nerve

3- Glaucoma

**4- Optic neuritis**

5- Retinal vein occlusion

Q4170. A 25-year-old female presented with six months history of depression, irritability and painful sensory symptoms in her legs. Over the last four weeks she presents a broad base ataxic gait. An MRI brain showed bilateral posterior thalamic nuclei (pulvinar regio n) high signals. Which of the following is the most likely diagnosis?

1- Herpes simplex encephalitis

2- Multiple system atrophy

**3- New variant CJD**

4- Sporadic CJD

5- Wilson disease

Q4171. A 60-year-old male is referred with episodes of severe vertigo which may last up to four hours and are associated with vomiting and pain in the right ear. On examination during an attack he is noted to have right horizontal nystagmus together with mild right-sided sensorineural deafness. Which one of the following is the most likely diagnosis?

1- Acoustic neuroma

2- Benign positional vertigo

3- Labyrinthitis

**4- Ménière's disease**

5- Vertebrobasilar ischaemic attacks

Q4172. A 70-year-old female patient presents with two months history of apathy, withdrawal, urinary and faecal incontinence and anosmia. Of the following where is the most likely anatomical site of the neurological lesion?

**1- Frontal lobe**

2- Internal capsule

3- Occipital lobe

4- Parietal lobe

5- Temporal lobe

Q4173. A 54-year-old Somali lady presents with weakness of her lower limbs. Four months ago she had noticed weakness of her left leg and this has steadily progressed to affect both legs. On examination she has multiple bruises of different ages on her legs and body. She has reduced power bilaterally with hyperreflexia, an ataxic gait and head tremor. Her family have noticed her behaving abnormally recently, disinhibited with poor short term memory. What is the most likely causative agent?

1- Cryptococcus neoformans

2- Human immunodeficiency virus 1

3- Human immunodeficiency virus 2

**4- JC virus**

5- Toxoplasma gondii

Q4174. An 18-year-old presents with her third 'funny turn'. She was witnessed smacking her lips and making repetitive chewing movements. She recalls a rising epigastric sensation preceding this, but was unaware of what she was doing. Which of the following would you suspect?

1- Absence seizures

2- Frontal lobe epilepsy

3- Migraine

**4- Temporal lobe epilepsy**

5- Transient ischaemic attack

Q4175. A 20-year-old presents to the emergency room having experienced altered mental state for several days. There is no travel history reported. She is arousable but appears confused. She has spontaneous movements of the limbs which are erratic and non-rhythmical and last a second. She has reported difficulty in concentration and headaches recently. A head CT is obtained which is normal and a lumbar puncture shows normal protein, glucose and no white cells or red cells. Laboratory results include a normochromic normocytic anaemia, elevated TSH, normal electrolytes and renal function, normal coagulation and liver studies. Serum and urine toxicology is negative. HIV screen is negative. She has no history of drug or alcohol abuse. Pregnancy test was negative. Which of the following laboratory tests should be ordered based on the history?

**1- Anti-thyroid peroxidase antibodies**

2- Gamma gluconyl transferase

3- Peripheral/blood smear

4- Prealbumin

5- Thyroglobulin level

Q4176. A mother comes to your office concerned about her 2-year-old son. She has noticed that he typically laughs inappropriately for no particular reason. Shortly after an event he appears to be fidgeting. These events last only minutes and in between the events he acts normally. What is your suspected diagnosis?

**1- Gelastic seizures**

2- Malingering

3- Pseudobulbar affect

4- Substance abuse

5- Tourette's

Q4177. Against which of the following is the specific antibody found in neuromyelitis optica?

**1- Aquaporin 4**

2- Glial fibrillary acidic protein

3- Myelin basic protein

4- Oligoclonal bands

5- Transthyretin

Q4178. A 30-year-old woman presents with problems seeing for the past two days. She reports that the vision of her left eye is much worse than normal for the last two days. She reports that she woke up and thought there was something in her eye but the vision is getting worse. She denies diplopia but has blurred vision. On examination her visual acuity is 20/20 in the right eye and finger counting only in the left. There is red desaturation and a relative afferent papillary defect. Her past medical history is unremarkable and she reports never having had neurological symptoms in the past. On examination of her fundus, what is the most likely finding?

1- Cupped disc

2- Macular star

**3- Normal optic disc**

4- Optic atrophy

5- Papilloedema

Q4179. A 60-year-old man presented with an episode of right sided weakness that lasted 10 minutes and fully resolved. Examination reveals that he is in atrial fibrillation. Assuming he remains in atrial fibrillation which of the following is the most appropriate management regime?

1- Aspirin

2- No additional drug treatment

**3- Warfarin, INR range 2 - 3**

4- Warfarin, INR range 2 - 3 for six months then aspirin

5- Warfarin, INR range 3 - 4

Q4180. A 32-year-old shop worker presents with a 24 hour history of weakness in the hands. She also complains of shortness of breath. The oxygen saturations are 90% on air. The biceps and triceps reflexes are absent in the left arm and reduced in the right arm. Which of the following are recognised treatments of this acute presentation?

1- Edrophonium

2- G-CSF

3- Non-steroidal anti-inflammatory drugs

4- Physiotherapy

**5- Plasmapheresis**

Q4181. A 36-year-old female presents with a six month history of having problems sleeping at night. She has been woken on numerous occasions by her legs which are irritable and feel that they are being tugged. She needs to keep moving them. This urge lasts for variable periods and she finds little relief from rubbing the legs. No abnormalities are noted on examination of her legs. Which of the following is the most appropriate treatment for this patient?

1- Amitriptyline

2- Gabapentin

3- Psychiatric referral

**4- Ropinirole**

5- Venlafaxine

Q4182. A 34-year-old male presents with back pain and weakness. Which of the following would support a diagnosis of prolapsed intervertebral disc?

1- Bilateral symmetrical nerve involvement

**2- Loss of sensation over the left outer upper thigh**

3- No evidence of nerve compression

4- Pain which is unremitting in character

5- Pain which is worse on resting

Q4183. A 21-year-old male is admitted with acute onset headache and is drowsy. He is opening his eyes spontaneously, is disoriented but is localising to painful stimuli. Which of the following is the investigation of choice for this man?

**1- Computed tomography (C T) 2- Lumbar puncture (L P) 3- Magnetic resonance angiography (MR A) 4- Magnetic resonance imaging (MR I) 5- Positron emission tomography (PE T)**

Q4184. A 59-year-old female pub landlady presents with acute, severe lumbar back pain. There is no history of orthopaedic problems and until this event she had been in perfect health. The patient complains of paraesthesia in the lower limbs and on further questioning has not voided urine since the onset of the pain. Neurological examination reveals weakness (3/5 of both lower limbs, loss of sensation in L4, L5 and S1). Vibration sensation and joint position sensation is preserved. Reflexes in the ankles and knees are absent and the plantar response is equivocal. The blood pressure is 158/68 mmHg, heart rate 95 bpm, temperature 36.9°C and ECG shows normal sinus rhythm with no ischaemic changes. The remainder of the examination is normal. Which of the following should be undertaken next for this patient?

1- CT head

2- Duplex scan of aorta

**3- MRI spinal cord**

4- Rectal examination

5- USS abdomen

Q4185. A 78-year-old male is brought to the Emergency department and has a witnessed seizure in the resuscitation room. His blood glucose is recorded as 1.0 mmol/l. He does not have diabetes, and has no other significant past medical history. He is given 50 ml of 50% dextrose and he slowly recovers over the next one hour. A serum cortisol concentration later returns as 800 nmol/l (120-600). Which of the following would be the most relevant investigation for this man?

1- Chest x ray

2- CT head scan

3- Electrocardiogram

**4- Prolonged 72 hour fast**

5- Short Synacthen test

Q4186. What is the agent responsible for variant Creutzfeldt-Jakob disease (CJ D) ?

1- Mutant mitochondrial DNA

2- Non-protein transmissible pathogen

**3- Proteinaceous infectious particle**

4- Retrovirus

5- Slow virus

Q4187. A 35-year-old male presents with a 12 month history of involuntary movements of his limbs. Examination revealed generalised chorea but otherwise no neurological abnormalities. Involvement of which of the following structures is likely to cause this presentation?

**1- Caudate nucleus**

2- Hippocampus

3- Lateral geniculate nucleus

4- Red nucleus

5- Substantia nigra

Q4188. An 81-year-old female is admitted following a seizure although her relatives state that prior to this she had been increasingly confused, unsteady and unable to look after herself over the last two to three weeks. On examination she was drowsy and had a temperature of 37.5°C, and a blood pressure of 192/108 mmHg. She had a mixed aphasia, with a mild right hemiparesis. What is the most likely diagnosis?

1- Acute cerebral infarction

2- Acute intracerebral haemorrhage

3- Cerebral abscess

**4- Chronic subdural haematoma**

5- Glioblastoma

Q4189. A 45-year-old man presented with a three day history of headache and increasing confusion. On examination he was febrile with marked neck stiffness. Investigations revealed: Cerebrospinal fluid analysis (normal ranges are shown in bracket s) : White cell count 600/ml (<5) White cell differential >90% Neutrophils Gram stainGram-negative diplococci Which one of the following antibiotics, given intravenously, is the most appropriate treatment?

1- Ampicillin

**2- Benzylpenicillin**

3- Cefuroxime

4- Ciprofloxacin

5- Gentamicin

Q4190. A 25-year-old-man presented with severe headache, myalgia and a blanching red macular rash. He had returned from Indonesia three days previously. On examination his blood pressure was 75/50 mmHg. A diagnosis of dengue fever was made. Which of the following would be given immediately?

1- A single dose of ivermectin

2- Intravenous hydrocortisone 200 mg

**3- Intravenous normal saline**

4- Metronidazole

5- Tetracycline

Q4191. A 16-year-old male presents with a five year history of absence seizures with three recent generalised convulsions. Which one of the following drugs, given as monotherapy, is most likely to control his fits?

1- Clonazepam

2- Ethosuximide

3- Gabapentin

**4- Sodium valproate**

5- Topiramate

Q4192. A 16-year-old boy presents with rapidly progressive weakness over three days, which is attributed to Guillain-Barré syndrome. Which one of the following is the most appropriate treatment?

1- Azathioprine

2- Cyclosporin

**3- Immunoglobulin**

4- Methotrexate

5- Methylprednisolone

Q4193. A 24-year-old law student attends with visual loss affecting the right eye. She reports a constant headache for the last three months, and absence of menses for six months. On examination her visual acuity in the right eye is 6/24, with slight constriction of the temporal field in that eye but she has no other neurological deficit. She is afebrile and haemodynamically stable. What is the diagnosis?

1- Glaucoma

2- Migraine

3- Multiple sclerosis

**4- Pituitary tumour**

5- Pregnancy

Q4194. A 70-year-old woman presented with an acute, severe occipital headache, unsteadiness of her gait and vomiting. She had a history of poorly controlled hypertension. On examination there was nystagmus to the left, ataxia of the left limbs and gait ataxia. What is the most likely diagnosis?

**1- Acute cerebellar haemorrhage**

2- Basal ganglia haemorrhage

3- Pontine haemorrhage

4- Subdural haemorrhage

5- Temporal lobe haemorrhage

Q4195. A 56-year-old female presented to her GP with pain in the left side of her neck radiating down the lateral aspect of her arm and forearm. She had also noticed some weakness of her left shoulder and struggled to elevate her arm. She had a longstanding history of rheumatoid arthritis, treated with steroids and penicillamine. She was a non-smoker and did not drink any alcohol. On examination there was some wasting over the left deltoid and evidence of fasciculations. Neck movements appeared full except that lateral movement exacerbated the left arm pain. On examination of the upper limb, tone appeared reduced at the elbow and wrist and the biceps jerk was only present on reenforcement. The left supinator jerk was inverted and the triceps jerk appeared brisk. There was some weakness of left shoulder abduction, elbow flexion and supination, but finger movements and elbow extension were intact. There was a sensory deficit over the lateral aspect of the left upper arm and forearm. The right arm appeared normal. On examination of he lower limb, tone was increased, but power appeared normal. All reflexes were brisk and both plantar responses were extensor. Investigations showed: Haemoglobin 11.4 g/dl(13.0 18.0 g/d L) White cell count 3.4 x 109 /L (4 11 x 109 / L) Platelets 245 x 109 /L (150 400 x 109 / L) ESR (Westergre n) 45 mm/1st hour (0-15 mm/1st hou r) Serum Sodium 145 mmol/L(137-144 mmol/ L) Serum Potassium 3.2 mmol/L (3.5-4.9) Serum urea6.7 mmol/L (2.5-.5 mmol/ L) Serum Creatinine 135 umol/L (60-110 umol/ L) Serum creatine kinase 178 U/L (24-170 U/ L) Fasting plasma glucose 8.7 mmol/L(3-6 mmol/ L) What is the most likely diagnosis?

**1- Cervical myelopathy**

2- Circumflex neuropathy

3- Inclusion body myositis

4- Motor neurone disease

5- Steroid-induced myopathy

Q4196. A 22-year-old man suffers a deep laceration to the forearm resulting in transection of the median nerve. Following this injury, the nerve will undergo which of the following pathological processes?

1- Chronic inflammation

2- Coagulative necrosis

3- Fibrinoid necrosis

4- Segmental demyelination

**5- Wallerian degeneration**

Q4197. Which of the following is true regarding sensory neural hearing loss?

**1- Approximately 1 per 1000 children will have greater than 40db hearing loss.**

2- The incidence is half as high in babies admitted to neonatal intensive care units compared with the normal population.

3- The risk is increased in children who have had post-natal rubella.

4- The risk is increased in Down's syndrome.

5- The risk is increased in Werdnig-Hoffman syndrome.

Q4198. A 35-year-old female presents with headaches. Examination reveals papilloedema. Which of the following would make the diagnosis of benign intracranial hypertension (BI H) unlikely?

1- Absence of retinal venous pulsations

**2- Bilateral upgoing plantar responses**

3- Normal ventricles on CT or MRI scan

4- Reduced visual acuity

5- Sixth cranial nerve palsy

Q4199. A 54-year-old female is admitted with progressive weakness following a trivial flulike illness. Which of the following would exclude Guillain-Barre syndrome (GB S) as the diagnosis?

1- Autonomic dysfunction

2- Elevated protein on CSF examination

3- Evidence of muscle wasting

4- Ophthalmoplegia

**5- Sensory level below T1**

Q4200. A 21-year-old man recovered from the immediate effects of a head injury sustained in a motor cycle accident three months previously. Which one of the following is the most likely delayed consequence of severe traumatic brain injury?

1- Episodic hypersomnia

2- Multiple obsessional symptoms

3- Outbursts of aggressive behaviour

4- Pathological jealousy

**5- Persistent anxiety**

Q4201. A 65-year-old woman with 12 hour history of unsteady gait of sudden onset associated with vomiting and headache. Following this she had increasing drowsiness. What is the diagnosis?

1- Acute subdural haemorrhage

**2- Cerebellar haemorrhage.**

3- Frontal subdural empyema

4- Herpes simplex encephalitis.

5- Pituitary apoplexy.

Q4202. A 60-year-old man awakens with painless loss of vision of his left eye. Three years earlier he had suffered a similar episode involving the right eye. Visual loss in that eye has been stationary. He does not complain of any systemic symptoms. What is the most likely diagnosis?

1- Acute angle-closure glaucoma

2- Arteritic ischaemic optic neuropathy

3- Compressive optic neuropathy

**4- Nonarteritic ischaemic optic neuropathy**

5- Optic neuritis

Q4203. Which of the following is caused by a lesion of the parietal lobe?

1- Bitemporal hemianopia

**2- Homonymous inferior quadrantanopia**

3- Perseveration

4- Primitive reflexes

5- Wernicke's (receptiv e) aphasia

Q4204. A 76-year-old male presents with cognitive impairment and is diagnosed with dementia. Which of the following is the most probable cause of the dementia?

**1- Alzheimer’s disease**

2- Creutzfeldt-Jacob disease

3- Lewy body dementia

4- Pick’s disease

5- Vascular dementia

Q4205. A 24-year-old female presents with vague frontal headaches and visual disturbance. She has a past history of acne for which she is receiving treatment. Examination reveals her to be obese with a blood pressure of 110/70 mmHg. There is absence of the central retinal vein pulsation on fundoscopic examination. Which of the following drugs account for these findings?

1- Ampicillin

**2- Dianette**

3- Erythromycin

4- Isotretinoin

5- Topical tetracycline

Q4206. A 31-year-old woman presents to the Emergency department following a witnessed first ever seizure. She is drowsy and confused postictally. A CT brain shows petechial haemorrhages in the right hemisphere. An MRI shows cerebral venous sinus thrombosis. Which of the following would be the best initial treatment?

1- Antibiotics

2- Aspirin

**3- Heparin**

4- Supportive management

5- Vitamin K

Q4207. A 40-year-old male presents with abnormal movements. On examination the patient has slow writhing movements of the arms and is unable to sit still in the chair without abnormal posturing. His father was reported to have had similar features at the age of 50 and died aged 60. The pathophysiology of the disease described is similar to which of the following?

1- MELAS syndrome (mitochondrial encephalomyelopathy, lactic acidosis and stroke-like episode s) 2- Motor neuron disease

3- Myasthenia gravis

**4- Myotonic dystrophy**

5- Rheumatic fever

Q4208. The Achilles reflex is supplied by which of the following?

1- L5

2- L5/S1

**3- S1**

4- S1/S2

5- S2

Q4209. A mother comes to your office concerned about her 2-year-old son. She has noticed that he typically laughs inappropriately for no particular reason. Shortly after an event he appears to be fidgeting. These events last only minutes and in between the events he acts normally. You suspect gelastic seizures. From where do these typically arise?

1- Brainstem

2- Frontal lobes

**3- Hypothalamus**

4- Pineal gland

5- Temporal lobe

Q4210. What is the likelihood of controlling seizures in a patient never previously on anti-epileptic medication with a single anti-convulsant agent?

1- 12%

2- 32%

**3- 47%**

4- 64%

5- 82%

Q4211. A 70-year-old man presents with difficulty speaking. He has a history of diabetes, hypertension, hypercholesterolaemia, chronic obstructive pulmonary disease. He is currently on aspirin, simvastatin, amlodipine and hydrochlorothiazide. On examination the patient is awake, his blood pressure is 150/70 mmHg. His pulse is irregularly irregular. He has 4/5 strength in the right arm and leg and 5/5 strength on the left. When asked to point to the window he does this correctly. When told to raise his arms and place his hands out he is seen to have a pronator drift on the right. He is shown a pen and asked what it is. He is unable to identify it by name. He is asked to use it appropriately and begins to write on a piece of paper. When asked to repeat 'Today is a sunny day', he is able to do so. What type of dysphasia is this consistent with?

**1- Anomic aphasia**

2- Broca's aphasia

3- Conduction aphasia

4- Transcortical motor aphasia

5- Transcortical sensory aphasia

Q4212. A 47-year-old man is admitted to the Emergency department after collapsing following a cricket match in his village. He was apparently hit on the head with the ball whilst batting, but got up afterwards. During the following 30 minutes he became increasingly confused, drowsy and then unresponsive, slumped in a chair. On examination his BP is elevated at 180/110 mmHg, with a pulse of 58. His GCS is 6. He is intubated and ventilated. Which of the following is the most appropriate treatment?

1- IV acetazolamide

2- IV alteplase

3- IV furosemide

4- IV heparin

**5- IV mannitol**

Q4213. A 28-year-old man comes to the surgery complaining that he has begun waking from sleep in the early hours of the morning, unable to move. He is very distressed by this and is worried that he will become paralysed. Additionally, he has begun to suffer from excessive sleepiness during the day and fell asleep once whilst out for dinner with a new girlfriend during the middle of the meal. On examination his BP is 132/70 mmHg, pulse is 72 and regular. Neurological examination is entirely normal. Investigations show Haemoglobin 13.2 g/dl(13.5-18) White cell count 6.0 x 109 /L (4-10) Platelets 189 x 109 /L (150-400) Sodium 139 mmol/l (134-143) Potassium 4.3 mmol/l (3.5-5) Creatinine 110 μmol/l (60-120) Which of the following best describes the condition he suffers when he wakes from sleep?

1- Hypnagogic hallucinations

2- Restless legs syndrome

3- Sleep apnoea

**4- Sleep paralysis**

5- Sleep terrors

Q4214. A 32-year-old woman has presented to the emergency department for the third time with abdominal pain which typically lasts several days. The previous two occasions she has been discharged home without a firm diagnosis. Between episodes the patient is symptom free. She complains of feeling anxious. She has recently re-started the combined oral contraceptive pill after completing her family. On examination she is anxious and hypertensive at 155/98 mmHg with a pulse of 102. She has no rashes. Her abdomen is diffusely tender. Investigations show Haemoglobin 12.8 g/dl(13.5-18) White cell count 8.1 x 109 /L (4-10) Platelets 220 x 109 /L (150-400) Sodium 135 mmol/l (134-143) Potassium 3.9 mmol/l (3.5-5) Creatinine 100 μmol/l (60-120) Which of the following is the most likely diagnosis?

**1- Acute intermittent porphyria**

2- Appendicitis

3- Depression

4- Porphyria cutanea tarda

5- Variegate porphyria

Q4215. A 59-year-old woman presents with polysymptomatology. On examination she has prominent fasciculations. From which of the following conditions is she unlikely to suffer?

1- Cervical spondylosis

2- Motor neurone disease

**3- Multiple sclerosis**

4- Spinal muscular atrophy

5- Thyrotoxicosis

Q4216. Which of the following anatomical considerations is correct?

**1- Optic chiasm lesions characteristically produce a bitemporal hemianopia**

2- The physiological blind spot is unaffected by papilloedema

3- In cortical blindness pupillary reactions are abnormal

4- Optic tract lesions produce an ipsilateral homonymous hemianopia

5- Cerebellar lesions cause horizontal nystagmus

Q4217. A 29-year-old female presents with drooping of the left side of her face and an inability to close her left eye. She had a viral illness in the preceding week. There is no past medical history. On examination, there is a left VIIth nerve palsy. The remaining cranial nerves are normal. Power, tone and reflexes are normal in the limbs. What is the best course of treatment?

1- Intravenous immunoglobulin

2- No treatment

3- Oral Augmentin

**4- Oral prednisolone**

5- Oral valaciclovir and prednisolone

Q4218. A 72-year-old male presents with weakness and reduced mobility. On examination he has a slow gait with reduced arm swing and a tremor is noticed in the left arm. Which of the following is the typical frequency of the rest tremor in Parkinson's disease?

1- 2 Hz

**2- 4 Hz**

3- 8 Hz

4- 10 Hz

5- 12 Hz

Q4219. A 55-year-old female presents with tremor of the hands which has been present for approximately five years. She has a past medical history which includes anxiety and she receives salbutamol for asthma. Examination revealed titubation and an upper limb postural tremor. What is the most likely diagnosis?

1- Anxiety disorder

**2- Benign essential tremor**

3- Multiple sclerosis

4- Parkinson’s disease

5- Salbutamol induced tremor

Q4220. A 40-year-old man has had decreased mentation with confusion as well as increasing incoordination and loss of movement in his right arm over the past six weeks. An MRI scan shows 0.5 to 1.5 cm lesions in cerebral hemispheres in white matter and at the grey-white junction that suggest demyelination. A stereotactic biopsy is performed, and immunohistochemical staining of the tissue reveals JC papovavirus in oligodendrocytes. Which of the following laboratory test findings is most likely to be associated with these findings?

**1- CD4 lymphocyte count of 90/microlitre**

2- Haemoglobin A1c of 9.8%

3- HDL cholesterol of 0.7 mmol/L

4- Oligoclonal bands in CSF

5- Serum sodium of 110 mmol/L

Q4221. Which of the following is correct regarding herpes simplex encephalitis?

1- Is associated with a polymorphonuclear pleocytosis in the CSF

2- Produces a diffuse, evenly distributed inflammation of cerebral tissues

**3- Produces a typical EEG pattern with lateralised periodic discharges at 2 Hz**

4- Should be treated with acyclovir as soon as the diagnosis is confirmed by urgent CSF viral antibody titres

5- Shows a peak incidence in the autumn

Q4222. A 50-year-old lady suffers with migraine. She smokes 20 cigarettes a day. She has found that paracetamol 1 g was not always effective in relieving her pain. Which of the following factors is the most likely to account for this problem?

1- Altered volume of distribution

**2- Delayed gastric emptying**

3- First pass metabolism

4- Hepatic enzyme induction

5- Reduced gut blood flow

Q4223. A young teenager presents with fever and headache. He has received oral amoxicillin for three days. Which of the following cerebrospinal fluid (CS F) findings would virtually exclude a partially treated bacterial meningitis?

1- A CSF glucose of 45% of blood glucose

2- A negative CSF culture

3- A negative Gram stain

4- A negative Kernig's sign

**5- A white cell count of 3**

Q4224. Which one of the following is associated with parkinsonian features?

1- Chronic carbon dioxide retention

2- Kernicterus

3- Lead poisoning

4- Mercury poisoning

**5- Wilson's disease**

Q4225. A 25-year-old woman presents with a severe migraine. Which of the following is not a recognised feature of migraine?

