1. Pterin derivatives - aminopterin and methotrexate - are competitive inhibitors of dihydrofolate reductase. As a result, they suppress the regeneration of tetrahydrofolic acid from dihydrofolate. These medicines lead to the inhibition of intermolecular transport of one-carbon groups. In the process, the biosynthesis of the following polymer is suppressed:

a. Gangliosides
b. Glycosaminoglycans
c. Protein
d. Homopolysaccharides
e. DNA

2. A 40-year-old woman on examination presents with intensified basal metabolic rate. What hormone present in excess leads to such condition?

a. Glucagon
b. Thyrocalcitonin
c. Triiodothyronine
d. Aldosterone
e. Somatostatin

3. 10 days after the administration of an antitoxic anti-diphtheritic serum, a child with diphtheria developed skin rashes accompanied by severe itching, body temperature increased up to 38°C, the child developed pain in the joints. What likely cause of these phenomena can be suggested?

a. Contact allergy
b. Serum sickness
c. Atopy
d. Anaphylactic reaction
e. Delayed-type hypersensitivity

4. During emotional excitation the heart rate of a 30-year-old person reached 112/min. The increased heart rate was caused by a change that occurred in a certain structure of the cardiac conduction system. Name this structure:

a. His' bundle
b. Sinoatrial node
c. His' bundle branches
d. Purkinje fibers
e. Atrioventricular node

5. A 16-year-old girl has no hair on the pubis and in the armpits, her mammary glands are underdeveloped, no menstruations. This condition can be caused by the following hormone imbalance:

a. Pancreatic islet failure
b. Adrenal medulla hyperfunction
c. Hyperthyroidism
d. Hypothyroidism
e. Ovarian failure

6. From the feces of a patient with acute gastroenteritis a pure culture of microorganisms was obtained. The microorganisms are small mobile slightly curved gram-negative bacilli that within 6 hours grow into a light blue him on the 1% alkaline peptone water. Such properties are characteristic of the following microorganism:

a. Spirochaete
b. Bacillus
c. Spirillum
d. Vibrio
e. Clostridium

7. A person has diabetes mellitus with fasting hyperglycemia of over 7.2 mmol/L. What blood plasma protein allows for retrospective assessment (4-8 weeks before the examination) of glycemia levels?

a. Glycated hemoglobin

b. Fibrinogen
c. Ceruloplasmin
d. C-reactive protein
e. Albumin

8. The patient presents with smoothed out nasolabial fold, dilated right palpebral fissure (it cannot be closed when squinting, because the eyelids would not close), there are difficulties during speaking and eating (food gets stuck between the cheek and teeth). What nerve is damaged in this case?
a. N. facialis dexter
b. N. glossopharyngeus sinister
c. N. trigeminus dexter
d. N. vagus dexter
e. N. abduceus dexter

9. Due to a case of diphtheria, preventive immunization of the whole contact group of students is necessary. What preparation should be used to produce artificial active immunity?
a. Anti-diphtheria serum
b. DTP vaccine
c. Inactivated vaccine
d. Diphtheria anatoxin
e. Specific immunoglobulin

10. A patient complains of pain in the upper umbilical region. On palpation there is a mobile painful intestine. What intestine is being palpated by the doctor?
a. Duodenum
b. Jejunum
c. Transverse colon
d. Ileum
e. Sigmoid colon

11. Due to a trauma, the posterior roots of the spinal cord of a 40-year-old man were destroyed. What disorders will be observed in the innervation region of these roots?
a. Disturbed function of cross-striated skeletal muscles
b. Loss of thermal and vibrational sensation
c. Loss of pain sensation
d. Loss of all types of sensation
e. Disturbed function of smooth muscles

12. A 28-year-old woman came to a polyclinic with complaints of a headache. The doctor offered her paracetamol, taking into consideration that the woman has a somatic disease. What concomitant disease made it necessary to prescribe her specifically paracetamol?
a. Rheumatoid arthritis
b. Atherosclerosis
c. Nephritis
d. Peptic ulcer disease of the stomach
e. Cholecystitis

13. A lab rat has subcutaneously received mercury(II) chloride in the amount of 5 mg/kg. 24 hours later the plasma creatinine concentration increased several times. What mechanism of retention azotemia is observed in this case?
a. Decreased glomerular filtration
b. Increased creatinine reabsorption
c. Increased creatinine secretion in the renal tubules
d. Increased glomerular filtration
e. Increased creatinine production in the muscles

14. Autopsy of the body of a person, who died after an abdominal surgery, revealed numerous thrombi in the veins of the lesser pelvis. Clinically, thromboembolism syndrome was registered.

Where should the pathologist search for thromboembolas?
a. Brain
b. Lower limb veins
c. Portal vein
d. Left ventricle of the heart
e. Pulmonary arteries

15. A patient with an injury of the greater psoas muscle was delivered to the traumatology center. The patient has lost the ability to extend the lower leg at the knee joint. What nerve is damaged in this case?
a. Iliohypogastric nerve
b. Genitofemoral nerve
c. Obturator nerve
d. Femoral nerve
e. Ilioinguinal nerve

16. A patient has disturbed vision in the lateral visual fields of both eyes (bilateral hemianopsia). What nerve structure is affected?
a. Optic chiasm
b. Right optic tract
c. Optic nerves
d. Retina
e. Left optic tract

17. A patient complains of frequent and excessive urination and thirst. Urinalysis revealed the following: 24-hour diuresis -19 liters, specific gravity - 1.001. These values are characteristic of:
a. Thyrotoxicosis
b. Addison’s disease
c. Steroid diabetes
d. Diabetes mellitus
e. Diabetes insipidus

18. Blood test of the patient revealed albumin content of 20 g/L and increased activity of lactate dehydrogenase isoenzyme 5 (LDH5). These results indicate disorder of the following organ:
a. Heart
b. Kidneys
c. Liver
d. Lungs
e. Spleen

19. Section shows a significant enlargement of the patient’s right kidney. There is a nephrolith at the place of the incision. Renal pelvic lumen is distended with accumulating urine. The renal parenchyma is substantially thinned out. What is the most correct diagnosis?
a. Hydroureteronephrosis
b. Pyelectasis
c. Hydronephrosis
d. Renal cyst
e. Nephroblastoma

20. When checking donor blood at the blood transfusion station, antibodies to human immunodeficiency virus were found in the blood serum of one of the donors. What method is recommended for confirmation of HIV-infection diagnosis?
a. Radioimmunoassay
b. Western blot (immunoblotting)
c. Enzyme-linked immunosorbent assay
d. Electron microscopy
e. Immunofluorescence

