

KROK-2017-2018-DENTISTRY

GENERAL PATHOLOGY

1. Histological investigation of renal biopsy material taken from a patient with tuberculosis has revealed chaotically located chromatin granules in the focus of caseous necrosis. These changes are the result of:

- A. Karyorrhexis
- B. Karyolysis
- C. Karyopyknosis
- D. Mitotic activity of nuclei
- E. Apoptosis

2. A 35-year-old woman is diagnosed with faucial diphtheria. The patient died with signs of acute heart failure. On autopsy: heart cavities are enlarged in the diameter, heart muscle is dull, flaccid, striped on section, with yellowish areas under the endocardium. What type of degeneration was detected in cardiac histiocytes?

- A. Fatty
- B. Carbohydrate
- C. Ballooning
- D. Hyaline droplet
- E. Hydropic

3. A 20-year-old woman came to the doctor with complaints of general weight loss, loss of appetite, weakness, skin discoloration resembling bronze tan. In addition to hyperpigmentation, examination in the hospital revealed bilateral adrenal tuberculosis. What substance leads to skin hyperpigmentation, when accumulated excessively?

- A. Melanin
- B. Bilirubin
- C. Hemozoin
- D. Lipofuscin
- E. Adrenochrome

4. A patient came to the doctor with complaints of general weakness and sleep disturbances. Objectively the patient's skin is yellow. In blood there is increased concentration of direct bilirubin and bile acids. Acholic stool is observed. What condition can be characterized by these changes?

- A. Mechanical jaundice
- B. Hemolytic jaundice
- C. Parenchymatous jaundice
- D. Familial nonhemolytic (Gilbert's syndrome)
- E. Chronic cholecystitis

5. Autopsy of a man, who died suddenly with signs of acutely disturbed cerebral circulation, revealed aneurysm rupture of the medial cerebral artery and around cavity 4 cm in diameter filled with blood in his frontal lobe. Name this type of hemorrhage:

- A. Hematoma
- B. Petechiae
- C. Hemorrhagic infiltration
- D. Contusion
- E. –

6. A 68-year-old man, who had been suffering from essential hypertension for a long time, was delivered to a resuscitation unit with hemiplegia. The patient died after 7 hours. On autopsy: in the right cerebral hemisphere there is a cavity 5x5 cm in size with uneven margins, filled with dark red blood clots. What cerebral circulation disorder developed in the patient?

- A. Hematoma
- B. Hemorrhagic infiltration
- C. Thrombosis
- D. Petechial hemorrhage

E. Local venous hyperemia

7. During postmortem examination of a 9-month-old infant it was determined that the cause of death was cerebral edema. What water-electrolyte imbalance is the most likely cause of the edema development?

- A.** Hypoosmolar hyperhydration
- B.** Hyperosmolar hyperhydration
- C.** Isoosmolar dehydration
- D.** Isoosmolar hyperhydration
- E.** Hyperosmolar dehydration

8. On autopsy of a 69-year-old woman, who for a long time had been suffering from hypertension, the pathologist determined that both of her kidneys are dense, markedly diminished, with fine-grained surface. These changes are indicative of:

- A.** Atrophy due to inadequate blood supply
- B.** Compression atrophy
- C.** Senile renal atrophy
- D.** Dysfunctional atrophy
- E.** Hypoplasia

9. A patient has deep lacerated wound with uneven edges. The wound is suppurating; its edges present with moist granulation tissue that does not protrude above the wound level. Name the type of wound healing:

- A.** Healing by secondary intention
- B.** Healing by primary intention
- C.** Healing under the scab
- D.** Direct closure of the epithelial defect
- E.** Wound organization

10. Chronic inflammation of gingiva resulted in excessive growth of connective tissue fibers. What cell elements are leading in the development of this condition?

- A.** Fibroblasts
- B.** Osteoblasts
- C.** Fibrocytes
- D.** Macrophages
- E.** Osteoclasts

11. A patient developed a tender red nodule in the lower jaw area. Histologically there is accumulation of purulent exudate in several hair follicles. What clinico-pathological type of inflammation is observed?

- A.** Carbuncle
- B.** Phlegmon
- C.** Furuncle
- D.** Abscess
- E.** Hypostatic abscess

12. Autopsy of a 72-year-old man with recurrent transmural myocardial infarction revealed his epicardium and pericardium membranes to be swollen, thickened, coarse, as if covered in hair. Name the type of inflammation that occurred in the cardiac membranes:

- A.** Croupous
- B.** Diphtheritic
- C.** Serous
- D.** Suppurative
- E.** Catarrhal

13. Autopsy of 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. Serous
- C. Hemorrhagic
- D. Diphtheritic fibrinous
- E. Suppurative

14. A 69-year-old patient developed a small plaque with subsequent ulceration on the skin of the lower eyelid. The formation was removed. Microscopic examination of dermis revealed complexes of atypical epithelial cells arranged perpendicularly to the basal membrane on the periphery. The cells were dark, of polygonal prismatic shape, and had hyperchromic nuclei with frequent mitoses. What is the histological form of carcinoma in this patient?