1- Bilateral fortification spectra

**2- External ophthalmoplegia**

3- Precipitation by oral contraceptives

4- Some symptoms improved by tricyclic antidepressants

5- Third nerve palsy

Q4226. Which of the following statements regarding CADASIL (cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopath y) is correct?

1- Computerised tomography (C T) of the brain is diagnostic

2- Death usually occurs in infancy

3- It is associated with an abnormality of the X chromosome

**4- It may present with migraine**

5- The thalami are usually spared

Q4227. A 39-year-old man is referred by his optician with a central scotoma found in his right eye during a routine eye test. On examination of his cranial nerves he is poorly compliant and keeps laughing. He says he is unable to smell anything and that he can no longer read as well as he would like. On fundoscopy his left fundus is hyperaemic and oedematous. You are unable to obtain clear views of his right fundus. Which of the following is the most likely diagnosis?

1- Drug abuse

**2- Foster Kennedy's syndrome**

3- Kallman's syndrome

4- Leber's herditary optic neuropathy

5- Leigh syndrome

Q4228. A 55-year-old man has progressive weakness of his hands over a period of one year. Examination reveals wasting of the muscles of the hands and forearms and fasciculation. There is hyperreflexia of his lower limbs and upgoing plantars. Sensation is normal. Which of the following is the most likely diagnosis?

1- Alzheimer's disease

**2- Motor neurone disease**

3- Multiple cerebral infarcts

4- Multiple sclerosis

5- Syringolmyelia

Q4229. A 70-year-old man presents with difficulty speaking. He has a history of diabetes, hypertension, hypercholesterolaemia, chronic obstructive pulmonary disease. He is currently on aspirin, simvastatin, amlodipine and hydrochlorothiazide. On examination the patient is awake, his blood pressure is 150/70 mmHg. His pulse is irregularly irregular. He has 4/5 strength in the right arm and leg and 5/5 strength on the left. When asked to point to the window he does this correctly. When told to raise his arms and place his hands out he is seen to have a pronator drift on the right. He is shown a pen and asked what it is. He is unable to identify it by name and appears frustrated: applying much effort to speak a sentence. He is asked to use it appropriately and begins to write on a piece of paper but no makes no legible words despite being a retired journalist. When asked to repeat 'Today is a sunny day', he is unable to do so. With which of the following is this type of dysphasia consistent?

**1- Broca's aphasia**

2- Global aphasia

3- Transcortical motor aphasia

4- Transcortical sensory aphasia

5- Wernicke's aphasia

Q4230. Which of the following statements is true of acute compartment syndrome?

1- Loss of distal pulse is an early sign.

2- Only occurs following fractures.

**3- Passive stretch of affected muscles exacerbates pain.**

4- Rarely requires surgical intervention.

5- The presence of pain is unhelpful in diagnosis.

Q4231. A 18-year-old male presents with blurring of vision in his right eye. Examination reveals visual acuity in the right eye of 6/18 and in the left eye 6/6. Visual fields to confrontation reveal a right temporal visual field defect and partial loss of superior part of the temporal field of the left eye. Where is the most likely position of the lesion responsible for this defect?

1- Occipital lobe

**2- Optic chiasm**

3- Optic nerve

4- Optic tract

5- Temporal lobe

Q4232. A 40-year-old civil servant attends the clinic stating that she has difficulty swallowing. She gives a two month history of difficulty with solids which has progressed to difficulty tolerating liquids in the previous two weeks. She has noticed some weakness in her right arm which has affected her ability to lift certain objects like the kettle. Previously, she has enjoyed good health with no hearing loss or facial weakness. She describes no visual symptoms. On examination, she has an absent gag reflex on the right, with reduced palatal movements. There is weakness on rotating the head to the left with flattening and weakness of elevation of the right shoulder. Eye movements, visual acuity, hearing and tongue movements are all normal. Where is the likely site of the lesion?

1- Left cerebello-pontine angle

2- Left jugular foramen

3- Right cerebello-pontine angle

**4- Right jugular foramen**

5- Right pons

Q4233. A 70-year-old woman presented with episodic impairment of consciousness. Which of the following is the most likely cause?

1- Alzheimer type dementia

**2- Chronic subdural haematoma**

3- Creutzfeldt-Jakob disease

4- Depressive stupor

5- Normal pressure hydrocephalus

Q4234. Which of the following statements regarding central pontine myelinolysis is correct?

1- Consciousness is preserved characteristically.

2- MR imaging shows diagnostic features in the majority of patients.

**3- The cause has been linked to over-rapid correction of hyponatraemic states.**

4- The condition is confined to malnourished alcoholic patients.

5- The pathological changes are confined to the pons.

Q4235. Which of the following clinical manifestations suggests Guillain-Barré (G B) syndrome?

1- Asymmetrical involvement of distal muscles

2- Brisk tendon reflexes

**3- Bulbar involvement in about 50% of cases**

4- Normal cerebrospinal fluid (CS F) protein

5- Weakness beginning in the arms

Q4236. A 21-year-old female with epilepsy is well controlled on sodium valproate 600 mg twice daily and had been taking oral contraceptives for three years. She presented to her general practitioner 12 weeks pregnant. Which of the following is correct?

1- An alternative anticonvulsant should be used in place of sodium valproate

2- Interaction of sodium valproate with the oral contraceptive increased the risk of pregnancy

3- She is at increased risk of anaemia in pregnancy

4- The dose of sodium valproate should be increased

**5- There is an increased risk of a neural tube defect in her fetus**

Q4237. An 18-year-old man presented with a history of a sudden onset of a frontal headache and photophobia. He had neck stiffness and a temperature of 38°C. Which one of the following findings would suggest a diagnosis of subarachnoid haemorrhage rather than bacterial meningitis?

1- A blood neutrophil leucocytosis

**2- A family history of polycystic renal disease**

3- A fluctuating conscious level

4- A history of diabetes mellitus

5- A history of opiate abuse

Q4238. A 43-year-old man presented with diplopia of six weeks duration. On examination he had normal corrected visual acuity in each eye, restriction of adduction of the right eye and nystagmus in the left eye on left lateral gaze. What is the most likely diagnosis?

**1- Brainstem demyelination**

2- Graves' ophthalmopathy

3- Internal carotid artery aneurysm

4- Lateral medullary syndrome

5- Steele-Richardson syndrome

Q4239. A 70-year-old man presents with weight loss, lower limb weakness and dry mouth. He has been a heavy smoker. On examination he looks cachectic; he has proximal lower limb weakness, areflexia (reflexes normalise with repetitive muscle contractio n) . There is no wasting or fasciculations. Sensory examination is normal. Which of the following blood tests is the most likely to confirm the diagnosis?

1- Acetylcholine receptors

2- Anti GM1 antibody

3- Antinuclear antibody

4- Anti Ro/La antibodies

**5- Voltage gated calcium channels antibodies**

Q4240. You are seeing a patient with rheumatoid arthritis in clinic. You are keen to commence methotrexate. Before consenting to start the treatment your patient wants to know how often she is going to require blood tests. What will you advise her?

1- FBC, LFT and U&E monthly, including baseline levels

2- FBC, coagulation screen, U&E and rheumatoid factor weekly,includes baseline levels

3- FBC, uric acid, folate levels, U&E and LFT at baseline and then weekly until on stable dose of methotrexate and then every two to three months.

**4- FBC, LFT and U&E at baseline and then weekly until on stable dose of methotrexate and then every two to three months**

5- FBC, coagulation screen, LFT and ESR at baseline and then weekly until on stable dose of methotrexate and then every month.

Q4241. A 67-year-old woman presents with severe back pain and urinary retention with overflow. She says that her lower back has been aching for the past six weeks, but the pain has become significantly worse over the past 48 hours. There is a medical history of hypertension, but nothing else of note. Her BP is 142/82 mmHg, pulse is 73 and regular. She is unable to get off the couch due to distal lower limb weakness. Tone is increased bilaterally and her reflexes are increased. As you chat to her you notice fasciculation. There is perianal loss of sensation. Which of the following is the most likely diagnosis?

1- Anterior spinal artery aneurysm

2- Anterior spinal artery thrombosis

3- Cauda equina syndrome

**4- Conus medullaris syndrome**

5- Sacroiliitis

Q4242. A 67-year-old woman is referred to a neurologist complaining of difficulty getting out of her chair. She is noted to have discrete erythematous papules over her metacarpophalangeal joints. Her creatine kinase (C K) is 4000. What is your diagnosis?

**1- Dermatomyositis**

2- Myasthenia gravis

3- Myotonic dystrophy

4- Polymyositis

5- Polyneuropathy

Q4243. A 20-year-old man presents to the Emergency department after punching a window. He has lacerated the medial aspect of his wrist, damaging the ulnar nerve. What is he at risk of developing?

**1- Claw hand**

2- Inability to pinch paper between his thumb and index finger

3- Loss of sensation over the lateral three and a half fingers

4- Wasting of the second lumbrical muscle

5- Wasting of the thenar eminence

Q4244. A 45-year-old woman presented with a severe sudden onset headache, describing it as the worst headache she could imagine, but denying any head trauma. On examination of her cranial nervous system she had a partial ptosis of her right eye, which was unable to look up or medially, and her right pupil was dilated. Her only past medical history is polycystic kidney disease. What is the most likely diagnosis?

**1- Subarachnoid haemorrhage caused by a ruptured right sided posterior communicating artery aneurysm**

2- Subarachnoid haemorrhage caused by a ruptured left sided posterior communicating artery aneurysm

3- Subarachnoid haemorrhage caused by a ruptured right sided anterior communicating artery aneurysm

4- Subarachnoid haemorrhage caused by a ruptured left sided anterior communicating artery aneurysm

5- First presentation of cluster headache

Q4245. Imaging changes in frontotemporal dementia (FT D) start initially in which parts of the brain?

1- Corpus callosum

2- Dorsolateral prefrontal cortex and anterior cingulate

3- Hippocampus, parahippocampus

**4- Orbitofrontal cortex and anterior cingulate**

5- Prefrontal cortex and anterior thalamic nucleus

Q4246. A 30-year-old male presents to the emergency room with headache. He describes that for the last week he has been have shooting pains on one side of the face with associated tearing of that eye. He reports that for the past week he has been having similar pains intermittently. He last had an attack three months ago which lasted two weeks. He is concerned he has a brain tumour. On examination the sclera is injected and the patient appears uncomfortable. There is no neck stiffness, fundoscopy is unremarkable. Eye movements are intact, visual fields are full to direct confrontation and there is no proptosis. What is the most likely diagnosis?

**1- Cluster headache**

2- Complicated migraine

3- Migraine with aura

4- Tension headache

5- Trigeminal neuralgia

Q4247. A 70-year-old man presents with difficulty speaking. He has a history of diabetes, hypertension, hypercholesterolaemia, chronic obstructive pulmonary disease. He is currently on aspirin, simvastatin, amlodipine and hydrochlorothiazide. On examination the patient is awake; his blood pressure is 150/70 mmHg. His pulse is irregularly irregular. He has 4/5 strength on the right arm and leg and 5/5 strength on the left. When asked to point to the window he does this correctly. When told to raise his arms and place his hands out he is seen to have a pronator drift on the right. He is shown a pen and asked what it is. He is unable to identify it by name and appears frustrated, applying much effort to speak a sentence. He is asked to use it appropriately and begins to write on a piece of paper but no makes no legible words despite being a retired journalist. When asked to repeat 'Today is a sunny day', he is able to do so. With what type of dysphasia is this consistent?

1- Broca's aphasia

2- Global aphasia

**3- Transcortical motor aphasia**

4- Transcortical sensory aphasia

5- Wernicke's aphasia

Q4248. A 71-year-old man attends the memory clinic with his wife. She has noticed that he has become progressively more forgetful over the past few years and has begun to wander at night. Most recently he became lost whilst shopping in the local village and had to be brought home by the police. This caused his wife significant distress. On examination in the clinic he has easily demonstrable short-term memory loss, with relative preservation of memory for events from his 40s. He also has visuospatial dysfunction. His BP is 142/72 mmHg, his pulse is 78 and regular. There are no murmurs or bruits on auscultation. Investigations showed Haemoglobin 12.9 g/dl(13.5-17.7) White cells 7.4 x 109 /L (4-11) Platelets 193 x 109 /L (150-400) Sodium 141 mmol/l (135-146) Potassium 4.6 mmol/l (3.5-5) Creatinine 90 μmol/l (79-118) CT head Mild cortical atrophy Which of the following is the most likely diagnosis?

**1- Alzheimer's dementia**

2- Lewy body dementia

3- Multi-infarct dementia

4- Pick's disease

5- Shy-Drager syndrome

Q4249. A 70-year-old woman presents with acute back pain followed by weakness of dorsiflexion of her left foot. Where would you expect the associated sensory loss?

1- Anterior thigh

**2- Dorsum of foot**

3- Perineum

4- Posterior calf

5- Sole of foot

Q4250. Genetic anticipation occurs characteristically in all the following conditions, except which?

1- Fragile X syndrome

2- Huntington's disease

**3- Marfan's syndrome**

4- Myotonia dystrophica

5- Spinocerebellar ataxia type 1

Q4251. A 50-year-old man has drunk six units of alcohol a day for most of his adult life. He has worsening symptoms of difficulty walking, headaches and urinary incontinence for the past ten months. Of the following which is the most likely diagnosis?

1- Encephalopathy

2- Meningovascular syphilis

3- Normal pressure hydrocephalus

**4- Syringomyelia**

5- Wernicke-Korsakoff syndrome

Q4252. A 69-year-old male presents with cognitive impairment and a diagnosis of Alzheimer's disease is suspected. What is the most appropriate test of short term memory?

1- Assessing orientation in time

2- Assessing serial 7s

3- Knowledge of the capital of the UK

4- Providing their home address

**5- Recall of the doctor’s name at the end of the consultation**

Q4253. A 36-year-old male patient with a long history of relapsing-remitting multiple sclerosis, develops double vision. On examination of his eye movements abduction of either eye elicits nystagmus in that eye. Adduction is impaired in both eyes. On MRI scanning, where will a new white matter lesion probably be evident?

1- Cerebellum

2- Cingulate gyrus

**3- Medial longtitudinal bundle**

4- Optic chiasm

5- Parietal lobes

Q4254. A 55-year-old Caucasian man presented to hospital with fever, intermittent rigors, and worsening fatigue. He had returned from a business trip to West Africa six months previously. What is the most likely diagnosis?

1- Brucellosis

2- Leishmaniasis

3- Plasmodium falciparum malaria

**4- Plasmodium ovale malaria**

5- Typhoid fever

Q4255. A 15-year-old girl presented with a 12 hour history of fever and global headache. On examination she was febrile (37.5° C) . She was fully conscious. Mild neck stiffness was noted but there were no other neurological signs. Cerebrospinal fluid analysis showed: Cell count 200/mL(60% lymphocyte s) Protein 0.8 g/L(0.15-0.45) Glucose 4.3 mmol/L(3.3-4.4) Gram stain No organisms seen What is the most likely diagnosis?

1- Bacterial meningitis

2- Cryptococcal meningitis

3- Lymphomatous meningitis

4- Tuberculous meningitis

**5- Viral meningitis**

Q4256. A 39-year-old woman is found to have absent ankle jerks and gait disturbance. Which of the following investigations is not indicated?

1- ANA

2- B12 levels

3- Cholestanol levels

**4- Ferritin**

5- VDRL

Q4257. A 17-year-old female is admitted with an oculogyric crisis. Which of the following statements concerning this case is correct?

1- She is likely to have been prescribed olanzapine

2- She should be observed without treatment

**3- She should be treated with parenteral procyclidine**

4- She should receive procyclidine as long term prophylaxis

5- She is unlikely to have a recurrence

Q4258. An 18-year-old woman sustains severe head injuries in a road traffic accident. The following day her investigations show: Sodium 160 mmol/l (137-144) Potassium 3.7 mmol/l (3.5-4.9) Chloride 120 mmol/l (95-107) Urea 3.0 mmol/l (2.5-7.5) Creatinine 90 µmol/l (6

0- 110) Which one of the following statements is correct?

1- Rapid rehydration with 5% dextrose is indicated

2- She should be treated with sodium restriction

3- She has the syndrome of inappropriate antidiuretic hormone secretion (SIAD H) 4- She will have a hypercholraemic acidosis

**5- Urine osmolality will be low**

Q4259. An 80-year-old male presented with acute right-sided weakness. Examination revealed minimal right facial weakness, impaired elevation of the right shoulder, with relatively preserved right hand strength. There was global weakness in the right leg which appeared to be maximal in the foot. Which of the following arteries is most likely to have been affected?

**1- Anterior cerebral artery**

2- Lenticulostriate artery

3- Middle cerebral artery

4- Posterior cerebral artery

5- Posterior communicating artery

Q4260. A 16-year-old girl presented with a three week history of headache and horizontal diplopia on far right lateral gaze. On two separate occasions she noted dimmed vision whilst bending forwards. Over the last year she had gained 12 kilograms in weight. On examination, her weight was 95 kg, and height 162 cms. Neurological examination revealed bilateral papilloedema and a partial right sixth cranial nerve palsy. What is the most likely diagnosis?

**1- Benign intracranial hypertension (BI H) .**

2- Multiple sclerosis.

3- Pituitary tumour

4- Superior sagittal vein thrombosis.

5- Thyroid eye disease.

Q4261. Which visual field defect is most likely to occur with multiple sclerosis?

1- Bitemporal hemianopia

**2- Central scotoma**

3- Homonymous hemianopia

4- Increased blind spot

5- Tunnel vision

Q4262. Which of the following features are not compatible with the diagnosis of motor neurone disease (MN D) ?

1- Dementia

2- Dysphagia

3- Muscle cramps

4- Neck weakness

**5- Optic atrophy**

Q4263. A 25-year-old old woman presents with two hours of a unilateral temporal headache increasing in severity. The pain is of a throbbing character and is exacerbated by light. There are no abnormal signs on examination. What is the diagnosis?

1- Acute subarachnoid haemorrhage.

2- Cluster headache.

3- Intracranial tumour.

**4- Migraine.**

5- Tension headaches.

Q4264. A 62-year-old man presented with difficulty in walking. He had a past history of diabetes mellitus and cervical spondylosis, which had required surgical decompression eight years previously. He drank 40 units of alcohol weekly. On examination there was fasciculation, wasting and weakness in the left deltoid and biceps, with weakness in the shoulder girdle muscles bilaterally. There was fasciculation in the glutei and quadriceps bilaterally, weakness of hip flexion and foot dorsiflexion, brisk reflexes in upper and lower limbs, and extensor plantar responses. There was no sensory impairment. What is the diagnosis?

1- Alcoholic myopathy

2- Diabetic amyotrophy

**3- Motor neurone disease**

4- Recurrent cervical cord compression

5- Syringomyelia

Q4265. A female patient aged 30 has a five year history of difficulty getting upstairs and out of a low chair and mild upper limb weakness but no pain. There is no family history. She presented with severe type 2 respiratory failure. EMG showed evidence of myopathy. Which is the most likely diagnosis?

**1- Acid maltase deficiency**

2- Inclusion body myositis

3- Lambert-Eaton myasthenic syndrome

4- Miller-Fisher syndrome

5- Polymyositis

Q4266. A broad-based ataxic gait occurs characteristically with which of the following?

1- Basal ganglia lesion

2- Cerebellar vermis lesion

**3- Phenytoin toxicity**

4- Proximal myopathy

5- Right-sided cerebral infarction

Q4267. Causes of a small pupil include which of the following?

1- Carbon monoxide poisoning

2- Ethylene glycol poisoning

3- Holmes-Adie pupil

**4- Pontine haemorrhage**

5- Third nerve palsy

Q4268. A previously well 27-year-old woman presents with a history of transient ischaemic attack affecting her right side and speech. She had returned to the United Kingdom from a holiday in New Zealand two days previously. On examination there was nothing abnormal to find. An ECG, chest x ray, CT brain scan and routine haematology and biochemistry were all normal. What is the most likely underlying abnormality?

1- Atrial myxoma

2- Carotid artery stenosis

3- Embolus from paroxysmal atrial fibrillation

**4- Patent foramen ovale**

5- Subarachnoid haemorrhage

Q4269. A 72-year-old male presented with a quadrantic hemianopia. Which of the following conditions is most likely to cause such a presentation?

**1- A lesion of the occipital cortex**

2- A lesion of the optic chiasma

3- Bilateral diabetic retinopathy

4- Chloroquine poisoning

5- Tobacco amblyopia

Q4270. Which of the following is a form of generalised seizure?

1- Automatisms

2- Aversive seizures

3- Benign rolandic epilepsy

4- Epilepsia partialis continua

**5- Lennox-Gastaut syndrome**

Q4271. Which of the following forms of encephalitis is caused by a neuroimmunological response?

1- Cytomegalovirus

2- Enteral viruses

3- Herpes simplex

4- HIV infection

**5- Measles**

Q4272. In considering the management of convulsions select the correct statement from the list below.

**1- Hypoglycaemia should always be considered.**

2- If the fit lasts longer than five minutes, then PR diazepam should be given.

3- Paraldehyde is best given intramuscularly.

4- Phenobarbitone is a useful therapy in school age children.

5- When associated with fever, antibiotics should always be given to cover the possibility of meningitis.

Q4273. Which is true of herpes simplex encephalitis?

1- Brain MRI is characteristically normal

2- Fits are uncommon

3- Genital herpes is usually present

**4- Temporal lobe involvement is common**

5- Viral identification using polymerase chain reaction (PC R) on CSF is non-specific

Q4274. A 62-year-old male is noted to have a broadbased ataxic gait. This is characteristic of which of the following?

1- A basal ganglia lesion

2- Cerebellar vermis lesion

3- Osteomalacia

**4- Phenytoin toxicity**

5- Right-sided cerebral infarction

Q4275. A 60-year-old male with a history of diabetes, hypertension and hypercholesterolaemia presents with dizziness. He reports that he woke up this morning and attempted to get out of bed but felt dizzy. He vomited and was unable to get out of bed to go to the bathroom. His wife was concerned as this had never happened before and called for the ambulance. On arrival at the emergency room his blood pressure was 180/70 mmHg, pulse was regular at 60 beats per minute and he was apyrexial. Blood sugar was within normal limits. On neurological examination his visual fields were full, and fundoscopy was notable for grade 2 hypertensive retinopathy. He had left jerk nystagmus on looking to the left and left jerk nystagmus on looking to the right. He was able to perform finger to nose and heel to shin in the bed. On standing the patient felt dizzy. His blood pressure was 170/80 mmHg after three minutes standing. He refused to walk for fear of falling. The rest of his examination was unremarkable. What is the leading diagnosis at this time?

**1- Benign paroxsysmal positional vertigo**

2- Cerebrovascular accident

3- Hypertensive emergency

4- Labyrinthitis

5- Orthostatic hypotension

Q4276. A 27-year-old man presents with three months of difficulty walking. Examination reveals motor weakness of left leg in a pyramidal distribution with increase in tone. There is impaired pinprick sensation of right leg extending into the groin. What is the cause of these signs?

1- A central cauda equina lesion.

2- A cervical spinal cord lesion.

3- A foramen magnum lesion.

**4- A left sided thoracic spinal cord lesion.**

5- Bilateral cerebral hemisphere lesions.

Q4277. A 75-year-old man is brought to see you by his wife. She is no longer able to manage his urinary incontinence. He was diagnosed with Parkinson's disease by his GP a few years ago when he became slow and shuffling and used to struggle to get to the toilet in time. She says he 'lost a lot of the warning' from his bladder and would sometimes be incontinent. However, his wife says he now no longer seems to care whether he is being incontinent of urine or not. She admits that he has been 'forgetful' for a few years but that this is also getting much worse. What is the most likely diagnosis?

1- Alzheimer's dementia

2- Lewy body dementia

**3- Normal pressure hydrocephalus**

4- Obstructive uropathy

5- Parkinson's plus syndrome

Q4278. A 25-year-old woman presents with new double vision. On examination she experiences horizontal diplopia on looking to her far right. Covering her left eye only obscures the innermost image. Covering her right eye only obscures the outermost image. In the neutral position her right eye is deviated medially. She has no problem on looking to the far left. Her neurological examination is otherwise normal. What is the most likely problem?

1- Concomitant right esotropia

2- Left sided IVth nerve palsy

3- Left sided VIth nerve palsy

4- Medial longitudinal fasciculus lesion

**5- Right sided VIth nerve palsy**

Q4279. What is the most common finding in CheyneStokes breathing?

**1- Heart failure**

2- Liver failure

3- Pilocytic astrocytoma

4- Renal failure

5- Stroke

Q4280. A 70-year-old man presents with difficulty speaking. He has a history of diabetes, hypertension, hypercholesterolaemia, chronic obstructive pulmonary disease. He is currently on aspirin, simvastatin, amlodipine and hydrochlorothiazide. On examination the patient is awake, his blood pressure is 150/70 mmHg. His pulse is irregularly irregular. He has 4/5 strength in the right arm and leg and 5/5 strength on the left. When asked to point to the window he does this correctly. When told to raise his arms and place his hands out he is seen to have a pronator drift on the right. He is shown a pen and asked what it is. He responds fluently but makes some paraphasic errors. He is asked to use it appropriately and begins to write on a piece of paper. When asked to repeat 'Today is a sunny day', he is unable to do so. Which of the following terms best describes these signs?