21. A patient presents with an acute attack of cholelithiasis. Laboratory examination of the patient's feces will show the following in this case:

a. Negative reaction to stercobilin
b. Connective tissue
c. Starch granules
d. Partially digested cellulose
e. Positive reaction to stercobilin

22. A man was hospitalized on the 5th day after the onset of the disease. He has jaundice, myalgia, chills, and nasal bleeding. During the laboratory diagnostics, the bacteriologist performed dark field microscopy of the blood drop obtained from the patient. Name the causative agent of this disease:

a. Leptospira interrogans
b. Calymmatobacterium granulomatis
c. Rickettsia mooseri
d. Bartonella bacilloformis
e. Borrelia duttonii

23. Clinical instrumental examination of a patient allowed to provisionally diagnose him with liver cancer. What protein is indicative of this diagnosis, if it is present in the blood serum?

a. Properdin
b. C-reactive protein
c. Gamma globulins
d. Alpha-fetoprotein
e. Paraproteins

24. Proliferation of connective tissue in the liver parenchyma (fibrosis) that results from chronic disorders causes a blood flow disturbance in the classical hepatic lobules. Describe the blood flow direction in these lobules:

a. Around the lobule
b. From the center to the periphery
c. From the periphery to the center
d. From the apex to the base
e. From the base to the apex

25. In a hypothetical experiment, the action of a toxic substance disrupts the mechanism of nerve impulse transmission between neurons. What structure enables this function?

a. Neurofibril
b. Neurolemma
c. Synapse
d. Mitochondrion
e. Nissl substance

26. Autopsy of the body revealed a large wedge-shaped patch of a dense dark red tissue with clear margins in the upper lobe of the right lung. Histological examination detected there necrosis of the alveolar walls; the alveolar lumen is tightly packed with erythrocytes. What process occurred in the lungs?

a. Gangrene
b. Carneous degeneration
c. Hemorrhagic infarction
d. Hemorrhage
e. Atelectasis

27. An unconscious patient was brought into the admission room. He presents with cold skin, constricted pupils, difficult respiration with Cheyne-Stokes pattern, low blood pressure, overfilled urinary bladder. He was diagnosed with morphine poisoning. What drug should the patient be given as an antagonist in this case?

a. Cytitone
b. Bemegride

c. Naloxone
d. Unithiol
e. Sodium thiosulfate

28. A patient with massive burns received a skin graft from a donor. On the 8th day after the grafting, the transplant became edematous and discolored. On the 11th day transplant rejection started. What cells take part in this process?
a. Erythrocytes
b. Eosinophils
c. B lymphocytes
d. T lymphocytes
e. Basophils

29. A patient with essential hypertension, who is taking hypothiazide (hydrochlorothiazide) treatment, complains of general weakness, loss of appetite, and palpitations. He has muscle hypotonia, flaccid paralyses, and decreased intestinal peristalsis. What can be the cause of this condition?
a. Hyperuricemia
b. Hyperkalemia
c. Hypercalcemia
d. Hypokalemia
e. Hyponatremia

30. A 16-year-old young man complains of itching between the fingers and on his abdomen that intensifies at night. Examination detects thin gray streaks and fine rash on his skin. What is the most likely causative agent of this disease?
a. Ixodes ricinus
b. Dermacentor pictus
c. Ixodes persulcatus
d. Sarcoptes scabiei
e. Ornitodorus papillipes

31. Regional lymph nodes surrounding an infected wound are enlarged. Histological examination shows increased number of macrophages, lymphocytes, and lymphatic follicles in the cortical layer of the lymph nodes, as well as a large amount of plasma cells. What process in the lymph nodes is indicated by these histologic changes?
a. Neoplastic aberration
b. Transplant rejection
c. Acquired deficiency of lymphoid tissue
d. Congenital deficiency of lymphoid tissue
e. Antigen stimulation

32. A patient was brought by an ambulance to the inpatient department. He was provisionally diagnosed with acute pancreatitis. To confirm this diagnosis, it is necessary to measure the activity of a certain enzyme in the patient’s blood and urine. Name this enzyme:
a. Alpha-amylase
b. Aspartate transaminase
c. Choline esterase
d. Lactate dehydrogenase
e. Alanine transaminase

33. A 45-year-old woman has breast cancer. Metastases can spread in this case to the following regional lymph nodes:
a. Axillary, parasternal
b. Cervical, parasternal
c. Aortic, bronchomediastinal
d. Parasternal, bronchomediastinal
e. Abdominal, cervical

34. A 50-year-old man complains of hoarse voice and difficult breathing. Examination detected a laryngeal tumor in the region of the vocal cords. In this case metastases can spread to the following regional lymph nodes:

a. Retropharyngeal lymph nodes
b. Submental lymph nodes
c. Superficial cervical lymph nodes
d. Deep cervical lymph nodes
e. Submandibular lymph nodes

35. A man with caisson disease died with the signs of acute disturbances of cerebral circulation in the basin of a. meningea media in the left brain hemisphere. Autopsy detected in this area a focus of gray cerebral softening 6x7x3.4 cm in size. What is the character of the process that caused the death of the patient?

a. Vascular atherosclerosis
b. Gas embolism
c. Thrombosis
d. Fat embolism
e. Thromboembolism

36. After a spinal trauma the patient has lost proprioceptive sensitivity in the lower half of the body and in the lower limbs. What sensory conduction pathway was likely damaged, leading to the loss of sensitivity?

a. Fasciculus gracilis (Goll column)
b. Tr. spino-thalamicus anterior
c. Tr. spino-cerebellaris ventralis (Gowers column)
d. Fasciculus cuneatus (Burdach column)
e. Tr. spino-thalamicus lateralis

37. A patient used an indirect-acting adrenergic agonist to treat rhinitis. After the patient has been putting in the nose drops for several days, the vasoconstrictive effect of the drug gradually diminished. Name this phenomenon:

a. Tachyphylaxis
b. Teratogenicity
c. Cumulation
d. Allergy
e. Idiosyncrasy

38. A medical student was hospitalized into the infectious diseases unit on the 2nd day after the disease onset. The patient is suspected to have infectious mononucleosis. What results of laboratory analysis can confirm this diagnosis immediately on the day of the hospitalization?

a. IgM antibodies to herpes simplex virus were detected
b. Herpesvirus was isolated
c. Cytomegalovirus antibodies were detected
d. IgM antibodies to Epstein-Barr virus were detected
e. Fourfold increase in the number of antibodies to Epstein-Barr virus was detected

