

**The list of theoretical questions and practical skills for
Module 1 General pathomorphology:**

A. List of theoretical questions:

I. Damage.

1. Pathological Anatomy: definition, objectives, material and methods, the value for medical science and practice.
2. General pathological processes as a category of general human pathology. Damage (alteration).
3. Basic Methods of pathological anatomy. The value of the autopsy and biopsy in the modern clinic. Diagnosis.
4. The concept of the etiology, pathogenesis, disease pathomorphism.
5. Basic properties of cell ultrastructures and their pathological changes.
6. Alteration as a universal manifestation of the metabolic changes.
7. The system providing cell activity, mechanisms and structural manifestations of their disorders.
8. Dystrophy: definition, classification, levels of study, the mechanisms of development, outcomes.
9. The term "Tezaurismoses" (storage disease).
10. Classifications of dystrophies.
11. Morphogenetic mechanisms of dystrophies.
12. Parenchymal degeneration: classification, mechanisms, morphology, and outcomes.
13. Morphogenesis and pathomorphology of "granular dystrophy": state of the art.
14. Morphogenesis and pathomorphology of hydropic dystrophy.
15. Morphogenesis and pathomorphology of hyaline droplet degeneration.
16. Morphogenesis and pathomorphology of horny dystrophy.
17. Mechanisms and manifestations of hepatocellular fatty degeneration.
18. Morphogenesis, classification and pathomorphology parenchymal carbohydrate dystrophies.
19. Glycogenoses. Classification, general characteristics.
20. Stromal vascular (mesenchymal) dystrophy: definition, classification, pathomorphological characteristics, value, and outcomes.
21. Morphological and functional characteristics of the extracellular environment: the basic substance, cells and fibers.
22. Classification of stromal-vascular dystrophy.
23. Pathomorphology of the first stage of the system of progressive disorganization of connective tissue - mucoid swelling, its mechanisms, outcomes, value for the clinic.
24. Pathomorphology of the second stage of systemic progressive disorganization of connective tissue - fibrinoid swelling, its mechanisms, pathomorphology, and outcomes.
25. Pathomorphology of the third stage of the system of progressive disorganization of connective tissue - hyalinosis, its pathomorphological characteristics, classification, consequences for the organism.
26. Amyloidosis: definition, morphogenesis, histochemical and electronmicroscopic characteristics of amyloid. Classification.
27. Morphology of the internal organs in amyloidosis. Importance in the organism.
28. Mechanisms and manifestations of stromal-vascular fatty degeneration.
29. Morphogenesis, classification and pathomorphology of stromal vascular carbohydrate dystrophies.
30. Mixed dystrophy: definition, classification.
31. Metabolic pigments disorders: classification, characteristics of the pigments, the value for the clinic.
32. Hemosiderosis: definition, classification, pathomorphology. General and local (Essential pulmonary

hemosiderosis, Celen-Gellerstedt syndrome) hemosiderosis.

33. Hemochromatosis: pathomorphology of primary and secondary forms, manifestations, outcomes.

34. Pathology of bile pigments circulation in the body.

35. Jaundice: definition, classification, synonyms, pathomorphology varieties: hemolytic (neonatal jaundice (icterus neonatorum), Minkowski-Chauffard's jaundice, parenchymal, obstructive (mechanical), the value for the clinic.

36. Pathomorphology and classification of melanin metabolic disorders.

37. Primary (hereditary) and secondary (acquired) lipofuscinosis: Mechanisms, pathomorphology, and outcomes.

38. Pathomorphology of nucleoproteins metabolism disorders.

39. Pathomorphology and mechanisms of calcium metabolism disorders.

40. Mechanisms of stone formation. Variety of stones, their value to the organism.

41. Necrosis: definition, classification, mechanisms, stage, pathomorphological characteristics, consequences. Comparative characteristics of necrosis and apoptosis.

42. Apoptosis - definition, mechanisms, pathomorphology, importance in the organism

43. Pathomorphological characteristics of clinical and morphological forms of necrosis, and their importance to the organism.

44. General death: definition, classification, mechanisms of development, signs.

45. The concept of thanatogenesis, critical (shock, collapse) and the terminal conditions of the organism, their morphological and functional characteristics.

