1. A 25-year old woman is admitted to the hospital because of a 6-week history of double vision and difficulty to talk after prolonged speaking. Her husband reports fluctuating droopy eyelids in the morning and evening. An immunologic assay detects the presence of circulating autoantibodies against the certain receptors at the neuromuscular junction. Disturbed binding of which of the following neurotransmitters is the most likely cause of this patient's symptoms?

a. γ-aminobutyric acid (GABA)
b. Epinephrine
c. Dopamine
d. Serotonin
e. Acetylcholine

2. Examination of an oral cavity shows puffy gums, pus between teeth and gums, contact bleeding. The dentist suspects gum infection that damages the soft tissue and destroys the bone that supports the teeth. This pathology can cause teeth to loosen or lead to tooth loss. Which of the following is the most likely diagnosis?

a. Xerostomia
b. Periodontitis
c. Galvanosis
d. ---
e. Acute sialadenitis

3. Persistent and heavy proteinuria (albuminuria) associated with nephrotic syndrome leads to hypoalbuminemia, which changes plasma pressure resulting in severe generalized edema. According to the description which of the following circumstances tends to cause nephrotic edema?

a. Increased plasma oncotic pressure
b. Decreased plasma oncotic pressure
c. Increased tissue hydrostatic pressure
d. Decreased venous pressure
e. ---

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

a. Entamoeba histolytica
b. Trichomonas tenax
c. Entamoeba gingivalis
d. Lamblia
e. Entamoeba coli

5. A patient complains of an extremely runny nose and lost sense of smell. Where in the nasal cavity are located the receptors of the olfactory analyzer?

a. Choanae
b. Common nasal meatus
c. Inferior nasal meatus
d. Superior nasal meatus
e. Middle nasal meatus

6. Some diseases of the small intestine are associated with dysfunction of exocrinocytes with acidophilic granules (Paneth cells). Where are these cells located?

a. On the lateral surfaces of the intestinal villi
b. At the bottom of the intestinal crypts
c. In the apical parts of the intestinal crypts
d. At the crypt-villus junction
e. In the apical parts of the intestinal villi

7. When extracting a tooth, the dentist destroys the bonds between the cementum of the dental root and the tooth socket. What structure is it?

a. Dentinum
b. Cementum

c. Periodontium
d. Gingiva
e. Pulpa dentis

8. After an injury, the patient developed a focus of purulent inflammation in the alveolar process of the jaw in its outward area, with the development of subperiosteal abscess and edema of the adjacent soft tissues. What is the most likely diagnosis in this case?
a. Chronic fibrous periostitis
b. Chronic hyperplastic periostitis
c. Serous periostitis
d. Ossifying periostitis
e. Purulent periostitis

9. During an accident on a nuclear submarine, a conscript soldier received a radiation dose of 5 Gy. He complains of headache, nausea, and dizziness. What changes in the leukocyte count can be expected after such irradiation?
a. Agranulocytosis
b. Lymphocytosis
c. Leukopenia
d. Neutrophilic leukocytosis
e. Anemia

10. The tonsils of a 28-year-old patient are significantly enlarged, plethoric, and painful. On their surface, there are dense dirty-gray films that spread to the hard palate and are tightly attached to the underlying tissues. Attempts to remove the films provoke bleeding. What pathological process causes these morphological changes?
a. Croupous exudative inflammation
b. Catarrhal exudative inflammation
c. Diphtheritic exudative inflammation
d. Hemorrhagic exudative inflammation
e. Purulent exudative inflammation

11. Among the amino acids that contain a hydroxyl group, one is of the greatest importance in the formation of the structure of collagen and the organic matrix of the tooth. What is this amino acid?
a. Homoserine
b. Threonine
c. Oxyproline
d. Tyrosine
e. Serine

12. An 11-month-old child has delayed teething, misaligned teeth, dry oral mucosa, and cracks appearing in the corners of the mouth with subsequent suppuration. This condition is likely to be associated with a deficiency of vitamin:
a. K
b. D
c. A
d. E
e. C

13. Filopodia of megakaryocytes pass through the pores of the sinusoidal capillaries of the red bone marrow into the lumen of blood vessels, where they are fragmented into individual laminae. What blood corpuscles are formed this way?
a. Platelets
b. Reticulocytes
c. Erythrocytes
d. Lymphocytes
e. Monocytes

14. A patient has made an appointment with a dentist. A cavity was detected in the softened dentin of

his premolar. A narrow layer of dentin remains between the carious cavity and the pulp. What is the most likely diagnosis in this case?
a. Fluorosis
b. Superficial caries
c. Deep caries
d. White spot lesion
e. Median caries

15. A 70-year-old patient is brought to the emeregency department by his son because of blurry vision and dysarthria. His son says, that the father is always thirsty and has difficulty with urination. Examination reveals dry skin, cutaneous vasodilation, nonreactive mydriasis, and hyperthermia. Drug overdose is suspected. Which of the following drugs is the most likely cause of this patient's toxicity?
a. Atropine
b. Reserpine
c. Carbachol
d. Clonidine
e. Metamizole

16. As a result of an injury, an area of the oral cavity was damaged. This area can be divided into the maxillary, intermediate, and mandibular zones. What part of the oral cavity is damaged?
a. Lip
b. Hard palate
c. Soft palate
d. Cheek
e. Tongue

17. In histogenesis of bone tissue, two ways of its development are possible. What stages are not characteristic of membranous osteogenesis?
a. Replacement of reticulofibrous bone tissue with lamellar bone tissue
b. Formation of epiphyseal centers of ossification
c. Formation of osteogenic buds within mesenchyme
d. Osteoid stage
e. Formation of reticulofibrous bone

18. A 25-year-old patient has been hospitalized with the diagnosis of syphilis. After testing, it was determined that the patient was hypersensitive to bicillin-5. What can be used as a replacement of this drug?
a. Levomycetin (Chloramphenicol)
b. Biseptol (Co-trimoxazole)
c. Streptomycin
d. Ampicillin
e. Tetracycline

19. Ribosomes are the organelles that bind amino acid residues into a polypeptide chain. The number of ribosomes in the cells of different organs varies and depends on the function of the organ. What organ has the highest ribosome count in its cells?
a. Secretory cells of the pancreas
b. Epithelium of the small intestine
c. Outermost layer of epidermis
d. Urinary bladder
e. Epithelium of the renal tubules

20. A 42-year-old female comes to the physician 2 days after the sudden onset of pain and swelling of her right knee. She has had no injury. Examination of the right knee shows warmth, erythema, and effusions. Laboratory studies show an increase in the concentration of acute phase reactants. Which of the following is the most appropriate pharmacotherapy for this patient?
a. Opioids
b. Sulfonamides

c. Antibiotics
d. Antidepressants
e. Nonsteroidal anti-inflammatory drugs (NSAIDs)

21. A 49-year-old man comes to his physician with complaints of moderate headaches and profuse sweating. He mentions that his coworkers have made comments about his apparent increase in gloves and boots size. He says that since he joined his company 10 years ago he has changed the size of clothes at least 4 times. Physical examination shows hyperhidrosis, noticeable large pores, hypertrichosis, widely spaced teeth and prognathism. Which of the following is the most likely cause of this pathology?
a. Decreased secretion of glucocorticoids
b. ---
c. Excess secretion of growth hormone
d. Decreased secretion of insulin
e. Excess secretion of vasopressin

