

1. Enamel hypoplasia is caused by a dominant gene localized in the X chromosome. Mother has a normal enamel, and father has enamel hypoplasia. Which of children will have this anomaly?

- A. Only the daughters
- B. All the children
- C. Only the sons
- D. Half of the daughters
- E. Half of the sons

2. In the perianal folds of a 5-year-old girl mother found white worms causing itch and anxiety, and took them to the laboratory. The study revealed white filament-like helminths 0,5-1 cm long, with pointed, sometimes twisted, ends. What diagnosis can be made?

- A. Diphyllbothriasis
- B. Difilobotrioz
- C. Teniasis
- D. Ascariasis
- E. Opisthorchiasis

3. A hospital in Donetsk region admitted the patients - members of the same family - with eyelid and face edemata, fever, eosinophilia, headache, muscle pain. The disease developed on the 7-10 day after eating pork sausage sent by the patients' relatives from Khmelnytsky region. What is your provisional diagnosis?

- A. Trichinosis
- B. Echinococcosis
- C. Teniasis
- D. Cysticercosis
- E. Taeniarhynchosis

4. It is known that the gene responsible for the development of the MN blood groups has two allelic states. If the gene M is considered as the initial gene, the allelic gene N appeared due to:

- A. Mutations
- B. Gene combinations
- C. DNA repair
- D. DNA replication
- E. Crossing over

5. A patient with inflammation of tongue mucosa (glossitis) complains of taste sensitivity disorder in the two anterior thirds of the tongue. This is caused by the lesion of the following nerve:

- A. Tympanichord
- B. Tympanic
- C. Lesser petrosal
- D. Lingual
- E. Glossopharyngeal

6. The operative dentistry department admitted a newborn girl who choked during sucking. Examination revealed cleft palate arising from non-union of the middle frontal process and maxillary process of the I-st branchial arch. The cleft was located in the palate between:

- A. *Os incisivum et processus palatinus maxillae*
- B. *Processus palatinus maxillae dextrae et sinistrae*
- C. *Lamina horizontalis os palatinum dextrum et sinistrum*
- D. *Processus palatinus maxillae et lamina horizontalis os palatinum*
- E. *In the region of canalis incisivus*

7. X-ray of a patient in the upright position revealed the presence of air in the stomach. What part of stomach is it located?

- A. Fundus
- B. Body
- C. Cardia
- D. Pylorus
- E. Lesser curvature region

8. Examination of a teenager revealed a congenital heart disease, namely the functioning of Botallo's duct. In the prenatal period of development this duct connects the following organs:

- A. Pulmonary trunk and aorta
- B. Right and left ventricle
- C. Aorta and inferior vena cava
- D. Right and left atrium
- E. Pulmonary trunk and superior vena cava

9. A patient has air embolism as a result of a skin injury in the middle portion of the sternocleidomastoid muscle. Which cervical vein was injured?

- A. External jugular vein
- B. Anterior jugular vein
- C. Internal jugular vein
- D. Posterior auricular vein
- E. Transverse cervical vein

10. A patient consulted a doctor about the inflammation of the ethmoid bone cells (ethmoiditis). Examination revealed the disorder of blood supply to the bone. The ethmoidal cells are normally supplied wi-

th blood by the branches of the following artery:

- A. *A. ophthalmica*
- B. *A. infraorbitalis*
- C. *A. facialis*
- D. *A. cerebri anterior*
- E. *A. transversa faciei*

11. A 40-year-old male has hearing impairment and paresis of facial muscles resulting from a blow to his head. He was diagnosed with a hematoma of cerebellopontine angle. What nerves had been damaged?

- A. VII, VIII pair of cranial nerves
- B. V, VI pairs of cranial nerves
- C. VIII, IX pairs of cranial nerves
- D. IX, X pair of cranial nerves
- E. -

12. A patient consulted a doctor about an increased pain sensitivity of the ear skin and ear canal. Palpation behind the sternocleidomastoid muscle was painful. Such clinical presentations are typical for the irritation of the following nerve:

- A. *N.auricularis magnus*
- B. *N.occipitalis minor*
- C. *Nn.supraclaviculares*
- D. *N.vagus*
- E. *N.transversus colli*

13. A woman consulted a doctor about swelling and tenderness of the lower extremity, swollen veins and nodes on the medial surface of thigh. Which vein was affected?

- A. Great saphenous
- B. Small saphenous
- C. Femoral
- D. Popliteal
- E. Tibial

14. At the recruiting office US examination of a 19-year-old man revealed nephroptosis. Normally the kidneys should be located at the following vertebral level:

- A. XI thoracic and III lumbar
- B. IX-X thoracic
- C. IV-V lumbar
- D. XII thoracic and I lumbar
- E. IX-XII thoracic

15. A histological specimen represents an organ made up of skeletal cross-striated muscle tissue. The organ has cutaneous, intermediate, and mucosal

sections. The skin of the organ is stratified squamous keratinizing epithelium passing into nonkeratinizing epithelium in the mucosal section. Specify this organ:

- A. Lip
- B. Hard palate
- C. Cheek
- D. Gum
- E. Tongue

16. During the formation of mantle dentin the synthetic activity of odontoblasts was disturbed, which will have an effect on the formation of the following fibers:

- A. Radial collagen Korff's fibers
- B. Tangential collagen Ebner's fibers
- C. Reticular
- D. Elastic
- E. Nerve

17. Histological specimen of a decalcified tooth represents richly vascularized loose fibrous connective tissue containing a variety of cells. Pyriform odontoblasts of this region are arranged in several rows. What kind of dental structure is it?

- A. Coronal pulp
- B. Root pulp
- C. Periodontium
- D. Mantle dentin
- E. Vasodentin

18. During gastrulation the Hensen's node remained underdeveloped in the embryo. Which axial organ will slow down its development?

- A. Chord
- B. Neural crests
- C. Neural groove
- D. Neural tube
- E. Mantle layer of the neural tube

19. An examination of a 26-year-old patient involved histological analysis of bone marrow punctate which revealed a significant decrease in the number of megakaryocytes. At the same time the following blood corpuscles should be decreased in number:

- A. Platelets
- B. Erythrocytes
- C. Eosinophils
- D. Neutrophils
- E. B-lymphocytes

20. In course of an experiment an animal had its cornea injured. What cells will provide the regeneration of stratified epi-

thelium?

- A. Basal epithelium cells
- B. Cells of proper substance of cornea
- C. Cells of the prickle-cell layer of corneal epithelium
- D. Basal membrane cells
- E. Squamous cells

21. At a certain stage of development of a human embryo one can observe formation of a cavity in its structure, small light blastomeres on the periphery and large dark blastomeres at one of the poles. The embryo at this stage of development is called:

- A. Blastocyst
- B. Morula
- C. Zygote
- D. Gastrula
- E. Blastodisk

22. A specimen of the pia mater shows a vessel with no middle membrane in its wall, its outer membrane adheres to the surrounding tissues, the inner membrane is made up of the basal membrane and endothelium. Specify this vessel:

- A. Fibrous vein
- B. Muscular vein with weakly developed muscular elements
- C. Muscular artery
- D. Arteriola
- E. Mixed artery

23. For an unknown reason the fertilization membrane of an embryo dissolved in the fallopian tube in the first critical period. What complication of pregnancy is possible in this case?

- A. Embryo implantation into the Fallopian tube
- B. Embryonic death
- C. Invagination of the blastocyst wall
- D. Return of blastocyst back to the ampullary portion of the tube
- E. Formation of two blastocysts

24. A patient has petechial hemorrhages on the gums, hard and soft palate, buccal mucosa. This is caused by the dysfunction of the following blood corpuscles:

- A. Platelets
- B. Eosinophils
- C. Monocytes
- D. Lymphocytes
- E. Erythrocytes

25. A tumour pressing upon the vegetati-

ve nucleus of a cranial nerve causes saliva secretion by the parotid gland. What nucleus does the tumor press upon?

- A. *N.salivatorius inferior*
- B. *N.salivatorius superior*
- C. *N.dorsalis nervi vagi*
- D. *N.intermediolateralis*
- E. *N.accessorius*

26. In the experiment, an animal had its brain stem cut, which caused a rapid increase of extensor muscle tone (decerebrate rigidity). This condition arose because the muscles were no more under the control of the following brain structure:

- A. Red nucleus
- B. Blue spot
- C. Black substance
- D. Striatum
- E. Gray tuber

27. Functioning of certain structures of the isolated heart was stopped by means of cooling. What structure was cooled providing that the heart first stopped contractions and then resumed them with a frequency twice lower than the initial one?

