

1. After consumption of rich food a patient has nausea and heartburn, steatorrhea. This condition might be caused by:

- A. Bile acid deficiency
- B. Increased lipase secretion
- C. Disturbed tripsin synthesis
- D. Amylase deficiency
- E. Disturbed phospholipase synthesis

2. An infant has apparent diarrhea resulting from improper feeding. One of the main diarrhea effects is plentiful excretion of sodium bicarbonate. What form of acid-base balance disorder is the case?

- A. Metabolic acidosis
- B. Metabolic alkalosis
- C. Respiratory acidosis
- D. Respiratory alkalosis
- E. No disorders of acid-base balance will be observed

3. A 3 year old child with fever was given aspirin. It resulted in intensified erythrocyte haemolysis. Hemolytic anemia might have been caused by congenital insufficiency of the following enzyme:

- A. Glucose 6-phosphate dehydrogenase
- B. Glucose 6-phosphatase
- C. Glycogen phosphorylase
- D. Glycerol phosphate dehydrogenase
- E. γ -glutamyltransferase

4. A patient is ill with diabetes mellitus accompanied by hyperglycemia on an empty stomach (7,2 millimole/l). The hyperglycemia rate can be retrospectively estimated (over the last 4-8 weeks before the examination) on the ground of the rate of the following blood plasma protein:

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

5. In course of laparotomy a surgeon revealed gangrenous lesion of descending colon. It was caused by thrombosis of the following artery:

- A. Sinister colic
- B. Median colic
- C. Dexter colic
- D. Ileocolic
- E. Superior mesenteric artery

6. A 37 year old patient suffering from obliterating vascular endarteritis of lower limbs takes daily 60 microgram/kilogram of phenylin. Because of presentations of convulsive disorder (craniocerebral trauma in anamnesis) he was prescribed phenobarbital. Withholding this drug caused nasal hemorrhage. What is this complication connected with?

- A. Induction of enzymes of microsomal oxidation in liver caused by phenobarbital
- B. Aliphatic hydroxylation of phenobarbital
- C. Conjugation of phenylin with glucuronic acid
- D. Oxidative deamination of phenylin
- E. Inhibition of microsomal oxidation in liver caused by phenobarbital

7. A 60 year old patient has impaired perception of high-frequency sounds. These changes were caused by damage of the following auditory analyzer structures:

- A. Main cochlea membrane near the oval window
- B. Main cochlea membrane near the helicotrema
- C. Eustachian tube
- D. Middle ear muscles
- E. Tympanic membrane

8. Researchers isolated 5 isoenzymic forms of lactate dehydrogenase from the human blood serum and studied their properties. What property indicates that the isoenzymic forms were isolated from the same enzyme?

- A. Catalyzation of the same reaction
- B. The same molecular weight
- C. The same physicochemical properties
- D. Tissue localization
- E. The same electrophoretic mobility

9. It was proved that a molecule of immature mRNA (precursor mRNA) contained more triplets than amino acids found in the synthesized protein. The reason for that is that translation is normally preceded by:

- A. Processing
- B. Initiation
- C. Reparation
- D. Mutation
- E. Replication

10. A patient has low rate of magnesium ions that are necessary for affixion of ribosomes to the endoplasmic reticulum. It is known that it causes disturbance

of protein biosynthesis. At what stage is protein biosynthesis impaired?

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

11. A student takes notes of a lecture. Quality of his notes became significantly worse when his neighbours began talking. What type of conditional reflex inhibition was the cause of it?

- A. External
- B. Protective
- C. Extinctive
- D. Differentiated
- E. Delayed

12. A patient ill with neurodermatitis has been taking prednisolone for a long time. Examination revealed high rate of sugar in his blood. This complication is caused by the drug influence upon the following link of carbohydrate metabolism:

- A. Gluconeogenesis activation
- B. Glycogenogenesis activation
- C. Intensification of glucose absorption in the bowels
- D. Inhibition of glycogen synthesis
- E. Activation of insulin decomposition

13. Labelled amino acids alanine and tryptophane were injected to a mouse in order to study localization of protein synthesis in its cells. The labelled amino acids will be accumulated near the following organellas:

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

14. A patient with frequent attacks of stenocardia was prescribed sustak-forte to be taken one tablet twice a day. At first the effect was positive but on the second day stenocardia attacks resumed. What can explain inefficiency of the prescribed drug?

- A. Tachyphylaxis
- B. Cumulation
- C. Sensibilization
- D. Idiosyncrasy
- E. Dependence

15. Inflammation of the tympanic cavity

(purulent otitis media) was complicated by inflammation of mammillary process sockets. What wall of tympanic cavity did the pus penetrate into the sockets through?

- A. Posterior
- B. Anterior
- C. Medial
- D. Lateral
- E. Superior

16. In order to speed up healing of a wound of oral mucosa a patient was prescribed a drug that is a thermostable protein occurring in tears, saliva, mother's milk as well as in a new-laid hen's egg. It is known that this protein is a factor of natural resistance of an organism. What is it called?

- A. Lysozyme
- B. Complement
- C. Interferon
- D. Interleukin
- E. Imanine

17. An aged man had raise of arterial pressure under a stress. It was caused by activation of:

- A. Sympathoadrenal system
- B. Parasympathetic nucleus of vagus
- C. Functions of thyroid gland
- D. Functions of adrenal cortex
- E. Hypophysis function

18. A 20 year old patient complains of general weakness, dizziness, quick fatigability. Blood analysis results: Hb- 80 g/l. Microscopical examination results: erythrocytes are of modified form. This condition might be caused by:

- A. Sickle-cell anemia
- B. Hepatocellular jaundice
- C. Acute intermittent porphyria
- D. Obturative jaundice
- E. Addison's disease

19. Blood minute volume of a 30 year old woman at rest is 5 l/m. What blood volume is pumped through the pulmonary vessels per minute?

- A. 5 l
- B. 3,75 l
- C. 2,5 l
- D. 2,0 l
- E. 1,5 l

20. As a result of long-term starvation the glomerular filtration of a man was

accelerated by 20%. The most probable cause of filtration changes under such conditions is:

- A. Fall of oncotic pressure of blood plasma
- B. Rise of systemic arterial pressure
- C. Increased permeability of renal filter
- D. Growth of filtration coefficient
- E. Increase of renal plasma flow

21. A patient has yellow skin colour, dark urine, dark-yellow feces. What substance will have strengthened concentration in the blood serum?

- A. Unconjugated bilirubin
- B. Conjugated bilirubin
- C. Mesobilirubin
- D. Verdoglobulin
- E. Biliverdin

22. A patient consulted a doctor about symmetric dermatitis of open skin areas. It was found out that the patient lived mostly on cereals and ate too little meat, milk and eggs. What vitamin deficiency is the most evident?

- A. Nicotinamide
- B. Calciferol
- C. Folic acid
- D. Biotin
- E. Tocopherol

23. A 46 year old patient applied to a doctor complaining about joint pain that becomes stronger the day before weather changes. Blood examination revealed strengthened concentration of uric acid. The most probable cause of the disease is the intensified disintegration of the following substance:

- A. Adenosine monophosphate
- B. Cytidine monophosphate
- C. Uridine triphosphate
- D. Uridine monophosphate
- E. Thymidine monophosphate

24. A 38 year old patient suffers from rheumatism in its active phase. What laboratory characteristic of blood serum is of diagnostic importance in case of this pathology?

- A. C-reactive protein
- B. Uric acid
- C. Urea
- D. Creatinine
- E. Transferrin

25. ECG of a patient with hyperfunction of thyroid gland showed heart hurry. It is

indicated by depression of the following ECG element:

- A. $R - R$ interval
- B. $P - Q$ segment
- C. $P - Q$ interval
- D. $P - T$ interval
- E. QRS complex

26. A 62 year woman complains of frequent pain attacks in the area of her chest and backbone, rib fractures. Her doctor suspected myeloma (plasmocytoma). What of the following laboratory characteristics will be of the greatest diagnostic importance?