1- Anomic aphasia

2- Broca's aphasia

**3- Conduction aphasia**

4- Transcortical motor aphasia

5- Transcortical sensory aphasia

Q4281. A 72-year-old man with a history of type 2 diabetes mellitus and multiple transient ischaemic attacks (TIA s) comes to the hospital complaining of visual field loss. He says this happened suddenly and he woke up with problems with his vision the morning before coming to the Emergency department. Medication includes clopidogrel, ramipril, atorvastatin, and metformin. On examination his BP is 165/100 mmHg, his pulse is 76 and regular. Visual field examination reveals a right homonymous upper quadrantanopia. Where is the most likely site for the underlying lesion?

1- Left occipital lobe

**2- Left temporal lobe**

3- Optic chiasm

4- Right optic nerve

5- Right temporal lobe

Q4282. A 50-year-old gentleman presents to the emergency department having had a fall. Examination revealed ataxia and some mild extrapyramidal signs. He was receiving treatment for suspected Parkinson's disease following a fall he had had six months ago when he demonstrated extrapyramidal signs. His symptoms had been noted to have improved with the medication. Tilt table testing was performed and found to be positive. What is the likely diagnosis?

1- Cerebellar degeneration

**2- Multi-system atrophy**

3- Parkinson's disease

4- Postural hypotension

5- Wilson's disease

Q4283. A 23-year-old male is admitted following an altercation in which he is stabbed in the thigh by a bottle. Which of the following features suggests injury to the femoral nerve?

**1- Loss of knee reflex**

2- Loss of sensation over lateral aspect of thigh

3- Weakness of abduction of the hip

4- Weakness of adduction at the hip

5- Weakness of knee flexion

Q4284. A 18-year-old man is referred with a six month history of daily headache which is mostly frontal in location and occasionally associated with nausea. He has been taking paracetamol 3 g/day, aspirin 300 mg thrice daily and codeine 40 mg thrice daily, which has only a temporary effect. He has a two year history of depression, treated with paroxetine. No abnormalities were found on examination. What is the most likely diagnosis?

**1- Analgesic misuse headache**

2- Cerebral tumor

3- Cluster headache

4- Headache due to depression

5- Migraine

Q4285. 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**

Q4286. A 70-year-old man presents with difficulty speaking. He has a history of diabetes, hypertension, hypercholesterolaemia, chronic obstructive pulmonary disease. He is currently on aspirin, simvastatin, amlodipine and hydrochlorothiazide. On examination the patient is awake, his blood pressure is 150/70 mmHg. His pulse is irregularly irregular. He has 4/5 strength on the right arm and leg and 5/5 strength on the left. When asked to point to the window he appears unable to do so. When told to raise his arms and place his hands out he does not. When visually shown the same action he is able to perform it. When asked to repeat 'Today is a sunny day', he is able to do so. With what is this type of dysphasia consistent?

1- Broca's aphasia

2- Global aphasia

3- Transcortical motor aphasia

**4- Transcortical sensory aphasia**

5- Wernicke's aphasia

Q4287. A 65-year-old woman has a one month history of malaise, weight loss, right sided pain around the eye and headaches. She has also noticed intermittent diplopia. Five years previously she had a mastectomy for carcinoma of the breast. On examination, temperature was 37.5°C, there was tenderness of the scalp on the right forehead and temple, and some minor weakness of abduction of the right eye. ESR 55 mm/hour. What is the most likely diagnosis?

1- Frontal sinusitis

**2- Giant cell arteritis**

3- Meningeal metastastatic disease

4- Posterior communicating artery aneurysm

5- Thyroid eye disease

Q4288. A 79-year-old woman has had worsening shortness of breath for several years. She now has to sleep sitting up on two pillows. She has difficulty swallowing. There is no history of chest pain. She is afebrile. Recently, she suffered a stroke with left hemiparesis. A chest x ray reveals a nearnormal left ventricular size with a prominent left atrial border. Which of the following conditions is most likely to account for these findings?

1- Aortic coarctation

2- Cardiomyopathy

3- Essential hypertension

4- Left renal artery stenosis

**5- Mitral valve stenosis**

Q4289. A 60-year-old man was brought to casualty after a fall in his bathroom. Seen immediately by his family, he was already picking himself up from the floor and said he was not injured. His wife felt that he was transiently dazed. On examination, he was alert, and no abnormalities were noted. His medical history included a history of hypertension for which he was taking bendroflumethiazide 2.5 mg daily. He was discharged without any further intervention. Two weeks later his wife brings the patient to see you because the dazed state has returned. Examination reveals a temperature of 36.7oC, a pulse rate of 84 bpm regular, a blood pressure of 152/94 mm Hg. On questioning he is slightly slowed, being disoriented to time with some deficit in recent memory. The patient moves slowly, but power is normal. Neurologic examination shows slight hyperactivity of the tendon reflexes on the right with unclear plantar responses because of bilateral withdrawal. Which of the following would you request?

1- 24-hour ambulatory electrocardiogram

2- CSF analysis

**3- CT of the head**

4- EEG

5- Electromyography and nerve conduction testing

Q4290. Which of the following statements regarding hiccup is true?

1- Is caused by a tonic relaxation of the diaphragm.

2- Is commonly caused by local irritation to the vagus nerve.

3- Can reliably be treated with theophylline.

4- May be caused by a foreign body in the nose.

**5- May be caused by a posterior fossa tumour.**

Q4291. A 60-year-old woman presents with a 24 hours history of headache and vomiting. She has been on steroids for temporal arteritis for the last three years. Examination demonstrates pyrexia, neck stiffness, photophobia, dysarthria, nystagmus and ataxia. CSF shows neutrophilic pleocytosis, low glucose, elevated protein. What is the most likely diagnosis?

1- Carcinomatosis meningitis

2- Cryptococcal meningitis

**3- Listeria meningitis**

4- Meningococcal meningitis

5- Tuberculus meningitis

Q4292. A 63-year-old male is admitted with acute onset unsteadiness of gait, dizziness and dysphagia. Examination revealed a right-sided Horner's syndrome, nystagmus, loss of pain and temperature sensation on the left side of the trunk and in the left arm and leg, and gait ataxia. What is the most likely diagnosis?

1- Leaking posterior communicating artery aneurysm

2- Left sided acoustic neuroma

**3- Posterior inferior cerebellar artery occlusion**

4- Right sided pontine infarct

5- Spontaneous left sided cerebellar haemorrhage

Q4293. A 52-year-old man has a slurring of his speech. Examination reveals bilateral partial ptosis and frontal balding, and difficulty releasing his grip after shaking hands. What is the most likely diagnosis?

1- Duchenne muscular dystrophy

2- Eaton-Lambert syndrome

3- Myasthenia gravis

**4- Myotonia dystrophica**

5- Myotonia congenita

Q4294. A 27-year-old man presents with a two year history of intermittent tingling sensation involving his left side. It starts in his fingers and spreads in 10-20 seconds to affect the whole arm and leg on the same side. The attacks only last for one minute. Which of the following is the most likely diagnosis?

1- Hyperventilation

2- Migraine with aura

3- Multiple sclerosis

**4- Somatosensory seizures**

5- Transient ischaemic attacks

Q4295. A 19-year-old woman presents to the clinic having had five blackouts over the last year, all while she is standing up. She gets warnings of blurred vision, nausea, and feeling hot. She has been witnessed twice to have jerking of all limbs while she is unconscious. The attacks last 30 to 60 seconds. She recovers quickly after the attacks. She has never bitten her tongue or sustained any injuries. Physical examination and an ECG are normal. Her grandmother and sister suffer from epilepsy. Which of the following investigations is the most appropriate?

1- 24 hour ECG recording

2- CT brain

3- ECHO

4- EEG

**5- Tilt table test**

Q4296. Which of the following is caused by a lesion of the occipital lobe?

1- Acalculia

2- Astereognosis

3- Constructional apraxia

**4- Cortical blindness**

5- Visuospatial neglect

Q4297. A 75-year-old woman presents with a two month history of episodic loss of vision in her right eye. Her electrocardiogram was normal and carotid ultrasound reveal a 49% stenosis of the right internal carotid artery, as assessed by the NASCAT criteria. What is the most appropriate treatment for this patient?

**1- Aspirin**

2- Carotid endarterectomy

3- Dipyridamole

4- Clopidogrel

5- Warfarin

Q4298. A 72-year-old lady has four months of memory loss, urinary incontinence and falls. On examination she has mild memory loss and a broad-based, slow gait. Muscle tone is normal and both plantar reflexes are downgoing. What is the likely diagnosis?

1- Alzheimer's disease

2- Frontal lobe dementia

3- Multi-infarct dementia

**4- Normal-pressure hydrocephalus**

5- Parkinson's disease

Q4299. A 35-year-old woman has noticed increased clumsiness and tremor. She has recently broken up with her partner because he found her increasingly argumentative. She has no past medical history and takes no prescribed or recreational drugs. There is a family history of liver cirrhosis in her grandfather, who drank four bottles of whisky per week. She reports drinking less than four units per week. What is the likely cause for her tremor?

1- Alcohol abuse

2- Huntington's disease

3- Lewy body dementia

4- Multiple sclerosis

**5- Wilson's disease**

Q4300. A 48-year old alcoholic man presents with gradually increasing confusion and drowsiness over the past two weeks. He had previously attended the Emergency department having fallen over drunk, but had discharged himself before being reviewed by a doctor. On examination he has multiple old bruises including one to his right arm and to the right side of his face above his eye. His BP is 150/82 mmHg, his pulse is 67 and irregular. There is 3/5 power weakness of his left arm, he is drowsy and confused. Investigations show: Haemoglobin 10.2 g/dl(13.5-17.7) White cell count 12.3 x 109 /L (4-11) Platelets 121 x 109 /L (150-400) Sodium 133 mmol/l (135-146) Potassium 3.9 mmol/l (3.5-5) Creatinine 90 µmol/l (79-118) ALT 190 U/l (5-40) Which of the following is the most appropriate intervention?

**1- CT head**

2- IV broad spectrum antibiotics

3- Lumbar puncture

4- Ultrasound abdomen

5- Upper GI endoscopy

Q4301. An 80-year-old man comes to the office to be evaluated for difficulty moving and memory problems. On examination he has mask-like facies and a pill-rolling tremor. His gait is bradykinetic. He is unable to look down and has been falling frequently only in the last few months. He is not orthostatic on examination Which of the histopathological changes in this disease are similar to those found in the listed conditions?

**1- Alzheimer's disease**

2- Chronic progressive external ophthalmoplegia (CPE O) 3- Multiple system atrophy (MS A) 4- Prion disease

5- Tabes dorsalis

Q4302. A 16-year-old girl presented with fever, headache and photophobia. Investigations revealed: Cerebrospinal fluid examination Opening pressure 260 mm H20 (50-180) Total protein 0.8 g/l (0.15-0.45) Glucose 4.2 mmol/l (3.3-4.4) White cell count 60 per ml (<5) Lymphocytes 90% (60-70) Plasma glucose 6.4 mmol/l (3.0-6.0) What is the most likely diagnosis?

1- Bacterial meningitis

2- Cryptococcal meningitis

3- Tuberculosis meningitis

4- Viral encephalitis

**5- Viral meningitis**

Q4303. A 70-year-old man has Parkinson's disease. He is started on treatment with L-dopa and dopa decarboxylase inhibitor therapy. However he continues to have troublesome tremor. Which of the following drugs would be most likely to help?

1- Amantadine

**2- Benzhexol**

3- Propranolol

4- Ropinirole

5- Selegiline

Q4304. A 77-year-old male presents with sudden loss of vision in his right eye, associated with a relative afferent pupillary defect. He has poorly controlled systemic hypertension and raised cholesterol. What is the most likely aetiology of his presentation?

1- Cataract

2- Chronic open angle glaucoma

3- Macular degeneration

**4- Retinal vascular occlusion**

5- Retinitis pigmentosa

Q4305. A 78-year-old woman presents with a six month history of episodes of giddiness and impaired consciousness. Neurological examination is normal. What is the most likely cause?

1- Alzheimer-type dementia

**2- Chronic subdural haematoma**

3- Creutzfeldt-Jakob disease

4- Depressive stupor

5- Normal pressure hydrocephalus

Q4306. A 35-year-old woman is referred with right eye pain that has deteriorated over the last week. On examination she had a mild ptosis of the right eye and was aware of diplopia with vertical image separation on looking upwards. She also had weakness of elevation of the right eye. What is the most likely diagnosis?

1- Cavernous sinus thrombosis

2- Graves’ ophthalmopathy

3- Myasthenia gravis

**4- Posterior communicating artery aneurysm**

5- Sphenoid sinusitis

Q4307. A 42-year-old HIV-seropositive man presents to the emergency department with a two week history of global headache. His partner says that he has become increasingly confused and disorientated. The patient's latest CD4 count, taken three weeks ago, was 50 cells/mm3 . He had chosen not to take antiretroviral therapy, but was taking co-trimoxazole as prophylaxis against Pneumocystis carinii pneumonia. On examination, he had mild weakness of his left arm and leg in all muscle groups and a right homonymous hemianopia. Fundoscopy was normal with no evidence of papilloedema. A CT scan of his brain showed several areas of low attenuation in both cerebral hemispheres, but there was no enhancement with contrast and no mass effect. What is the most likely diagnosis?

1- Cerebral lymphoma

2- Cerebral toxoplasmosis

3- HIV encephalopathy

4- Neurosyphilis

**5- Progressive multifocal leukoencephalopathy**

Q4308. A 29-year-old lady presented to the Emergency department with a diagnosis of DVT. She is in the third trimester of her first pregnancy and she has been 'taking it easy' by resting a lot at home. In the department she develops a right hemiparesis. Which of the following is the most likely underlying cardiac abnormality?

1- Patent ductus arteriosus

**2- Patent foramen ovale**

3- Primum atrial septal defect

4- Secundum atrial septal defect

5- Ventricular septal defect

Q4309. Which of the following is not a recognised association of acromegaly?

1- Elevated serum phosphate levels

2- Goitre

3- Hypertension

4- Pseudogout

**5- Reduced serum prolactin levels**

Q4310. A 25-year-old male presents with an eight week history of difficulty walking. On examination he had increased tone and pyramidal weakness of the right leg. There was impairment of pinprick sensation in the left leg up to the groin. Which one of the following is the cause of these signs?

1- A central cauda equina lesion

2- A cervical spinal cord lesion

3- A lesion at the foramen magnum

**4- A right sided thoracic spinal cord lesion**

5- Bilateral cerebral hemisphere lesions

Q4311. A 75-year-old female presents with an acute stroke and is noted to have a partial left homonymous hemianopia, a mild left hemiparesis and left hemisensory inattention. Where on the right is the most likely area of infarction?

1- Frontal lobe

2- Medial temporal lobe

3- Occipital lobe

**4- Parietal lobe**

5- Thalamus

Q4312. A 40-year-old male presents to his GP with a two week history of numbness and a burning sensation on the lateral aspect of the left upper thigh. Examination reveals sensory loss over the anterolateral thigh. Which one of the following nerves is most likely to be involved in this patient?

1- Femoral nerve

2- L2 nerve root

3- L3 nerve root

**4- Lateral cutaneous nerve of the thigh**

5- Obturator nerve

Q4313. A teenage girl presents with Guillain-Barre syndrome (GB S) . 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- FEV1/FVC ratio

4- PEFR

**5- Vital capacity**

Q4314. A 26-year-old previously healthy woman has a sudden onset of mental confusion. She has a seizure and is brought to the hospital. Her vital signs show blood pressure 100/60 mmHg, temperature 37°C, pulse 89, and respirations 22. A lumbar puncture reveals a normal opening pressure, and clear, colourless cerebrospinal fluid (CS F) is obtained with 1 RBC and 20 WBCs (all lymphocyte s) , with normal glucose and protein. An MRI scan reveals swelling of the right temporal lobe with haemorrhagic areas. Which of the following infectious agents is the most likely cause for these findings?

1- Haemophilus influenzae

**2- Herpes simplex virus**

3- Influenza virus

4- Mycobacterium tuberculosis

5- Neisseria meningitidis

Q4315. Which statement is true regarding gabapentin?

1- Is a potent hepatic enzyme inducer

2- Is of particular value as monotherapy in absence attacks (petit ma l) 3- Requires dose adjustment in renal disease

4- Side effects typically include visual field defects with long term use

5- Therapy is best monitored through measuring plasma concentrations

Q4316. Which of the following is true of tetanus?

1- Failure to culture Clostridium tetani from the wound would make the diagnosis doubtful

2- Infection confers lifelong immunity

3- There is a characteristic EEG

4- Clostridium-specific intravenous immunoglobulin is of no benefit once spasm has started

**5- Cephalic tetanus causes severe dysphagia**

Q4317. A 60-year-old male presents with a six month history of a gradually increasing burning sensation in his feet. Examination revealed normal cranial nerves and higher mental function. He has normal bulk, tone, power, light touch and pinprick sensation, co-ordination and reflexes in upper and lower limbs. With which of the following are these clinical findings consistent?

1- Diabetic amyotrophy

2- Large fibre sensory neuropathy

3- Motor neurone disease

4- Sjogren's syndrome

**5- Small fibre sensory neuropathy**

Q4318. A 65-year-old man has a monotonous, slurred speech. He has an expressionless face and a festinant gait. There is also impairment of vertical gaze. What is the most likely underlying aetiology?

1- Cerebrovascular disease

2- Idiopathic

3- Shy-Drager syndrome

**4- Steele-Richardson-Olszewski syndrome**

5- Wilson's disease

Q4319. A 36-year-old police officer presents with a three day history of slurred speech. She also complains of double vision and a sensation of breathlessness. The oxygen saturations are 99% on air. Neurological examination reveals normal power, reflexes and plantar responses. Which of the following would improve symptoms in this presentation?

1- G-CSF

**2- Edrophonium**

3- Non-steroidal anti-inflammatory drugs

4- Physiotherapy

5- Plasmapheresis

Q4320. A 45-year-old man presents with an insidious onset of binocular horizontal diplopia and left sided facial pain. On examination he has a left abducens nerve palsy and numbness over the maxillary division of the left trigeminal nerve. Of the following which is the most likely anatomical site of his neurological lesion?

1- Cavernous sinus

2- Cerebellopontine angle

3- Midbrain

**4- Petrous apex**

5- Superior orbital fissure

Q4321. A 67-year-old man is admitted to the Emergency department with drooling, tongue and lip swelling and tachypnoea. He has COPD, angina, diabetes and hypertension. He was at home when the incident occurred, and had not recently been in contact with anything new. He has no known allergies and his medication has not changed in the past year. What is the likely cause of his symptoms?

1- Aspirin

2- Diltiazem

**3- Enalapril**

4- Food allergy

5- Tetanus

Q4322. A 40-year-old man has been in a road traffic accident. His GCS is 8. Which of the following could describe his condition?

1- A man lying still, eyes open and quiet. On questioning he appears confused. He is able to raise his eyebrows on command but cannot move his arms or legs at all. An MRI has shown damage to his spinal cord at C3.

**2- A man lying still, eyes shut and groaning. Not responding to voice. On firm nail bed pressure he opens his eyes and withdraws his hand.**

3- A man lying still, eyes shut, not making any noise. On command he opens his eyes and raises his hands but still makes no sound.

4- A man writhing around, eyes open and calling out obscenities. He smells strongly of alcohol. He variably obeys verbal commands.

5- A man writhing around, eyes open and screaming. Not responding to voice or following commands. On firm nail bed pressure he pushes your hand away.

Q4323. A 60-year-old male is accompanied to the office by his wife who has noticed that his memory is deteriorating. She also reports that at dinner parties he is inappropriate in his behavior and she thinks that his personality has changed. On examination the patient has frontal lobe release signs. He is hypotonic in the arms but his reflexes are brisk. He has fasciculations in the tongue and in all four limbs. You suspect frontotemporal dementia (FT D) with amyotrophic lateral sclerosis (AL S) . On which chromosome is the responsible gene located?

1- Chromosome 3

**2- Chromosome 9**

3- Chromosome 17

4- Chromosome 19

5- Chromosome 22

Q4324. A 74-year-old man comes to the clinic with his wife. He has been suffering from increasingly frequent falls and now has marked problems with his mobility. Past history of note includes an inferior MI and TIA a few years earlier. He has also suffered from two episodes of urinary retention and now has an indwelling catheter. On examination his BP is 142/72 mmHg, with a postural drop of 30 mmHg on standing. He has a quiet ejection systolic murmur, his chest is clear, and abdominal examination is unremarkable. Neurological examination reveals loss of upward gaze, cogwheel rigidity and bradykinesia. He has a mild tremor only. Investigations show Haemoglobin 12.8 g/dl(13.5-17.7) White cells5.3 x 109 /L (4-11) Platelets 221 x 109 /L (150-400) Sodium 139 mmol/l (135-146) Potassium 4.7 mmol/l (3.5-5) Creatinine 138 μmol/l (79-118) Which of the following is the most likely diagnosis?

1- Idiopathic parkinsonism

2- Lewy body disease

3- Multi-infarct disease

**4- Multi-system atrophy**

5- Pick's disease

Q4325. A 35-year-old man presents to the Emergency department 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 straight leg raise to 90 degrees on the left side but only to 30 degrees on the right. Sciatic stretch test is positive. He has difficulty plantarflexing 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. What is the likely diagnosis?

1- Cauda equina syndrome

2- L3/L4 disc prolapse

3- L4/L5 disc prolapse

**4- L5/S1 disc prolapse**

5- Old Shuerman’s disease

Q4326. A 34-year-old male presents with weakness of the right hand. You note global wasting of the small hand muscles, there is also sensory loss over the medial border of the forearm and hand. He says he was climbing a tree to rescue a kite and fell. Whilst falling he grabbed a branch and this pulled on his arm. Injury to which of the following structures is the most likely explanation of this clinical presentation?

1- Cervical spine

**2- Lower brachial plexus**

3- Median nerve in the forearm

4- Radial nerve in the upper arm

5- Ulnar nerve at the elbow

Q4327. A 45-year-old woman presents to the Emergency department complaining of a severe headache and vomiting for 12 hours. She was previously well and takes no medication. On examination, her temperature was 37.5°C, her pulse rate was 110 beats per minute and her blood pressure was 95/60 mmHg. There was some neck stiffness and there was a right third nerve palsy with pupillary involvement. Her initial investigations show: Haemoglobin 13.6 g/dL (11.5-16.5) White cell count 14.5 x 109 /L (4-11 x109) Platelets >450 x 109 /L (150-400 x109) Sodium 122 mmol/L (137-144) Potassium 5.2 mmol/L (3.5-4.9) Urea 4.6 mmol/L (2.5-7.5) Creatinine 85 µmol/L (60-110) Random cortisol 150 nmol/L (200-700) TSH 1.1 mU/L (0.4-5) Free T4 9 pmol/L (10-22) Prolactin 350 mU/L (<450) What is the most likely diagnosis?

1- Encephalitis

2- Meningitis

3- Migraine

**4- Pituitary apoplexy**

5- Subarachnoid haemorrhage

Q4328. A 45-year-old man presents with headaches and low libido. He is found to be hypopituitary. The CT scan shows a pituitary tumour with suprasellar extension. Which of the following structures is likely to be compressed?

1- Abducens nerve

2- Hypothalamus

3- Occulomotor nerve

**4- Optic chiasm**

5- Third ventricle

Q4329. A 75-year-old man is awaiting transurethral resection of the prostate, but is brought into hospital in acute urinary retention. Which of the following drugs might be responsible?

**1- Ipatropium bromide inhaler**

2- Montelukast

3- Serevent inhaler

4- Sodium chromoglycate

5- Theophylline

Q4330. A 42-year-old male with a 15 year history of type 1 diabetes presents with a two month history of deteriorating pain and stiffness of the right shoulder. On examination he has painful limitation of internal rotation and can abduct the right arm to only 90 degrees. Flexion is relatively unimpaired. There is some weakness of movement of that shoulder with slight wasting of shoulder muscles. He has some reduced vibration sensation in both hands. Which of the following is the most likely diagnosis?

**1- Adhesive capsulitis**

2- Brachial plexopathy

3- Calcium pyrophosphate arthropathy

4- Diabetic arthropathy

5- Rheumatoid arthritis

Q4331. A 17-year-old female presents with three headaches over a six month period. She describes the headaches as severe, rightsided and lasting for twelve hours and associated with nausea and photophobia. Each is preceded by spots before her eyes. What is the most appropriate initial treatment for this patient?

1- Diclofenac at the onset of the next attack

2- Ergotamine suppository at the onset of the next attack

**3- Paracetamol plus metoclopramide at the onset of the next attack**

4- Prophylaxis with propranolol

5- Sumatriptan at the onset of the next attack

Q4332. A 28-year-old shop worker is referred with a three month history of recurrent episodes of disorientation and confusion. Her boyfriend has found her wandering around the house on several occasions, apparently with no idea of where she is or how she got there. Her mood has been very low, with frequent emotional outbursts, and she has considered leaving her job because of problems with working the computer and managing customers' queries. Her boyfriend feels her condition is significantly worsening. Physical examination is normal, apart from recurrent, asymetrical, jerks in all four limbs. Which of the following investigations is likely to be most useful in reaching a diagnosis?

