

1. A shepherd who has tended sheep together with dogs presents with chest pain and blood spitting. X-ray examination revealed a roundish neoplasm in his lungs. Immunological reactions confirmed the provisional diagnosis. Specify the helminth that might have caused this disease:

- A. Echinococcus
- B. Dwarf tapeworm
- C. Broad tapeworm
- D. Common liver fluke
- E. Armed tapeworm

2. Studying the mitotic cycle phases of an onion root the researchers revealed a cell with chromosomes lying in equatorial plane in form of a star. What phase of mitosis is it?

- A. Metaphase
- B. Prophase
- C. Anaphase
- D. Telophase
- E. Interphase

3. A patient has a right-sided fracture in the region of the frontal third of mandible accompanied by a haematoma in the region of chin. It is caused by the injury of the following artery:

- A. Mental
- B. Inferior labial
- C. Lingual
- D. Facial
- E. Palatine

4. As a result of a cold a patient has the abnormal pain and temperature sensitivity of the frontal 2/3 of his tongue. Which nerve must have been damaged?

- A. Trigeminal
- B. Sublingual
- C. Accessory
- D. Vagus
- E. Glossopharyngeal

5. A patient was delivered to a hospital with the fracture of mandible and considerable bleeding in the region of fracture. What artery is likely to be damaged?

- A. Inferior alveolar artery
- B. Ascending pharyngeal artery
- C. Lingual artery
- D. Ascending palatine artery
- E. Superior alveolar artery

6. It is required to anaesthetize the right lower molars. The proper injection site for

the conduction anaesthesia is:

- A. The region of the right mandibular foramen
- B. The gums to the right of mandible
- C. The region of the right mental foramen
- D. The region of suborbital foramen
- E. The region of the oval foramen

7. Trauma of occipital region of head resulted in crack fracture in the region of transverse sinus. What part of occipital bone is damaged?

- A. Squama
- B. Left lateral
- C. Right lateral
- D. Proximal
- E. Condyle

8. Examination of a 32-year-old patient revealed disproportional skeleton size, enlargement of superciliary arches, nose, lips, tongue, jaw bones, feet. What gland's function was disturbed?

- A. Hypophysis
- B. Epiphysis
- C. Pancreas
- D. Thyroid
- E. Suprarenal

9. After a trauma of soft tissues in the region of the posterior surface of medial condyle of humerus a patient has got a skin prickle of medial forearm surface. Which of the listed nerves is located in the affected region?

- A. *N. ulnaris*
- B. *N. musculocutaneu*
- C. *N. dorsalis scapularis*
- D. *N. subscapularis*
- E. *N. radialis*

10. A boy has fallen down from a tree. Now he finds it difficult to abduct his arm into horizontal position. Which muscle is most likely to be injured?

- A. *M. deltoideus*
- B. *M. triceps brachii*
- C. *M. anconeus*
- D. *M. coracobrachialis*
- E. *M. supinator*

11. A 60-year-old patient has problems with formation and moving of food mass, it disturbs eating process. His tongue is stiff, speaking is impossible. What nerve is damaged?

- A. XII
- B. V
- C. IX
- D. XI
- E. VII

12. A female patient with a tumour of pancreas has developed mechanic jaundice resulting from compression of a bile-excreting duct. Which duct is compressed?

- A. *Ductus choledochus*
- B. *Ductus cysticus*
- C. *Ductus hepaticus communis*
- D. *Ductus hepaticus dexter*
- E. *Ductus hepaticus sinister*

13. A 28-year-old woman has been diagnosed with extrauterine pregnancy complicated by the fallopian tube rupture. The blood is most likely to penetrate the following peritoneal space:

- A. Rectouterine
- B. Vesicouterine
- C. Right mesenteric sinus
- D. Left mesenteric sinus
- E. Intersigmoid sinus

14. A 35-year-old patient diagnosed with sterility came to gynaecological department for diagnostic biopsy of endometrium. Microscopic examination revealed that mucous membrane is edematous, uterine glands are convoluted and filled with thick secreta. Such changes in the endometrium are caused by excess of the following hormone:

- A. Progesterone
- B. Estrogen
- C. Testosterone
- D. Somatotropin
- E. ACTH

15. Wound healing is accompanied by the development of a connective tissue cicatrice which is formed on the site of the tissue defect. What cells are responsible for this process?

- A. Fibroblasts
- B. Macrophages
- C. Fibrocytes
- D. Mastocytes
- E. Melanocytes

16. An electron microphotograph of duodenal epithelium clearly shows a cell with electron-dense granules in the basal pole. What cell is it?

- A. Endocrine
- B. Prismatic with a limb
- C. Poorly differentiated
- D. Goblet
- E. Parietal

17. Gastroscopy of a patient revealed lack of mucus coating the mucous membrane. This may be caused by the dysfunction of the following cells of gastric wall:

- A. Cells of prismatic glandular epithelium
- B. Parietal cells of gastric glands
- C. Main exocrinocytes
- D. Cervical cells
- E. Endocrinocytes

18. As a result of a development anomaly a newborn has malformation of major salivary glands. This anomaly is caused by the damage of the following embryonal structure:

- A. Ectoderm
- B. Splanchnotom
- C. Somites
- D. Entoderm
- E. Mesenchyme

19. During postembryonal haemopoiesis in the red bone marrow the cells of one of the cellular differons demonstrate a gradual decrease in cytoplasmic basophilia as well as an increase in oxyphilia, the nucleus is being forced out. Such morphological changes are typical for the following haemopoiesis type:

- A. Erythropoiesis
- B. Lymphopoiesis
- C. Neutrophil cytopoiesis
- D. Eosinophil cytopoiesis
- E. Basophil cytopoiesis

20. Microspecimen of a child's finger skin reveals subnormal development of epidermis. What embryonic leaf was damaged in course of development?

- A. Ectoderm
- B. Mesoderm
- C. Entoderm
- D. Mesenchyma
- E. Ectomesenchyma

21. A microspecimen of heart shows rectangular cells from 50 to 120  $\mu\text{m}$  large with central position of nucleus, developed myofibrils. The cells are connected by intercalated discs. These cells are responsible for the following function:

- A. Function of heart contractions
- B. Function of impulse conduction
- C. Endocrine
- D. Protective
- E. Regeneratory

22. Obliterating atherosclerosis causes changes in the vessels of the lower extremities. A histological specimen of such a vessel evidently presents both internal and external elastic membranes, middle membrane contains a lot of myocytes. What vessel is affected in case of this disease?

- A. Artery of muscular type
- B. Artery of elastic type
- C. Artery of mixed type
- D. Vein with strongly developed muscles
- E. Lymph node

23. While a 24-year-old woman was waiting for tooth extraction, tonus of sympathetic part of autonomic nervous system rose. What reaction will the patient display?

- A. Increased frequency of heartbeat
- B. Hyperperistalsis
- C. Hypersecretion of digestive juices
- D. Bronchus constriction
- E. Miotic pupils

24. A 30-year-old woman has subnormal concentration of enzymes in the pancreatic juice. This might be caused by the hyposecretion of the following gastrointestinal hormone:

- A. Cholecystokinin-pancreozymin
- B. Somatostatin
- C. Secretin
- D. Gastro-inhibiting peptide
- E. Vaso-intestinal peptide

25. A month after surgical constriction of rabbit's renal artery the considerable increase of systematic arterial pressure was observed. What of the following regulation mechanisms caused the animal's pressure change?

- A. Angiotensin-II
- B. Vasopressin
- C. Adrenaline
- D. Noradrenaline
- E. Serotonin

26. A child has abnormal formation of tooth enamel and dentin as a result of low concentration of calcium ions in blood. Such abnormalities might be caused by deficiency of the following hormone:

- A. Parathormone
- B. Thyrocalcitonin
- C. Thyroxin
- D. Somatotrophic hormone
- E. Triiodothyronine

27. A man permanently lives high in the mountains. What changes of blood characteristics can be found in his organism?

- A. Increase of erythrocytes number
- B. Decrease of hemoglobin content
- C. Erythroblasts in blood
- D. Decrease of reticulocytes number
- E. Decrease of colour index of blood

28. A sportsman was examined after an intensive physical activity. The examination revealed disorder of movement coordination but the force of muscle contractions remained the same. It can be explained by retarded speed of excitement conduction through:

- A. Central synapses
- B. Neuromuscular synapses
- C. Efferent nerves
- D. Afferent nerves
- E. Conduction tracts

29. After a tourniquet application a patient was found to have petechial haemorrhages. The reason for it is the dysfunction of the following cells:

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

30. After a hemorrhage into the brainstem a patient has lost reflex of myosis as a reaction to increase of illumination. What structure was damaged?

