

Thrombosis.

1. Autopsy revealed a large wedge-shaped patch of a dense dark red tissue with clear margins in the upper lobe of the right lung. Histological examination detected there necrosis of the alveolar walls; the alveolar lumen is tightly packed with erythrocytes. What process occurred in the lungs?

- A. Hemorrhagic infarction
- B. Hemorrhage
- C. Carneous degeneration
- D. Gangrene
- E. Atelectasis

2. A 65-year-old woman, who had been suffering from deep vein thrombophlebitis of the lower leg, suddenly died when awaiting her appointment with the doctor. Autopsy revealed loose friable red masses with corrugated dull surface in the main pulmonary artery and its bifurcation. What pathologic process was discovered by the pathologist in the pulmonary artery?

- A. Thromboembolism
- B. Foreign body embolism
- C. Tissue embolism
- D. Fat embolism
- E. Thrombosis

Acute inflammation

3. A patient, who had received a thermal burn, developed painful boils filled with turbid liquid on the skin. What morphological type of inflammation has developed in the patient?

- A. Serous
- B. Proliferative
- C. Diphtheritic
- D. Croupous
- E. Granulomatous

4.* *Autopsy of the body shows that the soft meninges of the deceased individual are plethoric, thickened, opaque, and yellowgreen colored. What type of exudative inflammation can be characterized by such changes in the soft meninges?*

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

Immune pathology

5. Regional lymph nodes surrounding an infected wound are enlarged. Histological examination shows increased number of macrophages, lymphocytes, and lymphatic follicles, as well as a large amount of plasma cells, in the cortical layer of the lymph nodes. What process in the lymph nodes is indicated by these histologic changes?

- A. Antigen stimulation
- B. Congenital deficiency of lymphoid tissue
- C. Transplant rejection
- D. Acquired deficiency of lymphoid tissue
- E. Neoplastic aberration

Tumors

6. Histological analysis of a removed skin tumor shows clusters and bands composed of atypical stratified squamous epithelium cells that penetrate into the underlying tissue. What preliminary diagnosis can be made?

- A. Non-keratinizing squamous cell carcinoma
- B. Solid cancer
- C. Papilloma
- D. Adenoma
- E. Carcinoma in situ

7. A young woman presents with a tumor along the auditory nerve. The tumor is node-shaped, 3 cm in diameter, soft and elastic, pink-white colored, and has homogeneous structure. Microscopically the tumor contains bundles of cells with oval nuclei. These cellular fibrous bundles form regular structures made up of parallel rows of regularly oriented cells arranged in the form of a palisade with acellular homogeneous area in between (Verocay bodies). Name this type of tumor:

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

Blood cell tumors

8. A patient presents with enlarged cervical lymph nodes. Other lymph nodes and internal organs are without changes. Peripheral blood test results are normal. Histological examination of biopsy material taken from the cervical lymph node shows smoothed-out pattern, absent follicles, homogeneous cell composition represented by lymphoblasts. The cells penetrate into the lymph node capsule. What diagnosis can be made?

- A. Lymphoblastic leukemia
- B. Erythroblastic leukemia
- C. Myeloblastic leukemia
- D. Sezary disease
- E. Burkitt lymphoma

9. Autopsy of the body of a 48-year-old man shows that the bone marrow in the flat bones, as well as in the cylindrical bone diaphyses and epiphyses, is moist, colored gray-red or gray-yellow, and puriform (pyoid bone marrow). The spleen weight is 7 kg; it is dark red on section, with signs of ischemic infarctions. All the lymph nodes are enlarged, soft, and gray-red in color. In the liver there are signs of fatty degeneration and leukemic infiltrates. What is the most likely diagnosis?

- A. Chronic myeloid leukemia
- B. Multiple myeloma
- C. Acute myeloid leukemia
- D. Acute lymphoid leukemia
- E. Lymphogranulomatosis

Atherosclerosis

10. Autopsy of the body of an elderly man revealed yellow spots and streaks in the aortic intima and white-yellow protruding plaques in the area of aortic bifurcation. Microscopy (with hematoxylin and eosin staining) shows round cavities in the thickened aortic intima. The cavities color orange when stained with sudan 3 and are surrounded with overgrown connective tissue. What process developed in the aortic intima?