II. Disturbances of blood, lymph and tissue fluid content. Inflammation.

1. Circulatory disorders: definition, classification, mechanisms of development.

2. Arterial hyperemia: characteristics, types, examples.

3. Morphogenesis and pathomorphology of venous congestion. Changes of internal organs: lungs, liver and spleen.

4. Edema: definition, classification, mechanisms. Pathomorphology stages of pulmonary edema in acute heart failure.

5. Morphogenesis of cardiovascular insufficiency.

6. Pathomorphology of left and right heart failure: acute and chronic forms.

7. Ischemia: definition, classification, morphology. Compensation mechanisms of circulation in acute hemorrhage.

8. Bleeding: definition, classification, importance for the organism.

9. Thrombosis: classification, morphology, the consequences for the organism.

10. Stages of morphogenesis thrombus. Types of thrombi. Comparative characteristics of thrombus and postmortem clot. Outcomes of thrombus.

11. DIC: etiology, pathogenesis, pathomorphology, importance for organism.

12. Shock: definition, types and their pathogenesis. Characteristics of stages, pathomorphological manifestations.

13. Embolism: definition, classification, morphology. Pulmonary embolism: etiology, types, consequences for the organism.

14. Thromboembolic syndrome: definition, manifestations.

15. Lymph-flow disturbances: causes, types, pathomorphological characteristic. Consequences for the organism.

16. Inflammation: definition, etiology, pathogenesis, clinical and morphological features. Inflammatory mediators.

17. Pathomorphology and morphogenesis stages of the inflammatory process. The classification of inflammation.

18. Stages of exudation. Comparative characteristics of exudate and transudate. Independent and dependent forms of exudative inflammation.

19. Characteristics of serous, hemorrhagic and putrefactive (ichorous) inflammation.

20. Fibrinous inflammation: etiology, types, morphology, the consequences for the organism.

21. Purulent inflammation: definition, classification. Pathomorphology of phlegmon and abscess.
22. Catarrhal inflammation: definition, classification, types of exudates, outcomes.
23. Productive inflammation: definition, classification.
24. Pathomorphology of interstitial inflammation.
25. Morphogenesis, classification of granulomatous inflammation.
26. Pathomorphology of different forms of granulomatous inflammation.
27. Immune inflammation: definition, characteristics, pathomorphology of hypersensitivity reactions.

III. Regeneration. Compensatory-adaptive processes. Tumors.

1. Compensatory-adaptive processes: definition, classification, characteristics, value for the organism.
2. Characteristics of the regenerative process: classification, features of displays in various organs and tissues.
3. Pathomorphological characteristics of reparative and pathological regeneration.
4. Hypertrophy: definition, classification, pathomorphology, importance in the body.
5. Hyperplasia: definition, classification, pathomorphology, importance in the body.
6. Atrophy: definition, classification, pathomorphology, importance in the body.
7. Metaplasia: definition, types and their pathomorphological characteristics. The concept of dysplasia.
8. Tumors: determining characteristics of tumor growth classification principles.
9. Previous tumors: definition, development stage, pathomorphological characteristics.
10. Recent information on the stages and pathogenesis of tumors.
11. Properties of tumors. Characteristic of tumor progression.
12. Classification of tumors.
13. Comparative characteristics of benign and malignant tumors.
14. Semimalignant type of tumors: pathomorphology, classification, effects on the body.
15. Epithelial tumors: classification, clinical and pathomorphological characteristics.
16. Organspecific epithelial tumors: kinds, pathomorphology, classification.
17. Tumors of exo- and endocrine glands.
18. Organspecific tumors of the skin, liver and kidneys.
19. Trophoblastic disease.
20. Mesenchymal tumors: classification, clinical and pathomorphological characteristics.
21. Tumors of melanin producing cells.
22. Tumors of the nervous system and the meninges