22. During the extraction of a carious tooth, the dental surgeon found a gray-pink soft-elastic nodule 1.3 cm in diameter in the area of the dental root. Microscopically, the nodule is represented by granulation tissue with lymphocytes, plasma and mast cells, macrophages, xanthoma cells, and fibroblasts. What pathological neoplasm can be suspected in this case?
a. Granulating periodontitis
b. Eosinophilic granuloma
c. Simple granuloma
d. Cystogranuloma
e. Epithelial granuloma

23. Fluorination of teeth is one of the major procedures which is used for enamel strengthening. Due to fluoride ions and fluoridation of the enamel, the teeth get protection from acidic environment and therefore dental caries is prevented. Which of the following is the most likely mechanism of fluorine's anticaries effect?
a. Hydroxyapatite synthesis
b. Chlorapatite synthesis
c. Teeth mineralization
d. Fluorapatite synthesis
e. Teeth demineralization

24. Dentists have high risk of contracting viral hepatitis type B in the course of their duties and therefore are subject to mandatory vaccination. What vaccine is used in such cases?
a. Inactivated vaccine
b. Recombinant vaccine
c. Chemical vaccine
d. Live vaccine
e. Anatoxin

25. After examination, the signs of acromegaly were detected in a patient. What endocrine gland is involved in this pathological process?
a. Thyroid gland
b. Pineal gland
c. Adenohypophysis
d. Adrenal glands
e. Neurohypophysis

26. A 66-year-old male is brought to the emergency department with central chest pain for 1 hour. He rates his pain as severe, dull in character and it is associated with profuse sweating and shortness of breath. Physical examination reveals a blood pressure of 100/70 mm Hg, pulse --- 115/min, oxygen saturation of 95% on room air. An electrocardiogram is done and shows ST elevation in leads II, III and avF which is consistent with an acute myocardial infarction. The patient is given oral aspirin, sublingual nitroglycerine and intravenous morphine. Which of the following is the most likely

mechanism of action of morphine?
a. Adenylyl cyclase activator
b. Acetylcholinesterase inhibitor
c. Opioid receptors agonist
d. Histamine receptor antagonist
e. Phosphodiesterase inhibitor

27. A 28-year-old female patient dies of progressive respiratory failure after she was diagnosed with comminuted fracture of the right hip. Prior to her death she developed severe hypoxemia, neurologic abnormalities, and petechial rash. At autopsy, examination of pulmonary microvasculature shows intraluminal orange sudanophilic droplets. Which of the following complications is the most likely cause of this patient's death?
a. Tumor embolism
b. Air embolism
c. Thromboembolism
d. Amniotic fluid embolism
e. Fat embolism

28. A patient being treated for viral B hepatitis developed signs of hepatic failure. What changes in the blood test that indicate a protein metabolism disorder will most likely be observed in this case?
a. Absolute hyperalbuminemia
b. Blood protein composition is \\ unchanged
c. Absolute hyperfibrinogenemia
d. Absolute hyperglobulinemia
e. Absolute hypoalbuminemia

29. Lab rats were used to study the effect of a certain vitamin on the body. Deficiency of this vitamin has resulted in a disturbed reproductive function and skeletal muscle dystrophy. What vitamin is it?
a. A
b. D
c. E
d. K
e. B_2

30. A 10-day-old baby has undergone a surgery for cleft upper lip (<<hare lip>>). A split upper lip is caused by:
a. A non-union of the tori palatini on the maxillary processes of the first branchial arch
b. A non-union of the third branchial arch
c. A non-union of the second branchial arch
d. A non-union of the frontal and maxillary processes of the first branchial arch
e. A non-union of the maxillary and mandibular processes of the first branchial arch

31. A 40-year-old male comes to the physician because of recurrent painful flares and swelling of the metatarsal-phalangeal joint of the great toe. Laboratory study of urine sample shows extremely low pH and pink discoloration. Which of the following metabolic intermediates is the most likely cause of changes in this patient's urine?
a. Ammonia
b. Tricalcium phosphate
c. Magnesium sulfate
d. Uric acid
e. Chloride

32. A 45-year-old female patient has neurosis with irritability, insomnia, amotivational anxiety. What tranquilizer will be able to eliminate all symptoms of the disease?
a. Levodopa
b. Paracetamol
c. Piracetam
d. Caffeine-sodium benzoate

e. Diazepam

33. Experimental studies of membrane ionic currents in the dynamics of action potential development have shown that the ionic current that causes the repolarization phase can be classified as:
a. Passive sodium current
b. Active potassium current
c. Active chlorine current
d. Passive potassium current
e. Active sodium current

34. A 34-year-old woman goes into labor at 38 weeks. After several hours of labor a male infant is born with fever, hydrocephalus, hepatosplenomegaly, jaundice, bilateral chorioretinitis and cerebral calcifications. Which of the following protozoan infections is the most likely cause of the infant's condition?
a. Giardiasis
b. Amebiasis
c. Toxoplasmosis
d. Balantidiasis
e. Trichomoniasis

35. A glucocorticoid ointment has been prescribed to a patient for periodontitis treatment. Name this medicine:
a. Prednisolone
b. Erythromycin
c. Ampicillin
d. Tetracycline
e. Decamin (Dequalinium)

36. A research lab is investigating the rate of differentiation of hematopoietic cells in order to better understand acute myeloid leukemia in children. A bone marrow biopsy of a 6-year-old boy shows the differentiation stage in which hemopoietic cell extrudes its nucleus. Which of the following processes is most likely assiociated with biopsy findings?
a. Monocytopoiesis
b. Lymphocytopoiesis
c. Granulopoiesis
d. Erythropoiesis
e. Thrombopoiesis

37. At autopsy, section of the right ovary shows a round lesion 2.5 cm in diameter with a clear serous fluid, surrounded by a smooth glistening membrane. Which of the following macroscopic lesions best represents the autopsy findings?
a. Cyst
b. Ulcer
c. Infiltrate
d. Nodule with central necrosis
e. Nodule

38. Calcification of the intercellular substance of bone tissue is accompanied by the deposition of hydroxyapatite crystals along the collagen fibers. This process requires the presence of alkaline phosphatase in the intercellular matrix. Which of the following cells most likely produces this enzyme?
a. Chondroblast
b. Osteoblast
c. Osteocyte
d. Osteoclast
e. Chondrocyte

39. The process of aging in humans is associated with decreased synthesis and secretion of pancreatic juice and its lower trypsin content. It results in disturbed breakdown of:
a. Polysaccharides

b. Proteins
c. Nucleic acids
d. Lipids
e. Phospholipids

40. An ophthalmologist suspects blennorrhea (gonococcal conjunctivitis) in a child with signs of suppurative keratoconjunctivitis. What laboratory diagnostics should be conducted to confirm the diagnosis?
a. Serum diagnostics and allergy test
b. Biological analysis and \\ phagodiagnostics
c. Biological analysis and allergy test
d. Microscopy and serum diagnostics
e. Microscopy and bacteriological \\ analysis

41. A patient developed hypersalivation during dental manipulations. What group of medicines reduces this phenomenon?
a. Cholinergic antagonists
b. Adrenergic agonists
c. Cholinergic agonists
d. Adrenergic antagonists
e. Astringents

42. Microscopic examination of the leftovers of the canned meat eaten by a patient with severe food toxicoinfection detected the following: gram-positive bacilli with subterminal staining defect and changed configuration, generally resembling a tennis racket. What causative agent was detected?
a. C) botulinum
b. S. aureus
c. P. vulgaris
d. E) coli
e. S. enteritidis

