

1. A patient had to go through an operation. Doctors introduced him diethylinim (listenone) and performed intubation. After the end of operation and cessation of anesthesia the independent respiration wasn't restored. Which enzyme deficit prolongs the action of muscle relaxant?

- A. Pseudocholinesterase
- B. Succinate dehydrogenase
- C. Carbanhydrase
- D. *N*-acetyltransferase
- E. *K-Na*-adenosine triphosphatase

2. A patient is ill with diabetes mellitus that is accompanied by hyperglycemia of over 7,2 millimole/l on an empty stomach. The level of what blood plasma protein allows to estimate the glycemia rate retrospectively (4-8 weeks before examination)?

- A. Glycated hemoglobin
- B. Albumin
- C. Fibrinogen
- D. C-reactive protein
- E. Ceruloplasmin

3. A 60 y.o. patient has a reduced perception of high-frequency sounds. What structures' disorder of auditory analyzer caused these changes?

- A. Main membrane of cochlea near the oval window
- B. Main membrane of cochlea near helicotrema
- C. Eustachian tube
- D. Muscles of middle ear
- E. Tympanic membrane

4. A patient ill with diabetes mellitus felt acute pain in his right foot. Objectively: foot thumb is black, foot tissues are edematous, there are foci of epidermis desquamation, stinking discharges. What clinicopathological form of necrosis is it?

- A. Moist gangrene
- B. Bedsore
- C. Sequestrum
- D. Dry gangrene
- E. Infarction

5. A patient with a stab wound of the anterior stomach wall is in surgical care. What formation of abdominal cavity did the stomach contents get into?

- A. Antegastrial bursa
- B. Omental bursa
- C. Hepatic bursa
- D. Left mesenteric sinus
- E. Right mesenteric sinus

6. A 4 y.o. child with signs of durative proteinic starvation was admitted to the hospital. The signs were as follows: growth inhibition, anemia, edemata, mental deficiency. Choose a cause of edemata development:

- A. Reduced synthesis of albumins
- B. Reduced synthesis of globulins
- C. Reduced synthesis of hemoglobin
- D. Reduced synthesis of lipoproteins
- E. Reduced synthesis of glycoproteins

7. Autopsy of a patient who suffered from croupous pneumonia and died from pneumococcal sepsis revealed 900 ml of turbid greenish-yellow liquid in the right pleural cavity. Pleural leaves are dull, plephoric. Name the clinicopathological form of inflammation in the pleural cavity:

- A. Empyema
- B. Fibrinous inflammation
- C. Phlegmon
- D. Chronic abscess
- E. Acute abscess

8. Examination of a patient revealed reduced contents of magnesium ions that are necessary for attachment of ribosomes to the granular endoplasmatic reticulum. It is known that it causes disturbance of protein biosynthesis. What stage of protein biosynthesis will be disturbed?

- A. Translation
- B. Transcription
- C. Replication
- D. Aminoacid activation
- E. Termination

9. Analysis of blood serum of a patient revealed increase of alanine aminotransferase and aspartate aminotransferase level. What cytological changes can cause such a situation?

- A. Cellular breakdown
- B. Disturbed function of energy supply of cells
- C. Disorder of enzyme systems of cells
- D. Disturbance of genetic apparatus of cells
- E. Disturbance of cellular interrelations

10. Power inputs of a boy increased from 500 to 2000 kJ pro hour. What can be the

cause of it?

- A. Physical exercise
- B. Raise of outer temperature
- C. Mental activity
- D. Food intake
- E. Transition from sleep to wakefulness

11. A patient presents high activity of $LDH_{1,2}$, aspartate aminotransferase, creatine phosphokinase. In what organ (organs) is the development of a pathological process the most probable?

- A. In the heart muscle (initial stage of myocardium infarction)
- B. In skeletal muscles (dystrophy, atrophy)
- C. In kidneys and adrenals
- D. In connective tissue
- E. In liver and kidneys

12. According to the data of WHO, for about 250 mln of Earth population fall ill with malaria. This disease is mostly spread in tropical and subtropical regions. Range of its spread falls into the areal of the following mosquitoes:

- A. Anopheles
- B. Culex
- C. Aedes
- D. Mansonia
- E. Culiseta

13. Autopsy of a 58 y.o. man revealed that bicuspid valve was deformed, thickened and unclosed. Microscopically: foci of collagen fibrilla are eosinophilic, react positively to fibrin. The most probably it is:

- A. Fibrinoid swelling
- B. Fibrinous inflammation
- C. Muroid swelling
- D. Hyalinosis
- E. Amyloidosis

14. Labeled aminoacids alanine and tryptophane were introduced to a mouse in order to study localization of protein biosynthesis in its cells. Around what organelles will the accumulation of labeled aminoacids be observed?

- A. Ribosomes
- B. Agranular endoplasmic reticulum
- C. Cell centre
- D. Lysosomes
- E. Golgi apparatus

15. In some regions of South Africa there is a spread sickle-shaped cell anemia, in which erythrocytes have shape of a sickle

as a result of substitution of glutamin by valine in the hemoglobin molecule. What is the cause of this disease?

- A. Gene mutation
- B. Disturbance of mechanisms of genetic information realization
- C. Crossingover
- D. Genomic mutations
- E. Transduction

16. A patient died under conditions of cardiovascular insufficiency. Autopsy results: postinfarction cardiosclerosis, myocardium hypertrophy and dilatation of its cavities, especially of its right ventricle. Liver is enlarged, its surface is smooth, incision revealed that it was plethoric, with dark-red specks against the background of brownish tissue. Histologically: plethora of central parts of lobules; perithelial parts around portal tracts contain hepatocytes in a state of adipose degeneration. How are these liver changes called?

- A. Nutmeg liver
- B. Pseudonutmeg liver
- C. Amyloidosis
- D. Liver cirrhosis
- E. Liver steatosis

17. Autopsy of a man who died from chronic cardiovascular collapse revealed "tiger heart". Sideways of endocardium a yellowish-white banding can be seen; myocardium is dull, dark-yellow. What process caused this pathology?

- A. Fatty parenchymatous degeneration
- B. Carbohydrate degeneration
- C. Hyaline degeneration
- D. Fatty vascular-stromal degeneration
- E. Amyloidosis

18. In course of an experiment a skeletal muscle is being stimulated by a series of electric impulses. What type of muscle contraction will arise, if every subsequent impulse comes in the period of shortening of the previous single muscle contraction?

- A. Holotetanus
- B. Partial tetanus
- C. Asynchronous tetanus
- D. A series of single contractions
- E. Muscle contracture

19. Ammonia is a very toxic substance, especially for nervous system. What substance takes the most active part in ammonia detoxication in brain tissues?

- A. Glutamic acid
- B. Lysine
- C. Proline
- D. Histidine
- E. Alanine

20. A man was admitted to the hospital on the 5th day of disease that manifested itself by jaundice, muscle aching, chill, nose bleedings. In course of laboratory diagnostics a bacteriologist performed dark-field microscopy of the patient's blood drop. Name a causative agent of this disease:

- A. *Leptospira interrogans*
- B. *Borrelia dutlonii*
- C. *Calymmatobacterium granulomatis*
- D. *Bartonella bacilloformis*
- E. *Rickettsia mooseri*

21. A patient has a transverse disruption of spinal cord below the IV thoracic segment. What changes of respiration will it cause?

- A. Respiration will stay unchanged
- B. Respiration will stop
- C. Respiration will become less frequent
- D. Respiration will become deeper
- E. Respiration will become more frequent

22. 12 hours after an acute attack of retrosternal pain a patient presented a jump of aspartate aminotransferase activity in blood serum. What pathology is this deviation typical for?

- A. Myocardium infarction
- B. Viral hepatitis
- C. Collagenosis
- D. Diabetes mellitus
- E. Diabetes insipidus

23. A lightly dressed man is standing in a room, air temperature is $+14^{\circ}\text{C}$, windows and doors are closed. In what way does he emit heat the most actively?

- A. Heat radiation
- B. Heat conduction
- C. Convection
- D. Evaporation
- E. Perspiration

24. A 30 y.o. woman had been ill for a year when she felt pain in the area of joints for the first time, they got swollen and skin above them became reddened. Provisional diagnosis is rheumatoid arthritis. One of the most probable causes of this disease is a structure alteration of a connective tissue protein:

- A. Collagen
- B. Mucin
- C. Myosin
- D. Ovoalbumin
- E. Troponin

25. A patient with infectious mononucleosis has been taking glucocorticoids for two weeks. He was brought into remission, but he fell ill with acute attack of chronic tonsillitis. What action of glucocorticoids caused this complication?