1- Chest x ray

2- CT head

**3- EEG**

4- Liver function tests

5- Visual evoked potentials

Q4333. A 79-year-old male is admitted with acute confusion and is agitated and aggressive to staff. His relatives who accompany him assert that he had been entirely self-caring, does not drink alcohol and was taking no previous medication. He was diagnosed with a urinary tract infection and commenced antibiotics but remained agitated and distressed. Which one of the following treatments is the most appropriate for his agitation?

1- Chlorpromazine

2- Diazepam

**3- Quetiapine**

4- Temazepam

5- Trazodone

Q4334. A 50-year-old man presents with tingling in the left upper limb. The pain originated in the neck and radiated down the left arm. He proceeded to have numbness and paraesthesia in the left lower limb. On examination he had restriction of neck movements and there was a mild wasting to be noted in the left biceps. There was inversion of the supinator and biceps jerks. His knee jerk and ankle jerk were hyperreactive and he has a positive extensor plantar response. He then developed paraesthesia and numbness of the right lower limb. A diagnosis of cord compression was made and he underwent a surgical decompression. Post surgery was complicated by septicaemia and urinary tract infection and he remained in bed for four days. He subsequently developed inability to dorsiflex his right foot and right big toe. There was numbness on the outside of the foot and there was decreased eversion, but inversion was normal. His reflexes remained as before. What is the cause of the problem?

**1- Common peroneal nerve palsy**

2- L4 root lesion

3- Recurrence of the original cord compression

4- Sciatic nerve palsy

5- Spinal cord infarction

Q4335. A 75-year-old woman presents with acute monocular visual loss. Fundoscopy reveals a swollen pale optic disc in the affected eye. What is the mose likely diagnosis?

1- Central retinal vein occlusion

2- Closed angle glaucoma

**3- Giant cell arteritis**

4- Optic neuritis

5- Raised intracranial pressure

Q4336. Gaucher's disease is associated with the deficiency of which of the following?

1- Arylsulphatase-A

**2- B-Glucosidase**

3- Hexosaminidase A

4- Iduronidase

5- Sphingomyelinase

Q4337. A 21-year-old female presented with a sudden onset of left sided head and neck pain. Twenty four hours later she presents with sudden onset of right hemiparesis, facial weakness and homonymous hemianopia and left Horner's syndrome. A CT brain showed a left middle cerebral artery territory infarction. Which of the following is the most likely diagnosis?

1- Antiphospholipid syndrome

2- Cardiac embolism

**3- Left carotid artery dissection**

4- Migraine

5- Systemic vasculitis

Q4338. Chronic subdural haematoma in a 75-year-old man is not associated with the presence of which of the following?

1- Bilateral papilloedema

2- Hemiparesis

3- Fluctuating level of consciousness

4- Impaired cognitive function

**5- Internuclear ophthalmoplegia**

Q4339. A 47-year-old man presents with memory impairment worsening over nine months. He has jerking movements of his limbs and biphasic high-amplitude sharp waves on EEG. Which diagnosis is most likely?

1- Alzheimer's disease

**2- Creutzfeld-Jakob disease**

3- Multi-infarct dementia

4- Normal pressure hydrocephalus

5- Pick's disease

Q4340. Which of the following will not be affected by a lesion of the facial nerve in the internal auditory meatus?

1- Blinking

2- Hearing

3- Lacrimation

**4- Sweating over the cheek**

5- Taste

Q4341. A 75-year-old man is diagnosed with a Lewy body dementia. Which one of the following drugs would be contraindicated for this patient?

1- Chlormethiazole

2- Donepezil

**3- Haloperidol**

4- L-Dopa

5- Selegiline

Q4342. A 22-year-old male nurse presents to the emergency department following a fight in a pub. In self defence, during a messy brawl between patients, he punched a patient in the face and sustained a deep laceration to his knuckle from his assailant's tooth. After the wound is cleaned and he has received tetanus immunisation, which of the following antibiotic regimes would be most appropriate for this patient?

**1- Co-amoxiclav oral**

2- Doxycycline oral

3- Flucloxacillin oral

4- Penicillin G IM

5- Trimethoprim oral

Q4343. A patient has daytime sleepiness. He wakes up in the morning un-refreshed. He frequently dozes off while watching TV. He is hypertensive but well controlled with amlodipine 5 mg and ramipril 2.5 mg. He occasionally takes paracetamol for back pain. Neurological examination was normal. His BMI is 45. His thyroid function tests were normal as well as IGF-1. Obstructive sleep apnoea (OS A) is suspected. Which of the following would make OSA more likely?

1- Cataplexy

**2- High Epworth sleepiness score**

3- Low Epworth sleepiness score

4- Low hypocretin levels in CSF

5- Witness of snoring during sleep

Q4344. A 26-year-old man presents with gradual onset of cough and shortness of breath on exertion. He has no medical history of note. He is single and smokes 20/ day. His O2 sat is 93% but drops on minimal exertion. Chest examination was unremarkable. A chest x ray is requested. What is the most likely diagnosis?

1- Asthma

2- COPD

3- Lung abscess

**4- Pneumocystis carinii pneumonia (PC P) 5- Pulmonary embolism**

Q4345. An 83-year-old man is admitted with lightheadedness and bradycardia. An ECG shows sinus bradycardia with a PR interval of 0.18s. You note that he is taking labetalol. On further questioning he tells you that he has been taking labetalol at the same dose for years. His estimated glomerular filtration rate(eGF R) is 60ml/min/1.73m2 . Which of the following would most accurately describe the reason for developing bradycardia?

1- He has developed age-related sinus node dysfunction

2- Increased absorption due to slower gastric emptying

3- Labetalol follows zero order kinetics that change with age

**4- Reduced first pass metabolism**

5- Reduced glomerular filtration rate and excretion

Q4346. A 47-year-old man with confusion is brought into the emergency department via ambulance. He has a history of alcohol abuse and is currently living in a homeless shelter. On questioning he reports feeling generally unwell for several months with malaise and weight loss. He has recently complained of a headache to workers at the house, and has been acting strangely over the last few days. He was treated for tuberculosis (T B) two years ago, but was non-compliant with medication. He is investigated and diagnosed with cerebral tuberculosis. He is commenced on rifampicin, pyrazinamide, ethambutol and isoniazid. He is also started on steroid therapy. For how long should treatment be continued in total?

1- 2 months

2- 4 months

3- 6 months

4- 8 months

**5- 12 months**

Q4347. A 25-year-old chef undergoes a Mantoux test as a colleague has just tested positive for sputum positive tuberculosis. Which of the following response would indicate she has been infected with the disease?

1- 3mm

2- 6mm

3- 9mm

4- 12mm

**5- 18mm**

Q4348. A 69-year-old woman presents to the medical admission unit with a two month history of increasing lethargy and confusion. She also complains of headaches, and on the day of admission her husband reports her speech has become slurred. An urgent CT head is performed, and is reported as showing several cerebral metastases with surrounding oedema. She is started on high dose dexamethasone with some improvement in her symptoms. Which of the following investigations has the greatest chance of identifying the primary tumour?

**1- Chest x ray**

2- Cystoscopy

3- Mammography of the breast

4- Sigmoidoscopy

5- Ultrasound of the kidneys

Q4349. A 29-year-old junior doctor comes to the Emergency department complaining of a severe headache and neck stiffness. He has had mild diarrhoea over the past few days, and some coryzal symptoms. On examination his BP is 155/82 mmHg, his pulse is 85 and regular and his temperature is 37.8?. He has signs consistent with severe meningism but there are no skin rashes or other signs of vasculitis. Investigations show: Haemoglobin 13.8 g/dl(13.5-17.7) White cells 8.9 x 109 /L (4-11) Platelet 183 x 109 /L (150-400) Sodium 141 mmol/(135-146) Potassium 4.4 mmol/l (3.5-5) Creatinine 92 micromol/l (79-118) Lumbar puncture - lymphocytosis, slightly raised protein, normal glucose. Which of the following is the most likely diagnosis?

1- Cytomegalovirus meningitis

**2- Enterovirus meningitis**

3- Herpes simplex encephalitis

4- Meningococcal meningitis

5- Subarachnoid haemorrhage

Q4350. A 36-year-old single woman with a history of asthma comes to the clinic complaining of symptoms of indigestion. She uses a steroid inhaler and on examination of her oropharynx you can see obvious evidence of candidiasis. You send her for an endoscopy, which unfortunately reveals extensive oesophageal candidiasis. Which of the following tests would be most important to consider in this patient?

1- CD4 count

2- Complement testing

3- Fasting blood glucose

**4- HIV antibody testing**

5- Immunoglobulin testing

Q4351. A 52-year-old man has a history of hypertension, managed with amlodipine and indapamide. His GP recently tried to commence ramipril, but had to curtail this as his creatinine rose from 129 to 194 after one week of therapy. He smokes 20 cigarettes per day and is a vasculopath having suffered a transient ischaemic attack (TI A) one year earlier. On examination in the clinic his BP is 155/92 mmHg, pulse is regular at 80 and a left carotid bruit is audible. Investigations show: Haemoglobin 12.0 g/dl(13.5-17.7) White cell count 6.0 x 109 /L (4-11) Platelets 288 x 109 /L (150-400) Serum sodium 140 mmol/l (135-146) Serum potassium 4.0 mmol/l (3.5-5) Creatinine 122 μmol/l (79-118) Ultrasound scan: Right kidney smaller than the left Renal MRA: Suggestive of 80% right renal artery stenosis Which of the following is the most appropriate next step in his management?

**1- Add bisoprolol to his anti-hypertensive regimen**

2- Re-introduce low dose ramipril to his regimen

3- Refer for urgent angioplasty and stenting

4- Refer for vascular surgery

5- Trial valsartan as an alternative to ACE inhibition

Q4352. An 86-year-old lady is admitted with parkinsonism. Exposure to which of the following drugs is the most likely cause?

1- Buprenorphine

2- Cyclizine

**3- Metoclopramide**

4- Phenytoin

5- Trimethoprim

Q4353. A 17-year-old girl, who works at a petting zoo, presents with a headache and vomiting to the emergency department. Apparently she suffered a severe diarrhoeal illness which began a few days ago, and she is now passing diarrhoea mixed with blood and mucus. She has no past history of note, and her only medication is the oral contraceptive pill. On examination she looks unwell, her BP is 155/92 mmHg and she is pyrexial at 38.2°C. Her abdomen is soft and diffusely tender with very active bowel sounds. Investigations reveal: Haemoglobin 10.0 g/dl(11.5-16.5) White cell count 11.6 x 109 /L (4-11) Platelets 50 x 109 /L (150-400) Serum Sodium 139 mmol/l (135-146) Serum potassium 6.0 mmol/l (3.5-5) Creatinine 295 μmol/l (79-118) What do expect to find on the blood film?

1- Decreased reticulocytes

2- Increased lymphocytes

3- Increased ghost cells

**4- Increased schistocytes**

5- Increased spherocytes

Q4354. A 55-year-old gentleman is suffering with erectile dysfunction. He has a past medical history of type 2 diabetes and angina. Which of the following medications would be a contraindication to prescribing sildenafil?

1- Clopidogrel

2- GTN spray used once per month

3- Metoprolol

**4- Nicorandil**

5- Propranolol

Q4355. You perform a renal function test on a 2

5- year-old man and an 83-year-old lady. Both of them have a creatinine level of 90 mmol/l. You note, however, that the estimated glomerular filtration rate (eGF R) for the young man is 95 ml/min/1.73m2 and that the eGFR for the elderly lady is 55 ml/min/1.73m2 . Which of the following is the most likely explanation?

1- Age related change to the medullary vasculature

**2- Age related muscle loss in the elderly lady**

3- Increased glomerular filtration rate in the young man

4- Increased muscle mass in the young man

5- Reduced blood flow in the afferent arterioles of the cortex in the elderly lady

Q4356. An 88-year-old woman is admitted with swollen legs and increased abdominal swelling. She is commenced on intravenous furosemide and responds well. You note that she has been on oral furosemide at home. Which of the following best explains the reason for the response to intravenous drugs?

1- Decreased protein binding of furosemide

**2- Increased bioavailability**

3- Increased effect on the loop of Henle

4- Increased first pass metabolism

5- Increased plasma volume

Q4357. An 86-year-old man sees you in clinic. He is a keen marathon runner and tells you that he gets breathless much earlier on in a race than he did 10 years ago. Which physiological change associated with age would be the most likely cause for his symptoms?

1- Diastolic dysfunction and reduced stroke volume

2- Higher systolic arterial pressure and increased impedance to left ventricular ejection

3- Increased sino-atrial conduction time

4- Left ventricular hypertrophy

**5- Reduced tachycardic response**

Q4358. A 68-year-old man with a 45/year pack history is referred by his GP to the respiratory clinic with increasing breathlessness over the last 12 months. He has a cough productive of clear sputum, which appears to be present most days. He has no weight loss and no history of haemoptysis. His spironmetry results show FEV1/FVC 0.65 and FEV1 (% predicte d) 71%. Based on the latest NICE guidelines, what (if an y) is the severity of this man's airflow obstruction?

1- Mild

**2- Moderate**

3- No airflow obstruction

4- Severe

5- Very severe

Q4359. A 31-year-old motorcyclist becomes confused and dyspnoeic on the orthopaedic ward, 24 hours after fracturing his right femur in an accident. Which of the following skin lesions may be found on examination?

**1- Multiple petechiae in both axilla**

2- Palpable purpura on buttocks and legs

3- Target lesions on his chest

4- Tender red nodules on his shins

5- Vesicular lesions on his torso

Q4360. A 18-year-old student presents to the student health service with frank haematuria that began some 48 hours after an upper respiratory tract infection. On examination he is apyrexial, BP is 110/72 mmHg and pulse is 70. His chest is clear and his abdomen is soft and non-tender. Investigations reveal: Haemoglobin 14.0 g/dl (13.5-17.7) White cell count 8.0 x 109 /L (4-11) Platelets 248 x 109 /L (150-400) Serum sodium 138 mmol/l (135-146) Serum potassium 4.3 mmol/l (3.5-5) Creatinine 85 µmol/l (79-118) Urine blood +++ Which of the following is the most appropriate way to manage him?

1- ACE inhibitor titrated to maximal tolerated dose

2- ACE inhibitor titrated to maximal tolerated dose and ARB in combination

3- Methylprednisolone and cyclophosphamide

**4- Observation**

5- Prednisolone 60 mg/day

Q4361. A 49-year-old woman comes to the clinic complaining of rapidly worsening lethargy and nausea. Over the past few days she has become increasingly unwell and is now barely able to get out of the house. Other symptoms of note include progressive shortness of breath and a cough productive of blood stained sputum. Her only consultations with the doctor over the past six months have been about the shape of her nose; she has suffered some collapse of her nasal bridge and is considering plastic surgery. On examination you notice collapse of the bridge of her nose, and nasal congestion when she speaks. Her BP is elevated at 155/95 mmHg. You can hear crepitations on auscultation of the chest. Investigations show: Haemoglobin 12.0 g/dl(11.5-16.5) White cell count 11.6 x 109 /L (4-11) Platelets 202 x 109 /L (150-400) Serum Sodium 139 mmol/l (135-146) Serum Potassium 5.8 mmol/l (3.5-5) Creatinine 285 micromol/l (79-118) CXR Patchy interstitial shadowing C-ANCA Positive Which of the following is the most appropriate treatment?

1- Infliximab

2- Methylprednisolone and azathioprine

**3- Methylprednisolone and cyclophosphamide**

4- Methylprednisolone and methotrexate

5- Prednisolone

Q4362. A 67-year-old man with chronic renal failure, who uses peritoneal dialysis, presents to the renal ward with a cloudy bag. This is his first episode of continuous ambulatory peritoneal dialysis (CAP D) peritonitis in over two years of dialysing. He has type 1 diabetes, which precipitated his renal impairment. On examination, he is pyrexial at 38.2°C. His abdomen is diffusely tender, although he has bowel sounds on auscultation. Investigations showed: Haemoglobin 10.2 g/dl(13.5-17.7) White cell count 13.6 x 109 /L (4-11) Platelets 270 x 109 /L (150-400) Serum Sodium 138 mmol/l (135-146) Serum Potassium 4.3 mmol/l (3.5-5) Creatinine 346 μmol/l (79-118) Dialysis fluid >100 white cells per mm3 Which of the following is the most likely infecting organism?

1- B. fragilis

2- Bacteroides spp 3- P. aeruginosa 4- S. aureus 5- S. pyogenes

Q4363. A student from the Indian subcontinent has recently been diagnosed with sputum positive tuberculosis (T B) . He lives on the university campus in a shared flat. His housemates are contacted by public health and requested to undergo screening. Which of the following investigations is most commonly used in this instance?

1- Blood test

2- Chest x ray

3- Heaf test

**4- Mantoux test**

5- Microbiology (sputu m)

Q4364. A 60-year-old Asian man who has lived in the United Kingdom for the past 15 years presents with painless haematuria. He is otherwise well. He is a smoker of 10 cigarettes per day. Investigations reveal a haemoglobin of 11 g/dl (13-18g/d l) . His WBC, ESR, CRP, LFTs, Urea and electroytes are normal. Urinalysis shows ++ blood and a PA chest x-ray shows small flecks of white opacifications in the upper lobe of the left lung. What is the most likely diagnosis?

**1- Bladder carcinoma**

2- Glomerular disease

3- Prostatic carcinoma

4- Renal calculi

5- Tuberculosis

Q4365. A patient was diagnosed with TB and had been on treatment for two months. He was lost to follow up. Four months later he presented with haemoptysis and fatigue. On examination his temperature was 38.2?. Sputum analysis for acid fast bacilli was positive. The patient is suspected of having multiple drug resistant tuberculosis (MDR T B) . Which of the following would be the strongest risk factor for MDR TB?

1- Age 12-20 years

2- Female gender

3- Herpes simplex virus

**4- HIV**

5- Resident in Manchester

Q4366. A 47-year-old patient has daytime sleepiness. He wakes up in the morning un-refreshed. He frequently dozes off while watching TV. He is hypertensive but well controlled with amlodipine 5 mg and ramipril 2.5 mg. He occasionally takes paracetamol for back pain. Neurological examination was normal. His BMI is 45. He was referred for suspicion of obstructive sleep apnoea (OS A) . Which of the following tests would you request to confirm diagnosis?

1- CT chest

2- Echocardiogram

3- Multiple sleep latency test

**4- Polysomnography**

5- Thyroid function tests

Q4367. A 32-year-old man presents with fever, shortness of breath and productive cough for five weeks. Prior to that he was fit and well with no respiratory complaints. His only medical history is that he frequently visits his dentist for teeth problems and has been a heavy drinker for a long time. Three weeks ago he was given antibiotics by his GP with slight improvement but then got worse. What is the most likely diagnosis?

1- Asthma precipitated by pneumonia

2- Bronchiectasis

3- Empyema

**4- Lung abscess**

5- Pulmonary embolism (P E)

Q4368. An 84-year-old lady is treated for a chest infection in hospital. On admission her creatinine kinase (C K) level was normal. Three days later she is found to be in renal failure and has a CK of 8000 mmol/l. She is taking simvastatin, aspirin, bisoprolol and St John's wort. Which of the following drugs would be the most likely cause?

1- Ciprofloxacin

**2- Clarithromycin**

3- Co-amoxiclav

4- Doxycycline

5- Metronidazole

Q4369. An 82-year-old lady presents with a fall and a Colles' fracture. She is commenced on alendronate. Which of the following is the mechanism of the therapeutic effect of this drug?

1- Decreasing the effect of endogenous parathyroid hormone

2- Improved calcium absorption from the kidney

3- Inhibition of osteoblast activity

**4- Inhibition of osteoclast activity**

5- Stimulation of osteoblast activity

Q4370. A 65-year-old man has recently been diagnosed with non-small cell lung cancer. His management plan is discussed at the regional multi-disciplinary meeting. Which of the following would not preclude him from being offered surgery?

1- FEV1 0.4L

2- Malignant pleural effusion

3- Mediastinal lymphadenopathy

4- Sclerotic vertebral lesion on x ray

**5- Tumour size of 3 cm**

Q4371. A 50-year-old man is admitted to the hospital with a third attack of renal stones in the last six months. He suffers from Crohn's disease and has previously had a limited small bowel resection, but his disease is now quiescent. Apparently there is a history of high calcium levels in other blood relatives. On examination his BP is 115/72 mmHg, his BMI is 19.5, he has a midline scar consistent with a previous laparotomy. Investigations show: Haemoglobin 12.0 g/dl(11.5-16.5) White cell count 6.4 x 109 /L (4-11) Platelets 272 x 109 /L (150-400) Serum Sodium 138 mmol/l (135-146) Serum Potassium 4.1 mmol/l (3.5-5) Creatinine 85 µmol/l (79-118) Calcium 2.89 mmol/l (2.20-2.67) PTH Upper limit of normal range Which of the following is the most likely diagnosis?

**1- Familial hypocalciuric hypercalcaemia**

2- Primary hyperparathyroidism

3- PTHrP levels increased due to underlying malignancy

4- Secondary hyperparathyroidism

5- Tertiary hyperparathyroidism

Q4372. A 14-year-old boy presents with a high fever, cervical lymphadenopathy, and pus on the tonsils. Which of the following statements regarding diagnosis and management is true?

**1- Amoxicillin may cause an erythematous rash**

2- Cefotaxime is the treatment of choice

3- If his CRP is 40, then Group A streptococcal infection is highly likely

4- If urinary red cells are present, then a renal biopsy is indicated

5- Tonsillectomy is indicated after the acute infection has settled

Q4373. A 79-year-old male with critical ischaemia of his foot is awaiting below knee amputation and has lower limb pain. He is awake and lucid with normal observations. His full blood count shows: Haemoglobin 12.0 g/dl(13.0-18.0) White cell count 14.0 x 109 /L (4-11) Platelets 67 x 109 /L (150-400) Which of the following is the best option for pain relief?

1- Diclofenac 50 mg per oram

2- Epidural analgesia

3- Fermoral nerve block

4- Morphine 10 mg intravenously

**5- Tramadol 50 mg per oram**

Q4374. A 26-year-old patient with known AIDS presents with a history of increasing breathlessness and dry cough. He is investigated by the respiratory team and diagnosed with pneumocystis pneumonia (PC P) . Which of the following features is most accurate regarding PCP?

1- Amphotericin is the treatment of choice

2- Blood cultures are positive in 1/3rd of cases

3- Occurs only in AIDS

4- Pleural effusions are most often bilateral

**5- The lungs are commonly clear on auscultation**

Q4375. A 27-year-old lady presents with generalised oedema of five months duration. Investigations reveal proteinuria (5.5 g/da y) , hypoproteinaemia and hypercholesterolaemia, urea 10 mmol/L (2.

5- 7.5) and creatinine 200 mol/L (60-110). Renal biopsy confirms membranous glomerulonephritis. What will be the most appropriate management to get remission?

1- Azathiaprine

**2- Cyclophosphamide plus methylprednisolone**

3- Cyclosporin A

4- Methylprednisolone

5- Protein restriction

Q4376. A 27-year-old patient presented to his GP with persistent cough and weight loss. He had night sweats. He was diagnosed with TB and referred to the respiratory clinic. He was started on treatment. His urine became orange in colour. Which one of the following drugs causes this?

1- Ciprofloxacin

2- Ethambutol

3- Isoniazide

4- Pyrazinamide

**5- Rifampicin**

Q4377. A 32-year-old woman presented with daytime sleepiness and fatigue. She does not take any regular medications. She denies snoring at night. On detailed history, she describes having episodes of probable cataplexy. Clinical examination is unremarkable. Thyroid function tests are normal. The patient is suspected of having narcolepsy. Which of the following tests will be most useful in diagnosis?

1- Genetic analysis

2- High hypocretin levels in cerebrospinal fluid (CS F) analysis

**3- Multiple sleep latency test**

4- Polysomnography

5- Trial of continuous positive airway pressure (CPA P)

Q4378. A 79-year-old man presents with an ischaemic stroke and a left hemiparesis. According to the WHO International Classification of Functioning, Disability and Health, what would be the classification of the left hemiparesis with which he presents?

1- Activity limitation

**2- Impairment of body function**

3- Participation restriction

4- Pathology

5- Right total anterior circulation infarct

Q4379. An 84-year-old lady is admitted to a rehabilitation unit following a stroke. On admission a Barthel index is performed. Which of the following best describes the limitations of using the Barthel index in rehabilitation?

**1- Floor and ceiling effects**

2- It correlates poorly with other prognostic scales

3- It has poor concurrent and predictive validity

4- It is not very sensitive

5- It is laborious and takes a long time to perform

Q4380. A 72-year-old ex-miner with a significant smoking history and proven diagnosis of COPD is attending chest clinic for review. He currently takes only a short acting beta agonist (salbutamo l) . His last FEV1 was 45%. He feels his symptoms are not currently controlled on his current drug regime. According to the latest guidelines, what changes should be made to his medication?