43. A patient has a long history of dental caries. The pulp of the affected tooth started to resemble a gray-black mass with a putrid odor. Microscopically, it is unstructured and contains microbes. What pathological process has developed in the dental pulp in this case?
a. Pulp gangrene
b. Fibrous pulpitis
c. Purulent pulpitis
d. Serous pulpitis
e. Granulating pulpitis

44. A 34-year-old male comes to the dentist because of a 1-year history of swelling in the right upper jaw. On intraoral examination, a single diffuse 2x1.5 cm swelling is seen on the right side of anterior maxilla. A biopsy specimen of the lesion shows numerous thin-walled sinusoids in the connective tissue, hemosiderin deposition, and numerous giant cells in a hemorrhagic background. Which of the following is the most likely diagnosis?
a. ---
b. Giant cell epulis
c. Granular cell ameloblastoma
d. Cavernous hemangioma
e. Gingival fibromatosis

45. During histologic examination of the skeletal muscle specimen, the investigator discovers an organelle that has 2 membranes: smooth outer membrane and internal, that forms multiple ridges of visible folds (crysts). Which of the following is the most likely function of this structure?
a. Synthesis of carbohydrates
b. Formation of mitotic spindle
c. Intracellular digestion of macromolecules
d. ---

e. Synthesis and energy accumulation in the form of ATP

46. A 35-year-old woman is brought to the physician because of a 4-month history of progressive weakness of both lower limbs. She notes difficulty climbing stairs and complains of lethargy and loss of muscle bulk. Her diet consists primarily of <<polished>> rice. A diagnosis of dry beriberi is suspected. Deficiency of which of the following vitamins is most likely to be detected in her blood?

a. Vitamin B_1 (thiamine)
b. Vitamin C (ascorbic acid)
c. Vitamin B_6 (pyridoxine)
d. Vitamin B_3 (niacin)
e. Vitamin B_2 (riboflavin)

47. A second deciduous molar was extracted in a 13-year-old child. What permanent tooth will erupt in its place?

a. Second premolar
b. Second molar
c. First molar
d. First premolar
e. Third molar

48. A baby has microcephaly. Doctors believe that this condition is caused by the baby's mother taking actinomycin D during her pregnancy. What germ layers have been affected by this teratogen?

a. All the germ layers
b. Mesoderm
c. Endoderm
d. Ectoderm
e. Endoderm and mesoderm

49. During examination, a 7-year-old child was diagnosed with multiple caries by the dentist. What medicine should be recommended for caries prevention in this case?

a. Calmecin
b. Calcium glycerophosphate
c. Calcium gluconate
d. Calcium hydroxide
e. Calcium chloride

50. The prisoner, who went on a hunger strike, developed edemas. What is the mechanism of edema development in this case?

a. Decreased oncotic blood pressure
b. Decreased hydrostatic tissue pressure
c. Increased hydrostatic venous pressure
d. Reduction in circulating blood volume
e. Increased oncotic tissue pressure

51. A child presents with dry cough. What non-narcotic antitussive drug can relieve the patient's condition?

a. Codeine phosphate
b. Glaucine hydrochloride
c. Althaea officinalis roots
d. Potassium iodide
e. Morphine hydrochloride

52. To test teeth sensitivity, they are sprayed with cold or hot water. What structure of cerebral cortex provides subjective estimation of this thermal test?

a. Middle frontal gyrus
b. Posterior central gyrus
c. First temporal convolution
d. Precentral gyrus
e. Central fissure

53. A patient cannot lift the lowered mandible. What muscles fail to perform their function in this case?
a. Epicranius muscle
b. Mimic muscles
c. Orbicularis oris muscle
d. Masticatory muscles
e. Levator anguli oris muscle

54. Salivary α-amylase catalyzes the hydrolysis of α-1,4-glycosidic bonds of starch. What ions function as its activators?
a. Potassium ions
b. Zinc ions
c. Sodium ions
d. Lead ions
e. Copper ions

55. During laboratory testing of the blood of a deceased person, the forensic pathologist diagnosed cyanide poisoning. What was the cause of death in this case?
a. Methemoglobin production
b. Carbhemoglobin production
c. A change in blood pH
d. Carboxyhemoglobin production
e. Production of reduced hemoglobin

56. A 53-year-old woman has height of 163 cm, body weight of 92 kg, uniform fat deposition, and puffy face. She is inactive and apathetic. Pressing the front surface of her lower leg leaves an indentation. What gland is dysfunctional in this woman, causing her pathological condition?
a. Thyroid gland
b. Parathyroid glands
c. Gonads
d. Pituitary gland
e. Adrenal glands

57. For early detection of a pregnancy, a urinalysis is performed. What hormone is likely to indicate pregnancy, if it is present in the woman's urine?
a. Aldosterone
b. Chorionic gonadotropin
c. Testosterone
d. Progesterone
e. Estriol

58. Preventive examination of a 9-year-old girl has revealed one matte white spot (chalk-like and lacking its natural luster) on the enamel in the cervical region on the vestibular surface of her tooth 21. The girl has no subjective complaints. What is the most likely diagnosis in this case?
a. Initial caries
b. Dental erosion
c. Superficial caries
d. Fluorosis
e. Enamel hypoplasia

59. A patient with a malignant tumor has been prescribed a narcotic analgesic for pain relief. What is the mechanism of analgesic action of such drugs?
a. Inhibition of histaminergic receptors
b. Inhibition of cholinergic receptors
c. Activation of opiate receptors
d. Activation of D2 dopamine receptors
e. Inhibition of serotonergic receptors

60. A 6-year-old girl with diphtheria is administered an intravenous injection of diphtheria antitoxin.

Ten days after the initial administration of drug, she develops a pruritic rash, fever, and arthralgias. Which of the following is the most likely diagnosis?
a. Atopy
b. Allergic contact dermatitis
c. Serum sickness
d. Anaphylaxis
e. Delayed type hypersensitivity

61. A baby has a delay in eruption of the first teeth. What vitamin is deficient in this baby?
a. K
b. PP
c. A
d. E
e. D_{3

62. A 67-year-old man was delivered to a cardiology department with complaints of periodical pains in his heart, dyspnea caused by even slight exertion, cyanosis, and edemas. ECG shows additional excitations of heart ventricles. Name this type of rhythm disturbance:
a. Fibrillation
b. Tachycardia
c. Bradycardia
d. Extrasystole
e. Flutter

63. When examining the patient's oral cavity, the dentist noticed a significant tremor of the tongue. Exophthalmos is observed in the patient, as well. The doctor advised the patient to consult an endocrinologist. During the examination, the diagnosis of Basedow's disease was made. This condition is mainly caused by the hyperfunction of certain cells. Name these cells.
a. Endocrinocytes of the zona glomerulosa of the adrenal cortex
b. Parathyrocytes
c. Parafollicular cells
d. Thyrocytes
e. Endocrinocytes of the zona fasciculata of the adrenal cortex

64. The liquidator of the consequences of the accident at the Chornobyl nuclear power plant received an ionizing radiation dose of 6 Gray. What changes in the leukocyte formula can be expected in this patient in 10 days?
a. Leukocytosis with lymphocytopenia
b. Lymphocytosis
c. Eosinophilia
d. Agranulocytosis
e. Basophilia

65. After a facial injury, the patient has a hematoma on the cheek. What salivary gland is likely to have its outflow blocked by this hematoma?
a. Submandibular
b. Parotid
c. Buccal
d. Labial
e. Sublingual

