1. A 10-year-old child has painful swallowing, neck edema, temperature rise up to 39.0°C, the whole body is covered with bright-red petechial rash. Back of the throat and tonsils are hyperemic, the tongue is crimson-colored. Tonsillar surface is covered with isolated grayish-colored necrosis nidi. What disease is it?

a. Scarlet fever
b. Influenza
c. Meningococcal nasopharyngitis
d. Diphtheria
e. Measles

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a. Meningococcal nasopharyngitis
b. Diphtheria
c. Influenza
d. Scarlet fever
e. Measles

3. A 12-year-old patient was found to have blood serum cholesterol at the rate of 25 mmol/l. The boy has a history of hereditary familial hypercholesterolemia, which is caused by the impaired synthesis of the following protein receptors:

a. High density lipoproteins
b. Intermediate density lipoproteins
c. Chylomicrons
d. Very low density lipoproteins
e. Low density lipoproteins

4. A 12-year-old patient was found to have blood serum cholesterol at the rate of 25 mmol/l. The boy has a history of hereditary familial hypercholesterolemia, which is caused by the impaired synthesis of the following protein receptors:

a. Very low density lipoproteins
b. Low density lipoproteins
c. High density lipoproteins
d. Intermediate density lipoproteins
e. Chylomicrons

5. A 14-year old girl presents to the emergency department for evaluation of an <<infected leg>>. She states there is no history of trauma but mentions she had a history of sickle cell disease. On physical examination, her upper part of right shin is very painful, red, swollen and hot. Her temperature is 39.2°C) An X-ray shows focal bony lysis and loss of trabecular architecture in the metaphysis of right tibia. Increased activity of which of the following cells is the most likely cause of bone reabsorption in this patient?

a. Chondrocytes
b. Osteoclasts
c. Chondroblasts
d. Osteoblasts
e. Osteocytes

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a. Osteoblasts
b. Chondroblasts
c. Chondrocytes
d. Osteoclasts

e. Osteocytes

7. A 16-year-old girl has no hair on the pubis and in the armpits, her mammary glands are underdeveloped, she has no menstruations. What hormone imbalance is the likely cause of these symptoms?

a. Ovarian failure

b. Medulloadrenal hyperfunction

c. Hypothyroidism

d. Hyperfunction of pancreatic islet apparatus

e. Hyperthyroidism

8. A 16-year-old girl has no hair on the pubis and in the armpits, her mammary glands are underdeveloped, she has no menstruations. What hormone imbalance is the likely cause of these symptoms?

a. Hypothyroidism

b. Medulloadrenal hyperfunction

c. Hyperthyroidism

d. Hyperfunction of pancreatic islet apparatus

e. Ovarian failure

9. A 2-year-old boy is diagnosed with Down syndrome. What chromosomal changes may be the cause of this disease?

a. Trisomy X

b. Monosomy X

c. Trisomy 18

d. Trisomy 21

e. Trisomy 13

10. A 2-year-old boy is diagnosed with Down syndrome. What chromosomal changes may be the cause of this disease?

a. Trisomy X

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d. Trisomy 21

e. Trisomy 18

11. A 20-year-old female comes to the clinic after missing her last 2 periods. Her cycles are usually regular, occurring at 28--30 day interval with moderate bleeding and some abdominal discomfort. She also complains of progressively diminishing peripheral vision. Her doctor reveals loss of vision in the lateral halves of both eyes. Involvement of which of the following structures would you most likely expect to be the reason of bitemporal hemianopsia?

a. Optic chiasm

b. Right optic tract

c. Left optic tract

d. Right optic nerve

e. Left optic nerve

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a. Left optic nerve

b. Left optic tract

c. Right optic nerve

d. Optic chiasm

e. Right optic tract

13. A 24-year-old male decided to run a marathon after being untrained for a long period. The next day he visits his doctor with a chief complaint of severe pain in his thighs and shins. Which of the following is the most likely cause of this condition?

a. Adenosine diphosphate accumulation in the muscles

b. Muscle proteins breakdown
c. ---
d. Lactic acid accumulation in the muscles
e. Creatinine accumulation in the muscles

14. A 24-year-old man undergoes surgery and during the operation, an organ is excised and sent for histological evaluation. A light microscopic examination reveals the organ encased by thin connective tissue capsule that enters the substance of the lobes to further subdivide the organ into irregular lobular units. Each lobule contains a cluster of follicles filled with colloid. Follicular epithelium consists of low columnar, cuboidal or squamous cells depending on the level of activity of the follicle. Which of the following organs does this tissue most likely belong to?

a. Parathyroid gland
b. Thyroid gland
c. Thymus
d. Parotid gland
e. Pancreas

15. A 24-year-old man undergoes surgery and during the operation, an organ is excised and sent for histological evaluation. A light microscopic examination reveals the organ encased by thin connective tissue capsule that enters the substance of the lobes to further subdivide the organ into irregular lobular units. Each lobule contains a cluster of follicles filled with colloid. Follicular epithelium consists of low columnar, cuboidal or squamous cells depending on the level of activity of the follicle. Which of the following organs does this tissue most likely belong to?

a. Parotid gland
b. Parathyroid gland
c. Pancreas
d. Thyroid gland
e. Thymus

16. A 25-year-old male visits his family physician for a 5-day history of fever and fatigue. Upon further questioning, he says that he also had constant muscular pain and headaches. He adds additional information by giving a history of regular unprotected sexual relationship with multiple partners. He is a non-smoker and drinks alcohol occasionally. Vital signs: heart rate --- 98/min., respiratory rate --- 16/min., temperature --- 38°C and blood pressure --- 120/80 mm Hg. On physical examination, he is icteric and hepatosplenomegaly is evident with abdominal tenderness particularly in the right upper quadrant. The serologic markers show the following pattern: IgM anti-HBc positive, HBsAg positive. Which of the following is the most likely diagnosis?

a. Acquired immune deficiency syndrome (AIDS)
b. Viral hepatitis B
c. Viral hepatitis A
d. Syphilis
e. Tuberculosis

17. A 25-year-old male visits his family physician for a 5-day history of fever and fatigue. Upon further questioning, he says that he also had constant muscular pain and headaches. He adds additional information by giving a history of regular unprotected sexual relationship with multiple partners. He is a non-smoker and drinks alcohol occasionally. Vital signs: heart rate --- 98/min., respiratory rate --- 16/min., temperature --- 38°C and blood pressure --- 120/80 mm Hg. On physical examination, he is icteric and hepatosplenomegaly is evident with abdominal tenderness particularly in the right upper quadrant. The serologic markers show the following pattern: IgM anti-HBc positive, HBsAg positive. Which of the following is the most likely diagnosis?

a. Syphilis
b. Acquired immune deficiency syndrome (AIDS)
c. Viral hepatitis A
d. Tuberculosis
e. Viral hepatitis B

18. A 25-year-old man presents to his physician with a 1-week history of fever, sore throat, nausea, and fatigue. His vital signs include: temperature --- 38.5°C, pulse --- 72/min., blood pressure --- 120/70 mm Hg, and respiratory rate --- 17/min. On physical examination, he has bilateral posterior cervical

lymphadenopathy, exudates over the palatine tonsil walls with soft palate petechiae, an erythematous macular rash on the trunk and arms, and mild hepatosplenomegaly. This patient most likely has infectious mononucleosis. Which of the following would be the most appropriate diagnostic laboratory test?

a. Herpes simplex virus isolation
b. A 4-fold increase in anti-EBV titers
c. Positive serum IgM antibodies for Herpes simplex virus
d. A detection of Cytomegalovirus (CMV) antibodies
e. Positive serum IgM antibodies for Epstein-Barr virus

19. A 25-year-old man presents to his physician with a 1-week history of fever, sore throat, nausea, and fatigue. His vital signs include: temperature --- 38.5°C, pulse --- 72/min., blood pressure --- 120/70 mm Hg, and respiratory rate --- 17/min. On physical examination, he has bilateral posterior cervical lymphadenopathy, exudates over the palatine tonsil walls with soft palate petechiae, an erythematous macular rash on the trunk and arms, and mild hepatosplenomegaly. This patient most likely has infectious mononucleosis. Which of the following would be the most appropriate diagnostic laboratory test?

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b. Herpes simplex virus isolation
c. A 4-fold increase in anti-EBV titers
d. A detection of Cytomegalovirus (CMV) antibodies
e. Positive serum IgM antibodies for Epstein-Barr virus

20. A 26-year-old female patient with bronchitis has been administered a broad spectrum antibiotic as a causal treatment drug. Name this drug:

a. Interferon
b. Isoniazid
c. Dexamethasone
d. Vancomycin
e. Amoxicillin

21. A 26-year-old female patient with bronchitis has been administered a broad spectrum antibiotic as a causal treatment drug. Name this drug:

a. Vancomycin
b. Isoniazid
c. Interferon
d. Dexamethasone
e. Amoxicillin

22. A 27-year-old man (injection drug user) for a long time has been suffering from oral candidiasis, persistent cough, and diarrhea, which gives grounds to suspect HIV infection. The patient was referred for immunological investigation. What cell count will likely be low in this patient?

a. Plasma cells
b. Helper T cells
c. Immunological memory cells
d. B lymphocytes
e. Suppressor T cells

23. A 27-year-old man (injection drug user) for a long time has been suffering from oral candidiasis, persistent cough, and diarrhea, which gives grounds to suspect HIV infection. The patient was referred for immunological investigation. What cell count will likely be low in this patient?

a. Suppressor T cells
b. Immunological memory cells
c. Plasma cells
d. Helper T cells
e. B lymphocytes

24. A 27-year-old parturient woman undergoes a complicated childbirth with impending cervical rupture. What pain relief medicine would be the safest in this case?

a. Promedol (Trimeperidine)
b. Morphine hydrochloride

c. Fentanyl
d. Diazepam
e. Analgin (Metamizole)

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a. Diazepam
b. Morphine hydrochloride
c. Analgin (Metamizole)
d. Fentanyl
e. Promedol (Trimeperidine)

26. A 28-year-old patient has been hospitalized with complaints of abdominal pain, loose stools, weakness, fatigue, and shortness of breath. The patient has a history of a surgery for acute intestinal obstruction 2 years ago, with resection of 60 cm of the small intestine. At the time of the hospitalization, patient's blood test results were as follows: erythrocytes - 2.4·10^12/L, reticulocytes - 0.4%, hemoglobin - 80 g/L, color index - 1.25. The blood smear test detected macroanisocytes, poikilocytes, schizocytes, isolated megalocytes, megaloblasts. What pathology of the blood system can be characterized by such findings?
a. Hypoplastic anemia
b. B_12 deficient anemia
c. Iron deficient anemia
d. Chronic posthemorrhagic anemia
e. Hemolytic anemia

27. A 28-year-old patient has been hospitalized with complaints of abdominal pain, loose stools, weakness, fatigue, and shortness of breath. The patient has a history of a surgery for acute intestinal obstruction 2 years ago, with resection of 60 cm of the small intestine. At the time of the hospitalization, patient's blood test results were as follows: erythrocytes - 2.4·10^12/L, reticulocytes - 0.4%, hemoglobin - 80 g/L, color index - 1.25. The blood smear test detected macroanisocytes, poikilocytes, schizocytes, isolated megalocytes, megaloblasts. What pathology of the blood system can be characterized by such findings?
a. Hypoplastic anemia
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c. Iron deficient anemia
d. B_12 deficient anemia
e. Chronic posthemorrhagic anemia

28. A 29-year-old woman has a fever of 38.3^oC and intense pain in her lower abdomen, observed for the last several days. What substances mediate the synaptic transmission between the pain fibers that go from the pelvic organs and spinal cord neurons?
a. Noradrenaline, ATP
b. Glutamate, substance P
c. Endorphins, GABA
d. Serotonin, vasoactive intestinal polypeptide (VIP)
e. Acetylcholine, nitrogen monoxide

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b. Acetylcholine, nitrogen monoxide
c. Endorphins, GABA
d. Noradrenaline, ATP
e. Glutamate, substance P

30. A 3-year-old child has an acute intestinal infection with profuse diarrhea, followed by the development of anhydremic shock. What is the leading link in the development of this complication?
a. Hypovolemia
b. Decreased arterial pressure
c. Intoxication

d. Hypoxia
e. Reduced cardiac output per minute

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b. Decreased arterial pressure
c. Reduced cardiac output per minute
d. Intoxication
e. Hypoxia

32. A 30-year-old man was hospitalized with profuse diarrhea lasting for 12 hours. There was no vomitting. What changes can be observed in the patient's water-electrolyte balance and acid-base balance?

a. Gaseous alkalosis with dehydration
b. Non-gaseous alkalosis with dehydration
c. Non-gaseous acidosis with dehydration
d. No changes in blood pH
e. Gaseous acidosis with dehydration

33. A 30-year-old man was hospitalized with profuse diarrhea lasting for 12 hours. There was no vomitting. What changes can be observed in the patient's water-electrolyte balance and acid-base balance?

a. Non-gaseous alkalosis with dehydration
b. No changes in blood pH
c. Non-gaseous acidosis with dehydration
d. Gaseous alkalosis with dehydration
e. Gaseous acidosis with dehydration

34. A 30-year-old patient with a femoral fracture was brought to the hospital after a car accident. The patient presents with sharply reduced blood pressure of 70/40 mm Hg, a weak pulse, and increased pain response provoked by the slightest touch in the damaged area. What should be administered in this case to prevent traumatic shock in the patient?

a. Analgin (Metamizole)
b. Papaverine
c. Morphine
d. Pentazocine
e. Paracetamol

35. A 30-year-old patient with a femoral fracture was brought to the hospital after a car accident. The patient presents with sharply reduced blood pressure of 70/40 mm Hg, a weak pulse, and increased pain response provoked by the slightest touch in the damaged area. What should be administered in this case to prevent traumatic shock in the patient?

a. Paracetamol
b. Morphine
c. Pentazocine
d. Papaverine
e. Analgin (Metamizole)

36. A 33-year-old woman has hepatocerebral dystrophy (Wilson's disease). Ceruloplasmin levels in her blood are decreased. Amino acid levels are sharply increased in her urine. These changes are primarily caused by the intensification of the following process:

a. Breakdown of tissue proteins
b. Reamination of amino acids
c. Urea synthesis
d. Gluconeogenesis
e. Formation of copper complexes with amino acids

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a. Reamination of amino acids

b. Breakdown of tissue proteins

c. Formation of copper complexes with amino acids

d. Urea synthesis

e. Gluconeogenesis

38. A 34-year-old man visits his dentist complaining of toothache. After a dental procedure that involved extraction of several teeth, he develops severe bleeding lasting more than 15 minutes. He has a history of chronic hepatitis C) Which of the following is the most likely cause of prolonged bleeding in this patient?

a. Hypofibrinogenemia

b. Hypoalbuminemia

c. Thrombocytopenia

d. Hypocalcemia

e. ---

39. A 34-year-old man visits his dentist complaining of toothache. After a dental procedure that involved extraction of several teeth, he develops severe bleeding lasting more than 15 minutes. He has a history of chronic hepatitis C) Which of the following is the most likely cause of prolonged bleeding in this patient?

a. Hypofibrinogenemia

b. Hypocalcemia

c. Thrombocytopenia

d. Hypoalbuminemia

e. ---

40. A 35-year-old woman complains of pain in her joints and numbness of her fingers and toes. During examination, a doctor notes that the patient's face is amimic and has thickened skin. Biopsy of a cutaneomuscular flap was performed for this patient. Histology detects disorganization of dermal connective tissue, mucoid and fibrinoid swelling, weak cellular response, and foci of gross sclerosis and hyalinosis. Atrophy of integumental structures, sclerosis of vascular intima, and perivascular bulbar sclerosis are observed in the patient. Make the diagnosis.

a. Rheumatism

b. Systemic scleroderma

c. Systemic lupus erythematosus.

d. Rheumatoid arthritis

e. Polyarteritis nodosa

41. A 35-year-old woman complains of pain in her joints and numbness of her fingers and toes. During examination, a doctor notes that the patient's face is amimic and has thickened skin. Biopsy of a cutaneomuscular flap was performed for this patient. Histology detects disorganization of dermal connective tissue, mucoid and fibrinoid swelling, weak cellular response, and foci of gross sclerosis and hyalinosis. Atrophy of integumental structures, sclerosis of vascular intima, and perivascular bulbar sclerosis are observed in the patient. Make the diagnosis.

a. Rheumatism

b. Rheumatoid arthritis

c. Polyarteritis nodosa

d. Systemic lupus erythematosus.

e. Systemic scleroderma

42. A 35-year-old woman has come to her physician with chief complaint of elevated blood pressure up to 180/100 mm Hg. She currently does not take any medication. During the physical examination, her blood pressure is 140/80 mm Hg, heart rate is 65/min. and temperature is 36.8°C) She has a ''moon face'', hirsutism, centripetal obesity, and striae on the skin with atrophy over the abdomen and thighs. Which of the following is the most likely cause of this patient's condition?

a. Hyperthyroidism

b. Cortisol-secreting adrenal adenoma

c. Hypothyroidism

d. Pancreatic islet cells hyperfunction

e. Ovarian insufficiency

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up to 180/100 mm Hg. She currently does not take any medication. During the physical examination, her blood pressure is 140/80 mm Hg, heart rate is 65/min. and temperature is 36.8°C) She has a ''moon face'', hirsutism, centripetal obesity, and striae on the skin with atrophy over the abdomen and thighs. Which of the following is the most likely cause of this patient's condition?

a. Pancreatic islet cells hyperfunction
b. Ovarian insufficiency
c. Hyperthyroidism
d. Hypothyroidism
e. Cortisol-secreting adrenal adenoma

44. A 36-year-old man developed angina pectoris attacks after a case of staphylococcal sepsis. In the left coronary artery, coronary angiography revealed parietal thrombosis without signs of atherosclerosis. In this case, the thrombus formation started because of the damage to the vascular endothelium and the release of:

a. Platelet-activating factor
b. Adenosine diphosphate
c. Phospholipase A2
d. Adenosine triphosphate
e. Serotonin

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a. Serotonin
b. Platelet-activating factor
c. Adenosine triphosphate
d. Adenosine diphosphate
e. Phospholipase A2

46. A 37-year old female presents to the clinic complaining of severe pain in her left wrist and tingling sensation in her left thumb, index finger, and middle finger, and some part of her ring finger. The pain started as an occasional throb and she could ignore it or take ibuprofen but now the pain is much worse and wakes her up at night. She works as a typist and her pain mostly increases after typing all day. Her right wrist and fingers are fine. Nerve conduction studies reveal nerve compression. Which of the following nerves is most likely compressed in this patient?

a. Median nerve
b. Axillary nerve
c. Radial nerve
d. Musculocutaneous nerve
e. Ulnar nerve

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a. Median nerve
b. Musculocutaneous nerve
c. Radial nerve
d. Ulnar nerve
e. Axillary nerve

48. A 37-year-old man is admitted to hospital with mental confusion and disorientation. His wife reports he became more irritable and forgetful in the past year. In addition, she notes that he became a vegan a year ago, and currently, his diet consists of starchy foods like potatoes, corn, and leafy vegetables. GI symptoms include anorexia, diarrhea and vomiting. He has glossitis and skin lesions that appear as vesicles over the extremities. Eczema-like lesions around the mouth, as well as desquamation and roughened skin over the hands are also present. Neurologic examination reveals

symmetrical hypesthesia for all types of sensation in both upper and lower extremities in a <<gloves and socks>> distribution. Deficiency in diet of which of the following amino acids is the most likely cause of this condition?

a. Arginine
b. Histidine
c. Lysine
d. Tryptophan
e. Threonine

49. A 37-year-old man is admitted to hospital with mental confusion and disorientation. His wife reports he became more irritable and forgetful in the past year. In addition, she notes that he became a vegan a year ago, and currently, his diet consists of starchy foods like potatoes, corn, and leafy vegetables. GI symptoms include anorexia, diarrhea and vomiting. He has glossitis and skin lesions that appear as vesicles over the extremities. Eczema-like lesions around the mouth, as well as desquamation and roughened skin over the hands are also present. Neurologic examination reveals symmetrical hypesthesia for all types of sensation in both upper and lower extremities in a <<gloves and socks>> distribution. Deficiency in diet of which of the following amino acids is the most likely cause of this condition?

a. Threonine
b. Lysine
c. Tryptophan
d. Arginine
e. Histidine

50. A 37-year-old woman presents to the emergency department complaining of palpitations, dry cough, and shortness of breath. She is a nonsmoker. Her blood pressure 100/65 mm Hg, pulse --- 76/min., respiratory rate --- 23/min. Her physical exam is significant for bibasilar lung crackles and a low-pitched, mid-diastolic rumbling murmur best heard at the apical region without radiation. She has jugular vein distention and bilateral pitting edema in her lower extremities. Despite considerable efforts in the emergency department, she dies from sudden cardiac death at night. The family requests an autopsy to determine her cause of death. The patient's heart shows a mitral stenosis. Histologic examination reveals increased connective tissue in the myocardium and Ashoff-Talalaev's granulomas. Which of the following is the most likely diagnosis?