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

15. Often the cause of secondary immunodeficiency is an infectious affection of an organism, when agents reproduce directly in the cells of immune system and destroy them. Specify the diseases, during which the described above occurs:

- A. Infectious mononucleosis, AIDS
- B. Tuberculosis, mycobacteriosis
- C. Poliomyelitis, viral hepatitis type A
- D. Dysentery, cholera
- E. Q fever, typhus

16. Autopsy of a 7-year-old child, who died of uncompensated congenital heart disease, revealed increase in mass and volume of the thymus. On microscopy thymus structure is normal. What pathologic process had occurred in the thymus?

- A. Congenital thymomegaly
- B. Thymoma
- C. Thymic agenesis
- D. Accidental involution
- E. Thymic dysplasia

SPECIAL PATHOLOGY

1. During autopsy of the patient, who died of cardio-vascular insufficiency, the patient's right foot is darkly colored. The vessels of the patient's thigh are partially obstructed by grayish-red clots. On the vessel walls there are yellowish-gray spots and fibrous plaques, some of which are of stony density. What clinico-pathological type of atherosclerosis was complicated in the patient?

- A. Atherosclerosis of lower extremities
- B. Cerebral atherosclerosis
- C. Atherosclerosis of aorta
- D. Vascular intestinal atherosclerosis
- E. Renal atherosclerosis

2. The autopsy of a 37-year-old man has revealed the following: in the aorta on the smooth glossy ivory-colored intima there are yellowish-gray spots blending with each other, which form stripes that do not protrude from the intima surface. Microscopy reveals swelling and destruction of elastic membranes, diffuse impregnation of aortic wall with orange granules (if stained with Sudan III), orange coloring of macrophage cytoplasm and nonstriated muscle elements. Specify this process:

- A. Lipoidosis of the aorta
- B. Liposclerosis of the aorta
- C. Atheromatosis of the aorta
- D. Atherocalcinosis of the aorta

E. Imbibition of the aorta with cadmium

3. Autopsy of a 45-year-old man revealed the following: wrinkled shagreen-resembling intima in the ascending aorta; elastic staining is negative. Wall of the left ventricle is up to 1,5 cm in width; no myocardial alterations. Specify the most probable disease of the aorta:

- A. Syphilitic mesaortitis**
- B. Atherosclerosis of the aorta**
- C. Rheumatic vasculitis**
- D. Aortic failure**
- E. –**

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

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

5. A 45-year-old man with a history of left-sided crupous pneumonia died of multiple traumas received as the result of a car accident. On autopsy in the lower lobe of his left lung its posterior-lateral wall is attached to the chest wall with fibrous adhesions. The lobe is diminished, dense, fleshy on section, grayish-pink in color; its pieces sink, when placed in water. Histological analysis reveals diffuse excessive growth of fibrous connective tissue in these areas. Name this complication of crupous pneumonia:

- A. Carneous degeneration**
- B. Emphysema**
- C. Gangrene**
- D. Atelectasis**
- E. Abscess**

6. A girl presents with high fever and sore throat. Objectively the soft palate is swollen, the tonsils are covered with gray films that are firmly attached and leave deep bleeding lesions when removed. What is the most likely disease in this case?

- A. Pharyngeal diphtheria**
- B. Pseudomembranous (Vincent's) tonsillitis**
- C. Lacunar tonsillitis**
- D. Infectious mononucleosis**
- E. Necrotic tonsillitis**

7. On histological examination of biopsy material taken from the liver of a woman, who for a long time had been suffering from viral hepatitis type B, the pathologist detected diffuse hepatic fibrosis with formation of porto-portal and porto-central fibrotic septa and disturbance of the liver lobular structure (development of pseudolobules). What process can be characterized by the given morphological changes?

- A. Hepatic cirrhosis**
- B. Chronic hepatitis**
- C. Hepatocellular carcinoma**
- D. Acute hepatitis**
- E. Cholestasis**

8. 55 year-old patient revealed type II diabetes mellitus. An endocrinologist detected an increase in body weight and liver enlargement. The man is a non-smoker and does not abuse alcohol but likes to have a "hearty meal". Histological examination by means of diagnostic liver puncture revealed that the hepatocytes were enlarged mostly on the lobule periphery, their cytoplasm had transparent vacuoles that reacted positively with sudan III. What liver pathology was revealed?

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

9. A man, who for a long time has been suffering from chronic mandibular osteomyelitis, died of chronic kidney disease. Autopsy revealed large lardaceous kidneys. What process had occurred in the kidneys?