- A. Vegetative nuclei of oculomotor nerve
- B. Lateral reticular nuclei
- C. Medial reticular nuclei
- D. Red nuclei
- E. Black substance

31. A patient under test was subjected to a moderate physical stress. His minute blood volume amounted 10 l/min. What blood volume was pumped through his lung vessels every minute?

- A. 10 l/min
- B. 5 l/min
- C. 4 l/min
- D. 6 l/min
- E. 7 l/min

32. A patient presents with the following motor activity disturbances: tremor, ataxia and asynergia movements, dysarthria. The disturbances are most likely to be localized in:

- A. Cerebellum
- B. Basal ganglions
- C. Limbic system
- D. Brainstem
- E. Medulla oblongata

33. The value of basal metabolism of a man under examination exceeds the due value by 8%. This means that the man has the following intensity of energy metabolism processes:

- A. Normal
- B. Moderately increased
- C. Moderately decreased
- D. Considerably increased
- E. Considerably decreased

34. A man has a considerable decrease in diuresis as a result of 1,5 l blood loss. The primary cause of such diuresis disorder is the hypersecretion of the following hormone:

- A. Vasopressin
- B. Corticotropin
- C. Natriuretic
- D. Cortisol
- E. Parathormone

35. Examination of a child who hasn't got fresh fruit and vegetables during winter revealed numerous subcutaneous hemorrhages, gingivitis, carious cavities in teeth. What vitamin combination should be prescribed in this case?

- A. Ascorbic acid and rutin
- B. Thiamine and pyridoxine
- C. Folic acid and cobalamin
- D. Riboflavin and nicotinamide
- E. Calciferol and ascorbic acid

36. A man is in the state of rest. He has been forcing himself to breath deeply and frequently for 3-4 minutes. What effect will it have upon acid-bace balance of the organism?

- A. Respiratory alkalosis
- B. Respiratory acidosis
- C. Metabolic alkalosis
- D. Metabolic acidosis
- E. There will be no change in acid-base balance

37. A 34-year-old patient has low endurance of physical loads. At the same time skeletal muscles have increased concentration of glycogen. This is caused by the reduced activity of the following enzyme:

- A. Glycogen phosphorylase
- B. Glucose-6-phosphate dehydrogenase
- C. Phosphofructokinase
- D. Glycogen synthase
- E. Glucose-6-phosphatase

38. A patient has been delivered to a hospital with a provisional diagnosis of progressing muscle dystrophy. This diagnosis can be confirmed by the increased concentration of the following substance found in urine:

- A. Kreatine
- B. Pyruvate
- C. Carnosine
- D. Troponin
- E. Hydroxyproline

39. Before the cells can utilize the glucoze, it is first transported from the extracellular space through the plasmatic membrane inside theml. This process is stimulated by the following hormone:

- A. Insulin
- B. Glucagon
- C. Thyroxin
- D. Aldosterone
- E. Adrenalin

40. Parodontitis is treated with calcium preparations and a hormone that stimulates tooth mineralization and inhibits tissue resorption. What hormone is it?

- A. Calcitonin
- B. Parathormone
- C. Adrenalin
- D. Aldosterone
- E. Thyroxine

41. After implantation of a cardiac valve a young man constantly takes indirect anti-coagulants. His state was complicated by hemorrhage. What substance content has decreased in blood?

- A. Prothrombin
- B. Haptoglobin
- C. Heparin
- D. Creatin
- E. Ceruloplasmin

42. Chronic overdosage of glucocorticoids leads to the development of hyperglycemia. What process of carbohydrate metabolism is responsible for this effect?

- A. Gluconeogenesis
- B. Glycogenolysis
- C. Aerobic glycolysis
- D. Pentose-phosphate cycle
- E. Glycogenesis

43. After prolonged exercising people usually experience intense muscle pain. What is its most likely cause?

- A. Accumulation of lactic acid in muscles
- B. Intensified disintegration of muscle proteins
- C. Accumulation of creatinine in muscles
- D. Increased muscle excitability
- E. Increased concentration of ADP in muscles

44. A 62-year-old patient with cerebral haemorrhage was admitted to the neurological department in grave condition. Objectively: increase of respiration depth and rate with its following reduction to apnoea, thereafter respiration cycle restores. What respiration type is it?

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

45. A patient with diabetes mellitus lapsed into diabetic coma as a result of acid-base disbalance. Specify the type of disbalance:

- A. Metabolic acidosis
- B. Metabolic alkalosis
- C. Respiratory acidosis
- D. Gaseous alkalosis
- E. Non-gaseous alkalosis

46. An employee was working with radioactive substances and as a result of an incident he was irradiated with 4 Gy. He complains about headache, nausea, dizziness. What changes of blood formula can be expected 10 hours after irradiation?

- A. Neutrophilic leukocytosis
- B. Lymphocytosis
- C. Leukopenia
- D. Agranulocytosis
- E. Neutropenia

47. A patient with a trigeminal inflammation has been suffering from progressing parodontitis for the last few years. What is the leading factor in the parodontitis development in this case?

- A. Neurodystrophical changes in parodontium
- B. Hypoactivity of leukocytic elastase
- C. Low immunoglobulin production
- D. Increase of vagus tonus
- E. Hypoactivity of kallikrein-kinin system

48. After the traumatic tooth extraction a patient is complaining of acute, dull, poorly-localized pain in gingiva, body temperature rise up to  $37,5^{\circ}\text{C}$ . 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

49. A patient with anacardic gastritis has the following blood formula: erythrocytes -  $2,5 \cdot 10^{12}/\text{l}$ ; Hb - 50 g/l; colour index - 0,6; reticulocytes - 0,02%; microcytosis. What type of anaemia is it?

- A. Iron-deficient
- B. Protein-deficient
- C. Folic acid-deficient
- D. Aplastic
- E. Hypoplastic

50. A 50-year-old male patient suffers from chronic bronchitis, complains about dyspnea during physical activity, sustained cough with sputum. After examination he was diagnosed with pulmonary emphysema. This complication is caused by:

- A. Decrease in lung elasticity
- B. Decrease in alveolar ventilation
- C. Decrease in lung compliance
- D. Decrease in lung perfusion
- E. Ventilation-perfusion disbalance

51. A patient suffering from chronic myeloleukemia has got the following symptoms of anemia: decreased number of erythrocytes and low haemoglobin concentration, oxyphilic

and polychromatophilic normocytes, microcytes. What is the leading pathogenetic mechanism of anemia development?

- A. Substitution of haemoblast
- B. Intravascular hemolysis of erythrocytes
- C. Deficiency of vitamin  $B_{12}$
- D. Reduced synthesis of erythropoietin
- E. Chronic haemorrhage

52. Autopsy of a woman with cerebral atherosclerosis revealed in the left cerebral hemisphere a certain focus that is presented by flabby, anhistic, greyish and yellowish tissue with indistinct edges. What pathological process is the case?

- A. Ischemic stroke
- B. Multifocal tumor growth with cystic degeneration
- C. Multiple foci of fresh and old cerebral hemorrhage
- D. Focal encephalitis
- E. Senile encephalopathy

53. Examination of a 30-year-old man's mandible revealed in the region of his molar a dense tumour-like formation that significantly deformed the mandible. Here and there the formation wasn't fully detached from the bone tissue. Microscopical examination of a tissue sampling revealed that stroma had some cords and follicles with odontogenous cylindrical epithelial cells in peripheria and stellate cells resembling of the enamel organ pulp in the centre. What is the most likely diagnosis?

- A. Ameloblastoma
- B. Adenomatoid tumour
- C. Primary intraosteal cancer
- D. Adenocarcinoma
- E. Osteoclastoma

54. Histological examination of a lymph node removed from the posterior triangle of neck of an 18-year-old patient revealed some cell agglomerations that included single multinuclear Reed-Sternberg cells, major Hodgkin's cells, minor Hodgkin's cells and many lymphocytes, single plasmatic cells, eosinophils. What is the most likely diagnosis?

- A. Lymphogranulomatosis
- B. Nodular lymphoma
- C. Burkitts tumour
- D. Lymphocytic lymphoma
- E. Chronic lymphoid leukosis

55. A female patient suffering from secondary syphilis got foci of skin depi-

gmentation in the upper parts of her back. What pathological process is it?