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

27. While playing volleyball a sportsman made a jump and landed on the outside edge of his foot. He felt acute pain in the talocrural joint, active movements are limited, passive movements are unlimited but painful. A bit later there appeared a swelling in the area of external ankle, the skin became red and warm. What type of peripheral circulation disturbance is the case?

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

28. Bacterioscopic examination of a smear from the pharynx of a diphtheria suspect revealed bacilli with volutine granules. What etiotropic drug should be chosen in this case?

- A. Antidiphtheritic antitoxic serum
- B. Bacteriophage
- C. Diphtheritic anatoxin
- D. Eubiotic
- E. Interferon

29. A patient underwent an operation on account of gall bladder excision that resulted in obstruction of Ca absorption through the bowels wall. What vitamin will stimulate this process?

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

30. A woman underwent an operation on account of extrauterine (tubal) pregnancy. In course of the operation the surgeon should ligate the branches of the following arteries:

- A. Uterine and ovarian
- B. Superior cystic and ovarian
- C. Inferior cystic and ovarian
- D. Uterine and superior cystic
- E. Uterine and inferior cystic

31. A 6 month old baby ill with bronchitis was taken for an X-ray of chest. Apart of changes associated with bronchi the X-ray film showed a shadow of thymus gland. What might have caused such changes?

- A. The above-mentioned condition is a normal variant for this age
- B. It's the effect of bronchitis
- C. It is caused by abnormal position
- D. It is caused by thymus inflammation
- E. It is caused by neoplastic process

32. A patient complains of frequent diarrheas, especially after consumption of rich food, weight loss. Laboratory examination revealed steatorrhea; his feces were hypocholeic. What might have caused such condition?

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

33. Examination of a patient with pustular skin lesions allowed to isolate a causative agent that forms in the blood agar roundish yellow middle-sized colonies surrounded by haemolysis zone. Smears from the colonies contain irregular-shaped clusters of gram-positive cocci. The culture is oxidase- and catalase-positive, ferments mannitol and synthesizes plasmocoagulase. What causative agent was isolated?

- A. *Staphylococcus aureus*
- B. *Streptococcus agalactiae*
- C. *Streptococcus pyogenes*
- D. *Staphylococcus epidermidis*
- E. *Staphylococcus saprophyticus*

34. A 65 year old man suffering from gout complains of kidney pain. Ultrasound examination revealed renal calculi. The most probable cause of calculi formation is the strengthened concentration of the following substance:

- A. Uric acid
- B. Cholesterol
- C. Bilirubin
- D. Urea
- E. Cystine

35. Microscopic examination of a Gram-stained scrape from patient's tongue revealed oval, round, elongated chains of dark-violet gemmating cells. What disease can be caused by this causative agent?

- A. Candidosis
- B. Actinomycosis
- C. Streptococcal infection
- D. Staphylococcal infection
- E. Diphtheria

36. A 44 year old woman complains of general weakness, heart pain, significant increase of body weight. Objectively: moon face, hirsutism, AP is 165/100 mm Hg, height - 164 cm, weight - 103 kg; the fat is mostly accumulated on her neck, thoracic girdle, belly. What is the main pathogenetic mechanism of obesity?

- A. Increased production of glucocorticoids
- B. Reduced production of thyroid hormones
- C. Increased insulin production
- D. Reduced glucagon production
- E. Increased mineralocorticoid production

37. Blood of a patient with presumable sepsis was inoculated into sugar broth. There appeared bottom sediment. Repeated inoculation into blood agar caused growth of small transparent round colonies surrounded by hemolysis zone. Examination of a smear from the sediment revealed gram-positive cocci in form of long chains. What microorganisms are present in blood of this patient?

- A. Streptococci
- B. Micrococci
- C. Staphylococci
- D. Tetracocci
- E. Sarcina

38. 2 years ago a patient underwent resection of pyloric part of stomach. He complains of weakness, periodical dark shadows beneath his eyes, dyspnea. In blood: Hb - 70 g/l, erythrocytes - $3,0 \cdot 10^{12}$

$10^{12}/l$, colour index - 0,7. What changes of erythrocytes in blood smears are the most typical for this condition?

- A. Microcytes
- B. Megalocytes
- C. Schizocytes
- D. Ovalocytes
- E. Macrocytes

39. A patient is ill with hepatocirrhosis. State of antitoxic liver function can be characterized by examination of the following substance excreted by urine:

- A. Hippuric acid
- B. Ammonium salts
- C. Creatinine
- D. Uric acid
- E. Amino acids

40. The territory of an old burial ground for animal refuse that hasn't been used for over 50 years is meant for house building. But soil investigation showed the presense of viable spores of a causative agent causing a very dangerous disease. What microorganism might have been preserved in soil for such a long period of time?

- A. *Bacillus anthracis*
- B. *Francisella tularensis*
- C. *Brucella abortus*
- D. *Yersinia pestis*
- E. *Mycobacterium bovis*

41. Autopsy of a man who had been working as a miner for many years and died from cardiopulmonary decompensation revealed that his lungs were airless, sclerosed, their apexes had emphysematous changes, the lung surface was greyish-black, the incised lung tissue was coal-black. What disease caused death?

- A. Anthracosis
- B. Silicosis
- C. Talcosis
- D. Asbestosis
- E. Aluminosis

42. Microscopy of stained (Ziehl-Neelsen staining) smears taken from the sputum of a patient with chronic pulmonary disease revealed red bacilli. What property of tuberculous bacillus was shown up?

- A. Acid resistance
- B. Alkali resistance
- C. Alcohol resistance
- D. Capsule formation
- E. Sporification

43. Parents of a 10 year old 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

44. Examination of coronary arteries revealed atherosclerotic calcified plaques closing vessel lumen by 1/3. The muscle has multiple whitish layers of connective tissue. What process was revealed in the myocardium?

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

45. It was revealed that T-lymphocytes were affected by HIV. Virus enzyme - reverse transcriptase (*RNA*-dependent *DNA* polymerase) - catalyzes the synthesis of:

- A. *DNA* on the matrix of virus *mRNA*
- B. Virus informational *RNA* on the matrix of *DNA*
- C. *DNA* on virus ribosomal *RNA*
- D. Viral *DNA* on *DNA* matrix
- E. *mRNA* on the matrix of virus protein

46. A 35 year old man with a trauma of his left hand was admitted to the traumatology department. Objectively: cut wound of palmar surface of left hand; middle phalanxes of II-V fingers don't bend. What muscles are damaged?

- A. Superficial finger flexor
- B. Profound finger flexor
- C. Lumbrical muscles
- D. Palmar interosseous muscles
- E. Dorsal interosseous muscles

47. Histological examination of a skin tissue sampling revealed granulomas consisting of macrophagal nodules with lymphocytes and plasmatic cells. There are also some big macrophages with fatty vacuoles containing causative agents of

a disease packed up in form of spheres (Virchow's cells). Granulation tissue is well vascularized. What disease is this granuloma typical for?

- A. Lepra
- B. Tuberculosis
- C. Syphilis
- D. Rhinoscleroma
- E. Glanders

48. 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

49. A patient taking clonidine for essential hypertension treatment was using alcohol that caused intense inhibition of central nervous system. What may it be connected with?

- A. Effect potentiating
- B. Effect summation
- C. Cumulation
- D. Intoxication
- E. Idiosyncrasy

50. Examination of an ovary specimen stained by hematoxylin-eosine revealed a follicle in which follicular epithelium consisted of 1-2 layers of cubic cells. There was also a bright red membrane around the ovocyte. What follicle is it?

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

51. A patient with clinical signs of encephalitis was delivered to the infectious diseases hospital. Anamnesis registers a tick bite. Hemagglutination-inhibition reaction helped to reveal antibodies to the causative agent of tick-borne encephalitis in the dilution 1:20 which is not diagnostic. What actions should the doctor take after he had got such result?