- A. Immunosuppressive
- B. Anti-inflammatory
- C. Antishock
- D. Antiallergic
- E. Antitoxic

26. A peripheral segment of vagus nerve on a dog's neck was being stimulated in course of an experiment. The following changes of cardiac activity could be meanwhile observed:

- A. Heart rate fall
- B. Heart hurry
- C. Enhancement of atrioventricular conduction
- D. Heart rate and heart force amplification
- E. Increased excitability of myocardium

27. As a result of exhausting muscular work a worker has largely reduced buffer capacity of blood. What acidic substance that came to blood caused this phenomenon?

- A. Lactate
- B. Pyruvate
- C. 1,3-bisphosphoglycerate
- D. 3-phosphoglycerate
- E. -

28. A patient was delivered to the hospital by an emergency team. Objectively: grave condition, unconscious, adynamy. Cutaneous surfaces are dry, eyes are sunken, face is cyanotic. There is tachycardia and smell of acetone from the mouth. Analysis results: blood glucose - 20,1 micromole/l (standard is 3,3-5,5 micromole/l), urine glucose - 3,5% (standard is - 0). What is the most probable diagnosis?

- A. Hyperglycemic coma
- B. Hypoglycemic coma
- C. Acute heart failure
- D. Acute alcoholic intoxication
- E. Anaphylactic shock

29. A 62 y.o. woman complains of frequent pains in the area of her chest and backbone, rib fractures. A doctor assumed myelomatosis (plasmocytoma). What of the following laboratory characteristics will be of the greatest diagnostical importance?

- A.** Paraproteinemia
- B.** Hyperalbuminemia
- C.** Proteinuria
- D.** Hypoglobulinemia
- E.** Hypoproteinemia

30. Nappies of a newborn have dark spots that witness of formation of homogentisic acid. Metabolic imbalance of which substance is it connected with?

- A.** Thyrosine
- B.** Galactose
- C.** Methionine
- D.** Cholesterine
- E.** Tryptophane

31. Having helped to eliminate consequences of a failure at a nuclear power plant, a worker got an irradiation doze of 500 roentgen. He complains of headache, nausea, dizziness. What changes in leukocytes quantity can be expected 10 hours after irradiation?

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

32. A 12 y.o. boy who suffers from bronchial asthma has an acute attack of asthma: evident expiratory dyspnea, skin pallor. What type of alveolar ventilation disturbance is it?

- A.** Obstructive
- B.** Restrictive
- C.** Thoracodiaphragmatic
- D.** Central
- E.** Neuromuscular

33. A woman who has been keeping to a clean-rice diet for a long time was diagnosed with polyneuritis (beriberi). What vitamin deficit results in development of this disease?

- A.** Thiamine
- B.** Ascorbic acid
- C.** Pyridoxine
- D.** Folic acid
- E.** Riboflavin

34. Removal of gall bladder of a patient has disturbed processes of *Ca* absorption through the intestinal wall. What vitamin will stimulate this process?

- A.** D_3
- B.** *PP*
- C.** *C*
- D.** B_{12}
- E.** *K*

35. A hepatitis outbreak was registered in a settlement. This episode is connected with water factor. What hepatitis virus could have caused the infective outbreak in this settlement?

- A.** *E*
- B.** *C*
- C.** *D*
- D.** *G*
- E.** *B*

36. Examination of a 43 y.o. patient revealed that his stomach has difficulties with digestion of protein food. Gastric juice analysis revealed low acidity. Function of which gastric cells is disturbed in this case?

- A.** Parietal exocrinocytes
- B.** Main exocrinocytes
- C.** Mucous cells (mucocytes)
- D.** Endocrinous cells
- E.** Cervical mucocytes

37. A 16 y.o. boy from a countryside entered an educational establishment. Scheduled Mantoux test revealed that the boy had negative reaction. What are the most reasonable actions in this case?

- A.** To perform BCG vaccination
- B.** To repeat the reaction in a month
- C.** To perform serodiagnostics of tuberculosis
- D.** To isolate the boy temporarily from his mates
- E.** To perform rapid Price diagnostics

38. A patient complains of frequent diarrheas, especially after consumption of fattening food, and of body weight loss. Laboratory examination revealed steatorrhea; hypocholic feces. What can be the cause of this condition?

- A. Obturation of biliary tracts
- B. Mucous membrane inflammation of small intestine
- C. Lack of pancreatic lipase
- D. Lack of pancreatic phospholipase
- E. Unbalanced diet

39. A patient consulted a doctor about bowels dysfunction. The doctor established symptoms of duodenitis and enteritis. Laboratory examination helped to make the following diagnosis: lamblia. What medication should be administered?

- A. Metronidazole
- B. Erythromycin
- C. Monomycin
- D. Chingamin
- E. Tetracycline

40. A group of mountain climbers went through the blood analysis at the height of 3000 m. It revealed decrease of HCO_3 to 15 micromole/l (standard is 22-26 micromole/l). What is the mechanism of HCO_3 decrease?

- A. Hyperventilation
- B. Intensification of acidogenesis
- C. Hypoventilation
- D. Decrease of ammoniogenesis
- E. Decrease of bicarbonate reabsorption in kidneys

41. Introduction of a pharmaceutical substance to an experimental animal resulted in reduction of salivation, pupil mydriasis. Next intravenous introduction of acetylcholine didn't lead to any significant changes of heart rate. Name this substance:

- A. Atropine
- B. Adrenaline
- C. Propranolol
- D. Proserin
- E. Salbutamol

42. Continuous taking of a drug can result in osteoporosis, erosion of stomach mucous membrane, hypokalemia, retention of sodium and water, reduced content of corticotropin in blood. Name this drug:

- A. Prednisolone
- B. Hydrochlorothiazide
- C. Digoxin
- D. Indometacin
- E. Reserpine

43. A child is languid, apathetic. Liver is enlarged and liver biopsy revealed a

significant excess of glycogene. Glucose concentration in the blood stream is below normal. What is the cause of low glucose concentration?

- A. Low (absent) activity of glycogene phosphorylase in liver
- B. Low (absent) activity of hexokinase
- C. High activity of glycogen synthetase
- D. Low (absent) activity of glucose 6-phosphatase
- E. Deficit of a gene that is responsible for synthesis of glucose 1-phosphaturidine transferase

44. A 63 y.o. man with collapse symptoms was delivered to the emergency hospital. A doctor chose noradrenaline in order to prevent hypotension. What is the action mechanism of this medication?

- A. Activation of α_1 -adrenoreceptors
- B. Activation of serotonin receptors
- C. Activation of β -adrenoreceptors
- D. Activation of dopamine receptors
- E. Block of M-cholinoreceptors

45. From pharynx of a child with suspected diphtheria a pure culture of microorganisms was isolated. Their morphological, tinctorial, cultural and biochemical properties appeared to be typical for diphtheria causative agents. What study should be conducted in order to draw a conclusion that this is a pathogenic diphtheria bacillus?

- A. Estimation of toxigenic properties
- B. Estimation of proteolytic properties
- C. Estimation of urease activity
- D. Estimation of cystinuous activity
- E. Estimation of ability to decompose starch

46. Examination of a child revealed some whitish spots looking like coagulated milk on the mucous membrane of his cheeks and tongue. Analysis of smears revealed gram-positive oval yeast-like cells. What causative agents are they?

- A. Candida
- B. Staphylococci
- C. Diphtheria bacillus
- D. Actinomycetes
- E. Fusobacteria

47. A 35 y.o. patient who often consumes alcohol was treated with diuretics. There appeared serious muscle and heart weakness, vomiting, diarrhea, AP- 100/60 mm Hg, depression. This condition is caused by intensified excretion with uri-

ne of:

- A. Potassium
- B. Sodium
- C. Chlorine
- D. Calcium
- E. Phosphates

48. After intake of rich food a patient feels nausea and sluggishness; with time there appeared signs of steatorrhea. Blood cholesterol concentration is 9,2 micromole/l. This condition was caused by lack of:

- A. Bile acids
- B. Triglycerides
- C. Fatty acids
- D. Phospholipids
- E. Chylomicrons

49. Examination of a man who hadn't been consuming fats but had been getting enough carbohydrates and proteins for a long time revealed dermatitis, poor wound healing, vision impairment. What is the probable cause of metabolic disorder?