a. Polyarteritis nodosa
b. Systemic scleroderma
c. Systemic lupus erythematosus
d. Dermatomyositis
e. Rheumatic heart disease

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a. Systemic lupus erythematosus
b. Systemic scleroderma
c. Dermatomyositis
d. Rheumatic heart disease
e. Polyarteritis nodosa

52. A 38-year-old woman presents for evaluation to a clinic with painful ulceration in her right breast for the last 2 months. She is worried because the ulcer is increasing in size. On further questioning, she says that she has a discharge from her right nipple as well. Her mother and aunt died of breast cancer at 60 and 54 years of age, respectively. On examination, the right breast is enlarged and firm, with thickened skin, diffuse erythema, edema, and an ulcer measuring 3x3 cm. Mammography is

ordered that shows a mass with a large area of calcifications, parenchymal distortion, and extensive soft tissue and trabecular thickening in the affected breast. The patient subsequently undergoes core needle and full-thickness skin punch biopsies. The pathology report states a clear dermal lymphatic invasion by tumor cells. Which of the following is the most common site for metastatic disease in this pathology?

a. Parasternal, tracheobronchial lymph nodes
b. Deep lateral cervical, superior diaphragmatic lymph nodes
c. Preaortic, tracheobronchial lymph nodes
d. Axillary, supraclavicular lymph nodes
e. Deep anterior cervical, abdominal lymph nodes

53. A 38-year-old woman presents for evaluation to a clinic with painful ulceration in her right breast for the last 2 months. She is worried because the ulcer is increasing in size. On further questioning, she says that she has a discharge from her right nipple as well. Her mother and aunt died of breast cancer at 60 and 54 years of age, respectively. On examination, the right breast is enlarged and firm, with thickened skin, diffuse erythema, edema, and an ulcer measuring 3x3 cm. Mammography is ordered that shows a mass with a large area of calcifications, parenchymal distortion, and extensive soft tissue and trabecular thickening in the affected breast. The patient subsequently undergoes core needle and full-thickness skin punch biopsies. The pathology report states a clear dermal lymphatic invasion by tumor cells. Which of the following is the most common site for metastatic disease in this pathology?

a. Preaortic, tracheobronchial lymph nodes
b. Parasternal, tracheobronchial lymph nodes
c. Deep anterior cervical, abdominal lymph nodes
d. Axillary, supraclavicular lymph nodes
e. Deep lateral cervical, superior diaphragmatic lymph nodes

54. A 38-year-old woman, who was diagnosed with systemic lupus erythematosus (SLE) 3 years ago, comes to her physician with a complaint of facial swelling and decreased urination that she first noticed 2 weeks ago. She currently takes azathioprine and corticosteroid. Her vital signs show blood pressure 150/90 mm Hg, pulse --- 91/min., temperature --- 36.8°C and respiratory rate --- 15/min. On physical examination, the doctor notices erythematous rash on her face exhibiting a butterfly pattern. The laboratory studies reveal hypercholesterolemia, hypertriglyceridemia and proteinuria. Which of the following is the most likely mechanism of SLE's complication in this patient?

a. Immune complex-mediated glomerular disease
b. Decrease in renal blood flow (ischemic nephropathy)
c. Increased plasma oncotic pressure
d. ---
e. Acute infection of the kidney

55. A 38-year-old woman, who was diagnosed with systemic lupus erythematosus (SLE) 3 years ago, comes to her physician with a complaint of facial swelling and decreased urination that she first noticed 2 weeks ago. She currently takes azathioprine and corticosteroid. Her vital signs show blood pressure 150/90 mm Hg, pulse --- 91/min., temperature --- 36.8°C and respiratory rate --- 15/min. On physical examination, the doctor notices erythematous rash on her face exhibiting a butterfly pattern. The laboratory studies reveal hypercholesterolemia, hypertriglyceridemia and proteinuria. Which of the following is the most likely mechanism of SLE's complication in this patient?

a. Immune complex-mediated glomerular disease
b. Increased plasma oncotic pressure
c. ---
d. Decrease in renal blood flow (ischemic nephropathy)
e. Acute infection of the kidney

56. A 39-year-old man comes to the doctor with complaints of chest pain and cough with occasionally blood-streaked sputum. He does not have increased temperature or night sweating and his history is insignificant for smoking or alcohol abuse. However, he mentions visiting a few weeks ago a relative who owns a sheep farm. Radiographic examination shows a cyst in the left lower lobe with calcification. Casoni test is positive. Which of the following organisms is the most likely cause of this patient's condition?

a. Pork tapeworm
b. Dwarf tapeworm
c. Liver fluke
d. Echinococcus
e. Fish tapeworm

57. A 39-year-old man comes to the doctor with complaints of chest pain and cough with occasionally blood-streaked sputum. He does not have increased temperature or night sweating and his history is insignificant for smoking or alcohol abuse. However, he mentions visiting a few weeks ago a relative who owns a sheep farm. Radiographic examination shows a cyst in the left lower lobe with calcification. Casoni test is positive. Which of the following organisms is the most likely cause of this patient's condition?

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c. Fish tapeworm
d. Echinococcus
e. Dwarf tapeworm

58. A 40-year-old prisoner died of tuberculosis. Autopsy of the body revealed deformation and diminishing of both lung apices; in the both upper lobes there are multiple cavities with dense walls 2--3 mm thick; in the lower lung lobes there are disseminated foci of caseous necrosis varying from 5 mm to 2 cm in diameter. Diagnose the type of tuberculosis:

a. Hematogenous macrofocal \\ pulmonary tuberculosis
b. Secondary fibrous-focal \\ tuberculosis
c. Secondary cirrhotic tuberculosis
d. Secondary fibro-cavitary \\ tuberculosis
e. Primary tuberculosis, primary affect development

59. A 40-year-old prisoner died of tuberculosis. Autopsy of the body revealed deformation and diminishing of both lung apices; in the both upper lobes there are multiple cavities with dense walls 2--3 mm thick; in the lower lung lobes there are disseminated foci of caseous necrosis varying from 5 mm to 2 cm in diameter. Diagnose the type of tuberculosis:

a. Secondary cirrhotic tuberculosis
b. Secondary fibrous-focal \\ tuberculosis
c. Hematogenous macrofocal \\ pulmonary tuberculosis
d. Secondary fibro-cavitary \\ tuberculosis
e. Primary tuberculosis, primary affect development

60. A 40-year-old woman dies of intracerebral hemorrhage after the hypertensive emergency. During an autopsy, the pathologist reveals severe obesity, excess of body hair and wide purplish stria on the abdomen. Microscopic examination of pituitary gland reveals hyperplastic acini populated by a homogenous cluster of deeply basophilic cells. Which of the following was the most likely underlying disease?

a. Arterial hypertension
b. Cushing disease
c. Hyperthyroidism
d. Sheehan's syndrome
e. ---

61. A 40-year-old woman dies of intracerebral hemorrhage after the hypertensive emergency. During an autopsy, the pathologist reveals severe obesity, excess of body hair and wide purplish stria on the abdomen. Microscopic examination of pituitary gland reveals hyperplastic acini populated by a homogenous cluster of deeply basophilic cells. Which of the following was the most likely underlying disease?

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62. A 42-year-old man died of acute anemia due to pulmonary hemorrhage. An irregularly-shaped

round cavity 5--6 cm in size was detected in the second segment of the right lung. The cavity communicates with the bronchial lumen. The inner surface of the cavity is uneven and covered with a flabby, structureless, yellowish tissue. Its wall is thin and consists of compacted lung tissue with inflammatory alterations. Histology shows that the inner layer of the cavity consists of molten caseous masses with a large number of segmented leukocytes. What is indicated by the changes detected in the lungs of the deceased man?

a. Disintegrating pulmonary carcinoma

b. Acute cavernous tuberculosis

c. Bronchoectatic cavern

d. Pulmonary infarction with septic disintegration

e. Lung abscess

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e. Disintegrating pulmonary carcinoma

64. A 42-year-old man with verified HIV infection developed a fever, generalized lymphadenopathy, diarrhea, and slight weight loss. What period of HIV infection corresponds with these symptoms?

a. AIDS-related complex

b. Period of persistent generalized lymphadenopathy

c. Period of acquired immunodeficiency syndrome

d. Incubation period

e. HIV encephalomyelitis

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e. Period of persistent generalized lymphadenopathy

66. A 43-year-old man seeks evaluation at an emergency department with complaints of fever with chills, malaise, diffuse abdominal pain for over a week, diarrhea and loss of appetite. He says that his symptoms are progressively getting worse. He recalls that the fever began slowly and climbed its way up stepwise to the current 39.8°C) His blood pressure is 110/70 mm Hg. A physical exam reveals a coated tongue, enlarged spleen and rose spots on the abdomen. Serologic study shows the agglutinin O titre of 1:200 by the Widal test. Which of the following is the most likely causative organism for this patient's condition?

a. Enterohemorrhagic E) coli

b. Salmonella typhi

c. Mycobacterium tuberculosis

d. Vibrio cholerae

e. Leptospira interrogans

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68. A 45-year-old woman comes to her physician with complaints of excessive fatigue and weakness. She says that these symptoms have been present for the past month. On further questioning, she admits having lost 3 kilograms in the last 2 weeks. On physical examination, she is a tired-appearing thin woman. Hyperpigmentation is present over many areas of her body, most prominently over the face, neck and back of hands (areas exposed to light). Increased production of which of the following hormones is the most likely cause of hyperpigmentation in this patient?

a. Growth hormone (GH)

b. Gonadotropins

c. Thyroid-stimulating hormone (TSH)

d. Melanocyte-stimulating hormone (MSH)

e. β-Lipotropin

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70. A 45-year-old woman has an attack of atrial fibrillation. She suffers from stage II essential hypertension. What is the drug of choice for stopping this attack?

a. Lidocaine

b. Sustac forte (Nitroglycerin)

c. Strophanthin

d. Anaprilin (Propranolol)

e. Potassium chloride

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72. A 48-year-old woman has been diagnosed with Raynaud syndrome (a spasm of peripheral blood vessels) and prescribed an adrenotropic agent. What group does this drug belong to?

a. Alpha/beta-adrenergic agonists

b. Beta-1-blockers

c. Alpha-blockers

d. Beta-2-blockers

e. Beta-1-adrenergic agonists

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c. Alpha-blockers

d. Alpha/beta-adrenergic agonists

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74. A 49-year-old woman developed leg edema after she had been standing for a long time. What is the likely cause of leg edema in this case?

a. Decreased hydrostatic blood pressure in the veins
b. Increased arterial blood pressure
c. Increased oncotic blood plasma pressure
d. Decreased hydrostatic blood pressure in the arteries
e. Increased hydrostatic blood pressure in the veins

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e. Increased hydrostatic blood pressure in the veins

76. A 50-year-old man presents to the office with the complaint of pain in his left great toe. The pain started 2 days ago and has been progressively getting worse to the point that it is difficult to walk even a few steps. He adds that his left big toe is swollen and hot to the touch. He normally drinks 2--3 glasses of red wine each day. Physical examination is notable for an overweight gentleman (BMI of 35) in moderate pain, with an erythematous, swollen, and exquisitely tender left great toe. A complete blood count shows: hemoglobin --- 120 g/L, hematocrit --- 0.45, platelets --- $160 · 10^9$/L, leukocytes --- $8.0 · 10^9$/L, segmented neutrophils --- 65%, lymphocytes --- 25%, eosinophils --- 3%, and monocytes --- 7%. Synovial fluid analysis shows cell count of 15,000 cells/mm³ (80% neutrophils), negatively birefringent crystals present. Elevated concentration of which of the following compounds is the most common laboratory finding in these patients?

a. Uric acid
b. Cholesterol
c. Cystine
d. Urea
e. Bilirubin

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a. Cholesterol
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78. A 50-year-old man suddenly developed intense palpitations, pain in the heart, acute weakness, increased blood pressure, and an irregular pulse with pulse deficit. ECG shows f-waves instead of a P wave; R-R intervals are irregular. What heart rhythm disorder is observed in the patient?

a. Paroxysmal tachycardia
b. Transverse heart block
c. Respiratory sinus arrhythmia
d. Ciliary arrhythmia
e. Sinus extrasystole

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80. A 50-year-old patient has been hospitalized with signs of a hypertensive crisis. What is associated with a sharp increase in the blood pressure?
a. Endothelial desquamation
b. Spasm of arterioles
c. Endothelial dystrophy
d. Hyalinosis of arterioles
e. Necrosis of arterioles

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82. A 54-year-old woman has a total thyroidectomy for papillary thyroid carcinoma. 11 hours after operation she complains of tingling around her mouth. On physical examination, the Trousseau's sign and Chvostek's sign are present. Her condition rapidly deteriorates with laryngospasm and focal seizures. The surgeon suggests surgical destruction of parathyroid glands. Which of the following is the most likely cause of this patient's neurologic abnormality?
a. Hyperchloremia
b. Hyperkalemia
c. Hyponatremia
d. Hypophosphatemia
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b. Hypocalcemia
c. Hyperchloremia
d. Hypophosphatemia
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84. A 55-year-old woman has mitral valve insufficiency and had myocarditis 10 years ago. Currently she has no complaints. Her hemodynamics is within the normal range. What general nosology concept corresponds with this situation?
a. Compensatory reaction
b. Pathological condition
c. Pathological reaction
d. Pathological process
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c. Compensatory reaction
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86. A 56-year-old man presents for a checkup. The patient says he has to urinate quite frequently, but denies any dysuria or pain on urination. Past medical history is significant for diabetes mellitus type 2 and hypertension, both managed medically. Current medications are metformin, aspirin, rosuvastatin, captopril and furosemide. Laboratory findings are significant for the following: Glycated Hemoglobin (Hb A1c) --- 8.0%, Fasting Blood Glucose --- 12 mmol/L. His doctor decides to add glibenclamide to the therapy. Which of the following is the most likely mechanism of this drug's action?

a. Inhibition of insulin release
b. Stimulation of glucose reuptake by the cell
c. Facilitation of glucose absorption in the intestine
d. Stimulation of insulin release
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b. Facilitation of glucose absorption in the intestine
c. Stimulation of insulin release
d. ---
e. Inhibition of insulin release

88. A 56-year-old woman complains of pain in the small joints of her hands and feet. She has been experiencing these symptoms for the last 12 years. Examination of her hands detects a subluxation of the metacarpophalangeal joints with fingers bent outwards ("walrus flippers"). There are high molecular weight immune complexes in the patient's blood. What diagnosis can be made in this case?

a. Rheumatic polyarthritis
b. Dermatomyositis
c. Gouty arthritis
d. Systemic lupus erythematosus
e. Rheumatoid arthritis

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90. A 56-year-old woman is rushed to the emergency department with sudden onset of severe chest pain radiating to her left arm and jaw. She has a history of periodic chest pain for which she uses nitroglycerine sublingually, but today her medication did not relieve the pain. Her blood pressure is 140/100 mm Hg, pulse --- 130/min., respiratory rate --- 18/min., temperature --- 37°C) A bedside electrocardiogram shows ST-segment elevation in leads II, III, and aVF. Blood is drawn and sent to the lab, which is positive for specific biomarker. A diagnosis of acute inferior myocardial infarction is made, and the patient is sent to the catheterization lab for angioplasty with stent placement. Which of the following is the most likely specific and sensitive biomarker of cardiac injury?

a. Troponin (cTn) I or T
b. Lactate dehydrogenase 5 (LDH-5)
c. Alanine aminotransferase (ALAT)
d. Lactate dehydrogenase 4 (LDH-4)
e. Alanine aminopeptidase (AAP)

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92. A 58-year-old woman with essential hypertension was prescribed amlodipine by her doctor. What group of drugs does it belong to?

a. Potassium channel blockers
b. Calcium channel blockers
c. Sodium channel blockers
d. Potassium channel activators
e. Beta blockers

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b. Potassium channel blockers
c. Calcium channel blockers
d. Beta blockers
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94. A 59-year-old man, a business manager, developed intense burning retrosternal pain with irradiation into the left arm. The pain occurred in the evening after the tax audit. 15 minutes later the patient's condition normalized. What mechanism of angina pectoris development is leading in this patient?

a. Coronary artery thrombosis
b. Coronary atherosclerosis
c. Intravascular aggregation of blood cells
d. Functional cardiac overload
e. Increased level of blood \\ catecholamines

95. A 59-year-old man, a business manager, developed intense burning retrosternal pain with irradiation into the left arm. The pain occurred in the evening after the tax audit. 15 minutes later the patient's condition normalized. What mechanism of angina pectoris development is leading in this patient?

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96. A 6-year-old child has purulent inflammation of the middle ear that was complicated by purulent inflammation of the mastoid cells. Trepanation (dissection) of the mastoid process became necessary. In this case, the surgeon must remember that a certain venous sinus is located close by, to avoid damaging it. Name this sinus.

a. Sigmoid sinus
b. Cavernous sinus
c. Transverse sinus
d. Inferior sagittal sinus
e. Superior sagittal sinus

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98. A 6-year-old child was diagnosed with a helminthic infestation. What changes in the child's leukogram should be expected in this case?

a. Increased neutrophil count
b. Decreased eosinophil count
c. Increased eosinophil count
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100. A 6-year-old child, who suffers from frequent respiratory diseases, develops eczema after eating citrus fruits. Inflammatory processes tend to have a protracted course in this child. What type of diathesis can be suspected in this case?

a. Asthenic
b. Neuroarthritic
c. Hemorrhagic
d. Exudative catarrhal
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c. Lymphohypoplastic
d. Asthenic
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102. A 60-year old man with a history of hypertension, diabetes and hyperlipidemia had a sudden onset of right-sided weakness. By the time the ambulance arrived, he had difficulty speaking. Unfortunately, the patient died within the next 2 hours and an autopsy was performed immediately. The gross examination of the cerebral left hemisphere showed brain swelling, widened gyri and poorly demarcated gray-white junction. Which of the following is the most likely cause of this patient's death?

a. Ischemic stroke
b. Tumor
c. Abscess
d. Cyst
e. Intracerebral hemorrhage

103. A 60-year old man with a history of hypertension, diabetes and hyperlipidemia had a sudden onset of right-sided weakness. By the time the ambulance arrived, he had difficulty speaking. Unfortunately, the patient died within the next 2 hours and an autopsy was performed immediately. The gross examination of the cerebral left hemisphere showed brain swelling, widened gyri and poorly demarcated gray-white junction. Which of the following is the most likely cause of this patient's death?