1- Inhaled corticosteroid (IC S) 2- Long acting beta agonist (LAB A) 3- Long acting beta agonist and inhaled corticosteroid

4- Long acting beta agonist and inhaled corticosteroid and long acting muscarinic antagonist

5- Long acting muscarinic antagonist (LAM A) and long acting beta agonist

Q4381. A 17-year-old presents to the emergency department with facial and periorbital oedema. This is the third episode over the past two years, and on each of the previous two occasions the problem has been treated with oral corticosteroids. On examination he has periorbital and bilateral lower limb pitting oedema. His BP is 125/72 mmHg, pulse is 72 and regular. He has no significant findings on auscultation of the chest. Investigations show: Haemoglobin 12.5 g/dl(13.5-17.7) White cell count 5.0 x 109 /L (4-11) Platelets 260 x 109 /L (150-400) Serum Sodium 138 mmol/l (135-146) Serum Potassium 4.2 mmol/l (3.5-5) Creatinine 110 μmol/l (79-118) Albumin 24 g/l (35-50) Urine Protein +++ Which of the following is the most appropriate initial way to treat him?

1- Admit for methylprednisolone and cyclophosphamide

2- Observe

3- Prednisolone 10 mg/day for six weeks

**4- Prednisolone 60 mg/day for six weeks**

5- Trial of ramipril

Q4382. Which of the following are characteristic electrocardiogram (EC G) features of hypokalaemia?

1- Flattened p waves

2- ST elevation

**3- U waves**

4- Ventricular tachycardia

5- Wide QRS

Q4383. On a CT scan of the thorax, which structure is found posteriorly (behin d) to the left main bronchus?

1- Ascending aorta

**2- Descending aorta**

3- Left pulmonary artery

4- Right main bronchus

5- Superior vena cava

Q4384. A 42-year-old woman presents to the clinic with a chronic cough. Which of the following features would increase the suspicion that she is suffering from asthma?

1- Associated dizziness

2- Chronic cough without wheeze

**3- Symptoms in response to exercise**

4- Symptoms corresponding with a cold

5- Voice disturbance

Q4385. A 36-year-old single woman with a history of asthma comes to the clinic complaining of symptoms of indigestion. She uses a steroid inhaler and on examination of her oropharynx you can see obvious evidence of candidiasis. You send her for an endoscopy, which unfortunately reveals extensive oesophageal candidiasis. Which of the following tests would be most important to consider in this patient?

1- CD4 count

2- Complement testing

3- Fasting blood glucose

**4- HIV antibody testing**

5- Immunoglobulin testing

Q4386. A 20-year-old student comes to the clinic complaining of dysuria and minor scrotal swelling and pain. He has also noticed a purulent urethral discharge. On examination his temperature is 37.5 C, his scrotum is mildly swollen and tender and you can express a mucopurulent discharge from his urethral meatus. Investigations show: Haemoglobin 13.9 g/dl(13.5-17.7) White cell count 8.8 x 109 /L (4-11) Platelets 269 x 109 /L (150-400) Serum Sodium 141 mmol/l (135-146) Serum Potassium 4.5 mmol/l (3.5-5) Creatinine 85 micromol/l (79-118) Urinary chlamydial antigen positive Which of the following is the most appropriate anti-microbial therapy for him?

**1- Azithromycin 1 g as single dose**

2- Ciprofloxacin 500 mg BD for 7 days

3- Minocycline 100 mg daily for 9 days

4- Norfloxacin 400 mg daily for 7 days

5- Penicillin V 500 mg BD for 7 days

Q4387. A 44-year-old man is brought to the hospital by his boyfriend. Over the past few weeks he has complained of increasing headaches and nocturnal fevers. His boyfriend is now concerned that over the weekend he has taken to his bed and has become drowsy and confused. On examination his temperature is 37.80C and BP 150/90 mmHg. He has papilloedema and neck stiffness. He refuses to comply with most of the elements of neurological testing. Investigations show: Haemoglobin 11.9 g/dl(13.5-17.7) White cell count 9.7 x 109 /L (4-11) Platelets 204 x 109 /L (150-400) Serum Sodium 136 mmol/l (135-146) Serum Potassium 4.0 mmol/l (3.5-5) Creatinine 111 micromol/l (79-118) Glucose 6.7 mmol/l (non fastin g) CSF opening pressure 22cm water turbid appearance Glucose 6.5 mmol/lindia ink test positive CT scan Small ventricles but otherwise unremarkable Which of the following is the most likely diagnosis?

**1- Cryptococcal meningitis**

2- HIV dementia

3- HIV encephalopathy

4- Meningococcal meningitis

5- Tuberculous meningitis

Q4388. A 62-year-old man attends a clinic complaining of progressive peripheral oedema, which has got to the stage where by the end of the day he is hardly able to wear his shoes. He has a past history of hypertension which is managed with amlodipine, but nil else of note. On examination his BP is 155/85 mmHg. His pulse is 78 and regular. His heart sounds are normal and his chest is clear. He has gross pitting oedema to mid shin on both lower limbs. Haemoglobin 13.9 g/dl(13.5-17.7) White cell count 7.6 x 109 /L (4-11) Platelets 290 x 109 /L (150-400) Serum sodium 140 mmol/l (135-146) Serum potassium 4.0 mmol/l (3.5-5) Creatinine 135 μmol/l (79-118) Albumin 24 g/l (35-50) Urinary protein 3.5 g/24 hr Renal biopsy: Thickened renal capillary walls seen on biopsy, but with patent lumina. Which of the following treatments is most likely to affect this patient's prognosis?

1- Cyclophosphamide

2- Prednisolone

**3- Ramipril**

4- Rituximab

5- Simvastatin

Q4389. A 72-year-old man comes to the surgery with his wife. She has witnessed two seizures at home, both of which have lasted for no longer than two minutes or so, accompanied by generalised limb jerking and incontinence of urine. He has been very embarrassed about the problem and did not want to come for review. She did not call an ambulance at the time as he seemed to be comfortable afterwards and she did not want the staff to see him "in a mess". He has a history of cerebrovascular disease having suffered a minor stroke one year earlier, and suffered a myocardial infarction some three years ago. Medication includes ramipril, amlodipine, atorvastatin and aspirin. On examination in the surgery he looks well. His BP is 142/79 mmHg, his pulse 75 and regular. Neurological examination is unremarkable apart from some very minor loss of co-ordination affecting his left hand. He wants you to arrange some investigations before bothering the hospital doctors. Investigations show Haemoglobin 12.1 g/dl(13.5-18) White cell count 8.2 x 109 /L (4-10) Platelets 301 x 109 /L (150-400) Sodium 141 mmol/l (134-143) Potassium 5.1 mmol/l (3.5-5) Creatinine 149 µmol/l (60-120) ESR 12(<20) ECG Sinus rhythm Inferior Q waves Which one of the following initial steps would be most appropriate in this case?

**1- Carotid ultrasound scanning**

2- EEG

3- Start low dose carbamazepine

4- Start low dose sodium valproate

5- Tilt table test

Q4390. A 68-year-old female attends the falls clinic. She had multiple falls over the last six months and she has noticed that she has become much more unsteady on her feet. Her husband tells you that she has become very restless at night and that he hardly gets any sleep. Examination reveals bradykinesia and a jerky rest tremor. Her gait is broad based. She scores 28/30 on a mini mental state examination (MMS E) . Which of the following is the most likely diagnosis?

1- Corticobasal degeneration (CB D) 2- Idiopathic Parkinson's disease

**3- Multiple system atrophy (MS A) 4- Progressive supranuclear palsy (PS P) 5- Vascular parkinsonism**

Q4391. An 80-year-old female presents with recurrent falls. She has fallen a few times whilst walking to the toilet at night to pass urine. She always feels light-headed prior to falling and denies palpitations. She suffers from ischaemic heart disease, hypertension, diabetes mellitus, hypercholesterolaemia, osteoporosis and hypothyroidism. She is taking gliclazide, metformin, ramipril, doxazosin, levothyroxine, aspirin, simvastatin and weekly alendronate. Her blood pressure is 130/70 mmHg and her pulse is 70 beats per minute and is irregular. She undergoes a medication review as part of a multi-factorial risk assessment. Which one of the following medications is most likely to be the culprit for her symptoms?

1- Alendronate

**2- Doxazosin**

3- Levothyroxine

4- Metformin

5- Ramipril

Q4392. A 65-year-old man with end-stage idiopathic Parkinson's disease dies. His family donates his brain for research purposes. Which characteristic histopathological structures are you most likely to find?

1- Amyloid plaques

2- Cerebral arterial atherosclerosis

3- Cytoplasmic inclusion bodies

**4- Lewy bodies**

5- Neuronal inclusion bodies

Q4393. An 80-year-old man was seen at the emergency department following a minor fall and inability to weight bear. His right leg was shortened and externally rotated. x Ray of the pelvis confirmed fracture neck of femur. However, the orthopaedic surgeon was concerned about the x ray appearance of the pelvis. Further enquiry revealed that he was becoming increasingly frail and prone to develop respiratory tract infections. He also complains of pain in the lower back worse at night. Apart from cachexia and pallor his physical examination was normal. What is the likely diagnosis?

1- Chronic osteomyelitis

2- Metastatic carcinoma

**3- Multiple myeloma**

4- Osteoporosis

5- Paget's disease

Q4394. A 72-year-old lady presents to her GP with fatigue. Her husband has noticed change in her character and her hair becoming thinner. She also complains of constipation. Her only medical history is type II diabetes mellitus which is diet controlled. On examination she has a pale complexion and her skin is dry. Her pulse is 50 beats per minute, regular. The rest of the examination is unremarkable. The GP considers anaemia and requests a full blood count which shows: Haemoglobin 9.1 g/dl (115-165) White cell count 7.2 x 109 /L (4-11) Platelets 147 x 109 /L (150-400) Mean cell volume 105 fl (80-96) What is your diagnosis?

1- Chronic fatigue syndrome

2- Depression

3- Diabetes mellitus

4- GI malignancy

**5- Hypothyroidism**

Q4395. A 75-year-old female presented to the Emergency department with a transient ischaemic attack. Her only past medical history is type II diabetes of 20 year duration. Her blood pressure was 140/90 mmHg and ECG showed atrial fibrillation. Which one of the following is most likely to prevent her from having a stroke?

1- ACE inhibitors

2- Aspirin

3- β blockerss

4- Insulin

**5- Warfarin**

Q4396. A 76-year-old lady presented at the rheumatology clinic with pains of six weeks duration in the limbs and back. She was recently treated by the GP for Bell's palsy without any significant recovery. Apart from right facial nerve palsy, physical examination was unremarkable. The GP had enclosed the following results: Hb 12.3 g/dl (11.5-16) WBC 5.4 x 109 /L (4-11 x 109) Platelets 178 x 109 /L (150-400 x 109) Na 143 mmol/l (135-146) K 3.8 mmol/l (3.5-5.0) Urea 7.2 mmol/l (10-20) Creatinine 112 µmol/l (79-118) Glucose 6.2 mmol/l (3.3 - 4.4) CPK 97 U/l (24-170) Bilirubin 18 µmol/l (1 – 22) AST 22 U/l (1-31) ALT 25 U/l (5-35) ALP 830 U/l (45-105) Albumin 36 g/l (37-49) Calcium 2.20 mmol/l (2.2-2.6) Phosphate 1.0 mmol/l (0.8-1.4) Select the correct diagnosis from the given list.

1- Bony metastases

2- Cholestasis

3- Osteomalacia

**4- Paget's disease**

5- Rickets

Q4397. A 72-year-old man with longstanding Parkinson's comes to the surgery. He is maintained on high dose l-dopa therapy but is suffering significant on/off phenomena. This is really affecting his life and he feels unable to leave the house and go on excursions with his wife. Other past history of note includes prostatism for which he takes an alpha-blocker and a

5- alpha reductase inhibitor. He has also suffered a myocardial infarction some five years earlier. Which one of the following would be the most appropriate next therapeutic option for him?

1- Amitriptyline

**2- Cabergoline**

3- Change to soluble levodopa before meals

4- Entacapone

5- Selegiline

Q4398. Which of the following statements is true regarding neck of femur fracture?

1- Extracapsular fractures have a higher incidence of avascular necrosis compared to intracapsular fractures.

**2- In the young displaced fractures should be reduced and fixed urgently.**

3- Internal rotation of the affected limb is a common clinical finding.

4- Mortality for elderly patients is >80% at one year.

5- Non-union is not a complication.

Q4399. A 65-year-old man with hypertension and hypercholesterolaemia is admitted with right sided weakness. He has marked receptive dysphasia. Examination reveals right sided facial weakness as well as right-sided hemiparesis. Sensation on the right side of the body is also impaired. The presence of which additional finding would suggest a diagnosis of a left total anterior circulation infarct (L TAC I) rather than a left partial anterior circulation infarct (L PAC I) ?

1- Bitemporal hemianopia

**2- Right homonomous hemianopia**

3- Left sided visual neglect

4- Left homonomous hemianopia

5- Right sided visual neglect

Q4400. Which of the following is caused by temporal lobe lesions?

1- Apraxia

2- Astereognosis

3- Primitive reflexes

4- Visuospatial neglect

**5- Wernicke's (receptiv e) aphasia**

Q4401. A 32-year-old patient with type 1 diabetes who is on your clinic list is admitted with sudden loss of vision. You decide to examine the events which led up to this as part of a significant event audit. Which of the following is part of the process of significant event audit?

**1- Agreement, implementation and monitoring of necessary changes is an essential part of the process**

2- Events cannot be reported as part of the QAOF

3- Events should not be reported to the National Patient Safety Agency, (NPS A) 4- Non-clinical staff should be excluded from the review process

5- Sudden loss of vision in a diabetic would not normally constitute a critical event

Q4402. A 76-year-old female presents with weakness of the left side of her body. She has no dysphasia. Examination reveals power of 3/5 in the flexor muscles of the left upper arm and 2/5 in the extensor muscles of the left upper arm. Power in her left leg is 3/5 in the extensor muscles of the left leg and 2/5 in the flexor muscles. She has normal visual fields and sensation is intact. An abbreviated mental test score is 10/10. Please select the best option below to classify her stroke.

1- Left lacunar infarct (LAC I) 2- Right lacunar infarct (LAC I) 3- Right partial anterior circulation infarct (PAC I) 4- Right posterior circulation infarct (POC I) 5- Right total anterior circulation infarct (TAC I)

Q4403. A 70-year-old lady consulted her GP for being generally unwell. She also complained of constant severe headache and pain in the scalp while combing her hair. She has also noticed difficulty in standing up from the squatting position. She denied any visual disturbances. Her general physical examination was unremarkable and the investigations showed a raised ESR and alkaline phosphatase. What is an important diagnosis to consider?

1- Cervical spondylosis

2- Cluster headache

3- Hypothyroidism

4- Migraine

**5- Temporal arteritis**

Q4404. A 76-year-old man was admitted to the medical assessment unit with bleeding per rectum. He was pain free and haemodynamically stable. His past medical history included myocardial infarction two years ago, atrial fibrillation and chronic obstructive pulmonary disease. His medication included digoxin 125 µgrams per day, furosemide 40 mg per day, warfarin 3 mg per day and salbutamol inhaler. His haemoglobin was 9.6 g/dl on admission. However, ten hours later he suddenly became hypotensive and was resuscitated with two units of Gelofusine and two units of blood. An emergency GI endoscopy was inconclusive. An angiogram confirmed the diagnosis. What is the most likely diagnosis?

**1- Angiodysplasia**

2- Colonic tumour

3- Diverticular disease of the large bowel

4- Granulomatous ulceration, that is, Crohn's disease

5- Ischaemic colitis

Q4405. An 84-year-old man was referred for investigation of anaemia. He had been feeling weak and lethargic. His past medical history included diverticular disease and duodenal ulcer. Investigations showed: Hb 7.2 g/dl (130-180) WBC 4.8 x 109 /L (4-11) Platelets 182 x 109 /L (150-400) MCV 112 fl (80-96) Iron 32 µmol/l (12-30) TIBC 70 µmol/l (45-75) Serum folate 24nmol/l (2-11) Serum B12 270 pmol/l (160-760) TSH 3.4 mU/l (0.4-5.0) LDH 200 U/l (10-250) Blood film: dimorphic picture Bone marrow aspirate: generalised increase in iron stores Faecal occult blood: negative. Which of the following is the correct diagnosis?

1- Gastrointestinal blood loss

2- Haemolytic anaemia

3- Iron deficiency anaemia

4- Megaloblastic anaemia

**5- Sideroblastic anaemia**

Q4406. A 68-year-old man presents for a follow up visit in clinic. He presented six months ago with short term memory loss, loss of verbal fluency and dysphasia. His wife then reported that he has become 'less tolerant' and 'overreacts'. Examination at that point was normal and he scored 25/30 on the mini mental state examination. A CT brain was essentially normal. Full blood count, biochemical tests, thyroid function, B12 and folate were all normal. He scored 19/30 on a repeat MMSE today. He is diagnosed as having probable Alzheimer's disease and is commenced on donepezil. The drug acts by inhibiting which of the following enzymes?

1- Catechol-O-methyl transferase

**2- Cholinesterase**

3- Dopamine decarboxylase

4- Glutamic acid decarboxylase

5- Monoamine oxidase

Q4407. A 55-year-old man presents with a right sided rest tremor and slowness of movement. A year ago he noticed that he could not smell his food. He has not had any falls and his eye movements are normal. His past medical history is unremarkable and he does not take any medication. Which of the following structures is most likely to be most affected?

1- Left cerebellar hemisphere

2- Left cerebral neocortex

3- Olfactory nerve

4- Red nucleus

**5- Substantia nigra**

Q4408. An 86-year-old woman presents with a third episode of urinary frequency and dysuria in eight months. A urine dipstick is positive for leukocytes, but negative for nitrites. Examination of the genito-urinary area reveals marked atrophic vaginitis and she is commenced on topical oestrogen therapy. Oestrogen exerts its beneficial effect on the urogenital tissue by which of the following?

1- Decreasing para-urethral blood flow

2- Decreasing urethral closing pressure

**3- Increasing para-urethral collagen concentration**

4- Preventing proliferation of Lactobacilli in the vagina

5- Increasing vaginal pH

Q4409. An 82-year-old resident of a residential home was seen at the Emergency department for restlessness and aggressive behaviour. He has been incontinent of urine and also had few falls. He was placed in the residential home after the death of his wife due to severe arthritis in his hands and knees. His only past medical history includes hypothyroidism, for which he takes thyroxine 50 µgrams per day. On examination he is disorientated in time, place and person and smells strongly of urine. There are no focal neurological signs. What is the likely diagnosis?

**1- Delirium**

2- Dementia

3- Hypoglycaemia

4- Myxoedema madness

5- Transient ischaemic attack (TI A)

Q4410. An 80-year-old man was recovering from diarrhoea when he developed difficulty in swallowing and had a choking fit while eating a sandwich. He took to his bed, complained of back pain, bilateral leg pain, numbness in the feet and could not stand up. He smoked 20 cigarettes a day and drank 20 units of alcohol each week. Past medical history included bilateral hip replacements and osteoarthritis of both knees. On examination he was confused with slurred speech. There was bilateral ptosis, ophthalmoplegia and mild proximal weakness in both legs. All tendon reflexes were absent and the plantar responses were equivocal. He did not co-operate with the examination of the sensory system. The bladder was palpable up to the level of the umbilicus. The prostate was smoothly enlarged and the rectum was full of faeces. What is the most likely diagnosis?

1- Brain stem infarction

**2- Guillain-Barre syndrome**

3- Motor neurone disease

4- Myasthenia gravis

5- Transverse myelitis

Q4411. A 75-year-old female presented to the Emergency department with a transient ischaemic attack. Her only past medical history is type II diabetes of 20 year duration. Her blood pressure was 140/90 mmHg and ECG showed atrial fibrillation. Which one of the following is the strongest risk factor for stroke?

1- Age ? 75

**2- Atrial fibrillation (A F) 3- Diabetes mellitus**

4- Female sex

5- Hypercholesterolaemia

Q4412. You are attending a 70-year-old man recently treated for Parkinson's disease, to which treatment he has been showing good response. His son wants to know how likely he is to develop Parkinson's disease. There is no family history of Parkinson's disease. What is the correct factor in this case?

**1- Inheritance pattern of this disease is not known**

2- It all depends on the exposure to the environmental factors

3- Late onset disease is not usually familial

4- The disease is autosomal dominant

5- The disease is autosomal recessive

Q4413. A 70-year-old alcoholic presented with pain in the left hip joint. He had been in good health with his only past medical history being of sudden blindness in the right eye which was treated with high dose steroids. x Ray of the left hip showed severe degeneration of femoral head with loss of joint space. What is the most likely cause of the joint deformity?

1- Age related osteoarthritis

**2- Avascular necrosis of the femoral head**

3- Monoarticular rheumatoid arthritis with eye involvement

4- Perthes' disease

5- Reiter's syndrome

Q4414. A 34-year-old man with a known history of Crohn's disease was admitted to hospital with abdominal pain and features of perforation. He underwent laparotomy and a perforation of the terminal ileum was found with free faecal fluid in the abdominal cavity. He was transferred to the intensive care unit (IT U) . Together with traditional antimicrobial and supportive ITU therapy, which of the following therapeutic measures is most likely to improve this patient's outcome?

1- High-dose intravenous corticosteroids

**2- Low-dose intravenous corticosteroids**

3- Recombinant anti-endotoxin antibody

4- Recombinant human antithrombin III

5- Recombinant human tissue-factor pathway inhibitor

Q4415. Mr YB is a patient who regularly attends the anticoagulant clinic. He is very concerned as he has been recently started on a new drug by his GP. He asks you whether it would enhance the anticoagulant effect. Which of the following may increase the anticoagulant effect in patients taking warfarin?

**1- Clopidogrel**

2- Carbamazepine

3- Griseofulvin

4- Phenobarbitone

5- St. John's wort

Q4416. A patient on your ward is prescribed warfarin as she has recently been diagnosed with atrial fibrillation. Her desired INR is 2.5 On the morning ward round you take the patient's INR which comes back as 5.2 from the laboratory. There are no signs of bleeding. What would be your next course of action?

1- Decrease the dose of warfarin

2- Do nothing, as there are no signs of bleeding

3- Increase the dose of warfarin

4- Start a heparin infusion

**5- Stop the warfarin**

Q4417. Mrs HV is taking an antidepressant. Her husband recently passed away and she was diagnosed as being clinically depressed. Since taking the antidepressants, she has been complaining of drowsiness, confusion and fatigue. Depletion of which of the following electrolytes may be causing Mrs HV's symptoms?

1- Chloride

2- Magnesium

3- Phosphate

4- Potassium

**5- Sodium**

Q4418. Mr UP is taking bendroflumethiazide for hypertension. Which of the following is likely to increase whilst on bendroflumethiazide therapy?

1- Magnesium

2- Potassium

3- Sodium

**4- Uric acid**

5- White cell count

Q4419. A patient post retrosternal thyroidectomy resection has sudden onset shortness of breath. On examination, she is talking clearly but has decreased breath sounds on her right side with hyper-resonance on percussion. Her blood pressure is 110/80 mmHg, pulse 95 beats per minute, respiratory rate 24/min and SpO2 92 on air. Which of the following would be most appropriate for her?

**1- Chest x ray**

2- Furosemide 40 mg intravenously

3- Intercostal chest drain insertion

4- Needle thoracocentesis

5- Removal of surgical clips

Q4420. A patient needs central venous access for total parenteral nutrition (TP N) . Which of the following is the cleanest site for placement?

1- Left femoral

2- Left internal jugular

3- Right femoral

4- Right internal jugular

**5- Right subclavian**

Q4421. Which of the following statements regarding the internal jugular vein and relations is true?

1- Lies medial to the common carotid artery

**2- On the right side crosses the first part of the subclavian artery**

3- Originates at the sphenoid sinus

4- Passes posterior to the carotid artery

5- The right internal jugular is usually smaller than the left

Q4422. A 64-year-old man is admitted with central epigastric pain. Abdominal x ray shows a dilated bowel loop. His temperature is 37.0°C, pulse 130 bpm, blood pressure 80/50 mmHg, respiratory rate 29/min, SpO2 90% on air. His full blood count reveals: Haemoglobin 13.0 g/dl(13.0-18.0) White cell count 3.2 x 109 /L (4-11) Platelets 108 x 109 /L (150-400) MCV 105 fl(80-96) Which of the following is the most appropriate initial treatment of this patient?

**1- 100% oxygen**

2- 2 x 14 gauge venflons and 2 litres Hartmann's

3- Intensive care

4- Intubation and ventilation

5- Invasive monitoring

Q4423. A 56-year-old man diagnosed with systemic inflammatory response syndrome (SIR S) secondary to pancreatitis is admitted to the High Dependency Unit. He has a pulse of 109 beats/min and a blood pressure of 89/74 mmHg despite receiving IV fluids and urine output of 25 ml/hour after catheterisation. Which of the following is the most appropriate course of action for this patient?

**1- A central line**

2- A CT abdomen

3- A surgical referral

4- An arterial line

5- Broad spectrum antibiotics

Q4424. Mr TB is prescribed warfarin for prophylaxis of DVT. Which vitamin does warfarin antagonise?

1- A

2- B6

3- C

4- D

**5- K**

Q4425. Which of the following is not a feature of cannabinoids?