- A. Lack of linoleic acid, vitamins A, D, E, K
- B. Lack of palmitic acid
- C. Lack of vitamins PP, H
- D. Low caloric value of diet
- E. Lack of oleic acid

50. An experimental animal has been given excessive amount of carbon-labeled glucose for a week. What compound can the label be found in?

- A. Palmitic acid
- B. Methionine
- C. Vitamin A
- D. Choline
- E. Arachidonic acid

51. RNA that contains AIDS virus penetrated into a leukocyte and by means of reverse transcriptase forced a cell to synthesize a viral DNA. This process is based upon:

- A. Reverse transcription
- B. Operon repression
- C. Reverse translation
- D. Operon depression
- E. Convariant replication

52. Examination of a patient with frequent hemorrhages from internals and mucous membranes revealed proline and lysine being a part of collagen fibers. What vi-

tamin absence caused disturbance of their hydroxylation?

- A. Vitamin C
- B. Vitamin K
- C. Vitamin A
- D. Thiamine
- E. Vitamin E

53. A patient who suffers from pneumonia has high body temperature. What biologically active substance plays the leading part in origin of this phenomenon?

- A. Interleukin-I
- B. Histamine
- C. Bradykinin
- D. Serotonin
- E. Leukotrienes

54. A 27 y.o. patient put eye drops that contain penicillin. After a few minutes she felt itching and burning of her body, there appeared lip and eye-lid edemata; arterial pressure began to drop. What immunoglobulins took part in the development of this allergic reaction?

- A. IgE and IgG
- B. IgM and IgG
- C. IgA and IgM
- D. IgM and IgD
- E. IgG and IgD

55. A patient suffers from hepatic cirrhosis. Examination of which of the following substances excreted by urine can characterize the state of antitoxic function of liver?

- A. Hippuric acid
- B. Ammonium salts
- C. Kreatinine
- D. Uric acid
- E. Aminoacids

56. A 2 y.o. child has convulsions as a result of lowered concentration of calcium ions in blood plasma. It is caused by reduced function of:

- A. Parathyroid glands
- B. Hypophysis
- C. Adrenal cortex
- D. Pineal gland
- E. Thymus

57. Inflammation of a patient's eye was accompanied by accumulation of turbid liquid with high protein at the bottom of anterior chamber that was called hypopyon. What process underlies the changes under observation?

- A. Disturbance of microcirculation
- B. Primary alteration
- C. Secondary alteration
- D. Proliferation
- E. -

58. Heart rate of a man permanently equals 40 beats pro minute. What is the pacemaker?

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

59. A 48 y.o. patient was admitted to the hospital with complaints about weakness, irritability, sleep disturbance. Objectively: skin and scleras are yellow. In blood: conjugated bilirubin, cholemia. Feces are acholic. Urine is of dark colour (bilirubin). What jaundice is it?

- A. Mechanic
- B. Hemolytic
- C. Parenchymatous
- D. Gilbert's syndrome
- E. Crigler-Najjar syndrome

60. Bacteriological examination of a patient with food poisoning required inoculation of a pure culture of bacteria with the following properties: gram-negative movable bacillus that grows in the Endo's medium in form of colourless colonies. A representative of which species caused this disease?

- A. *Salmonella*
- B. *Shigella*
- C. *Iersinia*
- D. *Esherichia*
- E. *Citrobacter*

61. A patient was diagnosed with active focal pulmonary tuberculosis. What drug should be prescribed in the first place?

- A. Isoniazid
- B. Sulfalen
- C. Cyclocerine
- D. Ethionamide
- E. Ethoxide

62. Examination of a young man in the AIDS centre produced a positive result of immune-enzyme assay with HIV antigens. Patient's complaints about state of his health were absent. What can the positive result of immune-enzyme assay be evidence of?

- A. HIV infection
- B. Being ill with AIDS
- C. Being infected with HBV
- D. Having had AIDS recently
- E. HBV persistence

63. Parents of a 10 y.o. boy consulted a doctor about extension of hair-covering, growth of beard and moustache, low voice. Intensified secretion of which hormone must be assumed?

- A. Of testosterone
- B. Of somatotropin
- C. Of oestrogen
- D. Of progesterone
- E. Of cortisol

64. A patient who suffers from severe disorder of water-salt metabolism experienced cardiac arrest in diastole. What is the most probable mechanism of cardiac arrest in diastole?

- A. Hyperkalemia
- B. Hyponatremia
- C. Organism dehydration
- D. Hypokalemia
- E. Hyponatremia

65. Examination of coronary arteries revealed atherosclerotic calcific plaques that close vessel lumen by 1/3. The muscle has multiple whitish layers of connective tissue. What process was revealed in myocardium?

- A. Diffuse cardiosclerosis
- B. Tiger heart
- C. Postinfarction cardiosclerosis
- D. Myocarditis
- E. Myocardium infarction

66. Reaction of passive hemagglutination conducted with erythrocytic typhoid Vi-diagnosticum helped to reveal some antibodies in the dilution of the patient's serum at a ratio of 1:80 that exceeds the diagnostic titer. Such result witnesses of:

- A. Being a potential carrier of typhoid bacilli
- B. Being ill with acute typhoid fever
- C. Typhoid fever recurrence
- D. Incubation period of typhoid fever
- E. Convalescence of a patient ill with typhoid fever

67. A teenager was irradiated with high radiation dose that resulted in serious damages of lymphoid system, lysis of many lymphocytes. Restoration of normal

hemogram is possible due to the functioning of the following gland:

- A. Thymus
- B. Thyroid
- C. Liver
- D. Pancreas
- E. Adrenal

68. A man with cut wound of his right foot sole was admitted to the hospital ward. The patient has limited elevation of the lateral foot edge. In course of wound management the injury of a muscle tendon was revealed. What muscle is injured?

- A. Long peroneal
- B. Anterior tibial
- C. Long extensor muscle of toes
- D. Triceps muscle of crus
- E. Short peroneal

69. A patient who suffers from heart failure has enlarged liver, edemata of lower extremities, ascites. What is the leading mechanism in the development of this edema?

- A. Hydrodynamic
- B. Colloid osmotic
- C. Lymphogenous
- D. Membranogenic
- E. -

70. A 32 y.o. man is tall, he has gynecomastia, adult woman pattern of hair distribution, high voice, mental deficiency, sterility. Provisional diagnosis is Klinefelter's syndrome. In order to specify diagnosis it is necessary to analyze:

- A. Caryotype
- B. Leukogram
- C. Spermatogenesis
- D. Blood group
- E. Genealogy

71. Examination of a miner revealed pulmonary fibrosis accompanied by disturbance of alveolar ventilation. What is the main mechanism of this disturbance?

- A. Limitation of respiratory surface of lungs
- B. Constriction of superior respiratory tracts
- C. Disturbance of neural respiration control
- D. Limitation of breast mobility
- E. Bronchi spasm

72. A man took a quiet expiration. Name

an air volume that is meanwhile contained in his lungs:

- A. Functional residual capacity
- B. Residual volume
- C. Expiratory reserve volume
- D. Respiratory volume
- E. Vital lung capacity

73. Examination of an isolated cardiomyocyte revealed that it didn't generate excitation impulses automatically. This cardiomyocyte was obtained from:

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

74. Examination of a man established that cardiac output equaled 3500 ml, systolic output - 50 ml. What is the man's heart rate pro minute?

- A. 70
- B. 60
- C. 50
- D. 80
- E. 90

75. A man who went for a ride on a roundabout had amplification of heart rate, sweating and nausea. What receptors stimulation is it primarily connected with?

- A. Vestibular
- B. Proprioceptors
- C. Tactors
- D. Auditory
- E. Visual

76. In order to estimate toxigenity of diphtheria agents obtained from patients the cultures were inoculated on Petri dish with nutrient agar on either side of a filter paper strip that was put into the centre and moistened with antidiphtheric antitoxic serum. After incubation of inoculations in agar the strip-like areas of medium turbidity were found between separate cultures and the strip of filter paper. What immunological reaction was conducted?

- A. Precipitation gel reaction
- B. Coomb's test
- C. Agglutination reaction
- D. Rings precipitation reaction
- E. Opsonization reaction

77. A man's intrapleural pressure is being measured. In what phase did the man hold his breath, if his pressure is 7,5 cm Hg?

- A. Quiet inspiration
- B. Quiet expiration
- C. Forced inspiration
- D. Forced expiration
- E. -

78. A 49 y.o. woman consulted a doctor about heightened fatigue and dyspnea during physical activity. ECG: heart rate is 50/min, PQ is extended, QRS is unchanged, P wave quantity exceeds quantity of QRS complexes. What type of arrhythmia does the patient have?