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c. Intracerebral hemorrhage
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104. A 63-year-old man, who has been suffering from chronic fibrous-cavernous pulmonary tuberculosis for 24 years, has been delivered to a nephrology department with uremia. Intravital diagnostic test for amyloid in the kidneys was positive. What amyloidosis is it in this case?

a. Localized (focal)
b. Secondary systemic
c. Senile
d. Hereditary (genetic)
e. Primary systemic

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106. A 64-year-old man presents with a tremor in his legs and arms. He says he has had the tremor for <<many years>>, but it has worsened in the last year. The tremor is more prominent at rest and nearly disappears on movement. His daughter mentions that his movements have become slower. The patient is afebrile and vital signs are within normal limits. On physical examination, the patient is hunched over and his face is expressionless throughout examination. There is a <<pill-rolling>> resting tremor that is accentuated when the patient is asked to clench the contralateral hand and alleviated by finger-nose testing. When asked to walk across the room, the patient has difficulty taking the first step, has a stooped posture and takes short rapid shuffling steps. A doctor initiates pharmacotherapy and the drug of first line, levodopa, is prescribed. Which of the following is the most likely mechanism of action of this drug?

a. Activation of M2-cholinergic receptors
b. Cholinesterase inhibition
c. Inhibition of M2-cholinergic receptors
d. Stimulation of dopamine production
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108. A 65-year-old man with liver cirrhosis developed a significant decrease in blood pressure. What mechanism can be the cause of arterial hypotension in this case?

a. Reduced angiotensinogen synthesis in the liver
b. Disturbed antitoxic function of the liver
c. Reduced synthesis of transport proteins in the liver

d. Disturbed production of bile acids in the liver
e. Increased urea synthesis in the liver

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110. A 65-year-old patient with a history of coronary artery disease presents to the doctor's office complaining of dizziness and sudden onset of a <<bluish discoloration>> of his skin. Physical examination reveals cyanotic patient. His blood pressure is 100/50 mm Hg, heart rate --- 110/min., respiratory rate --- 14/min. Laboratory testing is significant for methemoglobinemia. Which of the following medications did this patient most likely misuse?

a. Nitrovasodilator
b. α-adrenoreceptor antagonists
c. Adenosine
d. Calcium channel blockers
e. Smooth muscle relaxant

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c. α-adrenoreceptor antagonists
d. Nitrovasodilator
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112. A 65-year-old woman presents to the emergency department because of shortness of breath and chest pain that started a few hours ago. She did not have a fever, expectoration, or any accompanying symptoms. She has a history of right leg deep vein thrombosis that occurred 5 years ago. Some time later, she dies of severe respiratory distress. A pulmonary autopsy specimen reveals red loose mass that is lodged in the bifurcation of the pulmonary trunk with extensions into both the left and right main pulmonary arteries. Which of the following is the most likely diagnosis?

a. Pneumonia
b. ---
c. Pneumothorax
d. Myocardial infarction
e. Thromboembolism

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b. Pneumonia
c. Thromboembolism
d. ---
e. Myocardial infarction

114. A 7-week-old infant is brought to the pediatrician due to feeding difficulty for the last 4 days. She has been drinking very little breast milk and stops feeding as if she is tired, only to start sucking again after a few minutes. On chest auscultation, bilateral wheezing is present. A cardiac murmur starts immediately after the onset of the first heart sound (S1), reaching its maximal intensity at the end of

systole, and waning during late diastole. The murmur is best heard over the second intercostal space and radiates to the left clavicle. The first heart sound (S1) is normal, while the second heart sound (S2) is obscured by the murmur. The pediatrician suspects a patent ductus arteriosus. Communication between which of the following arteries is the most likely cause of hemodynamic instability?

a. Aorta and pulmonary veins
b. Superior vena cava and pulmonary artery
c. Pulmonary artery and pulmonary veins
d. Pulmonary artery and aorta
e. Superior vena cava and aorta

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b. Superior vena cava and pulmonary artery
c. Aorta and pulmonary veins
d. Superior vena cava and aorta
e. Pulmonary artery and aorta

116. A 70-year-old-man has suffered a femoral fracture as a result of a fall. What is the most common fracture site in this bone at this age?

a. Neck
b. Lower third
c. Upper third
d. Middle part
e. Condyles

117. A 70-year-old-man has suffered a femoral fracture as a result of a fall. What is the most common fracture site in this bone at this age?

a. Middle part
b. Condyles
c. Neck
d. Upper third
e. Lower third

118. A 75-year-old man was diagnosed with rectal cancer. Into what regional lymph nodes can the metastases spread in this case?

a. Into the inferior mesenteric lymph nodes
b. Into the superior mesenteric lymph nodes
c. Into the perivesical lymph nodes
d. Into the thoracic lymphatic duct
e. Into the lumbar lymph nodes

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d. Into the superior mesenteric lymph nodes
e. Into the lumbar lymph nodes

120. A 78-year-old woman presents to the emergency department for fever and generalized malaise. Her symptoms began several days ago, when she noticed pain with urination and mild blood in her urine. Earlier this morning she experienced chills, flank pain and mild nausea. Her temperature is 38.7°C, blood pressure is 140/80 mm Hg, heart rate is 98/min. Later she dies of unknown cause. At autopsy, her kidney is swollen with punctate abscesses that outlined by a thin red margin (signs of

marginal vascular dilation). Microscopic observation reveals a large number of neutrophils. Which of the following is the most likely diagnosis?

a. Amyloidosis
b. Acute glomerulonephritis
c. Polycystic kidney disease
d. Acute pyelonephritis
e. Nephrolithiasis

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a. Polycystic kidney disease
b. Acute pyelonephritis
c. Amyloidosis
d. Nephrolithiasis
e. Acute glomerulonephritis

122. A blood drop has been put into a test tube with 0.3% solution of NaCl. What will happen to erythrocytes?

a. Shrinkage
b. Osmotic haemolysis
c. Any changes will be observed
d. Biological haemolysis
e. Mechanical haemolysis

123. A blood drop has been put into a test tube with 0.3% solution of NaCl. What will happen to erythrocytes?

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d. Osmotic haemolysis
e. Biological haemolysis

124. A blood smear of an allergic person contains a large number of round cells with a segmented nucleus and large bright pink granules in the cytoplasm. Name these blood cells.

a. Basophilic granulocytes
b. Lymphocytes
c. Neutrophilic granulocytes
d. Erythrocytes
e. Eosinophilic granulocytes

125. A blood smear of an allergic person contains a large number of round cells with a segmented nucleus and large bright pink granules in the cytoplasm. Name these blood cells.

a. Neutrophilic granulocytes
b. Basophilic granulocytes
c. Eosinophilic granulocytes
d. Erythrocytes
e. Lymphocytes

126. A child inhaled a button that was later removed from the right main bronchus using a bronchoscope. What bronchial epithelium is most likely to be damaged by such a foreign body?

a. Ciliated pseudostratified epithelium
b. Unstratified squamous epithelium
c. Unstratified low prismatic epithelium
d. Non-keratinized stratified epithelium
e. Transitional epithelium

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bronchoscope. What bronchial epithelium is most likely to be damaged by such a foreign body?

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c. Unstratified low prismatic epithelium

d. Transitional epithelium

e. Unstratified squamous epithelium

128. A geneticist examined a pregnant woman and determined that she has monozygotic twins. What process has resulted in the development of twins?

a. Polyembryony

b. Schizogony

c. Budding

d. Endogony

e. Fragmentation

129. A geneticist examined a pregnant woman and determined that she has monozygotic twins. What process has resulted in the development of twins?

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b. Fragmentation

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130. A group of researchers aimed to study cardiac physiology found that overstretching of atria in the heart leads to decreased sodium reabsorption in the distal convoluted tubule and increase in glomerular filtration rate. Which of the following is the most likely cause of physiologic effects discovered by researchers?

a. Aldosterone

b. Natriuretic peptide

c. Renin

d. Angiotensin

e. Antidiuretic hormone

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d. Natriuretic peptide

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132. A group of scientists studying the properties of cardiac muscle cells in vitro decides to conduct an experiment. They reveal that a stimulation of sympathetic innervation of the heart has a positive inotropic effect on the myocardium (i.e., increased contractility). Which of the following modifications of ion conductance in myocardial cell is most likely responsible for such changes in contractility?

a. Outward calcium current

b. Inward calcium current

c. ---

d. Outward potassium current

e. Inward potassium current

133. A group of scientists studying the properties of cardiac muscle cells in vitro decides to conduct an experiment. They reveal that a stimulation of sympathetic innervation of the heart has a positive inotropic effect on the myocardium (i.e., increased contractility). Which of the following modifications of ion conductance in myocardial cell is most likely responsible for such changes in contractility?

a. Outward potassium current

b. Inward calcium current

c. ---

d. Outward calcium current

e. Inward potassium current

134. A histological specimen demonstrates a parenchymal organ, the structural and functional unit of which is a follicle. The wall of the follicle is formed by cuboidal cells. The cavity of the follicle is filled with a colloid. What organ is being demonstrated in the specimen?

a. Ovary
b. Pituitary gland
c. Thyroid gland
d. Testicle
e. Salivary gland

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a. Salivary gland
b. Thyroid gland
c. Ovary
d. Testicle
e. Pituitary gland

136. A histological specimen of a woman's ovary shows a round formation, consisting of large glandular cells that contain lutein pigment. In the center of this structure, there is a small scar made of connective tissue. Name this formation:

a. Atretic body
b. Mature follicle
c. Secondary follicle
d. Corpus luteum
e. Corpus albicans

137. A histological specimen of a woman's ovary shows a round formation, consisting of large glandular cells that contain lutein pigment. In the center of this structure, there is a small scar made of connective tissue. Name this formation:

a. Corpus albicans
b. Atretic body
c. Corpus luteum
d. Mature follicle
e. Secondary follicle

138. A histological specimen of an eyeball shows a biconvex structure, connected to the ciliary body with the fibrous strands of the ciliary zonule and covered on top with a transparent capsule. What structure is it?

a. Sclera
b. Ciliary body
c. Crystalline lens
d. Vitreous body
e. Cornea

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d. Ciliary body
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140. A large number of glucose oxidation metabolites are dissolved in the cytoplasm of myocytes. What metabolite can be directly converted into lactate?

a. Fructose-6-phosphate
b. Pyruvate
c. Glucose-6-phosphate
d. Glycerophosphate

e. Oxaloacetate

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142. A male neonate born to a 24-year-old, who was pregnant for the fist time, had jaundice at 8 hours of life. The neonate's red blood cell type was A+, while the mothers RBC type was O+. Laboratory studies revealed elevated titer of mother's anti-A antibody, normal erythrocyte glucose-6-phosphate and negative sickle cell test. The infant's hemoglobin was 106 g/L. Which of the following is the most likely cause of infant's jaundice?

a. Hyperbilirubinemia

b. Rh incompatibility

c. Decrease in hemoglobin level

d. Sickle cell disease

e. Glucose-6-phosphate dehydrogenase (G6PD) deficiency

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144. A man died after a surgery for the perforation of the colon wall with signs of diffuse purulent peritonitis. Autopsy shows that the mucosa of the colon wall is thickened, covered in a fibrinous membrane, and has isolated ulcers that penetrate it to varying depths. Histology detects mucosal necrosis, the presence of fibrin, and leukocyte infiltration with hemorrhagic foci. What disease developed a complication in this case, causing the death of this man?

a. Amoebiasis

b. Nonspecific ulcerative colitis

c. Dysentery

d. Crohn's disease

e. Typhoid fever

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d. Dysentery

e. Amoebiasis

146. A man has an impairment of a certain part of his central nervous system, which manifests as asthenia, muscle dystonia, and a balance disorder. What part of the central nervous system is affected in this case?

a. Substantia nigra

b. Red nuclei

c. Cerebellum

d. Reticular formation

e. Vestibular nuclei

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b. Reticular formation
c. Vestibular nuclei
d. Red nuclei
e. Cerebellum

148. A man has convergent strabismus. What muscle of the eyeball is damaged in this case?

a. Musculus obliqus oculi superior
b. Musculus rectus oculi inferior
c. Musculus rectus oculi medialis
d. Musculus rectus oculi superior
e. Musculus rectus oculi lateralis

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b. Musculus rectus oculi medialis
c. Musculus obliqus oculi superior
d. Musculus rectus oculi lateralis
e. Musculus rectus oculi inferior

150. A man has gradually developed a plaque on the skin of his face with necrosis and an ulcer in its center. Pathohistology of the biopsy material reveals proliferation of atypical epithelial cells with a large number of pathological mitoses. What disease can be characterized by such clinical and laboratory findings?

a. Skin cancer
b. Fibroma
c. Trophic ulcer
d. Sarcoma
e. Papilloma

151. A man has gradually developed a plaque on the skin of his face with necrosis and an ulcer in its center. Pathohistology of the biopsy material reveals proliferation of atypical epithelial cells with a large number of pathological mitoses. What disease can be characterized by such clinical and laboratory findings?

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b. Papilloma
c. Sarcoma
d. Skin cancer
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152. A man was hospitalized in a comatose state. His medical history states that he has been suffering from type II diabetes mellitus for 5 years. Objectively, his respiration is noisy and deep. His blood glucose is 15.2 mmol/L, ketone bodies --- 100 mcmol/L. What complication of diabetes mellitus can be characterized by such findings?

a. Ketoacidotic coma
b. Hyperosmolar coma
c. Hypoglycemic coma
d. Hepatic coma
e. Hyperglycemic coma

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d. Hyperglycemic coma
e. Hyperosmolar coma

154. A microslide demonstrates an organ with its wall consisting of three layers. The inner layer has tubular glands and undergoes cyclic changes. Name this organ:

a. Uterus
b. Urinary bladder
c. Vagina
d. Ureter
e. Esophagus

155. A microslide demonstrates an organ with its wall consisting of three layers. The inner layer has tubular glands and undergoes cyclic changes. Name this organ:

a. Esophagus
b. Ureter
c. Vagina
d. Uterus
e. Urinary bladder

156. A mother of a 4-month-old male infant brought him to pediatrician with complaints of food rejection and weight loss. He started having trouble latching onto his bottle. He has also become extremely lethargic. Examination reveals diminished muscle tone in all four limbs, and hepatosplenomegaly. An ophthalmoscopic exam reveals macular cherry red spots. During the next few weeks, hepatosplenomegaly progresses, the boy fails to thrive, and he continues to reject food. Chest X-ray shows a reticulonodular pattern and calcified nodules. Biopsy of the liver shows foamy histiocytes. A Niemann-Pick disease is suspected. Which of the following is the most likely deficient enzyme in this patient?

a. Glucocerebrosidase
b. Galactocerebrosidase
c. Sphingomyelinase
d. Glucose-6-phosphatase
e. Phenylalanine-hydroxylase

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d. Sphingomyelinase
e. Glucose-6-phosphatase

158. A mutation has occurred in a cell in the first exon of the structural gene. The number of nucleotide pairs changed from 290 to 250. Name this type of mutation:

a. Deletion
b. Translocation
c. Inversion
d. Duplication
e. Nullisomy

159. A mutation has occurred in a cell in the first exon of the structural gene. The number of nucleotide pairs changed from 290 to 250. Name this type of mutation:

a. Nullisomy
b. Deletion
c. Duplication
d. Inversion

e. Translocation

160. A newborn delivered at 33 weeks of gestation has a respiratory rate of 70/min. and heart rate of 148/min. 2 hours after birth. He is grunting and has intercostal and subcostal retractions. He has peripheral cyanosis as well. An immediate chest radiograph is taken which shows a fine reticular granulation with ground glass opacity on both lungs. A neonatologist suggests respiratory distress syndrome due to surfactant deficiency. Which of the following is the most likely mechanism of these clinical and imaging findings?

a. Decreased airways resistance
b. Increased lung ventilation
c. ---
d. Tendency of alveoli to collapse
e. Decresed respiratory muscle work

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b. Decreased airways resistance
c. ---
d. Tendency of alveoli to collapse
e. Decresed respiratory muscle work

162. A parenchyma sample was taken from a hematopoietic organ of a patient for diagnostic purposes. The sample contains megakaryocytes. What hematopoietic organ is it?

a. Lymph node
b. Spleen
c. Tonsil
d. Thymus
e. Red bone marrow

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b. Spleen
c. Red bone marrow
d. Lymph node
e. Tonsil

164. A patient at the oncology department has undergone radiation therapy. After that, morphology detected a significant disruption in the process of regeneration of epithelial layer in the small intestine mucosa. What cells of the epithelial membrane are damaged in this case?

a. Columnar epitheliocytes without a brush border, located in the crypts
b. Endocrine cells
c. Columnar epitheliocytes with a brush border
d. Exocrinocytes with acidophilic granulation (Paneth cells)
e. Goblet exocrinocytes

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166. A patient complains of acute pain attacks in the right lumbar region. During examination the nephrolithic obturation of the right ureter in the region between its abdominal and pelvic segments

has been detected. What anatomical boundary exists between those two segments?
a. Linea inguinalis
b. Linea semilunaris
c. Linea transversa
d. Linea arcuata
e. Linea terminalis

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b. Linea arcuata
c. Linea terminalis
d. Linea inguinalis
e. Linea semilunaris

168. A patient complains of drooping eyelid (ptosis) that appeared recently. What nerve is affected in this case?
a. Abducens
b. Trochlear
c. Optic
d. Ophthalmic
e. Oculomotor

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a. Ophthalmic
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c. Optic
d. Trochlear
e. Abducens

170. A patient complains of pain in the right lateral abdomen. Palpation revealed a dense, immobile, tumor-like formation. A tumor is likely to be found in the following part of the digestive tube:
a. Colon ascendens
b. Colon descendens
c. Colon sigmoideum
d. Caecum
e. Colon transversum

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a. Caecum
b. Colon ascendens
c. Colon sigmoideum
d. Colon descendens
e. Colon transversum

172. A patient complains of palpitation after stress. The pulse is 104 bpm, P-Q=0,12 seconds, there are no changes of QRS complex. What type of arrhythmia does the patient have?
a. Ciliary arrhythmia
b. Sinus bradycardia
c. Sinus tachycardia
d. Sinus arrhythmia
e. Extrasystole

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b. Sinus tachycardia
c. Sinus arrhythmia
d. Extrasystole

e. Ciliary arrhythmia

174. A patient complains of paroxysmal pain in the area of upper teeth and lip. The pain radiates into the infraorbital region. Examination detects disturbed sensitivity in the area of the lip, cheek, and wings of the nose. What nerve is affected in this case?

a. Maxillary

b. Accessory

c. Facial

d. Ophthalmic

e. Mandibular

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a. Accessory

b. Facial

c. Ophthalmic

d. Mandibular

e. Maxillary

176. A patient complains of solar radiation intolerance. He has burns on his skin and vision loss. He was provisionally diagnosed with albinism. What amino acid metabolism is disturbed in this patient?

a. Tryptophan

b. Tyrosine

c. Lysine

d. Proline

e. Alanine

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e. Tyrosine

178. A patient diagnosed with chronic bronchitis underwent a biopsy of the main bronchus. The patient has a 30-year-long history of smoking. Histology of the biopsy material revealed stratified squamous epithelium. What pathological process in the main bronchus does it indicate?

a. Dysplasia

b. Hyperplasia

c. Metaplasia

d. Reparative regeneration

e. Physiological regeneration

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a. Hyperplasia

b. Reparative regeneration

c. Dysplasia

d. Physiological regeneration

e. Metaplasia

180. A patient has an angina pectoris attack. What myotropic drug with resorptive action can be used to stop the attack?

a. Nitrosorbide (Isosorbide dinitrate)

b. Menthol

c. Validol (Menthyl isovalerate)

d. Anaprilin (Propranolol)

e. Nitroglycerin

181. A patient has an angina pectoris attack. What myotropic drug with resorptive action can be used

to stop the attack?
a. Validol (Menthyl isovalerate)
b. Anaprilin (Propranolol)
c. Nitrosorbide (Isosorbide dinitrate)
d. Nitroglycerin
e. Menthol
182. A patient has ascites, his spleen is double the normal size, he has esophageal and rectal varices. Histology of the biopsy material obtained from the liver revealed micronodular cirrhosis. What process has complicated the hepatic cirrhosis in this case?
a. Portal hypertension syndrome
b. Heart failure
c. Hepatolienal syndrome
d. Hepatocellular dysfunction
e. Budd-Chiari syndrome
183. A patient has ascites, his spleen is double the normal size, he has esophageal and rectal varices. Histology of the biopsy material obtained from the liver revealed micronodular cirrhosis. What process has complicated the hepatic cirrhosis in this case?
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b. Hepatolienal syndrome
c. Portal hypertension syndrome
d. Hepatocellular dysfunction
e. Budd-Chiari syndrome
184. A patient has been diagnosed with a myocardial infarction. His blood was tested for the activity of cardiospecific enzymes. Which one among the detected enzymes has three isoforms?
a. Creatine kinase
b. Alanine transaminase
c. Lactate dehydrogenase
d. Aspartate transaminase
e. Pyruvate kinase
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a. Aspartate transaminase
b. Lactate dehydrogenase
c. Pyruvate kinase
d. Creatine kinase
e. Alanine transaminase
186. A patient has been diagnosed with myocardial infarction of the posterior wall of the left ventricle. In this case, thrombosis has occurred in the basin of the following artery:
a. Ramus interventricularis posterior a.coronaria dextra
b. Ramus interventricularis anterior a.coronaria dextra
c. Ramus septalis anterior a.coronaria sinistra
d. Ramus septalis posterior a.coronaria dextra
e. -
187. A patient has been diagnosed with myocardial infarction of the posterior wall of the left ventricle. In this case, thrombosis has occurred in the basin of the following artery:
a. Ramus septalis anterior a.coronaria sinistra
b. Ramus interventricularis anterior a.coronaria dextra
c. -
d. Ramus septalis posterior a.coronaria dextra
e. Ramus interventricularis posterior a.coronaria dextra
188. A patient has been fasting for 48 hours. What substances are used by muscle tissue as energy sources under these conditions?
a. Amino acids
b. Pyruvate
c. Lactate

d. Ketone bodies
e. Glycerin
189. A patient has been fasting for 48 hours. What substances are used by muscle tissue as energy sources under these conditions?
a. Pyruvate
b. Ketone bodies
c. Lactate
d. Amino acids
e. Glycerin
190. A patient has been hospitalized into the infectious diseases department with complaints of recurrent episodes of diarrhea and vomiting, pain in the leg muscles, weakness, and dizziness. After the examination, the doctor provisionally diagnosed the patient with cholera. What studies must be performed with the material obtained from the patient to make the express diagnosis?
a. Direct and indirect immunofluorescence
b. Biological method
c. Bacteriology
d. Serology
e. Agglutination reaction
191. A patient has been hospitalized into the infectious diseases department with complaints of recurrent episodes of diarrhea and vomiting, pain in the leg muscles, weakness, and dizziness. After the examination, the doctor provisionally diagnosed the patient with cholera. What studies must be performed with the material obtained from the patient to make the express diagnosis?
a. Bacteriology
b. Serology
c. Direct and indirect immunofluorescence
d. Agglutination reaction
e. Biological method
192. A patient is diagnosed with acute morphine hydrochloride intoxication. Prescribe an oxidizing agent for gastric lavage:
a. Sulfocamphocainum (Procaine + Sulfocamphoric acid)
b. Potassium permanganate
c. Chlorhexidine (bi)gluconate
d. Chloramine
e. Cerigel
193. A patient is diagnosed with acute morphine hydrochloride intoxication. Prescribe an oxidizing agent for gastric lavage:
a. Sulfocamphocainum (Procaine + Sulfocamphoric acid)
b. Cerigel
c. Chlorhexidine (bi)gluconate
d. Chloramine
e. Potassium permanganate
194. A patient needs to be prescribed a wide-spectrum fluoroquinolone agent. Select this drug from the list.
a. Amoxicillin
b. Ciprofloxacin
c. Azlocillin
d. Carbenicillin
e. Chinoxydin
195. A patient needs to be prescribed a wide-spectrum fluoroquinolone agent. Select this drug from the list.
a. Carbenicillin
b. Azlocillin
c. Chinoxydin
d. Amoxicillin
e. Ciprofloxacin