- A. To repeat the examination with serum taken 10 days later
- B. To examine the same serum
- C. To apply more sensitive reaction
- D. To repeat examination with another diagnosticum
- E. To deny diagnosis of tick-borne encephalitis

52. A 40 year old man noticed a reddening and an edema of skin in the area of his neck that later developed into a small abscess. The incised focus is dense, yellowish-green. The pus contains white granules. Histological examination revealed drusen of a fungus, plasmatic and xanthome cells, macrophages. What type of mycosis is the most probable?

- A. Actinomycosis
- B. Aspergillosis
- C. Candidosis
- D. Sporotrichosis
- E. Coccidioidomycosis

53. Continuous taking of some drugs foregoing the pregnancy increase the risk of giving birth to a child with genetic defects. What is this effect called?

- A. Mutagenic effect
- B. Embryotoxic effect
- C. Teratogenic effect
- D. Fetotoxic effect
- E. Blastomogenic effect

54. A man with a wound of his limb that had been suppurating for a long time died from intoxication. Autopsy revealed extreme emaciation, dehydration, brown atrophy of liver, myocardium, spleen and cross-striated muscles as well as renal amyloidosis. What diagnosis corresponds with the described picture?

- A. Chroniosepsis
- B. Septicopyemia
- C. Septicemia
- D. Chernogubov's syndrome
- E. Brucellosis

55. 6 months after labour a woman had uterine hemorrhage. Gynaecological examination of uterine cavity revealed a dark-red tissue with multiple cavities resembling of a "sponge". Microscopic examination of a tumour revealed in blood lacunas atypic light epithelial Langhans cells and giant cells of syncytiotrophoblast. What tumour is it?

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

56. An animal with aortic valve insufficiency got hypertrophy of its left heart ventricle. Some of its parts have local contractures. What substance accumulated in the myocytes caused these contractures?

- A. Calcium
- B. Potassium
- C. Lactic acid
- D. Carbon dioxide
- E. Sodium

57. A girl is diagnosed with adrenogenital syndrome (pseudohermaphroditism). This pathology was caused by hypersecretion of the following adrenal hormone:

- A. Androgen
- B. Estrogen
- C. Aldosterone
- D. Cortisol
- E. Adrenalin

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

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

59. Examination of a 70 year old patient revealed insulin-dependent diabetes. What drug should be administered?

- A. Glibenclamid
- B. Insulin
- C. Mercazolilum
- D. Parathyroidin
- E. Cortisone

60. A human body cools in water much faster than in the air. What way of heat emission in water is much more efficient?

- A. Heat conduction
- B. Convection
- C. Heat radiation
- D. Sweat evaporation
- E. -

61. A patient suffering from chronic cardiac insufficiency was recommended to undergo a prophylactic course of treatment with a cardiological drug from the group of cardiac glycosides that is to be taken enterally. What drug was recommended?

- A. Digoxin
- B. Strophanthine
- C. Corglycon
- D. Cordiamin
- E. Cordarone

62. An ophthalmologist used a 1% mesaton solution for the diagnostic purpose (pupil dilation for eye-ground examination). What is the cause of mydriasis induced by the drug?

- A. Activation of α_1 adrenoreceptors
- B. Activation of α_2 adrenoreceptors
- C. Block of α_1 adrenoreceptors
- D. Activation of β_1 adrenoreceptors
- E. Activation of M-cholinoreceptors

63. Prophylactic medical examination of a 36 year old driver revealed that his AP was 150/90 mm Hg. At the end of working day he usually hears ear noise, feels slight indisposition that passes after some rest. He was diagnosed with essential hypertension. What is the leading pathogenetic mechanism in this case?

- A. Neurogenetic
- B. Nephric
- C. Humoral
- D. Endocrinal
- E. Reflexogenic

64. A cerebral trauma caused increased ammonia generation. What amino acid participates in the excretion of ammonia from the cerebral tissue?

- A. Glutamic
- B. Tyrosine
- C. Valine
- D. Tryptophan
- E. Lysine

65. While studying maximally spiralized chromosomes of human karyotype the process of cell division was stopped in the following phase:

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

66. 48 hours after tuberculin test (Mantoux test) a child had a papule 10 mm in diameter on the spot of tuberculin injection. What hypersensitivity mechanism underlies these changes?

- A. Cellular cytotoxicity
- B. Anaphylaxy
- C. Antibody-dependent cytotoxicity
- D. Immunocomplex cytotoxicity
- E. Granulomatosis

67. A patient was admitted to the surgical department with suspected inflammation of Meckel's diverticulum. What part of bowels should be examined in order to discover the diverticulum in course of an operation?

- A. *Ileum*
- B. *Duodenum*
- C. *Jejunum*
- D. *Caecum*
- E. *Colon ascendens*

68. Power inputs of a man were measured. In what state was this man if his power inputs were lower than basal metabolism?

- A. Sleep
- B. Relaxation
- C. Simple work
- D. Nervous tension
- E. Rest

69. Examination of a newborn boy's genitalia revealed an urethral hiatus that opens on the underside of his penis. What malformation is it?

- A. Hypospadias
- B. Hermaphroditism
- C. Epispadia
- D. Monorchism
- E. Cryptorhidism

70. A concentrated solution of sodium chloride was intravenously injected to an animal. This caused decreased reabsorption of sodium ions in the renal tubules. It is the result of the following changes of hormonal secretion:

- A. Aldosterone reduction
- B. Aldosterone increase
- C. Vasopressin reduction
- D. Vasopressin increase
- E. Reduction of atrial natriuretic factor

71. As a result of destruction of certain brainstem structures an animal has lost its orientative reflexes in response to strong photic stimuli. What structures

were destroyed?

- A. Anterior tubercles of quadrigeminal plate
- B. Posterior tubercles of quadrigeminal plate
- C. Red nuclei
- D. Vestibular nuclei
- E. Black substance

72. Myocyte cytoplasm contains a big number of dissolved metabolites of glucose oxidation. Name one of them that turns directly into a lactate:

- A. Pyruvate
- B. Oxaloacetate
- C. Glycerophosphate
- D. Glucose 6-phosphate
- E. Fructose 6-phosphate

73. Mother of a 2 year old child consulted a stomatologist. In the period of pregnancy she was irregularly taking antibiotics for an infectious disease. Examination of the child revealed incisor destruction, yellow enamel, brown rim around the dental cervix. What drug has apparent teratogenic effect?

- A. Doxacycline
- B. Furosemide
- C. Ampiox
- D. Xantinol nicotinate
- E. Octadine

74. A 59 year old patient is a plant manager. After the tax inspection of his plant he felt intense pain behind his breastbone irradiating to his left arm. 15 minutes later his condition came to normal. Which of the possible mechanisms of stenocardia development is the leading in this case?

- A. High catecholamine concentration in blood
- B. Coronary atherosclerosis
- C. Intravascular aggregation of blood corpuscles
- D. Coronary thrombosis
- E. Functional heart overload

75. A patient recovered from Sonne dysentery and was once more infected with the same causative agent. What is such infection form called?

- A. Reinfection
- B. Recidivation
- C. Superinfection
- D. Persisting infection
- E. Chronic infection

76. A 56 year old patient came to a hospital with complaints about general weakness, tongue pain and burning, sensation of limb numbness. In the past he underwent resection of forestomach. In blood: Hb- 80 g/l; erythrocytes - $2,0 \cdot 10^{12}/l$; colour index - 1,2, leukocytes - $3,5 \cdot 10^9/l$. What anemia type is it?

- A. B_{12} -folate deficient
- B. Hemolytic
- C. Posthemorrhagic
- D. Aplastic
- E. Iron-deficient

77. A 35 year old patient applied to a doctor with complaints about having intense rhinitis and loss of sense of smell for a week. Objectively: nasal cavity contains a lot of mucus that covers mucous membrane and blocks olfactory receptors. In what part of nasal cavity are these receptors situated?

- A. Superior nasal turbinate
- B. Median nasal turbinate
- C. Inferior nasal turbinate
- D. Common nasal meatus
- E. Vestibule of nose

78. A 17 year old boy fell seriously ill, the body temperature rose up to $38,5^{\circ}C$, there appeared cough, rhinitis, lacrimation, nasal discharges. What inflammation is it?