- A. Atrioventricular block
- B. Extrasystole
- C. Sinus bradycardia
- D. Ciliary arhythmia
- E. Sinoatrial block

79. A patient with neuritis of femoral nerve has disturbed flexion of thigh as well as disturbed crus extension in the knee joint. What muscle's function is disturbed?

- A. Quadriceps muscle of thigh
- B. Biceps muscle of thigh
- C. Triceps muscle of thigh
- D. Semitendinous muscle
- E. Semimembranous muscle

80. Autopsy of a newborn boy revealed polydactylia, microcephalia, cheiloschisis and uranoschisis as well as hypertrophy of parenchymatous organs. These defects correspond with the description of Patau's syndrome. What is the most probable cause of this pathology?

- A. Trisomy of the 13th chromosome
- B. Trisomy of the 18th chromosome
- C. Trisomy of the 21st chromosome
- D. Nondisjunction of sex chromosomes
- E. Partial monosomy

81. An ovary specimen stained by hematoxylin-eosin presents a follicle, where cells of follicular epithelium are placed in 1-2 layers and have cubic form, there is a bright-red membrane around the ovocyte. What follicle is it?

- A. Primary
- B. Primordial
- C. Secondary
- D. Mature
- E. Atretic

82. A woman has been applying a new cosmetic preparation for a week that resulted in eye-lid inflammation accompanied by hyperemia, infiltration

and painfulness. What type of allergic reaction was developed?

- A. IV
- B. I
- C. II
- D. III
- E. V

83. Examination of a patient revealed extremely myotic pupils, sleepiness, infrequent Chain-Stoke's respiration, urinary retention, slowing-down of heart rate, enhancement of spinal reflexes. What substance caused the poisoning?

- A. Morphine
- B. Atropine
- C. Phosphacole
- D. Caffeine
- E. Barbitol

84. A patient is followed up in an endocrinological dispensary on account of hyperthyreosis. Weight loss, tachycardia, finger tremor are accompanied by hypoxia symptoms - headache, fatigue, eye flicker. What mechanism of thyroid hormones action underlies the development of hypoxia?

- A. Disjunction, oxydation and phosphorilation
- B. Inhibition of respiratory ferment synthesis
- C. Competitive inhibition of respiratory ferments
- D. Intensification of respiratory ferment synthesis
- E. Specific binding of active centres of respiratory ferments

85. A doctor administered a patient with allergic dermatitis a H_1 -histamine blocker as a part of complex treatment. Name this medication:

- A. Loratadine
- B. Cromolyn sodium
- C. Prednisolone
- D. Adrenaline
- E. Hydrocortisone

86. An injured man has bleeding from branches of carotid artery. For a temporary arrest of bleeding it is necessary to press the carotid artery to the tubercle of a cervical vertebra. Which vertebra is it?

- A. VI
- B. V
- C. IV
- D. III
- E. II

87. As a result of an accident a patient has intense painfulness and edema of the anterior crus surface; dorsal flexion of foot is hindered. Function of which crus muscle is most likely to be disturbed?

- A. *M.tibialis anterior*
- B. *M.flexor digitorum longus*
- C. *M.flexor hallucis longus*
- D. *M.peroneus longus*
- E. *M.peroneus brevis*

88. The first grade pupils were examined in order to sort out children for tuberculosis revaccination. What test was applied for this purpose?

- A. Mantoux test
- B. Schick test
- C. Supracutaneous tularin test
- D. Burnet test
- E. Anthraxine test

89. The permeability of the irritable cell membrane has been increased for potassium ions during an experiment. What changes of membrane electric status can occur?

- A. Hyperpolarization
- B. Depolarization
- C. Action potential
- D. Local response
- E. No changes

90. A patient with II stage hypertension has been taking one of hypotensive medications for the purpose of treatment. After a time arterial pressure decreased, but the patient started complaining of flaccidity, sleepiness, indifference. A bit later he felt stomach pain. He was diagnosed with ulcer. What hypotensive medication has the patient been taking?

- A. Reserpine
- B. Dibazole
- C. Furosemide
- D. Verapamil
- E. Captopril

91. 6 months after delivery a woman had uterine bleeding. Gynecological examination revealed in the uterine cavity a dark-red tissue with multiple cavities that resembled of "sponge". Microscopic examination of the tumour revealed some

atypic light epithelial Langhans cells and giant cells of syncytiotrophoblast in blood lacunas. What tumour is it?

- A. Chorioepithelioma
- B. Squamous cell nonkeratinous carcinoma
- C. Adenocarcinoma
- D. Fibromyoma
- E. Vesicular mole

92. A 40 y.o. patient complains of intensive heartbeats, sweating, nausea, vision impairment, arm tremor, hypertension. From his anamnesis: 2 years ago he was diagnosed with pheochromocytoma. Hyperproduction of what hormones causes the given pathology?

- A. Catecholamines
- B. Aldosterone
- C. Glucocorticoids
- D. ACTH
- E. Thyroid hormones

93. A 56 y.o. patient has been suffering from thyreotoxicosis for a long time. What type of hypoxia can be developed?

- A. Tissue
- B. Hemic
- C. Circulatory
- D. Respiratory
- E. Mixed

94. A sportsman was recommended to take a medication that contains carnitine in order to improve his results. What process is activated by carnitine the most?

- A. Fatty acids transport to mitochondrions
- B. Synthesis of steroid hormones
- C. Synthesis of ketone bodies
- D. Synthesis of lipids
- E. Tissue respiration

95. A patient has symptoms of inflammation of urogenital tracts. Examination of a vaginal smear revealed big monocellular, pear-shaped organisms with the pointed spike at the posterior end of body, big nucleus and undulating membrane. What protozoa were found in the smear?

- A. *Trichomonas vaginalis*
- B. *Trichomonas hominis*
- C. *Trichomonas buccalis*
- D. *Trypanosoma gambiense*
- E. *Lambliia intestinalis*

96. A patient has extrasystole. ECG shows no P wave, QRS complex is deformed, there is a full compensatory pause. What

extrasystoles are these?

- A. Ventricular
- B. Atrial
- C. Atrioventricular
- D. Sinus
- E. -

97. A patient who suffers from cancer of back of tongue has an intense bleeding as a result of affection of dorsal lingual artery by the tumour. What vessel should be ligated to stop bleeding?

- A. Lingual artery
- B. Dorsal lingual artery
- C. Deep lingual artery
- D. Facial artery
- E. Ascending pharyngeal artery

98. In course of an experiment a big number of stem cells of red bone marrow was in some way destructed. Regeneration of which cell populations in the loose connective tissue will be inhibited?

- A. Of macrophags
- B. Of fibroblasts
- C. Of pigment cells
- D. Of lipocytes
- E. Of pericytes

99. Histological examination of a 40 y.o. man's thymus revealed decreased share of parenchymatous gland elements, increased share of adipose and loose connective tissue, its enrichment with thymus bodies. The organ's mass was unchanged. What phenomenon is it?

- A. Age involution
- B. Accidental involution
- C. Hypotrophy
- D. Dystrophy
- E. Atrophy

100. Mucous membrane of the right palatine tonsil has a painless ulcer with smooth lacquer fundus and regular cartilagenous edges. Microscopically: inflammatory infiltration that consists of lymphocytes, plasmocytes, a small number of neutrophils and epithelioid cells; endovasculitis and perivasculitis. What disease is it?

- A. Syphilis
- B. Actinomycosis
- C. Tuberculosis
- D. Pharyngeal diphtheria
- E. Ulcerous necrotic Vincent's angina

101. Bacteriological laboratory examines

canned meat whether it contains botulinum toxin. For this purpose an extract of test specimen and antitoxic antitoxinic serum of A, B, E types were introduced to a group of mice under examination; a control group of mice got the extract without antitoxinic serum. What serological reaction was applied?