39. The patient notes frequent diarrheas, especially after eating fatty food, and loss of weight. Laboratory testing detected steatorrhea and hypocholic feces. What is the likely cause of this condition?

a. Lipase deficiency
b. Inflammation of the small intestine mucosa
c. Obturation of the bile ducts
d. Disturbed phospholipase activity
e. Imbalanced diet

40. A mountain climber was climbing a mountain for several days. At the altitude of 5000 meters he developed tachypnea, tachycardia, and bursting headache. What is the likely cause of these signs?

a. Gas embolism

b. Decrease of air temperature
c. Decrease of barometric air pressure
d. Insufficient pulmonary ventilation
e. Decrease of partial oxygen pressure in the air

41. A patient suffers from the eye muscle paralysis, there are pupillary disturbances and pain along the trigeminal nerve. Aneurysm (dilation) of a certain venous sinus can be suspected. Name this venous sinus:
a. Sinus sagittalis superior
b. Sinus transversus
c. Sinus cavernosas
d. Sinus petrosus superior
e. Sinus occipitalis

42. Mother of a 2-year-old child made an appointment with the dentist. She complains of teeth destruction in her child. Examination shows that the milk teeth of the child are deformed, carious, and have a brown border at their cervices. Medical history of the mother revealed that during her pregnancy she had been taking antibiotics without the doctor's prescription. What group of antibiotics with the most marked teratogenic effect was likely taken by the mother?
a. Tetracyclines
b. Cephalosporins
c. Macrolides
d. Aminoglycosides
e. Penicillins

43. A 7-year-old girl has signs of anemia. Laboratory testing determined the deficiency of pyruvate kinase in her erythrocytes. In this case the main role in anemia development belongs to the disturbance of a certain process. What process is disturbed in this girl?
a. Amino acid deamination
b. Anaerobic glycolysis
c. Tissue respiration
d. Oxidative phosphorylation
e. Peroxide decomposition

44. A 59-year-old man in a severe condition was hospitalized into the cardiology department with the following diagnosis: acute myocardial infarction in the region of the posterior wall of the left ventricle and septum, initial pulmonary edema. What mechanism of pulmonary edema development is primary in this patient?
a. Pulmonary venous hypertension
b. Hypoxemia
c. Decrease of alveolar-capillary oxygen diffusion
d. Left ventricular failure
e. Pulmonary arterial hypertension

45. Histological specimen shows parenchyma of an organ that consists of lymphoid tissue that forms lymph nodules; the nodules are located diffusely and have a central artery. What anatomical structure has such morphological characteristics?
a. Lymph node
b. Tonsil
c. Spleen
d. Thymus
e. Red bone marrow

46. A 25-year-old woman complains of deteriorating vision. Examination revealed a defect in accommodation, the pupil is dilated and unresponsive to light. What muscles are functionally disturbed in this case?
a. Iris sphincter and iris dilator muscles
b. Iris sphincter muscle, ciliary muscle

c. Superior oblique muscle, ciliary muscle
d. Iris dilator muscle, ciliary muscle
e. Lateral rectus muscle, iris sphincter muscle

47. Puncture biopsy of a transplanted kidney detected there a diffuse stromal infiltration by lymphocytes, plasma cells, lymphoblasts, and plasmablasts, as well as necrotizing arteritis. What pathological process developed in the transplant?
a. Immune rejection
b. Ischemic kidney damage
c. Pyelonephritis
d. Tubular necrosis
e. Glomerulonephritis

48. A patient with essential hypertension was prescribed hydrochlorothiazide as a part of complex therapy. What mechanism of drug action facilitates a decrease in blood pressure in this case?
a. Carbonic anhydrase blockade
b. Increased excretion of sodium ions and water
c. Calcium channel blockade
d. Increased production of angiotensin II
e. Decreased excretion of sodium ions and water

49. Examination of the femoral bone detected chronic suppurative inflammation of the compact substance and bone marrow, formation of bone sequestra. What disease is associated with such changes?
a. Multiple myeloma
b. Reticulosarcoma
c. Osteomyelitis
d. Giant cell tumor of bone
e. Periostitis

50. A nurse mistakenly gave nearly a double dose of insulin to a patient with diabets mellitus, which caused hypoglycemic coma in the patient. What medicine should be administered to bring the patient out of the coma?
a. Somatotropin
b. Noradrenaline
c. Lidase
d. Insulin
e. Glucose

51. A test animal receives electrical impulses that irritate the sympathetic nerve that innervates blood vessels of the skin. What reaction will it cause in the blood vessels?
a. Venous dilation
b. Arterial and venous constriction
c. Arterial dilation
d. No reaction
e. Arterial and venous dilation

52. T lymphocytes were affected by HIV In the process, viral enzyme reverse transcriptase (RNA-dependent DNA- polymerase) catalyzes the synthesis of:
a. Informational RNA on the viral protein matrix
b. DNA on the viral RNA matrix
c. Viral protein on the viral RNA matrix
d. Viral RNA on the DNA matrix
e. Viral DNA on the DNA matrix

53. A 32-year-old man has tall stature, gynecomastia, female pattern of hair distribution, high pitched voice, delayed mental development, sterility. He was provisionally diagnosed with Klinefelter syndrome. To clarify this diagnosis, it is necessary to analyze the patient’s:

a. Blood type
b. Genealogy
c. Leukogram
d. Spermatogenesis
e. Karyotype

54. A person developed increased pulmonary ventilation due to physical exertion. What indicator of external respiration will be significantly increased compared to the resting state?
a. Vital lung capacity
b. Expiratory reserve volume
c. Total lung capacity
d. Respiratory volume
e. Inspiratory reserve volume

55. Parents of a sick child came to the infectious disease specialist. The parents were working in India for a long time. The child has the following signs: a gray tint to the skin tone, loss of appetite, inertness, enlarged liver, spleen, and lymph nodes. What protozoan disease can be suspected in the child?
a. Visceral leishmaniasis
b. Amebiasis
c. Lambliasis
d. Toxoplasmosis
e. Balantidiasis

56. In the enlarged cervical lymph node of a 14-year-old girl microscopy detected the following: tissue structure of the lymph node is disturbed, no lymphoid follicles, there are sclerotic areas and necrotic foci, cellular composition of the lymph node is polymorphous, there are lymphocytes, eosinophils, large atypical cells with multilobular nuclei (Berezovsky-Reed- Sternberg cells), and large mononuclear cells. Make the diagnosis:
a. Burkitt’s lymphoma
b. Mycosis fungoides
c. Acute lymphocytic leukemia
d. Chronic lymphocytic leukemia
e. Lymphogranulomatosis