- A. Sinoatrial node
- B. Atrioventricular node
- C. His' bundle
- D. His' bundle branches
- E. Purkinje's fibers

28. Following the estimation of a person's energy expenditures it was established that the respiratory quotient was equal to 1,0. This means that the compound that is mainly oxidized in the cells is:

- A. Carbohydrates
- B. Proteins
- C. Fats
- D. Proteins and carbohydrates
- E. Carbohydrates and fats

29. Oral mucosa of a patient was treated with hydrogen peroxide. Instead of foaming, the blood turned brown. That is possible in case of reduced concentration of the following enzyme:

- A. Catalase
- B. Pseudocholinesterase
- C. Glucose-6-phosphate dehydrogenase
- D. Acetyltransferase
- E. Methemoglobin reductase

30. Electrophoretic study of blood serum

of a patient with pneumonia revealed an increase in one of the protein fractions. What fraction is it?

- A.  $\Gamma$ -globulins
- B. Albumins
- C.  $\alpha_1$ -globulins
- D.  $\alpha_2$ -globulins
- E.  $\beta$ -globulins

31. When a wound heals, a scar takes its place. What substance is the main component of its connective tissue?

- A. Collagen
- B. Elastin
- C. Keratan sulfate
- D. Chondroitin sulfate
- E. Hyaluronic acid

32. Certain infections caused by bacteria are treated with sulphanilamides that block the synthesis of bacterial growth factor. What is the mechanism of these drugs action?

- A. They are antivitamins of p-aminobenzoic acid
- B. They inhibit the folic acid absorption
- C. They are allosteric enzyme inhibitors
- D. They are involved in redox processes
- E. They are allosteric enzymes

33. Cationic glycoproteins are the major components of parotid saliva. What amino acids are responsible for their positive charge?

- A. Lysine, arginine, histidine
- B. Aspartate, glutamate, glycine
- C. Aspartate, arginine, glutamate
- D. Glutamate, valine, leucine
- E. Cysteine, glycine, proline

34. A patient has enamel erosion. What vitamin should be administered for its treatment?

- A.  $D_3$
- B.  $C$
- C.  $K$
- D.  $B_1$
- E.  $PP$

35. A 60-year-old man consulted a doctor about an onset of chest pain. In blood serum analysis showed a significant increase in the activity of the following enzymes: creatine kinase and its MB-isoform, aspartate aminotransferase. These changes indicate the development of the pathological process in the following tissues:

- A. Cardiac muscle
- B. Lungs
- C. Skeletal muscles
- D. Liver
- E. Smooth muscles

36. After severe viral hepatitis a 4-year-old boy presents with vomiting, occasional loss of consciousness, convulsions. Blood test revealed hyperammonemia. Such condition is caused by a disorder of the following biochemical hepatic process:

- A. Disorder of ammonia neutralization
- B. Disorder of biogenic amines neutralization
- C. Protein synthesis inhibition
- D. Activation of amino acid decarboxylation
- E. Inhibition of transamination enzymes

37. A 50-year-old patient has been examined by a dentist and found to have crimson smooth tongue. Blood analysis revealed a decrease in RBC level and hemoglobin concentration, colour index of 1,3, symptoms of megaloblastic hematopoiesis, degenerative changes in WBCs. What blood disorder was found in this patient?

- A.  $B_{12}$ -folic-acid-deficiency anemia
- B. Iron deficiency anemia
- C. Myeloid leukemia
- D. Aplastic anemia
- E. Hemolytic anemia

38. A pregnant women developed severe toxemia with exhausting recurrent vomiting throughout a day. By the end of the day she developed tetanic convulsions and bodily dehydration. The described changes were caused by the following type of acid-base disbalance:

- A. Nongaseous excretory alkalosis
- B. Gaseous alkalosis
- C. Gaseous acidosis
- D. Nongaseous metabolic acidosis
- E. Nongaseous excretory acidosis

39. After a diver had dived to a depth of 60 meters he got the following symptoms of CNS dysfunction: anxiety, euphoria, lack of attention, professional errors. These symptoms are associated with neurons being under a toxic effect of:

- A. Nitrogen
- B. Oxygen
- C. Carbon dioxide
- D. Ammonia
- E. Lactate

40. A patient with periodontitis has developed gingival edema. The gums are of dark red colour. What local circulation disorder prevails in the gums of the patient?

- A. Venous hyperemia
- B. Arterial hyperemia
- C. Ischemia
- D. Thrombosis
- E. Embolism

41. An 18-year-old patient complains of general weakness, fatigue, low spirits. The patient is of the asthenic constitution type. Ps- 68/min., AP- 90/60 mm Hg. She has been found to have primary neurocirculatory hypotension. What is the leading factor of the arterial pressure drop in this patient?

- A. Decreased tonus of resistive vessels
- B. Decreased minute blood volume
- C. Hypovolemia
- D. Deposition of blood in the veins of the systemic circulation
- E. Decreased cardiac output

42. A patient with a craniocerebral injury presents with respiration characterized by progressively deeper respiratory movements followed by a gradual decrease that results in a temporary stop in breathing. What pattern of abnormal respiration are these features typical for?

- A. Cheyne-Stokes
- B. Biot's
- C. Kussmaul's
- D. Gasping
- E. Apneustic

43. After the traumatic tooth extraction a patient is complaining of acute, dull, poorly-localized pain in gingiva, body temperature rise up to  $37,5^{\circ}C$ . The patient has been diagnosed with alveolitis. Specify the kind of pain in this patient:

- A. Protopathic
- B. Epicritic
- C. Visceral
- D. Heterotopic
- E. Phantom

44. A 10-year-old child cut his leg with a piece of glass and was sent to a

clinic for an anti-tetanus serum injection. In order to prevent the development of anaphylactic shock the Besredka desensitisation method was applied. What mechanism underlies this method?

- A. Binding to IgE fixed to mast cells
- B. Inhibited synthesis of mast cells mediators
- C. Stimulation of the immunological antigen tolerance
- D. Stimulation of antigen-specific IgG<sub>2</sub> synthesis
- E. Binding of IgE receptors on mast cells

45. Autopsy of a 52-year-old woman with a long history of chronic glomerulonephritis revealed significantly reduced in size, dense kidneys with a surface of fine granularity; fibrinous inflammation of serous and mucous membranes; dystrophic changes in parenchymatous organs; cerebral edema. The described changes of serous membranes and internal organs are caused by the following complication:

- A. Uraemia
- B. Anaemia
- C. Sepsis
- D. DIC syndrome
- E. Thrombocytopenia

46. Histological study of the bronchial wall and adjacent lung segments revealed sheets and strands of squamous epithelium. The cells have moderately expressed symptoms of atypia: polymorphism, nuclear hyperchromatism, mitoses. In the center of the complex there are concentric pink formations. What is the most likely diagnosis?

- A. Keratinizing squamous cell carcinoma
- B. Non-keratinizing squamous cell carcinoma
- C. Adenocarcinoma
- D. Scirrhous
- E. Undifferentiated carcinoma

47. Histologically, the internal wall of a cyst localized on the upper jaw is lined with stratified squamous epithelium with underlying granulation tissue infiltrated by lymphocytes. The external layer is represented by loose fibrous connective tissue surrounded by cicatricial fibrous tissue. What diagnosis can be made?

- A. Cystic granuloma
- B. Simple granuloma
- C. Epithelial granuloma
- D. Keratocyst
- E. Ameloblastoma

48. Histological examination of the grayish-pink elastic nodule of 0,3 cm in diameter found by a surgeon at the root of the extracted tooth shows granulation tissue with cords of stratified squamous epithelium. What is the most likely diagnosis?

- A. Granulomatous periodontitis
- B. Eosinophilic granuloma
- C. Granulating pulpitis
- D. Acute apical periodontitis
- E. Granulating periodontitis

49. A patient with a long history of chronic periodontitis underwent removal of a maxillary cyst located at the root of the affected tooth. Microscopy shows that the bone wall is made up of fibrous tissue infiltrated by lymphocytes and plasma cells. The inner surface of the cyst is covered with stratified squamous epithelium with no signs of keratinization. What is the most likely diagnosis?

- A. Radicular cyst
- B. Follicular cyst
- C. Primordial cyst
- D. Eosinophilic granuloma
- E. Gingival fibromatosis

50. A 77-year-old patient with atherosclerosis got pain in his right foot. The foot is enlarged, the skin is black and macerated, the demarcation zone is not defined clearly. What pathological process arose in the foot?