- A. Renal amyloidosis
- B. Arterial nephrosclerosis
- C. Glomerulonephritis
- D. Necrotic nephrosis
- E. Contracted kidney

10. Autopsy of a man who died of ethylene glycol poisoning revealed that his kidneys are slightly enlarged, edematous; their capsule can be easily removed. Cortical substance is broad and light gray. Medullary substance is dark red. What pathology did this man develop?

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

11. After an abortion a 25-year-old woman developed oliguria, anuria, and increasing azotemia. The patient died of acute renal failure. Autopsy revealed degeneration and necrosis of the convoluted renal tubules epithelium. What disease was the cause of death in this case?

- A. Acute necrotizing nephrosis
- B. Acute pyelonephritis
- C. Chronic glomerulonephritis
- D. Renal amyloidosis
- E. Rapidly progressive glomerulonephritis

12. A 49-year-old man presents with facial edema, significant proteinuria, hypoproteinemia, dysproteinemia, and hyperlipidemia. What provisional diagnosis can be made?

- A. Nephrotic syndrome
- B. Urolithiasis
- C. Prostatitis
- D. Pyelonephritis
- E. Cystitis

13. A patient has developed a greyish-white dense protruding focus on the oral mucosa. Histologically there are hyperkeratosis, parakeratosis, and acanthosis of epithelium with lymphocytic and plasmocytic infiltration of underlying connective tissue in this area. What pathology has developed in the oral mucosa?

- A. Leukoplakia
- B. Hyalinosis
- C. Leukoderma
- D. Local tumor-like amyloidosis
- E. —

14. Microscopy of a plaque-like structure extracted from the lateral surface of the tongue of a man with dentures revealed significant thickening of the epithelial layer along with processes of parakeratosis, hyperkeratosis, and acanthosis; in the connective tissue there are small round cell infiltrations. Make the diagnosis of the given pathological state:

- A. Leukoplakia
- B. Ichthyosis

- C. Chronic stomatitis
- D. Chronic glossitis
- E. Atrophic (Hunter's) glossitis

15. On microscopic examination of a surgical biopsy material (part of the lip with an ulcer) near the ulcer margins and under the ulcer floor in the connective tissue of mucosa there are epithelial complexes composed of atypical stratified epithelium with pathological mitotic figures. Within these complexes there are accumulations of bright pink concentric formations. What pathology is it?

- A. Squamous cell keratinous carcinoma
- B. Squamous cell nonkeratinous carcinoma
- C. Papilloma
- D. Transitional cell carcinoma
- E. Basal cell carcinoma

16. Oral examination revealed dark yellow and brown spots and stripes on the labial and lingual surfaces of the patient's teeth; more than the half of the dental surface is affected; enamel and dentin are destroyed. What diagnosis is the most likely?

- A. Fluorosis
- B. Metastatic calcification
- C. Dental calculus
- D. Cuneiform defect
- E. Dystrophic calcification

17. Several hours after the dental trauma the tooth pulp presents with hyperemic vessels, marked tissue edema with isolated neutrophils, lymphocytes, and minor dystrophic changes of nerve fibers. Make the diagnosis:

- A. Serous pulpitis
- B. Suppurative pulpitis
- C. Gangrenous pulpitis
- D. Granulating pulpitis
- E. Fibrous pulpitis

18. During examination of the patient's oral cavity a dentist noticed deformation of the teeth and a crescent indentation on the upper right incisor. 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. Primary
- C. Early congenital
- D. Secondary
- E. Neurosyphilis

18. A patient has developed a painful sore with soft ragged edges in the oral cavity. Microscopically there is lymphocytic infiltration with epithelioid and giant multinucleate Langhans cells in the sore floor. What diagnosis is the most likely?

- A. Tuberculosis
- B. Syphilis
- C. Ulcerative stomatitis (Vincent's stomatitis)
- D. Ulcer-cancer
- E. Gangrenous stomatitis

19. During examination a dentist noticed bowl-shaped defects on the frontal surface of the patient's canines in the cervical area. Microscopically the pulp is covered with compacted dentin, slightly atrophied and sclerosed. What pathological process occurs in the patient?

- A. Cuneiform defects
- B. Superficial caries
- C. Median caries

- D. Stage of chalky white spots
- E. Deep caries

20. During teeth examination on the lateral surface of the first upper molar there was detected a cone-shaped carious cavity with base oriented towards the tooth surface and apex - towards the tooth centre. Softened dentin is visible at the floor of the carious cavity. Make the diagnosis:

- A. Dentin caries
- B. Enamel caries
- C. Cement caries
- D. Tooth erosion
- E. –

21. After restoration of maxillary incisors with artificial crowns a 44-year-old woman was found to have a brownish growth in the form of a node 15mm in diameter. Histological study revealed that under the stratified squamous epithelium of the gingiva there was a connective tissue mass with numerous sinusoidal vessels, oval-shaped mononuclear cells forming osteoid substance, and polynuclear giant cells that destroyed the alveolar ridge of the upper jaw. What is the most likely diagnosis?