66. During a surgery on the right side of the neck, excursion of the right diaphragmatic dome was disturbed. This disturbance occurred because of the damage to the following nerve:
a. Right phrenic nerve
b. Supraclavicular nerve
c. Right transverse cervical nerve
d. Left transverse cervical nerve
e. Left phrenic nerve

67. Autopsy of the body of a 69-year-old woman, who was overeating and died of an acute myocardial infarction, detected numerous whitish, dense formations in the intima of the coronary arteries. The formations protrude into the vascular lumina, sharply narrowing them. What stage of atherosclerosis can be characterized by these changes?

a. Atherocalcinosis
b. Lipoidosis
c. Liposclerosis
d. A stage of atheromatous ulcer formation
e. Atheromatosis

68. A patient with acute retention of urine has been brought to an admission room. During examination a doctor found out that the patient has urethral obturation caused by pathology of the surrounding organ. Name this organ:

a. Prostate
b. Seminal vesicle
c. Spermatic cord
d. Epididymis
e. Testicle

69. A previously healthy 8-year old boy is brought to the emergency department by his parents because of fever and progressively worsening sore throat and dysphagia. Physical examination shows pharyngeal erythema with tender left and right cervical lymphadenopathy. Contrast-enhanced computed tomography (CT) shows fluid accumulation in the retropharyngeal space. A diagnosis of retropharyngeal abscess is suspected. Which of the following fasciae is most likely involved in this process?

a. Temporal fascia
b. Buccopharyngeal fascia
c. Parotid fascia
d. Masseteric fascia
e. ---

70. When a newborn baby feeds, milk gets into the baby's nasal cavity. What is the most likely cause of this pathological condition?

a. Left-sided nasal septum deviation
b. Cleft palate
c. Right-sided nasal septum deviation
d. Basilar skull fracture
e. Cleft lip

71. A 38-year-old woman has developed a bronchial asthma attack. What broncholytic that is a β_2-adrenergic agonist would be effective for providing emergency aid in this case?

a. Platyphyllinum
b. Adrenaline
c. Atropine
d. Salbutamol
e. Ipratropium bromide

72. A patient was diagnosed with multiple myeloma. Total blood protein is 180 g/L. What proteins, present in the body, are the cause of such total protein value?

a. Haptoglobin
b. Bence-Jones protein
c. Immunoglobulins
d. Albumins
e. Transferrin

73. A man with infertility requested medical genetic counseling. One Barr body was detected in the nuclei of most of the cells in his buccal mucosal epithelium. What is the likely cause of this pathological condition?

a. Triple X syndrome
b. Triple Y syndrome
c. Down syndrome
d. Klinefelter syndrome
e. Turner syndrome

74. A patient, who was taking a highly effective anti-tuberculosis drug, has developed gynecomastia at the end of the treatment course. What drug has caused this side effect?
a. Ethambutol
b. Isoniazid
c. Rifampicin
d. Ciprofloxacin
e. Florimycin sulfate (Viomycin sulfate)

75. A girl presents with high fever and sore throat. Objectively, the soft palate is swollen, the tonsils are covered with gray films. The films are firmly attached and leave deep bleeding lesions when removed. What is the most likely disease in this case?
a. Infectious mononucleosis
b. Lacunar tonsillitis
c. Pseudomembranous (Vincent's) \\ tonsillitis
d. Pharyngeal diphtheria
e. Necrotic tonsillitis

76. Autopsy of the body a 58-year-old man, who had been suffering from rheumatic heart disease and died of cardiopulmonary decompensation, revealed gray diffuse film- and fiber-shaped coating in his pericardium. What type of inflammation is characteristic of this pericarditis?
a. Croupous fibrinous
b. Diphtheritic fibrinous
c. Suppurative
d. Serous
e. Hemorrhagic

77. A patient was diagnosed with a monogenic hereditary disease. Name this disease:
a. Hypertension
b. Poliomyelitis
c. Peptic ulcer disease of the stomach
d. Hemophilia
e. Hymenolepiasis

78. An extreme undernourishment, known as starvation, can be caused by insufficient protein intake. As an example, Kwashiorkor is a form of malnutrition caused by a lack of protein in the diet where decreased plasma protein concentration leads to increased filtration of fluid into interstitium. Which of the following proteins is the most likely cause of decreased oncotic plasma pressure in a starving patient?
a. Fibrinogen
b. β-globulins
c. γ-globulins
d. Albumin
e. α-globulins

79. Histologic examination of a biopsy specimen shows a structure of the oral cavity composed of the bone tissue, which is covered by stratified squamous non-keratinizing epithelium and lamina propria. The specimen has also minor mucous salivary glands. In all parts of the lamina propria the collagenous fibers form thick bundles that bind the mucosa to the periosteum. Based on these findings, which of the following is the most likely structure?
a. Lip
b. Soft palate
c. Hard palate

d. Tongue
e. Cheek

80. The dentist should inject a local anesthetic to reduce pain sensation in the maxillary molars and adjacent facial soft tissue and gingiva. He inserts the needle through oral mucosa at the height of the maxillary vestibular fornix just posterior to the maxillary tuberosity. The needle is directed medially and superiorly toward the alveolar canals. Which of the following nerves is most likely to be blocked?
a. Buccal nerve
b. Inferior alveolar nerve
c. Posterior superior alveolar nerve
d. Nasopalatine nerve
e. ---

81. Cytogenetic analysis allowed to determine the patient's karyotype --- 47, XY, +21/46, XY. Name this condition:
a. Genocopy
b. Translocation
c. Deletion
d. Mosaicism
e. Phenocopy

82. A 37-year-old male was admitted to a hospital complaining of abdominal pain, difficulty in swallowing and breathing, constipation, and nausea. He developed respiratory failure and required endotracheal intubation and ventilation. Two days before, the patient consumed dried salted fish bought from an artisanal producer. Laboratory investigation for infectious pathogen was performed using Kitt-Tarozzi's method. Observation under a bright field microscopy revealed the presence of typical microorganisms with <<tennis racket>> appearance. Which of the following is the most likely diagnosis?
a. Nontyphoidal Salmonella infection
b. Shigella infection
c. Botulism
d. Typhoid fever
e. Cholera

83. An excessive bone tissue loss is often observed in older people, which indicates osteoporosis development. What bone tissue cells are activated, resulting in the development of this disease?
a. Osteoclasts
b. Tissue basophils
c. Osteocytes
d. Macrophages
e. Osteoblasts

84. There is a 7-year-old child with complains of cough, lacrimation, rhinitis, skin rash, photophobia and three-day-long fever as high as 38°C) Physical examination has revealed the following: conjunctivitis; bright red maculopapular rash covering the skin of face, neck and torso; hyperemic pharynx; serous purulent secretions from the nose; dry rales in the lungs. What is the most probable diagnosis?
a. Measles
b. Adenovirus infection
c. Scarlet fever
d. Rubella
e. Chicken pox

85. Bacteriology of the stools of a person, who works as a chef at a restaurant and has no clinical manifestations of the disease, resulted in growth of small colonies with a metallic sheen on a bismuth sulfite agar. What microorganisms are likely in this case?
a. Staphylococci
b. Escherichia

c. Streptococci
d. Shigella
e. Salmonella

86. A patient was diagnosed with a malignant neoplasm of the tongue. What characteristics of this tumor make it possible to classify it as a malignant one?
a. Expansive growth
b. Positive Pasteur effect
c. Increased number of mitotic cells
d. Anaplasia
e. Infiltrative growth