- A. Wet gangrene
- B. Dry gangrene
- C. Noma
- D. Sequestrum
- E. Coagulation necrosis

51. A 42-year-old man died with symptoms of severe intoxication and respiratory failure. A slide of lung tissue was heterogenous, with multiple microfocal hemorrhages and foci of emphysema. Histological examination of lungs revealed hemorrhagic abscessing bronchopneumonia; eosinophilic and basophilic granules in the cytoplasm of epithelial cells of bronchi. What is the most likely diagnosis?

- A. Influenza
- B. Parainfluenza
- C. Adenovirus infection
- D. Respiratory syncytial virus infection
- E. Staphylococcal bronchopneumonia

52. Autopsy of a man who died from intraintestinal hemorrhage revealed necrosis of grouped and solitary follicles, dead tissues imbibed with bile and blood in the ileum; sequestration and rejection of necrotic masses with defect formation in the lower segment of the intestine. Which of the following diagnoses is most likely?

- A. Typhoid fever, ulcerative stage
- B. Typhoid fever, "clean ulcer" stage
- C. Typhoid fever, necrosis stage
- D. Abdominal typhoid salmonellosis
- E. Crohn's disease

53. Preventive examination of 1-1.5-year-old children living in an orphanage revealed focal thickening of ribs and wrists, bowed legs. The dentist pointed out delayed teething, wrong eruption order, irregular mineralization of the enamel and dentin, high-arched palate. What disease has developed in children?

- A. Rickets
- B. Dystrophic calcification
- C. Metabolic calcification
- D. Metastatic calcification
- E. Osteomalacia

54. Having recovered from angina a 23-year-old patient developed urinary syndrome (hematuria, proteinuria, leukocyturia). Study of the puncture biopsy of a kidney revealed manifestations of intracapillary proliferative glomerulonephritis, and electron microscopy revealed large subepithelial deposits. What is the pathogenesis of this disease?

- A. Immunocomplex mechanism
- B. Atopy, anaphylaxis with production of IgE and their fixation to the mast cells
- C. Cytotoxic, cytolytic action of antibodies
- D. Cell-mediated cytotoxicity
- E. Granulomatosis

55. Blood serum of a newborn contains antibodies to measles virus. What kind of immunity is this indicative of?

- A. Natural passive
- B. Natural active
- C. Artificial passive
- D. Artificial active
- E. Heredoimmunity

56. When examining a child the dentist found the deposit on both tonsils and suspected atypical form of diphtheria. A smear was taken, and after the nutrient media inoculation the toxicity of the isolated pure culture was determined. What reaction was used to determine the toxigenicity of the isolated strain of diphtheria bacillus?

- A. Gel precipitation reaction
- B. Agglutination reaction on a glass slide
- C. Complement binding reaction
- D. Hemolysis reaction
- E. Ring precipitation reaction

57. From the fecal sample of a patient *Shigella sonnei* were isolated. What additional studies are required to identify the source of infection?

- A. Phage-typing of the isolated pure culture
- B. Antibiogram
- C. Precipitation reaction
- D. Complement-fixation reaction
- E. Neutralization reaction

58. Microscopy of a smear obtained from a patient with acute purulent periostitis revealed gram-positive bacteria arranged in clusters resembling bunch of grapes. What microorganisms is this morphology typical for?

- A. Staphylococci
- B. Sarcina
- C. Tetracocci
- D. Candida fungi
- E. Streptococci

59. A female woman has been clinically diagnosed with gonorrhoea. Which of the following studies can be used to confirm the diagnosis?

- A. Microscopy of the pathological material
- B. Disinfection of laboratory animals
- C. Bacteriophage test
- D. Hemagglutination reaction
- E. Immobilization reaction

60. A patient with periodontitis has been administered a glucocorticoid drug in form of an ointment. Specify this ointment:

- A. Prednisolone
- B. Tetracycline
- C. Decamine
- D. Ampicillin
- E. Erythromycin

61. A patient has a systemic inflammatory lesion of connective tissue. Which anti-inflammatory drug will reduce all the inflammatory phases?

- A. Prednisolone
- B. Contrycal
- C. Phenylbutazone
- D. Indomethacin
- E. Diclofenac sodium

62. During a surgery, the anesthesiologist used a ganglionic blocker for controlled hypotension. What drug was given the patient in this case?

- A. Hygronium
- B. Benzohexonium
- C. Pirilenum
- D. Pentaminum
- E. Pachycarpinum

63. A patient complains about retrosternal pain, dyspnea and palpitation. After examination he was diagnosed with coronary heart disease and prescribed verapamil. What is the mechanism of its action?

- A. It blocks calcium channels
- B. It blocks  $\alpha$ -adrenoreceptors
- C. It blocks  $\beta$ -adrenoreceptors
- D. It blocks potassium channels
- E. It blocks sodium channels

64. A patient with acute heart failure refractory to cardiac glycosides was given an injection of dobutamine. What is the mechanism of action of this drug?

- A. Stimulation of  $\beta$ -1-adrenergic receptors
- B. Complexation with membrane phospholipids
- C. Inhibition of  $K^+$ ,  $Na^+$ -ATPase
- D. Inhibition of phosphodiesterase activity
- E. Increase of *n. vagus* tonus

65. A patient with chronic heart failure has been taking digoxin for several months on an outpatient basis. At a certain stage of treatment, he got symptoms of drug overdose. What effect underlies the development of this complication?

- A. Material accumulation
- B. Adaptation
- C. Sensibilization
- D. Functional cumulation
- E. Tachyphylaxis

66. A patient has sustained a traumatic injury of the greater pectoral muscle. This resulted in a decrease of:

- A. Inspiratory reserve volume
- B. Expiratory reserve volume
- C. Tidal volume
- D. Residual volume
- E. Functional residual lung capacity

67. In the framework of complex treatment of gingivitis a patient has been administered a drug that stimulates leucopoiesis, accelerates wound healing, enhances the growth and proliferation of cells, has the anti-inflammatory effect. It is applied for treatment of leukopenias of different genesis, in the dental practice it is used for treatment of inflammatory diseases of the oral mucosa. Identify the drug:

- A. Pentoxylum
- B. Mercaptopurine
- C. Methotrexate
- D. Cyanocobalamin
- E. Coamide

68. Following a cold, a patient developed numbness on the right side of his face. Examination revealed a disturbance of pain and temperature sensitivity on the right side of the face. What nerve is damaged?

- A. Trigeminal
- B. Facial
- C. Glossopharyngeal
- D. Vagus
- E. Hypoglossal

69. A patient from Prykarpattia (at the foot of the Carpathian mountains) with endemic goiter consulted a doctor about suppuration of gingival angles and loosening of teeth. What is a major factor of periodontitis development in this case?

- A. Endocrine disorders
- B. Stress effects
- C. Hypersalivation
- D. Violation of swallowing
- E. Malnutrition

70. A 50-year-old woman with myocardial infarction has been delivered to the intensive care unit. Which enzyme's activity will be most increased during the first two days?

vity will be most increased during the first two days?

- A. Aspartate aminotransferase
- B. Alanine aminotransferase
- C. Alanine aminopeptidase
- D. LDH<sub>4</sub>
- E. LDH<sub>5</sub>

71. A patient with rheumatoid arthritis has been given hydrocortisone for a long time. He has developed hyperglycemia, polyuria, glycosuria, thirst. These complications of treatment result from the activation of the following process:

- A. Gluconeogenesis
- B. Glycogenolysis
- C. Glycogenesis
- D. Glycolysis
- E. Lipolysis

72. A female patient presents with the ovarian hyperaemia, increased permeability of the blood-follicle barrier with the development of edema, infiltration of the follicle wall with segmental leukocytes. The follicle is large in volume. Its wall is thickened. What period of the sex cycle is the described situation typical for?