- A. Leukoderma
- B. Metaplasia
- C. Leukoplasia
- D. Dysplasia
- E. Parakeratosis

56. A 14-year-old patient has been diagnosed with Hutchinson's triad: screwdriver-shaped teeth, parenchymatous keratitis and deafness. What disease are these signs typical for?

- A. Syphilis
- B. Toxoplasmosis
- C. Lepra
- D. Tuberculosis
- E. Opisthorchiasis

57. Macroscopic examination of lung tissue revealed areas of high airiness with small bubbles, histological examination revealed thinning and rupture of alveolar septa accompanied by formation of large diversiform cavities. What disease was revealed in a lung?

- A. Pulmonary emphysema
- B. Multiple bronchiectasis
- C. Cavernous tuberculosis
- D. Chronic bronchitis
- E. Fibrosing alveolitis

58. A 55-year-old man had been suffering from chronic glomerulonephritis. He died from chronic renal failure. Macroscopical examination revealed on the surface of epicardium and pericardium some greyish-white villous depositions. After their removal dilated and plethoric vessels were uncovered. What process took place in the pericardium?

- A. Fibrinous inflammation
- B. Organization
- C. Proliferative inflammation
- D. Haemorrhagic inflammation
- E. Arterial hyperemia

59. Autopsy of a man, who died from typhoid fever on the 5th day of disease, revealed the following changes: aggregated follicles of ileum were enlarged and plethoric; they protruded over the mucous membrane, and multiple sulci and convolutions could be seen on their surface. Histological examination revealed plethority and edema of tissues, presense of granulomas composed of big cells with light cytoplasm and containing typhoid bacilli. These local changes

are compliant with the following period of typhoid fever:

- A. Stage of medullary swelling
- B. Stage of necrosis
- C. Stage of ulcer healing
- D. Stage of clean ulcers
- E. Stage of ulceration

**60.** Autopsy of a man who had tuberculosis revealed a 3x2 cm large cavity in the superior lobe of the right lung. The cavity was interconnected with a bronchus, its wall was dense and consisted of three layers: the internal layer was pyogenic, the middle layer was made by tuberculous granulation tissue and the external one was made by connective tissue. What is the most likely diagnosis?

- A. Fibrous cavernous tuberculosis
- B. Fibrous focal tuberculosis
- C. Tuberculoma
- D. Acute focal tuberculosis
- E. Acute cavernous tuberculosis

**61.** Autopsy of a 68-year-old man who died from chronic cardiac insufficiency revealed deformed, thickened, conjoined cusps of mitral valve. Along the edge of joining there were small (1-2 mm) thrombs. What form of endocarditis caused development of chronic cardiac insufficiency?

- A. Recurrent verrucous
- B. Diffuse
- C. Acute verrucous
- D. Fibroplastic
- E. Polypoulcerous

**62.** A 57-year-old patient experiences periodical uterine haemorrhages. Diagnostic biopsy of lining of uterus has revealed among the blood elements some glandular complexes of different forms and sizes made by atypic cells having hyperchromic nuclei with multiple mitoses (including pathological ones). What is the most likely diagnosis?

- A. Adenocarcinoma
- B. Uterus fibromyoma
- C. Chorioepithelioma
- D. Glandular endometrium hyperplasia
- E. Endometritis

**63.** Autopsy of a man who died from ethylene glycol poisoning revealed that his kidneys are a little bit enlarged, edematic; their capsule can be easily removed. Cortical substance is broad and light-grey. Medullary substance is dark-

red. What pathology had this man?

- A. Necrotic nephrosis
- B. Acute pyelonephritis
- C. Acute glomerulonephritis
- D. Acute tubular-interstitial nephritis
- E. Lipoid nephrosis

**64.** Bacterioscopy of nasopharyngeal mucus taken from a 2,5-year-old child with nasopharyngitis revealed gram-positive diplococci looking like coffee grains. What organs of the child are most likely to be affected if these microorganisms penetrate the blood?

- A. Brain tunics
- B. Cardiac valves
- C. Renal glomeruli
- D. Urogenital tracts
- E. Lymph nodes

**65.** Histologic analysis of uterus mucous membrane revealed twisting glands, serrated and spined, they were extended by stroma growth with proliferation of its cells. Formulate a diagnosis:

- A. Glandular hyperplasia of endometrium
- B. Acute endometritis
- C. Leiomyoma
- D. Cystic mole
- E. Placental polyp

**66.** Analysis of sputum taken from a patient with suspected pneumonia revealed rather elongated gram-positive diplococci with somewhat pointed opposite ends. What microorganisms were revealed in the sputum?

- A. Streptococcus pneumoniae
- B. Staphylococcus aureus
- C. Klebsiella pneumoniae
- D. Neisseria meningitidis
- E. Neisseria gonorrhoeae

**67.** Serological diagnostics of infectious diseases is based upon specific interaction with antigens. Specify the serological reaction that underlies adhesion of microorganisms when they are affected by specific antibodies in presence of an electrolyte:

- A. Agglutination reaction
- B. Precipitation reaction
- C. Complement-binding reaction
- D. Hemadsorption reaction
- E. Neutralization reaction

**68.** The immunoblot detected gp120 protein in the blood serum. This protein is

typical for the following disease:

- A. HIV-infection
- B. Virus B hepatitis
- C. Tuberculosis
- D. Syphilis
- E. Poliomyelitis

69. A patient of oral surgery department has developed a purulent complication. Bacteriological analysis of the wound discharge allowed to isolate a culture producing a blue-and-green pigment. Which of the listed microorganisms may be a causative agent of the infection?

- A. *Pseudomonas aeruginosa*
- B. *Proteus vulgaris*
- C. *Bacillus subtilis*
- D. *Klebsiella pneumoniae*
- E. *Staphylococcus epidermidis*

70. Dentists are at increased risk of being infected with the type B hepatitis. What preparation should be used for reliable active prevention of this disease?

- A. Recombinant vaccine of HBsAg proteins
- B. Live type B hepatitis vaccine
- C. Specific immunoglobulin
- D. Antihepatitis serum
- E. Monoclonal HBsAg antibodies

71. HIV has gp41 and gp120 on its surface interacts with target cells of an organism. Which of the following human lymphocyte antigens is gp120 complementary bound with?

- A. CD 4
- B. CD 3
- C. CD 8
- D. CD 19
- E. CD 28

72. A 65-year-old patient with chronic heart failure has been taking digitoxin in self-administered dosages for a long time. She was admitted to the hospital for general health aggravation, arrhythmia, nausea, reduced diuresis, insomnia. What is the primary action to be taken?

- A. To withhold digitoxin
- B. To reduce digitoxin dosage
- C. To administer strophanthine intravenously
- D. To administer digoxin
- E. To give an intravenous injection of calcium gluconate solution

73. A patient has myocardial infarcti-

on with thrombosis of the left coronary artery. What pharmacological preparation group should be used to reestablish blood flow?

- A. Fibrinolysis activators
- B. Narcotic analgesics
- C.  $\beta$ -adrenergic blockers
- D. Angiotensin-converting enzyme inhibitors
- E. Glucocorticoids

74. For the purpose of disinfection of nonmetallic surgical instruments the formaldehyde solution was used. What group does this antiseptic preparation belong to according to its chemical structure?

- A. Aliphatics
- B. Aromatics
- C. Alcohols
- D. Halogenated compounds
- E. Detergents

75. Before the infiltration anaesthesia a patient had been tested for sensitivity to novocaine. The reaction turned out to be positive. Which of the below listed drugs can be used for anaesthetization in this case?

- A. Lidocaine
- B. Procainamide hydrochloride
- C. Trimecaine
- D. Anesthezin
- E. Tetracaine

76. A stomatologists examined first-grade pupils and revealed that one of children had yellowish brown teeth, two of them were split. Heretofore the pupil was treated with "some pills" on account of pneumonia. What medication could have had such a negative effect upon teeth?

- A. Doxycycline
- B. Oxacillin
- C. Erythromycin
- D. Ampicillin
- E. Biseptol

77. A patient has a slowly healing fracture. What medicine can be used to accelerate formation of connective tissue matrix?

- A. Methyluracil
- B. Prednisolone
- C. Cyclophosphan
- D. Methotrexate
- E. Cyclosporine

78. Leukoses are treated with anti-



metabolite methotrexate. What vitamin is its antagonist?

- A. Folic acid
- B. Cyanocobalamin
- C. Phyllochinone
- D. Piridoxine
- E. Rutin

79. A patient consulted a dentist about the temporomandibular joint arthritis. The dentist administered an ointment containing diclofenac sodium. What is its mechanism of action?