57. After a boy fell from a tree, the arm abduction to the horizontal position is difficult for him. What muscle is likely to be damaged in this case?
a. M. supinator
b. M. deltoideus
c. M. anconeus
d. M. triceps brachii
e. M. coracobrachialis

58. A 65-year-old woman against the background of chronic heart failure developed secondary hyperaldosteronism. What medicine should be prescribed to increase the patient’s diuresis?
a. Dichlothiazide (Hydrochlorothiazide)
b. Furosemide
c. Spironolactone
d. Orthosiphon grass
e. Clopamide

59. A patient with essential hypertension developed a cough during the systematic treatment with a hypotensive drug. What drug of those listed below can cause such a side effect?
a. Dibazol (Bendazol)
b. Prazosin
c. Verapamil
d. Lisinopril
e. Apressin (Hydralazine)

60. When examining a child, the pediatrician noted that the child presents with delayed physical and mental development. Urinalysis showed an acute increase in the levels of a keto acid that produces qualitative color reaction with ferric chloride. What metabolic disturbance was detected in this case?

a. Albinism
b. Phenylketonuria
c. Tyrosinemia
d. Alkaptonuria
e. Cystinuria

61. Autopsy of the body of a 1.5-year- old child revealed hemorrhagic skin rashes, moderate hyperemia and edema of the nasopharyngeal mucosa, small hemorrhages in the mucosa and internal organs, markedly dystrophic changes in the liver and myocardium, acute necrotic nephrosis, and massive hemorrhages in the adrenal glands. These changes are characteristic of the following disease:

a. Diphtheria
b. Scarlet fever
c. Meningococcal disease
d. Measles
e. Epidemic typhus

62. Autopsy of the body of a 40-year-old patient detected groups of enlarged follicles in the small intestine. Their surface has ridges and fissures arranged in a pattern that resembles gyri and sulci of the brain. The follicles protrude above the surface of the intestinal mucosa. On section they are gray-red and juicy. Microscopy shows proliferation of monocytes, histiocytes, and reticular cells, there are macrophage clusters that form granulomas, while lymphocytes are depleted. What disease can be characterized by these changes?

a. Amebiasis
b. Typhoid fever
c. Dysentery
d. Cholera
e. Salmonellosis

63. Blood smear analysis of a blood sample obtained from a patient with inflammatory process shows a large number of round cells with segmented nucleus (three or more segments) and fine pink-violet granulation in the cytoplasm. Name these blood cells:

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

64. There is a large amount of glucose oxidation metabolites dissolved in the cytoplasm of myocytes. Name one such metabolite that converts directly into lactate:

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

65. 24 hours after an appendectomy the patient’s blood test shows neutrophilic leukocytosis with a regenerative shift. What is the most likely mechanism of absolute leukocytosis development in the patient’s peripheral blood?

a. Intensification of leukopoiesis
b. Decreased leukocyte disintegration
c. Immunity activation
d. Deceleration of leukocyte migration to the tissues
e. Leukocyte redistribution

66. A patient has cardiac rhythm disturbance. ECG shows heart rate of 60/min., prolongation of PQ interval, periodical loss of QRS complex. What cardiac rhythm disturbance is it?

a. His' right bundle branch block
b. Complete AV block
c. Second-degree incomplete AV block
d. First-degree incomplete AV block
e. Sick sinus syndrome

67. A 35-year-old man complains of a severe rhinitis and a loss of the sense of smell for a week. Examination detected in the nasal cavity a large amount of mucus that covered the mucosa and blocked the olfactory receptors. Where in the nasal cavity are these receptors located?

a. Middle nasal concha
b. Common nasal meatus
c. Vestibule of the nose
d. Superior nasal concha
e. Inferior nasal concha

68. A 7-year-old child developed sore throat and high body temperature. On the 2nd day after the onset of the disease, there appeared dense red rashes that look like small spots the size of a poppy seed. They cover the whole body, except the nasolabial triangle. Examination of the oral cavity revealed bright red pharynx, enlarged tonsils, and raspberry-red tongue. Make the diagnosis:

a. Scarlet fever
b. Pharyngeal diphtheria
c. Streptococcal tonsillitis
d. Measles
e. Adenovirus infection

69. A histological specimen demonstrates a vessel with the wall that consists of endothelium, basement membrane, and loose connective tissue. What type of vessel is it?

a. Artery
b. Hemocapillary
c. Lymph capillary
d. Non-muscular vein
e. Muscular vein

70. A woman was hospitalized in a severe condition with the following diagnosis: hemorrhagic stroke in the region of the medial surface of the right frontal lobe. What artery is likely to be damaged, causing this condition in the patient?

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

71. A 50-year-old man experienced a severe stress. His blood levels of adrenaline and noradrenaline sharply increased. What enzymes catalyze the process of noradrenaline inactivation?

a. Peptidases
b. Glycosidases
c. Monoamine oxidases
d. Carboxylases
e. Tyrosinase

72. A biopsy material was obtained from the arches of the patient's soft palate due to a suspected tumor (macroscopy detected an ulcer with the dense floor). In the biopsy material the following was detected: necrosis of the mucosa with infiltration of the submucosal layer by lymphocytes, epithelioid cells, plasma cells, and single neutrophils. Notable is the presence of marked endovasculitis and perivasculitis. The described changes are characteristic of:

a. Aphthous stomatitis

b. Necrotizing ulcerative stomatitis
c. Pharyngeal diphtheria
d. Primary syphilis
e. Ulcerative stomatitis

73. During the exercise testing on a training bicycle, the patient's respiration rate increased. What is the main cause of the changed activity of the respiration center in this case?
a. Increase of 02 tension in the blood
b. Decrease of 02 tension in the blood
c. Decrease of C02 tension in the blood
d. Increase of blood adrenaline levels
e. Increase of C02 tension in the blood

74. Some adults develop signs of dyspepsia after drinking milk. What enzyme deficiency is associated with milk intolerance?
a. Amylase
b. Maltase
c. Peptidase
d. Lactase
e. Lipase

75. A patient has a trauma of the knee joint with crushed patella. With such injury, it is likely that the tendon of a certain thigh muscle is damaged. Name this muscle:
a. Sartorius muscle
b. Biceps muscle of the thigh
c. Quadriceps muscle of the thigh
d. Adductor magnus muscle
e. Adductor longus muscle

76. A 46-year-old man was brought to the hospital specializing in nervous system diseases. The man was provisionally diagnosed with cerebral hemorrhage. The patient presents with frequent spontaneous limb movements intermittent with the state of limb muscle hypertonia. These signs can be explained by the damage to the following brain structures:
a. Basal ganglia
b. Frontal cortex
c. Hypothalamus
d. Brain stem
e. Hypophysis