- A. Metabolic disorder of cholesterol and cholesterol esters
- B. Systemic hyalinosis
- C. Secondary amyloidosis
- D. Local hyalinosis
- E. Metabolic disorder of neutral fat

11. Examination of the coronary arteries revealed atherosclerotic plaques with calcinosis that narrow the arterial opening by 1/3. In the muscle there are numerous whitish layers of connective tissue. Name the process detected in the myocardium:

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

Rheumatic diseases

12. Autopsy of a woman revealed the following morphologic changes: stenosis of the atrioventricular opening, mitral insufficiency. Histologically there are focal cardiosclerosis and "blooming" Aschoff nodules in the myocardium. What is the most likely diagnosis?

- A. Rheumatism
- B. Scleroderma
- C. Dermatomyositis
- D. Polyarteritis nodosa
- E. Systemic lupus erythematosus

13. A 27-year-old woman suffering from rheumatic heart disease since her childhood has developed cardiac decompensation and died. Autopsy shows mitral stenosis; mitral valve cusps are sharply thickened, sclerotic, and fused together along the closure line. Specify the type of endocarditis in this case:

- A. Fibroplastic endocarditis
- B. Diffuse endocarditis
- C. Recurrent verrucous endocarditis
- D. Acute verrucous endocarditis
- E. Ulcero-polypoid endocarditis

14. Autopsy of a 50-year-old woman, who had been suffering from systemic connective tissue disease, reveals small dense kidneys with lumpy surface. Microscopy of the renal glomeruli detects there foci of fibrinoid necrosis, hyaline thrombi, hematoxylin bodies, and so-called "wire loop thickening" of the basement membranes. What disease can be characterized by such changes in the kidneys?

- A. Systemic lupus erythematosus
- B. Rheumatoid arthritis
- C. Dermatomyositis
- D. Rheumatism
- E. Scleroderma

Respiratory diseases

15. Autopsy of a patient, who died of bilateral bronchopneumonia, shows in the left lung lower lobe a cavity 5 cm in diameter, filled with yellowish-white liquid. What complication of the patient's pneumonia had developed?

- A. Abscess
- B. Gangrene
- C. Tuberculoma
- D. Granuloma
- E. Sequestrum

16. During autopsy of a 34-year-old man, who died of chronic kidney failure due to renal amyloidosis, in the lungs (mainly in the lower lobes) the pathologist detected multiple bronchial dilations filled with purulent masses accumulated in the bronchial lumen. Surface of the lungs section has fine-meshed pattern and

resembles a honeycomb. Histologically there is a chronic inflammation detected in the bronchial wall, muscle fibers are replaced with connective tissue. These changes in the lungs can be defined as:

- A. Bronchiectases
- B. Bronchopneumonia
- C. Chronic bronchitis
- D. Chronic pneumonia
- E. Lung abscesses

17. Autopsy of the body of a man, who for a long time had been working at the factory with high content of silicon dioxide in the air, revealed enlarged dense lungs with numerous round and oval sclerotic foci. The foci were miliary and larger in size and colored gray or gray-black. What is the most likely diagnosis?

- A. Nodular silicosis
- B. Diffuse sclerotic silicosis
- C. Silicoanthracosis
- D. Asbestosis
- E. Anthracosilicosis

Renal diseases

18. Acute renal impairment caused death of a patient with hemorrhage. Autopsy revealed enlarged kidneys with broad pale pink cortical layer expressively demarcated from dark red renal pyramids. Macroscopic examination revealed lack of epithelial nuclei of the convoluted tubules, tubulorrhexis, phlebostasis. The cell nuclei of the choroid glomus and straight tubules were present. What pathology is it?

- A. Necronephrosis
- B. Infarction
- C. Glomerulonephritis
- D. Pyelonephritis
- E. Nephrosis

19. Renal examination shows the kidney to be swollen and plethoric, with easily removable capsule. Renal pelvis and calyces are dilated and filled with turbid urine: their mucosa is dull and has hemorrhagic foci. On section the renal tissue is variegated, there are yellow- gray areas surrounded with plethoric and hemorrhagic zone. What disease can be characterized by such results of macroscopic examination?