196. A patient presents with a disturbed process of urea synthesis. It indicates the pathology of the following organ:
a. Kidneys
b. Muscles
c. Bladder
d. Brain
e. Liver
197. A patient presents with a disturbed process of urea synthesis. It indicates the pathology of the following organ:
a. Muscles
b. Liver
c. Kidneys
d. Bladder
e. Brain
198. A patient presents with smoothed out right nasolabial fold and dilated right palpebral fissure (it cannot be closed during squinting, because the eyelids do not close). The patient has problems with talking and eating (food stucks between the cheek and teeth). What nerve is damaged in this case?
a. N. trigeminus dexter
b. N. facialis dexter
c. N. abduceus dexter
d. N. vagus dexter
e. N. glossopharyngeus sinister
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b. N. facialis dexter
c. N. glossopharyngeus sinister
d. N. abduceus dexter
e. N. vagus dexter
200. A patient suffers from acute cardiopulmonary failure with pulmonary edema. What diuretic should be prescribed in the given case?
a. Hydrochlorothiazide (Dichlothiazidum)
b. Acetazolamide (Diacarb)
c. Furosemide
d. Spironolactone
e. Triamterene
201. A patient suffers from acute cardiopulmonary failure with pulmonary edema. What diuretic should be prescribed in the given case?
a. Spironolactone
b. Acetazolamide (Diacarb)
c. Furosemide
d. Hydrochlorothiazide (Dichlothiazidum)
e. Triamterene
202. A patient ungergoes right-sided pulmonectomy due to lung cancer. Name the anatomical structures of the right lung root (downward order):
a. Artery, bronchus, veins
b. Artery, veins, bronchus
c. Bronchus, artery, veins
d. Veins, artery, bronchus
e. Veins, bronchus, artery
203. A patient ungergoes right-sided pulmonectomy due to lung cancer. Name the anatomical structures of the right lung root (downward order):
a. Veins, artery, bronchus
b. Bronchus, artery, veins

c. Artery, bronchus, veins
d. Artery, veins, bronchus
e. Veins, bronchus, artery

204. A patient was hospitalized with the following diagnosis: exacerbated peptic ulcer disease of the duodenum, duodenal bulb ulcer. Gastric juice analysis shows high secretory and acid-producing function of the stomach. What drug inhibits the secretory function of the gastric glands by blocking H2 receptors?

a. Famotidine
b. Belladonna dry extract
c. Platyphyllin
d. Atropine
e. Methacin

205. A patient was hospitalized with the following diagnosis: exacerbated peptic ulcer disease of the duodenum, duodenal bulb ulcer. Gastric juice analysis shows high secretory and acid-producing function of the stomach. What drug inhibits the secretory function of the gastric glands by blocking H2 receptors?

a. Platyphyllin
b. Methacin
c. Belladonna dry extract
d. Atropine
e. Famotidine

206. A patient was hospitalized with the provisional diagnosis of coronavirus infection. To diagnose the disease, a serological reaction was performed. This reaction is based on the interaction between an antigen and an antibody that is chemically linked to peroxidase or alkaline phosphatase. What serological reaction was used in this case?

a. Immobilization test
b. Complement fixation test
c. Radioimmunological method
d. Enzyme-linked immunosorbent assay (ELISA)
e. Immunofluorescence assay

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b. Radioimmunological method
c. Immobilization test
d. Enzyme-linked immunosorbent assay (ELISA)
e. Complement fixation test

208. A patient was prescribed an adrenomimetic drug to stop an attack of bronchial asthma. Select this drug from the list.

a. Salbutamol
b. Rheopolyglucin (Dextran)
c. Nitrosorbide (Isosorbide dinitrate)
d. Asparcam (Potassium and magnesium aspartate)
e. Cerucal (Metoclopramide)

209. A patient was prescribed an adrenomimetic drug to stop an attack of bronchial asthma. Select this drug from the list.

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b. Cerucal (Metoclopramide)
c. Asparcam (Potassium and magnesium aspartate)
d. Salbutamol
e. Rheopolyglucin (Dextran)

210. A patient with acute appendicitis has been hospitalized into the surgical department. An appendectomy under local anesthesia was initially recommended to the patient. However, it was later

discovered that the patient had a history of frequent allergic reactions to medicines. Select from the list the drug that would be the optimal chioce for infiltration anesthesia in this case.

a. Xycaine (Lidocaine)
b. Novocaine (Procaine)
c. Dicaine (Tetracaine)
d. Cocaine
e. Anesthesine (Benzocaine)

211. A patient with acute appendicitis has been hospitalized into the surgical department. An appendectomy under local anesthesia was initially recommended to the patient. However, it was later discovered that the patient had a history of frequent allergic reactions to medicines. Select from the list the drug that would be the optimal chioce for infiltration anesthesia in this case.

a. Cocaine
b. Xycaine (Lidocaine)
c. Anesthesine (Benzocaine)
d. Novocaine (Procaine)
e. Dicaine (Tetracaine)

212. A patient with cholelithiasis has fatty colorless stool because of obturation of the biliary tract. What bile component is absent, causing steatorrhea in the patient?

a. Bile pigments
b. Fatty acids
c. Bile acids
d. Alkaline phosphatase
e. Cholesterol

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a. Fatty acids
b. Alkaline phosphatase
c. Cholesterol
d. Bile acids
e. Bile pigments

214. A patient with chronic bronchitis was prescribed a drug with mucolytic action. Name this drug:

a. Anaprilin (Propranolol)
b. Paracetamol
c. Atropine sulfate
d. Ambroxol
e. Magnesium sulfate

215. A patient with chronic bronchitis was prescribed a drug with mucolytic action. Name this drug:

a. Atropine sulfate
b. Magnesium sulfate
c. Paracetamol
d. Anaprilin (Propranolol)
e. Ambroxol

216. A patient with chronic heart failure developed signs of pulmonary edema. What diuretic must be prescribed to the patient for rapid correction of this complication?

a. Furosemide
b. Clopamide
c. Triamzid
d. Diacarb (Acetazolamide)
e. Spironolactone

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e. Furosemide

218. A patient with femoral neck fracture, who for a long time had to remain in bed in a forced (supine) position, has developed dark-brown lesions along the backbone; soft tissues are swollen, in the areas of maceration there is a foul-smelling liquid. Name the clinicopathologic type of necrosis:

a. Infarction

b. Bedsore

c. Dry gangrene

d. Sequestrum

e. Coagulation necrosis

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a. Sequestrum

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220. A patient with frequent hemorrhages from the internal organs and mucous membranes has proline and lysine in the composition of collagen fibers. Their hydroxylation is impaired because of the following vitamin deficiency:

a. Vitamin A

b. Vitamin K

c. Vitamin C

d. Thiamine

e. Vitamin E

221. A patient with frequent hemorrhages from the internal organs and mucous membranes has proline and lysine in the composition of collagen fibers. Their hydroxylation is impaired because of the following vitamin deficiency:

a. Vitamin E

b. Vitamin K

c. Vitamin A

d. Vitamin C

e. Thiamine

222. A patient with hyperthyroidism has high body temperature. What energy metabolism disorder is the leading one in the rise of the body temperature in this case?

a. Enzyme activation in the respiratory chain

b. Increased lipolysis

c. Enzyme activation in the Krebs cycle

d. Increased glycogen breakdown

e. Separation of oxidation and oxidative phosphorylation

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e. Enzyme activation in the respiratory chain

224. A patient with liver cirrhosis has persistent arterial hypotension (blood pressure - 90/50 mm Hg). What causes the decrease in blood pressure in such a liver pathology?

a. Increased natriuretic hormone synthesis

b. Excessive vasopressin inactivation

c. Activation of the kinin-kallikrein system

d. Decreased angiotensinogen synthesis

e. Increased reflex effect of the receptor zone in the aortic arch

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What causes the decrease in blood pressure in such a liver pathology?
a. Increased reflex effect of the receptor zone in the aortic arch
b. Decreased angiotensinogen synthesis
c. Increased natriuretic hormone synthesis
d. Activation of the kinin-kallikrein system
e. Excessive vasopressin inactivation
226. A patient with pleurisy has a foul-smelling fluid, containing biogenic amines and gases, in the pleural cavity. What type of inflammation is observed in this case?
a. Alterative
b. Putrefactive
c. Catarrhal
d. Fibrinous
e. Purulent
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b. Alterative
c. Putrefactive
d. Purulent
e. Catarrhal
228. A patient with scurvy presents with disturbed processes of proline and lysine hydroxylation in the collagen. What biochemical process is inhibited in this case, causing this disorder?
a. Microsomal oxidation
b. Tissue respiration
c. Oxidative phosphorylation
d. Lipid peroxidation
e. Peroxidase oxidation of fats
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a. Oxidative phosphorylation
b. Tissue respiration
c. Peroxidase oxidation of fats
d. Lipid peroxidation
e. Microsomal oxidation
230. A patient with signs of jaundice has been hospitalized into the surgical department. Normally, bile does not enter the blood stream from the bile capillaries. What ultrastructural features of the hepatocyte structure contribute to this phenomenon?
a. Biliary surface in hepatocytes
b. No proper wall in bile capillaries
c. Microvilli on the surface of the capillaries
d. Close contacts between hepatocytes
e. Polygonal shape of hepatocytes
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b. Microvilli on the surface of the capillaries
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d. No proper wall in bile capillaries
e. Biliary surface in hepatocytes
232. A patient with suspected dysentery was admitted to the infectious diseases department. What diagnostic method can confirm this diagnosis?
a. Allergy testing
b. Biological method
c. Bacteriological method

d. Serological method
e. Microscopy
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b. Serological method
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d. Biological method
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234. A patient with type 1 diabetes mellitus has been prescribed insulin as a substitution therapy. What is the mechanism of action of this drug?
a. Intensification of anaerobic glycolysis
b. COX-2 inhibition
c. Stimulation of α-cells of pancreatic islets
d. Increase of the glucose permeability of cell plasma membranes
e. Blockade of H1-histamine receptors
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d. Increase of the glucose permeability of cell plasma membranes
e. Intensification of anaerobic glycolysis
236. A person has a knee injury with a crushed patella. In this case, damage is likely to be observed in a tendon of the following thigh muscle:
a. Quadriceps femoris muscle
b. Adductor magnus muscle
c. Adductor longus muscle
d. Biceps femoris muscle
e. Sartorius muscle
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b. Adductor magnus muscle
c. Adductor longus muscle
d. Quadriceps femoris muscle
e. Biceps femoris muscle
238. A person produces little amount of thick saliva; its enzymatic activity is reduced, while its mucus content is increased. What glands are most likely to be functionally impaired, causing this condition?
a. ---
b. Parotid glands
c. Proper mucosal glands
d. Sublingual glands
e. Submandibular glands
239. A person produces little amount of thick saliva; its enzymatic activity is reduced, while its mucus content is increased. What glands are most likely to be functionally impaired, causing this condition?
a. Submandibular glands
b. Proper mucosal glands
c. ---
d. Sublingual glands
e. Parotid glands
240. A person with a head injury in the temporal region has been diagnosed with an epidural hematoma. What artery is most likely to be damaged in this case?
a. Superficial temporal artery
b. Anterior meningeal artery

c. Posterior auricular artery
d. Middle meningeal artery
e. Middle cerebral artery
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c. Posterior auricular artery
d. Anterior meningeal artery
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242. A person with dilated subcutaneous veins clearly visible in the area of the navel ("caput medusae") has been hospitalized. What large vein has impaired patency in this case?
a. V. mesenterica superior
b. V. iliaca interna
c. V. renalis
d. V. portae hepatis
e. V. mesenterica inferior
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a. V. renalis
b. V. iliaca interna
c. V. portae hepatis
d. V. mesenterica superior
e. V. mesenterica inferior
244. A person with drug-induced poisoning is unconscious and presents with miosis and intensified spinal monosynaptic reflexes. What substance could be the cause of the poisoning in this case?
a. Aminazine (Chlorpromazine)
b. Dimedrol (Diphenhydramine)
c. Morphine
d. Ethaminal sodium
e. Diazepam
245. A person with drug-induced poisoning is unconscious and presents with miosis and intensified spinal monosynaptic reflexes. What substance could be the cause of the poisoning in this case?
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b. Dimedrol (Diphenhydramine)
c. Aminazine (Chlorpromazine)
d. Morphine
e. Ethaminal sodium
246. A person with suspected liver abscess has been admitted into the surgical department of a hospital. This person was on a business trip in one of the African countries for a long time and repeatedly had been suffering from an acute gastrointestinal disease. What protozoan disease is likely in this patient?
a. Leishmaniasis
b. Toxoplasmosis
c. Amoebiasis
d. Malaria
e. Trypanosomiasis
247. A person with vitamin A deficiency develops twilight vision disturbance. Name the cells that fulfill this photoreceptor function:
a. Bipolar neurons
b. Horizontal cells of retina
c. Cone cells
d. Ganglionic nerve cells
e. Rod cells
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this photoreceptor function:
a. Horizontal cells of retina
b. Bipolar neurons
c. Rod cells
d. Ganglionic nerve cells
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249. A poisoning caused by sulema (mercury dichloride) has occurred at a factory. Two days later, the person, who had suffered from the sulema exposure, developed the 24-hour diuresis of 620 mL, headache, vomiting, convulsions, and dyspnea. What diagnosis can be made in this case?
a. Chronic renal failure
b. Pyelonephritis
c. Glomerulonephritis
d. Acute renal failure
e. Uremic coma
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a. Pyelonephritis
b. Glomerulonephritis
c. Acute renal failure
d. Uremic coma
e. Chronic renal failure
251. A smear prepared from the duodenal content of a patient with maldigestion contained protozoa 10-18 mcm in size, with pear-shaped body, 4 pairs of flagella, and two symmetrically positioned nuclei in the widened front part of the body. What type of protozoa is the most likely in this case?
a. Balantidium
b. Entamoeba coli
c. Entamoeba histolytica
d. Lamblia
e. Trichomonad
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d. Entamoeba histolytica
e. Lamblia
253. A specimen of a 10-day-old human embryo shows two interconnected sacs (amniotic and yolk sacs). Name the structure located in the place where these two sacs connect:
a. Amniotic stalk
b. Roof of the amniotic sac
c. Floor of the amniotic sac
d. Embryonic shield
e. Extraembryonic mesoderm
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b. Embryonic shield
c. Roof of the amniotic sac
d. Amniotic stalk
e. Floor of the amniotic sac
255. A surgeon suspects inflammation of the Meckel's diverticulum in a 10-year-old child. This condition requires a surgical intervention. What part of the intestine must be inspected to find the diverticulum?

a. 20 cm of the ileum, starting from the ileocecal angle
b. 1 meter of the ileum, starting from the place of its confluence with the large intestine
c. Descending colon
d. 0.5 meters of jejunum, starting from the ligament of Treitz
e. Ascending colon

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257. A team of medical students is performing research on phases of cell cycle. During one of the mitotic phases the cell is nearly done dividing, the chromosomes decondense and two nuclei begin to form around them. Which of the following phases most likely takes place in the cell?
a. Metaphase
b. Telophase
c. Anaphase
d. ---
e. Prophase

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259. A woman came to a medical and genetic consultancy requesting to assess the risk of hemophilia in her children. Her husband has hemophilia. History-taking revealed that the woman's family had no cases of hemophilia. What is the risk of this couple giving birth to a child with this disease?
a. 100%
b. 50%
c. Absent
d. 75%
e. 25%

260. A woman came to a medical and genetic consultancy requesting to assess the risk of hemophilia in her children. Her husband has hemophilia. History-taking revealed that the woman's family had no cases of hemophilia. What is the risk of this couple giving birth to a child with this disease?
a. 75%
b. 100%
c. 25%
d. Absent
e. 50%

261. A woman complains of leg edema, cyanotic skin, and small ulcers on the side of the lateral malleolus. Examination detects swelling, enlarged veins, and formation of nodes. What vein is involved in the pathology in this case?
a. V. saphena magna
b. V. femoralis
c. V. profunda femoris
d. V. saphena parva
e. V. iliaca externa

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b. V. iliaca externa
c. V. saphena parva
d. V. profunda femoris
e. V. femoralis

263. A woman was hospitalized because of posterior wall myocardial infarction in the left ventricle. In this case, the circulation will be impaired in the following artery:
a. Posterior interventricular artery
b. Anterior interventricular artery
c. Left circumflex artery
d. Left coronary artery
e. Thebesian vessels

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a. Thebesian vessels
b. Left circumflex artery
c. Posterior interventricular artery
d. Left coronary artery
e. Anterior interventricular artery

265. A woman, who complains of a constant feeling of fear and anxiety, has been diagnosed with neurosis and prescribed a drug with an anxiolytic effect. What drug is it?
a. Caffeine and sodium benzoate
b. Aminazine (Chlorpromazine)
c. Diazepam
d. Piracetam
e. Ginseng tincture

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d. Piracetam
e. Caffeine and sodium benzoate

267. A woman, who was undergoing treatment for insomnia, was found unconscious. Her respiration is inhibited, she is in a collaptoid state and presents with muscle hypotonia and absence of reflexes. Empty medicine packages were found at the site of the accident. What medicine could have caused such a condition in the patient?
a. Nialamide
b. Picamilon
c. Eleutherococcus tincture
d. Phenobarbital
e. Promedol (Trimeperidine)

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a. Picamilon
b. Phenobarbital
c. Eleutherococcus tincture
d. Promedol (Trimeperidine)
e. Nialamide

269. A worker was hospitalized with the bleeding, caused by an injury to the shoulder. Five days later, an increased concentration of certain blood cells will be observed in the patient's blood. Name these cells.

a. Reticulocytes
b. Lymphoblasts
c. Megalocytes
d. Megaloblasts
e. Erythroblasts

270. A worker was hospitalized with the bleeding, caused by an injury to the shoulder. Five days later, an increased concentration of certain blood cells will be observed in the patient's blood. Name these cells.
a. Megalocytes
b. Lymphoblasts
c. Reticulocytes
d. Megaloblasts
e. Erythroblasts

271. Acute herpetic gingivostomatitis is the most common primary infection caused by herpes simplex virus, type 1. What material should a dentist obtain for the laboratory analysis to confirn this diagnosis?
a. Saliva
b. Blood
c. Sputum
d. Fluid from the vesicles
e. Urine

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273. After 10 days of treatment with an antibiotic, a patient developed signs of dysbosis: dyspepsia, candidiasis, jaundice, and photosensitization, which indicates that this antibiotic belongs to the following group:
a. Cephalosporin group
b. Tetracycline group
c. Penicillin group
d. Aminoglycoside group
e. Rifampicin group

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a. Rifampicin group
b. Tetracycline group
c. Cephalosporin group
d. Penicillin group
e. Aminoglycoside group

275. After a cholecystectomy, the processes of Ca$^{++$ absorption through the intestinal wall became impaired in the patient. What vitamin must be prescribed to stimulate this process?
a. Vitamin B_{12}
b. Vitamin D_{3
c. Vitamin K
d. Vitamin RR
e. Vitamin C