1- 9-tetrahydrocannabinol is the active constituent of the resin

**2- Bioavailability after oral administration is about 70%**

3- Inhibits eicosanoid synthesis

4- Lowers intraocular pressure

5- Naloxone blocks the antinociceptive actions of cannabinoids

Q4426. Mr VU is taking amitriptyline for depressive illness. He comes to see you at a routine outpatient appointment and informs you that he has been experiencing some side effects with his amitriptyline therapy. Which of the following is classed as a side effect for this drug?

1- Gout

2- Hypokalaemia

3- Renal stones

4- Taste disturbances

**5- Urinary retention**

Q4427. You would like to prescribe a selective serotonin reuptake inhibitor (SSR I) for a 1

4- year-old girl who has been diagnosed as being clinically depressed. After much debate and intervention from various healthcare professionals, it was decided to prescribe her fluoxetine. For which one of the following parameters should the patient be closely monitored, especially at the beginning of treatment?

1- Coldness of extremities

**2- Hostility**

3- Hyperglycaemia

4- Prothrombin time

5- Tachycardia

Q4428. Ms YF is prescribed ciprofloxacin 500 mg twice daily for the treatment of cystitis. In which of the following conditions should ciprofloxacin be used with caution?

1- Asthma

2- Diabetes

**3- Epilepsy**

4- Glaucoma

5- Heart failure

Q4429. A 10-year-old child presents with a respiratory tract infection. You decide to treat him empirically with a broad spectrum antibiotic. The child is taking no other medication, has no other co-morbidity factors and has no known detected allergies. Which of the following antibiotics is contraindicated in this patient?

1- Amoxicillin

2- Clarithromycin

3- Erythromycin

4- Flucloxacillin

**5- Minocycline**

Q4430. Which of the following statements regarding the internal jugular vein and relations is true?

**1- Lies lateral to the common carotid artery**

2- Originates at the carotid canal

3- Passes behind the clavicle to join the superior vena cava

4- Passes posterior to the subclavian artery

5- Receives a lymphatic trunk at its union with the external jugular vein.

Q4431. A 78-year-old male who presents with increasing dysphagia is diagnosed with an inoperable carcinoma of the distal oesophagus. Oesophageal spasm causes food to stick after swallowing which causes odynophagia. Which drug would be most helpful in relieving his chronic pain?

1- Clodronate

2- Dexamethasone

**3- Nifedipine**

4- Oxybutynin

5- Pinaverium

Q4432. A 66-year-old male in intensive care who is receiving an escalating noradrenaline infusion (currently at 0.76 mcg/kg/mi n) , has a blood pressure of 90/50 mmHg, pulse of 90 beats per min, a central venous pressure of 10mmHg, capillary refill time of 2-3 seconds has received 2000 mls of colloid in 3 hours. His plasma lactate concentration is 2.9 mmol/l (<1.5). Which of the following is an appropriate method of measuring adequate intravascular filling?

1- LiDCO (lithium dilution cardiac outpu t) 2- Oesophageal Doppler monitoring

**3- PiCCO (pulse contour cardiac outpu t) 4- Pulmonary artery flotation catheter (PAF C) 5- Transoesophageal echocardiography (TO E)**

Q4433. A 56-year-old man with severe brain damage is apnoeic, unsedated, and temperature 36.9°C. He is intubated and ventilated. His biochemistry is normal. The combination of which of the following specialists would be able to confirm brain stem death?

1- Consultant/specialist trainee with one years experience

2- Consultant/specialist trainee with three years experience

3- Consultant/specialist trainee with four years experience

**4- Consultant/specialist trainee with five years experience**

5- Consultant/specialist trainee with two years experience

Q4434. A 56-year-old man with septic shock is fully ventilated, on continuous veno-venous haemofiltration receiving noradrenaline, vancomycin and ciprofloxacin. He has a mean arterial pressure [MAP] of 60 mmHg which is then not improved after changing from noradrenaline to adrenaline. There is no evidence of myocardial dysfunction. Which of the following would be the most appropriate next step in managing this patient?

1- ACTH stimulation test

2- Activated protein C

3- Change of inotropes

**4- Hydrocortisone**

5- Nitric oxide

Q4435. Mr YB is admitted on your ward with endocarditis and is prescribed vancomycin IV. You monitor the patient for signs of toxicity as it has a narrow therapeutic index. Which of the following is a result of vancomycin toxicity?

1- Bradycardia

2- Dry mouth

3- Erythema multiforme

4- Hepatoxicity

**5- Ototoxicity**

Q4436. A 56-year-old man is admitted with epigastric pain after drinking heavily. He has a temperature of 36.9°C, a pulse of 95/min, a blood pressure of 85/60 mmHg, and a respiratory rate of 32/min. Investigations reveal: Haemoglobin 12.6 g/dl(13.0-18.0) Platelets 169 x 10 9 /L (150-400) White cell count 3.9 x 109 /L (4-11) Which of the following is the diagnosis?

1- Leaking aortic aneurysm

2- Multi-organ dysfunction syndrome (MOD S) 3- Severe sepsis

4- Septic shock

**5- Systemic inflammatory response syndrome (SIR S)**

Q4437. An 82-year-old lady was admitted to hospital with fever and confusion. On examination her temperature was 39°C, blood pressure was 80/45 mmHg with a pulse of 110 beats per minute regular with numerous petechiae over the abdomen. After taking blood, it was noted that there was continued bleeding from the venous puncture site. A urinary catheter was inserted and yielded 1500 ml of cloudy yellow offensive-smelling urine. Which of the following is correct concerning this patient?

**1- Circulating levels of activated protein C (aP C) will be reduced**

2- Levels of D dimer will be reduced

3- Levels of fibrin degradation products (FDP s) will be reduced

4- The activated partial thromboplastin time (APT T) will be below the normal range

5- The platelet count is likely to be elevated

Q4438. A 67-year-old man complains of dizziness and faintness. He has insulin dependent diabetes mellitus and he had a sigmoid colectomy three days previously. His blood pressure is 80/50 mmHg, his pulse 110 beats per min, his respiratory rate 24/min, and he has SpO2 99% on air. His plasma glucose concentration is 18 mmol/l (3.0-6.0 fastin g) . Which of the following is the most appropriate investigation for this patient?

1- Arterial blood gas

2- Chest x ray

**3- Electrocardiogram**

4- Serum lactate

5- Urine ketones

Q4439. A 23-year-old man with known peanut allergy presented to the Emergency department with anaphylaxis. He has a swollen face and lips. His BP is 90/60 mmHg, pulse 110 bpm and he is wheezy. Which of the following formulations of adrenaline should be given?

1- 0.5 ml of 1:10000 adrenaline IM

**2- 0.5 ml of 1:1000 adrenaline IM**

3- 5 ml of 1:1000 adrenaline IM

4- 10 ml of 1:10000 adrenaline IV

5- Nebulised adrenaline

Q4440. Which of the following statements regarding the subclavian vein and its relations is correct?

**1- Begins at the lateral border of the first rib**

2- Forms the axillary vein

3- Joins the superior vena cava

4- The subclavian vein and internal jugular vein form the brachiocephalic trunk

5- The subclavian vein passes posterior to scalenus anterior.

Q4441. An 18-year-old male is admitted with a history of diarrhoea and vomiting associated with weakness and lethargy. His motor power in the distal arms and legs is decreased and he describes difficulty swallowing. His forced vital capacity (FV C) is 1.5 litres. Which of the following is the most appropriate immediate treatment for this condition?

1- Cyclophosphamide

**2- Intravenous immunoglobulin therapy (Ig G) 0.5 g/kg**

3- Intubation and ventilation

4- Plasmapheresis

5- Prednisolone 60 mg

Q4442. A 67-year-old man is three days postoperation for a sigmoid colectomy. He has insulin dependent diabetes mellitus. He complains of dizziness and faintness. His blood pressure is 80/50 mmHg, his pulse is 110 bpm, he has a respiratory rate 24/min, and he has SpO2 99% on air. His blood glucose is 18 mmol/L (3.0-6.0 fastin g) . His electrocardiogram shows ST depression of 2 mm in leads II, III and AVF. Which of the following is the initial drug therapy for this patient?

**1- Aspirin 300mg**

2- Clexane 1 mg/kg subcutaneously

3- Clopidogrel 75 mg

4- Diamorphine 2.5 mg

5- Glycerol tri-nitrate 800 mcg sublingually

Q4443. You are asked to see a 64-year-old man post oversew of a duodenal ulcer. He is confused. His SpO2 is 97 on oxygen. Pulse 110 beats per minute, blood pressure 100/50 mmHg, respiratory rate 32/min and his urine output is 10 ml in the last hour. Which of the following is the most appropriate treatment for this man?

1- 100% oxygen via face mask

2- Central line and arterial line

**3- Colloid 500 ml stat**

4- Haloperidol 2.5 mg intravenously

5- Noradrenaline via central line

Q4444. A 64-year-old man is admitted with central epigastric pain. Abdominal x ray shows a central dilated bowel loop. His temperature is 37.0oC, pulse 130 beats per min, blood pressure 80/50 mmHg, respiratory rate 29/min and SpO2 90 on air. His full blood count reveals: Haemoglobin 13.0 g/dl(13.0-18.0) White cell count 3.2 x 109 /L (4-11) Platelets 108 x 109 /L (150-400) MCV 105 fl(80-96) Which of the following is the most likely diagnosis?

1- Gall stone ileus

2- Ischaemic bowel

**3- Pancreatitis**

4- Perforated duodenal ulcer

5- Small bowel obstruction

Q4445. A 22-year-old woman comes to the genetics clinic for advice. She has a family history of Parkinson's disease. Her brother was recently diagnosed with Parkinson's at the age of 26, her father was previously diagnosed at the age of 56, and her grandfather at the age of 69. Which of the following phenomena is exhibited here?

1- Autosomal dominance

2- Complete penetrance

3- DNA methylation

**4- Genetic anticipation**

5- Incomplete penetrance

Q4446. A 16-year-old boy presents with chronic pain in his left thigh over the past few months. He has seen his GP on four occasions and has been given paracetamol and told that these are growing pains. The pain has now reached the point that he refuses to mobilise beyond walking around the house. On examination his BP is 132/72 mmHg, pulse is 67 and regular. Clinical examination is unremarkable apart from the fact that he appears tender over the left femur. Investigations show: Haemoglobin 12.2 g/dl(13.5-17.7) White cell count 8.0 x 109 /L (4-11) Platelets 178 x 109 /L (150-400) Sodium 138 mmol/l (135-146) Potassium 4.3 mmoll/(3.5-5) Creatinine 120 µmol/l (79-118) Alanine aminotransferase 44 U/l (5-40) Alkaline phosphatase 780 U/l (39-117) Which of the following is the most likely diagnosis?

1- Hepatoma

**2- Osteosarcoma**

3- Paget's disease

4- Rickets

5- Stress fracture

Q4447. A 38-year-old woman presents with pain down the lateral aspect of her right hip. She had completed a half marathon for charity the previous weekend, but had previously only managed around seven to eight miles in training runs. She says she noticed the pain after she had warmed down after the run, and says that all hip movements and weight bearing seem to make the pain much worse. It also seems to radiate down to the lateral aspect of her thigh, and she has problems lying on the affected side due to pain. On examination she has point tenderness over the greater trochanter. Investigations show Haemoglobin 12.9 g/dl(13.5-18) White cell count 4.5 x 109 /L (4-10) Platelets 201 x 109 /L (150-400) ESR 12 mm/hr(1-20) Hip x ray Normal Which of the following is the most likely diagnosis?

1- Avascular necrosis of the hip

2- Osteoarthritis of the hip

3- Septic arthritis of the hip

4- Tendonitis

**5- Trochanteric bursitis**

Q4448. Which of the following is associated with cavitation on the chest X-ray?

**1- Klebsiella pneumonia**

2- Legionnaires' disease

3- Pneumococcal pneumonia

4- Sarcoidosis

5- Viral pneumonia

Q4449. You are asked to see a 78-year-old man who has been admitted to the ward for terminal care after a massive subarachnoid haemorrhage. He is unconscious but the nurses are concerned that he has pooling of secretions, tries to cough and becomes distressed. On examination he is unconscious, but has a respiratory rate of 30 and has a death rattle. He is receiving diamorphine via a syringe driver. Which of the following is the most appropriate treatment for him?

1- Atropine nebulisers

**2- Hyoscine administered subcutaneously**

3- Increase the dose of diamorphine via the syringe driver

4- Salbutamol nebulisers

5- Saline nebulisers

Q4450. A 47-year-old patient with metastatic breast cancer is admitted for bisphosphonate infusion for severe bone pain. With help from the palliative care team the GP has tried several medications without significant benefit. The patient agrees to admission for a bisphosphonate infusion. She asks about side effects of bisphosphonates. Which complication or side effect is more likely to occur when bisphosphonates are used in cancer-related symptoms?

1- Diarrhoea

2- Hypocalcaemia

3- Oesophageal erosions

**4- Osteonecrosis of the jaw**

5- Renal failure

Q4451. You are caring for a patient with metastatic uterine cancer who is in pain. Her GP has been treating her in line with the WHO analgesic ladder. She has been started on codeine as step two on the ladder. Unfortunately she gains no additive analgesic effect from codeine. What is the likely mechanism for this poor response to codeine?

1- Concomitant use of cyclizine

2- Concomitant use of prednisolone

**3- CYP2D6 poor metaboliser**

4- Hypercalcaemia

5- Renal impairment

Q4452. A patient with a history of pancreatic cancer complains of central abdominal pain. The patient is not constipated and his most recent blood tests were unremarkable. His GP has started him on paracetamol 1 g QDS and asks you, as the speciality doctor in palliative medicine, for advice on how in improve his pain relief. What is the most appropriate drug choice?

1- Codeine 8 mg + paracetamol

**2- Codeine 30 mg + paracetamol**

3- Double dose of PCM

4- Oramorph

5- Tramadol

Q4453. You are working as a palliative medicine speciality doctor and you are asked to assess and admit a 56-year-old woman with metastatic lung cancer to the local hospice. She was diagnosed with cancer two months ago and has been increasingly troubled with low back pain. Her GP has been increasing doses of morphine without effect. The GP asked for admission for help with symptom control. On questioning the patient complains of low back pain with occasional feeling of weakness and 'tingling' in her legs. There has been no bowel or bladder disturbance. On examination there is some tenderness over L2 and power in both legs is slightly reduced. There are no other abnormalities to find. What is the most appropriate management?

1- Arrange lumbar x ray

2- Arrange urgent MRI

3- Bed rest

4- Increase analgesia and arrange physiotherapy

**5- Urgent referral to local oncology service**

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Q4454. You are currently working on a respiratory ward and looking after a patient with mesothelioma. She was diagnosed with mesothelioma six months before and has deteriorated rapidly. She was admitted with breathlessness and a pleural effusion was diagnosed, but not drained. Thirty six hours after admission the patient passed away. You are called by the bereavement office to complete the death certificate as soon as possible as the family wishes to arrange the funeral for early the following week. Which is the most appropriate action to take?

1- Ask consultant to complete the death certificate

2- Complete the death certificate yourself as you know the family

3- Discuss the case with the patients oncologist

4- Discuss with the patients GP to confirm the diagnosis

**5- Refer to the coroner's office.**

Q4455. An elderly woman with a background of multiple myeloma has been started on opioid analgesia for low back pain. Since starting opioids she has had problems with nausea and has been tried on two different agents. Her GP started a third antiemetic two weeks ago. Her husband has noticed she seems restless and cannot keep still. He has become increasingly concerned in the last few days she has been unable to keep up with him on their walks and has generally 'slowed down'. From the list of drugs, on which has the patient most likely been started?

1- Cyclizine

2- Domperidone

**3- Haloperidol**

4- Levomepromazine

5- Ondansetron

Q4456. A 51-year-old man with a history of locally advanced lung cancer presents to his GP with a short history of facial flushing and swelling and breathlessness. He looks unwell and becomes more breathless when he is lies flat to allow examination of his abdomen. At 45 degrees his JVP is elevated but his lung fields are clear. The GP phones his local hospice for advice from the duty palliative care physician. What is the most appropriate management step to give this GP?

1- Breathing exercises

2- Oramorph to help him relax

3- Oxygen

**4- Refer immediately to local oncological service**

5- Send to hospital for CXR

Q4457. You are working in a hospice for a palliative medicine team and you are called by one of the local GPs for medication advice. A patient of hers has recently been diagnosed with pancreatic cancer and associated severe pain. The GP started the patient on morphine sulphate modified release and an antiemetic. Two days after starting the anti-emetic the patient came back to see the GP complaining of feeling more sleepy, blurred vision at times, constipation and a very dry mouth. Of the choices, on which antiemetic was the patient most likely to have been started?

**1- Cyclizine**

2- Domperidone

3- Haloperidol

4- Metoclopramide

5- Ondansetron

Q4458. A woman with a background of metastatic lung cancer is admitted to the Emergency department with a history of increasing drowsiness, confusion, vomiting and myoclonic jerks. On examination she is also found to have small pupils. On questioning her husband you find out she is on morphine sulphate modified release and cyclizine, and has recently had antibiotic treatment for a chest infection. In view of the features from the examination and history, what is the most likely underlying aetiology for this patient's presenting problem?

1- Hypercalcaemia

2- Hyperglycaemia

3- Hypoxia

**4- Morphine toxicity**

5- Urinary tract infection

Q4459. A 73-year-old female patient has been admitted from the palliative medicine clinic for an infusion of bisphosphonate for intractable bone pain. This pain has not responded to opioids or NSAIDS and the consultant thinks bisphosphonates are indicated. The patient undergoes an infusion of pamidronate and you are asked to review her the next day. Unfortunately she has not noticed any improvement in her pain and asks you why this is so. Choose the most appropriate next step?

1- Alter her opioids

2- Increase her opioids

3- Prescribe a further dose of pamidronate

4- Prescribe an alternative bisphosphonate

**5- Reassure her benefit can be delayed by a few days**

Q4460. A 67-year-old man has been diagnosed with metastatic lung cancer. He has moderate pain and has been started on morphine slow release twice a day. After a few doses he becomes nauseated and vomits on one occasion. You are working in palliative care and are asked to advise on the most appropriate antiemetic. He has no other medical history. Which of the following is the most appropriate first choice management option?

1- Cyclizine

2- Domperidone

**3- Haloperidol**

4- Ondansetron

5- Withdraw morphine

Q4461. A 37-year-old man with advanced lymphoma is admitted to a hospice for control of a variety of symptoms. He is known to have advanced mediastinal disease. After three days you are called to assess him as he has complained to the nurses of shortness of breath. On arrival in his room he looks unwell. He is struggling to complete sentences because of breathlessness. His venous pressure is elevated and his pulse is 120. His chest is clear with a normal percussion note. Which is the most likely diagnosis?

1- Left ventricular failure

2- Panic attack

**3- Pericardial effusion**

4- Pleural effusion

5- Pneumothorax

Q4462. A 35-year-old woman has been admitted to the local hospice for control of pain. She has been diagnosed with advanced cervical cancer and has continued chemotherapy. During her prolonged admission to the hospice she is transferred to the local oncology centre for cisplatin chemotherapy. The following day she is profoundly nauseated. The staff nurse looking after this lady asks you to prescribe an antiemetic. What is the most appropriate antiemetic for this indication?

1- Cyclizine

2- Domperidone

3- Haloperidol

4- Metoclopramide

**5- Ondansetron**

Q4463. A 45-year-old with a history of renal cell carcinoma presents to his local Emergency department with a brief history of lethargy. He recently underwent a cycle of chemotherapy. You take a full history and examine the patient. Following this you arrange a set of blood tests. Half an hour later you are phoned by the biochemistry laboratory and informed your patient's creatinine is 232. You check his previous results and note his creatinine for four weeks ago was 87. He is on several medications for pain and nausea. Which of these medications should be avoided in this situation?

1- Cyclizine

2- Fentanyl

3- Haloperidol

**4- Morphine**

5- Paracetamol

Q4464. A 63-year-old patient with prostate cancer presents with constipation. He was diagnosed with prostate cancer after a biopsy four months ago. Following various investigations he was diagnosed with local and distant metastases. Despite this he has remained relatively well and is able to live independently. He has not opened his bowels for three days and has been feeling generally tired. What is the most appropriate next step?

**1- Blood tests, including bone profile**

2- IV fluids

3- Laxatives orally

4- Refer to surgeons

5- Stop opioid

Q4465. A 48-year-old man is diagnosed with renal cell carcinoma. He presents to his local palliative medicine service with constipation. His drug list includes morphine sulphate modified release, 40 mg twice a day. He is assessed for the cause of his constipation and given advice on fluid intake and diet. Alongside these measures he is started on a laxative. What would be the most appropriate initial laxative?

1- Docusate

2- Fybogel

3- Lactulose

4- Movicol

**5- Senna**

Q4466. A 78-year-old woman has been diagnosed with multiple myeloma. She has been suffering severe bone pain and has been having problems with constipation. She was started on increasing doses of slow release morphine. Which of the following explains the mechanism of morphine-induced constipation?

1- Anorexia

2- Dehydration

**3- Enhanced intestinal ring contractions**

4- Nausea

5- Reduced bowel secretions

Q4467. A 53-year-old woman with lung cancer and secondary spine metastasis presents with severe leg pain. She has been treated according to the WHO analgesic ladder and is currently taking morphine modified release. However despite increasing doses, her pain is not well controlled. She has also tried amitriptyline which has not helped. You ask the local palliative medicine consultant for advice and she suggests starting gabapentin. Choose the response which most appropriately describes the recognised primary pathway on which gabapentin is thought to work for its role in the management of neuropathic pain.

1- Activation of GABA inhibitory system

2- Enhanced descending inhibition

**3- Inhibition of glutamate excitatory system**

4- None of the above

5- Sodium channel blockade

Q4468. A 67-year-old man with a history of metastatic lung cancer complains of lateral chest wall pain. You review his notes and radiological investigations and note he has been diagnosed with lung cancer with metastatic deposits in his ribs. You take a full history and examine the patient; he complains of pain which radiates from his right lateral chest wall around to his sternum. You think this patient's pain is a result of nerve damage and wish to start analgesia. Which of the following is the most appropriate choice to try first in this situation?

1- Amitriptyline

2- Carbamazepine

3- Gabapentin

**4- Ibuprofen and tramadol**

5- Morphine

Q4469. Which of the following drugs should not be prescribed for a breast-feeding mother?

1- Digoxin

2- Erythromycin

**3- Tetracycline**

4- Theophylline

5- Warfarin

Q4470. A 35-year-old gentleman with well controlled rheumatoid arthritis has, with his wife, been trying to conceive for 18 months. He and his wife visit you in fertility clinic. What is the likely cause of their problem?

1- Chloroquine

2- Chronic illness reducing fertility

**3- Leflunomide**

4- Methotrexate

5- Reduced fertility due to female pelvic inflammatory disease

Q4471. A 22-year-old woman has come to the clinic complaining that she has had no periods for the past four months. She was always a normal weight, but has found it difficult to maintain her size since starting intensive training to run a marathon. She takes no regular medication. On examination her BMI is 18 kg/m2 . Physical examination, including assessment of secondary sexual characteristics is unremarkable. Investigations show Haemoglobin 11.4 g/dl(11.5-16.5) White cell count 6.9 x 109 /L (4-11) Platelets 203 x 109 /L (150-400) Sodium 140 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 102 μmol/l (79-118) Albumin 40 g/l (35-50) Alanine amino transferase 10 U/l (5-40) Follicle stimulating hormone 15 IU/l (<20) Thyroid stimulating hormone 2.5 mU/l (0.

5- 5.0) Which of the following is the most likely diagnosis?

1- Autoimmune ovarian failure

2- Pregnancy

3- Prolactinoma

**4- Secondary amenorrhoea due to weight loss**

5- Thyrotoxicosis

Q4472. A 17-year-old primigravida complains of constipation and arthralgia at 28 weeks' gestation. A number of biochemical investigations are performed, but which of these are clinically significant?

1- Detectable urinary human chorionic gonadotrophin

2- Free thyroxine 8.9 pmol/l (9-22)

3- Prolactin of 1000 mU/l (<450)

4- Serum alkaline phosphatase of 350 iu/l (50- 110)

**5- Serum corrected calcium 2.89 mmol/l (2.2- 2.6)**

Q4473. A 51-year-old lady enquires about taking hormone replacement therapy (HR T) . Which of the following is the most compelling indication for taking HRT?

**1- Control of flushing**

2- Prevent Alzheimer's disease

3- Prevent ischaemic heart disease

4- Prevent osteoporosis

5- Reverse vaginal atrophy

Q4474. A 28-year-old female returns from a trip to Bangladesh with a fever, diarrhoea and rash. She is diagnosed with typhoid fever. However, she has a 1-month-old infant and wishes to continue to breast feed. Which of the following antibiotics is the most appropriate therapy for her?

**1- Ceftriaxone**

2- Chloramphenicol

3- Ciprofloxacin

4- Cotrimoxazole

5- Gentamicin

Q4475. A fit and healthy couple present with a three year history of first trimester recurrent miscarriages. Which of the following tests would be the most appropriate for this couple?

**1- Maternal and paternal karyotyping**

2- Maternal oral glucose tolerance test

3- Maternal prolactin concentration

4- TORCH screen

5- Vaginal swabs for bacterial vaginosis

Q4476. A 25-year-old female is diagnosed with polycystic ovarian syndrome and commenced on metformin. Which of the following are recognised effects of the use of metformin in the treatment of polycystic ovarian syndrome?