- A. Catarrhal
- B. Serous
- C. Fibrinous
- D. Purulent
- E. Hemorrhagic

79. A patient with disturbed cerebral circulation has problems with deglutition. What part of brain was damaged?

- A. Brainstem
- B. Cervical part of spinal cord
- C. Forebrain
- D. Interbrain
- E. Midbrain

80. Vitamin B_1 deficiency results in disturbance of oxidative decarboxylation of α -ketoglutaric acid. This will disturb synthesis of the following coenzyme:

- A. Thiamine pyrophosphate
- B. Nicotinamide adenine dinucleotide (NAD)
- C. Flavine adenine dinucleotide (FAD)
- D. Lipoic acid
- E. Coenzyme A

81. A chemical burn caused esophagus stenosis. Difficulty of ingestion led to the abrupt loss of weight. In blood: $3,0 \cdot 10^{12}/l$, Hb - 106 g/l, crude protein - 57 g/l. What type of starvation is it?

- A. Incomplete
- B. Proteinic
- C. Complete
- D. Water
- E. Absolute

82. A 30 year old woman has face edemata. Examination revealed proteinuria (5,87 g/l), hypoproteinemia, dysproteinemia, hyperlipidemia. What condition is the set of these symptoms typical for?

- A. Nephrotic syndrome
- B. Nephritic syndrome
- C. Chronic pyelonephritis
- D. Acute renal failure
- E. Chronic renal failure

83. Skin of a man who died from cardiac insufficiency has an eruption in form of spots and specks. There are also bedsores in the area of sacrum and spinous vertebral processes. Microscopical examination of CNS, skin, adrenal glands revealed in the vessels of microcirculatory bed and in small arteries destructive-proliferative endothrombovasculitis with Popov's granulomas; interstitial myocarditis. What diagnosis corresponds with the described picture?

- A. Spotted fever
- B. Q fever
- C. Enteric fever
- D. Nodular periarteritis
- E. HIV

84. Autopsy of a man who died from the sepsis in his femoral bone revealed phlegmonous inflammation that affected the marrow, haversian canals and periosteum. Under the periosteum there are multiple abscesses, adjoining soft tissues of thigh also have signs of phlegmonous inflammation. What pathological process was described?

- A. Acute hematogenous osteomyelitis
- B. Osteoporosis
- C. Chronic hematogenous osteomyelitis
- D. Osteopetrosis
- E. -

85. A patient has a decreased vasopressin synthesis that causes polyuria and as a result of it evident organism dehydration. What is the mechanism of polyuria development?

- A. Reduced tubular reabsorption of water
- B. Reduced tubular reabsorption of Na ions
- C. Reduced tubular reabsorption of protein
- D. Reduced glucose reabsorption
- E. Acceleration of glomerular filtration

86. A patient with nephrotic syndrome has massive edemata of his face and limbs. What is the leading pathogenetic mechanism of edemata development?

- A. Drop of oncotic blood pressure
- B. Increase of vascular permeability
- C. Rise of hydrodynamic blood pressure
- D. Lymphostasis
- E. Increase of lymph outflow

87. Examination of a 55 year old woman revealed under the skin of submandibular area a movable slowly growing pasty formation with distinct borders 1,0x0,7 cm large. Histological examination revealed lipocytes that form segments of different forms and sizes separated from each other by thin layers of connective tissue with vessels. What is the most probable diagnosis?

- A. Lipoma
- B. Fibroma
- C. Angioma
- D. Liposarcoma
- E. Fibrosarcoma

88. An unconscious young man with signs of morphine poisoning entered admission office. His respiration is shallow and infrequent which is caused by inhibition of respiratory centre. What type of respiratory failure is it?

- A. Ventilative dysregulatory
- B. Ventilative obstructive
- C. Ventilative restrictive
- D. Perfusive
- E. Diffusive

89. A patient with cholelithiasis fell ill with mechanic jaundice. Examination

revealed that the stone was in the common bile duct. What bile-excreting ducts make up the obturated duct?

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

90. A patient is 44 years old. Laboratory examination of his blood revealed that content of proteins in plasma was 40 g/l. What influence will be exerted on the transcapillary water exchange?

- A. Filtration will be increased, reabsorption - decreased
- B. Both filtration and reabsorption will be increased
- C. Both filtration and reabsorption will be decreased
- D. Filtration will be decreased, reabsorption - increased
- E. Exchange will stay unchanged

91. The cerebrospinal fluid is being examined for the purpose of differential meningitis diagnostics. At what site is the lumbar puncture safe?

- A. *L III-L IV*
- B. *L II-L III*
- C. *L I-L II*
- D. *Th XII-L I*
- E. *L V-S I*

92. An isolated cell of human heart automatically generates excitement impulses with frequency of 60 times per minute. This cell was taken from the following heart structure:

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

93. Examination of a 60 year old 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

94. As a result of posttranslative modifications some proteins taking part in blood coagulation, particularly prothrombin, become capable of calcium binding. The following vitamin takes part in this process:

- A.** *K*
- B.** *C*
- C.** *A*
- D.** *B₁*
- E.** *B₂*

95. Examination of a man who had been working hard under higher temperature of the environment revealed abnormal quantity of blood plasma proteins. What phenomenon is the case?

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

96. A patient ill with thrombophlebitis of his lower limbs had chest pain, blood spitting, progressing respiratory insufficiency that led to his death. Autopsy diagnosed multiple lung infarctions. What is the most probable cause of their development?

- A.** Thromboembolism of pulmonary artery branches
- B.** Thrombosis of pulmonary artery branches
- C.** Thrombosis of bronchial arteries
- D.** Thromboembolism of bronchial arteries
- E.** Thrombosis of pulmonary veins

97. A woman suffering from osteochondrosis felt acute pain in her humeral articulation that became stronger when she abducted her shoulder. These symptoms might be caused by damage of the following nerve:

- A.** Axillary nerve
- B.** Subscapular nerve
- C.** Dorsal scapular nerve
- D.** Subclavicular nerve
- E.** Thoracodorsal nerve

98. A patient has a deep cut wound on the posterior surface of his shoulder in its middle third. What muscle might be injured?

- A.** Triceps muscle of arm
- B.** Biceps muscle of arm
- C.** Anconeus muscle
- D.** Brachial muscle
- E.** Coracobrachial muscle

99. A patient has acne on his face. Mi-

croscopic examination of scrapings from the affected areas revealed living porrect vermiform arthropoda 0,2-0,5 mm large with four pairs of short extremities in the front part of their bodies. What is the laboratory diagnosis?

- A.** Demodicosis
- B.** Scabies
- C.** Myiasis
- D.** Pediculosis
- E.** Phthiriasis

100. A 28 year old man had a gunshot wound of shin that resulted in an ulcer from the side of the injury. What is the main factor of neurodystrophy pathogenesis in this case?

- A.** Traumatization of peripheral nerve
- B.** Psychological stress
- C.** Microcirculation disturbance
- D.** Infection
- E.** Tissue damage

101. A 45 year old man consulted a doctor about a plaque-like formation on his neck. Histological examination of a skin bi-optate revealed clusters of round and oval tumour cells with a narrow border of basophilic cytoplasm resembling of cells of basal epidermal layer. What tumour is it?

- A.** Basal cell carcinoma
- B.** Epidermal cancer
- C.** Hydroadenoma
- D.** Trichoepithelioma
- E.** Syringoadenoma

102. A patient ill with essential hypertension was recommended a drug that prevents thrombosis. It is to be taken parenterally. What drug is it?

- A.** Heparin
- B.** Amben
- C.** Protamine sulfate
- D.** Neodicumarin
- E.** Syncumar

103. Packed cell volume of a man was 40% before the trauma. What packed cell volume will be observed 24 hours after blood loss of 750 ml?