77. A patient with myocardial infarction has acute heart failure. Among the drugs that increase the force of heart contractions the least dangerous in this case will be:
a. Adrenaline
b. Euphyllin (Aminophylline)
c. Caffeine
d. Dobutamine
e. Isadrinum (Isoprenaline)

78. The ophthalmologist noticed a purulent discharge from the conjunctiva of a newborn. Microscopy of the smear obtained from the conjunctiva found there a large number of leukocytes, as well as gram-negative bean-shaped diplococci located inside the leukocytes. What is the causative agent of this disease?
a. Staphylococcus epidermitis
b. Staphylococcus aureus
c. Neisseria gonnorrhoeae
d. Streptococcus pyogenes
e. Neisseria catarrhalis

79. A bioterrorist mailed an envelope with a powder that is suspected to contain anthrax causative

agent. This envelope can remain dangerous for a long time, because anthrax causative agent:
a. Forms a protein capsule
b. Forms flagella
c. Is a spore-former
d. Forms a polysaccharide capsule
e. Belongs to actinomycetes

80. A 36-year-old man developed angina pectoris attacks immediately after a past case of staphylococcal sepsis. Coronarography detected mural thrombosis without signs of atherosclerosis in the left coronary artery. Thrombus formation occurred in the result of damage to the vascular endothelium and release of:
a. Adenosine triphosphate
b. Adenosine diphosphate
c. Platelet-activating factor
d. Phospholipase A2
e. Serotonin

81. A 5-year-old child is diagnosed with Bruton's disease (X-linked agammaglobulinemia) that manifests itself in severe clinical course of bacterial infections and absence of B lymphocytes and plasma cells. What changes in the immunoglobulin content can be observed in the blood serum of the child with immunodeficiency?
a. Decreased IgA, IgM
b. Decreased IgD, IgE
c. No changes
d. Increased IgD, IgE
e. Increased IgA, IgM

82. It is known that hepatitis D virus belongs to defective viruses and can reproduce in the host cells only in the presence of another hepatitis virus. Name this other hepatitis virus:
a. Hepatitis B virus
b. Hepatitis C virus
c. Hepatitis G virus
d. Hepatitis E virus
e. Hepatitis A virus

83. A laboratory rat with chronic kidney failure has osteoporosis, pathologic calcification of the internal organs, and arterial hypertension. These disturbances are associated with the increased activity of the following hormone:
a. Calcitonin
b. Adrenaline
c. Thyroxin
d. Triiodothyronine
e. Parathyroid hormone

84. Immediately after moving from horizontal to vertical position, the heart rate of a 23-year-old man increased by 15 beats per minute, his systolic pressure remained unchanged, while his diastolic pressure increased by 10 mm Hg. What reflex response of the executive structures caused this increase in the diastolic pressure?
a. Increase of the cardiac output
b. Constriction of the resistance vessels
c. Constriction of the resistance and capacitance vessels
d. Constriction of the capacitance vessels
e. Increase of the stroke volume

85. Blood test shows the following: sodium - 115 mmol/T, chlorides - 85 mmol/T, glucose - 6 mmoFL, total protein - 65 g/L. The first consequence of such changes will be the decrease of:
a. Erythrocyte sedimentation rate
b. Osmotic blood pressure

c. Blood pH
d. Oncotic blood pressure
e. Circulating blood volume

86. A patient suffers from disturbed renal function. To check the filtration ability of the kidneys, he was referred for clearance measurement of the following substance:
a. Creatinine
b. Glutamine
c. Hydrogen carbonate
d. Indole
e. Uric acid

87. In an experiment, a frog neuromuscular preparation had been processed with a curare-like substance, which led to the disapparance of muscle contractions in response to electrical stimulation. What function of the muscle cell membrane is disrupted by curare-like substances?
a. Reception of the mediators in the neuromuscular synapse
b. Maintenance of the internal cell structure, its cytoskeleton
c. Creation of the electric potentials on the both sides of the membrane
d. Change in the permeability for different substances
e. Creation of a barrier between the intracellular environment and surrounding intercellular fluid

88. Among lymphocytes there is a population of cells that have membrane receptors to IgM, activate in response to certain antigens, reproduce mitotically, differentiate into plasma cells that produce antibodies (immunoglobulins). Name these cells:
a. -
b. B lymphocytes
c. Killer T cells
d. Memory T cells
e. Suppressor T cells

89. A newborn boy has dolichocephalic skull, microcephaly, and defects of heart, kidneys, and digestive system. The child’s karyotype is 47, XY, + 18. Make the diagnosis:
a. Patau syndrome
b. Klinefelter syndrome
c. Turner syndrome
d. Edwards syndrome
e. Down syndrome

90. A 2-year-old child presents with marked delay in psychomotor development, vision and hearing deterioration, marked enlargement of the liver and spleen. The child is diagnosed with hereditary Niemann-Pick disease. What genetic defect is the cause of this disease?
a. Sphingomyelinase deficiency
b. Amylo-l,6-glucosidase deficiency
c. Xanthine oxidase deficiency
d. Acid lipase deficiency
e. Glucose 6-phosphatase deficiency

91. A patient came to the hospital complaining of abdominal distension, diarrhea, and meteorism that occur after eating protein-rich food, which indicates disturbed protein metabolism and intensified protein putrefaction. What substance is the product of this process in the intestine?
a. Agmatine
b. Putrescine
c. Bilirubin
d. Cadaverine
e. Indole

92. Autopsy of the body revealed waxy degeneration of the rectus abdominis muscles. In the terminal segment of the small intestine there are ulcers 3-5 cm in diameter. The ulcer walls are covered in a

crumbling grayish-yellow substance. The ulcer edges are moderately raised above the mucosa. Widal test is positive. Make the diagnosis:

a. Typhoid fever
b. Relapsing fever
c. Dysentery
d. Crohn's disease
e. Nonspecific ulcerative colitis

93. Genealogical analysis of a child with myotonic dystrophy determined that this disease manifests in every generation, is in equal measure present in the relatives of both genders, the risk of inheriting this disease is equal no matter which parent is affected. If one of the parents is heterozygous for this disease and the other parent is healthy, the risk of them giving birth to a sick child is 50%. What type of disease inheritance is it?

a. X-linked dominant
b. Autosomal recessive
c. Autosomal dominant
d. X-linked recessive
e. Y-linked