- A. Preovulatory stage
- B. Ovulation
- C. Menstrual period
- D. Postmenstrual period
- E. Period of relative rest

73. Children often have laboured nasal breathing which is caused by overdevelopment of lymphoid tissue of the pharyngeal mucous membrane. This phenomenon may cause enlargement of the following tonsils:

- A. *Tonsilla pharyngea*
- B. *Tonsilla palatina*
- C. *Tonsilla lingualis*
- D. *Tonsilla tubaria*
- E. All above-mentioned

74. The total number of leukocytes in patient's blood is  $90 \cdot 10^9/l$ . Leukogram: eosinophils - 0%, basophils - 0%, juvenile - 0%, stab neutrophils - 2%, segmentonuclear cells - 20%, lymphoblasts - 1%, prolymphocytes - 2%, lymphocytes - 70%, monocytes - 5%, Botkin-Gumprecht cells. Clinical examination revealed enlarged cervical and submandibular lymph nodes. Such clinical presentations are typical for the following pathology:



- A. Chronic lympholeukosis
- B. Acute lympholeukosis
- C. Lymphogranulomatosis
- D. Infectious mononucleosis
- E. Chronic myeloleukosis

75. A 26-year-old patient was found to have a big furuncle of soft tissues of face by the root of nose and inferior eyelid. This disease can be seriously complicated by the infection spreading along veins of this region to the sinuses of dura brain mater. What sinus is most likely to be affected?

- A. Cavernous
- B. Superior sagittal
- C. Occipital
- D. Sigmoid
- E. Petrosal

76. A patient has a history of chronic heart failure. Which of the following hemodynamic parameters is a major symptom of cardiac decompensation development?

- A. Decreased stroke volume
- B. Tachycardia development
- C. Tonogenic dilatation
- D. Increased peripheral vascular resistance
- E. Increased central venous pressure

77. Calcification of the intercellular substance of bone tissue is accompanied by the deposition of hydroxyapatite crystals along the collagen fibers. This process requires the presence of alkaline phosphatase in the intercellular substance. What cell produces this enzyme?

- A. Osteoblast
- B. Osteocyte
- C. Osteoclast
- D. Chondroblast
- E. Chondrocyte

78. Depressions and emotional disorders result from noradrenaline, serotonin and other biogenic amines deficiency in brain. Concentration of these compounds in synapses can be increased by means of antidepressants that inhibit the activity of the following enzyme:

- A. Monoamine oxidase
- B. Diamine oxidase
- C. L-amino acid oxidase
- D. D-amino acid oxidase
- E. Phenylalanine-4-monooxygenase

79. A 30-year-old patient with pneumonia has been administered a 3-day course of

an antibiotic from the group of azalides that has bactericidal effect, prolonged action, the ability to bind to phagocytic cells and accumulate in the infection foci. What drug has been administered?

- A. Azithromycin
- B. Erythromycin
- C. Benzylpenicillin sodium salt
- D. Isoniazid
- E. Ciprofloxacin

80. The patient's mobile phone rang during EEG recording. What changes will be observed on the EEG?

- A. Alpha rhythm will change into beta rhythm
- B. Alpha rhythm will increase
- C. Beta rhythm will increase
- D. Beta rhythm will change into alpha rhythm
- E. Alpha rhythm will change into delta rhythm

81. In the armpits of a patient the small (1-1,5 mm), dorsoventrally flattened, wingless, blood-sucking insects. Their larvae developed in the armpits too. What disease is caused by these insects?

- A. Phthiriasis
- B. Sleeping sickness
- C. Chagas' disease
- D. Plague
- E. Relapsing fever

82. A student who unexpectedly met his girlfriend developed an increase in systemic arterial pressure. This pressure change was caused by the intensified realization of the following reflexes:

- A. Conditional sympathetic
- B. Conditional parasympathetic
- C. Conditional sympathetic and parasympathetic
- D. Unconditional parasympathetic
- E. Unconditional sympathetic

83. After the exposure to ionizing radiation a person was found to have a decrease in blood granulocyte level. What mechanism underlies these changes?

- A. Leikopoiesis inhibition
- B. Increased passage of granulocytes into the tissues
- C. Autoimmune process development
- D. Increased disintegration of leucocytes
- E. Disturbed release of mature leukocytes from the bone marrow

**84.** A patient underwent lobectomy of the right middle lobe of a lung. What segments of the lung were affected?

- A.** Lateral and medial
- B.** Apical, anterior
- C.** Basal medial and anterior
- D.** Basal posterior and lateral
- E.** Apical posterior and anterior

**85.** A patient was taken to a hospital with dizziness, dry mouth, mydriatic pupils, accommodation disorder, tachycardia, difficult urination, intestinal atony. These symptoms might have been caused by overdose of the following drug:

- A.** Atropine sulfate
- B.** Furosemide
- C.** Clonidine
- D.** Captopril
- E.** Prazosin

**86.** A 60-year-old man with a history of chronic intestinal obstruction has excessive protein putrefaction in the colon. What is the indicator of this process?

- A.** Indicanuria
- B.** Bilirubinuria
- C.** Hyperuricuria
- D.** Creatinuria
- E.** Glycosuria

**87.** An attack of tachycardia was stopped by pressing on the eyeballs. Which of the following reflexes underlies this phenomenon?

- A.** Aschner reflex
- B.** Holtz reflex
- C.** Bainbridge reflex
- D.** Hering reflex
- E.** Bernard reflex

**88.** An unconscious patient had been delivered to a hospital by the ambulance. Objectively: absent reflexes, occasional convulsions, irregular breathing. After a laboratory examination he was diagnosed with hepatic coma. What metabolite accumulation is essential for the development of the central nervous system disorders?

- A.** Ammonia
- B.** Urea
- C.** Glutamine
- D.** Bilirubin
- E.** Histamine

**89.** A patient of neurological department has a sensitivity loss caused by the damage

to pseudounipolar neurocytes. Pseudounipolar neurons are a kind of bipolar neurons and the only place of their localization in the human body is:

- A.** Spinal ganglions
- B.** Retina
- C.** Spiral ganglion
- D.** Intramural vegetative ganglia
- E.** Thalamic tubercle

**90.** A patient has been diagnosed with sepsis. It was decided to treat him with a drug from the fluoroquinolone group. Specify this drug:

- A.** Ciprofloxacin
- B.** Cefpirome
- C.** Metronidazole
- D.** Ampicillin
- E.** Cephalexin

**91.** Curarelike substances (dithylinum) make it impossible for skeletal muscles to contract because they block:

- A.** Neuromuscular synapses
- B.** Central synapses
- C.** Ganglionic synapses
- D.** Membrane conduction of excitement
- E.** Proprioceptors

**92.** It was established that the conduction velocity in the nerve fibers was equal to 120 m/sec. Specify these fibers:

- A.** Motoneuron axons
- B.** Preganglionic sympathetic
- C.** Preganglionic parasympathetic
- D.** Postganglionic sympathetic
- E.** Postganglionic parasympathetic

**93.** As a result of an injury the patient is unable to move his tongue forward and downward. Which of the following muscles is damaged?

- A.** Genioglossal
- B.** Stylohyoid
- C.** Hyoglossal
- D.** Superior longitudinal
- E.** Inferior longitudinal

**94.** Inhibitory effect of GABA is due to the increased permeability of the postsynaptic membrane for chloride ions. This mediator is produced as a result of decarboxylation of the following amino acid:

- A. Glutamate
- B. Aspartate
- C. Glutamine
- D. Asparagine
- E. Arginine

95. Examination of a patient revealed glycosuria and hyperglycemia. He complains of dry mouth, itchy skin, frequent urination, thirst. He has been diagnosed with diabetes mellitus. What is the cause of polyuria in this patient?

- A. Increased urine osmotic pressure
- B. Decreased plasma oncotic pressure
- C. Increased filtration pressure
- D. Decreased cardiac output
- E. Increased plasma oncotic pressure

96. During allergic rhinitis (inflammation of the nasal mucosa) the number of basophils in the connective tissue of the mucosa increases, which is accompanied by a tissue edema. This phenomenon is associated with the following function of tissue basophils:

- A. Histamine synthesis
- B. Production of intercellular substance
- C. Phagocytosis
- D. Antibody formation
- E. Heat production

97. A patient has acute laryngotracheitis with nonproductive cough that is very exhaustive. Prescribe an antitussive drug:

- A. Glaucine
- B. Ambroxol
- C. Mucaltin
- D. Herba Thermopsisidis
- E. Acetylcystein

98. A 37-year-old patient has lost 5 kg in weight over the past three months, he complains of hand tremor, excessive sweating, exophthalmos, tachycardia. These changes might have been caused by the increased secretion of the following hormone:

- A. Thyroxine
- B. Cortisol
- C. Insulin
- D. Glucagon
- E. Thyrocalcitonin

99. Experimenters irritate the peripheral segment of the intersected sympathetic nerve of an experimental dog. Which of the following changes will be observed?