- A. Neutralization
- B. Precipitation
- C. Complement binding
- D. Opsono-phagocytic
- E. Double immune diffusion

102. To prevent postoperative bleeding a 6 y.o. child was administered vicasol that is a synthetic analogue of vitamin K. Name post-translational changes of blood coagulation factors that will be activated by vicasol:

- A. Carboxylation of glutamin acid
- B. Phosphorylation of serine radicals
- C. Partial proteolysis
- D. Polymerization
- E. Glycosylation

103. As a result of spinal-cord trauma a 33 y.o. man has a disturbed pain and temperature sensitivity that is caused by damage of the following tract:

- A. Spinothalamic
- B. Medial spinocortical
- C. Posterior spinocerebellar
- D. Lateral spinocortical
- E. Anterior spinocerebellar

104. For the preparation of a patient's burn skin surface a certain medication was used. Its antiseptic action is provided by free oxygen that segregates in presence of organic substances. Choose the right answer:

- A. Potassium permanganate
- B. Furacilin
- C. Chlorhexidine
- D. Boric acid
- E. Sodium bicarbonate

105. After a 2 y.o. child has had flu, there appeared complaints about ear ache. A doctor revealed hearing impairment and inflammation of the middle ear. How did the infection penetrate into the middle ear?

- A. Through the auditory tube
- B. Through *foramen jugularis*
- C. Through *canalis caroticus*
- D. Through *atrium mastoideum*
- E. Through *canalis nasolacrimalis*

106. A 50 y.o. patient with chronic cardiac insufficiency and tachyarrhythmia was prescribed a cardiotonic drug. What drug was prescribed?

- A. Digoxin
- B. Dopamine
- C. Dobutamine
- D. Amyodarone
- E. Mildronate

107. Microscopical examination of a removed appendix revealed an edema, diffuse neutrophilic infiltration of appendix wall along with necrosis and defect of mucous membrane with affection of its muscle plate. What appendicitis form was developed?

- A. Ulcerophlegmonous
- B. Phlegmonous
- C. Gangrenous
- D. Superficial
- E. Apostematous

108. A 39 y.o. woman went through an operation in course of which surgeons removed her uterine tube that was enlarged and a part of an ovary with a big cyst. Histological examination of a tube wall revealed decidual cells, chorion villi. What was the most probable diagnosis made after examination of the uterine tube?

- A. Tubal pregnancy
- B. Placental polyp
- C. Choriocarcinoma
- D. Papyraceous fetus
- E. Lithopedion

109. A 4 y.o. boy has had recently serious viral hepatitis. Now there are such clinical presentations as vomiting, loss of consciousness, convulsions. Blood analysis revealed hyperammonemia. Disturbance of which biochemical process caused such pathological condition of the patient?

- A. Disturbed neutralization of ammonia in liver
- B. Disturbed neutralization of biogenic amines
- C. Increased putrefaction of proteins in bowels
- D. Activation of aminoacid decarboxylation
- E. Inhibition of transamination enzymes

110. Examination of a patient revealed hyperkalemia and hyponatremia. Low secretion of which hormone may cause such changes?

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

111. In course of indirect histogenesis of tubular bone tissue a plate is formed between epiphyseal and diaphyseal ossification centres that provides further lengthwise growth of bones. What structure is it?

- A. Metaphyseal plate
- B. Osseous cuff
- C. Osseous plate
- D. Osteon
- E. Layer of interior general plates

112. A 40 y.o. woman was admitted to the infectious diseases department with high body temperature. Objectively: evident meningeal symptoms. A spinal cord puncture was made. What anatomic formation was punctured?

- A. *Spatium subarachnoideum*
- B. *Spatium subdurale*
- C. *Spatium epidurale*
- D. *Cavum trigeminale*
- E. *Cisterna cerebellomedullaris posterior*

113. After resection of the middle third of femoral artery obliterated by a thromb the lower extremity is supplied with blood due to the surgical bypass. Name an artery that plays the main role in reestablishment of blood flow:

- A. Deep femoral artery
- B. Superficial circumflex artery of hip bone
- C. Descending genicular artery
- D. Superficial epigastric artery
- E. Deep external pudendal artery

114. A patient's knee joint doesn't extend, there is no knee-jerk reflex, skin sensitivity of the anterior femoral surface

is disturbed. What nerve structures are damaged?

- A. Femoral nerve
- B. Superior gluteal nerve
- C. Big fibular nerve
- D. Obturator nerve
- E. Inferior gluteal nerve

115. An electron micrograph of a kidney fragment presents an afferent arteriole. Under its endothelium some big cells can be seen that contain secretory granules. What type of cells is it?

- A. Juxtaglomerular
- B. Mesangial
- C. Smooth muscle cells
- D. Juxtavascular
- E. Interstitial

116. For the purpose of retrospective diagnostics of recent bacterial dysentery it was decided to perform serological examination of blood serum in order to determine antibody titer towards Shiga bacilli. What of the following reactions should be applied?

- A. Passive hemagglutination
- B. Bordet-Gengou test
- C. Precipitation
- D. Hemolysis
- E. Bacteriolysis

117. Examination of a 43 y.o. anephric patient revealed anemia symptoms. What is the cause of these symptoms?

- A. Reduced synthesis of erythropoietins
- B. Enhanced destruction of erythrocytes
- C. Iron deficit
- D. Vitamin B_{12} deficit
- E. Folic acid deficit

118. A 50 y.o. patient was admitted to the hospital with complaints about pain behind his breastbone, asphyxia during physical activity. Angiography revealed pathological changes in the posterior interventricular branch of the right coronary artery. What heart parts are affected?

- A. Posterior wall of the right and left ventricles
- B. Left atrium
- C. Anterior wall of the right and left ventricles
- D. Right atrium
- E. Right atrioventricular valve

119. 48 hours after performing tuberculin

test (Mantoux test) to a child a 10 mm papule appeared on the spot of tuberculin introduction. What hypersensitivity mechanism underlies these changes?

- A. Cellular cytotoxicity
- B. Anaphylaxis
- C. Antibody-dependent cytotoxicity
- D. Immune complex cytotoxicity
- E. Granulomatosis

120. Examination of a newborn boy's genitals revealed a cleft of urethra that opens on the inferior surface of his penis. What developmental anomaly is it?

- A. Hypospadias
- B. Hermaphroditism
- C. Epispadias
- D. Monorchism
- E. Cryptorchism

121. A patient has a disturbed absorption of fat hydrolysates. It might have been caused by a deficit in the small intestine cavity:

- A. Of bile acids
- B. Of bile pigments
- C. Of lipolytic enzymes
- D. Of sodium ions
- E. Of liposoluble vitamins

122. Inhabitants of territories with cold climate have high content of an adaptive thermoregulatory hormone. What hormone is meant?

- A. Thyroxin
- B. Insulin
- C. Glucagon
- D. Somatotropin
- E. Cortisol

123. Violation of safety rules resulted in calomel intoxication. Two days later the daily diuresis was 620 ml. A patient experienced headache, vomiting, convulsions, dyspnea, moist rales in lungs. What pathology is it?

- A. Acute renal insufficiency
- B. Chronic renal insufficiency
- C. Uraemic coma
- D. Glomerulonephritis
- E. Pyelonephritis

124. A newborn child with pylorostenosis has often repeating vomiting accompanied by apathy, weakness, hypertonicity, sometimes convulsions. What disorder form of acid-base balance is it?

- A. Nongaseous alkalosis
- B. Gaseous alkalosis
- C. Gaseous acidosis
- D. Metabolic acidosis
- E. Excretory acidosis

125. Glutamate decarboxylation results in formation of inhibitory transmitter in CNS. Name it:

- A. GABA
- B. Glutathione
- C. Histamine
- D. Serotonin
- E. Asparagine

126. In course of histidine catabolism a biogenic amin is formed that has powerful vasodilatating effect. Name it:

- A. Histamine
- B. Serotonin
- C. Dioxyphenylalanine
- D. Noradrenalin
- E. Dopamine

127. Utilization of arachidonic acid via cyclooxygenase pathway results in formation of some bioactive substances. Name them:

- A. Prostaglandins
- B. Thyroxine
- C. Biogenic amins
- D. Somatomedins
- E. Insulin-like growth factors

128. As a result of damage to certain structures of brainstem an animal lost orientation reflexes. What structures were damaged?

- A. Quadritubercular bodies
- B. Medial nuclei of reticular formation
- C. Red nuclei
- D. Vestibular nuclei
- E. Black substance

129. Osmotic pressure of a man's blood plasma is 350 mosmole/l (standard pressure is 300 mosmole/l). First of all it will result in high secretion of the following hormone:

- A. Vasopressin
- B. Aldosteron
- C. Cortisol
- D. Adrenocorticotropin
- E. Natriuretic

130. A young man consulted a doctor about disturbed urination. Examination of his external genitals revealed that urethra is split on top and urine runs out

of this opening. What anomaly of external genitals development is the case?