- A.** 30%
- B.** 40%
- C.** 55%
- D.** 45%
- E.** 50%

104. Two hours after an exam a student

had a blood count done and it was revealed that he had leukocytosis without significant leukogram modifications. What is the most probable mechanism of leukocytosis development?

- A. Redistribution of leukocytes in the organism
- B. Leukopoiesis intensification
- C. Deceleration of leukocyte lysis
- D. Deceleration of leukocyte migration to the tissues
- E. Leukopoiesis intensification and deceleration of leukocyte lysis

105. Golgi complex exports substances from a cell due to the fusion of the membrane saccule with the cell membrane. The saccule contents flows out. What process is it?

- A. Exocytosis
- B. Endocytosis
- C. Active transport
- D. Facilitated diffusion
- E. All answers are false

106. A boy found a spider with the following morphological characteristics: it is 2 cm long, has roundish black abdomen with two rows of red spots on its dorsal side; four pairs of jointed limbs are covered with small black hairs. What arthropod is it?

- A. Karakurt spider
- B. Scorpion
- C. Solpuga
- D. Mite
- E. Tarantula

107. A 3 year old child with symptoms of stomatitis, gingivitis and dermatitis of open skin areas was delivered to a hospital. Examination revealed inherited disturbance of neutral amino acid transporting in the bowels. These symptoms were caused by the deficiency of the following vitamin:

- A. Niacin
- B. Pantothenic acid
- C. Vitamin A
- D. Cobalamin
- E. Biotin

108. A patient with suspected diagnosis "progressing muscular dystrophy" got his urine tested. What compound will confirm this diagnosis if found in urine?

- A. Kreatine
- B. Collagen
- C. Porphyrin
- D. Myoglobin
- E. Calmodulin

109. A patient being treated for viral hepatitis type B got symptoms of hepatic insufficiency. What blood changes indicative of protein metabolism disorder will be observed in this case?

- A. Absolute hypoalbuminemia
- B. Absolute hyperalbuminemia
- C. Absolute hyperfibrinogenemia
- D. Proteinic blood composition is unchanged
- E. Absolute hyperglobulinemia

110. A pregnant woman had her blood group identified. Reaction of erythrocyte agglutination with standard serums of $0\alpha\beta$ (I), $B\alpha$ (III) groups didn't proceed with standard serum of $A\beta$ (II) group. The blood group under examination is:

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

111. A sensitive neural ganglion consists of roundish neurocytes with one extension that divides into axon and dendrite at some distance from the perikaryon. What are these cells called?

- A. Pseudounipolar
- B. Unipolar
- C. Bipolar
- D. Multipolar
- E. Apolar

112. A doctor examined a child and revealed symptoms of rachitis. Development of this disease was caused by deficiency of the following compound:

- A. 1,25 [OH]-dichydroxycholecalciferol
- B. Biotin
- C. Tocopherol
- D. Naphtaquinone
- E. Retinol

113. An embryo displays disturbed process of dorsal mesoderm segmentation and somite formation. What part of skin will have developmental abnormalities?

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

114. It was found out that some compounds, for instance fungi toxins and some antibiotics can inhibit activity of RNA-polymerase. What process will be disturbed in a cell in case of inhibition of this enzyme?

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

115. A 7 year old child is ill with bronchitis. It is necessary to administer him an antibacterial drug. What drug of fluoroquinolone group is **CONTRA-INDICATED** at this age?

- A. Cyprofloxacin
- B. Ampicillin
- C. Amoxicillin
- D. Sulfadimethoxine
- E. Ampiox

116. A culture of monkey cells (Vero) and a group of mouse sucklings were infected with an inoculum taken from a child with provisional diagnosis "enterovirus infection". There was no cytopathic effect on the cell culture but mouse sucklings died. What enteric viruses might have caused disease of this child?

- A. Coxsackie A
- B. Coxsackie B
- C. ECHO virus
- D. Polioviruses
- E. Unclassified enteric viruses 68-71

117. A patient died from cardiopulmonary decompensation. Histological examination revealed diffused pulmonary lesion together with interstitial edema, infiltration of tissue by lymphocytes, macrophages, plasmocytes; pulmonary fibrosis, panacinar emphysema. What disease corresponds with the described picture?

- A. Fibrosing alveolitis
- B. Chronic bronchitis
- C. Bronchopneumonia
- D. Pulmonary atelectasis
- E. Bronchial asthma

118. Vagus branches that innervate heart

are being stimulated in course of an experiment. As a result of it the excitement conduction from atria to the ventricles was brought to a stop. It is caused by electrophysical changes in the following structures:

- A. Atrioventricular node
- B. His' bundle
- C. Sinoatrial node
- D. Ventricles
- E. Atria

119. If a man has an attack of bronchi-spasm it is necessary to reduce the effect of vagus on smooth muscles of bronchi. What membrane cytoceptors should be blocked for this purpose?

- A. M-cholinoreceptors
- B. N-cholinoreceptors
- C. α -adrenoreceptors
- D. β -adrenoreceptors
- E. α - and β -adrenoreceptors

120. A patient of surgical department complains about pain in the small of her back and in the lower part of her belly; painful and frequent urination. Bacteriological examination of urine revealed gram-negative oxidase-positive rod-like bacteria forming greenish mucoid colonies with specific smell. What causative agent can it be?

- A. *Pseudomonas aeruginosa*
- B. *Proteus mirabilis*
- C. *E.coli*
- D. *Str.pyogenes*
- E. *Mycoplasma pneumonie*

121. There are several groups of molecular mechanisms playing important part in pathogenesis of insult to cells which contributes to the pathology development. What processes are stimulated by proteinic damage mechanisms?

- A. Enzyme inhibition
- B. Lipid peroxidation
- C. Phospholipase activation
- D. Osmotic membrane distension
- E. Acidosis

122. A child was born with cleft palate. Examination revealed aorta defects and reduced number of T-lymphocytes in blood. What immunodeficient syndrome is it?

- A. DiGeorge
- B. Wiskott-Aldrich
- C. Chediak-Higashi
- D. Louis-Bar
- E. Swiss-type

123. A 16 year old boy after an illness has diminished function of protein synthesis in liver as a result of vitamin *K* deficiency. It will cause disturbance of:

- A. Blood coagulation
- B. Erythrocyte sedimentation rate
- C. Anticoagulant generation
- D. Erythropoietin secretion
- E. Osmotic blood pressure

124. Life cycle of a cell includes the process of DNA autoreduplication. As a result of it monochromatid chromosomes turn into bichromatid ones. What period of cell cycle does this phenomenon fall into?

- A. *S*
- B. *G₀*
- C. *G₁*
- D. *G₂*
- E. *M*

125. A driver who got a trauma in a road accident and is shocked has reduction of daily urinary output down to 300 ml. What is the main pathogenetic factor of such diuresis change?

- A. Drop of arterial pressure
- B. Drop of oncotic blood pressure
- C. Increased vascular permeability
- D. Decreased number of functioning glomerules
- E. Secondary hyperaldosteronism

126. Systemic arterial pressure of an adult dropped from 120/70 to 90/50 mm Hg that led to reflectory vasoconstriction. The vasoconstriction will be maximal in the following organ:

- A. Bowels
- B. Heart
- C. Brain
- D. Kidneys
- E. Adrenals

127. Examination of a 12 year old boy with developmental lag revealed achondroplasia: disproportional constitution with evident shortening of upper and lower limbs as a result of growth disorder of epiphyseal cartilages of long tubal bones. This disease is:

- A. Inherited, dominant
- B. Inherited, recessive
- C. Inherited, sex-linked
- D. Congenital
- E. Acquired

128. A patient was diagnosed with autoimmune hemolytic cytotoxic anemia. What substances are antigens in II type allergic reactions?

- A. Modified receptors of cell membranes
- B. Antibiotics
- C. Hormones
- D. Serum proteins
- E. Inflammation modulators

129. While performing an operation in the area of axillary crease a surgeon has to define an arterial vessel surrounded by fascicles of brachial plexus. What artery is it?