- A. Bronchiectasis
- B. Heart force decrease
- C. Pupil constriction
- D. Heart rate decrease
- E. Increased gastric and intestinal motility

100. After a person had drunk 1,5 liters of water, the amount of urine increased significantly, and its relative density decreased to 1,001. These changes are a result of decreased water reabsorption in the distal nephron portion due to reduced secretion of:

- A. Vasopressin
- B. Aldosterone
- C. Angiotensin II
- D. Renin
- E. Prostaglandins

101. Tooth extraction in a patient with chronic persistent hepatitis was complicated by a prolonged bleeding. What is the cause of hemorrhagic syndrome?

- A. Decreased production of thrombin
- B. Increased production of thromboplastin
- C. Decreased production of fibrin
- D. Increased synthesis of fibrinogen
- E. Increased fibrinolysis

102. A 12-year-old male patient has tetanic convulsions. Which gland function may be impaired in this case?

- A. Glandulae parathyroidae
- B. Hypophysis
- C. Glandula thyroidea
- D. Thymus
- E. Glandula pinealis

103. A 45-year-old female patient has neurosis with irritability, insomnia, amotivational anxiety. What tranquilizer will be able to eliminate all symptoms of the disease?

- A. Diazepam
- B. Paracetamol
- C. Piracetam
- D. Caffeine-sodium benzoate
- E. Levodopa

104. A patient has been prescribed the salt-free diet. What changes to the salt taste sensitivity threshold should be expected?

- A. Decrease
- B. No changes
- C. Little change
- D. Increase
- E. Increase followed by a decrease

**105.** Degeneration of glycogen in liver is stimulated by glucagon. What secondary messenger (mediator) is thus formed in the cell?

- A. c-AMP
- B. c-GMP
- C. CO
- D. NO
- E. Triacylglycerol

**106.** A patient consulted a doctor about loss of taste at the root of tongue. The doctor established that this was due to a nerve damage. What nerve was damaged?

- A. Glossopharyngeal
- B. Vagus
- C. Facial
- D. Superlaryngeal
- E. Trigeminal

**107.** Injection of an anaesthetic before the tooth extraction resulted in development of anaphylactic shock accompanied by oliguria. What pathogenetic mechanism caused a decrease in diuresis in this case?

- A. Decrease in hydrostatic pressure in the renal corpuscle capillaries
- B. Increase in hydrostatic pressure in the Bowman's capsule
- C. Damage of glomerular filter
- D. Increase in oncotic pressure of blood plasma
- E. Increase in vasopressin secretion

**108.** Survey radiograph of facial skull of a 16-year-old girl shows some hole-like foci of cranial bone destruction. Histological examination of biopsy material revealed zones of destruction of bone trabeculae, proliferation of connective tissue with diffuse histiocytic infiltrate and a large number of eosinophilic leukocytes. Diagnose the disease:

- A. Eosinophilic granuloma
- B. Histiocytosis X
- C. Fibrous dysplasia
- D. Osteoclastoma
- E. Cherubism

**109.** During manipulations aimed at treatment of mandible dislocation a physician should pay particular attention to a muscle that pulls a capsule and interarticular disc of temporomandibular articulation exteriorly. What muscle is it?

- A. *M. pterygoideus lateralis*
- B. *M. masseter*
- C. *M. pterygoideus medialis*
- D. *M. temporalis*
- E. *M. mylohyoideus*

**110.** A 71-year-old man had been presenting with diarrhea for 10 days. The feces had admixtures of blood and mucus. He was delivered to a hospital in grave condition and died 2 days later. Autopsy of the body revealed the following: diphtheritic colitis with multiple irregularly-shaped ulcers of different depth in both sigmoid colon and rectus. Bacteriological analysis revealed *Shigella*. What was the main disease?

- A. Dysentery
- B. Typhoid fever
- C. Salmonellosis
- D. Nonspecific ulcerous colitis
- E. Yersiniosis

**111.** Microscopy of colonic biopsy material revealed a tumour made up of prismatic epithelium and forming atypical glandular structures of various shapes and sizes. The basal membrane of glands was destroyed. Tumour cells were polymorphic, with hyperchromatic nuclei and a large number of pathological mitoses. What is the most likely diagnosis?

- A. Adenocarcinoma
- B. Basal cell carcinoma
- C. Solid carcinoma
- D. Mucosal carcinoma
- E. Undifferentiated carcinoma

**112.** A physician is planning to diagnose an infectious disease by means of agglutination test. What is required for this reaction apart from the serum of a patient?

- A. Diagnosticum
- B. Diagnostic serum
- C. Complement
- D. Hemolytic serum
- E. Anatoxin

**113.** Microscopy of a smear taken from the film that appeared on the peptone water 6 hours after seeding and culturing of a fecal sample in a thermostat revealed mobile gram-negative bacteria curved in form of a comma that didn't make spores or capsules. What microorganisms were revealed?

- A. Vibrios
- B. Spirochetes
- C. Clostridia
- D. Corynebacteria
- E. Spirilla

**114.** A patient complains of toothache. On examination he has been diagnosed with pulpitis. Which factor played a main pathogenic role in the development of pain syndrome in this case?

- A. Increased intratissular pressure in the dental pulp
- B. Vasospasm
- C. Inadequate stimulation of a mandibular nerve branch
- D. Activation of one of the components of the complement system
- E. Interleukin action

**115.** A 70-year-old man has developed prosthodontic stomatitis. Apart of this he was found to have an evident lesion of mouth corners. Microscopical examination revealed large ovoid gram-positive cells. What microorganisms are most likely to be the leading etiological agent of such a lesion?

- A. Candida fungi
- B. Streptococci
- C. Staphylococci
- D. Neisseria
- E. Corynebacteria

**116.** Periodontitis induces the development of lipid peroxidation in the periodontal tissues, as well as an increase in malondialdehyde and hydrogen peroxide concentration in the oral cavity. Which of the following enzymes provides antioxidant protection?

- A. Catalase
- B. Amylase
- C. Maltase
- D. Lactase
- E. Invertase

**117.** A patient with a malignant neoplasm on the upper jaw had been administered morphine hydrochloride for analgesia. The injection induced respiratory depression, pupil constriction, cyanosis, hypothermia, loss of consciousness. What antidote must be used?

- A. Naloxone
- B. Atropine sulfate
- C. Droperidol
- D. Promedol
- E. Adrenalin hydrochloride

**118.** The aim of the morphological study was to investigate an endocrine gland with parenchyma consisting of epithelium and neural tissue. In the epithelial trabeculae the study revealed two types of cells: chromophile and chromophobe. Identify this organ:

- A. Pituitary gland
- B. Adrenal gland
- C. Hypothalamus
- D. Thyroid gland
- E. Parathyroid gland

**119.** It is known that the pentose phosphate pathway occurring in the adipocytes of adipose tissue acts as a cycle. What is the main function of this cycle in the adipose tissue?

- A. NADPH<sub>2</sub> generation
- B. Ribose-phosphate production
- C. Xenobiotic detoxification
- D. Energy generation
- E. Glucose oxidation to end products

**120.** A patient with symptoms of acute heart failure, namely pallor, acrocyanosis and rapid shallow breathing, has been delivered to the emergency department. Which of these drugs is indicated in this case?

- A. Corglycon
- B. Digitoxin
- C. Cordiamine
- D. Nitroglycerine
- E. Adrenalin hydrochloride

**121.** Examination of a chemical plant worker who had had a poisoning revealed an increase in total bilirubin concentration at the expense of indirect fraction. Feces and urine are characterized by high stercobilin concentration. The level of direct bilirubin in blood plasma is normal. What type of jaundice is the case?

- A. Hemolytic
- B. Obstructive
- C. Hepatic
- D. Parenchymatous
- E. Mechanical

**122.** After the transfusion of the concentrated red blood cells the patient developed posttransfusion shock. What is

the leading mechanism of acute renal failure in this case?

- A. Glomerular filtration disorder
- B. Tubular reabsorption disorder
- C. Tubular secretion disorder
- D. Urinary excretion disorder
- E. Impairment of the renal incretory function

**123.** A histological specimen of mandible of an embryo shows a tooth germ with the dental papilla made up of small stellate basophilic cells. What tissue forms this part of the tooth germ?

- A. Mesenchyme
- B. Epithelial
- C. Reticular
- D. Cartilaginous
- E. Osseous

**124.** In order to eliminate occupational risks dental workers underwent vaccination. The vaccine should protect them from a viral infection, whose pathogen may be found in blood of dental patients who had had this infection or who are its chronic carriers. What vaccine was used?