1- Improves action of vasopressin

**2- Improves chances of conception**

3- Increases exercise capacity

4- Reduces testosterone concentration

5- Reduces weight

Q4477. Which of the following should receive treatment with varicella immunoglobulin?

**1- A non-immune pregnant woman who is exposed to her mother who has shingles**

2- A pregnant woman non-immune to varicella zoster (VZ V) exposed to a child with chicken pox 12 days previously.

3- A pregnant woman previously treated with varicella zoster immunoglobulin 10 days ago who has been re-exposed to a case of chicken pox.

4- A pregnant woman who has no history of chicken pox but develops shingles in pregnancy

5- A pregnant woman with asthma taking steroids, who has had chicken pox as a child but is now exposed to her daughter who has chicken pox.

Q4478. A 31-year-old woman in her third pregnancy is receiving low molecular weight heparin (LMW H) at treatment doses due to a pulmonary embolism three months prior to conception. She is currently at 31 weeks gestation. All fetal scans have been normal, and her blood pressure is 126/80 mmHg in the left lateral position. Which of the following statements is correct?

1- Breastfeeding is not advised

**2- Clexane treatment needs no monitoring in pregnancy**

3- It is safe for her to receive NSAIDs perinatally

4- Prothrombin time is an indicator of antifactor Xa activity

5- The dose of Clexane should be increased in the third trimester

Q4479. A 34-year-old woman comes to the Emergency department GP complaining of intermenstrual bleeding, particularly after sexual intercourse, pain on intercourse and intermittent severe right iliac fossa pain. In the last month she was admitted to the Emergency department with suspected appendicitis but later discharged. On examination she is pyrexial 37.9 C and there is bilateral lower abdominal tenderness. Speculum examination reveals cervicitis and mucopurulent cervical discharge. Which of the following represents the most appropriate antibiotic regime?

1- Cephalexin 500 mg BD and metronidazole 400 mg PO BD for 14 days

**2- Ceftriaxone 250 mg IM then doxycycline 100 mg BD and metronidazole 400 mg BD for 14 days**

3- Metronidazole 400 mg PO BD for 7 days

4- Metronidazole 400 mg PO BD for 14 days and ciprofloxacin 500 mg BD for 14 days

5- Ofloxacin 400 mg BD for 7 days

Q4480. A 32-year-old woman presents to the clinic in a very distressed state. She is 35 weeks pregnant with her first child. Apparently she has developed a crop of herpetic ulcers over her vulva and on further questioning her husband admitted to unprotected sex with a prostitute during a business trip. The ulcers are confirmed as containing herpes simplex virus and serology suggests that this is a primary infection. Which of the following represents the correct management with respect to the delivery of her child?

1- Aciclovir cover is not recommended in any circumstances for the mother during delivery

2- Aciclovir is not recommended in any circumstances for the infant during the post partum period

3- She can be left to make up her mind about the mode of delivery

**4- She should have a caesarean section**

5- She should have a vaginal delivery

Q4481. A 32-year-old woman comes to her 20 week visit in her first pregnancy. You are asked to review her as she is hypertensive, with a BP of 162/102 mmHg. Her BP at booking was also elevated at 141/91 mmHg. She has no significant past medical history of note apart from having consulted the practice nurse at the surgery for weight loss counselling over the past few years. On examination she looks well, physical examination being consistent with a 20 week pregnancy. Investigations show Haemoglobin 11.0 g/dl(11.5-16) White cell count 5.1 x 109 /L (4-10) Platelets 189 x 109 /L (150-400) Sodium 140 mmol/l (134-143) Potassium 4.2 mmol/l (3.5-5) Creatinine 89 μmol/l (60-120) Glucose 5.0 mmol/l (<6.0) Urine Blood and protein negative Which of the following is the most appropriate anti-hypertensive medication for her?

1- Atenolol

2- Hydrochlorothiazide

**3- Methyldopa**

4- Ramipril

5- Valsartan

Q4482. A 50-year-old female presents with concerns related to reduced libido. This has been causing problems with her husband as she does not feel like sex at all and she feels rather down. In her past history she has had ovarian failure associated with a hysterectomy three years ago and is being treated with oestradiol 2 mg daily. Which of the following would be the most appropriate treatment for this patient?

1- Add fluoxetine

2- Add norethisterone

**3- Add testosterone patch**

4- Increase dose of oestrogen

5- Use vaginal oestrogen gel

Q4483. A 26-year-old woman who is 12 weeks pregnant, presents with a concern after being exposed to her mother who has been diagnosed with facial shingles one day ago. She was unaware of what the rash was and had examined the rash closely two days ago before her mother was diagnosed. She informs you that she is unaware of ever having chicken pox. Which of the following is the most appropriate action that should be taken for this patient?

1- She should be reassured that she will not contract Varicella zoster from her mother.

**2- She should be tested immediately for IgG antibodies to Varicella zoster**

3- She should be treated with Varicella zoster immunoglobulin

4- She should immediately receive Varicella zoster vaccine

5- She should receive treatment immediately with aciclovir

Q4484. An 18-year-old Asian girl was found to be pregnant after missing her last menstrual period despite her appropriate use of the oral contraceptive pill for the last two years. She was found also to have been taking additional medication prescribed by a specialist two months ago. Which of the following accounts for the pill failure?

1- Cimetidine

2- Erythromycin

3- Isoniazid

4- Ketoconazole

**5- Rifampicin**

Q4485. Which of the following is the most appropriate anticonvulsant for the treatment of an eclamptic fit?

1- Diazepam

2- Lorazepam

**3- Magnesium sulphate.**

4- Phenytoin

5- Thiopentone

Q4486. A 29-year-old woman is receiving subcutaneous Clexane (low-molecular weight heparin [LMWH]) for the treatment of pulmonary embolism. She is 30 weeks pregnant and develops bruising on her lower arms. The blood pressure in the left lateral position is 125/75 mmHg. What is the most appropriate test for this patient?

1- Anti factor Xa levels

2- APTT

**3- Platelet count**

4- Serum albumin

5- Serum potassium

Q4487. A 29-year-old female who is 22 weeks pregnant is noted to have a blood pressure of 150/90 mmHg on three separate occasions. Urine protein is negative. Which of the following would be the first line treatment?

**1- Alpha methyldopa**

2- Atenolol

3- Magnesium sulphate

4- Nifedipine

5- Salbutamol

Q4488. A 67-year-old man presents after having a urine tract infection treated and has read in a magazine that maybe it would be worth checking a PSA. When should his PSA be checked?

1- Check in three days' time

2- Check in one week

**3- Check in two weeks**

4- Check on this occasion

5- No need to check PSA

Q4489. A 56-year-old man who has presented with chest pain, has a PSA of 45 ng/ml (normal less than 4). Which of the following statements is correct with respect to this patient's management?

1- An elevated PSA is a definitive test for prostate cancer

2- High selenium intake is related to prostate cancer

3- Prostate cancer is more aggressive with increasing age

4- Prostate cancer is typically squamous call carcinoma

**5- The most commonly used pathological grading system is the Gleason score**

Q4490. Which one of the following cutaneous lesions is associated with HIV infection?

1- Leucoplakia

2- Lichen planus

3- Lichen sclerosus

4- Plasma cell balanitis

**5- Psoriasis**

Q4491. Which one of the following is an AIDS defining illness?

1- Anal canal warts

2- Extra genital molluscum contagiosum

3- Multidermatomal shingles

**4- Oesophageal candidiasis**

5- Oral candidiasis

Q4492. A 28-year-old man with HIV presents with a five day history of feeling unwell. He is a heavy smoker. A chest radiograph showed right upper lobe consolidation. His CD4 count was 468 cells/mm3 . HIV RNA level was 90,678 copies/ml. He is not on any antiretroviral treatment. What is the most likely diagnosis?

1- Bronchial carcinoma

2- Invasive pulmonary aspergillosis

3- Pulmonary tuberculosis

4- Pneumocystis jiroveci pneumonia (PC P) 5- Streptococcal pneumonia

Q4493. Which one of the following is an oncogenic virus?

1- Hepatitis A

2- Human papilloma virus 6 (HPV 6)

3- Human papilloma virus 11 (HPV 11)

**4- Human papilloma virus 16 (HPV 16)**

5- Varicella zoster virus (VZV)

Q4494. A 34-year-old homosexual Caucasian man developed jaundice two months after taking a combination of antiretroviral drugs. He admitted that he had had several episodes of unprotected sex with several casual male partners. His liver function showed raised bilirubin with normal transaminases and alkaline phosphatase. What is the most likely cause of his jaundice?

1- Acute hepatitis B

2- Alcoholic hepatitis

**3- Atazanavir**

4- Efavirenz

5- Nevirapine

Q4495. Which of the following is a sign of immunodeficiency in the mouth?

1- Gingivitis

2- Herpes labialis

3- Leucoplakia

**4- Oral hairy leucoplakia**

5- Oral wart

Q4496. A 32-year-old African woman with HIV presents with a two week history of greenish, frothy, itchy vaginal discharge. What is the most likely cause of her discharge?

1- Candida albicans infection

2- Chlamydia infection

3- Foreign body

4- Gonorrhoea infection

**5- Trichomonas vaginalis infection**

Q4497. A 39-year-old Caucasian man with symptomatic HIV disease developed multiple painless umbilicated papular lesions on his face. What is the most likely cause of his skin lesions?

1- Cytomegalovirus (CMV)

2- Epstein Barr virus (EBV)

3- Human herpes virus (HHV) 8

4- Human papilloma virus (HPV 16)

**5- Pox virus**

Q4498. A 46-year-old homosexual HIV positive man presents with a two week history of weakness of his right arm and leg. Examination reveals right hemiparesis and left cerebellar signs. CT scan shows white matter lesions in the left cerebellar region and left temporoparietal area. There is no midline shift or surrounding oedema. Which one of the following is most likely to be found in his cerebrospinal fluid (CS F) ?

1- Positive cytomegalovirus (CMV) PCR

2- Positive Epstein-Barr virus (EBV) PCR

3- Positive herpes simplex virus (HSV) PCR

4- Positive human herpes virus (HHV) 8 PCR

**5- Positive JC PCR**

Q4499. A 54-year-old woman is referred to the chest clinic by the GP with a history of a nonproductive cough. She is severely troubled by her symptoms often waking at night. She is a smoker with a 25-pack year history. According to the current British Thoracic Society guidelines, at least how long must symptoms be present to be defined as a chronic cough and investigated as such?

1- 3 weeks

2- 4 weeks

**3- 8 weeks**

4- 3 months

5- 4 months

Q4500. A 45-year-old lady with a history of depression presented to the Emergency department drowsy. Her repeat prescription says she is taking diazepam and dosulepin, and the ambulance crew say that she has taken an overdose of her medication. Her BP is 140/80 mmHg, pulse 130 bpm, respiratory rate 7 per minute and O2 sats 98% on air. Which of the following is the most appropriate next action?

1- Give flumazenil

2- Give naloxone

**3- Obtain an ECG**

4- Refer for urgent haemodialysis

5- Start N-acetylcysteine infusion

# Chapter 29 2012 Misc

Q4501. A cohort study of 7,500 patients aimed to find out whether the use of olive oil in cooking has an impact on cardiovascular disease. Approximately half the patients used olive oil in cooking and half used animal fat. Which of these is a disadvantage of a cohort study?

1- It is not possible to measure the incidence/risk of a disease

2- They are not suitable when exposure to risk factors is rare

3- They are susceptible to recall bias; there is a differential ability of patients to remember exposure to a risk factor

4- They can only provide information about one outcome

**5- When the outcome of interest is rare a very large sample size is needed.**

Q4502. A 32-year-old man is referred to the dyslipidaemia clinic for markedly elevated plasma triglycerides. As measured by his GP they were elevated at 6.5 mmol/l. On clinical examination which of the following signs is most consistent with isolated hypertriglyceridaemia?

1- Corneal arcus

2- Kayser-Fleischer rings

**3- Lipaemia retinalis**

4- Xanthelasma

5- Xanthochromia

Q4503. Regarding the epidemiology of infections, which of the following statements is true?

1- Diphtheria has been eradicated in most parts of the world.

**2- Polio has been eradicated in most parts of the world.**

3- Resistant vivax malaria is a major problem in Kenya.

4- Tetanus has been eradicated in most parts of the world.

5- The AIDS epidemic seems to be declining worldwide.

Q4504. An 85-year-old patient presents with recurrent falls and a fracture of the distal ulna. Which of the following statements is correct?

1- Bone fractures attributable to vitamin D deficiency are due to bone density

2- Low vitamin D levels are not associated with muscle weakness

3- The toxic levels of vitamin D occur at approximately twice the therapeutic dose

4- Vitamin D deficiency in the elderly is rare

**5- Vitamin D replacement reduces the incidence of fractures in the elderly**

Q4505. A 22-year-old female presents with a month history of episodic, brief visual loss affecting the right eye. Over the last one year she had gained a considerable amount of weight. Examination reveals a BMI of 35, with bilateral optic disc swelling, worse on the right and small retinal haemorrhages on the right. What is the most likely diagnosis?

**1- Benign intracranial hypertension (BI H) 2- Craniopharyngioma**

3- Graves' ophthalmopathy

4- Optic neuritis

5- Sagittal sinus thrombosis

Q4506. Following a road traffic accident, a patient is brought by ambulance to the Emergency department. The primary survey reveals an open fracture of the right femur, which is bleeding profusely. In terms of his cardiovascular physiology, what is the likely response to this blood loss?

1- Cardiac output is increased because of increased stroke volume and decreased heart rate

2- Heart rate is increased because of increased vagal stimulation of the sinoatrial node

**3- Stroke volume is decreased because of hypovolaemia**

4- Total peripheral resistance is increased due to a decreased sympathetic output

5- Venous return is increased because of decreased sympathetic output to the venous system

Q4507. A 62-year-old woman presents with a one year history of worsening bilateral, anterior knee pain. The pain is increased by climbing stairs. Both knees are stiff for five to 10 minutes in morning. There is no history of knee swelling. The pain is partially controlled by paracetamol 1 g up to four times a day. She has a history of diabetes, and angina. On examination, she is overweight. There is crepitus and during active and passive movement of both knees. There is no knee effusion. A recent knee x ray shows joint space narrowing in the medial tibio-femoral joint. What is the next step in her management?

1- Acupuncture

2- Oral NSAIDs

3- Rest

**4- Topical NSAIDs**

5- Transcutaneous electrical nerve stimulation (TEN S)

Q4508. A 52-year-old man returns for repeat endoscopy. He was last scoped some six months earlier after persistent indigestion, upon which both duodenal ulceration and Helicobacter was found. He underwent eradication therapy, but has been suffering worse indigestion, particularly over the past four to six weeks. On examination his BP is 132/72 mmHg, his pulse is 70 and regular. He has mild epigastric tenderness. Investigations show Haemoglobin 10.9 g/dl(13.5-17.7) White cell count 7.2 x 109 /L (4-11) Platelets 240 x 109 /L (150-400) Serum Sodium 143 mmol/l (135-146) Serum Potassium 4.0 mmol/l (3.5-5) Creatinine 110 μmol/l (79-118) Serum gastrin 850 pg/ml(<200) Repeat endoscopy: extensive duodenal ulceration. Which of the following is the most appropriate next step in his management?

1- Calcium stimulation test

2- CT abdomen

3- Omeprazole 40 mg

4- Partial gastrectomy

**5- Secretin stimulation test**

Q4509. A 52-year-old Afro-Caribbean gentleman is diagnosed with hypertension after having three blood pressure measurements greater than 160/100 mmHg. On examination his BMI is 24, and he looks well. There is no significant past medical history of note. According to the NICE guidelines, which of the following is the most appropriate to prescribe first line for this patient?

**1- Amlodipine**

2- Atenolol

3- Diltiazem

4- Ramipril

5- Valsartan

Q4510. Which of the following statements is the principal argument made by proponents of making commerce in human organs for legal use?

1- A person's heirs have the right to earn money by selling the deceased's organs.

2- Commercialisation is not ethically preferable to the gift model of organ donation.

3- It is an ethical trade in a capitalistic society

**4- Shortages or surpluses would be eliminated.**

5- There is already an active "black market" in transplantable organs.

Q4511. A 45-year-old gentleman has noticed reduced libido for the past two months, since losing his job. He is having trouble sleeping, often waking early, and has lost weight due to a reduced appetite. His wife reports that he has been more argumentative than normal, especially in the morning when she is leaving for work. What psychiatric diagnosis does he have?

**1- Adjustment disorder**

2- Bipolar disorder

3- Depression

4- Depressive anxiety neurosis

5- Generalised anxiety disorder

Q4512. A 45-year-old male presents with a longstanding history of hypertension. Investigations show a urea of 10.2 mmol/L (2.5-7.5) and a creatinine of 150 µmol/L (6

0- 110). Which one of the following would suggest a diagnosis of acute glomerulonephritis?

1- 24 hour urinary protein excretion of 0.8g

2- Dyslipidaemia

**3- RBC casts in urinary sediment**

4- Shrunken glomeruli on renal biopsy

5- Unilaterally smaller kidney

Q4513. A 32-year-old female presents with headaches. She has a severe frontal and occipital headache which is present as soon as she wakes in the mornings. She had given birth to a baby boy one month previously and has not been feeling well since. Examination revealed bilateral blurring of the optic discs with a pupil sparing third nerve palsy on the right. What is the most likely diagnosis?

1- Brainstem CVA

2- Herpes simplex encephalitis

3- Meningococcal meningitis

**4- Sagittal sinus thrombosis**

5- Sphenoidal wing meningioma

Q4514. A 52-year-old man with a diagnosis as a child of coeliac disease had been asymptomatic despite poor dietary compliance. He presents with a one month history of intermittent, colicky, central abdominal pain and 3 kilogram weight loss and positive faecal occult bloods. What is the most appropriate investigation?

1- Anti-endomysial antibody.

**2- Colonoscopy.**

3- CT scan of abdomen.

4- Distal duodenal biopsy.

5- Small bowel enema.

Q4515. Depression is seen after damage to which part of the brain?

1- Amygdala

**2- Left frontal**

3- Left temporal

4- Right frontal

5- Right temporal

Q4516. Functional psychiatric illness rather than an organic brain disorder is suggested by which of the following?

**1- A family history of major psychiatric illness**

2- Clouding of consciousness

3- Impaired short term memory

4- No previous history of psychiatric illness

5- Onset for the first time at the age of 55 years

Q4517. A 26-year-old woman presents with three episodes of collapse over the last nine months. She says that she feels hungry to the pit of her stomach before these episodes occur, sweaty and tremulous. On examination her BMI is 31, her BP is 142/82 mmHg, pulse is 64. She is obese but there are no other abnormal findings. Which of the following findings would most point towards an insulinoma?

1- Co-existent hypertension

2- Co-existent thyroid mass

3- Low levels of glucagon

**4- Weight gain of 5 kg over the past six months**

5- Weight loss of 5 kg over the past six months

Q4518. A 35-year-old woman presents with shortness of breath, palpitations and anxiety. The episodes have been occurring over three years, but are worse recently. The episodes occur at stressful periods and are also related to difficult tasks at work. There is no history of drug or alcohol abuse. What is the most appropriate pharmacological management for this patient?

1- Alprazolam

2- Chlorpromazine

3- Clomipramine

**4- Paroxetine**

5- Promethazine

Q4519. A 45-year-old man has a history of progressive weakness for five weeks. He had particular difficulty getting out of the bath. On examination there was severe truncal and proximal limb weakness, without wasting or fasciculation. Tendon reflexes, plantar responses and sensation were all normal. The vital capacity was 1.8L. What is the most likely diagnosis?

1- Cervical myelitis

2- Guillain-Barre syndrome

3- Polio

**4- Polymyositis**

5- Syringobulbia

Q4520. A 70-year-old woman is diagnosed with anaplastic thyroid cancer. What is the most likely consequence of this cancer?

1- Brain metastases

2- Hypercalcaemia from bony metastases

3- Liver metastases

4- Lung metastases

**5- Upper airways obstruction**

Q4521. An 80-year-old male presents with a brief history of weakness and giddiness following an episode of diarrhoea. He has been taking bendroflumethiazide for the last three years. On examination his pulse is 100 beats per minute with a blood pressure of 130/80 mmHg (lyin g) and 100/70 mmHg (standin g) . Investigations reveal: Sodium 120 mmol/L(137-144) Potassium 5.5 mmol/L(3.5-4.9) Urea 13 mmol/L(2.5-7.5) Creatinine 130 µmol/L(60-110) Random plasma glucose 13 mmol/L(<11.1) What is the most likely cause of the hyponatraemia?

1- Bendroflumethiazide

2- Diarrhoea

3- Hyperglycaemia

4- Inappropriate secretion of antidiuretic hormone

**5- Renal tubular acidosis**

Q4522. A 45-year-old man has noted pain in his right knee for several years. There is no joint swelling. As he moves about during the day, the pain decreases. The underlying disease process is probably which of the following?

**1- Osteoarthritis**

2- Osteochondroma

3- Osteomalacia

4- Osteopetrosis

5- Osteoporosis

Q4523. An 18-year-old male is diagnosed with Becker's muscular dystrophy. Which of the following statements concerning the genetics of the condition is correct?

1- His brothers will all be affected

**2- His daughters’ sons will have a 50% chance of having the disease**

3- His daughters will have a 50% chance of being carriers

4- His sons’ children will have a 50% chance of having the disease

5- His sons will be carriers of the condition

Q4524. A 50-year-old man is admitted to hospital with a third attack of renal stones in the last six months. He suffers from Crohn's disease and has previously had a limited small bowel resection, but his disease is now quiescent. On examination his BP is 115/72 mmHg, his BMI is 19.5 kg/m2 , and he has a midline scar consistent with a previous laparotomy. Investigations: Haemoglobin 12.0 g/dl (13.5-17.7) White cell count 5.9 x 109 /L (4-11) Platelets 172 x 109 /L (150-400) Serum sodium 139 mmol/l (135-146) Serum potassium 3.9 mmol/l (3.5-5) Creatinine 133 μmol/l (79-118) 24 hour urinary oxalate excretion Increased Which of the following is likely to be the most effective and appropriate intervention?

**1- Increase fluid intake**

2- Reduce dietary calcium intake

3- Reduce intake of offal

4- Start bendroflumethiazide

5- Start furosemide

Q4525. You are currently working in the local hospice on a palliative medicine rotation. A patient is admitted from the GP with a one week history of fatigue, lethargy, itch and constipation. On arrival he appears drowsy and weak. On further questioning of his wife you note he has been confused at times and has no appetite. On examination he looks dehydrated with a pulse of 60. Pupils look normal sized. Respiratory rate is 16 and the rest of the examination is unremarkable. You review his letters from the oncologist and discover the underlying diagnosis is metastatic renal cell cancer. He has also been complaining of hip pain for the last eight weeks. What is the most likely cause of this patient's deterioration?

**1- Hypercalcaemia**

2- Hyperglycaemia

3- Hypokalaemia

4- Morphine toxicity

5- Urinary tract infection

# Chapter 30 2012 Emergency Medicine

Q4526. Which of the following reactions is involved in the metabolism of paracetamol under normal conditions?

1- Acetylation

**2- Conjugation to glucuronic acid**

3- Conjugation to glutathione

4- Cytochrome p450 dependent oxidation

5- Hydrolysis

Q4527. A 30-year-old male metal worker was referred to the plastic surgery department with a three day history of a painful right index finger. On examination he has a red, swollen index finger with a small puncture wound on the tip of his index finger. All movements in his finger were normal. An x ray of his finger is shown. What is the diagnosis?

**1- Foreign body**

2- Mallet finger

3- Osteomyelitis of the distal phalanx

4- Paronychia

5- Undisplaced fracture of the distal phalanx

Q4528. A 40-year-old gentleman attends the emergency department with a stroke affecting his left arm and leg. A CT scan confirms that there is a right CVA. Carotid scanning shows occlusion of the right carotid and 50% stenosis on the left. What is the best course of action?

1- Bilateral carotid endarterectomy

2- Discharge and GP follow up

**3- Discharge and outpatient follow up**

4- Urgent carotid endarterectomy on the left

5- Urgent carotid endarterectomy on the right

Q4529. A 40-year-old man is admitted to the Emergency department after being involved in a house fire. He is extremely drowsy but you notice on examining him that he seems well perfused, with his cheeks looking almost pink. His BP is 100/60 mmHg and his pulse is 95 and regular. Blood gas analysis reveals a CO level of 12% and a metabolic acidosis with a pH of 7.15. Which of the following is the most appropriate next intervention?

1- Hyperbaric oxygen

2- IV mannitol

3- IV sodium bicarbonate

**4- 100% oxygen by mask**

5- Nebulised salbutamol

Q4530. A 22-year-old male is admitted wheezing with a respiratory rate of 35/min, a pulse of 120 beats per min, blood pressure 110/70 mmHg, peak expiratory flow rate <50% predicted. The emergency medical services have administered salbutamol 5 mg (twic e) , ipratroprium 0.5 mg and face mask oxygen. His arterial blood gas reveals: pH 7.42 (7.36-7.44) paCO2 5.0 kPa (4.7-6.0) paO2 22 kPa (11.3-12.6) Base excess -2 mmol/l (+/-2) SpO2 98 Which of the following is the most appropriate action for this man?