- A. Epispadia
- B. Phimosis
- C. Hermaphroditism
- D. Paraphimosis
- E. Hypospasia

131. A patient complains of pain in the area of his liver. Duodenal intubation revealed yellowish, oval, narrowed at the poles eggs with an operculum at the end. Size of these eggs is the smallest among all helminth eggs. What is the most probable diagnosis?

- A. Opisthorchosis
- B. Teniasis
- C. Beef tapeworm infection
- D. Echinococcosis
- E. Diphyllbothriasis

132. Colonoscopy of a patient ill with dysentery revealed that mucous membrane of his large intestine is hyperemic, edematic, its surface was covered with grey-and-green coats. Name the morphological form of dysenteric colitis:

- A. Fibrinous
- B. Catarrhal
- C. Ulcerous
- D. Purulent
- E. Necrotic

133. 24 hours after appendectomy blood of a patient presents neutrophilic leukocytosis with regenerative shift. What is the most probable mechanism of leukocytosis development?

- A. Amplification of leukopoiesis
- B. Redistribution of leukocytes in the organism
- C. Decelerated leukocyte destruction
- D. Decelerated emigration of leukocytes to the tissues
- E. Amplification of leukopoiesis and decelerated emigration of leukocytes to the tissues

134. Arterial pressure of a surgeon who performed a long operation rised up to 140/110 mm Hg. What changes of humoral regulation could have caused the rise of arterial pressure in this case?

- A. Activation of sympathoadrenal system
- B. Activation of formation and excretion of aldosterone
- C. Activation of renin angiotensive system
- D. Activation of kallikrein kinin system
- E. Inhibition of sympathoadrenal system

135. A hypertensive glucose solution was introduced to a patient. It will intensify water movement:

- A. From the cells to the intercellular liquid
- B. From the intercellular liquid to the capillaries
- C. From the intercellular liquid to the cells
- D. From the capillaries to the intercellular liquid
- E. There will be no changes of water movement

136. A 36 y.o. man has a craniocerebral trauma. Objectively: diminished breath sounds, thready pulse, no reflexes. What way of pyracetam introduction will be the most appropriate in this case?

- A. Intravenous
- B. Rectal
- C. Subcutaneous
- D. Peroral
- E. Inhalation

137. A child complains of general weakness, loss of appetite, a troubled sleep, itching in the perianal area. The provisional diagnosis is enterobiasis. In order to specify this diagnosis it is necessary to perform:

- A. Scraping from perianal folds
- B. Roentgenoscopy
- C. Biopsy of muscle tissue
- D. Immune diagnostics
- E. Duodenal contents analysis

138. A patient was ill with burn disease that was complicated by DIC syndrome. What stage of DIC syndrome can be suspected if it is known that the patient's blood coagulates in less than 3 minutes?

- A. Hypercoagulation
- B. Transition phase
- C. Hypocoagulation
- D. Fibrinolysis
- E. Terminal

139. In course of practical training students studied a stained blood smear of a mouse with bacteria phagocyted by leukocytes. What cell organella completes digestion of these bacteria?

- A. Lisosomes
- B. Mytochondrions
- C. Granular endoplasmic reticulum
- D. Golgi apparatus
- E. Ribosomes

140. A 55 y.o. woman consulted a doctor about having continuous cyclic uterine hemorrhages for a year, weakness, dizziness. Examination revealed skin pallor. Hemogram: Hb- 70 g/l, erythrocytes - $3,2 \cdot 10^{12}/l$, color index - 0,6, leukocytes - $6,0 \cdot 10^9/l$, reticulocytes - 1%; erythrocyte hypochromia. What anemia is it?

- A. Chronic posthemorrhagic anemia
- B. Hemolytic anemia
- C. Aplastic anemia
- D. B_{12} -folate-deficiency anemia
- E. Iron-deficiency anemia

141. According to audiometry data a patient has a disturbed perception of medium-frequency sounds. It might have been caused by a damage of:

- A. Middle part of helix
- B. Cochlear nuclei
- C. Spiral ganglion
- D. Quadritubercular structure
- E. Lateral geniculate bodies

142. A patient diagnosed with carcinoid of bowels was admitted to the hospital. Analysis revealed high production of serotonin. It is known that this substance is formed of tryptophane aminoacid. What biochemical mechanism underlies this process?

- A. Decarboxylation
- B. Desamination
- C. Microsomal oxydation
- D. Transamination
- E. Formation of paired compounds

143. A 23 y.o. patient complains of weakness, temperature rise up to $38 - 40^{\circ}C$. Objectively: liver and spleen are enlarged. Hemogram: Hb- 100 g/l, erythrocytes - $2,9 \cdot 10^{12}/l$, leukocytes - $4,4 \cdot 10^9/l$, thrombocytes - $48 \cdot 10^9/l$, segmentonuclear neutrophils - 17%, lymphocytes - 15%, blast cells - 68%. All cytochemical reactions are negative. Make a hematological conclusion:

- A. Undifferentiated leukosis
- B. Chronic myeloleukosis
- C. Acute myeloblastic leukosis
- D. Acute lymphoblastic leukosis
- E. Acute erythromyelosis

144. A patient ill with bronchial asthma didn't inform his doctor that he had attacks of stenocardia. Doctor administered him a medication, which taking resulted in less frequent attacks of bronchial asthma, but stenocardia attacks became more frequent. What medication was administered?

- A.** Isadrin
- B.** Salbutamol
- C.** Aminophylline
- D.** Cromolyn sodium
- E.** Phenotherol

145. A patient who has been suffering from cardiac insufficiency for several months has been taking digoxin on an outpatient basis. At a certain stage of treatment there appeared symptoms of drug overdose. What phenomenon underlies the development of this complication?

- A.** Material cumulation
- B.** Habituation
- C.** Sensibilization
- D.** Functional cumulation
- E.** Tachyphylaxis

146. A patient who has been treated with diazepam on account of neurosis complains of toothache. Doctor administered him an analgetic, but its dose was lower than average therapeutic dose. What phenomenon did the doctor take into account while prescribing the patient an underdose?

- A.** Potentiation
- B.** Summation
- C.** Cumulation
- D.** Drug dependence
- E.** Tolerance

147. A child's blood presents high content of galactose, glucose concentration is low. There are such presentations as cataract, mental deficiency, adipose degeneration of liver. What disease is it?

- A.** Galactosemia
- B.** Diabetes mellitus
- C.** Lactosemia
- D.** Steroid diabetes
- E.** Fructosemia

148. According to clinical indications a patient was administered pyridoxal phosphate. What processes is this medication intended to correct?

- A.** Transamination and decarboxylation of aminoacids
- B.** Oxidative decarboxylation of ketonic acids
- C.** Desamination of purine nucleotide
- D.** Synthesis of purine and pyrimidine bases
- E.** Protein synthesis

149. In course of an operation surgeon removed a part of a lung that was ventilated by a tertiary bronchus accompanied by branches of pulmonary artery and other vessels. What part of a lung was removed?

- A.** Bronchopulmonary segment
- B.** Middle lobe
- C.** Inferior lobe
- D.** Superior lobe
- E.** Pulmonary lobule

150. A patient with clinical presentations of immunodeficiency went through immunological examinations. They revealed significant loss of cells that form rosettes with erythrocytes of a ram. What conclusion can be made according to the analysis data?

- A.** Decrease of T-lymphocytes rate
- B.** Decrease of B-lymphocytes rate
- C.** Decrease of natural killer cell rate
- D.** Decrease of complement system rate
- E.** Insufficiency of effector cells of humoral immunity

151. A woman with III (B), Rh^- blood group born a child with II (A) blood group. The child is diagnosed with hemolytic disease of newborn as a result of rhesus incompatibility. What blood group is the child's father likely to have?

- A.** II (A), Rh^+
- B.** I (0), Rh^+
- C.** III (B), Rh^+
- D.** I (0), Rh^-
- E.** II (A), Rh^-

152. A 45 y.o. woman suffers from Cushing's syndrome - steroid diabetes. Biochemical examination revealed: hyperglycemia, hypochloremia. Which of the under-mentioned processes is the first to be activated?

- A.** Gluconeogenesis
- B.** Glycogenolysis
- C.** Glucose reabsorption
- D.** Glucose transport to the cell
- E.** Glycolysis

153. Histological specimen presents a vessel the wall of which consists of endothelium, basal membrane and loose connective tissue. What type of vessel is it?