- A. Genetically engineered HBs antigen
- B. Inactivated hepatitis A vaccine
- C. Live measles vaccine
- D. Subunit influenza vaccine
- E. Anti-rabies vaccine

**125.** A patient has secretory dysfunction of the submandibular salivary gland. Which nerve is responsible for its vegetative innervation?

- A. *Chorda tympani*
- B. *N.auriculotemporalis*
- C. *N.mandibularis*
- D. *N.petrosus major*
- E. *N.petrosus minor*

**126.** A patient complains of frequent bowel movements and stool with blood admixtures ("raspberry jelly" stool). Microscopic examination revealed large mononuclear cells with absorbed red blood cells. What protozoon is this morphological structure typical for?

- A. *Entamoeba histolytica*
- B. *Giardia lamblia*
- C. *Campylobacter jejuni*
- D. *Toxoplasma gondii*
- E. *Balantidium coli*

**127.** A child is 6 years old. The permanent teeth have started to take the place of the

primary teeth. What teeth are the first to emerge?

- A. Lower first molars
- B. Lower first premolars
- C. Upper first premolars
- D. Upper medial incisors
- E. Lower canines

**128.** Examination of the oral mucosa revealed a small nodule with papillary surface. Histological examination revealed conjugate papillary proliferations of stratified squamous epithelium without cellular atypism and underlying stroma represented by thin-walled vessels and loose connective tissue. What formation has developed in a patient?

- A. Papilloma
- B. Fibroma
- C. Fibrolipoma
- D. Epithelium hyperplasia
- E. Basal cell carcinoma

**129.** A patient with mandibular osteomyelitis has been administered an antibiotic from the tetracycline group. Specify this drug:

- A. Doxycycline hydrochloride
- B. Rifampicin
- C. Streptomycin
- D. Oxacillin
- E. Amikacin

**130.** Histological specimen of mandible shows 10 tooth buds connected to the dental plate. Which element of tooth germ will develop out of them?

- A. Enamel organ
- B. Dental bulb
- C. Dental sac
- D. Enamel spindles
- E. Enamel pearls

**131.** After the extraction of the lower first premolar the patient had dentoalveolar haemorrhage. What artery did the bleeding occur from?

- A. Inferior alveolar
- B. Mental
- C. Transverse facial artery
- D. Lingual
- E. Buccal

**132.** Vestibular surface of the left lower incisor has a pink fungoid formation up to 2 cm large which is fixed to the supra-alveolar tissue by a wide pedicle. Histological examination revealed

branched capillary vessels with multiple hemorrhages and foci of hemosiderosis. What is the most likely diagnosis?

- A. Angiomatous epulis
- B. Fibrous epulis
- C. Giant cell epulis
- D. Gingival fibromatosis
- E. Cavernous hemangioma

133. In a bacteriological laboratory some bacterial smears had to be stained by Gram's method. For this purpose the following reagents were prepared: gentian violet, Lugol's solution, aqueous fuchsin solution. What other reagent is required?

- A. 96% ethanol
- B. 5% sulfuric acid
- C. Methylene blue solution
- D. Carbolic fuchsin
- E. 3% hydrogen peroxide

134. Wilson's disease is a disorder of copper transport which leads to the accumulation of this metal in brain and liver cells. It is associated with a disturbance in the synthesis of the following protein:

- A. Ceruloplasmin
- B. Metallothionein
- C. Transcobalamin
- D. Haptoglobin
- E. Siderophilin

135. Reduced activity of antioxidant enzymes enhances peroxidation of cell membrane lipids. The reduction of glutathione peroxidase activity is caused by the following microelement deficiency:

- A. Selenium
- B. Molybdenum
- C. Cobalt
- D. Manganese
- E. Copper

136. A patient has wound abscess. Bacteriological examination of the wound content revealed a gram-negative bacillus which forms semi-transparent mucous colonies of blue-green colour with a pearlescent appearance on the beef-extract agar. Culture has a specific odour of violets or jasmine. What type of pathogen was isolated from the patient's wound?

- A. *P. aeruginosa*
- B. *P. vulgaris*
- C. *S. aureus*
- D. *S. pyogenes*
- E. *S. faecalis*

137. A patient is 59 years old and works as director of a private enterprise. After the inspection by tax authorities he developed intense burning retrosternal pain radiating to the left arm. After 15 minutes the patient returned to normal. What is the leading mechanism for the development of stenocardia in this patient?

- A. Increased level of blood catecholamines
- B. Coronary atherosclerosis
- C. Intravascular aggregation of blood corpuscles
- D. Coronary thrombosis
- E. Functional overload of heart

138. Autopsy of a young man revealed some lung cavities with inner walls made up of granulation tissue with varying degrees of maturity; pronounced pneumosclerosis and bronchiectasis. Some cavities had caseation areas. What is your presumptive diagnosis?

- A. Fibrous cavernous tuberculosis
- B. Infiltrative tuberculosis
- C. Caseous pneumonia
- D. Acute cavernous tuberculosis
- E. Bronchiectasis

139. A patient has herpetic conjunctivitis. What etiotropic drug should be administered?

- A. Acyclovir
- B. Ampicillin
- C. Methisazonum
- D. Furagin
- E. Tetracycline

140. A woman got infected with rubella during pregnancy. The child was born with malformations, namely cleft lip and palate. The child's genotype is normal. These malformations are a manifestation of:

- A. Modification variability
- B. Polyploidies
- C. Combinatory variability
- D. Chromosomal mutations
- E. Aneuploidies

141. During ventricular systole the muscle does not respond to additional stimulation because it is in the phase of:

- A. Absolute adiphoria
- B. Relative adiphoria
- C. Increased excitability
- D. Subnormal excitability
- E. -

142. In a hot weather, the microclimate in hot rooms is often normalized by fans. At the same time heat radiation from the human body increases through:

- A. Convection
- B. Heat conduction
- C. Conduction
- D. Radiation
- E. Evaporation

143. A patient has a history of chronic obstructive bronchitis. Blood gas analysis revealed the development of hypoxemia and hypercapnia on the background of dyspnea, tachycardia and cyanosis. What disorder of external respiration is observed in the patient?

- A. Hypoventilation
- B. Hypoperfusion
- C. Hyperperfusion
- D. Hyperdiffusion
- E. Hyperventilation

144. DNA replication occurs during the cell division when a signal is received from the cytoplasm, and a certain portion of the DNA helix is unwound and divided into two chains. The helix is unwound by the following enzyme:

- A. Helicase
- B. RNA polymerase
- C. Ligase
- D. Restrictase
- E. DNA polymerase

145. Examples of human-specific parasites are malaria plasmodium, enterobius vermicularis and some other. The source of invasion of such parasites is always a human. Such human-specific parasites cause diseases that are called:

- A. Anthroponotic
- B. Zoonotic
- C. Anthrozoonotic
- D. Infectious
- E. Multifactorial

146. A patient with a pronounced icteritiousness of skin, sclera and mucous membranes has urine of dark beer colour and colourless feces. Direct bilirubin in blood is elevated, urine contains bilirubin. What type of jaundice is it?

- A. Obstructive
- B. Parenchymatous
- C. Hemolytic
- D. Conjugation
- E. Excretory

147. On the base of the clinical data a child was diagnosed with atypical pneumonia resistant to the effects of beta-lactam antibiotics. The patient's sputum was cultured and incubated in a special medium, which resulted in growth of microorganisms forming microscopic colonies with a dense center (looking like fried eggs). What microorganism caused the disease?

- A. Mycoplasma pneumoniae
- B. Klebsiella pneumoniae
- C. Streptococcus pneumoniae
- D. Legionella pneumophila
- E. Chlamidia pneumoniae

148. Detection of X-chromatin in somatic cells is used for the quick diagnosis of hereditary diseases associated with a change in the sex chromosome number. Vast majority of a man's cells have three X-chromatin bodies. What is the man's karyotype?

- A. 49, XXXXY
- B. 45, X
- C. 46, XY
- D. 47, XXY
- E. 48, XXXY

149. The surgically excised connective tissue of the deformed mitral valve gives a basophilic reaction when stained with hematoxylin and eosin. When stained with toluidine blue it turns purple (metachromasia). What changes of the connective tissue can be detected by such reactions?