- A. Cyclooxygenase inhibition
- B. Phospholipase inhibition
- C. Opiate receptor activation
- D. Opiate receptor block
- E. Cyclooxygenase activation

80. As a result of a trauma a patient has damaged anterior roots of spinal cord. What structures have been affected?

- A. Axons of motoneurons and axons of neurons of lateral horns
- B. Central processes of sensitive neurons of spinal ganglions
- C. Peripheral processes of sensitive spinal ganglions
- D. Axons of neurons of lateral horns
- E. Dendrites of neurons of spinal ganglions

81. A woman who had taken alcohols during her pregnancy had a child with cleft palate and upper lip. These presentations are indicative of some chromosomal anomalies. What process do they result from?

- A. Teratogenesis
- B. Carcinogenesis
- C. Mutagenesis
- D. Phylogenesis
- E. Ontogenesis

82. A 67-year-old patient ordered a full functional denture. It was necessary to extract his left upper canine. After infraorbital anaesthesia a patient presented with a progressing haematoma in the frontal part of his face. The patient was found to have an injury of an artery which is the branch of:

- A. *A. maxillaris*
- B. *A. facialis*
- C. *A. temporalis superficialis*
- D. *A. ophthalmica*
- E. *A. labialis superior*

83. The contents of vesicles that appeared

on the mucous membrane of a patient with variola was sent to a virological laboratory. Which of the listed changes were revealed during the smear microscopy?

- A. Paschen bodies
- B. Babes-Negri bodies
- C. Guarnieri bodies
- D. Babes-Ernst bodies
- E. Syncytium

84. Examination of a 40-year-old man ill with stenosing (without metastases) esophageal carcinoma revealed the following changes: atrophy of skeletal muscles and fatty tissue. His skin is sallow, epidermis is attenuated, heart has grown smaller. Myocardium and liver are brown. What is the most probable diagnosis?

- A. Alimentary cachexia
- B. Myasthenia
- C. Cancerous cachexia
- D. Brown atrophy
- E. Addison's disease

85. While examining a blood smear taken from a patient and stained by Romanovsky's method a doctor revealed some protozoa and diagnosed the patient with Chagas disease. What protozoan is the causative agent of this disease?

- A. *Trypanosoma cruzi*
- B. *Toxoplasma gondii*
- C. *Leishmania donovani*
- D. *Leishmania tropica*
- E. *Trypanosoma brucei*

86. A patient underwent esophagogastroduodenoscopy. Analysis of the biopsy material enabled doctors to diagnose him with helicobacteriosis. What property of the bacteria found in this patient had to be obligatory taken into account during their cultivation?

- A. Microaerophilic ability
- B. Presence of urease
- C. Colonisation of gastral cells
- D. Absence of spores and capsules
- E. Presence of six polar flagella

87. A 38-year-old man died all of a sudden. Autopsy revealed myocardial infarction in the posterior wall of the left ventricle. What are the most likely alterations in myocardiocyte structure that can be revealed microscopically in the infarction focus?

- A. Karyolysis
- B. Adipose degeneration
- C. Carbohydrate degeneration
- D. Calcification
- E. Protein degeneration

**88.** A patient at the early stage of diabetes mellitus was found to have polyuria. What is its cause?

- A. Hyperglycemia
- B. Ketonemia
- C. Hypocholesterolemia
- D. Hypercholesterolemia
- E. Hyperkaliemia

**89.** An 18-year-old boy applied to a geneticist. The boy has asthenic constitution: narrow shoulders, broad pelvis, nearly hairless face. Evident mental deficiency. The provisional diagnosis was Klinefelter's syndrome. What method of clinical genetics will enable the doctor to confirm this diagnosis?

- A. Cytogenetic
- B. Genealogical
- C. Twin study
- D. Dermatoglyphics
- E. Population-and-statistical

**90.** During cystoscopy mucous membrane of urinary bladder normally makes folds except for a single triangular area with smooth mucosa. This triangle is located in the following part of urinary bladder:

- A. Bladder floor
- B. Bladder cervix
- C. Bladder apex
- D. Bladder body
- E. Bladder isthmus

**91.** A 67-year-old patient has atherosclerosis of cardiac and cerebral vessels. Examination revealed hyperlipidemia. What class of blood plasma lipoproteids is most important in atherosclerosis pathogenesis?

- A. Low-density lipoproteids
- B. Chylomicrons
- C.  $\alpha$ -lipoproteids
- D. High-density lipoproteids
- E. -

**92.** After a serious psychoemotional stress a 48-year-old patient suddenly developed acute heart ache irradiating to the left arm. Nitroglycerine relieved pain after 10 minutes. What is the leading pathogenetic mechanism of this process development?

- A. Spasm of coronary arteries
- B. Dilatation of peripheral vessels
- C. Obstruction of coronary vessels
- D. Compression of coronary vessels
- E. Increase in myocardial oxygen consumption

**93.** A comatose patient has been delivered to a hospital. He has a 5-year history of type 2 diabetes mellitus. Objectively: breathing is deep and noisy, there is a smell of acetone around the patient. The concentration of glucose in blood is 15,2 millimole/l, of ketone bodies - 100 micromole/l. These disorders are typical for the following complication of this disease:

- A. Ketoacidotic coma
- B. Hepatic coma
- C. Hyperglycemic coma
- D. Hypoglycemic coma
- E. Hyperosmolar coma

**94.** A 42-year-old patient complains of pain in the epigastric area, vomiting; vomit masses have the colour of "coffee-grounds", the patient has also melena. Anamnesis records gastric ulcer. Blood formula: erythrocytes -  $2,8 \cdot 10^{12}/l$ , leukocytes -  $8 \cdot 10^9/l$ , Hb- 90 g/l. What complication is it?

- A. Haemorrhage
- B. Penetration
- C. Perforation
- D. Canceration
- E. Pyloric stenosis

**95.** While under barbituric anaesthesia a 65-year-old male patient developed respiratory inhibition. Anesthesiologist made him a 10 ml intravenous injection of 0,5% bemegride solution. The patient's condition got better, the pulmonary ventilation volume increased. What phenomenon underlies the interaction of these medications?

- A. Direct antagonism
- B. Indirect antagonism
- C. Unilateral antagonism
- D. Direct synergism
- E. Indirect synergism

**96.** A blood sample of a pregnant woman was typed. Erythrocyte-agglutination reaction was present with standard sera  $0\alpha$ ,  $\beta(I)$ ,  $B\alpha(III)$ , reaction was absent with the serum  $A\beta(II)$ . The blood under examination relates to the following group:

- A.  $A\beta(II)$
- B.  $B\alpha(III)$
- C.  $0\alpha, \beta(I)$
- D.  $AB(IV)$
- E. -

97. After the second abortion a 23-year-old woman has been diagnosed with toxoplasmosis. Which drug should be used for toxoplasmosis treatment?

- A. Co-trimoxazole
- B. Itraconazole
- C. Mebendazole
- D. Azidothimidine
- E. Acyclovir

98. After 4 months of treatment for tuberculosis the patient began complaining of toes and fingers numbness, sensation of creeps. He was diagnosed with polyneuritis. What antituberculous drug might have caused these complications?

- A. Isoniazid
- B. Rifampicin
- C. Ciprofloxacin
- D. Sodium salt of benzylpenicillin
- E. Alcohol iodine solution

99. As a result of a trauma a patient has developed traumatic shock. The patient is fussy, talkative, pale. AP- 140/90 mm Hg, Ps- 120 bpm. This condition is consistent with the following shock phase:

- A. Erectile
- B. Latent
- C. Terminal
- D. Torpid
- E. -

100. According to the phenotypic diagnosis a female patient has been provisionally diagnosed with X-chromosome polysomia. This diagnosis can be confirmed by a cytogenetic method. What karyotype will allow to confirm the diagnosis?

- A. 47(XXX)
- B. 48(XXXY)
- C. 48(XXYY)
- D. 47(XXY)
- E. 46(XX)

101. As a result of a chest trauma the costal cartilage was damaged. The cartilage regenerates due to the following layer of perichondrium:

- A. Chondrogenic
- B. Fibrous
- C. Elastic
- D. Collagen
- E. Sharpey's fibers

102. There is a strict time limit for people to stay at a height of 8000 m above sea level without oxygen cylinders. Specify the life-limiting factor in this case:

- A. Partial pressure of oxygen in air
- B. Rate of ultraviolet radiation
- C. Humidity rate
- D. Temperature
- E. Earth gravity

103. A woman consulted an otolaryngologist about an olfactory disorder. Examination revealed atrophic alterations of regio olfactoria of the nasal cavity mucosa. Where is it located?