87. The patient's leukogram is as follows: leukocytes --- $14 · 10^{9$/L; myeloblasts --- 71%; promyelocytes, myelocytes, and metamyelocytes --- 0%; band neutrophils --- 6%, segmented neutrophils --- 13%; lymphocytes --- 7%, monocytes --- 3%. What is the patient's blood pathology?
a. Myeloblastic leukemia
b. Chronic myeloid leukemia
c. Lymphoblastic leukemia
d. Chronic lymphocytic leukemia
e. Neutrophilic leukocytosis

88. A patient has arterial hypertension with signs of angina pectoris. The patient has been prescribed an antianginal drug that is a calcium antagonist. Name this drug.
a. Metoprolol
b. Amlodipine
c. Anaprilin (Propranolol)
d. Pentoxifylline
e. Molsidomine

89. Microscopy of a fecal smear detected cysts with 4 nuclei. Which protozoan parasite do they belong to?
a. Trichomonas
b. Toxoplasma
c. Entamoeba histolytica
d. Balantidium
e. Giardia

90. Histologic examination of an eye specimen shows multilayer structure. The outermost layer is represented by special pigment epithelium, which is composed of cuboidal melanin-containing cells that absorb light. The photoreceptor layer contains photosensitive outer segments of rods and cones. Which of the following eye structures is mentioned?
a. Ciliary body
b. Iris
c. Choroid
d. Retina
e. Sclera

91. During examination of the patient's oral cavity, a dentist noticed deformation of the teeth and a crescent indentation on the upper right inscisor. The teeth are undersized, barrel-shaped --- tooth cervix is wider than its edge. The patient uses a hearing aid, suffers from visual impairment. What type of syphilis affects teeth in such a way?
a. Late congenital
b. Neurosyphilis
c. Early congenital
d. Secondary
e. Primary

92. After a removal of the pyloric part of the stomach, a person may develop anemia. What is the cause of pathological condition development in this case?

a. Bone marrow dysfunction
b. Impaired absorption of vitamin C
c. Lack of intrinsic Castle factor
d. Impaired absorption of vitamin E
e. Impaired absorption of vitamin D

93. A patient has a dysfunction of the parotid salivary gland. What nerve increases its secretion?
a. N. petrosus minor
b. N. auricularis minor
c. N. auricularis major
d. N. petrosus major
e. N. petrosus profundus

94. During examination of the patient's oral cavity, the dentist noticed the presence of a carious spot in the area of the linguodistal groove on the masticatory surface of the first upper right molar. This groove separates the following structure:
a. Hypocone
b. Metacone
c. Mesocone
d. Protocone
e. Paracone

95. The parents of a newborn came for medical and genetic counseling. Their baby is suspected to have Edwards syndrome that manifests as micrognathia, microstomia, and a short upper lip. What testing methods are necessary to clarify the diagnosis?
a. Biochemistry
b. Cytogenetics
c. Dermatoglyphics
d. Immunogenetics
e. Clinical genealogy

96. A 50-year-old patient suddenly developed headache, dizziness, and nausea. Blood pressure --- 220/110 mm Hg. During the intravenous administration of a 0.1% hygronium solution (trepirium iodide), the patient's condition improved. What is the mechanism of action of this drug?
a. Angiotensin-converting enzyme blockade
b. Activation of alpha_2-adrenoceptors
c. Blockade of beta_1-adrenoceptors
d. Blockade of ganglionic nicotinic receptors
e. Blockade of Ca^·++ channels

97. A patient was diagnosed with peptic ulcer disease of the stomach and prescribed an antibacterial treatment. This treatment will be aimed against the following causative agent:
a. E) coli
b. Cl. perfringens
c. Cl. trachomatis
d. H. pylori
e. St. aureus

98. A 58-year-old woman comes to her dentist complaining of a <<strange mass>> in her mouth. On intraoral examination of the oral mucosa the dentist reveals a vegetative lesion with a pedunculated base observed at the soft palate level lateral to the base of the uvula. An excisional biopsy is performed and histopathological examination shows proliferations of stratified keratinized squamous epithelium with fibrovascular connective tissue stroma and many papillary infoldings of the epithelium. Which of the following is the most likely pathology revealed by the dentist?
a. Papilloma
b. Epithelial hyperplasia
c. Fibrolipoma
d. Basal-cell carcinoma

e. Fibroma

99. All of the teeth in the mouth together are referred to as the dentition. Humans have two dentitions throughout life: one during childhood, called the primary dentition, and one that will hopefully last throughout adulthood, called the permanent (secondary) dentition. The first permanent molars usually begin their eruption by/at:
a. Twelve months of age
b. Four to five years of age
c. Six to seven years of age
d. Birth
e. ---

100. For caries prevention, dentists recommend limiting the intake of simple carbohydrates. What is the role of a cariogenic diet in the pathogenesis of defects of hard dental tissues?
a. Decrease of pH in the oral cavity
b. Formation of chelating substances
c. Disorders of calcium and phosphorus metabolism
d. Activation of remineralization process
e. Saturation of dental enamel with fluorine

101. A patient has been hospitalized into the intensive care unit in a severe condition. It is known that he mistakenly took sodium fluoride that blocks cytochrome oxidase. What type of hypoxia has developed in the patient?
a. Hemic hypoxia
b. Hypoxic hypoxia
c. Tissue hypoxia
d. Cardiovascular hypoxia
e. Respiratory hypoxia

102. A cytochrome oxidase blocker was given to a test animal, causing its instant death. What chemical can cause these changes?
a. Potassium phosphate
b. Potassium nitrite
c. Potassium sulfate
d. Potassium oxalate
e. Potassium cyanide

103. A 10-year-old boy is brought to the physician by his parents because of fever, cough, and fatigue. He has been admitted to the hospital five times because of pneumonia. Attempts to induce immunity using the pneumococcal vaccine have failed. The first hospitalization was at the age of 12 months. Laboratory findings show marked reduction in all classes and subclasses of serum immunoglobulins. Which of the following immune cells is most likely to be reduced in the peripheral blood of this patient?
a. NK-cells
b. Neutrophils
c. T-cells
d. B-cells
e. Macrophages

104. In the experiment an investigator reveals that glucose is actively taken up by cells (except brain cells). Moreover, gluconeogenesis in liver is stimulated and glycogen synthesis in liver and muscles is increased. Which of the following hormones is most likely responsible for these changes?
a. Triiodothyronine (T3)
b. Somatostatin
c. Insulin
d. Aldosterone
e. Glucagon

105. The patient's blood levels of calcium ions sharply dropped. It will result in increased secretion of

a certain hormone. Name this hormone.
a. Somatotropin
b. Parathyroid hormone
c. Aldosterone
d. Thyrocalcitonin
e. Vasopressin

106. Name the specific phase of action potential, characteristic of typical cardiomyocytes:
a. Slow diastolic repolarization
b. Rapid diastolic depolarization
c. Rapid systolic depolarization
d. Slow repolarization (plateau)
e. Systolic repolarization

107. Examination of the oral cavity shows marked edema and hyperemia of the gums, supragingival and subgingival calculus, and formation of pocket-like cavities filled with structureless masses and food debris in the area of the dentogingival junction. These pockets produce purulent discharge, when pressed. X-ray shows resorption of the bone tissue in the tooth sockets. What is the diagnosis in this case?
a. Acute purulent periostitis
b. Hypertrophic gingivitis
c. Periodontitis
d. Periodontosis
e. Fluorosis