- A. Mucoïd edema
- B. Fibrinoid necrosis of connective tissue
- C. Connective tissue edema
- D. Petrification
- E. Hyalinosis

150. Throughout a year a 37-year-old woman periodically got infectious diseases of bacterial origin, their course was extremely lingering, remissions were short. Examination revealed low level of major classes of immunoglobulins. The direct cause of this phenomenon may be the following cell dysfunction:



- A. Plasmocytes
- B. Phagocytes
- C. Neutrophils
- D. Macrophages
- E. Lymphocytes

**151.** An animal had been intensively fed with carbohydrates. Histologic examination of its liver revealed a significant number of glycogen granules. Glycogen relates to the following group of cell structures:

- A. Trophic granules
- B. Secretory granules
- C. Excretory granules
- D. Pigment granules
- E. Special organelles

**152.** Nucleolus organizers of human chromosomes 13-15, 21, 22 include about 200 gene clusters that synthesize RNA. These chromosomal regions contain the information on the following type of RNA:

- A. rRNA
- B. tRNA
- C. mRNA
- D. snRNA
- E. tRNA + rRNA

**153.** A patient has the pronounced pain syndrome induced by neuralgia. What drug from the group of nonsteroidal anti-inflammatory drugs will reduce pain sensitivity?

- A. Diclofenac sodium
- B. Codeine phosphate
- C. Ketamine hydrochloride
- D. Lidocaine hydrochloride
- E. Droperidol

**154.** Steatosis is caused by accumulation of triacylglycerols in hepatocytes. One of the mechanisms of this disease is to reduce the utilization of neutral fat VLDL. What lipotropic substances prevent the steatosis development?

- A. Methionine,  $B_6$ ,  $B_{12}$
- B. Arginine,  $B_2$ ,  $B_3$
- C. Alanine,  $B_1$ ,  $PP$
- D. Valine,  $B_3$ ,  $B_2$
- E. Isoleucine,  $B_1$ ,  $B_2$

**155.** Cytogenetic analysis established that the patient had the 47, XYY karyotype. The extra chromosome in the karyotype has a centromere located very close to one of the chromosome ends so that one chromosomal arm is much shorter than

the other one. Such a chromosome is called:

- A. Acrocentric
- B. Metacentric
- C. Submetacentric
- D. Telocentric
- E. Submetacentric with a satellite

**156.** In course of a surgery the surgeon needs to expose spatium antescalenum. What structure forms the posterior border of this space?

- A. *M. scalenus anterior*
- B. *M. scalenus medius*
- C. *M. scalenus posterior*
- D. *M. longus colli*
- E. *M. longus capitis*

**157.** A 26-year-old woman at 40 weeks' gestation was admitted to the maternity ward. Examination revealed that the cervix was open, but uterine contractions were absent. The doctor gave her a hormonal drug to induce labor. Specify this drug:

- A. Oxytocin
- B. Hydrocortisone
- C. Estrone
- D. Testosterone
- E. ACTH

**158.** A patient consulted an immunologist about diarrhea, weight loss within several months, low-grade fever, enlarged lymph nodes. The doctor suspected HIV infection. What immunocompetent cells must be studied in the first place?

- A. Helper T-lymphocytes
- B. Suppressor T-lymphocytes
- C. B-lymphocytes
- D. Monocytes
- E. Plasma cells

**159.** A patient with arthritis and varicose veins has been taking a nonsteroidal anti-inflammatory drug for a long time, which caused the thrombosis of cutaneous veins. Which of the listed drugs might have caused this complication?

- A. Celecoxib
- B. Indomethacin
- C. Aspirin
- D. Phenylbutazone
- E. Ibuprofen

**160.** It is known that many hormones act through the adenylate cyclase system causing the enzyme activation by

phosphorylation. What enzyme is activated by hormonal signals and catalyzes glycogen breakdown?

- A. Phosphorylase
- B. Phosphotransferase
- C. Glucomutase
- D. Phosphatase
- E. Tyrosinase

161. A patient has been diagnosed with a haemorrhage in the region of the lateral sulcus of the brain. As a result, the blood flow is disturbed in the following artery:

- A. *A. cerebri media*
- B. *A. communicans anterior*
- C. *A. cerebri posterior*
- D. *A. cerebri anterior*
- E. *A. communicans posterior*

162. After starting treatment for pulmonary tuberculosis a patient complained about red tears and urine. What drug could cause such changes?

- A. Rifampicin
- B. Benzylpenicillin sodium salt
- C. Benzylpenicillin potassium salt
- D. Biseptol-480
- E. Cefazolin

163. A patient has an inflammation in the pterygopalatine fossa. The infection has spread into the nasal cavity. Which anatomical structure has the infection spread through?

- A. *Foramen sphenopalatinum*
- B. *Foramen rotundum*
- C. *Canalis palatinus major*
- D. *Canalis palatinus minor*
- E. *Canalis pterygoideus*

164. Phenylketonuria is a disease caused by a recessive gene that is localized in the autosome. The parents are heterozygous for this gene. They already have two sons with phenylketonuria and one healthy daughter. What is the probability that their fourth child will have the disease too?

- A. 25%
- B. 0%
- C. 50%
- D. 75%
- E. 100%

165. It has been revealed that intense physical exercise causes activation of gluconeogenesis in liver of experimental rats. Which substance is glucose precursor

in this case?

- A. Pyruvate
- B. Glycogen
- C. Palmitate
- D. Urea
- E. Stearate

166. Histological examination of a tissue sample revealed that the tissue had no blood vessels, and the cells were packed tightly together making layers. Specify this tissue:

- A. Epithelial
- B. Cartilaginous
- C. Osseous
- D. Nervous
- E. Muscular

167. A patient complains of an increased sensitivity of the posterior third of his tongue as well as of a gustatory disturbance in this region. What nerve is damaged?

- A. Glossopharyngeal
- B. Facial
- C. Trigeminal
- D. Accessory
- E. Hypoglossal

168. Histological study of a microslide of human skin found only dense irregular connective tissue. Which layer of this organ was analysed?

- A. Reticular dermis
- B. Papillary dermis
- C. Subcutaneous adipose tissue
- D. Epidermis
- E. Basal layer of epidermis

169. After a thorough examination the patient who had returned from Central Asia to Ukraine was diagnosed with spring-summer encephalitis. Its pathogen might have entered the body through the bite of the following arthropod:

- A. Dog-louse
- B. Taiga tick
- C. Argasid tick (*ornithodoros papillipes*)
- D. Itch mite
- E. Mosquito

170. A patient has been preliminarily diagnosed with paragonimiasis. This disease is caused by lung flukes. The causative agent entered into the patient's body through:

- A. Eating half-cooked lobsters and crabs
- B. Eating unwashed vegetables
- C. Contact with an infected cat
- D. Eating half-cooked or dried fish
- E. Drinking raw water from open reservoirs

**171.** After examining the patient the doctor recommended him to eliminate rich meat and vegetable broth, spices, smoked products from the diet, since the patient was found to have:

- A. Increased secretion of hydrochloric acid by the stomach glands
- B. Reduced secretion of hydrochloric acid by the stomach glands
- C. Reduced motility of the gastrointestinal tract
- D. Reduced salivation
- E. Biliary dyskinesia

**172.** A patient has symptoms of atherosclerosis. What plasma lipid transport forms should have an increased concentration?

- A. LDL
- B. HDL
- C. IDL
- D. VLDL
- E. Chylomicrons

**173.** A patient with chronic heart failure had been taking digitoxin for several months, during digitalization the following symptoms developed: headache, nausea, diarrhea, loss of appetite, impaired color vision, bradycardia. What antidote should be administered to reduce the intoxication symptoms?

- A. Unithiol
- B. Atropine sulfate
- C. Prednisolone
- D. Adrenalin hydrochloride
- E. Naloxone

**174.** A patient presents with dysfunction of shin muscles. He cannot raise his body by standing on tiptoe. Which muscle is affected?

- A. *M. triceps surae*
- B. *M. tibialis posterior*
- C. *M. extensor digitorum longus*
- D. *M. flexor digitorum longus*
- E. *M. tibialis anterior*

**175.** As a result of an injury a child developed an abscess of adipose tissue of cheek. With time the process spread to the lateral surface of pharynx. The pus spread

along the following fascia:

- A. Bucco-pharyngeal
- B. Temporal
- C. Masticatory
- D. Parotid
- E. -

**176.** Mother of a 10-year-old boy with purulent gingivitis consulted a dentist about the possibility of gingivitis treatment with fluoroquinolone drugs. The doctor gave a negative answer explaining it by the fact that fluoroquinolones:

- A. Damage the cartilage tissue in children
- B. Damage dentin
- C. Have cauterizing effect on the mucous membranes
- D. Provoke loss of calcium from bones and teeth
- E. Provoke gingival haemorrhage

**177.** Some proteins of saliva have a protective function. Which of them protects the oral mucosa from the mechanical damage?