- A. In the region of superior nasal meatus
- B. In the region of median nasal meatus
- C. In the region of inferior nasal meatus
- D. In the region of common nasal meatus
- E. -

104. A patient with evident pneumosclerosis that developed after infiltrative pulmonary tuberculosis presents with respiratory failure. What is its pathogenetic type?

- A. Restrictive
- B. Obstructive
- C. Disregulative
- D. Reflectory
- E. Apneustic

105. Microscopic study of an endocrine gland revealed that its parenchyma consisted of follicular structures. Their wall was formed by monolayer cubic epithelium, and their cavity was filled up with oxyphilic substance. What hormon is secreted by this gland?

- A. Thyroxin
- B. Aldosterone
- C. Cortisol
- D. Parathyrin
- E. Oxytocin

106. A patient has been diagnosed with acute glomerulonephritis that developed after he had had streptococcal infection. It is most likely that the affection of basal glomerular membrane is caused by an allergic reaction of the following type:

- A. Immune complex
- B. Anaphylactic
- C. Cytotoxic
- D. Delayed
- E. Stimulating

**107.** A sportsman needs to improve his sporting results. He was recommended a drug containing carnitine. What process is activated by this compound in the first place?

- A. Transport of fatty acids
- B. Transport of amino acids
- C. Transport of calcium ions
- D. Transport of glucose
- E. Transport of vitamin K

**108.** An embryo has signs of disturbed process of dorsal mesoderm segmentation and somite generation. What part of skin is most likely to have developmental abnormalities?

- A. Derma
- B. Hair
- C. Sebaceous glands
- D. Epidermis
- E. Sudoriferous glands

**109.** An elderly patient has chronic constipations induced by large intestine hypotonia. What drug should be administered?

- A. Bisacodyl
- B. Sodium sulphate
- C. Castor oil
- D. Atropine
- E. Novocaine amide

**110.** Morphological examination of an amputated gangrenous extremity revealed that the lumen of femoral artery was constricted due to stony, partly ulcerated plaques with obturating thrombi. What is the most likely diagnosis?

- A. Atherosclerosis
- B. Obliterating endarteriitis
- C. Non-specific aortoarteriitis
- D. Obliterating thromboangiitis
- E. Nodular periarteritis

**111.** Examination of patients with periodontitis revealed the interdependence between the rate of affection of periodontal tissues and the amount of lysozymes in saliva and gingival liquid. These results can be obtained during studying the following protection system of an organism:

- A. Non-specific resistance
- B. Humoral immunity
- C. Cellular immunity
- D. Autoresponsiveness
- E. Tolerance

**112.** Specific prophylaxis involved application of a vaccine containing microorganisms and exotoxin detoxicated by formalin. It relates to the following type of vaccine:

- A. Combined
- B. Genetically engineered
- C. Anatoxin
- D. Chemical
- E. Live

**113.** A 30-year-old driver complains of allergic rhinitis that usually exacerbates in spring. He has been administered an antihistamine drug with a slight sedative effect and 24-hour period of action. Which of the listed drugs has been administered?

- A. Loratadine
- B. Dimedrol
- C. Heparin
- D. Vicasol
- E. Oxytocin

**114.** A patient consulted an otolaryngologist about voice changes. Examination revealed a tumour within the posterior part of rima vocalis. This part is located between the following cartilages of larynx:

- A. *Cartilago arytenoidea*
- B. *Cartilago cricoidea*
- C. *Cartilago thyroidea*
- D. *Cartilago corniculata*
- E. *Cartilago cuneiformis*

**115.** After restoration of blood circulation in damaged tissue accumulation of lactate comes to a stop and speed of glucose consumption slows down. These metabolic changes are caused by activation of the following process:

- A. Aerobic glycolysis
- B. Anaerobic glycolysis
- C. Lipolysis
- D. Gluconeogenesis
- E. Glycogen biosynthesis

**116.** A patient with epilepsy and depressive reaction has been administered a drug that reduced epilepsy manifestations and improved the patient's psychic condition.

- A. Sodium valproate
- B. Ethosuxemide
- C. Amitriptyline
- D. Phenytoin
- E. Phenobarbital

**117.** To prevent possible negative effect upon the gastric mucus a patient with rheumatoid arthritis was administered a nonsteroid anti-inflammatory drug - a COX-2 selective inhibitor. Specify this drug:

- A. Celecoxib
- B. Analgin
- C. Acetylsalicylic acid
- D. Butadion
- E. Ibuprofen

**118.** As a result of dysfunction of protein synthesis in liver a patient with hepatic insufficiency has disturbed synthesis of procoagulants, prothrombin, fibrinogen. Which of the listed syndromes can be expected in this patient?

- A. Haemorrhagic
- B. Portal haemorrhagic syndrome
- C. Hepatolienal syndrome
- D. Acholia syndrome
- E. Cholaemia syndrome

**119.** A patient suffering from non-insulin-dependent diabetes mellitus was prescribed glibenclamide internally. What is the mechanism of its hypoglycemic action?

- A. It stimulates generation of endogenous insulin by beta cells
- B. It inhibits gluconeogenesis in liver
- C. It intensifies utilization of glucose by peripheral tissues
- D. It inhibits glucose absorption in the bowels
- E. It inhibits alpha glucosidase and polysaccharide breakdown

**120.** A man got poisoned with mushrooms. They contain muscarine that stimulates muscarinic cholinoreceptors. What symptom is typical for poisoning with inedible mushrooms?

- A. Miosis
- B. Mydriasis
- C. Bronchi dilation
- D. Heart rate rise
- E. Arterial pressure rise

**121.** A 45-year-old woman has been diagnosed with endemic goiter. What mechanism has caused hyperplasia of thyroid gland in this patient?

- A. Increased thyrotropin production
- B. Increased thyroxine production
- C. Increased iodine absorption
- D. Increased hydration of derma and hypodermic cellulose
- E. Increased catecholamine production

**122.** On examination a male patient was diagnosed with acute radiation disease. Laboratory examination revealed abrupt decrease in serotonin found in blood platelets. A likely cause of decrease in serotonin concentration would be metabolic imbalance of the following substance:

- A. 5-oxytryptophane
- B. Tyrosine
- C. Histidine
- D. Phenyl alanine
- E. Serine

**123.** A 39-year-old man who had been operated for the stomach ulcer died 7 days after the surgery. Autopsy revealed that peritoneal leaves were dull, plephoric, covered with massive yellow-greenish films, the peritoneal cavity contained for about 300 ml of thick yellow-greenish liquid. What pathologic process was revealed in the peritoneal cavity?

- A. Fibrinous suppurative peritonitis
- B. Serous peritonitis
- C. Fibrinous serous peritonitis
- D. Peritoneal commissures
- E. Fibrinous haemorrhagic peritonitis

**124.** A patient was delivered to a hospital after having been exposed to ionizing radiation. He presents with vomiting, anorexia, pain in different region of abdomen, bloody feces, elevation of body temperature, inertness. Such clinical presentations are typical for the following form of acute radiation disease:

- A. Intestinal
- B. Bone-marrow
- C. Cerebral
- D. Combined
- E. Toxemic

**125.** A 60-year-old patient was found to have a dysfunction of main digestive enzyme of saliva. This causes the disturbance of primary hydrolysis of:

- A. Carbohydrates
- B. Fats
- C. Proteins
- D. Cellulose
- E. Lactose

**126.** For infection prevention a patient who underwent appendectomy was prescribed a cephalosporin antibiotic. Antimicrobial activity of these antibiotics is called forth by the disturbance of the following process:

- A. Microbial wall formation
- B. Nucleic acid synthesis
- C. Ribosomal protein synthesis
- D. Energy metabolism
- E. Cholinesterase block

**127.** A patient presented to a hospital with complaints about quick fatigability and significant muscle weakness. Examination revealed an autoimmune disease that causes functional disorder of receptors in the neuromuscular synapses. This will result in the disturbed activity of the following mediator:

- A. Acetylcholine
- B. Noradrenaline
- C. Dopamine
- D. Serotonin
- E. Glycine

**128.** Microscopic examination of a parenchymatous organ revealed that its epithelial cords formed glomerular, fascicular and reticular zones. The central part of the organ was presented by accumulations of chromaffin cells. Specify this organ:

- A. Adrenal gland
- B. Thyroid gland
- C. Epiphysis
- D. Liver
- E. Hypophysis

**129.** A child presents with body shortness, mental deficiency, mongoloid palpebral fissures, epicanthal fold, enlarged grooved tongue protruding from the mouth, high palate, malocclusion, diastema, cross striation of lips. What hereditary disease are these presentations typical for?