94. A young woman, a foreign student from Tehran, has made an appointment with the urologist. She complains of the sensation of heaviness in her lower abdomen and a small amount of blood being excreted with urine at the end of each urination. Microscopy of urine detects the presence of parasite eggs, approximately 140x70 micron in size, with a terminal spike. What diagnosis can be made by the infectious disease specialist?

a. Schistosomiasis
b. Dicroceliasis
c. Fascioliasis
d. Paragonimiasis
e. Opisthorchiasis

95. A 5-year-old child presents with severe progression of bacterial diseases. During blood serum examination, a significant decrease of immunoglobulin concentration and absence of B lymphocytes are observed. What immunodeficiency is it?

a. Dysimmunoglobulinemia
b. Swiss-type agammaglobulinemia
c. Bruton syndrome (X-linked agammaglobulinemia)
d. DiGeorge syndrome
e. Louis-Bar syndrome (ataxia-telangiectasia)

96. A patient complains of acute increase in diuresis (up to 5-7 liters of urine per 24 hours). Examination revealed decreased secretion of vasopressin in this patient. What cells have insufficient secretory activity in this case?

a. Pituicytes
b. Pars tuberalis cells
c. Endocrinocytes of the anterior pituitary
d. Endocrinocytes of the intermediate pituitary
e. Neurosecretory cells of the hypothalamus

97. The patient's ECG shows that in the second standard lead from the extremities the P waves are positive, their amplitude is 0.1 mV (norm is 0.05-0.25 mV), duration - 0.1 seconds (norm is 0.07-0.10 seconds). It can be concluded that the following process occurs normally in the cardiac atria:

a. Excitation
b. Repolarization
c. Depolarization
d. Contraction
e. Relaxation

98. A patient with ischemic heart disease has increased levels of triglycerides and low-density

lipoproteins in his blood plasma. What medicine should he be prescribed?
a. Amiodarone
b. Famotidine
c. Fenohbrate
d. Lisinopril
e. Dobutamine

99. A patient with suppurative bronchitis was hospitalized into the pulmonology department. As a part of complex therapy, he was prescribed a medicine that liquefies sputum and facilitates expectoration. Name this medicine:
a. Prednisolone
b. Morphine hydrochloride
c. Valerian tincture
d. Cholosas
e. Acetylcysteine

100. A 40-year-old man with pulmonary tuberculosis was prescribed isoniazid. Prolonged taking of this drug can result in the development of the following vitamin deficiency:
a. Pyridoxine
b. Cobalamin
c. Folic acid
d. Biotin
e. Thiamine

101. A patient has an allergic response with itching, edemas, and skin redness. In the tissues there is an increased concentration of a certain biogenic amine. Name this biogenic amine:
a. Serotonin
b. Dopamine
c. Gamma-aminobutyric acid
d. Histamine
e. Tryptamine

102. For the relief of intestinal colic a patient was prescribed atropine sulfate. What disease can be a contraindication for administration of this medicine?
a. Vertigo
b. Glaucoma
c. Headache
d. Bronchial asthma
e. Hypotension

103. Arterial blood pH is 7.4; primary urine pH is 7.4; final urine pH is 5.8. Decreased pH of the final urine results from the secretion of a certain substance in the nephron tubules. Name this substance:
a. Hydrogen ions
b. Hydrogen carbonate ions
c. Creatinine
d. Urea
e. Potassium ions

104. An oncology patient is to undergo a surgery on the descending colon. Name the main source of the blood supply to this organ:
a. Superior mesenteric artery
b. Middle colic artery
c. Splenic artery
d. Inferior mesenteric artery
e. Celiac trunk

105. Body fluids, especially urine, of a sick child produce a specific sweet odor. It is associated with the disturbed metabolism of such amino acids as leucine, isoleucine, and valine. What diagnosis will

be made by the doctor in this case?
a. Fructosuria
b. Phenylketonuria
c. Maple syrup urine disease
d. Galactosemia
e. Alkaptonuria

106. Examination showed that total leukocyte count in the patient's blood is 11 - 109/L, with 80% neutrophils, among which 9% are band neutrophils. Characterize the changes in the cell composition of «white» blood in this case:
a. Neutropenia
b. Lymphocytosis
c. Nuclear right shift of neutrophils
d. Leukopenia
e. Nuclear left shift of neutrophils

107. A 49-year-old woman developed a leg edema after a long time spent standing. What is the likely cause of edema development?
a. Increase of arterial pressure
b. Increase of hydrostatic venous pressure
c. Decrease of hydrostatic arterial pressure
d. Decrease of hydrostatic venous pressure
e. Increase of oncotic blood plasma pressure

108. The mountain climbers, who without oxygen equipment were climbing a mountain, at the altitude of 5000 meters above the sea level developed tachycardia, low blood pressure, fast respiration rate. What type of hypoxia did they develop?
a. Circulatory hypoxia
b. Respiratory hypoxia
c. Hypoxemic hypoxia
d. Hemic hypoxia
e. Tissue hypoxia

109. A patient was hospitalized into an infectious diseases department. His skin is dry, with low turgor, stool resembles rice water. The patient was diagnosed with cholera. What water-electrolyte imbalance is likely to occur during this disease?
a. Hyperosmotic hyperhydration
b. Hyperosmotic hypohydration
c. Hypoosmotic hyperhydration
d. Isoosmotic hypohydration
e. Hypoosmotic hypohydration

110. Examination of a patient, who for a long time was taking glucocorticoids, detected lymphopenia. How can the functional state of the patient's immune system be characterized?
a. Secondary immunodeficiency
b. Congenital immunodeficiency
c. Anaphylaxis
d. Autoantigen tolerance
e. Primary immunodeficiency

111. In an experiment on an isolated squid giant axon submerged in a salt solution, the extracellular potassium ions concentration was increased to the level of the intracellular potassium ions concentration. What changes in the membrane potential will occur in this case?
a. Potential remains unchanged
b. Potential first decreases and then increases
c. Potential decreases
d. Potential increases
e. Potential disappears

112. Name the supramolecular multienzyme complex that is integrated into the lipid layer of inner mitochondrial membrane that creates conditions for redox reactions:

a. G-protein transducer
b. Hexokinase
c. Pyruvate kinase
d. Respiratory chain
e. Carboxypeptidase

113. A certain vitamin is a component of glutamic acid decarboxylase as a coenzyme, takes part in the formation of gamma-aminobutyric acid, and its deficiency manifests as convulsions. Name this vitamin:

a. Tocopherol
b. Cobalamin
c. Pyridoxine
d. Folic acid
e. Ascorbic acid

114. One of the causes of pernicious anemia is the disturbed synthesis of transcorrin - Castle's intrinsic factor - in the parietal cells of the stomach. What substance is called Castle's extrinsic factor?