- A. Mucin
- B. Lysozyme
- C. Catalase
- D. Peroxidase
- E. Renin

**178.** Following treatment with a highly-efficient anti-tuberculosis drug a 48-year-old female developed optic nerve neuritis, memory impairment, cramps. Which of these anti-TB drugs had the patient taken?

- A. Isoniazid
- B. PASA
- C. Rifampicin
- D. Ethambutol
- E. Kanamycin sulfate

**179.** A 20-year-old male got his tongue pierced. 5 months later a dense pale pink formation appeared in the zone of puncture. Biopsy revealed growing connective tissue with focal clusters of single polymorphonuclear neutrophils, fibroblasts, foreign body cells, lymphocytes and plasmacytes. What kind of pathological process developed in the tongue tissues?

- A. Nonspecific productive inflammation
- B. Fibrinous exudative inflammation
- C. Purulent exudative inflammation
- D. Circulatory disturbance
- E. Tumour

**180.** A patient with a severe maxillofacial trauma has been delivered to the emergency department. What drug should be given this patient to relieve pain shock?

- A. Promedol
- B. Sydnocarb
- C. Ibuprofen
- D. Pantogam
- E. Mydocalm

**181.** When processing a molar tooth with a dental cutter the dentist has by accident deeply wounded the patient's cheek and damaged not only the mucosa but also a muscle. Which muscle was hurt?

- A. Buccal muscle
- B. Greater zygomatic muscle
- C. Masticatory muscle
- D. Orbicular muscle of the mouth
- E. Mylohyoid muscle

**182.** Ionizing radiation or vitamin E deficiency may increase the permeability of lysosome membranes. What consequences may arise from this pathology?

- A. Partial or complete cell disintegration
- B. Intensive protein synthesis
- C. Intense energy synthesis
- D. Restoration of the cytoplasmic membrane
- E. Formation of cleavage spindle

**183.** A patient with marked manifestations of exsiccosis died in the infectious disease hospital. Postmortem examination results: the corpse with contracted muscles, dry skin and mucous membranes, thick and dark blood in veins, edematous plethoric mucosa, distended bowel loops, the lumen contains about 4 liters of rice-water fluid. What is the most likely diagnosis?

- A. Cholera
- B. Enteric fever
- C. Dysentery
- D. Anthrax, intestinal form
- E. Yersiniosis

**184.** Treatment of a patient with hereditary form of immunodeficiency involved gene therapy: the enzyme gene was introduced into the cells of the patient by means of a retrovirus. What property of the genetic code allows to use retroviruses as vectors of functional genes?

- A. Universality
- B. Specificity
- C. Collinearity
- D. Continuity
- E. Redundancy

**185.** Postmortem examination of a patient with a long history of rheumatism revealed thickening and shortening of the mitral valve leaflets with abundant thrombotic deposits. Histological examination of the valve leaflets confirmed sclerosis and revealed multiple foci of connective tissue disorganization in form of mucoid and fibrinoid swelling, as well as deendothelization foci. Endothelium defects were covered with thrombotic deposits of 1-2 mm. What type of valvular endocarditis is the case?

- A. Recurrent verrucous endocarditis
- B. Acute verrucous endocarditis
- C. Fibroplastic endocarditis
- D. Diffuse valvulitis
- E. Polypous-ulcerative endocarditis

**186.** Following the tooth extraction for acute pulpitis complicated by purulent periodontitis a patient developed osteomyelitis of mandible. 10 days later the patient died with symptoms of severe intoxication. Autopsy revealed a 2x2 cm large abscess of the right frontal lobe of brain, bilateral abscessed pneumonia, myeloid hyperplasia of spleen. What is the most likely diagnosis?

- A. Pyosepticemia
- B. Septicemia
- C. Chroniosepsis
- D. Secondary septic endocarditis
- E. -

**187.** A 4-year-old girl died suddenly with symptoms of asphyxia. Autopsy revealed white spots on the buccal mucosa; large blotches of rash on the skin of face, trunk and extremities; conjunctivitis, edema with foci of necrosis on the laryngeal mucosa; giant-cell pneumonia on microscopy. What is the most likely diagnosis?

- A. Measles
- B. Scarlet fever
- C. Influenza
- D. Meningococcal infection
- E. Typhus

**188.** A 69-year-old patient got a small plaque with subsequent ulceration on the skin of the lower eyelid. The formation was removed. Microscopic examination

of dermis revealed complexes of atypical epithelial cells arranged perpendicularly to the basal membrane on the periphery. The cells were dark, of polygonal prismatic shape with hyperchromic nuclei with frequent mitoses. What is the histological form of carcinoma in this patient?

- A. Basal cell carcinoma
- B. Keratinizing squamous cell carcinoma
- C. Nonkeratinizing squamous cell carcinoma
- D. Adenocarcinoma
- E. Undifferentiated

**189.** A 65-year-old patient had been treated for 3 days in the resuscitation unit for a cardiac pathology. Suddenly he developed ventricular fibrillation which turned out to be the immediate cause of death. Microscopy of the left ventricular myocardium revealed a large focus of cardiomyocyte karyolysis demarcated by the zone of hyperaemia. What cardiac pathology was the cause of death?

- A. Acute myocardial infarction
- B. Ischemic myocardial degeneration
- C. Acute myocarditis
- D. Diffuse cardiosclerosis
- E. Postinfarction cardiosclerosis

**190.** Anatomical dead space is the part of air that remains in the airways after the expiration. Anatomical dead space will be reduced in the following situation:

- A. Tracheostomy
- B. Patient's head is flexed forward
- C. Lying patient is turned to his left side
- D. Lying patient is turned to his right side
- E. Breathing through the mouth

**191.** Microscopy of dental plaque revealed unicellular organisms. Their cytoplasm had two distinct layers, barely visible core, wide pseudopodia. The patient is most likely to have:

- A. *Entamoeba gingivalis*
- B. *Lamblia*
- C. *Trichomonas tenax*
- D. *Entamoeba histolytica*
- E. *Entamoeba coli*

**192.** A patient visited a dentist for acute dental pain in the lower left canine. He was diagnosed with pulpitis. What nerve innervates this tooth?

- A. Inferior alveolar
- B. Superior alveolar
- C. Palatal
- D. Zygomatic
- E. Facial

**193.** After a severe stress a patient was found to have eosinopenia. A decrease in the eosinophil number can be explained by the changed concentration of the following hormones:

- A. Glucocorticoids
- B. Adrenaline
- C. Insulin
- D. Mineralocorticoids
- E. Vasopressin

**194.** In the dental practice, the vitality of tooth tissues is estimated by electric pulp test. What parameter is assessed?

- A. Threshold stimulus intensity
- B. Chronaxie
- C. Productive time
- D. Accommodation
- E. Lability

**195.** Platelet adhesion at the site of vascular injury is of great importance for the mechanisms of primary hemostasis. Which factor plays a major part in this process?

- A. Willebrand's
- B. Fitzgerald's
- C. Fletcher's
- D. Hageman's
- E. Rosenthal's

**196.** Before an exam a student complained of acute dental pain which grew less during the exam. What inhibition caused the pain abatement?

- A. External
- B. Protective
- C. Declining
- D. Differentiating
- E. Delayed

**197.** Continuous treatment of cancer patients with methotrexate over time reduces the target cell's sensitivity to the drug. In this case gene amplification of the following enzyme is observed:

- A. Dihydrofolate reductase
- B. Thiaminase
- C. Deaminase
- D. Thioredoxin reductase
- E. Thioredoxin reductase

**198.** Analysis of biopsy material of urinary bladder mucosa revealed a tumour of epithelial origin. What kind of epithelium was the source of this tumour?

- A.** Stratified transitional
- B.** Stratified squamous nonkeratinizing
- C.** Simple squamous
- D.** Multinucleated ciliated
- E.** Simple cubical

**199.** A patient with diabetes mellitus developed ketoacidotic coma due to the acid-base disturbance. What type of disorder had arisen in this case?

- A.** Metabolic acidosis
- B.** Exogenous acidosis
- C.** Respiratory acidosis
- D.** Gaseous alkalosis
- E.** Nongaseous alkalosis

**200.** As a result of a rapid change from horizontal to vertical body position a 16-year-old girl lost consciousness. What is the reason for it?

- A.** Decreased venous return
- B.** Increased venous return
- C.** Heart rate decrease
- D.** Arterial pressure rise
- E.** -