- A. Vein of non-muscular type
- B. Artery
- C. Vein of muscular type
- D. Hemocapillary
- E. Lymphocapillary

154. Autopsy of a 48 y.o. man revealed a round formation 5 cm in diameter with clear-cut outlines in the region of the 1st segment of his right lung. This formation was encircled with a thin layer of connective tissue full of white brittle masses. Make a diagnosis of the secondary tuberculosis form:

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

155. A patient who suffers from acute myocarditis has clinical signs of cardiogenic shock. What of the under-mentioned pathogenetic mechanisms plays the main part in shock development?

- A. Disturbance of pumping ability of heart
- B. Depositing of blood in organs
- C. Reduction of diastolic flow to the heart
- D. Decrease of vascular tone
- E. Increase of peripheral vascular resistance

156. On the 6th day of treatment a patient with acute renal insufficiency developed polyuria. Diuresis intensification at the beginning of polyuria stage of acute renal insufficiency is caused by:

- A. Renewal of filtration in nephrons
- B. Volume expansion of circulating blood
- C. Growth of natriuretic factor
- D. Reduction of aldosteron content in plasma
- E. Reduction of vasopressin content in plasma

157. Long-term starvation cure of a patient resulted in diminished ratio of albumines and globulines in plasma. What of the following will be result of these changes?

- A. Increase of ESR
- B. Decrease of ESR
- C. Increase of hematocrit
- D. Decrease of hematocrit
- E. Hypercoagulation

158. An experimental animal was first sensitized whereupon an antigen dose was introduced subcutaneously. This injection resulted in the development of a fibrinous inflammation with alteration of vessel walls, basal substance and fibrous structures of connective tissue in form of mucoïd and fibrinoid swelling and necrosis. What immunological reaction took place?

- A. Immediate hypersensitivity
- B. Delayed-type hypersensitivity
- C. Reaction of transplantation immunity
- D. Normergic reaction
- E. Granulomatosis

159. A patient suffers from vision impairment - hemeralopy (night blindness). What vitamin preparation should be administered the patient in order to restore his vision?

- A. Retinol acetate
- B. Vicasol
- C. Pyridoxine
- D. Thiamine chloride
- E. Tocopherol acetate

160. A 1 y.o. child with symptoms of muscle affection was admitted to the hospital. Examination revealed carnitine deficit in muscles. Biochemical base of this pathology is disturbed process of:

- A. Transporting of fatty acids to mitochondrions
- B. Regulation of Ca^{2+} rate in mitochondrions
- C. Substrate phosphorylation
- D. Lactic acid utilization
- E. Actin and myosin synthesis

161. A patient suffers from severe postoperative pseudomonadous infection. What of the following antibiotics should be administered in this case?

- A. Amicacin sulfate
- B. Benzylpenicillin
- C. Cephazolin
- D. Erythromycin
- E. Doxycycline

162. A 9 m.o. child has delayed dentition, it is also out of order. Upper jaw configuration is horizontal ("high" palate); mi-

microscopically - irregular mineralization of tooth enamel, wrinkled enamel prisms, some of them are vacuolized. Predentin zone is extended; there are solitary denticles. What disease is it?

- A. Early rickets
- B. Late rickets
- C. Osteomalacia
- D. Gout
- E. Hypervitaminosis D

163. Examination of a patient revealed an abscess of pterygopalatine fossa. Where can the infection spread to unless the disease is managed in time?

- A. To the orbit
- B. To the interpterygoid space
- C. To the frontal sinus
- D. To the subgaleal temporal space
- E. To the tympanic cavity

164. Microscopical renal examination of a 36 y.o. woman who died from renal insufficiency revealed in the glomerules proliferation of capsule nephrothelium as well as of podocytes and phagocytes accompanied by formation of "crescents", capillary loop necrosis, fibrinous thrombs in their lumens; sclerosis and hyalinosis of glomerules, atrophy of tubules and fibrosis of renal stroma. What is the most probable diagnosis?

- A. Subacute glomerulonephritis
- B. Acute glomerulonephritis
- C. Chronic glomerulonephritis
- D. Focal segmentary sclerosis
- E. Membranous nephropathy

165. A forensic medical expert examines the body of a 58 y.o. man who had been consuming large amounts of alcohol for a long time and died at home. Microscopically: the right lung is dense and enlarged, its incision revealed that the tissue is greyish and homogenous, pleura is covered with greyish layers. Microscopically - alveolar cavities contain fibrin, hemolyzed erythrocytes. Make a diagnosis:

- A. Croupous pneumonia
- B. Focal pneumonia
- C. Interstitial pneumonia
- D. Primary pulmonary tuberculosis
- E. Caseous pneumonia

166. Two days after consumption of smoked pork a patient got face and eyelid edemata, gastrointestinal disturbances, abrupt temperature rise, muscle pain.

Blood analysis showed full-blown eosinophilia. What helminth could the patient be infected with?

- A. Trichina
- B. Pinworm
- C. Ascarid
- D. Whipworm
- E. Hookworm

167. After a tooth extraction a patient felt persistent pain behind his breast bone. After sublingual intake of an antianginal drug the pain behind the breast bone disappeared, but the patient complained of headache and dizziness. What drug are these properties typical for?

- A. Nitroglycerin
- B. Propranolol
- C. Metoprolol
- D. Validol
- E. Verapamil

168. A patient with fracture of his lower jaw was admitted to the maxillofacial department. It was decided to fix his bones surgically under anaesthetic. After intravenous introduction of muscle relaxant there arose short fibrillar contractions of the patient's facial muscles. What muscle relaxant was applied?

- A. Dithylinum
- B. Tubocurarin chloride
- C. Pipecuronium bromide
- D. Diazepam
- E. Melictine

169. Autopsy of a 56 y.o. man revealed in the right temporal part of brain a big focus of softened grey matter that was semi-liquid and light grey. Arteries of cerebral tela contain multiple whitish-yellow thickenings of intima that abruptly narrow the lumen. What is your diagnosis?

- A. Ischemic stroke
- B. Brain abscess
- C. Hemorrhage
- D. Hemorrhagic infarction
- E. Brain edema

170. Vitamin A deficit results in the impairment of twilight vision. Name the cells that have the above-mentioned photoreceptor function:

- A. Rod receptor cell
- B. Horizontal neurocytes
- C. Cone receptor cells
- D. Bipolar neurons
- E. Ganglion neurocytes

171. Neurological examination of a 65 y.o. patient revealed a haemorrhage within the superior temporal gyrus. In the blood supply area of which artery is it?

- A. Middle cerebral artery
- B. Anterior cerebral artery
- C. Posterior cerebral artery
- D. Anterior communicating artery
- E. Basilar artery

172. A 70 y.o. man has cut an abscess off in the area of mammiform process during shaving. Two days later he was admitted to the hospital with inflammation of arachnoid membranes. How did the infection penetrate into the cavity of skull?

- A. *V.emissariae mastoideae*
- B. *V.v.labyrinthi*
- C. *V.v.tympanicae*
- D. *V.facialis*
- E. *V.v.auriculares*

173. A 22 y.o. woman has enlarged lymph nodes. Histologically: a lymph node contains lymphocytes, histiocytes, reticular cells, small and big Hodgkin's cells, multinucleated Sternberg cells, isolated foci of caseous necrosis. What disease are these changes typical for?

- A. Lymphogranulomatosis
- B. Lymphosarcoma
- C. Chronic leukosis
- D. Acute leukosis
- E. Lung cancer metastasis

174. A lymph node punctate of a patient with suspected protozoal disease was examined. Examination of the stained specimen (Romanovsky's stain) revealed some crescent bodies with pointed end, blue cytoplasm and red nucleus. What protozoan were revealed in the smears?

- A. Toxoplasms
- B. Malarial plasmodiums
- C. Dermotropic leishmania
- D. Viscerotropic leishmania
- E. Trypanosomes

175. During pubescence the cells of male sexual glands begin to produce male sex hormone testosterone that calls forth secondary sexual characters. What

cells of male sexual glands produce this hormone?

- A. Leydig cells
- B. Sustentocytes
- C. Sertoli's cells
- D. Supporting cells
- E. Spermatozoa

176. An isolated cell of human heart automatically generates excitation impulses with frequency 60 times per minute. What heart structure was this cell obtained from?

- A. Sinoatrial node
- B. Atrium
- C. Ventricle
- D. Atrioventricular node
- E. His' bundle

177. Examination of a patient revealed a strong, balanced, inert type of higher nervous activity according to Pavlov. What temperament type does the patient have (according to Hippocrates classification)?