a. Folic acid
b. Riboflavin
c. Biotin
d. Cobalamin
e. Pyridoxine

115. A patient has heart rhythm disturbances. To restore the rhythm, the doctor prescribed the patient calcium antagonists. What effect do calcium ions have on the myocardium?

a. Activate sympathetic autonomic nervous system
b. Decrease force and frequency of cardiac contractions
c. Increase force and frequency of cardiac contractions
d. Activate parasympathetic autonomic nervous system
e. Suppress sympathetic autonomic nervous system

116. Autopsy of the body of a 6-month- old child, who died of sepsis, revealed the absence of thymus and diminished size and weight of the spleen. Microscopy of the spleen detected the absence of periarterial T-dependent zones of the follicles and red pulp depletion; in the lymph nodes there is no paracortical zone that is represented mainly by T lymphocytes. B zones in the peripheral immune organs are developed normally. What pathological process is it?

a. Bruton syndrome (humoral immune deficiency)
b. Accidental thymic involution
c. HIV infection
d. Glanzmann-Riniker syndrome (cellular and humoral immune deficiency)
e. DiGeorge syndrome (cellular immune deficiency)

117. A woman with enteritis accompanied by severe diarrhea presents with the loss of water in the extracellular space, increased water content in the cells, and decreasing blood osmolarity. Name this type of water- electrolyte imbalance:

a. Hypoosmolar hypohydration
b. Hyperosmolar hypohydration
c. Isoosmolar hypohydration
d. Hypoosmolar hyperhydration
e. Hyperosmolar hyperhydration

118. During gastric resection the patient received mixed anesthesia with tubocurarine chloride muscle relaxant. To restore unassisted respiration in the patient, the patient was given proserin. What pharmacological group does this drug belong to?

a. Muscarinic antagonists
b. Muscarinic agonists

c. Angiotensin-converting-enzyme inhibitors
d. Calcium channel blockers
e. Cholinesterase inhibitors

119. To treat the burns, a patient was prescribed a drug with antiseptic properties that are based on formation of atomic oxygen in the presence of organic substances. This drug has also an astringent (anti-inflammatory) effect due to formation of albuminates. Name this drug:
a. Hydrogen peroxide
b. Chlorhexidine digluconate
c. Ethyl alcohol
d. Sodium bicarbonate
e. Potassium permanganate

120. A patient is diagnosed with glucocerebroside lipidosis (Gaucher's disease) that manifests as splenomegaly, liver enlargement, affected bone tissue, and neuropathies. What enzyme of complex lipid catabolism is deficient, causing this disease?
a. Sphingomyelinase
b. Hexosaminidase
c. Glucocerebrosidase
d. /3-galactosidase
e. Hyaluronidase

121. During a surgery for spleen injury, the surgeon needs to isolate an artery that supplies the spleen with blood. What branch of the arterial vessel is it?
a. A. hepatica communis
b. A. hepatica propria
c. Truncus coeliacus
d. A. gastroduodenalis
e. A. gastrica sinistra

122. A 26-year-old woman was brought into the maternity department. Considering the term of her pregnancy (40 weeks), she should have gone into labor already. Examination determined that the uterine cervix is open but uterine contractions are absent. The doctor gave her a hormone drug for intensification of labor activity. Name this drug:
a. Adrenocorticotropic hormone
b. Oxytocin
c. Estrone
d. Hydrocortisone
e. Testosterone

123. Mitochondrial destruction is observed in some hereditary diseases (for example, Kearns-Sayre syndrome). What processes can be disturbed, as a result, in the cell?
a. Crossing over
b. Nuclear division
c. Adenosine triphosphate synthesis
d. Amino acid synthesis
e. Glycolysis

124. In the process of acetylcholine interaction with muscarinic acetylcholine receptors of contractile cardiomyocytes, a bioactive substance is being produced. This bioactive substance leads to inactivation of calcium channels, decrease of calcium ions entry into the cardiomyocytes, and development of negative inotropic effect. Name this substance:
a. Cyclic adenosine triphosphate (cATP)
b. Cyclic guanosine triphosphate (cGTP)
c. Cyclic adenosine monophosphate (cAMP)
d. Cyclic adenosine diphosphate (cADP)
e. Cyclic guanosine monophosphate (cGMP)

125. ECG of the patient shows increased duration of the QRS complex. What is the most likely cause?
a. Increased atrial and ventricular excitability
b. Increased period of atrial excitation
c. Disturbed conduction in the atrioventricular node
d. Increased atrial excitability
e. Increased period of ventricular excitation

126. A 35-year-old woman has a history of two strokes. Her biochemical blood analysis shows increased levels of antiphospholipid autoantibodies. Targeted phospholipids in this case include:
a. Ceramide
b. Sphingosine
c. Cardiolipin
d. Cholesterol
e. Prostaglandin

127. During a surgery with application of inhalation narcosis and muscle relaxants, the anesthesiologist noticed rapid increase of the patient's body temperature to 43° C. What pathology developed in this patient?
a. Overheating
b. Infection-induced fever
c. Hyperthermic syndrome
d. Physical hyperthermia
e. Traumatic shock

128. After a traffic accident, the lower limb of the injured person had to be amputated. For a long time the patient was still feeling the amputated limb and intense unbearable pain in it. What type of pain developed in this patient?
a. Phantom pain
b. Referred pain
c. Reflective pain
d. Visceral pain
e. Causalgic pain

129. A 40-year-old woman was diagnosed with bronchial asthma that manifests as periodical asphyxia attacks. What type of ventilatory insufficiency can be observed in the patient during an attack?
a. Extrapulmonary
b. Dysregulatory
c. Hypoxemic
d. Obstructive
e. Pulmonary restrictive

130. General catabolism pathway of biological macromolecules includes, besides tricarbonic acid cycle and mitochondrial respiratory chain, the process of pyruvate oxidative decarboxylation. What is the product of pyruvate oxidative decarboxylation?
a. Malonyl-CoA
b. Acetyl-Co A
c. Alpha-ketoglutarate
d. Citrate
e. Lactate

131. Autopsy of the body of a 72-year- old woman, who was suffering from rheumatoid arthritis and died of uremia, revealed enlarged pale gray kidneys with glossy lardaceous surface on section. Based on the macroscopic changes, the pathologist suspected:
a. Chronic pyelonephritis
b. Chronic glomerulonephritis
c. Renal amyloidosis
d. Primary-wrinkled kidney

e. Aterosclerotic nephrosclerosis

132. A 15-year-old teenager complains of general weakness, dizziness, and rapid fatigability. Examination detected deformed erythrocytes, their number is decreased. The provisional diagnosis of sickle-cell anemia was made. What amino acid replacement in hemoglobin causes the development of this pathological condition?