1- Chest x ray

2- Intensive care referral

3- Ipratropium

**4- Magnesium 1-2 g**

5- Oxygen 35 %

Q4531. A 38-year-old man experiences sudden deterioration after being admitted to the intensive care unit because of severe pneumococcal pneumonia and septic shock. Arterial blood gas analysis reveals: pH 7.2(7.36-7.44) paO2 12 kPa(10-13.3) paCO2 4.7 kPa(4.7-6) HCO

3- 16 mmol/l (20-28) Which one of the following changes will be found in this patient at this time?

1- Hyperventilation leading to the increase in CO2 concentration

2- Increase production of HCO3-

3- Increased renal excretion of HCO3-

**4- Raised hydrogen ions level in the blood**

5- Respiratory acidosis

Q4532. An anxious 22-year-old female with a high respiration rate has the following arterial blood gas results: pH 7.27 (7.36-7.44) pCO2 2.6KPa (4.7-6.0) Base deficit -12 mmol/l What is the interpretation of the acid-base status?

1- Combined metabolic and respiratory acidosis

2- Combined metabolic and respiratory alkalosis

**3- Metabolic acidosis with some compensatory respiratory alkalosis**

4- Respiratory acidosis with some compensatory metabolic alkalosis

5- Respiratory alkalosis with some compensatory metabolic acidosis

Q4533. A 24-year-old man presented twelve hours after an overdose of dihydrocodeine 1.2 g and paracetamol 30 g. He had pinpoint pupils, a Glasgow coma scale (GC S) score of 14 and a blood pressure of 100/60 mmHg. Which one of the following is the most appropriate management?

1- 500 ml of 10% glucose intravenously over four hours.

2- Intravenous flumazenil.

**3- Intravenous N-acetylcysteine.**

4- Intravenous naloxone.

5- Oral activated charcoal.

Q4534. A 76-year-old man with a recent history of cerebral haemorrhage is admitted with a cough, worsening breathlessness and right pleuritic chest pain. He is also mildly pyrexial. His ventilation-perfusion scan reveals several areas of ventilation/perfusion mismatches in the right lower zone. What is the most appropriate line of management?

1- Aspirin therapy

2- Antibiotics

**3- Inferior vena cava (IV C) filter**

4- Low molecular weight heparin treatment

5- Warfarin treatment

Q4535. Which of the following would be expected to reduce maternal mortality when given in eclampsia?

1- Insulin and dextrose infusion

2- Low dose dopamine infusion

**3- Magnesium infusion**

4- Phenytoin infusion

5- Salbutamol infusion

Q4536. A 44-year-old immigrant from Romania presents to the emergency department with a headache, neck stiffness and gradually worsening confusion over the past few days. You understand from his relative that he also has a chronic cough and has lost a significant amount of weight recently. On examination he is pyrexial 37.8°C, his BP is 134/72 mmHg, pulse is 85 and regular. He has marked neck stiffness and photophobia. Investigations show: Haemoglobin 12.0 g/dl (13.5-17.7) White cell count 11.5 x 109 /L (4-11) Platelets 238 x 109 /L (150-400) ESR 80 mm/hr(<10) Sodium 133 mmol/l (135-146) Potassium 4.2 mmol/l (3.5-5) Creatinine 94 µmol/l (79-118) CXR fibrosis suspicious of tuberculosis Lumbar puncture lymphocytic pleocytosis PCR positive for tuberculosis Which of the following is the correct duration of four drug therapy?

1- 1 month

**2- 2 months**

3- 6 months

4- 10 months

5- 18 months

Q4537. Which of the following is correct in malignant hyperpyrexia?

1- A mortality rate of 20% may be expected

2- Elevation of serum creatine kinase and myoglobinuria is diagnostic

**3- Muscle biopsy may be histologically normal**

4- The only available specific treatment is sodium dantrolene, which has a neutral pH

5- The predisposing gene is thought to be on chromosome 9

Q4538. A 38-year-old policeman presents to the Emergency department with a painful left ring finger after attempting to arrest a criminal. On examination his finger is flexed at the distal interphalangeal joint (DIP J) and he is unable to straighten it actively. Passively the DIPJ can be moved freely. Examination of the rest of the hand is normal. An x ray of his finger is shown. What is the diagnosis?

1- Central slip rupture

2- DIPJ dislocation

3- Flexor digitorum superficialis rupture

**4- Mallet finger**

5- Volar plate injury

Q4539. A 75-year-old lady attends the Emergency department with amaurosis fugax on the left. Carotid scanning shows stenosis of 80% on the right and 90% on the left. What is the best course of action?

1- Bilateral carotid endarterectomy

2- Discharge and GP follow up

3- Discharge and outpatient follow up

**4- Urgent carotid endarterectomy on the left**

5- Urgent carotid endarterectomy on the right

Q4540. A 75-year-old lady attends the Emergency department with a stroke affecting her left arm and leg. A CT scan confirms that there is a right CVA. Carotid scanning shows stenosis of 80% on the right and 90% on the left. What is the best course of action?

1- Bilateral carotid endarterectomy

2- Discharge and GP follow up

3- Discharge and outpatient follow up

4- Urgent carotid endarterectomy on the left

**5- Urgent carotid endarterectomy on the right**

Q4541. A 25-year-old male presents after being bitten on the hand by a terrier. The wound appears deep and is associated with swelling. After the wound is cleaned and he has received tetanus immunisation, which of the following antibiotic regimes would be most appropriate for this patient?

**1- Co-amoxiclav oral**

2- Doxycycline oral

3- Flucloxacillin oral

4- Penicillin G IM

5- Trimethoprim oral

Q4542. A patient has just received intravenous ceftazidime. He immediately becomes flushed and wheezy, with a blood pressure of 80/40 mmHg. Which of the following is the most appropriate immediate management for this patient?

1- Chlorphenamine 10 mg IV

2- Epinephrine 0.2 ml of 1:1000 IV

3- Epinephrine 0.5 mg IV

**4- Epinephrine 0.5 mg i.m.**

5- Hydrocortisone 100 mg IV

Q4543. A 17-year-old girl presents following an overdose of paracetamol, her parents having found her with empty packets of paracetamol. She states that she has taken 100 tablets, three hours earlier. Which is the most appropriate step in this patient's management?

1- Administer oral activated charcoal 50 g

2- Give N-acetylcysteine (NA C) intravenously

**3- Measure plasma paracetamol concentration in one hour**

4- Take no action

5- Transfer to young person's psychiatric unit immediately

Q4544. A 60-year-old male is brought to casualty in the early hours of the morning after being found unconscious in the street. On examination, he was drowsy but localised to painful stimuli. There was no evidence of head injury or meningism. Investigations revealed: Sodium 134 mmol/l (137-144) Potassium 4.0 mmol/l (3.5-4.9) Urea 4.0 mmol/l (2.5-7.5) Creatinine 80 µmol/l (60-110) Glucose 4.5 mmol/l (3.0-6.0) Chloride 100 mmol/l (95-107) Bicarbonate 25 mmol/l (20-28) Plasma osmolality 385 mosmol/kg(278-305) What is the most likely explanation for his presentation?

1- Diazepam poisoning

**2- Ethanol poisoning**

3- Methanol poisoning

4- Phenobarbitone poisoning

5- Phenytoin poisoning

Q4545. Which one of the following is a recognised treatment option in poisoning?

1- Ethanol for isopropyl alcohol poisoning

2- Glucagon for cocaine poisoning

3- Methylene blue for cyanide poisoning

4- N-acetylcysteine in paraquat poisoning

**5- Pralidoxime in sarin (nerve ga s) poisoning**

Q4546. A 30-year-old man presents to the Emergency department with a history of drug overdose. He is known to be repeatedly admitted with similar episodes of self-harm. On this occasion he is drowsy and has prominent hypersalivation. Which of the following agents, found on his person, is the likely cause?

**1- Chlormethiazole**

2- Cocaine

3- Dosulepin

4- L-dopa

5- Solvent cannister

Q4547. A 50-year-old man returns to your clinic three weeks after Botox treatment for horizontal forehead furrows. He now complains that his eyebrows are drooping (eyebrow ptosi s) . What is the cause of his complaint?

1- Increased forehead skin laxity

2- Paralysis of corrugators

**3- Paralysis of frontalis**

4- Paralysis of procerus

5- Paralysis of zygomaticus major

Q4548. A 19-year-old girl presents with an overdose of paracetamol. Which of the following statements is correct?

1- Acetylcystine should routinely be given if the presentation is within the first 12 hours of overdose

2- Because she is over the age of 6, she is unlikely to develop significant toxicity

3- Hospitalisation will be needed for at least five days

**4- Liver function tests should be monitored**

5- The mortality in those with an AST of >350 IU/l is 4%

Q4549. A 75-year-old lady attends the Emergency department with dizziness and fainting. She has fully recovered. Neurological examination is normal. Carotid scanning shows stenosis of 80% on the right and 90% on the left. What is the best course of action?

1- Bilateral carotid endarterectomy

2- Discharge and GP follow up

**3- Discharge and outpatient follow up**

4- Urgent carotid endarterectomy on the left

5- Urgent carotid endarterectomy on the right

Q4550. A 50-year-old gentleman attends the Emergency department with weakness affecting his left arm and leg. Carotid scanning shows 70% stenosis of the right carotid artery. Which of the following statements is correct?

**1- Carotid endarterectomy should be performed**

2- Carotid endarterectomy should not be performed

3- Carotid stenting is associated with lower rates of stroke than surgery

4- Carotid stenting is proven to be safer than carotid endarterectomy

5- Carotid stenting should be performed

Q4551. A 17-year-old woman is admitted by emergency ambulance. She has apparently taken a large overdose of her father's antihypertensive medication after he refused to allow her to see her boyfriend who is 21. On admission to the emergency department she is hypotensive, with a BP of 80/55 mmHg, and a pulse of 28. Investigations show Hb 12.1 g/dl(13.5-18) WCC 7.8 x 109 /L (4-10) PLT 191 x 109 /L (150-400) Na 139 mmol/l (134-143) K 4.6 mmol/l (3.5-5) Cr 85 µmol/l (60-120) Gluc 2.8 g/dl(7.0-11.0) Her rate increases to 35 after 3 mg of atropine, but little improvement in BP is seen. Which of the following is the next most appropriate step?

1- Further 1 mg atropine

2- IM adrenalin

3- IV adrenalin

**4- IV glucagon**

5- Temporary pacing

Q4552. A 35-year-old business man presents with anxiety and palpitations after 'snorting' cocaine. The patient denies any prior use and has also consumed some alcohol. On examination, he is distressed and sweating with a temperature of 38°C, pulse of 138 beats per minute (regula r) and a blood pressure of 216/110 mmHg. His ECG reveals a sinus tachycardia. Which of the following is the most appropriate initial treatment for this man?

1- Dantrolene

**2- Diazepam**

3- Lidocaine

4- Propranolol

5- Verapamil

Q4553. A 45-year-old man attends the Emergency department with symptoms suggestive of community acquired pneumonia. On examination he is pyrexial at 38.0°C and has a respiratory rate of 32/min, with a blood pressure of 85/55 mmHg. Which of the following combination of features are not necessarily an indication for urgent hospital admission?

1- BP of 85/55 mmHg and respiratory rate of 32/min

2- BP of 85/55 mmHg and urea of 7.5 mmol/l

3- Confusion and BP of 85/55 mmHg

**4- Pyrexia of 38.0°C and serum urea of 7.5 mmol/l**

5- Respiratory rate of 32 and blood urea of 7.5 mmol/l

Q4554. A 17-year-old male presents to the Emergency department after an overdose of alcohol and paracetamol. He complained of abdominal discomfort and an intravenous infusion of N-acetylcysteine was commenced. 15 minutes later he developed breathlessness, reported feeling flushed and developed a tachycardia. Which of the following is most likely to have occurred?

1- A disulfiram-like (antabus e) reaction has occurred

2- The patient has developed pulmonary oedema

3- The patient has had a panic attack

4- The patient has received an overdose of Nacetylcysteine

**5- The patient has received N-acetylcysteine previously**

Q4555. A 42-year-old woman presents following an episode of confusion associated with vomiting and abdominal pain. She had a one month history of weight loss and receives thyroxine for hypothyroidism which was diagnosed five years ago. On examination she appeared unwell, with a temperature of 37.5°C and her blood pressure was 100/50 mmHg. Investigations revealed: Sodium 130 mmol/L (137-144) Potassium 4.8 mmol/L (3.5-4.9) Urea 7.6 mmol/L (2.5-7.5) Glucose 2.7 mmol/L (3.0-6.0) Free T4 9 pmol/L (10-22) TSH 1 mU/L (0.4-5) Which one of the following given intravenously would be the most appropriate initial management?

1- 10% dextrose infusion

2- Cefuroxime

3- Glucagon

**4- Hydrocortisone**

5- Tri-iodothyronine

Q4556. A 16-year-old girl is brought to the Emergency department after having taking drugs at a rave. Which of the following suggests that she has taken Ecstasy (MDM A) ?

1- Hypernatraemia

2- Metabolic acidosis

3- Pin-point pupils

**4- Pyrexia**

5- Respiratory depression

Q4557. Which of the following is correct concerning a precordial thump?

1- Can be delivered up to twice during a cardiac arrest

2- Can be given following an unwitnessed cardiac arrest

**3- Is more successful with pulseless VT than VF**

4- Should be administered after a warning has been given to the patient

5- Should be aimed at the position of V4 on the anterior chest wall

Q4558. A 35-year-old woman with known seafood allergy presented after developing an itchy rash at a restaurant. She had widespread urticaria which spared her neck and face. On examination, her blood pressure was 130/70 mmHg, pulse 95 bpm, respiratory rate 24/min and O2 saturation 99% on air. Intravenous hydrocortisone and intramuscular antihistamine have been given. What is the next most appropriate step in the management of this patient?

1- Inhaled adrenaline

2- Intramuscular adrenaline

3- Intravenous adrenaline

**4- Observe**

5- Subcutaneous adrenaline

Q4559. Which of the following is currently recommended as the drug of choice in treating refractory ventricular fibrillation or pulseless ventricular tachycardia?

1- Adenosine

**2- Amiodarone**

3- Bretylium

4- Lidocaine

5- Magnesium

Q4560. An 80-year-old gentleman attends the Emergency department with a stroke affecting his left arm and leg. He has had radiotherapy to the neck and there is a lot of scarring present. Carotid scanning shows 70% stenosis in the symptomatic side. Which statement is correct?

1- Carotid endarterectomy is contraindicated

2- Carotid endarterectomy should be performed

3- Carotid stenting is associated with lower rates of stroke than surgery

4- Carotid stenting is proven to be safer than carotid endarterectomy

**5- Carotid stenting should be performed**

Q4561. A 90-year-old lady attends the Emergency department with a dense stroke affecting her left arm and leg. She is hemiplegic and confused. A CT scan confirms that there is a right CVA. Carotid scanning shows stenosis of 75% on the right and 90% on the left. What is the best course of action?

**1- Admit but no surgical intervention**

2- Bilateral carotid endarterectomy

3- Discharge and GP follow up

4- Urgent carotid endarterectomy on the left

5- Urgent carotid endarterectomy on the right

Q4562. A 75-year-old lady attends the Emergency department with a stroke affecting her left arm and leg. A CT scan confirms that there is a right CVA. Carotid scanning shows stenosis of 50% on the right and 90% on the left. What is the best course of action?

1- Bilateral carotid endarterectomy

2- Discharge and GP follow up

**3- Discharge and outpatient follow up**

4- Urgent carotid endarterectomy on the left

5- Urgent carotid endarterectomy on the right

Q4563. A 21-year-old man who has a past history of IV drug abuse presents 12 hours after taking an overdose of 480 mg of codeine and 30 g of paracetamol. His blood pressure is 100/60 mmHg and he has pin-point pupils. What is the most appropriate management for this patient?

1- 500ml 10% glucose IV over four hours

2- 1 litre normal saline IV over six hours

3- IV naloxone

4- IV flumazenil

**5- Start N-acetylcysteine**

Q4564. A 17-year-old woman presented six hours after taking 30 g of paracetamol. Which of the following factors is most likely to predict an increased risk of hepatotoxicity from the paracetamol?

**1- Anorexia nervosa**

2- Consumption of 20 units of alcohol since taking the paracetamol

3- Gilbert's disease

4- Ingestion of amitriptyline with the paracetamol

5- Smoking 20 cigarettes per day

Q4565. A 64-year-old woman presented 10 hours after ingestion of 12 g of quinine sulphate. Which of the following is the most common characteristic clinical feature in this situation?

**1- Blindness**

2- Bradycardia

3- Hyperacusis

4- Hyperglycaemia

5- Hypotension

Q4566. A 20-year-old man presented after ingesting a drug at a party. Investigations revealed a serum creatine kinase of 10,000 IU/l (NR 2

4- 195). Which one of the following drugs is most likely to have been responsible?

1- Cannabis

2- Diazepam

**3- Ecstasy (MDM A) 4- Gamma hydroxybutyrate (GH B) 5- Ketamine**

Q4567. A youth worker, aged 40, presents to the Emergency department with vomiting. On detailed questioning, he states that he has taken about 36 paracetamol tablets two hours previously. He is vomiting profusely with a blood pressure of 90/60 mmHg. Which of the following measures would be the most appropriate immediate step in the management of this patient?

1- Coagulation screen

**2- IV fluids**

3- IV N-acetyl cysteine

4- Oral methionone

5- Paracetamol levels

Q4568. In adult basic life support which of the following is the correct ratio of chest compressions to ventilations?

1- 5 to 1

2- 8 to 1

3- 10 to 1

4- 15 to 2

**5- 30 to 2**

Q4569. A 72-year-old lady presented after taking an overdose of a sustained-release propranolol preparation. She has a pulse of 40 bpm and a BP of 90/60 mmHg. She was given atropine by the Emergency department staff but there has been little response. Which of the following is the most appropriate treatment?

1- Atropine

**2- Glucagon**

3- Haemodialysis

4- Noradrenaline

5- Salbutamol

Q4570. In most cardiac arrest situations 1mg of adrenaline (epinephrin e) is given intravenously every three minutes. What is the correct volume and concentration of the adrenaline?

1- 0.1 ml of 1 in 100

2- 1 ml of 1 in 1000

3- 10 ml of 1 in 1000

4- 1 ml of 1 in 10,000

**5- 10 ml of 1 in 10,000**

Q4571. A 51-year-old homeless man is seen in the Emergency department with a two day history of a painful left little finger. He speaks little English and a history is difficult to establish. On examination he has fusiform swelling of the finger with a small laceration on the pulp which looks old. The finger is held in flexion, there is pain on passive extension of the finger and tenderness on the volar aspect of the finger. Examination of the other fingers was unremarkable. What is the diagnosis?

1- Acute paronychia

2- Cellulitis

**3- Flexor sheath infection**

4- Interphalangeal joint septic arthritis

5- Palmar space infection

Q4572. An 80-year-old man attends the Emergency department with falls. On history taking you find that he had a stroke affecting his left arm and leg a year ago. A CT scan confirms that there is a right CVA. Carotid scanning shows stenosis of 80% on the right and 90% on the left. What is the best course of action?

1- Bilateral carotid endarterectomy

2- Discharge and GP follow up

**3- Discharge and outpatient follow up**

4- Urgent carotid endarterectomy on the left

5- Urgent carotid endarterectomy on the right

Q4573. A gentleman attends the Emergency department with a stroke. On the ward his stroke is starting to resolve and the likely diagnosis is a transient ischaemic attack (TI A) . Which is the next best course of action?

1- CT head and duplex as an outpatient

2- Discharge and follow up in TIA clinic

3- Discharge and GP follow up

4- Urgent carotid endarterectomy

**5- Urgent CT head and carotid duplex whilst inpatient**

Q4574. A 22-year-old female is admitted very distressed and short of breath. Examination reveals a respiratory rate of 35/min, a pulse of 120 beats per minute, a blood pressure 110/70 mmHg, oxygen saturations of 90% and a peak expiratory flow rate <50% predicted. The emergency medical services have administered salbutamol 5 mg (twic e) and face mask oxygen. Which of the following is the most appropriate next action in this patient?

1- Arterial blood gas analysis

2- Intensive care referral

3- Oxygen 35%

4- Prednisolone 40 mg

**5- Salbutamol 5 mg and ipratropium bromide 0.5 mg**

Q4575. A 18-year-old female is brought to the Emergency department unconscious after having taken an overdose. On examination she has a Glasgow coma score of 6, a respiratory rate of eight breaths per minute, a heart rate of 52 beats per minute and her blood pressure is 84/62 mmHg. Her pupils are small but are reactive to light, muscle tone is reduced and plantar responses are flexor. Which of the following is she most likely to have taken in overdose?

1- Diazepam

**2- Dihydrocodeine**

3- Diphenhydramine

4- Ecstasy (MDM A) 5- Methanol

Q4576. An 18-year-old woman presents three days after allegedly taking 50 paracetamol tablets (25 g) . Which of the following tests measured at this time point would be most helpful in determining the outcome?

1- ALT concentration

2- Bilirubin concentration

3- Creatinine concentration

4- Paracetamol concentration

**5- Prothrombin time**

Q4577. A 30-year-old man is admitted three hours after taking an overdose of amitriptyline and diazepam. On examination he was drowsy with a Glasgow coma scale of 8, he had a pulse of 140 beats per minute, a blood pressure of 114/88 mmHg and dilated pupils. His oxygen saturation was 90% on room air. What is the most appropriate initial action for this patient?

1- Activated charcoal

2- CT head scan

**3- ECG**

4- IV atenolol

5- IV flumazenil

Q4578. A 75-year-old man was admitted after being found collapsed in a garden shed surrounded by a number of empty containers. On clinical examination the patient had small pupils, a heart rate of 50 beats per minute, and was frothing at the mouth. What is the most likely diagnosis?

1- Creosote poisoning

2- Glyphosate poisoning

**3- Organophosphorus poisoning**

4- Paraquat poisoning

5- Pyrethroid poisoning

Q4579. An 18-year-old woman is admitted after taking drugs at a night club. Which of the following features suggest she had taken Ecstasy (MDM A) ?

**1- A pyrexia of 40°C**

2- Hypernatraemia

3- Hypokalaemia

4- Metabolic acidosis

5- Respiratory depression

Q4580. A 19-year old girl has been brought to the Emergency department by her friends following a night out at a party. Her friends comment that she has been talking by herself about 'irrelevant things'. She seems agitated and restless. On examination, her reflexes are increased and an electrocardiogram (EC G) demonstrates ventricular ectopics. What kind of substance abuse do you suspect at this point?

1- Alcohol

2- Barbituate

3- Cannabis

**4- Ecstasy**

5- Glue sniffing

Q4581. A 27-year-old female presents to the surgical intake with abdominal pain and a five day history of vomiting. Over the last three months she has also been aware of a 6 kg weight loss. On examination, she is pale, has a temperature of 38.5°C, blood pressure of 90/60 mmHg and pulse rate of 130 in sinus rhythm. The chest is clear on auscultation but she has a diffusely tender abdomen with no guarding. Her BM reading is 2.5. Initial biochemistry is as follows: Sodium 124 mmol/l (137-144) Potassium 6.0 mmol/l (3.5-4.9) Urea 7.5 mmol/l (2.5-7.5) Creatinine 78 µmol/l (60-110) Glucose 2.0 mmol/l (3.0-6.0) What is the probable diagnosis?

1- Abdominal migraine

2- Acute appendicitis

3- Acute cholecystitis

**4- Addison's disease**

5- Insulinoma

Q4582. A 16-year-old male is brought to the Emergency department with a Glasgow coma scale (GC S) rating of 3/15. Within 10 minutes he regained consciousness with a GCS of 15/15, is sitting up and talking. What is he likely to have taken?

**1- Inhaled solvent glue**

2- Smoked heroin

3- Smoked marijuana

4- Snorted cocaine

5- Taken ecstacy

Q4583. A 14-year-old boy bangs heads with an opponent during an unofficial football game. He is knocked out for 30 seconds and is amnesic for the event. He recovers quickly and continues playing. The following day he complains of headache, begins vomiting then loses consciousness. He had a full term normal delivery with no neonatal complications. His immunisations are up to date. There is no family or social history of note. On examination he responds only to deep pain. He is apyrexial with respiratory rate of 10/min (irregula r) , pulse of 40/min. He has a large bruise in the right temporal area. What is the most likely diagnosis?

1- Cerebral contusion

2- Contracoup injury

3- Extradural haematoma

**4- Subdural haematoma**

5- Parietal skull fracture

Q4584. A 55-year-old male presented six hours after taking an overdose of lithium tablets which had been prescribed for a bipolar affective disorder. On examination he was tremulous, had suffered a convulsion and had a Glasgow coma scale of 12/15. His serum lithium concentration was 5.0 mmol/L (0.5-1.0) What is the most appropriate management of this patient?

1- Activated charcoal

2- Forced alkaline diuresis

3- Furosemide 100 mg intravenously twice daily

**4- Haemodialysis**

5- Measure lithium concentration in 2 hours