- A. Giant cell epulis
- B. Fibromatous epulis
- C. Angiomatous epulis
- D. Gingival fibromatosis
- E. Eosinophilic granuloma

22. During examination of the oral cavity at the vestibular surface of the lower right incisor there was detected a rounded growth on the thin pedicle. Histologically: in the connective tissue there are numerous thin-walled sinusoids, hemorrhage areas, hemosiderin foci, and giant cells resembling osteoclasts. Make the diagnosis:

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

23. A 3-year-old child presents with facial deformation that was gradually developing over the course of 6 months and manifests as symmetrical enlargement of both mandibular angles. Microscopy shows the space between the bone trabeculae to be filled with connective tissue that contains numerous blood vessels and smaller primitive bone trabeculae. What disease is the most likely in this case?

- A. Cherubism
- B. Giant-cell tumor of the bone
- C. Fibroma
- D. Eosinophilic granuloma
- E. Osteosarcoma

24. During teeth examination on the lateral surface of the first upper molar there was detected a cone-shaped carious cavity with base oriented towards the tooth surface and apex-towards the tooth centre. Softened dentin is visible at the floor of the carious cavity. Make the diagnosis:

- A. Dentin caries
- B. Enamel caries
- C. Cement caries
- D. Tooth erosion
- E. –

25. Histological investigation of an extracted tooth revealed presence of necrotic detritus with fatty acid crystals and numerous microbe colonies in the pulp chamber. What diagnosis is the most likely?

- A. Pulp gangrene
- B. Chronic pulpitis

- C. Complicated chronic pulpitis
- D. Serous pulpitis
- E. Purulent pulpitis

26. The autopsy of a 45-year-old man, who worked in organic acids production and died from uremia, has revealed reduced and completely destroyed crowns of the upper and lower incisors. Microscopy detects destruction of dentin and enamel, the pulp is covered with dense replacing dentin. What pathological process occurred in the teeth in this case?

- A. Necrosis of the hard tooth tissues
- B. Fluorosis
- C. Teeth erosion
- D. Cuneiform defects
- E. Hypercementosis

27. A 33-year-old man has a cystic growth connected to the 2nd molar of the lower jaw. Within the cystic cavity there is a rudimentary tooth. On microscopy: inner cystic surface is covered with stratified squamous epithelium, there are groups of mucin-producing cells. What diagnosis is the most likely?

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

28. The autopsy of the body of a man, who suffered from toxic diphtheria and died on the 9th day from the onset of disease with signs of cardiac decompensation, has revealed the following: dilated cardiac cavities, dull flaccid myocardium, myocardial section is variegated. Microscopy revealed fatty degeneration of cardiac myocytes, large foci of myocytolysis, stromal edema with scant lymphocytic and macrophageal infiltration. Specify the type of myocarditis in this case:

- A. Altered
- B. Granulomatous
- C. Focal intermediate exudative
- D. Septic
- E. Interstitial

29. A worker of a cattle farm consulted a surgeon about fever up to 40°C, headache, weakness. Objective examination of his back revealed hyperemia and a dark-red infiltration up to 5 cm in diameter with black bottom in its centre, which was surrounded with pustules. What disease are these presentations typical of?

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

30. A newborn failed to take his first breath. Autopsy revealed that despite unobstructed airways the lungs of the newborn were unable to stretch. What is the most likely cause of this condition?

- A. Absence of surfactant
- B. Bronchial narrowing
- C. Bronchial rupture
- D. Pleural thickening
- E. Alveolar enlargement

31. Autopsy of a 46-year-old man, who had untreated enteric infection and died of sepsis, revealed the following: perirectal phlegmons, multiple ulcers of the rectum and sigmoid colon, some of which are perforated; mucosa of these intestinal segments is thickened and covered with firmly attached greyish films. What is the most likely disease in this case?

- A. Dysentery
- B. Typhoid fever
- C. Amebiasis
- D. Cholera
- E. Tuberculosis

32. Autopsy of a 52-year-old man revealed changes in his lungs: there is a segmented area of caseous necrosis in the upper right lung; the segments merge with each other. The lung is enlarged, dense, yellowish- colored on section; there are fibrinous films on the pleura. Name the type of tuberculosis:

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

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

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

34. A 47-year-old man consulted a dentist about difficult mouth opening (trismus). The patient has a history of a stab wound of the lower extremity. What infection can be manifested by these symptoms?

- A. Tetanus
- B. Brucellosis
- C. Whooping cough
- D. Anaerobic wound infection
- E. Tularemia