- A. Acute pyelonephritis
- B. Nephrolithiasis
- C. Acute glomerulonephritis
- D. Polycystic kidney
- E. Renal amyloidosis

Genital tract diseases

20. Histological investigation of the uterine scrape of the 45-year-old 'woman with disturbed ovarian menstrual cycle revealed increased number of endometrial glands, some of which are serrated, while others are dilated and cyst-like. Make the diagnosis:

- A. Endometrial cystic glandular hyperplasia
- B. Glandular endometrial polyp
- C. Atypical endometrial hyperplasia
- D. Placental polyp
- E. Endometrial adenocarcinoma

Endocrine diseases

21. When examining a biopsy material obtained from the thyroid gland, the pathologist discovered lymphocyte infiltration of the thyroid tissues and destruction of the parenchymal elements. Diffuse lymphocyte infiltration with lymphoid follicles was detected in the stroma. What is the most likely diagnosis?

- A. Hashimoto's thyroiditis (chronic lymphocytic thyroiditis)
- B. Undifferentiated thyroid carcinoma
- C. Graves' disease (toxic diffuse goiter)
- D. Solid adenoma of the thyroid
- E. Papillary thyroid cancer

22. A 30-year-old man has undergone surgical removal of a thyroid tumor. Histologically the tumor is made up of papillary structures varying in size that emerge from the inner surface of dilated cystic follicles and are covered with atypical epithelium. What is the most likely diagnosis?

- A. Papillary carcinoma
- B. Colloid nodular goiter
- C. Follicular carcinoma
- D. Medullary carcinoma
- E. Macrofollicular adenoma

Gastrointestinal infections

23. A patient was brought into the infectious diseases hospital on the 8th day since the disease onset. The patient

complains of headache, malaise, and weakness. A sample of blood was taken for the serological test. Widal agglutination test results with blood sample diluted 1:200 and typhoid fever O-diagnosticum were positive. What diagnosis can be made based on the results of this test?

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

24. Autopsy of the body revealed waxy degeneration of the rectus abdominis muscles. In the terminal segment of the small intestine there are ulcers 3-5 cm in diameter. The ulcer walls are covered in a crumbling grayish-white substance. The ulcer edges are markedly raised above the mucosa. Widal test is positive. Make the diagnosis:

- A. Typhoid fever
- B. Crohn's disease
- C. Dysentery
- D. Relapsing fever
- E. Nonspecific ulcerative colitis

Infectious diseases

25. A 40-year-old man developed skin redness and swelling in the neck area, where eventually a small abscess appeared. On section the focus is dense and yellow-green colored. In the purulent masses there are white granules. Histologically there are fungal druses, plasma and xanthome cells, and macrophages detected. Specify the most correct etiological name of this pathological process:

- A. Actinomycosis
- B. Furuncle
- C. Leprosy
- D. Carbuncle
- E. Syphilis

26. A 34-year-old man died in a comatose state. According to his family after a business trip to an African country he developed periodical jaundice attacks. Autopsy shows the following: dense enlarged spleen with slate-black pulp; enlarged plethoric liver, gray-black on section; cerebral gray matter is brown-gray; cerebral white matter contains numerous small hemorrhages. What infectious disease can be suspected?

- A. Malaria
- B. Generalized herpetic infection
- C. Generalized cryptococcosis
- D. Meningococemia
- E. Prion infection

27. Microscopy of the myocardium of a girl, who died of diphtheria due to heart failure, shows fatty degeneration, multiple foci of cardiomyocytes necrosis, and small foci of cellular infiltrates in the interstitium. What type of myocarditis is it?

- A. Alterative
- B. Granulomatous
- C. Interstitial
- D. Diffuse exudative
- E. Focal exudative

Tuberculosis

28. Autopsy of the body of a 50-year-old man, who had been suffering from tuberculosis and died of cardiopulmonary decompensation, shows lobar affection of the lungs: the upper lobe of the right lung is enlarged, dense, yellow on section, crumbling, with pleural fibrin deposition. What type of secondary tuberculosis can be characterized by this pathology?

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