- A. Phlegmatic
- B. Sanguine
- C. Choleric
- D. Melancholic
- E. -

178. A patient has a haemorrhage into the posterior central gyrus. What type of sensitivity on the opposite side will be disturbed?

- A. Skin and proprioceptive
- B. Visual
- C. Auditory
- D. Olfactory
- E. Auditory and visual

179. Analysis of a puncture biopsy material of liver revealed hepatocyte dystrophy with necroses as well as sclerosis with disorder of beam and lobulous structure, with formation of pseudolobules and regenerative nodes. What is the most probable diagnosis:

- A. Liver cirrhosis
- B. Chronic hepatitis
- C. Chronic hepatitis
- D. Progressive massive liver necrosis
- E. Acute hepatitis

180. Examination of a 60 y.o. patient revealed hyperglycemia and glucosuria. A doctor administered him a medication for internal use. What medication is it?

- A. Glibenclamid
- B. Furosemide
- C. Oxytocin
- D. Pancreatine
- E. Corglycon

181. A patient who had been working hard under conditions of elevated temperature of the environment, has now a changed quantity of blood plasma proteins. What phenomenon is the case?

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

182. An experimental rat with extremity paralysis has no tendon and cutaneous reflexes, muscle tone is decreased, but muscles of the affected extremity maintain their ability to react with excitation to the direct action of continuous current. What type of paralysis is it?

- A. Flaccid peripheral
- B. Flaccid central
- C. Spastic peripheral
- D. Spastic central
- E. Extrapiramidal

183. A liquidator of a breakdown at a nuclear power plant who was irradiated complained about vomiting that occurs all of a sudden. What medication should be prescribed?

- A. Metoclopramide
- B. Reserpine
- C. Atropine
- D. Aeron
- E. De-Nol

184. Urine examination of a patient with acute cystitis revealed leukocytes and a lot of gram-negative bacilli. Inoculation resulted in growth of colonies of mucous nature that formed green soluble pigment. What microorganism is the most probable cause of the disease?

- A. *Pseudomonas aeruginosa*
- B. *Escherichia coli*
- C. *Klebsiella pneumoniae*
- D. *Proteus mirabilis*
- E. *Salmonella enteritidis*

185. A 45 y.o. patient consulted a doctor about plaque-shaped formation on his neck. Histological examination of biopsy skin material revealed tumorous cells of round and oval form with thin ring

of basophilic cytoplasm that resemble of cells of basal epidermal layer. What tumour is it?

- A. Basalioma
- B. Epidermal cancer
- C. Hydradenoma
- D. Trichoepithelioma
- E. Syringoadenoma

186. A patient has pain, edema and reddening of his skin in the anterosuperior area of his thigh and his foot's thumb. What lymph nodes of his lower extremity responded to the inflammatory process?

- A. Superficial inguinal
- B. Deep inguinal
- C. Internal longitudinal
- D. Superficial longitudinal
- E. General longitudinal

187. A laboratory received a material from a patient's wound. Preliminary diagnosis is gaseous gangrene. What microbiological method should be applied to determine species of causative agent?

- A. Bacteriological
- B. Allergic
- C. Bacterioscopic
- D. Serological
- E. RIA

188. Examination of cell culture got from a patient with lysosomal pathology revealed accumulation of great quantity of lipids in the lysosomes. What of the following diseases is this disturbance typical for?

- A. Tay-Sachs disease
- B. Gout
- C. Phenylketonuria
- D. Wilson disease
- E. Galactosemia

189. A patient got a craniocerebral trauma that resulted in right-side convergent strabismus. Damage of which craniocerebral nerve caused such consequences?

- A. *n.abducens*
- B. *n.facialis*
- C. *n.trigeminus*
- D. *n.trochlearis*
- E. *n.oculomotorius*

190. In case of a penetrating wound of the anterior abdominal wall the wound tract went above the lesser curvature of stomach. What peritoneum formation is

most likely to be injured?

- A. *Ligamentum hepatogastricum*
- B. *Ligamentum gastrocolicum*
- C. *Ligamentum hepatoduodenale*
- D. *Ligamentum hepatorenale*
- E. *Ligamentum triangulare sinistrum*

191. A rabbit's nerve that innervates the right ear was cut and its right superior cervical ganglion was removed. Immediately after operation the temperature of ear skin was measured. It was revealed that the temperature of the rabbit's ear skin on the side of denervation was by $1,5^{\circ}\text{C}$ higher than on the opposite intact side. What of the following is the most probable explanation of the above-mentioned effects?

- A. Arterial neuroparalytic hyperemia
- B. Arterial neurotopical hyperemia
- C. Arterial hyperemia induced by metabolic factors
- D. Reactive arterial hyperemia
- E. Physiological arterial hyperemia

192. A 63 y.o. man fell ill with acute tracheitis and bronchitis accompanied by bronchial pneumonia. On the 10th day the patient died from cardiopulmonary insufficiency. Autopsy revealed fibrinous hemorrhagic laryngotracheobronchitis; lungs were enlarged, their incision revealed the "coal-miner's" effect caused by interlacing of sections of bronchial pneumonia, hemorrhages into the pulmonary parenchyma, acute abscesses and atelectases. Internal organs have discirculatory and dystrophic changes. What is the most probable diagnosis?

- A. Influenza, severe form
- B. Moderately severe influenza
- C. Parainfluenza
- D. Respiratory syncytial infection
- E. Adenoviral infection

193. Autopsy of a man who died from influenza revealed that his heart was slightly enlarged, pastous, myocardium was dull and had specks. Microscopical examination of myocardium revealed signs of parenchymatous adipose and hydropic dystrophy; stroma was edematous with poor macrophagal and lymphocytic infiltration, vessels were plethoric; perivascular analysis revealed petechial hemorrhages. What type of myocarditis was developed in this case?

- A. Serous diffuse
- B. Interstitial proliferative
- C. Serous focal
- D. Purulent
- E. Granulomatous

194. A patient with chronic cardiac insufficiency has been treated with cardiotonic drugs and a thiazide diuretic, but in spite of it there are still edemata and risk of ascites. What medication should be prescribed to amplify diuretic effect of the applied drugs?

- A. Spironolactone
- B. Furosemide
- C. Amyloride
- D. Clopamide
- E. Manitole

195. A patient ill with collagenosis has been taking prednisolone for a long time. Hypokaliemia development caused spastic pain of skeletal muscles. What medication should be used in order to correct potassium exchange?

- A. Panangin
- B. Dithylinum
- C. Diazepam
- D. Noshpa
- E. Thyrocalcitonin

196. A boy is 7 y.o. Objectively: against the background of hyperemic skin there is knobby bright-pink rash on his forehead, neck, at the bottom of abdomen, in the popliteal spaces; nasolabial triangle is pale. Examination of oropharyngeal surface revealed localized bright-red hyperemia; tonsils are swollen, soft, lacunas contain pus, tongue is crimson. Cervical lymph nodes are enlarged, dense and painful. What is the most probable diagnosis?

- A. Scarlet fever
- B. Rubella
- C. Whooping cough
- D. Diphtheria
- E. Infectious mononucleosis

197. A patient complains of dryness of head skin, itching, fragility and loss of hair. After examination he was diagnosed with seborrhea. Disturbed activity of which cells caused this condition?

- A.** Cells of sebaceous glands
- B.** Cells of sudoriferous glands
- C.** Epithelial cells
- D.** Adipocytes
- E.** Melanocytes

198. In the surgical department of a hospital there was an outbreak of hospital infection that showed itself in often postoperative wound abscesses. Bacteriological examination of pus revealed aurococcus. What examination shall be conducted to find out the source of this causative agent among the department personnel?

- A.** Phagotyping
- B.** Microscopical examination
- C.** Serological identification
- D.** Estimation of antibiotic susceptibility
- E.** Biochemical identification

199. Short-term physical activity resulted

in reflex amplification of heart rate and raise of systemic arterial pressure. What receptors activation was the main cause of pressor reflex realization?

- A.** Proprioceptors of active muscles
- B.** Vascular chemoreceptors
- C.** Vascular volume receptors
- D.** Vascular baroreceptors
- E.** Hypothalamus thermoreceptors

200. In course of an experiment a skeletal muscle is being stimulated by a series of electric impulses. What type of muscle contraction will arise, if every subsequent impulse comes in the period of relaxation of single muscle contraction?

- A.** Partial tetanus
- B.** Holotetanus
- C.** A series of single contractions
- D.** Muscle contracture
- E.** Asynchronous tetanus