276. After a cholecystectomy, the processes of Ca$^{++$ absorption through the intestinal wall became impaired in the patient. What vitamin must be prescribed to stimulate this process?
a. Vitamin B_{12}

b. Vitamin K
c. Vitamin C
d. Vitamin D_{3
e. Vitamin RR

277. After a hemorrhage into the left hemisphere of the brain, the patient has lost the ability to speak. In this case, thrombosis occurred in the basin of:

a. Arteria cerebri media
b. Arteria cerebri posterior
c. Arteria communicans posterior
d. Arteria communicans anterior
e. Arteria cerebri anterior

278. After a hemorrhage into the left hemisphere of the brain, the patient has lost the ability to speak. In this case, thrombosis occurred in the basin of:

a. Arteria cerebri media
b. Arteria communicans anterior
c. Arteria cerebri posterior
d. Arteria cerebri anterior
e. Arteria communicans posterior

279. After an intracerebral hemorrhage, the patient's speech became indistinct. Sound production in the larynx and movements of the lower jaw are retained. The nuclei of what nerves have been affected by the hemorrhage in this case?

a. Nuclei n. glossopharyngeus
b. Nuclei n. hypoglossi
c. Nuclei n. accessorii
d. Nuclei n. facialis
e. Nuclei n. vagi

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a. Nuclei n. vagi
b. Nuclei n. glossopharyngeus
c. Nuclei n. facialis
d. Nuclei n. hypoglossi
e. Nuclei n. accessorii

281. After bilateral adrenalectomy performed on a dog, the animal developed muscle weakness, adynamia, low body temperature, and hypoglycemia. What other sign is likely to be observed in case of adrenal insufficiency?

a. Arterial hypotension
b. Increased glycogen synthesis
c. Lymphopenia
d. Increased resistance to bacteria and toxins
e. Increased sodium and chloride levels in the blood serum

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e. Increased resistance to bacteria and toxins

283. After delivery of a child by pregnant woman, the midwife notices a defect in external genitalia of a newborn. The woman only had one prenatal ultrasound that reported a male fetus. On physical exam, the neonatologists notices a short, broad penis with an orifice in its dorsal aspect, both testicles are present in the scrotum. Which of the following is the most likely congenital abnormality?

a. Hypospadias

b. Phimosis
c. Paraphimosis
d. Epispadias
e. Ovotesticular disorder of sex development

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a. Ovotesticular disorder of sex development
b. Hypospadias
c. Epispadias
d. Paraphimosis
e. Phimosis

285. An 11-year-old girl is brought to the doctor's office by her mother who states her daughter has been weak with swollen face for 3 days. The mother states her daughter had always been healthy and active until the initiation of symptoms. Upon inquiry, the girl describes a foamy appearance of her urine but denies blood in urine, urinary frequency at night, or pain during urination. Physical examination reveals generalized swelling of the face and pitting edema on the lower limbs. Laboratory study shows proteinuria and microscopic hematuria. Which of the following is the most likely cause of findings in the laboratory study of urine?

a. ---
b. Increased glomerular hydrostatic pressure
c. Increased hydrostatic pressure in Bowman's capsule
d. Increased permeability across the glomerular capillary wall
e. Increased plasma oncotic pressure

286. An 11-year-old girl is brought to the doctor's office by her mother who states her daughter has been weak with swollen face for 3 days. The mother states her daughter had always been healthy and active until the initiation of symptoms. Upon inquiry, the girl describes a foamy appearance of her urine but denies blood in urine, urinary frequency at night, or pain during urination. Physical examination reveals generalized swelling of the face and pitting edema on the lower limbs. Laboratory study shows proteinuria and microscopic hematuria. Which of the following is the most likely cause of findings in the laboratory study of urine?

a. Increased plasma oncotic pressure
b. Increased glomerular hydrostatic pressure
c. Increased hydrostatic pressure in Bowman's capsule
d. ---
e. Increased permeability across the glomerular capillary wall

287. An 18-year-old girl comes to her physician with concern about her health because she has not achieved menarche. She denies any significant weight loss, changes in mood, or changes in her appetite. She mentions that her mother told her about mild birth defects, but she cannot recall the specifics. Past medical history and family history are benign. On physical examination, the patient is short in stature, has a short and webbed neck and wide chest. Staining of buccal smear reveals absence of Barr bodies in the nucleus of epithelial cells. A urine pregnancy test is negative. Which of the following genetic disorders is the most likely cause of this patient's condition?

a. Patau syndrome
b. Turner syndrome
c. Cri du chat (<<cat-cry>>) syndrome
d. Edwards syndrome
e. Klinefelter syndrome

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the following genetic disorders is the most likely cause of this patient's condition?
a. Patau syndrome
b. Turner syndrome
c. Klinefelter syndrome
d. Cri du chat (<<cat-cry>>) syndrome
e. Edwards syndrome

289. An 8-year-old child with an incised wound on the sole of the right foot has been brought to the hospital. Deep wound with dissection of the tendon of a muscle on the plantar surface, closer to the lateral edge of the foot, was detected during the surgical treatment. The patient presents with limited elevation of the lateral edge of the foot. What muscle is most likely functionally impaired in this case?
a. M. quadriceps femoris
b. M. extensor digitorum longus
c. M. peroneus longus
d. M. tibialis anterior
e. M. triceps surae

290. An 8-year-old child with an incised wound on the sole of the right foot has been brought to the hospital. Deep wound with dissection of the tendon of a muscle on the plantar surface, closer to the lateral edge of the foot, was detected during the surgical treatment. The patient presents with limited elevation of the lateral edge of the foot. What muscle is most likely functionally impaired in this case?
a. M. quadriceps femoris
b. M. tibialis anterior
c. M. extensor digitorum longus
d. M. triceps surae
e. M. peroneus longus

291. An adult man has 24-hour urine output of 20 liters with low specific gravity. This condition is most likely caused by the deficiency of a certain substance in the body. Name this substance.
a. Antidiuretic hormone
b. Natriuretic factor
c. Renin
d. Aldosterone
e. Parathyroid hormone

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a. Renin
b. Natriuretic factor
c. Aldosterone
d. Parathyroid hormone
e. Antidiuretic hormone

293. An increase in the circulating blood volume under the influence of aldosterone and antidiuretic hormone leads to the activation of secretion of a certain substance. What substance is it?
a. Atrial natriuretic peptide
b. Angiotensinogen
c. Angiotensin II
d. Renin
e. Melatonin

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295. An unidentified surgical specimen is received for histopathologic analysis. A portion of the specimen is cut and stained with hematoxylin and eosin. Light microscopy of the specimen reveals an organ with capsule and pulp. A capsule consists of dense connective tissue, which forms trabecular

extensions and penetrates the parenchyma. Parenchyma has two zones: white and red pulp. The white pulp houses periarteriolar lymphoid sheaths (PALS), which are populated by T-cells and surround central arteries. Which of the following organs most likely complies with described histological findings?

a. Spleen
b. Red bone marrow
c. Tonsil
d. Thymus
e. Lymph node

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a. Tonsil
b. Thymus
c. Red bone marrow
d. Spleen
e. Lymph node

297. An unidentified surgical specimen is received for histopathologic analysis. A portion of the specimen is cut and stained with hematoxylin and eosin. Under the microscope, you see an organ encapsulated by dense connective tissue that extends to the deeper areas by way of the trabecular extensions. The organ can be subdivided into two regions: a cortex with lymphoid nodules and medulla with medullary cords populated by plasma cells, B-cells and T-cells. Which of the following structures is most likely the origin of this surgical specimen?

a. Spleen
b. Thymus
c. Tonsils
d. Lymph node
e. Bone marrow

298. An unidentified surgical specimen is received for histopathologic analysis. A portion of the specimen is cut and stained with hematoxylin and eosin. Under the microscope, you see an organ encapsulated by dense connective tissue that extends to the deeper areas by way of the trabecular extensions. The organ can be subdivided into two regions: a cortex with lymphoid nodules and medulla with medullary cords populated by plasma cells, B-cells and T-cells. Which of the following structures is most likely the origin of this surgical specimen?

a. Tonsils
b. Thymus
c. Bone marrow
d. Spleen
e. Lymph node

299. As a result of a stroke (hemorrhage in the brain), the patient cannot perform voluntary movements of the muscles in the head and neck. Brain examination using the NMR imaging revealed that the hematoma was located in the genu of the internal capsule. What conduction pathway is damaged in this patient?

a. Fibrae corticonuclearis
b. Fibrae corticospinalis
c. Fibrae frontopontinus
d. Fibrae thalamocorticalis
e. Fibrae corticothalamicus

300. As a result of a stroke (hemorrhage in the brain), the patient cannot perform voluntary movements of the muscles in the head and neck. Brain examination using the NMR imaging revealed that the hematoma was located in the genu of the internal capsule. What conduction pathway is

damaged in this patient?
a. Fibrae frontopontinus
b. Fibrae corticospinalis
c. Fibrae thalamocorticalis
d. Fibrae corticothalamicus
e. Fibrae corticonuclearis
301. As a result of industrial exposure to chromium compounds, a woman has developed allergic dermatitis on both her hands. What skin cells are mainly involved in the manifestation of this disease?
a. Plasma cells
b. Tissue basophils
c. Lymphocytes
d. Neutrophils
e. Macrophages
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b. Macrophages
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303. At the post-mortem examination the stomach of a patient with renal failure was found to have a yellow-brown coating on the thickened mucosa. The coating was firmly adhering to its surface and had significant thickness. Microscopy revealed congestion and necrosis of mucosal and submucosal layers, fibrin presence. What is the most likely diagnosis?
a. Corrosive gastritis
b. Esogastritis
c. Fibrinous gastritis
d. Gastric abscess
e. Croupous gastritis
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305. Autopsy of a 47-year-old miner's body, who worked down in the shaft for 10 years, reveales bands of a whitish fibrous tissue and nodules 0.2-0.3 cm in diameter in his lungs. Histology detects in the nodules a small amount of brownish dust and concentric proliferation of a cell-poor connective tissue with marked hyalinosis. What type of pneumoconiosis can be suspected in this case?
a. Silicosis
b. Berylliosis
c. Asbestosis
d. Talcosis
e. Siderosis
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307. Autopsy of the body of a 14-year-old child who died of pneumonia revealed the following: multiple punctate and spotty hemorrhages in the skin, mucosa, and serous membranes; an enlarged flaccid spleen that is red on section and yields only a small amount of material when scraped; enlarged pale gray mediastinal and retroperitoneal lymph nodes with a slightly pinkish tint on the cross-section; raspberry-red bone marrow in flat and tubular bones. What disease is indicated by the described changes?

a. Acute myeloblastic leukemia
b. Lymphogranulomatosis
c. Acute lymphoblastic leukemia
d. Chronic lymphoid leukemia
e. Chronic myeloid leukemia

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a. Lymphogranulomatosis
b. Chronic myeloid leukemia
c. Acute myeloblastic leukemia
d. Acute lymphoblastic leukemia
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309. Autopsy of the body of a 40-year-old man, who died of odontogenic sepsis, revealed sharp thickening of poorly mobile semilunar aortic valves. The tissue of the valve is whitish and opaque. Its outer surface has thrombotic deposits 1x1.5 cm in size. What type of endocarditis is it?

a. Diffuse endocarditis
b. Ulcerative polypoid endocarditis
c. Recurrent verrucous endocarditis
d. Fibroplastic endocarditis
e. Acute verrucous endocarditis

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a. Fibroplastic endocarditis
b. Ulcerative polypoid endocarditis
c. Acute verrucous endocarditis
d. Recurrent verrucous endocarditis
e. Diffuse endocarditis

311. Autopsy of the body of a 44-year-old man, who died of cardiopulmonary failure, revealed pneumosclerosis, pulmonary emphysema, and hypertrophy of the right ventricle of the heart. Multiple mostly subpleural foci up to 1 cm in diameter are observed in both lungs. Histologically, in the center of the foci there is a zone of necrosis, while on their periphery a border consisting of epithelioid cells and lymphocytes with addition of macrophages and plasma cells is observed. Langhans giant cells are present. A small number of blood capillaries can be detected on the periphery of the lesion foci. What disease is it?

a. Hematogenous tuberculosis
b. Syphilis
c. Sarcoidosis
d. Pulmonary actinomycosis
e. Silicosis

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a. Sarcoidosis

b. Hematogenous tuberculosis

c. Pulmonary actinomycosis

d. Syphilis

e. Silicosis

313. Autopsy of the body of a 72-year-old woman with rheumatoid arthritis, who died of uremia, revealed enlarged dense pale gray kidneys with shiny sebaceous surface on section. What pathology can be suspected, based on the revealed changes?

a. Atherosclerotic nephrosclerosis

b. Renal amyloidosis

c. Chronic glomerulonephritis

d. Chronic pyelonephritis

e. Contracted granular kidneys

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d. Renal amyloidosis

e. Atherosclerotic nephrosclerosis

315. Autopsy shows clinical presentation of diffuse osteoporosis with foci of bone tissue destruction. In the bone marrow, proliferation of atypical plasma cells can be observed. Bence Jones protein is detected in urine. What diagnosis can be made in this case?

a. Lymphogranulomatosis

b. Osteodystrophy

c. Multiple myeloma

d. Osteoporosis

e. Bekhterev disease (ankylosing spondylitis)

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e. Lymphogranulomatosis

317. Bacteriological analysis of tap water shows the following: total bacterial count in 1.0 mL of water is 80, coli index is 3. What would be the conclusion?

a. The water is polluted

b. The water is safe for consumption

c. The water quality is extremely \\ dubious

d. The water quality is dubious

e. The water is extremely polluted

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d. The water is extremely polluted

e. The water quality is dubious

319. Because of a cerebral hemorrhage, a patient developed impaired speech perception (sensory

aphasia). What brain structure is likely to be damaged in this case?
a. Inferior frontal gyrus
b. Superior temporal gyrus
c. Inferior temporal gyrus
d. Superior frontal gyrus
e. Postcentral gyrus

320. Because of a cerebral hemorrhage, a patient developed impaired speech perception (sensory aphasia). What brain structure is likely to be damaged in this case?
a. Superior frontal gyrus
b. Inferior frontal gyrus
c. Inferior temporal gyrus
d. Superior temporal gyrus
e. Postcentral gyrus

321. Blood testing of a 45-year-old man, who had gastrectomy three years ago, shows the following: erythrocyte count --- $2.0 · 10^{12$/L, Hb --- 85 g/L, color index --- 1.27. These changes in erythropoiesis were caused by problems with absorption of a certain vitamin. Name this vitamin.
a. B_{6
b. P
c. B_{12
d. A
e. C

322. Blood testing of a 45-year-old man, who had gastrectomy three years ago, shows the following: erythrocyte count --- $2.0 · 10^{12$/L, Hb --- 85 g/L, color index --- 1.27. These changes in erythropoiesis were caused by problems with absorption of a certain vitamin. Name this vitamin.
a. C
b. B_{12
c. B_{6
d. A
e. P

323. Blood testing of a patient with jaundice revealed an increase in total bilirubin due to its indirect fraction. Patient's urine and feces have a saturated color. What is the most likely mechanism of these disorders?
a. Damaged liver parenchyma
b. Increased hemolysis of erythrocytes
c. Disturbed urobilinogen conversion in the liver
d. Impaired bile outflow from the liver
e. Disturbed formation of direct bilirubin

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b. Increased hemolysis of erythrocytes
c. Damaged liver parenchyma
d. Disturbed formation of direct bilirubin
e. Disturbed urobilinogen conversion in the liver

325. Brain MRI shows a local dilation (aneurysm) of an artery in the lateral sulcus. What vessel has pathological changes in this case?
a. A) cerebri posterior
b. A. communicans anterior
c. A) cerebri media
d. A) cerebri anterior
e. A. communicans posterior

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a. A. communicans posterior

b. A) cerebri posterior
c. A) cerebri anterior
d. A. communicans anterior
e. A) cerebri media

327. Diazepam was prescribed to a person with psychoemotional disorders and disturbed sleep. The effect of diazepam is based on:

a. Activation of the GABA receptor system
b. Excitation of reticular formation
c. Inhibition of the limbic system
d. Decrease of blood pressure
e. Increase of reflex reaction time

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329. Diphtheria toxin is a potent inhibitor of protein synthesis in eukaryotes. What is its molecular mechanism of action?

a. Dephosphorylation of the termination factor
b. Protein kinase phosphorylation
c. Protein kinase inhibition
d. Inactivation of the initiation factor
e. Irreversible modification of an elongation factor

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331. Due to blood loss the circulating blood volume of a patient decreased. How will it affect the blood pressure in this patient?

a. Systolic pressure will decrease, \\ while diastolic will increase
b. Diastolic pressure will decrease, \\ while systolic will increase
c. Only systolic pressure will decrease
d. Systolic and diastolic pressure will decrease
e. Only diastolic pressure will \\ decrease

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d. Only diastolic pressure will \\ decrease
e. Diastolic pressure will decrease, \\ while systolic will increase

333. During a blood transfusion, intravascular hemolysis of erythrocytes started developing in the patient. What type of hypersensitivity has developed in this patient?

a. Type II hypersensitivity (antibody-dependent)
b. Type V hypersensitivity (granulomatosis)
c. Type IV hypersensitivity (cell-mediated cytotoxicity)
d. Type I hypersensitivity (anaphylactic)
e. Type III hypersensitivity (immune complex)

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c. Type III hypersensitivity (immune complex)
d. Type II hypersensitivity (antibody-dependent)
e. Type V hypersensitivity (granulomatosis)

335. During a pathological childbirth, separation of the pubic bones occurred in the woman. What type of bone junction was damaged in this case?
a. Synostosis
b. Diarthrosis
c. Symphysis
d. Syndesmosis
e. Synchondrosis

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e. Symphysis

337. During a surgery for a splenic injury, the surgeon must identify the artery that supplies the spleen with blood. This artery is a branch of:
a. A) gastroduodenalis
b. Truncus coeliacus
c. A) gastrica sinistra
d. A) hepatica propria
e. A) hepatica communis

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339. During a surgery with administration of an inhalation anesthetic and muscle relaxants, the anesthesiologist noticed a rapid increase in the patient's body temperature that reached 43°C) What pathology did the patient develop?
a. Infection-induced fever
b. Physical hyperthermia
c. Overheating
d. Traumatic shock
e. Hyperthermic syndrome

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d. Infection-induced fever
e. Hyperthermic syndrome

341. During a surgery, a patient developed signs of dithiline (suxamethonium) overdose. What will reduce the effects of intoxication in this case?
a. Blood transfusion
b. Nicotinic antagonists
c. Ganglionic blockers
d. Muscarinic antagonists

e. Anticholinesterase drugs

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e. Ganglionic blockers

343. During an exam, the student's absolute pain threshold is higher than when the student is at rest. What system activates in the body, causing this phenomenon?

a. Parasympathetic nervous system

b. Sympathoadrenal system

c. Antinociceptive system

d. Pituitary-adrenal system

e. Sympathetic nervous system

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e. Pituitary-adrenal system

345. During examination the patient is found to have low production of adrenocorticotropic hormone. How would this affect production of the other hormones?

a. Decrease hormone synthesis in the adrenal medulla

b. Increase sex hormones synthesis

c. Decrease insulin synthesis

d. ---

e. Increase thyroid hormones \\ synthesis

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e. ---

347. During local anesthetization the patient has gone into anaphylactic shock. What drug must be administered to the patient?

a. Atropine sulfate

b. Propranolol

c. Epinephrine hydrochloride

d. Diazepam

e. Nitroglycerin

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349. During smoking, cigarette smoke exits out of the patient's auricle. What structure of the auditory organ is damaged?

a. External acoustic meatus

b. Bone labyrinth

c. Tympanic membrane

d. Organ of Corti
e. Membranous labyrinth

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d. Membranous labyrinth
e. Tympanic membrane

351. During surgical intervention, an organ is removed from a 34-year-old patient and sent for histologic evaluation. The pathologist examines the slide. The organ is encased in a connective tissue capsule that extends septae into the organ's substance, which is portioned into cortex and medulla. It is richly vascularized and capsular blood vessels penetrate along with the septae. The medulla is fairly homogenous and consists of chromaffin cells, but in the cortex, three concentric zones can be distinguished. Which of the following is the most likely organ?

a. Lymph node
b. Adrenal gland
c. Thyroid gland
d. Kidney
e. Thymus

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b. Lymph node
c. Kidney
d. Thymus
e. Adrenal gland

353. During the ascent into the mountains, a climber at the altitude of 6000 meters above the sea level developed euphoria, inadequate assessment of the situation, and hallucinations. What is the leading cause in the development of these signs of mountain sickness?

a. Air expansion in the frontal sinuses
b. Snow ophthalmia
c. Decreased atmospheric pressure
d. Reduced partial pressure of oxygen in the air
e. Physical exertion