a. Valine replaced with aspartate
b. Glutamate replaced with aspartate
c. Glutamate replaced with alanine
d. Valine replaced with glutamate
e. Glutamate replaced with valine

133. A young woman suddenly developed cough and bronchial spasm, when she entered into a room with high concentration of tobacco smoke. What receptors activated this defensive reflex?

a. Juxtacapillary receptors
b. Pleural receptors
c. Pulmonary mechanoreceptors
d. Central chemoreceptors
e. Irritant receptors

134. When examining a biopsy material obtained from the thyroid gland, the pathologist discovered lymphocyte infiltration of the thyroid tissues and destruction of the parenchymal elements. Diffuse lymphocyte infiltration with lymphoid follicles was detected in the stroma. What is the most likely diagnosis?

a. Graves' disease (toxic diffuse goiter)
b. Hashimoto's thyroiditis (chronic lymphocytic thyroiditis)
c. Undifferentiated thyroid carcinoma
d. Papillary thyroid cancer
e. Solid adenoma of the thyroid

135. A woman, who works as a shop assistant and suffers from phlebitis, developed a thrombus in the area of the varicose veins in her leg. What pathogenetic factor was primary in the process of thrombus formation in this case?

a. Decreased fibrinolytic activity
b. Decreased activity of the blood coagulation system
c. Increased fibrinogen synthesis
d. Increased blood viscosity
e. Vascular wall injury

136. Before a surgery, the blood type of a patient is being determined according to the ABO system, using monoclonal antibodies against blood group antigens. Neither anti-A nor anti-B reagents caused agglutination. What blood type is it?

a. A2(II)
b. 0(1)
c. B(III)
d. AB(IV)
e. A1(II)

137. In the hospital a patient was diagnosed with anemia. During the anamnesis collection, it was revealed that the patient had been suffering from peptic ulcer disease of the stomach for several years already. What type of anemia is most likely in this patient?

a. Hereditary hemolytic anemia
b. Sickle cell anemia
c. Acute posthemorrhagic anemia
d. Acquired hemolytic anemia
e. Chronic posthemorrhagic anemia

138. A patient with Parkinson's disease made an appointment with the doctor. The doctor prescribed

him a medicine that is a dopamine precursor in the central nervous system. What medicine of those listed below has such mechanism of action?

a. Platyphyllin hydrotartrate
b. Methacin
c. Lorazepam
d. Ipratropium bromide
e. Levodopa

139. A patient has developed status epilepticus. What medicine should be used in this case to stop the seizures?

a. Diprazine (Promethazine)
b. Cyclodol (Trihexyphenidyl)
c. Diazepam
d. Sodium bromide
e. Valerian extract

140. A 48-year-old man is unconscious. He has a history of several syncopal episodes with convulsions. ECG shows deformed QRS complexes unconnected with P waves, atrial contractions are approximately 70/min., ventricular contractions - 25- 30/min. Name the type of arrhythmia in this case:

a. Complete atrioventricular block
b. Second-degree atrioventricular block
c. Intraventricular block
d. Intraatrial block
e. First-degree atrioventricular block

141. Biopsy material of a 67-year-old man, who for 17 years has been suffering from chronic bronchitis, shows cylindrical bronchiectasis, the mucous glands have cystic changes, there are patches, where cuboidal epithelium is replaced with stratified squamous epithelium. What pathological process was detected in the bronchial mucosa?

a. Hypertrophy
b. Metaplasia
c. Dysplasia
d. Hyperplasia
e. Heterotopia

142. A patient has peptic ulcer of the stomach. What medicine can decrease the secretion of hydrochloric acid and pepsin by blocking the H2 receptors?

a. Famotidine
b. Phenobarbital
c. Physostigmine
d. Fluvoxamine
e. Phthalazol (Phthalylsulfathiazole)

143. Due to a cerebral hemorrhage, the patient developed a disturbed speech perception (sensory aphasia). What brain structure is likely to be damaged in this case?

a. Superior frontal gyrus
b. Inferior frontal gyrus
c. Superior temporal gyrus
d. Inferior temporal gyrus
e. Posterior central gyrus

144. A 9-year-old child developed a severe case of purulent destructive pneumonia, for which the child received a massive antibacterial therapy The disease was rapidly progressing. Against the background of marked intoxication, a sharp drop in blood pressure was registered, the patient went into a state of shock, which resulted in the death of the patient. What etiopathogenetic type of shock developed in the child?

a. Hypovolemic shock

b. Anaphylactic shock
c. Toxic shock syndrome
d. Cardiogenic shock
e. Hemolytic shock

145. During an intense workout, the number of trophic inclusions in the cells of the athlete's liver and skeletal muscles decreases. What substance belongs to such trophic inclusions?
a. Lipofuscin granules
b. Starch granules
c. Oxalic acid crystals
d. Melanin granules
e. Glycogen granules

146. A 15-year-old girl complains of rapid fatigability, weakness, and palpitations. Blood test: erythrocytes - 2.5 g/L, Hb - 50 g/L, color index - 0.6, anisocytosis with the prevalence of microcytosis. Blood serum iron is 5.4 mmol. What hematologic pathology is observed in this case?
a. Acute posthemorrhagic anemia
b. B i2 and folate deficiency anemia
c. Acquired hemolytic anemia
d. Acquired absolute erythrocytosis
e. Iron deficiency anemia

147. The patient's ECG was obtained. What element of ECG allows the doctor to assess the spread of atrial depolarization processes?
a. P wave
b. Q wave
c. S wave
d. T wave
e. R wave

148. The process of tissue respiration is accompanied by oxydation of organic compounds and synthesis of macroergic molecules. In what organelles does this process occur?
a. Lysosomes
b. Peroxisomes
c. Golgi apparatus
d. Mitochondria
e. Ribosomes

149. Acute herpetic gingivostomatitis is the most common primary infection caused by herpes simplex virus type 1. What material should be obtained by a dentist for the laboratory testing that will confirm this diagnosis?
a. Urine
b. Vesicular fluid
c. Saliva
d. Blood
e. Sputum

150. A patient developed a purulent inflammatory process in the periodontal tissues. The process was caused by activation of the microorganisms inherent in the body, which are a part of oral mucosal microflora. What type of infection is it?
a. Exogenous infection
b. Superinfection
c. Relapse
d. Autoinfection
e. Reinfection