- A. Down syndrome
- B. Patau's syndrome
- C. Edwards' syndrome
- D. Turner's syndrome
- E. Klinefelter's syndrome

**130.** A patient has roundish ulcers on his face, inflammation and enlargement of

lymph nodes. These symptoms turned up as a result of mosquito bites. Laboratory examination of discharge from the ulcers revealed unicellular aflagellar organisms. What is the most probable diagnosis?

- A. Dermatotropic leishmaniasis
- B. Toxoplasmosis
- C. Scabies
- D. Trypanosomiasis
- E. Myiasis

**131.** A 67-year-old patient underwent extraction of a tumour of the right parotid region. Macroscopical examination revealed a soft encapsulated node up to 35 cm in diameter, the tissue was whitish-grey and included many small cysts. Microscopical examination revealed that the duct structures of large diameter were lined with bilayer prismatic epithelium, they had eosinophilic cytoplasm, the duct lumens contained papillary structures, the stroma was infiltrated with lymphocytes, there were some solitary lymphoid follicles. Specify the kind of tumour:

- A. Adenolymphoma
- B. Pleomorphic adenoma
- C. Mucoepidermal tumour
- D. Monomorphic carcinoma
- E. Adenocystic carcinoma

**132.** A histological specimen shows terminal secretory parts of glands made by conic cells with basophilic cytoplasm and a roundish nucleus in the centre. Specify the type of terminal secretory parts by the type of secretion:

- A. Serous
- B. Sebaceous
- C. Combined
- D. Mucous
- E. Seromucous

**133.** An electron microphotograph of an enamel organ shows a prismatic cell with developed granular endoplasmatic reticulum and Golgi complex. The apical part of the cell has Tomes process containing secretory granules and small vesicles. Specify the cell:

- A. Secretory active ameloblast
- B. Pre-ameloblast
- C. External cell of an enamel organ
- D. Cell of enamel organ pulp
- E. Cell of intermediate layer of enamel organ

**134.** Harmful stimulations of tooth ti-

ssues resulted in formation of denticle structures along the peripheral zone of pulp. This phenomenon induces the following risk for the tooth:

- A. Loss of dentine regenerability
- B. Loss of pulp regenerability
- C. Loss of cement regenerability
- D. Loss of tooth innervation
- E. Loss of enamel regenerability

**135.** Autopsy of a 75-year-old patient who had been suffering from disseminated atherosclerosis and died under chronic cardiac failure revealed constriction and deformation of coronary arteries, tuberos intima whose section appeared to be white and petrosal. Specify the stage of atherosclerosis morphogenesis:

- A. Atherocalcinosis
- B. Lipoidosis
- C. Liposclerosis
- D. Bilipid
- E. Atheromatosis

**136.** Examination of a bronchial tissue sample revealed atrophy of mucous membrane, cystic degeneration of glands, focal metaplastic changes of lining prismatic epithelial cells into multilayer squamous cells; increase in goblet cell number; in some parts of bronchial wall and especially in the mucous membrane there was marked cellular inflammatory infiltration and growth of granulation tissue bulging into the bronchial lumen in form of a polyp. What is the most likely diagnosis?

- A. Chronic bronchitis
- B. Lobar pneumonia
- C. Acute bronchitis
- D. Bronchopneumonia
- E. Interstitial pneumonia

**137.** In the process of tooth tissue histogenesis dentin wasn't formed in time for some reasons. What process of further histogenesis will be delayed or will not take place at all?

- A. Enamel formation
- B. Pulp formation
- C. Predentinal space formation
- D. Cellular cement formation
- E. Acellular cement formation

**138.** Osteolaterism is characterized by a decrease in collagen strength caused by much less intensive formation of cross-links in collagen fibrils. This phenomenon is caused by the low activity of the followi-

ng enzyme:

- A. Lysyl oxidase
- B. Monoamino-oxidase
- C. Prolyl hydroxylase
- D. Lysyl hydroxylase
- E. Collagenase

**139.** A child with renal insufficiency exhibits delayed teeth eruption. This is most likely caused by the abnormal formation of the following substance:

- A. 1,25 (OH)<sub>2</sub>D<sub>3</sub>
- B. Glycocyamine
- C. Glutamate
- D. α-ketoglutarate
- E. Hydroxylysine

**140.** A histological specimen of ovary cortex shows a follicle with a large cavity. The first-order ovocyte is located in the region of cumulus oophorus, it is surrounded by transparent zone and radiate crown. Specify the type of follicle:

- A. Tertiary
- B. Secondary
- C. Primary
- D. Atertiary
- E. Primordial

**141.** A histological specimen of kidney shows a structure consisting of a glomerulus of fenestrated capillaries and a bilayer epithelial capsule. Specify this structure:

- A. Renal corpuscle
- B. Proximal tubule
- C. Distal tubule
- D. Henle's loop
- E. Receiving tube

**142.** A 12-year-old child presents with intolerance to some foodstuffs. Their consumption causes an allergic reaction in form of itching skin eruption. What antihistaminic drug should be administered that won't have any negative impact on the child's school studies (with no sleepiness effect)?

- A. Loratadine
- B. Dimedrol
- C. Sodium diclofenac
- D. Aminophylline
- E. Mesatonum

**143.** In the second week of being ill with viral hepatitis a patient presented with sleep disorder, headache, aggressiveness, unbearable skin itch. Objectively: AP

drop, decrease in blood coagulation and reflectory activity, bradycardia. What is the cause of these changes?

- A. Cholemia
- B. Hyperlipemia
- C. Urobilinemia
- D. Hypercholesterolemia
- E. Stercobilinemia

144. As a result of a road accident a 26-year-old man is in the torpid phase of shock. Blood count: leukocytes -  $3,2 \cdot 10^9/l$ . What is the leading mechanism of leukopenia development?

- A. Leukocyte redistribution in the bloodstream
- B. Leukopoiesis inhibition
- C. Faulty release of mature leukocytes from the bone marrow into the blood
- D. Leukocyte destruction in the hematopoietic organs
- E. Increased excretion of the leukocytes from the organism

145. A 5-month-old boy was hospitalized for tonic convulsions. He has a lifetime history of this disease. Examination revealed coarse hair, thinned and fragile nails, pale and dry skin. In blood: calcium - 1,5 millimole/l, phosphor - 1,9 millimole/l. These changes are associated with:

- A. Hypoparathyroidism
- B. Hyperparathyroidism
- C. Hyperaldosteronism
- D. Hypoaldosteronism
- E. Hypothyroidism

146. A 46-year-old female patient needs a surgery in the maxillofacial region. It is known that the patient is disposed to increased hemocoagulation. What natural anticoagulant can be used in order to prevent thrombosis?

- A. Heparin
- B. Hirudin
- C. Sodium citrate
- D. Fibrinolysin
- E. None of the listed drugs

147. A sample taken from the pharynx of a patient with angina was inoculated on the blood-tellurite agar. This resulted in growth of grey, radially striated (in form of rosettes) colonies up to 4-5 mm in diameter. Microscopically there can be seen gram-positive rods with club-shaped ends arranged in form of spread fingers. What microorganisms are these?

- A. *Corynebacteria diphtheriae*
- B. *Clostridium botulinum*
- C. Diphtheroids
- D. Streptococci
- E. Streptobacilli

148. Cytogenetic examination of a patient with dysfunction of the reproductive system revealed normal karyotype 46,XY in some cells, but most cells have Klinefelter's syndrome karyotype - 47,XXY. Such phenomenon of cell inhomogeneity is called:

- A. Mosaicism
- B. Inversion
- C. Transposition
- D. Duplication
- E. Heterogeneity

149. An oncological patient had been administered methotrexate. With time target cells of the tumour lost sensitivity to this drug. At the same time the change in gene expression of the following enzyme is observed:

- A. Dehydropholate reductase
- B. Thiaminase
- C. Deaminase
- D. Pholate oxidase
- E. Pholate decarboxylase

150. Autopsy revealed that the upper lobe of the right lung was enlarged, grey, airless; surface of incision was dripping with turbid liquid; pleura had a lot of fibrinous plicae. Microscopical examination of alveoles revealed exudate containing neutrophils, desquamated alveolocytocytes and fibrin fibres. Bronchus wall was intact. What is the most probable diagnosis?