- A. *A.axillaris*
- B. *A.vertebralis*
- C. *A.transversa colli*
- D. *A.profunda brachii*
- E. *A.subscapularis*

130. A patient takes digoxin for treatment of cardiac insufficiency. What diuretic may increase digoxin toxicity due to the intensified excretion of K^+ ions?

- A. Hydrochlorothiazide
- B. Spironolactone
- C. Panangine
- D. Siliborum
- E. Lisinopril

131. During starvation muscle proteins break up into free amino acids. These compounds will be the most probably involved into the following process:

- A. Gluconeogenesis in liver
- B. Gluconeogenesis in muscles
- C. Synthesis of higher fatty acids
- D. Glycogenolysis
- E. Decarboxylation

132. A patient ill with amebiasis was prescribed a certain drug. The use of alcohol together with this drug is contraindicated because the drug inhibits metabolism of ethyl alcohol. What drug is it?

- A. Metronidazole
- B. Reserpine
- C. Clonidine
- D. Diazepam
- E. Aminazine

133. Surgical removal of a part of stomach resulted in disturbed absorption of vitamin B_{12} , it is excreted with feces. The patient was diagnosed with anemia. What factor is necessary for absorption of this vitamin?

- A. Gastromucoprotein
- B. Gastrin
- C. Hydrochloric acid
- D. Pepsin
- E. Folic acid

134. A patient ill with chronic cardiac insufficiency was prescribed an average therapeutic dose of digoxin. Two weeks after begin of its taking there appeared symptoms of drug intoxication (bradycardia, extrasystole, nausea). Name the phenomenon that caused accumulation of the drug in the organism?

- A. Material cumulation
- B. Functional cumulation
- C. Tolerance
- D. Tachyphylaxis
- E. Idiosyncrasy

135. In course of a preventive examination of a miner a doctor revealed changes of cardiovascular fitness which was indicative of cardiac insufficiency at the compensation stage. What is the main proof of cardiac compensation?

- A. Myocardium hypertrophy
- B. Tachycardia
- C. Rise of arterial pressure
- D. Dyspnea
- E. Cyanosis

136. Rest potential of a cell equals -80 mV . At what stage of action potential did the membrane potential equal $+30\text{ mV}$?

- A. Reverse polarization
- B. After hyperpolarization
- C. After depolarization
- D. Depolarization
- E. -

137. A 35 year old man got an injury that caused complete disruption of spinal cord at the level of the first cervical segment. What respiration changes will be observed?

- A. It will come to a standstill
- B. No changes will be observed
- C. Diaphragmal respiration will be maintained, thoracic respiration will disappear
- D. Thoracic respiration will be maintained, diaphragmal respiration will disappear
- E. It will become infrequent and deep

138. In course of an experiment a peripheral section of vagus of an experimental animal is being stimulated. What changes will be observed?

- A. Heart rate fall
- B. Heart hurry
- C. Pupil dilation
- D. Increase of respiration rate
- E. Bronchi dilation

139. 2 hours after a skeletal extension was performed to a 27 year old patient with multiple traumas (closed injury of chest, closed fracture of right thigh) his condition abruptly became worse and the patient died from acute cardiopulmonary decompensation. Histological examination of pulmonary and cerebral vessels stained with Sudan III revealed orange drops occluding the vessel lumen. What complication of polytrauma was developed?

- A. Fat embolism
- B. Gaseous embolism
- C. Microbal embolism
- D. Thromboembolism
- E. Air embolism

140. In course of severe respiratory viral infection there appeared clinical signs of progressing cardiac insufficiency that caused death of a patient in the 2nd week of disease. Autopsy revealed that the heart was sluggish, with significant cavity dilatation. Histological examination of myocardium revealed plephora of microvessels and diffuse infiltration of stroma by lymphocytes and histiocytes. What disease corresponds with the described picture?

- A. Myocarditis
- B. Stenocardia
- C. Acute coronary insufficiency
- D. Myocardium infarction
- E. Cardiomyopathy

141. A specimen stained by Ozheshko method contains rod-like microorganisms stained blue with round terminal components stained red. What are these components called?

- A. Spores
- B. Cilia
- C. Flagella
- D. Capsules
- E. Mesosomes

142. A 38 year old patient with full-blown jaundice, small cutaneous hemorrhages, general weakness and loss of appetite underwent puncture biopsy of liver. Histological examination revealed disseminated dystrophy, hepatocyte necrosis, Councilman's bodies. Lobule periphery has signs of significant infiltration by lymphocytes, there are also individual multinuclear hepatocytes. What is the most probable diagnosis?

- A. Acute viral hepatitis
- B. Acute alcoholic hepatitis
- C. Miliary hepatic cirrhosis
- D. Toxic degeneration of liver
- E. Chronic hepatitis

143. A man with an injury of the dorsal area of his neck was admitted to the resuscitation department. What muscle occupies this area?

- A. *M. trapezius*
- B. *M. sternocleidomastoideus*
- C. *M. latissimus dorsi*
- D. *M. rhomboideus minor*
- E. *M. scalenus anterior*

144. In course of an experiment a toad's right labyrinth was destroyed. It will cause amyotonia of the following muscles:

- A. Right extensors
- B. Left flexors
- C. Left extensors
- D. Right flexors
- E. Right and left extensors

145. A 20 year old patient died from intoxication 8 days after artificial illegal abortion performed in her 14-15th week of pregnancy. Autopsy of the corpse revealed yellowish colour of eye sclera and of skin, necrotic suppurative endometritis, multiple pulmonary abscesses, spleen hyperplasia with a big number of neutrophils in its sinuses. What complication after abortion was developed?

- A. Septicopyemia
- B. Septicemia
- C. Hemorrhagic shock
- D. Chroniosepsis
- E. Viral hepatitis type A

146. A patient complains of dizziness and hearing loss. What nerve is damaged?

- A. Vestibulocochlear
- B. Trigeminal
- C. Sublingual
- D. Vagus
- E. Trochlear

147. A 6 year old child was delivered to a hospital. Examination revealed that the child couldn't fix his eyes, didn't keep his eyes on toys, eye ground had the cherry-red spot sign. Laboratory analyses showed that brain, liver and spleen had high rate of ganglioside glycometide. What congenital disease is the child ill with?

- A. Tay-Sachs disease
- B. Wilson's syndrome
- C. Turner's syndrome
- D. Niemann-Pick disease
- E. MacArdle disease

148. A patient has a cluster of matted together dense lymph nodes on his neck. Histological examination of a removed lymph node revealed proliferation of reticular cells, presence of Reed-Sternberg cells. What disease is meant?

- A. Lymphogranulomatosis
- B. Lymphoblastic leukosis
- C. Myeloblastic leukosis
- D. Myelocytic leukosis
- E. Lymphocytic leukosis

149. While palpating mammary gland of a patient a doctor revealed an induration in form of a node in the inferior medial quadrant. Metastases may extend to the following lymph nodes:

- A. Parasternal
- B. Posterior mediastinal
- C. Profound lateral cervical
- D. Bronchopulmonary
- E. Superior diaphragmal

150. A pregnant woman was registered in an antenatal clinic and underwent complex examination for a number of infections. Blood serum contained *IgM* to the rubella virus. What is this result indicative of?

- A. Of primary infection
- B. Of a chronic process
- C. The woman is healthy
- D. Of exacerbation of a chronic disease
- E. Of recurring infection with rubella virus

151. Parents of a 3 year old child have

been giving him antibiotics with purpose of preventing enteric infections for a long time. A month later the child's condition changed for the worse. Blood examination revealed apparent leukopenia and granulocytopenia. What is the most probable mechanism of blood changes?

- A. Myelotoxic
- B. Autoimmune
- C. Redistributive
- D. Age-specific
- E. Hemolytic

152. A pathological process in bronchi resulted in epithelium desquamation. What cells will regenerate bronchial epithelium?