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b. Air expansion in the frontal sinuses
c. Snow ophthalmia
d. Reduced partial pressure of oxygen in the air
e. Decreased atmospheric pressure

355. During the examination of a child, the doctor noticed symmetrical roughness of the child's cheeks, diarrhea, and nervous disorders. What nutritional factors are deficient in this case, causing this condition in the child?

a. Lysine, ascorbic acid
b. Phenylalanine, pangamic acid
c. Threonine, pantothenic acid
d. Methionine, lipoic acid
e. Nicotinic acid, tryptophan

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d. Nicotinic acid, tryptophan
e. Lysine, ascorbic acid

357. During the first year of life, children easily develop seizures that can be associated with incomplete myelination of nerve fibers. What neuroglial cells are associated with this condition the most?

a. Oligodendrocytes
b. Protoplasmic astrocytes
c. Microglial cells
d. Ependymocytes
e. Fibrous astrocytes

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359. During the healing of a wound, a scar made of connective tissue develops in the area of the tissue defect. What cells cause this process?

a. Fibroblasts
b. Melanocytes
c. Macrophages
d. Fibrocytes
e. Mast cells

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b. Mast cells
c. Fibrocytes
d. Macrophages
e. Fibroblasts

361. During the lunch, a person ate salted herring and potatoes with pickles. After a while, this person became thirsty. This sensation has been caused by impulsation from certain receptors. Name these receptors.

a. Osmoreceptors in the liver
b. Volume receptors in the hypothalamus
c. Baroreceptors in the aortic arch
d. Osmoreceptors in the hypothalamus
e. Volume receptors in the venae cavae and atria

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d. Osmoreceptors in the hypothalamus
e. Osmoreceptors in the liver

363. During the surgery for a femoral hernia, the doctor operates within the borders of the femoral

triangle. What structure forms its upper border?

a. Lig. inguinale

b. Lig. pectinale

c. Fascia lata

d. Lig. lacunare

e. Arcus iliopectineus

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c. Arcus iliopectineus

d. Lig. lacunare

e. Lig. inguinale

365. During the surgery on the small intestine the surgeon revealed an area of the mucous membrane with a single longitudinal fold among the circular folds. Which portion of the small intestine is this structure typical for?

a. Pars descendens duodeni

b. Distal ileum

c. Pars ascendens duodeni

d. Pars horizontalis duodeni

e. jejunum

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367. During the treatment of ciliary arrhythmia, a patient developed bronchoobstructive syndrome --- problematic breathing and cough. What antiarrhythmic drug can cause such a complication?

a. Novocainamide (Procainamide)

b. Ajmaline

c. Verapamil

d. Anaprilin (Propranolol)

e. Nifedipine

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369. Echo-planar imaging is a technique that uses gamma rays for MRI scans.

a. -

b. -

c. False

d. True

e. Not given

370. Echo-planar imaging is a technique that uses gamma rays for MRI scans.

a. True

b. Not given

c. -

d. -

e. False

371. Elevated blood homocysteine is a risk factor for cardiovascular pathology. This amino acid is formed in the body from:

a. Alanine
b. Cystine
c. Folic acid
d. Cysteine
e. Methionine

372. Elevated blood homocysteine is a risk factor for cardiovascular pathology. This amino acid is formed in the body from:

a. Cystine
b. Methionine
c. Alanine
d. Cysteine
e. Folic acid

373. Examination of a patient detected accumulation of sphingomyelins in the cell lysosomes of the patient's liver, spleen, lungs, bone marrow, and brain, caused by the lack of sphingomyelinase enzyme. What pathology is most likely in this patient?

a. Niemann-Pick disease
b. Tay-Sachs disease
c. Sandhoff disease
d. Gaucher disease
e. Krabbe disease

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375. Examination of a patient revealed a reduced immunoglobulin count. What cells of the patient's immune system are likely to have an impaired function, causing this condition?

a. Plasma cells
b. T-killers
c. Plasmablasts
d. T-helpers
e. T-suppressors

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377. Examination of a patient with a hearing impairment shows that the pathological process is localized at the level of the lateral lemniscus formation. At what level does is it normally form in the brain?

a. Medulla oblongata
b. Metencephalon (pons)
c. Mesencephalon
d. Cervical spinal cord
e. Thoracic spinal cord

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379. Examination of a patient with signs of hypertension shows that it would be most advisable to prescribe him a medicine that changes the blood pressure via the renin-angiotensin system. Name this medicine:
a. Anaprilin (Propranolol)
b. Lisinopril
c. Octadine (Guanethidine)
d. Apressin (Hydralazine)
e. Dibazol (Bendazol)

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381. Examination shows that the patient's sternocleidomastoid muscle and the upper edge of the trapezius muscle suffer from atrophy. Turning the head into the opposite direction is problematic. What nerve is affected in this case?
a. Intercostal nerve
b. Accessory nerve
c. Hypoglossal nerve
d. Brachial plexus
e. Vagus nerve

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383. Five hours after eating seafood, a 22-year-old woman developed small itchy papules on the skin of her torso and distal parts of her limbs. The papules were partially merging with each other. 24 hours later, the rash spontaneously disappeared. What mechanism of hypersensitivity underlies these changes?
a. Immune complex-mediated hypersensitivity
b. Antibody-dependent cell-mediated cytolysis
c. Cell-mediated cytotoxicity
d. Atopy (local anaphylaxis)
e. Systemic anaphylaxis

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385. Gastroscopy has detected a tumor-like formation 1.5 cm in diameter, attached to a pedicle, in the area of the lesser curvature. What is the character of the tumor growth in this case?
a. Appositional
b. Infiltrating
c. Expansive
d. Exophytic
e. Endophytic
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387. Genealogical analysis of a family with a hereditary pathology of optic nerve atrophy has determined that this medical condition is passed on only by the mothers, both girls and boys can be affected, and the sick father does not pass on the disease to his daughters or sons. What type of hereditary disease is it?
a. Autosomal dominant
b. Autosomal recessive
c. X-linked recessive
d. Mitochondrial
e. X-linked dominant
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389. Helicobacter pylori was detected in a patient with peptic ulcer disease of the stomach. What drug should be used in this case?
a. Levomycetin (Chloramphenicol)
b. Biseptol (Co-trimoxazole)
c. Metronidazole
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391. High molecular weight proteins were detected in the patient's urine. What is likely to be disturbed in the patient, causing this disorder?
a. Protein reabsorption
b. Renal filter permeability
c. Value of effective filtration pressure
d. Renal countercurrent system
e. Secretion processes
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393. Histological microslide shows a vessel with the wall that consists of endothelium, basement membrane, and loose connective tissue. What type of vessel is it?
a. Hemocapillary
b. Muscular vein
c. Lymphocapillary
d. Non-muscular vein
e. Artery

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d. Muscular vein
e. Hemocapillary

395. Histology of the red bone marrow biopsy material detected cells of the granulocytic series. What changes occur in the nucleus during the differentiation of these cells?
a. Pyknosis
b. Enlargement
c. Enucleation
d. Segmentation
e. Polyploidization

396. Histones are small basic proteins, bound to DNA in chromatin. They contain numerous positively charged amino acid residues, which ensures their strong bond with the acidic groups of DNA. Name the most common amino acids in histones.
a. Lysine, arginine
b. Cystine, cysteine
c. Glutamic acid, glutamine
d. Aspartic acid, asparagine
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398. If a certain part of the conductive path of the visual analyzer is damaged, it causes the loss of light sensitivity in the medial half of the retinas on the both sides. Name this part of the conductive path:
a. Right optic nerve
b. Left optic nerve
c. Left optic tract
d. Optic chiasm
e. Right optic tract

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400. IgM to the rubella virus have been detected in a pregnant woman. Based on these findings, the obstetrician-gynecologist recommended terminating the pregnancy due to the high probability of teratogenic effects on the fetus. It is important that specifically IgM have been detected, because immunoglobulins of this class:
a. Are an indicator of resent infection
b. Are the main factor of antiviral protection
c. Have the largest molecular mass
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402. In Tay-Sachs amaurotic idiocy that has an autosomal recessive pattern of inheritance, irreversible severe disorders of the central nervous system develop, leading to death in early childhood. In this disease, disturbed metabolism of certain substances is observed. Name these substances.
a. Lipids
b. Nucleic acids
c. Amino acids
d. Minerals
e. Carbohydrates

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404. In a maternity hospital, due to a mistake made by a nurse, it became necessary to determine the biological parents of the newborn babies. What must be analyzed to determine the child's parentage?
a. Nuclear DNA
b. Messenger RNA
c. Small nuclear RNA
d. Mitochondrial DNA
e. Ribosomal RNA

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b. Mitochondrial DNA
c. Messenger RNA
d. Ribosomal RNA
e. Small nuclear RNA

406. In a patient with diabetes mellitus, regeneration processes are reduced and wounds do not heal for a long time. What metabolic changes cause this condition in the patient?

a. Accumulation of ketone bodies
b. Inhibition of protein synthesis
c. Reduced glucose supply to the cells
d. Lipid metabolism disorder
e. Acidosis

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408. In an experiment a dog had been conditioned to salivate at the sight of food and a flash of light. After conditioning the reflex, the light was then paired with the bell. The dog didn't start to salivate. What type of inhibition was observed?
a. Differential
b. Extinctive
c. Persistent
d. External
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410. In an experiment on an animal, the removal of a section of the cerebral cortex erased the previously developed conditioned reflexes in response to light stimulation. What section of the cortex was removed?
a. Occipital cortex
b. Limbic cortex
c. Precentral gyrus
d. Temporal lobe
e. Postcentral gyrus

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412. In an experiment, despiralization of the DNA molecule was disrupted in an animal cell. What processes will primarily stop occurring in this cell?
a. Termination
b. Translation
c. Repair
d. Processing
e. Transcription

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414. In an experiment, the processes of energy production in the epithelium of the renal tubules were blocked, as a result of which the diuresis increased 4 times. What is the most likely cause of polyuria in this case?

a. Decrease of sodium ion reabsorption
b. Decrease of urea secretion
c. Decrease of glomerular filtration rate
d. Decrease of potassium ion secretion
e. Decrease of renal blood flow

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d. Decrease of renal blood flow
e. Decrease of sodium ion reabsorption

416. In cases of fatty infiltration of the liver, the synthesis of phospholipids becomes disrupted. In such cases, the patients are advised to eat more cottage cheese, because it contains a certain substance that can promote the methylation process in the synthesis of phospholipids. Name this substance.

a. Cysteine
b. Glycerine
c. Calcium
d. Methionine
e. Ethanolamine

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418. In course of an experiment there has been an increase in the nerve conduction velocity. This may be caused by an increase in the concentration of the following ions that are present in the solution around the cell:

a. Na^+
b. Ca^{2+ and Cl^-
c. Ca^{2+
d. K^+ and Cl^-
e. K^+ and Na^+

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d. Ca^{2+
e. Na^+

420. In some diseases of the nervous system, damage with chromatolysis phenomena can be observed in the neurocytes. What intracellular metabolic processes become disturbed in the neurons?

a. Keratohyalin folding
b. Synthesis of glycolipids
c. Synthesis of protein
d. Synthesis of lipids
e. Synthesis of carbohydrates

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422. In the body of a 37-year-old woman, who died with signs of pulmonary edema, there was detected an acute deformation of the aortic valve: it is shortened, thickened, ulcerated, has areas of stone-like density. On its external surface there are large, up to 2 cm in diameter, thrombotic plaques. The left ventricle wall is 2.2 cm thick. The cardiac muscle is dull, matt, and flaccid. What type of endocarditis corresponds with the described changes in the aortic valve?
a. Fibroplastic endocarditis
b. Ulcerative polypoid endocarditis
c. Acute verrucous endocarditis
d. Diffuse endocarditis
e. Recurrent verrucous endocarditis

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b. Acute verrucous endocarditis
c. Fibroplastic endocarditis
d. Ulcerative polypoid endocarditis
e. Diffuse endocarditis

424. In the course of an urgent surgery, the vermiform appendix of the patient was excised. The appendix was acutely distended and gray-black throughout its whole length. In the distal segment a defect of the appendix wall was detected, through which a foul-smelling gray-brown substance was being discharged from the appendix lumen. Histological analysis shows necrotization of the appendix wall with hemorrhagic foci; the lumen of the mesenteric artery is filled with a trombus. What type of appendicitis is it?
a. Acute gangrenous
b. Chronic
c. Acute phlegmonous
d. Acute superficial
e. Acute simple

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426. In the hematology unit a patient with leukemia was prescribed 5-Fluorouracil. What is the

mechanism of action of this drug?

a. Inhibits DNA synthesis

b. Inhibits transcription

c. Catalyzes replication

d. Stimulates DNase

e. Inhibits translation

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428. In the removed uterus of a 55-year-old woman, a pathologist has found a dense node in the thick of the myometrium. The node is 5 cm in diameter and has clear boundaries. On section, its tissues are gray-pink and fibrous. Microscopically, the tumor consists of smooth muscle cells that form bundles of varying thickness, which run in different directions, and of layers of connective tissue, hyalinized in some places. What tumor has developed in the patient?

a. Myosarcoma

b. Fibroma

c. Fibromyoma

d. Fibrosarcoma

e. Rhabdomyoma

429. Increased levels of angiotensin II have been detected in the blood of a patient with a hypertensive crisis. The pressor effect of angiotensin is associated with the:

a. Stimulation of vasopressin production

b. Contraction of arteriolar muscles

c. Activation of the kallikrein-kinin system

d. Hyperproduction of prostaglandins

e. Activation of biogenic amine synthesis

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431. Infectious diseases are treated with antibiotics (streptomycin, erythromycin, chloramphenicol). They inhibit the following stage of protein synthesis:

a. Translation

b. Replication

c. Transcription

d. Processing

e. Splicing

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433. Ionizing radiation or vitamin E deficiency affect the cell by increasing lysosome membrane permeability. What are the possible consequences of this pathology?

a. Partial or complete cell destruction

b. Formation of maturation spindle

c. Intensive protein synthesis
d. Restoration of cytoplasmic membrane
e. Intensive energy production

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435. It has been found out that one of a pesticide components is sodium arsenate that blocks lipoic acid. Which enzyme activity is impaired by this pesticide?
a. Glutathione peroxidase
b. Microsomal oxidation
c. Glutathione reductase
d. Pyruvate dehydrogenase complex
e. Methemoglobin reductase

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437. Karyotyping detected 47 chromosomes (3 copies of chromosome 13) in a newborn child with multiple defects of the skull, limbs, and internal organs. What diagnosis can be made in this case?
a. Klinefelter syndrome
b. Patau syndrome
c. Edwards syndrome
d. Down syndrome
e. Turner syndrome

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439. Laboratory study of the blood of a 33-year-old patient revealed erythrocyte agglutination reaction in standard sera of groups I and II. Agglutination reaction was not observed with a group III serum and an anti-rhesus serum. What blood group (taking into account the CDE system) can be transfused to this person, if necessary?
a. III (B) Rh-
b. II (A) Rh-
c. IV (AB) Rh+
d. I (O) Rh+
e. IV (AB) Rh-

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441. Liver diseases with insufficient bile supply to the intestine lead to worsening of hemocoagulation. How can this phenomenon be explained?

a. Thrombocytopenia
b. Iron deficiency
c. Leukopenia
d. Erythropenia
e. Vitamin K deficiency

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443. Methyl groups ($-CH_3$) are used in the body for the synthesis of such important compounds as creatine, choline, adrenaline, etc. What essential amino acid is the source of these groups?

a. Isoleucine
b. Valine
c. Leucine
d. Tryptophan
e. Methionine

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445. Monoamine oxidase inhibitors are widely used as psychotropic drugs. In the synapses, they change the levels of all the neurotransmitters listed below, except:

a. Noradrenaline
b. Acetylcholine
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d. Serotonin
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447. One of the rules of surgery is to make incisions along the so-called Langer's lines (lines of skin tension). What tissue forms the strongest layer of the dermis --- the reticular dermis?

a. Dense irregular connective tissue
b. Dense regular connective tissue
c. Epithelial tissue
d. Loose fibrous connective tissue
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449. One of the tunics of a hollow organ contains nucleated anastomosing fibers. The fibers consist of cells that form intercalated discs in the contact areas. What tissue forms this tunic of an organ?
a. Loose fibrous connective tissue
b. Dense irregular connective tissue
c. Cross-striated cardiac muscle
d. Cross-striated skeletal muscle
e. Smooth muscle
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451. Oral mucosa sometimes can be traumatized during tooth brushing. However, such bleeding quickly stops by itself due to the presence of the following in the saliva:
a. Procoagulants
b. Lysozyme and mucin
c. Amylolytic enzymes
d. Minerals
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453. Oxidation of carbohydrates and lipids produces a large amount of energy, the main portion of which is generated in the process of acetyl-CoA oxidation. How many ATP molecules are formed as a result of complete oxidation of one acetyl-CoA molecule?
a. 36
b. 8
c. 12
d. 38
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455. Participation of a certain part of the central nervous system is mandatory for the formation of voluntary defecation in a child. What part of the central nervous system is it?
a. Cerebral cortex
b. Coccygeal segments of the spinal cord
c. Medulla oblongata
d. Ventromedial nuclei of the hypothalamus
e. Lateral nuclei of the hypothalamus
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457. Pathologies of lipid metabolism include sphingolipidoses that can be characterized by the accumulation of excess phospholipids and sphingolipids, mainly in the nervous tissue. What disease is associated with accumulation of GM2 ganglioside in the body?
a. Fabry disease
b. Gaucher disease
c. Tay-Sachs disease
d. Krabbe disease
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459. RNA of human immunodeficiency virus (HIV) has penetrated the leukocyte and stimulated the cell to synthesize viral DNA using the revertase enzyme. Name this process:
a. Operon repression
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461. S aureus can cause various infections - from purulent complications of wounds to pneumonia and sepsis. Why is penicillin therapy of staphylococcal infections not very effective?
a. Allergic response to staphylococcal proteins
b. Penicillinase production by S. aureus
c. Acetylase production by S. aureus
d. Penicillin's inability to penetrate the membrane of S. aureus
e. No penicillin receptors in the cell envelope of S. aureus

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463. Six hours have passed since the development of an acute myocardial infarction in the patient. During autopsy of the body, staining was used to identify the area of infarction. What was used to detect the area of necrosis?
a. Methyl violet
b. Tetrazolium salts
c. Toluidine blue

d. Congo red
e. Picrofuchsin

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465. The Wasserman reaction is markedly positive (++++) in a 30-year-old man. What infectious disease is diagnosed using the Wasserman reaction?
a. Syphilis
b. Tuberculosis
c. Poliomyelitis
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d. Syphilis
e. Brucellosis

467. The bacteriological laboratory needs to prepare for analysis of the materials that are suspected to be contaminated with spores of anthrax causative agent. What diagnostic preparation allows for quick detection of these spores?
a. Enzyme-tagged immunoglobulin
b. Monoclonal antibodies to anthrax causative agent
c. Anti-anthrax immunoglobulin
d. Standard anthrax antigen
e. Anti-anthrax fluorescent serum

468. The bacteriological laboratory needs to prepare for analysis of the materials that are suspected to be contaminated with spores of anthrax causative agent. What diagnostic preparation allows for quick detection of these spores?
a. Standard anthrax antigen
b. Anti-anthrax fluorescent serum
c. Anti-anthrax immunoglobulin
d. Enzyme-tagged immunoglobulin
e. Monoclonal antibodies to anthrax causative agent

469. The cardiology department has received a patient with complaints of tachycardia, shortness of breath, and cyanotic mucosa. Examination detects leg edemas and ascites. What drug must be prescribed to the patient in this case?
a. Corglycon (Convallaria glycosides)
b. Adrenaline hydrochloride
c. No-spa (Drotaverine)
d. Cordiamine (Nikethamide)
e. Digitoxin

470. The cardiology department has received a patient with complaints of tachycardia, shortness of breath, and cyanotic mucosa. Examination detects leg edemas and ascites. What drug must be prescribed to the patient in this case?
a. Adrenaline hydrochloride
b. Digitoxin
c. Cordiamine (Nikethamide)
d. Corglycon (Convallaria glycosides)

e. No-spa (Drotaverine)

471. The father and mother are healthy. Amniocentesis detects that the karyotype of the fetus is 45 X0. Make the diagnosis.

a. Cri-du-chat syndrome

b. Turner syndrome

c. Patau syndrome

d. Edwards syndrome

e. Trisomy X

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a. Edwards syndrome

b. Patau syndrome

c. Cri-du-chat syndrome

d. Turner syndrome

e. Trisomy X

473. The key reaction of fatty acid synthesis is production of malonyl-CoA) What metabolite is the source of malonyl-CoA synthesis?

a. Succinyl-CoA

b. Acyl-CoA

c. Malonate

d. Acetyl-CoA

e. Citrate

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a. Succinyl-CoA

b. Malonate

c. Acetyl-CoA

d. Citrate

e. Acyl-CoA

475. The molecule of immature mRNA (pro-mRNA) contains more triplets than there are amino acids in the synthesized protein, because translation is normally preceded by:

a. Initiation

b. Mutation

c. Repair

d. Processing

e. Replication

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a. Mutation

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c. Repair

d. Initiation

e. Replication

477. The parents with normal hearing have two daughters and a son, who are congenitally deaf. Their other 5 children are healthy. What is the pattern of deafness inheritance in this case?

a. Autosomal dominant

b. X-linked recessive

c. Autosomal recessive

d. X-linked dominant

e. Y-linked

478. The parents with normal hearing have two daughters and a son, who are congenitally deaf. Their other 5 children are healthy. What is the pattern of deafness inheritance in this case?