108. What mineral substance is present in the dental hard tissues in the largest amount?
a. Hydroxyapatite [Ca_10(PO_4)_6(OH)_2]
b. Fluorapatite [Ca_10(PO_4)_6F_2]
c. Carbonate apatite [Ca_10(PO_4)_5CO_3]
d. Chlorapatite [Ca_10(PO_4)_6Cl_2]
e. Calcium phosphate [Ca_10(PO_4)_6]

109. A section of a multi-rooted tooth shows a tissue located at the apices of the dental roots and in the place of their branching. This tissue contains cells with processes located in the lacunae, and numerous collagen fibers arranged radially or longitudinally. Name this tissue:
a. Cellular cement
b. Dense connective tissue
c. Reticulofibrous bone tissue
d. Dentin
e. Enamel

110. A 60-year-old man with diabetes mellitus is prescribed insulin. What type of pharmacological therapy is it?
a. Pathogenetic
b. Preventive
c. Substitution
d. Etiotropic
e. Symptomatic

111. A 36-year-old male comes to the dental office for extraction of the tooth. Two weeks after the procedure is performed, the stratified squamous epithelium regenerates at the site of extraction. Which of the following organelles is most likely involved in the mucosa regeneration?
a. Smooth endoplasmic reticulum
b. Centrosomes
c. Mitochondria
d. Lysosomes
e. Ribosomes

112. Histological microslide shows cells that form isogenic groups. The intercellular substance

contains glycoproteins, proteoglycans, and collagen fibers. What tissue is it?
a. Cartilaginous tissue
b. Brown adipose tissue
c. White adipose tissue
d. Mucous tissue
e. Bone tissue

113. A 40-year-old male has hearing impairment and paresis of facial muscles resulting from a blow to his head. He was diagnosed with a hematoma of cerebellopontine angle. What nerves had been damaged?
a. VII, VIII pairs of cranial nerves
b. ---
c. VIII, IX pairs of cranial nerves
d. V, VI pairs of cranial nerves
e. IX, X pairs of cranial nerves

114. During a selection for revaccination with the BCG vaccine, a schoolboy has undergone the Mantoux test that turned out to be negative. What does this test result indicate?
a. Presence of cellular immunity to tuberculosis
b. Absence of antitoxic immunity to tuberculosis
c. Absence of cellular immunity to tuberculosis
d. Absence of humoral immunity to tuberculosis
e. Presence of humoral immunity to tuberculosis

115. A 45-year-old woman with hypoparathyroidism came to a dentist. What renal function is likely to be impaired in this patient?
a. Increase of prostaglandin synthesis
b. Reduction of calcium filtration in the renal glomeruli
c. Reduction of vitamin B6 synthesis
d. Reduction of calcium reabsorption in the distal tubules
e. Increase of urokinase synthesis

116. A 52-year-old woman came to a neurologist with complaints of the loss of sensitivity in the skin of the right half of her face in the area of the lower eyelid, nasal bridge, and upper lip. What nerve branch is damaged in this case?
a. Ophthalmic division of the trigeminal nerve
b. Greater petrosal nerve, a branch of the facial nerve
c. Chorda tympani, a branch of the facial nerve
d. Mandibular division of the trigeminal nerve
e. Maxillary division of the trigeminal nerve

117. A woman complains of painful chewing, especilly when she moves her lower jaw backwards. What muscles are affected?
a. Lateral pterygoid muscles
b. Posterior bundles of the temporal \\ muscles
c. Medial pterygoid muscles
d. Masseter muscles
e. Anterior bundles of the temporal \\ muscles

118. A skin injury with damage to the reticular layer of the dermis was received. The regeneration of this layer will occur because of the activity of certain cells. Name these cells.
a. Fibroblasts
b. Lymphoblasts
c. Macrophages
d. Plasma cells
e. Tissue basophils

119. In an experiment, an excitable cell was placed into a saline solution without sodium ions. How will it change the development of action potential in the cell?

a. Action potential does not develop
b. Amplitude of the action potential decreases
c. Amplitude of the action potential increases
d. Duration of the action potential increases
e. Duration of the action potential decreases

120. A 10-year-old Indian boy is brought by his parents to a dentist for a routine dental care. They want to remove the noticeable yellow discoloration of his teeth. His mother reports that they immigrated to Ukraine approximately 6 months ago and a lot of children in their state had the similar staining of their teeth. On intraoral examination there are isolated areas of brown staining, which is particularly severe on the incisors and canines. In addition, some areas have pits which expose the underlying dentin. Which of the following is the most likely diagnosis?
a. Demineralization stage of caries
b. Enamel hypoplasia
c. Acid erosion
d. Enamel erosion
e. Fluorosis

121. A 58-year-old male patient visited his dentist with the chief complaint of itching and burning sensation in his mouth. On intraoral examination, diffuse white patches were seen on his tongue, right and left buccal mucosa, as well as on his hard palate and soft palatal region. The potassium hydroxide (KOH) preparation of the specimen revealed non-pigmented septate hyphae. Administration of which of the following is the most appropriate initial step in treatment of this patient?
a. ---
b. Tetracycline
c. Nystatin
d. Gentamicin
e. Penicillin

122. A patient has been prescribed pyridoxal phosphate. What processes are corrected with this drug?
a. Deaminization of amino acids
b. Transamination and decarboxylation \\ of amino acids
c. Synthesis of purine and pyrimidine \\ bases
d. Oxidative decarboxylation of keto \\ acids
e. Protein synthesis

123. A girl provisionally diagnosed with Turner syndrome made an appointment with a genetic consultancy. What genetic method of diagnostics can confirm this diagnosis?
a. Dermatoglyphics
b. Genealogy
c. Hybridology
d. Biochemistry
e. Sex chromatin identification

124. Calcification of dental tissues is significantly influenced by osteocalcin protein which has an ability to bind calcium ions due to the presence of the following modified amino acid residues in the polypeptide chain:
a. γ-carbon glutamine
b. Carboxy aspargine
c. γ-aminobutyric
d. δ-aminopropionic
e. Alanine

125. During a fire, a person developed carbon monoxide poisoning. What changes occurred in the patient's blood as a result?
a. Formation of carbhemoglobin
b. Development of acidosis

c. Formation of reduced hemoglobin
d. Formation of carboxyhenoglobin
e. Formation of methemoglobin

126. A 40-year-old patient suffers from intolerance of dairy food products. This condition has likely developed due to insufficiency of the following digestive enzyme:
a. Amylase
b. Invertase
c. Maltase
d. Lactase
e. Lipase

127. The patient's ability to perceive a bitter taste is disturbed. What lingual papillae are affected in this case?
a. Papillae filiformes
b. Papillae foliatae
c. Papillae vallatae
d. Papillae conicae
e. Papillae fungiformes

128. Biochemical analysis of amino acid composition of freshly synthesized polypeptides shows that in the process of translation, in each of these proteins the first amino acid is always the same one. Name this amino acid.
a. Phenylalanine
b. Serine
c. Methionine
d. Isoleucine
e. Histidine

129. A group of dental students is studying bacteria and their pathogenesis. They have identified that a substantial number of bacteria cause human diseases by producing a poisonous substance. This substance is typically a protein, that has different mechanisms of action and acts at different sites. It is secreted by anaerobic bacteria and leads to a potentially life threatening symptoms which can be prevented by administration of specific antibodies. Which of the following is the most likely substance?
a. Enterotoxin
b. Antitoxin
c. ---
d. Exotoxin
e. Toxoid