- A. Basal
- B. Intercalary
- C. Ciliate
- D. Endocrinal
- E. Goblet

153. A patient ill with tuberculosis died from progressing cardiopulmonary decompensation. Autopsy in the area of the right lung apex revealed a cavity 5 cm in diameter communicating with lumen of a segmental bronchus. On the inside cavity walls are covered with caseous masses with epithelioid and Langhans cells beneath them. What morphological form of tuberculosis is it?

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

154. Workers of a hothouse farm work under conditions of unfavourable microclimate: air temperature is $+37^{\circ}\text{C}$, relative humidity is 90%, air speed is 0,2 m/s. The way of heat emission under these conditions will be:

- A. Evaporation
- B. Heat conduction
- C. Convection
- D. Radiation
- E. All the ways

155. A gynaecologist was examining a patient and revealed symptoms of genital tract inflammation. A smear from vagina contains pyriform protozoa with a spine, flagella at their front; there is also an undulating membrane. What disease can be suspected?

- A. Urogenital trichomoniasis
- B. Lambliasis
- C. Intestinal trichomoniasis
- D. Toxoplasmosis
- E. Balantidiasis

156. A boy has I (I^0I^0) blood group and his sister has IV (I^AI^B) blood group. What blood groups do their parents have?

- A. II (I^AI^0) and III (I^BI^0)
- B. II (I^AI^A) and III (I^BI^0)
- C. I (I^0I^0) and IV (I^AI^B)
- D. III (I^BI^0) and IV (I^AI^B)
- E. I (I^0I^0) and III (I^BI^0)

157. A patient ill with enteritis accompanied by massive diarrhea has low water rate in the extracellular space, high water rate inside the cells and low blood osmolality. What is such disturbance of water-electrolytic metabolism called?

- A. Hypo-osmolar hypohydration
- B. Hyperosmolar hypohydration
- C. Osmolar hypohydration
- D. Hypo-osmolar hyperhydration
- E. Hyperosmolar hyperhydration

158. For the purpose of myocardium infarction treatment a patient was injected with embryonal stem cells derived from this very patient by means of therapeutic cloning. What transplantation type is it?

- A. Autotransplantation
- B. Allotransplantation
- C. Xenotransplantation
- D. Isotransplantation
- E. Heterotransplantation

159. A histological specimen of spleen shows a vessel with a wall consisting of endothelium and subendothelial layer, median membrane is absent, exterior membrane inosculates with the layers of spleen connective tissue. What vessel is it?

- A. Vein of non-muscular type
- B. Vein of muscular type
- C. Artery of muscular type
- D. Arteriole
- E. Capillary

160. In course of a conditional experiment the development of mesenchyma cells was completely inhibited. Development of the following muscular tissue will be disturbed:

- A. Smooth muscular tissue
- B. Neural muscular tissue
- C. Epidermal muscular tissue
- D. Cardiac muscular tissue
- E. Skeletal muscular tissue

161. A patient ill with chronic gastritis went for endogastric pH-metry that allowed to reveal decreased acidity of gastric juice. It is indicative of diminished function of the following cells:

- A. Parietal exocrinocytes
- B. Chief exocrinocytes
- C. Endocrinocytes
- D. Cervical cells
- E. Accessory cells

162. Vagi of an experimental animal were cut on both sides. What respiratory changes will be observed?

- A. It will become deep and infrequent
- B. It will become shallow and frequent
- C. It will become deep and frequent
- D. It will become shallow and infrequent
- E. No changes will be observed

163. A 70 year old man is ill with vascular atherosclerosis of lower extremities and coronary heart disease. Examination revealed disturbance of lipidic blood composition. The main factor of atherosclerosis pathogenesis is the excess of the following lipoproteins:

- A. Low-density lipoproteins
- B. Cholesterol
- C. High-density lipoproteins
- D. Intermediate density lipoproteins
- E. Chylomicrons

164. On the 2-3rd day after stomach resection intestinal peristalsis wasn't restored. What is to be administered for stimulation of gastrointestinal tract?

- A. Proserin
- B. Prasosin
- C. Cyclodole
- D. Atropine sulfate
- E. Acetylcholine

165. A cardiac electric stimulator was implanted to a 75 year old man with heart rate of 40 bpm. Thereafter the heart rate rose up to 70 bpm. The electric stimulator has undertaken the function of the following heart part:

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

166. A stomatologist injected a patient with a certain drug in order to reduce salivation during tooth filling. What drug is it?

- A. Atropine sulfate
- B. Adrenaline hydrochloride
- C. Proserin
- D. Pilocarpine hydrochloride
- E. Mesaton

167. A 30 year old woman has applied a lipstick with a fluorescent substance for a long time. Then she got a limited erythema and slight peeling on her lip border, later there appeared transversal striae and cracks. Special methods of microscopic examination of the affected area helped to reveal sensibilized lymphocytes and macrophages in the connective tissue; cytolysis. What type of immunological hypersensitivity was developed?

- A. IV type (cellular cytotoxicity)
- B. I type (reaginic)
- C. II type (antibody cytotoxicity)
- D. III type (immune complex cytotoxicity)
- E. Granulomatosis

168. A patient ill with essential arterial hypertension had a hypertensive crisis that resulted in an attack of cardiac asthma. What is the leading mechanism of cardiac insufficiency in this case?

- A. Heart overload caused by high pressure
- B. Heart overload caused by increased blood volume
- C. Absolute coronary insufficiency
- D. Myocardium damage
- E. Blood supply disturbance

169. A man who has been taking a drug for a long time cannot withhold it because this causes impairment of psychic, somatic and vegetative functions. Name the syndrome of different disturbances caused by drug discontinuation:

- A. Abstinence
- B. Sensibilization
- C. Idiosyncrasy
- D. Tachyphylaxis
- E. Cumulation

170. A patient consulted a stomatologist about purulent inflammation of his gums. What drug will be the most effective if it

is suspected that a causative agent is an anaerobe?

- A. Metronidazole
- B. Gentamicin
- C. Oxacillin sodium
- D. Co-trimoxazole
- E. Nitroxoline

171. Rats being under stress have muscular hypertonia and high arterial pressure, high glucose concentration in blood and intensified secretion of corticotropin and corticosteroids. In what stress phase are these animals?

- A. Antishock phase
- B. Exhaustion
- C. Shock phase
- D. Erectile
- E. Terminal

172. Ultramicroscopical examination of "dark" hepatocyte population in the cell cytoplasm detected a developed granular endoplasmic reticulum. What function has this organella in these cells?

- A. Synthesis of blood plasma proteins
- B. Carbohydrate synthesis
- C. Deintoxicative function
- D. Bile production
- E. Calcium ion depositing

173. A patient came to the hospital complaining about quick fatigability and apparent muscle weakness. Examination revealed an autoimmune disease that causes disorder of functional receptor condition in neuromuscular synapses. What transmitter will be blocked?

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

174. Examination of a 35 year old patient revealed high acidity of gastric juice. What receptors should be blocked in order to reduce it?

- A. Histamine
- B. α_1 -adrenoreceptors
- C. α_2 -adrenoreceptors
- D. β_1 -adrenoreceptors
- E. β_2 -adrenoreceptors

175. Examination of a young woman revealed a node-like, soft and elastic homogenous tumour of pinkish-white colour along the acoustic nerve. The

tumour contains cell bundles with oval nuclei. Cellular fibrous bundles form rhythmic structures made up by parallel rows of regularly oriented cells arranged in form of a palisade with cell-free homogenous zone (Verocay bodies) between them. What tumour is it?

- A. Neurinoma
- B. Malignant neurinoma
- C. Ganglioneurinoma
- D. Neuroblastoma
- E. Ganglioneuroblastoma

176. A 45 year old woman is ill with breast cancer. Her left arm has symptoms of lymphatic system insufficiency - limb edema, lymph node enlargement. What form of lymphatic circulation insufficiency is it?

- A. Mechanic insufficiency
- B. Dynamic insufficiency
- C. Resorption insufficiency
- D. Combined insufficiency
- E. -

177. An endocrinal gland with parenchyma consisting of epithelium and neural tissue is under morphological examination. Epithelial trabecules have two types of cells: chromophilic and chromophobic. Identify this organ:

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

178. While performing an inguinal canal operation on account of hernia a surgeon damaged the canal's contents. What exactly was damaged?