- A. Croupous pneumonia
- B. Interstitial pneumonia
- C. Pulmonary abscess
- D. Focal pneumonia
- E. Influenzal pneumonia

151. A patient underwent the extraction of his isuperior medial incisor. It is supplied with blood by the branches of the following artery:

- A. *A.infraorbitalis*
- B. *A.buccalis*
- C. *A.palatina descendens*
- D. *A.sphenopalatina*
- E. *A.alveolaris inferior*

152. A 35-year-old patient with chronic periodontitis underwent excision of a cyst 3 cm in diameter found at a root of



the 15th tooth. Histological examination revealed that it had thin wall formed by mature connective tissue infiltrated by lymphocytes and plasmatic cells. Its internal surface was lined with multi-layer pavement epithelium with no signs of keratinization; the cavity contained serous exudate. What is the most likely diagnosis?

- A. Radicular cyst
- B. Follicular cyst
- C. Primordial cyst
- D. Cherubism
- E. Follicular ameloblastoma

**153.** Histological examination of myocardium of a 47-year-old patient with rheumatic heart disease (section material) revealed some big visually empty vacuoles within the cardiomyocytes. They turn black when stained with osmic acid, and yellow-red when stained with sudan III. What pathological process is it?

- A. Adipose degeneration
- B. Hyaline drop degeneration
- C. Hydropic degeneration
- D. Carbohydrate degeneration
- E. Dysproteinosis

**154.** A patient consulted a dentist about itching and burning in the oral cavity; high temperature. The patient was diagnosed with trichomonal gingivostomatitis. What drug should be chosen for his treatment?

- A. Metronidazole
- B. Ampicillin
- C. Doxycycline hydrochloride
- D. Gentamicin sulfate
- E. Nystatin

**155.** Examination of a patient revealed that dental hypoplasia was caused by hypovitaminosis of vitamins A and D. These vitamins were administered perorally but they didn't have any medicinal effect. What is the probable cause of disturbed vitamin assimilation?

- A. Bile acid deficiency
- B. Hypochlorhydria
- C. Hyperchlorhydria
- D. Achylia
- E. Achlorhydria

**156.** A 20-year-old patient has multiple yellow-brown and black erosions of tooth enamel. The teeth crumble and break, some of them are decayed. Make a diagnosis:

- A. Fluorosis
- B. Deep caries
- C. Teeth erosion
- D. Acidic necrosis of teeth
- E. -

**157.** A patient suffering from stomatitis was prescribed oral rinsing. Which anti-septic from the oxidant group is the most suitable for this purpose?

- A. Potassium permanganate
- B. Boric acid
- C. Alcoholic iodine solution
- D. Ethyl alcohol
- E. Chloramine

**158.** In the course of evolution there appeared molecular mechanisms for correction of damaged DNA molecules. This process is called:

- A. Reparation
- B. Transcription
- C. Translation
- D. Replication
- E. Processing

**159.** When water affects mucous membrane of the inferior nasal meatuses, this causes "diver reflex" that provokes:

- A. Reflectory apnea
- B. Reflectory dyspnea
- C. Reflectory hyperpnea
- D. Cough
- E. Bronchospasm

**160.** A 42-year-old woman has been administered propranolol for the ischemic heart disease. Yet she has been found to have a disease in case of which the use of propranolol is contra-indicated. What disease is it?

- A. Bronchial asthma
- B. Cholecystitis
- C. Arterial hypertension
- D. Duodenal ulcer
- E. Myasthenia

**161.** Deficiency of linoleic and linolenic acids in an organism induces skin damages, hair loss, slow wound healing, thrombocytopenia, low resistance to infectious diseases. These symptoms are most likely to be caused by the disturbed synthesis of the following substances:

- A. Eicosanoids
- B. Interleukins
- C. Interferons
- D. Catecholamines
- E. Corticosteroids

**162.** A man got into ice-cold water and died soon as a result of abrupt exposure to cold. In such cases an organism loses heat most intensively by the way of:

- A. Heat conduction
- B. Radiation
- C. Convection
- D. Heat conduction and radiation
- E. -

**163.** A woman had taken synthetic hormones during her pregnancy. Her newborn girl presents with excessive hairiness which has formal resemblance to adrenogenital syndrome. This sign of variability is called:

- A. Phenocopy
- B. Mutation
- C. Recombination
- D. Heterosis
- E. Replication

**164.** Microelectrode technique allowed to register a potential following "all-or-none" law and being able of undecremental spreading. Specify this potential:

- A. Action potential
- B. Excitatory postsynaptic potential
- C. Rest potential
- D. Inhibitory postsynaptic potential
- E. Receptor potential

**165.** A patient has been diagnosed with transmural myocardial infarction. What drug should be given in order to prevent cardiogenic shock?

- A. Promedol
- B. Reserpin
- C. Octadine
- D. Phentolamine
- E. Analgin

**166.** A woman with A (II), Rh-negative blood had a child with B (III), Rh-positive blood. The child was diagnosed with congenital anaemia of newborns. What is the most likely cause of its development?

- A. Rhesus incompatibility
- B. Hereditary chromosomal pathology
- C. AB0-incompatibility
- D. Intrauterine intoxication
- E. Intrauterine infection

**167.** Skin of patients with pigment xeroderma is very sensitive to the sun radiation, there is a risk of skin cancer development. The reason for this is hereditary deficiency of UF-endonuclease. As a result of this defect the following process is disturbed:

- A. DNA reparation
- B. Transcription
- C. DNA replication
- D. Translation
- E. Initiation

**168.** After a surgery on thyroid gland a patient complains of hoarse voice. What nerve has been damaged during the surgery?

- A. *N. laryngeus recurrens*
- B. *N. laryngeus superior*
- C. *N. glossopharyngeus*
- D. *N. hypoglossus*
- E. *N. accessorius*

**169.** A group of students who were climbing up a mountain presented with euphoria, tachypnea, tachycardia. Specify the immediate reason for hypocapnia accompanying mountain sickness:

- A. Increase in respiration rate and depth
- B. Decrease in respiration depth
- C. Erythrocytosis
- D. Anaemia
- E. Increase in heart rate

**170.** Examination of a patient revealed II grade obesity. It is known that he consumes a lot of sweets and rich food, has sedentary way of life. That's why anabolic metabolism has the priority in his organism. Which of the following pathways is amphibolic?

- A. Cycle of tricarboxylic acids
- B. Glyconeogenesis
- C. Lipolysis
- D. Glycolysis
- E. Fatty acids oxidation

**171.** A few days before an operation a patient should be administered vitamin K or its synthetic analogue Vicasol. Vitamin K takes part in the following post-translational modification of the II, VII, IX, X blood clotting factors:

- A. Carboxylation
- B. Decarboxylation
- C. Deamination
- D. Transamination
- E. Glycosylation

172. A patient who abuses smoking has chronic bronchitis. Biopsy of his primary bronchus revealed multilayer pavement epithelium. What pathological process was revealed in the bronchus?

- A. Metaplasia
- B. Physiological regeneration
- C. Reparative regeneration
- D. Hyperplasia
- E. Dysplasia

173. A 67-year-old patient complains of periodic heart ache, dyspnea during light physical activities. ECG reveals extraordinary contractions of heart ventricles. Such arrhythmia is called:

- A. Extrasystole
- B. Bradycardia
- C. Tachycardia
- D. Flutter
- E. Fibrillation

174. A patient with ischemic heart disease has been administered an anti-anginal drug that reduces the myocardial oxygen consumption and improves blood supply of myocardium. What drug is it?

- A. Nitroglycerine
- B. Validol
- C. Propranolol
- D. Promedol
- E. Retabolil

175. There was a record of some anthrax cases among animals in a countryside. The spread of disease can be prevented by means of immunization. What kind of vaccine should be used?

- A. STI live vaccine
- B. BCG vaccine
- C. Salk vaccine
- D. Sabin's vaccine
- E. Diphtheria and tetanus toxoids and pertussis vaccine

176. An infectious disease unit admitted a patient with signs of jaundice caused by hepatitis virus. Select an indicator that is specific only for parenchymatous jaundice:

- A. Increase in ALT and AST rate
- B. Hyperbilirubinemia
- C. Bilirubinuria
- D. Cholaemia
- E. Urobilinuria

177. A patient presents with dysfunction of cerebral cortex accompanied by epileptic seizures. He has been administered a biogenic amine synthesized from glutamate and responsible for central inhibition. What substance is it?