130. Premature babies often develop respiratory distress syndrome. This pathology is caused by the deficiency of a certain component of the blood–air barrier. Name this component:
a. Endothelial basement membrane
b. Alveolar basement membrane
c. Alveolocytes
d. Capillary endothelium
e. Surfactant

131. Purulent exudate accumulates in the abdominal cavity of a patient with peritonitis. The exudate contains a large amount of neutrophils. What is the main function of neutrophil granulocytes in the inflammation focus?
a. Secretion of prostaglandins
b. Degranulation
c. Regulation of local blood circulation
d. Release of histamine
e. Phagocytosis

132. A person, who came to a hospital with complaints of diarrhea, was diagnosed with amoebic

dysentery. Tetracycline was prescribed to the patient as a part of complex treatment. Name the type of action of this medicine:
a. Irreversible
b. Reflex
c. Primary
d. Direct
e. Etiotropic

133. What is the secondary mediator in the mechanism of action of adrenaline?
a. Cyclic uridine monophosphate
b. Cyclic guanosine monophosphate
c. Cyclic cytidine monophosphate
d. Cyclic thymidine monophosphate
e. Cyclic adenosine monophosphate

134. After the transfusion of the concentrated red blood cells the patient developed posttransfusion shock. What is the leading mechanism of acute renal failure in this case?
a. Tubular reabsorption disorder
b. Impairment of the renal incretory \\ function
c. Tubular secretion disorder
d. Glomerular filtration disorder
e. Urinary excretion disorder

135. What factor results in maximal dilation of the gemomicrocirculatory pahtway vessels and their increased permeability?
a. Histamine
b. Noradrenaline
c. Endothelin
d. Serotonin
e. Vasopressin

136. In microanatomy of some organs, there is a sheet-like structure, which underlies virtually all epithelia. It consists of basal lamina (made of type IV collagen, glycoproteins, and proteoglycans) and reticular lamina. Under the microscope, you can see it as a pink line under the epithelial cells. Which of the following is described above?
a. Endoplasmic reticulum
b. Nucleus
c. Plasma membrane
d. Basement membrane
e. ---

137. A 58-year-old man presents with the clinical picture of acute pancreatitis. This diagnosis can be confirmed by high levels of a certain substance in the patient's urine. Name this substance:
a. Urea
b. Residual nitrogen
c. Amylase
d. Albumin
e. Uric acid

138. An enzyme that binds with the substrate uses only a part of its molecule to interact with it. Name this part of the enzyme molecule:
a. Allosteric site
b. Cofactor
c. Coenzyme
d. Segment of a polypeptide chain
e. Active site

139. Ulcer disease of the duodenum has been detected in a 38-year-old man. A treatment was prescribed, after which the patient considered himself to be healthy. However, half a year later the

patient developed pain in the epigastrium, heartburn, and insomnia. The patient's condition can be estimated as a:
a. Remission
b. Development of chronic disease
c. Latent period
d. Relapse
e. ---

140. When performing trepanation of the mastoid process of the temporal bone due to purulent otitis, the dental surgeon risks damaging the facial (fallopian) canal and causing bleeding as a result. What artery passes along with the facial nerve in the canal?
a. A meningea media
b. A occipitalis
c. A auricularis posterior
d. A stylomastoidea
e. A facialis

141. A patient feels pain and numbness in the gums of the upper jaw. What nerves are most likely to be damaged in this case?
a. N. buccalis
b. Nn. alveolaris superiores (n. maxillaris)
c. N. facialis
d. N. lingualis
e. N. alveolaris inferior

142. An 11-year-old boy comes to the pediatric dentist with the chief complaint of <<not being able to close his left eye or smile>>. Examination reveals the disappearance of the nasolabial fold, the left eyebrow sagging, and partial inability to close the left eye. Which of the following nerves is most likely affected?
a. Trigeminal nerve
b. Glossopharyngeal nerve
c. Accessory nerve
d. Facial nerve
e. Hypoglossal nerve

143. Serological diagnostics of influenza requires the measurement of an increase in the titer of antibodies to the pathogen in the patient's blood serum. How many times should the titer of antibodies in the paired serum samples increase for the result to be considered credible?
a. 2 times
b. 3 times
c. ---
d. By half
e. 4 times or more

144. What infectious-allergic disease is associated with the development of bilateral diffuse or focal non-purulent inflammation of the glomerular apparatus of the kidneys with characteristic renal and extrarenal symptoms?
a. Nephrolithiasis
b. Polycystic kidney disease
c. Nephrosclerosis
d. Glomerulonephritis
e. Pyelonephritis

145. A 60-year-old patient presents with impaired perception of high-frequency sounds. What structures of the auditory analyzer are impaired in this case, causing such changes?
a. Middle ear muscles
b. Eustachian tube
c. Cochlear basilar membrane near the oval window

d. Tympanic membrane
e. Cochlear basilar membrane near the helicotrema

146. In the peripheral zone of the pulp, the cell activity is temporarily inhibited for certain reasons. What dental tissue is at risk of developing a deficiency of its physiological regeneration in this case?
a. Enamel
b. Cellular cementum
c. Dentin
d. Pulp
e. Acellular cementum

147. In the uterine cavity an embryo was found that was not attached to the endometrium. What stage of embryonal development is it?
a. Blastocyst
b. Neurula
c. Mulberry body
d. Gastrula
e. Zygote

148. A dentist used a solution of potassium permanganate as an antiseptic. This preparation has a bactericidal effect because of:
a. Atomic oxygen
b. Potassium
c. Potassium oxide
d. Potassium hydroxide
e. Manganese oxide

149. Name the change in the nucleotide sequence of a gene that is associated with the rotation of a certain DNA segment by 180°.
a. Translocation
b. Inversion
c. Duplication
d. Deletion
e. Repair

150. What is caused by an absolute deficiency of vitamin K in the body?
a. Hypercoagulation
b. Disturbed platelet adhesion
c. ---
d. Hypocoagulation
e. Intestinal dysbiosis

151. Hyposalivation, observed in sialolithiasis, and both acute and chronic inflammations of the salivary glands, causes the development of:
a. Fluorosis
b. Gingivitis
c. Pulpitis
d. Caries
e. Stomatitis

152. Replication is one of the reactions of matrix synthesis. What new molecule is formed from a DNA molecule in the process of replication?
a. rRNA
b. Pro-mRNA
c. tRNA
d. mRNA
e. DNA

153. A 43-year-old woman against the background of septic shock presents with thrombocytopenia,

low fibrinogen levels, fibrin degradation products in the blood, and development of petechial hemorrhages. What is the cause of these pathological signs?
a. Impaired platelet production
b. Hemorrhagic diathesis
c. Autoimmune thrombocytopenia
d. Exogenous intoxication
e. DIC syndrome

154. Treatment of a patient with hereditary form of immunodeficiency involved gene therapy: the enzyme gene was introduced into the cells of the patient by means of a retrovirus. What property of the genetic code allows to use retroviruses as vectors of functional genes?
a. Redundancy
b. Universality
c. Specificity
d. Continuity
e. Collinearity