- A. *Funiculus spermaticus*
- B. *Urachus*
- C. *Lig. teres uteri*
- D. *Lig. inguinale*
- E. -

179. A 12 year old child has intolerance to some foodstuffs. Their consumption causes an allergic reaction in form of itching skin eruptions. What antihistaminic drug should be administered so that the child could attend school?

- A. Loratadine
- B. Dimedrol
- C. Diclofenac
- D. Aminophylline
- E. Ephedrine

180. A patient that entered the admission office had the following signs of acute cardiac insufficiency: paleness, acrocyanosis, frequent shallow respiration. What drug is indicated in this case?

- A. Corglycon
- B. Digitoxin
- C. Cordiamin
- D. Nitroglycerine
- E. Adrenaline hydrochloride

181. A 26 year old man is in the torpid shock phase as a result of a car accident. In blood: $3,2 \cdot 10^9/l$. What is the leading mechanism of leukopenia development?

- A. Redistribution of leukocytes in bloodstream
- B. Leikopoiesis inhibition
- C. Disturbed going out of mature leukocytes from the marrow into the blood
- D. Lysis of leukocytes in the blood-forming organs
- E. Intensified elimination of leukocytes from the organism

182. A patient had hemorrhagic stroke. Blood examination revealed strengthened kinin concentration. The patient was prescribed contrical. It was administered in order to inhibit the following protei-nase:

- A. Kallikrein
- B. Pepsin
- C. Trypsin
- D. Chemotrypsin
- E. Collagenase

183. A patient with bacterial pneumonia was prescribed benzylpenicillin. What is the mechanism of its antibacterial effect?

- A. Inhibition of synthesis of microorganism wall
- B. Inhibition of intracellular protein synthesis
- C. Abnormal permeability of cytoplasmic membrane
- D. Inhibition of SH-groups of microorganism enzymes
- E. Antagonism with p-amino-benzoic acid

184. Hartnup disease is caused by point mutation of only one gene which results

in disturbance of tryptophane absorption in the bowels and its resorption in the renal tubules. It is the reason for disorder of both digestive and urination systems. What genetic phenomenon is observed in this case?

- A. Pleiotropy
- B. Complementary interaction
- C. Polymery
- D. Codominance
- E. Semidominance

185. A patient who has been treated in a neural clinic and has been taking a sedative for a long time got the following complication: cough, rhinitis, epiphora. What drug caused these disturbances?

- A. Sodium bromide
- B. Diazepam
- C. Valerian
- D. Phenazepam
- E. Reserpine

186. In order to accelerate healing of a radiation ulcer a vitamin drug was administered. What drug is it?

- A. Retinol acetate
- B. Retabolil
- C. Prednisolone
- D. Levamisole
- E. Methyluracil

187. Inoculum from pharynx of a patient ill with angina was inoculated into blood-tellurite agar. It resulted in growth of grey, radially striated (in form of rosettes) colonies 4-5 mm in diameter. Gram-positive bacilli with clublike thickenings on their ends placed in form of spread wide apart fingers are visible by microscope. What microorganisms are these?

- A. Diphtheria corynebacteria
- B. Botulism clostridia
- C. Diphtheroids
- D. Streptococci
- E. Streptobacilli

188. Plasmic factors of blood coagulation are exposed to post-translational modification with the participation of vitamin K. It is necessary as a cofactor in the enzyme system of γ -carboxylation of protein factors of blood coagulation due to the increased affinity of their molecules with calcium ions. What amino acid is carboxylated in these proteins?

- A. Glutamic
- B. Valine
- C. Serine
- D. Phenylalanine
- E. Arginine

189. Pharmacological effects of anti-depressants are connected with inhibition of an enzyme catalyzing biogenic amines noradrenaline and serotonin in the mitochondrions of cerebral neurons. What enzyme participates in this process?

- A. Monoamine oxidase
- B. Transaminase
- C. Decarboxylase
- D. Peptidase
- E. Lyase

190. An oncological patient was prescribed methotrexate. With the lapse of time target cells of the tumour lost susceptibility to this drug. There is change of gene expression of the following enzyme:

- A. Dehydrofolate reductase
- B. Thiaminase
- C. Deaminase
- D. Folate oxidase
- E. Folate decarboxylase

191. As a result of prophylactic medical examination a 7 year old boy was diagnosed with Lesch-Nyhan syndrome (only boys fall ill with it). The boy's parents are healthy but his grandfather by his mother's side suffers from the same disease. What type of disease inheritance is it?

- A. Recessive, sex-linked
- B. Dominant, sex-linked
- C. Autosomal recessive
- D. Autosomal dominant
- E. Semidominance

192. Planned mass vaccination of all newborn 5-7 day old children against tuberculosis plays an important role in tuberculosis prevention. In this case the following vaccine is applied:

- A. BCG
- B. Diphtheria and tetanus toxoids and pertussis vaccine
- C. Diphtheria and tetanus anatoxin vaccine
- D. Adsorbed diphtheria vaccine
- E. -

193. A patient with hypertensive crisis was admitted to the cardiological department, he was injected intravenously with an anti-

hypertensive drug - salt of an alkaline-earth metal. What drug was injected?

- A. Magnesium sulfate
- B. Potassium chloride
- C. Sodium hydrocarbonate
- D. Calcium lactate
- E. Benzohexamethonium

194. In course of a small pelvis operation it became necessary to ligate an ovarian artery. What formation may be accidentally ligated together with it?

- A. Ureter
- B. Uterine tube
- C. Round ligament of uterus
- D. Internal iliac vein
- E. Urethra

195. A patient with acute morphine poisoning was delivered to a hospital. What specific narcotic antagonist should be chosen in this case?

- A. Naloxone
- B. Paracetamol
- C. Methacin
- D. Digoxin
- E. Unithiol

196. The upper lobe of the right lung is enlarged, grey and airless, the incision surface is dripping with turbid liquid, the pleura has many fibrinogenous films; microscopical examination of alveoles revealed exudate containing neutrophils, desquamated alveolocytes and fibrin fibers. The bronchus wall is intact. What is the most probable diagnosis?

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

197. A 28 year old patient had high arterial pressure, hematuria and facial edemata. In spite of treatment renal insufficiency was progressing. 6 months later the patient died from uremia. Microscopic examination of his kidneys and their glomerules revealed proliferation of capsule nephrothelium and of podocytes with "demilune" formation, sclerosis and hyalinosis of glomerules. What disease corresponds with the described picture?

- A. Subacute glomerulonephritis
- B. Acute pyelonephritis
- C. Nephrotic syndrome
- D. Chronic glomerulonephritis
- E. Acute glomerulonephritis

198. A patient with a knife wound in the left lumbar part was delivered to the emergency hospital. In course of operation a surgeon found that internal organs were not damaged but the knife injured one of muscles of renal pelvis. What muscle is it?

- A. Greater psoas muscle
- B. Iliac muscle
- C. Erector muscle of spine
- D. Abdominal internal oblique muscle
- E. Abdominal external oblique muscle

199. A man with a stab wound in the area of quadrilateral foramen applied to a doctor. Examination revealed that the patient was unable to draw his arm asi-

de from his body. What nerve is most probably damaged?

- A. *N.axillaris*
- B. *N.medianus*
- C. *N.radialis*
- D. *N.ulnaris*
- E. *N.subclavius*

200. Autopsy of a man ill with severe hypothyroidism revealed that connective tissue, organ stroma, adipose and cartilaginous tissues were swollen, semi-transparent, mucus-like. Microscopic examination of tissues revealed stellate cells having processes with mucus between them. What type of dystrophy is it?

- A. Stromal-vascular carbohydrate
- B. Stromal-vascular adipose
- C. Stromal-vascular proteinaceous
- D. Parenchymatous proteinaceous
- E. Parenchymatous adipose