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b. Y-linked

c. Autosomal recessive

d. X-linked dominant
e. X-linked recessive

479. The patient's ECG shows an increased duration of the QRS complex. What is the likely cause of this finding?
a. Disturbed conduction in the atrioventricular nodes
b. Increased atrial excitation time
c. Increased atrial and ventricular excitability
d. Increased ventricular excitation time
e. Increased atrial excitability

480. The patient's ECG shows an increased duration of the QRS complex. What is the likely cause of this finding?
a. Increased atrial and ventricular excitability
b. Increased ventricular excitation time
c. Increased atrial excitation time
d. Increased atrial excitability
e. Disturbed conduction in the atrioventricular nodes

481. The patient's ECG shows that the ST segment is displaced above the isoelectric line by 1 mm and the T wave duration is increased to 0.25 seconds. What process is disturbed in the patient, causing these changes on the ECG?
a. Ventricular repolarization
b. Atrial depolarization
c. Ventricular depolarization
d. Atrioventricular conduction
e. Atrial repolarization

482. The patient's ECG shows that the ST segment is displaced above the isoelectric line by 1 mm and the T wave duration is increased to 0.25 seconds. What process is disturbed in the patient, causing these changes on the ECG?
a. Atrial repolarization
b. Ventricular depolarization
c. Atrial depolarization
d. Atrioventricular conduction
e. Ventricular repolarization

483. The patient's systolic blood pressure is 90 mm Hg, diastolic --- 70 mm Hg. Such systolic blood pressure is caused by the decrease of the following factor:
a. Pumping ability of the left heart
b. Pumping ability of the right heart
c. Total peripheral resistance
d. Aortic compliance
e. Vascular tone

484. The patient's systolic blood pressure is 90 mm Hg, diastolic --- 70 mm Hg. Such systolic blood pressure is caused by the decrease of the following factor:
a. Total peripheral resistance
b. Vascular tone
c. Pumping ability of the right heart
d. Pumping ability of the left heart
e. Aortic compliance

485. The plasma cell produces specific antibodies against a certain antigen. When the antigen is introduced into the body, the number of plasma cells increases. What blood cells increase in number in this case, resulting in increased total number of plasma cells?
a. B lymphocytes
b. Basophils
c. Monocytes
d. T lymphocytes
e. Eosinophils

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introduced into the body, the number of plasma cells increases. What blood cells increase in number in this case, resulting in increased total number of plasma cells?

a. B lymphocytes

b. Basophils

c. T lymphocytes

d. Eosinophils

e. Monocytes

487. The tonsils of a 4-year-old child are enlarged, hyperemic, and covered with non-removable whitish membranes. What type of inflammation characterizes the changes in the child's tonsils?

a. Caseous necrosis

b. Fibrinoid necrosis

c. Fibrinous inflammation (diphtheritic)

d. Purulent inflammation

e. Fibrinous inflammation (croupous)

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a. Fibrinoid necrosis

b. Purulent inflammation

c. Fibrinous inflammation (diphtheritic)

d. Fibrinous inflammation (croupous)

e. Caseous necrosis

489. To determine the functional activity of blood corpuscles, a suspension of microorganisms was introduced into the test tube with packed white cells. In this case, the cytoplasm of some cells will contain phagocytized microorganisms. Which of the following cell types will show phagocytized microorganisms?

a. Neutrophils and monocytes

b. Lymphocytes and eosinophils

c. Monocytes and lymphocytes

d. Lymphocytes and neutrophils

e. Lymphocytes and basocytes

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a. Lymphocytes and eosinophils

b. Neutrophils and monocytes

c. Lymphocytes and basocytes

d. Lymphocytes and neutrophils

e. Monocytes and lymphocytes

491. Transcription is the reaction of mRNA matrix synthesis on DNA matrix. Name the stages of transcription.

a. Initiation, elongation, termination

b. Initiation, elongation, translation

c. Initiation, translation, elongation

d. Processing, splicing, termination

e. Initiation, processing, splicing

492. Transcription is the reaction of mRNA matrix synthesis on DNA matrix. Name the stages of transcription.

a. Processing, splicing, termination

b. Initiation, elongation, termination

c. Initiation, elongation, translation

d. Initiation, processing, splicing

e. Initiation, translation, elongation

493. Two weeks ago, an illness was reported in several children at the orphanage. Based on the description of its clinical manifestations and epidemiological data, the epidemiologist suspects an

outbreak of measles infection. What type of laboratory analysis can confirm this provisional diagnosis?

a. Rhinocytoscopy
b. Inoculation of chicken embryos
c. Allergy testing
d. Serology
e. Immunofluorescence

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a. Rhinocytoscopy
b. Inoculation of chicken embryos
c. Immunofluorescence
d. Allergy testing
e. Serology

495. What diagnostic method should be used in industry to test the raw leather for presence of B) antracis?

a. Bacteriological analysis
b. Serological test
c. Microscopy with Aujeszky stain
d. Microscopy with Burry-Gins stain
e. Ascoli's thermoprecipitation test

496. What diagnostic method should be used in industry to test the raw leather for presence of B) antracis?

a. Microscopy with Aujeszky stain
b. Serological test
c. Ascoli's thermoprecipitation test
d. Bacteriological analysis
e. Microscopy with Burry-Gins stain

497. What happens, when blood pressure and stimulation of baroreceptors and atrial volume receptors are decreased?

a. Activation of the hypothalamic supraoptic nuclei and production of vasopressin
b. Increased production of atrial natriuretic peptide
c. Vasodilation of the systemic resistance vessels
d. Reduced production of aldosterone
e. Reduced production of renin in juxtaglomerular cells

498. What happens, when blood pressure and stimulation of baroreceptors and atrial volume receptors are decreased?

a. Increased production of atrial natriuretic peptide
b. Reduced production of renin in juxtaglomerular cells
c. Activation of the hypothalamic supraoptic nuclei and production of vasopressin
d. Reduced production of aldosterone
e. Vasodilation of the systemic resistance vessels

499. What will be observed in a 23-year-old man with untreated type 1 diabetes mellitus?

a. Acidosis, hyperkalemia
b. Acidosis, normokalemia
c. Alkalosis, hypokalemia
d. Acidosis, hypokalemia
e. Alkalosis, hyperkalemia

500. What will be observed in a 23-year-old man with untreated type 1 diabetes mellitus?

a. Alkalosis, hypokalemia
b. Alkalosis, hyperkalemia
c. Acidosis, hypokalemia
d. Acidosis, normokalemia

e. Acidosis, hyperkalemia

501. When ascending to the top of Elbrus, a mountain climber experiences oxygen starvation, dyspnea, palpitations, and numbness of the extremities. What kind of hypoxia has developed in the mountain climber?

a. Cardiac
b. Hemic
c. Circulatory
d. Tissue

e. Hypoxic

502. When ascending to the top of Elbrus, a mountain climber experiences oxygen starvation, dyspnea, palpitations, and numbness of the extremities. What kind of hypoxia has developed in the mountain climber?

a. Tissue
b. Cardiac
c. Hemic
d. Circulatory

e. Hypoxic

503. When stimulation frequency of an isolated heart of a rabbit increases, incomplete relaxation of the ventricles of the heart can be observed because of:

a. Increased potassium levels in cardiomyocytes
b. Increased sodium levels in cardiomyocytes
c. Increased potassium levels in the interstitium

d. Accumulation of calcium in cardiomyocytes

e. Inhibition of the sodium–potassium pump

504. When stimulation frequency of an isolated heart of a rabbit increases, incomplete relaxation of the ventricles of the heart can be observed because of:

a. Increased potassium levels in cardiomyocytes
b. Inhibition of the sodium–potassium pump

c. Accumulation of calcium in cardiomyocytes

d. Increased sodium levels in cardiomyocytes
e. Increased potassium levels in the interstitium

505. X-ray of the skull base bones revealed enlarged sella turcica cavity, thinned out anterior clinoid processes, and destruction of various sella turcica regions. This type of bone destruction can be caused by a tumor of the following endocrine gland:

a. Adrenal glands
b. Thymus
c. Thyroid
d. Epiphysis

e. Hypophysis

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a. Epiphysis

b. Hypophysis

c. Adrenal glands
d. Thyroid
e. Thymus

507. Zoliclons (monoclonal antibodies) were used to determine the person's blood group according to the ABO system. Erythrocyte agglutination did not occur with any of the zoliclons. What blood type does this person have?

a. B (III)
b. A (II)

c. 0 (I)

d. AB (IV)
e. ---

508. Zoliclons (monoclonal antibodies) were used to determine the person's blood group according to the ABO system. Erythrocyte agglutination did not occur with any of the zoliclons. What blood type does this person have?
a. B (III)
b. AB (IV)
c. ---
d. 0 (I)
e. A (II)
509. Активність якого ферменту підвищується в крові пацієнта під час інфаркту міокарда?
a. Креатинфосфокінази МВ
b. Карбамоілфосфатсинтетази
c. Лужної фосфатази
d. Креатинфосфокінази ММ
e. Креатинфосфокінази ВВ
510. Активність якого ферменту підвищується в крові пацієнта під час інфаркту міокарда?
a. Креатинфосфокінази МВ
b. Лужної фосфатази
c. Креатинфосфокінази ВВ
d. Карбамоілфосфатсинтетази
e. Креатинфосфокінази ММ
511. В експерименті тварині перерізали аксони нейросекреторних клітин супраоптичного ядра гіпоталамуса. Накопичення якого гормону буде порушено в гіпофізі?
a. Вазопресину
b. Соматотропіну
c. Пролактину
d. Ліпотропіну
e. Адренокортикотропіну
512. В експерименті тварині перерізали аксони нейросекреторних клітин супраоптичного ядра гіпоталамуса. Накопичення якого гормону буде порушено в гіпофізі?
a. Адренокортикотропіну
b. Ліпотропіну
c. Соматотропіну
d. Вазопресину
e. Пролактину
513. В яку анатомічну ділянку через решітчасту кістку відкривається отвір лобової пазухи?
a. Верхній носовий хід
b. Середній носовий хід
c. Хоани
d. Підскронева ямка
e. Нижній носовий хід
514. В яку анатомічну ділянку через решітчасту кістку відкривається отвір лобової пазухи?
a. Верхній носовий хід
b. Нижній носовий хід
c. Підскронева ямка
d. Середній носовий хід
e. Хоани
515. Гілки якого нерва забезпечують шкірну чутливість передньобічної поверхні передпліччя?
a. N. musculocutaneus
b. N. radialis
c. N. ulnaris
d. N. axillaris
e. N. medianus
516. Гілки якого нерва забезпечують шкірну чутливість передньобічної поверхні передпліччя?
a. N. radialis
b. N. musculocutaneus

c. N. ulnaris
d. N. axillaris
e. N. medianus

517. Дефіцит якого фактора згортання крові спричиняє захворювання гемофілію В?
a. V
b. IX
c. VIII
d. VII
e. XI

518. Дефіцит якого фактора згортання крові спричиняє захворювання гемофілію В?
a. XI
b. VII
c. V
d. IX
e. VIII

519. До лікарні надійшов чоловік віком 32 роки із травмою лівої кисті. Під час огляду виявлено різану рану в ділянці підвищення великого пальця й утруднене його згинання. Який м’яз пошкоджено?
a. M. flexor pollicis brevis
b. M. flexor pollicis longus
c. M. opponens pollicis brevis
d. M. adductor pollicis brevis
e. M. abductor pollicis brevis

520. До лікарні надійшов чоловік віком 32 роки із травмою лівої кисті. Під час огляду виявлено різану рану в ділянці підвищення великого пальця й утруднене його згинання. Який м’яз пошкоджено?
a. M. adductor pollicis brevis
b. M. abductor pollicis brevis
c. M. flexor pollicis longus
d. M. flexor pollicis brevis
e. M. opponens pollicis brevis

521. Дівчинці віком 13 років лікар призначив для лікування мегалобластної анемії препарат, що стимулює перехід мегалобластного типу кровотворення в нормобластний та бере участь у синтезі пурино- і піримідинових основ, активізує синтез білка, метіоніну. Який препарат призначено пацієнтці?
a. Гемостимулін
b. Ціанокобаламін
c. Еритропоетин
d. Заліза сульфат
e. Плоди шипшини

522. Дівчинці віком 13 років лікар призначив для лікування мегалобластної анемії препарат, що стимулює перехід мегалобластного типу кровотворення в нормобластний та бере участь у синтезі пурино- і піримідинових основ, активізує синтез білка, метіоніну. Який препарат призначено пацієнтці?
a. Плоди шипшини
b. Заліза сульфат
c. Ціанокобаламін
d. Гемостимулін
e. Еритропоетин

523. Жінка віком 47 років осліпла внаслідок хронічної інфекції зумовленої Chlamidia trachomatis. Для виявлення цитоплазматичних включень, специфічних для цього збудника, було виготовлено мікропрепарат із зішкрібу з кон’юнктиви. Який із нижченаведених методів треба застосувати для його фарбування?
a. Романовського-Гімзи
b. Нейссера

c. Бурі-Гінса
d. Грама
e. Лефлера

524. Жінка віком 47 років осліпла внаслідок хронічної інфекції зумовленої Chlamidia trachomatis. Для виявлення цитоплазматичних включень, специфічних для цього збудника, було виготовлено мікропрепарат із зішкрібу з кон'юнктиви. Який із нижченаведених методів треба застосувати для його фарбування?

a. Грама
b. Бурі-Гінса
c. Романовського-Гімзи
d. Лефлера
e. Нейссера

525. Жінка віком 48 років із діагнозом радикуліт скаржиться на сильний больовий синдром. З анамнезу відомо, що проходить лікування з приводу виразкової хвороби дванадцятипалої кишки. Який селективний блокатор ЦОГ-2 необхідно призначити пацієнтці?

a. Індометацин
b. Аспірин
c. Мітамізол натрію
d. Целекоксиб
e. Диклофенак-натрію

526. Жінка віком 48 років із діагнозом радикуліт скаржиться на сильний больовий синдром. З анамнезу відомо, що проходить лікування з приводу виразкової хвороби дванадцятипалої кишки. Який селективний блокатор ЦОГ-2 необхідно призначити пацієнтці?

a. Мітамізол натрію
b. Індометацин
c. Целекоксиб
d. Аспірин
e. Диклофенак-натрію

527. За умов дії якого ферменту арахідонова кислота (джерело синтезу ейкозаноїдів) вивільняється з фосфоліпідного бішару клітинних мембран?

a. Фосфоліпази А2
b. Циклооксигенази
c. Фосфоліпази С
d. Фосфоліпази D
e. Ліпоксигенази

528. За умов дії якого ферменту арахідонова кислота (джерело синтезу ейкозаноїдів) вивільняється з фосфоліпідного бішару клітинних мембран?

a. Фосфоліпази D
b. Фосфоліпази С
c. Циклооксигенази
d. Фосфоліпази А2
e. Ліпоксигенази

529. Методом амніоцентезу вивчено каріотип плода: 45, ХО. Який синдром у пацієнта?

a. Дауна
b. Клайнфельтера
c. Шерешевського-Тернера
d. Патау
e. Едварда

530. Методом амніоцентезу вивчено каріотип плода: 45, ХО. Який синдром у пацієнта?

a. Дауна
b. Патау
c. Шерешевського-Тернера
d. Едварда
e. Клайнфельтера

531. Найважливішим медіатором центральної нервової системи є гамма-аміномасляна кислота.

При декарбоксилуванні якої з амінокислот утворюється цей біогенний амін?
a. Гістидин
b. Тирозин
c. Триптофан
d. Глутамат
e. Лізин
532. Найважливішим медіатором центральної нервової системи є гамма-аміномасляна кислота. При декарбоксилуванні якої з амінокислот утворюється цей біогенний амін?
a. Лізин
b. Гістидин
c. Тирозин
d. Глутамат
e. Триптофан
533. Пацієнтці віком 72 роки, яка хворіє на гіпертонічну хворобу, з метою зниження АТ було рекомендовано препарат із групи блокаторів кальцієвих каналів. Як проявиться ефект цих ліків на функції міокарда шлуночків?
a. Зменшенням фази плато
b. Збільшенням тривалості реполяризації
c. Ефект буде відсутній
d. Збільшенням ЧСС
e. Зростанням скоротливості
534. Пацієнтці віком 72 роки, яка хворіє на гіпертонічну хворобу, з метою зниження АТ було рекомендовано препарат із групи блокаторів кальцієвих каналів. Як проявиться ефект цих ліків на функції міокарда шлуночків?
a. Зростанням скоротливості
b. Збільшенням ЧСС
c. Зменшенням фази плато
d. Збільшенням тривалості реполяризації
e. Ефект буде відсутній
535. Порушення якої функції ока спостерігається у разі пошкодження циліарного тіла?
a. Захисний
b. Акомадаційний
c. Світловідчуваючий
d. Трофічний
e. Світлопровідний
536. Порушення якої функції ока спостерігається у разі пошкодження циліарного тіла?
a. Світлопровідний
b. Захисний
c. Акомадаційний
d. Світловідчуваючий
e. Трофічний
537. При огляді жінки віком 36 років лікар застосовував урологічні інструменти. Через деякий час у пацієнтки з уретри почала виділятися серозна рідина, у якій виявлені грушоподібні клітини з джгутиками, ундулюючою мембраною та аксостилем. Укажіть найімовірнішого збудника хвороби за вказаною морфологією .
a. Trichomonas vaginalis
b. Lamblia intestinalis
c. Trichomonas tenax
d. Trichomonas hominis
e. Leishmania tropica
538. При огляді жінки віком 36 років лікар застосовував урологічні інструменти. Через деякий час у пацієнтки з уретри почала виділятися серозна рідина, у якій виявлені грушоподібні клітини з джгутиками, ундулюючою мембраною та аксостилем. Укажіть найімовірнішого збудника хвороби за вказаною морфологією .
a. Trichomonas vaginalis

b. Trichomonas hominis
c. Trichomonas tenax
d. Leishmania tropica
e. Lamblia intestinalis

539. При розвитку анафілактичних реакцій спостерігаються виражені гіперемія, набряк слизових та біль. Який медіатор анафілаксії визначає розвиток вищезгаданих розладів?
a. Гепарин
b. Білки комплементу
c. Фактор активації тромбоцитів
d. Фактори хемотаксису
e. Гістамін

540. При ультразвуковому обстеженні серця лікар спостерігає за півмісяцевими клапанами. Що відбувається з ними під час діастоли шлуночків?
a. Стуляються, закриваючи просвіт судин
b. Притискаються до стінок судин
c. Вивертаються в порожнини шлуночків
d. Вивертаються в порожнини судин
e. Притискаються до стінок шлуночка

541. При ультразвуковому обстеженні серця лікар спостерігає за півмісяцевими клапанами. Що відбувається з ними під час діастоли шлуночків?
a. Стуляються, закриваючи просвіт судин
b. Притискаються до стінок шлуночка
c. Притискаються до стінок судин
d. Вивертаються в порожнини судин
e. Вивертаються в порожнини шлуночків

542. Під час аутопсії тіла чоловіка віком 47 років виявили виразку по задній стінці шлунка діаметром 3 см, яка проникає у прилеглу до кишки тканину підшлункової залози. У ділянці виразки у підшлунковій залозі та в оточуючій жировій тканині множинні стеатонекрози. Яке ускладнення виразкової хвороби виникло у чоловіка?
a. Малігнізація
b. Перфорація
c. Флегмона стінки шлунка
d. Стеноз
e. Пенетрація

543. Під час аутопсії тіла чоловіка віком 47 років виявили виразку по задній стінці шлунка діаметром 3 см, яка проникає у прилеглу до кишки тканину підшлункової залози. У ділянці виразки у підшлунковій залозі та в оточуючій жировій тканині множинні стеатонекрози. Яке ускладнення виразкової хвороби виникло у чоловіка?
a. Стеноз
b. Малігнізація
c. Пенетрація
d. Перфорація
e. Флегмона стінки шлунка