155. A 56-year-old woman comes to the emergency department complaining of severe abdominal pain for the last several hours. The pain is cramp-like in nature, constant and has worsened over time. She gives a history of episodic right upper abdominal pain for the past few months, mostly after consuming fatty foods, radiating to the tip of the scapula. Ultrasound of the gallbladder shows hyperdense structures with an acoustic shadow (gallstones) and a thickened wall. Which of the following processes is most likely disturbed in presence of the stone in the gallbladder?
a. Hydrochloric acid (HCl) secretion in stomach
b. Emulsification of lipids
c. Inhibition of saliva secretion
d. Carbohydrates digestion to monosaccharides
e. Proteins digestion to amino acids

156. A 33-year-old patient complains of an impairment of skin sensitivity in the medial part of the dorsal and palmar surface of hand. Which nerve is damaged?
a. N. medianus
b. N. cutaneus antebrachii medialis
c. N. radialis
d. N. ulnaris
e. N. musculocutaneus

157. A patient with ciliary arrhythmia and a history of bronchial asthma should be prescribed an antiarrhythmic drug. What antiarrhythmic drug is contraindicated in this case?
a. Verapamil
b. Anaprilin (Propranolol)
c. Nifedipine
d. ---
e. Ajmaline

158. A patient, who has overdosed on a narcotic substance, is unconscious and has hypothermia, hypotension, and persistent miosis. What aid would be most effective and ensure the patient's survival in this case?
a. Aethimizolum (Methylamide)
b. Omeprazole
c. Naloxone
d. Mesaton (Phenylephrine)
e. Nitrazepam

159. A hospitalized person has severe headache, nuchal rigidity, recurrent vomiting, and increased sensitivity to light stimuli. The patient has been diagnosed with meningitis and referred for a spinal tap. Where is the needle inserted for a spinal tap?
a. Between L5 vertebra and the base of the sacrum

b. Between Th12 and L1 vertebrae
c. Between L1 and L2 vertebrae
d. Between Th11 and Th12 vertebrae
e. Between L3 and L4 vertebrae

160. Examination of a 40-year-old woman detected increased basal metabolism. What hormone levels are excessive in this woman, causing her pathological condition?
a. Thyrocalcitonin
b. Somatostatin
c. Glucagon
d. Triiodothyronine
e. Aldosterone

161. A patient was diagnosed with acute glomerulonephritis. What substance in the urine indicates a damage to the basement membrane of the renal glomerular capillaries in case of this pathology?
a. Protein
b. Fructose
c. Indican
d. 17-ketosteroids
e. Creatine

162. Cells of sensory spinal ganglions are a part of reflex arches. What type of neurons are these cells?
a. Pseudounipolar
b. Bipolar
c. ---
d. Multipolar
e. Unipolar

163. Histology of the diaphysis of a tubular bone shows basophilic cells with developed organelles of synthesis located on its surface under a layer of fibers. These cells take part in regeneration of bone tissue. In what layer of the diaphysis are they located?
a. Layer of external general lamellae
b. Bone proper
c. Layer of osteons
d. Layer of internal general lamellae
e. Periosteum

164. During the examination of a pregnant woman, a dentist detected 3 round formations on her oral mucosa. The formations appeared 3 days ago. They have a white-gray surface with a red rim and are up to 1 cm in diameter. What is the diagnosis in this case?
a. Necrotizing ulcerative stomatitis
b. Catarrhal stomatitis
c. Leukoplakia
d. Aphthous stomatitis
e. Gangrenous stomatitis

165. A 32-year-old woman presents with increased facial hair growth, headache and decreased libido. She is also currently concerned about sweating excessively even at room temperature. Neurological examination shows loss of visual acuity in both temporal fields of views. A skull X-ray shows sella turcica enlargement and deformity. Which of the following anatomic structures would you most likely expect to be abnormal in this patient?
a. Pineal gland
b. Hypothalamus
c. ---
d. Thalamus
e. Pituitary gland

166. The patient's blood has a C-reactive protein that chemically can be classified as a glycoprotein.

What pathology does it indicate?

a. Rheumatism

b. Thrombocytopenia

c. Porphyria

d. Anemia

e. Leucopenia

167. A 6-year-old child with suspected active tuberculosis has undergone Mantoux test. What immunobiological substance was administered for this purpose?

a. BCG vaccine

b. DT vaccine

c. DPT vaccine

d. Tuberculin

e. Tularin

168. The bile, secreted in the duodenum, contains bile acids and participates in emulsification and digestion of lipids. What acid is a component of bile?

a. Oleic acid

b. Myristic acid

c. Linoleic acid

d. Arachidonic acid

e. Cholic acid

169. A patient diagnosed with tuberculosis developed red coloring of urine, saliva, and tear fluid after starting the treatment of this disease. Red spots appeared on the patient's underwear. What drug could have caused these phenomena?

a. Benzylpenicillin sodium salt

b. Rifampicin

c. Iodine alcohol solution

d. Ciprofloxacin

e. Isoniazid

170. A patient was diagnosed with meningitis. A puncture of the subarachnoid space is necessary. This space can be located between the following structures:

a. ---

b. Periosteum and dura mater

c. Dura mater and arachnoid mater

d. Arachnoid mater and pia mater

e. Periosteum and arachnoid mater

171. Name the sequence of special functional DNA segments and structural genes that encode synthesis of a certain group of proteins that belong to one metabolic series.

a. Regulator gene

b. Promoter

c. Terminator

d. Operator

e. Operon

172. A 30-year-old patient was diagnosed with a tumor of the body of the mandible that appeared several months ago. Macroscopically, the tumor was represented by a dense whitish tissue that was destroying the patient's jawbone. After its removal, the tumor was examined microscopically. It was revealed that the tumor consisted of a network of odontogenic epithelial strands with various types of branching. What kind of tumor did the patient have in this case?

a. Basal cell ameloblastoma

b. Plexiform ameloblastoma

c. Acanthomatous ameloblastoma

d. Granular cell ameloblastoma

e. Follicular ameloblastoma

173. During physical and emotional strain, a person is less sensitive to pain. This phenomenon occurs due to activation of the:

a. Thyroid function
b. Adrenal function
c. Antinociceptive system
d. Nociceptive system
e. Parasympathetic system

174. A 43-year-old cattle farm worker is brought to the surgeon with fever, malaise, and inflamed lesions on his hands and arms. He reports that about 2 weeks before his presentation at the hospital he noticed small, painless, pruritic papules that quickly enlarged and developed a central vesicle. The vesicles developed into erosion and left painless necrotic ulcers with black, depressed eschar. Gram's staining of the ulcer reveals gram-positive spore-forming bacilli. Which of the following diseases is the most likely cause of these findings?

a. Plague
b. Chickenpox
c. Anthrax
d. Syphilis
e. Tularemia

175. Due to the presence of a malignant tumor on the tongue, the patient has been referred for its surgical removal. Where is it easy to find the lingual artery and ligate it?

a. Pirogov triangle
b. Omotrapezoid triangle
c. Carotid triangle
d. Omoclavicular triangle
e. Omotracheal triangle

176. Blood testing of a 35-year-old patient shows the following: Hb --- 58 g/L, erythrocytes --- 1.3·10^12/L, color index --- 1.3, leukocytes --- 2.8·10^9/L, platelets --- 1.1·10^9/L, reticulocytes --- 2%, ESR --- 35 mm/hour. Polysegmented neutrophils, Jolly bodies, Cabot rings, and megalocytes can be detected. What type of anemia is it?

a. Hemolytic anemia
b. B_12 and folate deficiency anemia
c. Hypoplastic anemia
d. Iron deficiency anemia
e. Posthemorrhagic anemia