- A. Gamma-amino butyric acid
- B. Serotonin
- C. Dopamine
- D. Acetylcholine
- E. Histamine

178. Toxic affection of liver results in dysfunction of protein synthesis. It is usually accompanied by the following kind of dysproteinemia:

- A. Absolute hypoproteinemia
- B. Relative hypoproteinemia
- C. Absolute hyperproteinemia
- D. Relative hyperproteinemia
- E. Paraproteinemia

179. Examination of duodenal contents revealed some pyriform protozoa with twin nuclei and four pairs of flagella. There were two supporting filaments between the nuclei and a suckorial disc on the ventral side. What representative of protozoa was revealed in this patient?

- A. Lamblia
- B. Toxoplasma
- C. Leishmania
- D. Intestinal trichomonad
- E. Trypanosome

180. A patient complains of difficulty in closing of jaws during chewing. He has been found to have atrophy of masticatory muscles. This indicates the dysfunction of the following nerve:

- A. *N. trigeminus*
- B. *N. glossopharyngeus*
- C. *N. facialis*
- D. *N. vagus*
- E. *N. ophthalmicus*

181. A 30-year-old comatous patient with type I diabetes mellitus had been admitted to a hospital. Laboratory tests revealed hyperglycemia, ketonemia. Which of the following metabolic disorders might be found in this patient?

- A. Metabolic acidosis
- B. Metabolic alkalosis
- C. Respiratory acidosis
- D. Respiratory alkalosis
- E. Normal acid-base state

**182.** In order to prevent wound infection associated with surgical procedures a patient was given a synthetic antiprotozoan drug with a high activity against *Helicobacter pylori*. Specify this drug:

- A. Metronidazole
- B. Doxycycline hydrochloride
- C. Chingamin
- D. Acyclovir
- E. Isoniazid

**183.** In order to prevent massive haemorrhage in the region of oral cavity floor it is required to ligate an artery which is located within Pirogov's triangle. What artery is it?

- A. Lingual artery
- B. Superior thyroid artery
- C. Facial artery
- D. Ascending pharyngeal artery
- E. Maxillary artery

**184.** A shepherd who has tended sheep together with dogs consulted a doctor about pain in his right subcostal area, nausea, vomiting. Roentgenoscopy revealed a tumour-like formation. What kind of helminthiasis might be suspected?

- A. Echinococcosis
- B. Ascariasis
- C. Enterobiasis
- D. Taeniarhynchosis
- E. Taeniasis

**185.** Roentgenologically confirmed obstruction of common bile duct resulted in preventing bile from inflowing to the duodenum. What process is likely to be disturbed?

- A. Fat emulgation
- B. Protein absorption
- C. Carbohydrate hydrolysis
- D. Hydrochloric acid secretion in stomach
- E. Salivation inhibition

**186.** For relief of hypertensive crisis a doctor administered a patient a drug that apart from antihypertensive effect has also sedative, spasmolytic and anti-convulsive effect. The drug was taken parenterally. When it is taken enterally it acts as a laxative and cholagogue. What drug was administered?

- A. Magnesium sulfate
- B. Dibasolum
- C. Reserpine
- D. No-spa
- E. Apressin

**187.** A patient with chronic bronchitis has been administered an expectorant that disintegrates disulphide bonds of sputum glycosaminoglycan thus reducing its viscosity. The patient has been also warned about possible bronchospasm. What drug has been administered?

- A. Acetylcysteine
- B. Libxine
- C. Bromhexine
- D. Thermopsis herb
- E. Sodium hydrocarbonate

**188.** A patient with diabetes mellitus complicated by angiopathy has been recommended a drug which is a sulphonyl urease derivate of the second generation. It improves microcirculation and is known for its relatively good tolerance. What drug is it?

- A. Glibenclamide
- B. Glibutidum
- C. Insulin
- D. Acarbose
- E. Adrenalin

**189.** A patient in grave condition has been delivered to the admission ward. Examination revealed pupil mydriasis, no reaction to the light, considerable reddening and dryness of skin and mucous membranes. What drug might have caused the intoxication symptoms?

- A. Atropine sulphate
- B. Proserin
- C. Adrenalin hydrochloride
- D. Pilocarpine hydrochloride
- E. Dithylinum

**190.** A cell of granular endoplasmatic reticulum is at the stage of translation, when mRNA advances to the ribosomes. Amino acids get bound by peptide bonds in a certain sequence thus causing polypeptide biosynthesis. The sequence of amino acids in a polypeptide corresponds with the sequence of:

- A. mRNA codons
- B. tRNA nucleotides
- C. tRNA anticodons
- D. rRNA nucleotides
- E. rRNA anticodons

**191.** A 26-year-old pregnant woman is under treatment at an in-patient hospital. After a continuous attack of vomiting she was found to have reduced volume of circulating blood. What kind of change in general blood volume is the case?

- A. Polycythemic hypovolemia
- B. Simple hypovolemia
- C. Oligocythemic hypovolemia
- D. Polycythemic hypervolemia
- E. Oligocythemic hypervolemia

**192.** A 32-year-old patient who lives in the countryside consulted a doctor about a painful swelling and a fistula in the submandibular region. Examination revealed an infiltration with a fistula discharging thick pus and containing white granules. On dissection the infiltration tissues turned out to be dense, yellow-green and had honeycomb structure because of multiple abscesses. What is the most likely diagnosis?

- A. Actinomycosis
- B. Tuberculosis
- C. Lepra
- D. Syphilis
- E. Submandibular abscess

**193.** A 45-year-old male died from disseminated tuberculosis. On autopsy the symptoms of tuberculosis were confirmed by both microscopical and histological analyses. All the affected organs had epithelioid cell granulomas with caseous necrosis in the centre. What kind of hypersensitivity reaction underlies the process of granuloma development?

- A. Delayed
- B. Antibody-dependent cytotoxicity
- C. Complement-dependent cytotoxicity
- D. Anaphylactic
- E. Immune complex

**194.** A patient with a fracture of mandibular angle has been admitted to a hospital. A haematoma in the region of the fracture usually results from the injury of the following artery:

- A. Inferior alveolar
- B. Lingual
- C. Facial
- D. Maxillary
- E. Internal carotid

**195.** Preventive examination of a 55-year-old patient revealed type II diabetes mellitus. An endocrinologist revealed an increase in body weight and liver

enlargement. The man is non-smoker and doesn't abuse alcohol but likes to have a good meal. Histological examination by means of diagnostic liver puncture revealed that the hepatocytes were enlarged mostly on the lobule periphery, their cytoplasm had transparent vacuoles showing positive reaction with sudan III. What liver pathology was revealed?

- A. Fatty hepatitis
- B. Acute viral hepatitis
- C. Chronic viral hepatitis
- D. Alcohol hepatitis
- E. Portal liver cirrhosis

**196.** An oral surgery unit admitted a woman with a phlegmon on the anterior surface of neck in the region of carotid triangle. What muscle demarcates the posterior wall of this triangle?

- A. Sternocleidomastoid
- B. Thyrohyoid
- C. Sternohyoid
- D. Omohyoid
- E. Sternothyroid

**197.** In order to fix dislocated mandible it is necessary to pull it down. What anatomic structure requires this action?

- A. Articulate tubercle of temporal bone
- B. Condylar process of mandible
- C. Mandibular fossa of temporal bone
- D. Mandibular incisure
- E. Coronal process of mandible

**198.** A worker of a cattle farm consulted a surgeon about fever up to 40°C, headache, weakness. Objective examination of his back revealed hyperaemia and a dark red infiltration up to 5 cm in diameter with black bottom in the centre and some pustules. What disease are these presentations typical for?

- A. Anthrax
- B. Plaque
- C. Tularemia
- D. Furuncle
- E. Abscess

**199.** After a car accident a patient has been diagnosed with a fracture of spine. He is unable to move his lower extremities. This form of motor disorder is called:

- A.** Paraplegia
- B.** Hemiplegia
- C.** Quadriplegia
- D.** Paresis
- E.** Paralysis

**200.** In course of an experiment researchers stimulate a branch of a sympathetic nerve that innervates heart.

What changes in cardiac activity should be registered?

- A.** Increase in heart rate and heart force
- B.** Decrease in heart force
- C.** Increase in heart rate
- D.** Increase in heart force
- E.** Increase in arterial pressure