544. Під час виконання оперативного втручання на щитоподібній залозі хірургу потрібно виділити верхню та нижню щитоподібні артерії, які утворюють у залозі артеріальні анастомози. Гілками яких великих судин є ці артерії?
a. A) carotis externa et a. subclavia
b. A) carotis externa et a. carotis interna
c. A) subclavia et truncus thyrocervicalis
d. A) subclavia et a. transversa colli
e. A) carotis interna et a. subclavia

545. Під час виконання оперативного втручання на щитоподібній залозі хірургу потрібно виділити верхню та нижню щитоподібні артерії, які утворюють у залозі артеріальні анастомози. Гілками яких великих судин є ці артерії?
a. A) subclavia et truncus thyrocervicalis

b. A) subclavia et a. transversa colli
c. A) carotis interna et a. subclavia
d. A) carotis externa et a. carotis interna
e. A) carotis externa et a. subclavia

546. Під час гістологічного дослідження аутопсійного матеріалу від померлої вагітної жінки в мікроциркуляторному руслі легень виявлено клітини плоского епітелію шкіри ембріона, пушкове волосся, казеозну змазку і муцини з травного тракту ембріона. Також в легенях визначається набряк, дифузне ушкодження альвеол та системний тромбоз фібриновими тромбами. Який вид емболії розвинувся у жінки?

a. Амніотична
b. Повітряна
c. Газова
d. Тромбоемболія
e. Жирова

547. Під час гістологічного дослідження аутопсійного матеріалу від померлої вагітної жінки в мікроциркуляторному руслі легень виявлено клітини плоского епітелію шкіри ембріона, пушкове волосся, казеозну змазку і муцини з травного тракту ембріона. Також в легенях визначається набряк, дифузне ушкодження альвеол та системний тромбоз фібриновими тромбами. Який вид емболії розвинувся у жінки?

a. Жирова
b. Газова
c. Повітряна
d. Тромбоемболія
e. Амніотична

548. Під час мікроскопічного дослідження препарату, виготовленного з периферійної ділянки легені, виявлено поперечний переріз трубчастого утворення, стінка якого складається зі слизової та адвентиційної оболонок. Поверхня слизової оболонки має численні складки, а м’язова пластинка утворена суцільним шаром гладких міоцитів. Який це елемент повітроносних шляхів?

a. Малий бронх
b. Великий бронх
c. Термінальна бронхіола
d. Альвеолярний хід
e. Середній бронх

549. Під час мікроскопічного дослідження препарату, виготовленного з периферійної ділянки легені, виявлено поперечний переріз трубчастого утворення, стінка якого складається зі слизової та адвентиційної оболонок. Поверхня слизової оболонки має численні складки, а м’язова пластинка утворена суцільним шаром гладких міоцитів. Який це елемент повітроносних шляхів?

a. Альвеолярний хід
b. Термінальна бронхіола
c. Середній бронх
d. Малий бронх
e. Великий бронх

550. Під час мікроскопічного дослідження: клітини овальної форми, розміром 150 мкм, цитоплазма з включеннями жовтка, але не виявлено центріолей. Укажіть цю клітину.

a. Овоцит
b. Лейкоцит
c. Макрофаг
d. Міоцит
e. Фібробласт

551. Під час мікроскопічного дослідження: клітини овальної форми, розміром 150 мкм, цитоплазма з включеннями жовтка, але не виявлено центріолей. Укажіть цю клітину.

a. Фібробласт
b. Міоцит

c. Макрофаг
d. Овоцит
e. Лейкоцит
552. Під час огляду новонародженої дитини лікар діагностував вроджену м'язову кривошию. Який м’яз шиї уражений?
a. M. sternocleidomastoideus
b. M. sternohyoideus
c. M. platysma
d. M. omohyoideus
e. M. mylohyoideus
553. Під час огляду новонародженої дитини лікар діагностував вроджену м'язову кривошию. Який м’яз шиї уражений?
a. M. mylohyoideus
b. M. sternohyoideus
c. M. platysma
d. M. omohyoideus
e. M. sternocleidomastoideus
554. Під час проведення аутопсії жінки віком 58 років, яка хворіла на цукровий діабет, при гістологічному дослідженні нирок виявлено у клубочках сегментарні гомогенні оксифільні відкладення, стінки артеріол дифузно потовщені, гомогенні, оксифільні. Який патологічний стан виник у клубочках і судинах нирок?
a. Гіаліново-крапельна дистрофія
b. Амілоїдоз
c. Гіаліноз
d. Мукоїдне набухання
e. Фібриноїдне набухання
555. Під час проведення аутопсії жінки віком 58 років, яка хворіла на цукровий діабет, при гістологічному дослідженні нирок виявлено у клубочках сегментарні гомогенні оксифільні відкладення, стінки артеріол дифузно потовщені, гомогенні, оксифільні. Який патологічний стан виник у клубочках і судинах нирок?
a. Гіаліново-крапельна дистрофія
b. Мукоїдне набухання
c. Амілоїдоз
d. Фібриноїдне набухання
e. Гіаліноз
556. Після початку лікування туберкульозу легень пацієнт звернувся до лікаря зі скаргами на появу червоних сліз та сечі. Який препарат спричинив ці зміни?
a. Бензилпеніциліну натрієва сіль
b. Рифампіцин
c. Бісептол-480
d. Цефазолін
e. Бензилпеніциліну калієва сіль
557. Після початку лікування туберкульозу легень пацієнт звернувся до лікаря зі скаргами на появу червоних сліз та сечі. Який препарат спричинив ці зміни?
a. Бісептол-480
b. Бензилпеніциліну калієва сіль
c. Бензилпеніциліну натрієва сіль
d. Рифампіцин
e. Цефазолін
558. У бактеріологічну лабораторію доставлений матеріал від пацієнта з діагнозом: перитоніт. При мікроскопічному дослідженні було виявлено грампозитивні та грамнегативні мікроорганізми. Яка морфологічна структура бактеріальної клітини зумовлює фарбування за Грамом?
a. Капсула
b. Джгутики

c. Клітинна стінка
d. Спори
e. Цитоплазма
559. У бактеріологічну лабораторію доставлений матеріал від пацієнта з діагнозом: перитоніт. При мікроскопічному дослідженні було виявлено грампозитивні та грамнегативні мікроорганізми. Яка морфологічна структура бактеріальної клітини зумовлює фарбування за Грамом?
a. Спори
b. Капсула
c. Джгутики
d. Клітинна стінка
e. Цитоплазма
560. У жаби зруйнували структуру ЦНС, внаслідок чого тварина нахилилася в бік руйнування через суттєве зменшення тонусу розгиначів. Яку структуру ЦНС пошкодили?
a. Червоне ядро
b. Вестибулярне ядро Дейтерса
c. Чотиригорбкове тіло
d. Бліда куля
e. Чорна речовина
561. У жінки віком 28 років під час лабораторного обстеження в крові виявлено гіперхромію еритроцитів, мегалоцити і мегалобласти. Який вид анемії у пацієнтки?
a. Постгеморагічну
b. В12-фолієводефіцитну
c. Гемолітичну
d. Гіпопластичну
e. Залізодефіцитну
562. У жінки віком 28 років під час лабораторного обстеження в крові виявлено гіперхромію еритроцитів, мегалоцити і мегалобласти. Який вид анемії у пацієнтки?
a. Постгеморагічну
b. Гіпопластичну
c. Гемолітичну
d. Залізодефіцитну
e. В12-фолієводефіцитну
563. У жінки віком 45 років на шкірі обличчя з'явилося пігментне утворення у вигляді вузлика. Мікроскопічно в біоптаті визначаються поля веретеноподібних і поліморфних клітин, що містять бурий пігмент,з великою кількістю мітозів. Який патологічний стан виник у пацієнтки?
a. Дерматофіброма
b. Меланома
c. Рак
d. Папілома
e. Пігментний невус
564. У жінки віком 45 років на шкірі обличчя з'явилося пігментне утворення у вигляді вузлика. Мікроскопічно в біоптаті визначаються поля веретеноподібних і поліморфних клітин, що містять бурий пігмент,з великою кількістю мітозів. Який патологічний стан виник у пацієнтки?
a. Папілома
b. Рак
c. Дерматофіброма
d. Пігментний невус
e. Меланома
565. У п`ятирічної дитини зі спадковим ураженням нирок під час огляду виявлено ознаки рахіту, в лабораторних показниках концентрація вітаміну D в нормі. Яка найімовірніша причина розвитку рахіту?
a. Порушення синтезу кальцитріолу
b. Підвищена екскреція кальцію
c. Гіперфункція паращитовидних залоз

d. Гіпофункція паращитовидних залоз
e. Недостатність кальцію в їжі

566. У п`ятирічної дитини зі спадковим ураженням нирок під час огляду виявлено ознаки рахіту, в лабораторних показниках концентрація вітаміну D в нормі. Яка найімовірніша причина розвитку рахіту?
a. Підвищена екскреція кальцію
b. Гіпофункція паращитовидних залоз
c. Гіперфункція паращитовидних залоз
d. Порушення синтезу кальцитріолу
e. Недостатність кальцію в їжі

567. У пацієнта з діагнозом епідемічний енцефаліт спостерігаються одно- або двосторонній птоз (опущення повіки), розбіжна косоокість, порушення акомодації. Зіниці розширені. Ядра якої пари черепно-мозкових нервів уражені?
a. VI
b. III
c. IV
d. VII
e. V

568. У пацієнта з діагнозом епідемічний енцефаліт спостерігаються одно- або двосторонній птоз (опущення повіки), розбіжна косоокість, порушення акомодації. Зіниці розширені. Ядра якої пари черепно-мозкових нервів уражені?
a. VI
b. V
c. VII
d. III
e. IV

569. У пацієнта з хронічним гломерулонефритом порушується інкреторна функція нирок. Дефіцит яких формених елементів крові спостерігається при цьому патологічному стані?
a. Лейкоцитів
b. Тромбоцитів
c. Еритроцитів
d. Лейкоцитів і тромбоцитів
e. Еритроцитів і лейкоцитів

570. У пацієнта з хронічним гломерулонефритом порушується інкреторна функція нирок. Дефіцит яких формених елементів крові спостерігається при цьому патологічному стані?
a. Лейкоцитів і тромбоцитів
b. Еритроцитів
c. Тромбоцитів
d. Еритроцитів і лейкоцитів
e. Лейкоцитів

571. У померлого від хронічної ниркової недостатності макроскопічно нирка збільшена, щільна, на зрізі має жовтувато-білий колір і нагадує старе сало – <<сальна нирка>>. Укажіть патологічний процес.
a. Жирова дистрофія
b. Амілоїдоз
c. Гіаліново-крапельна дистрофія
d. Гіаліноз
e. Фібриноїдне набухання

572. У померлого від хронічної ниркової недостатності макроскопічно нирка збільшена, щільна, на зрізі має жовтувато-білий колір і нагадує старе сало – <<сальна нирка>>. Укажіть патологічний процес.
a. Фібриноїдне набухання
b. Амілоїдоз
c. Гіаліново-крапельна дистрофія
d. Гіаліноз

e. Жирова дистрофія

573. У семирічної дитини захворювання почалося гостро з гіпертермії, катаральних явищ, проносу. На другому тижні приєдналися порушення дихання, в'ялий параліч нижніх кінцівок, рентгенологічно – двобічна вогнищева пневмонія. Під час аутопсії у передніх рогах спинного мозку виявлено вогнища гліальної реакції довкола загиблих нейронів. Яке захворювання спричинило смерть дитини?

a. Менінгіт
b. Менінгоенцефаліт
c. Поліомієліт
d. Мієліт
e. Полірадикулоневрит

574. У семирічної дитини захворювання почалося гостро з гіпертермії, катаральних явищ, проносу. На другому тижні приєдналися порушення дихання, в'ялий параліч нижніх кінцівок, рентгенологічно – двобічна вогнищева пневмонія. Під час аутопсії у передніх рогах спинного мозку виявлено вогнища гліальної реакції довкола загиблих нейронів. Яке захворювання спричинило смерть дитини?

a. Мієліт
b. Менінгоенцефаліт
c. Менінгіт
d. Поліомієліт
e. Полірадикулоневрит

575. У складі кісткової тканини виявлено великі клітини, що містять численні лізосоми, багато ядер, гофровану зону. Яку назву мають ці клітини?

a. Мезенхімні клітини
b. Остеоцити
c. Напівстовбурові остеогенні клітини
d. Остеокласти
e. Остеобласти

576. У складі кісткової тканини виявлено великі клітини, що містять численні лізосоми, багато ядер, гофровану зону. Яку назву мають ці клітини?

a. Остеобласти
b. Остеоцити
c. Остеокласти
d. Мезенхімні клітини
e. Напівстовбурові остеогенні клітини

577. У чоловіка віком 46 років у лабораторних дослідженнях крові виявлено підвищення активності креатинфосфокінази. Який патологічний стан, найімовірніше, виник у пацієнта?

a. Гемолітична анемія
b. Ниркова недостатність
c. Тромбоемболія легеневої артерії
d. Гострий панкреатит
e. Інфаркт міокарда

578. У чоловіка віком 46 років у лабораторних дослідженнях крові виявлено підвищення активності креатинфосфокінази. Який патологічний стан, найімовірніше, виник у пацієнта?

a. Тромбоемболія легеневої артерії
b. Інфаркт міокарда
c. Гемолітична анемія
d. Ниркова недостатність
e. Гострий панкреатит

579. Укажіть ефективні умови окисного фосфорилювання.

a. Доступність АТФ, окислені еквіваленти, вуглекислий газ
b. Доступність ГДФ, оксиген, відновлені еквіваленти
c. Доступність АМФ, оксиген, відновлені еквіваленти
d. Доступність АДФ, оксиген, відновлені еквіваленти
e. Доступність АМФ, оксиген, окислені еквіваленти

580. Укажіть ефективні умови окисного фосфорилювання.
a. Доступність АТФ, окислені еквіваленти, вуглекислий газ
b. Доступність ГДФ, оксиген, відновлені еквіваленти
c. Доступність АМФ, оксиген, окислені еквіваленти
d. Доступність АМФ, оксиген, відновлені еквіваленти
e. Доступність АДФ, оксиген, відновлені еквіваленти
581. Цитоскелет клітин складається з мікротрубочок, проміжних філаментів та мікрофіламентів. Який білок у своєму складі містять мікротрубочки?
a. Тубулін
b. G-актин
c. Глобулін
d. F-актин
e. Альбумін
582. Цитоскелет клітин складається з мікротрубочок, проміжних філаментів та мікрофіламентів. Який білок у своєму складі містять мікротрубочки?
a. F-актин
b. Глобулін
c. Тубулін
d. Альбумін
e. G-актин
583. Чоловік віком 38 років скаржиться на швидку стомлюваність, у положенні стоячи із закритими очима він похитується, втрачає рівновагу. Тонус скелетних м’язів знижений. Яка з нижченаведених структур мозку, найбільш імовірно, вражена у пацієнта?
a. Базальні гангліїї
b. Гіпоталамус
c. Прецентральна звивина кори великих півкуль
d. Таламус
e. Мозочок
584. Чоловік віком 38 років скаржиться на швидку стомлюваність, у положенні стоячи із закритими очима він похитується, втрачає рівновагу. Тонус скелетних м’язів знижений. Яка з нижченаведених структур мозку, найбільш імовірно, вражена у пацієнта?
a. Таламус
b. Мозочок
c. Базальні гангліїї
d. Гіпоталамус
e. Прецентральна звивина кори великих півкуль
585. Яка група організмів має нуклеоїди - кільцеві молекули ДНК, що формують хромосоми простої будови (відсутні гістони)?
a. Бактеріофаги
b. Гриби
c. Найпростіші
d. Бактерії
e. Віруси
586. Яка група організмів має нуклеоїди - кільцеві молекули ДНК, що формують хромосоми простої будови (відсутні гістони)?
a. Найпростіші
b. Бактеріофаги
c. Віруси
d. Гриби
e. Бактерії
587. Яка форма порушення кислотно-основної рівноваги у пацієнтів із накопиченням кетонових тіл у сироватці крові?
a. Метаболічний ацидоз
b. Респіраторний алкалоз
c. Респіраторний ацидоз

d. Змішаний алкалоз
e. Метаболічний алкалоз
588. Яка форма порушення кислотно-основної рівноваги у пацієнтів із накопиченням кетонових тіл у сироватці крові?
a. Метаболічний ацидоз
b. Респіраторний ацидоз
c. Метаболічний алкалоз
d. Респіраторний алкалоз
e. Змішаний алкалоз
589. Яке ускладення виникне у пацієнта з діагнозом цироз печінки і значним зниженням в сироватці крові вмісту альбуміну та глобуліну?
a. Аміноацидурія
b. Набряки
c. Енцефалопатія
d. Геморагічний синдром
e. Анемія
590. Яке ускладення виникне у пацієнта з діагнозом цироз печінки і значним зниженням в сироватці крові вмісту альбуміну та глобуліну?
a. Анемія
b. Аміноацидурія
c. Геморагічний синдром
d. Набряки
e. Енцефалопатія
591. Який механізм розвитку протибольової дії наркотичного анальгетика?
a. Активація опіатних рецепторів
b. Гальмування гістамінергічних рецепторів
c. Активація Д2-дофамінових рецепторів
d. Гальмування холінергічних рецепторів
e. Гальмування серотонінергічних рецепторів
592. Який механізм розвитку протибольової дії наркотичного анальгетика?
a. Гальмування холінергічних рецепторів
b. Гальмування гістамінергічних рецепторів
c. Активація опіатних рецепторів
d. Активація Д2-дофамінових рецепторів
e. Гальмування серотонінергічних рецепторів
593. Який нерв проходить в ділянці м`язової затоки?
a. N. genitofemoralis
b. N. ischiadicus
c. N. femoralis
d. N. suralis
e. N. obturatorius
594. Який нерв проходить в ділянці м`язової затоки?
a. N. ischiadicus
b. N. suralis
c. N. obturatorius
d. N. genitofemoralis
e. N. femoralis
595. Який препарат належить до групи блокаторів кальцієвих каналів третього покоління?
a. Амлодипін
b. Лозартан
c. Магнію сульфат
d. Атенолол
e. Лізиноприл
596. Який препарат належить до групи блокаторів кальцієвих каналів третього покоління?
a. Лозартан

b. Лізиноприл
c. Атенолол
d. Магнію сульфат
e. Амлодипін
597. Який із нижченаведених препаратів під час закрапування в очі викликає розширення зіниці та параліч акомодації?
a. Прозерін
b. Пілокарпіну гідрохлориду
c. Галантаміну гідробромід
d. Атропіну сульфату
e. Фурацилін
598. Який із нижченаведених препаратів під час закрапування в очі викликає розширення зіниці та параліч акомодації?
a. Фурацилін
b. Пілокарпіну гідрохлориду
c. Галантаміну гідробромід
d. Атропіну сульфату
e. Прозерін
599. Яку функцію виконують келихоподібні клітини одношарового багаторядного війчастого епітелію бронхів ?
a. Всмоктувальну
b. Залозисту
c. Опорну
d. Камбіальну
e. Скоротливу
600. Яку функцію виконують келихоподібні клітини одношарового багаторядного війчастого епітелію бронхів ?
a. Скоротливу
b. Всмоктувальну
c. Камбіальну
d. Опорну
e. Залозисту
601. Які зміни з боку ізольованого серця можна очікувати після введення в перфузійний розчин адреналіну?
a. Збільшення частоти і сили скорочень
b. Зменшення сили скорочень
c. Зупинка серця в діастолі
d. Збільшення частоти скорочень
e. Збільшення сили скорочень
602. Які зміни з боку ізольованого серця можна очікувати після введення в перфузійний розчин адреналіну?
a. Збільшення частоти скорочень
b. Зупинка серця в діастолі
c. Зменшення сили скорочень
d. Збільшення сили скорочень
e. Збільшення частоти і сили скорочень
603. Які механізми регуляції зумовлюють збільшення частоти серцевих скорочень під час зміни положення тіла з горизонтального у вертикалене?
a. Безумовні симпатичні рефлекси
b. Умовні симпатичні рефлекси
c. Умовні та безумовні симпатичні рефлекси
d. Катехоламіни
e. Симпатичні рефлекси і катехоламіни
604. Які механізми регуляції зумовлюють збільшення частоти серцевих скорочень під час зміни положення тіла з горизонтального у вертикалене?

a. Симпатичні рефлекси і катехоламіни
b. Умовні симпатичні рефлекси
c. Катехоламіни
d. Умовні та безумовні симпатичні рефлекси
e. Безумовні симпатичні рефлекси