IV. Dental Pathology.

1. Caries: definition, etiology, classification. Morphogenesis. Complications.
2. Classification, especially clinical and morphological characteristics of dental caries in children (temporary and malformed teeth). Complications.
3. The non-carious lesions of dental hard tissues: classification, identification and pathomorphology of separate forms. Classification and general morphological characteristics of dental plaque.
4. Pathomorphological characteristics of reactive changes of the pulp.
5. Pulpitis: definition, etiology, classification. Pathomorphology of separate forms. Complications, outcomes.
6. Periodontitis: etiology, classification. Pathomorphological characterization of acute and chronic periapical periodontitis. Complications, outcomes.
7. Pathomorphological characteristics of granulomatous periodontitis. Complications.
8. Gingivitis: definition, etiology, classification. Pathomorphological characteristics of individual forms. Possible complications and outcomes.
9. Periodontitis: definition, etiology, classification, clinical and pathomorphological characteristics. Complications.
10. Periodontal disease (alveolar pyorrhoea, parodontosis) and idiopathic progressive parodontosis: definition, etiology, types, clinical and pathomorphological characteristics. Complications.
11. Classification of inflammatory diseases of the jaw bones. Osteitis, periostitis.
12. Osteomyelitis and odontogenic infection: definition, classification, clinical and

pathomorphological characteristics, complications.

13. Diseases of the salivary glands: definition, classification, clinical and pathomorphological characteristics of the sialoadenitis. Complications, outcomes.

14. Diseases of the salivary glands: definition, classification, clinical and pathomorphological characteristics of sialolithiasis and cysts of the salivary glands. Complications, outcomes.

15. Classification inflammatory diseases of the lips, tongue, soft tissues of the oral cavity. Pathomorphological characteristics.

16. Parodontomas: definition, classification and clinical-pathomorphological characteristic of the different types tumor-like parodontal diseases. Complications and outcomes.

17. Cysts of the jaw bones: definition, classification, and clinical-pathomorphological characteristic of the some forms. Complications.

18. Tumor-like diseases of the jaw bones: definition, classification, clinical-pathomorphological characteristic of the some forms, complications.

19. Tumors of the jaw bones: classification. pathomorphological characteristic the most frequent nonodontogenic tumors of the jaw bones.

20. Odontogenic tumors: classification and clinical-pathomorphological characteristic of the odontogenic epithelial tumors. Complications and outcomes.

21. Odontogenic tumors: classification and clinical-pathomorphological characteristic of the odontogenic mesenchymal tumors. Complications and outcomes.

22. Odontogenic tumors: classification and clinical-pathomorphological characteristic of the odontogenic mixed tumors. Complications, outcomes.

23. Hamartomas of the jaw bones: definition, pathomorphological characteristic.

24. Tumors of the salivary glands: classification, clinical-pathomorphological characteristic of the benign forms. Complications and outcomes.

25. Tumors of the salivary glands: classification, clinical-pathomorphological characteristic of the malignant form. Complications.

26. Pre-cancerous processes of the lips, tongue, and soft tissues of the oral cavity: definition, etiology, classification, clinical-pathomorphological characteristic of the different forms.

27. Malignant tumors of the oral cavity: etiology, pathogenesis, pathomorphology.

B. List of practical skills.

I. The list of micropreparations:

1. Hyperkeratosis of the skin
2. "Tiger Heart" (Sudan III)
3. Fatty degeneration of the liver (Sudan III)
4. Hyalinosis of the spleen artery
5. Amyloidosis of the kidney
6. Sago spleen
7. Simple obesity of the heart
8. Calcification of heart valve
9. Pulmonary hemosiderosis
10. Liver in obstructive jaundice
11. Necrosis of the kidney tubular epithelium
12. Zenker's necrosis
13. Pulmonary edema
14. Hemorrhagic infarction of lung
15. Thrombus in the vessel
16. Croupous pneumonia
17. Liver abscess
18. Fatty embolism

19. Miliary pulmonary tuberculosis
20. Skin atrophy
21. Hypertrophy of cardiomyocytes
22. Glandular endometrial hyperplasia
23. Adenocarcinoma of the stomach
24. Intracanalicular fibroadenoma of the breast
25. Squamous cell carcinoma with keratinization
26. Giant cell sarcoma
27. Molahidatidosa
28. Cavernous hemangioma of the liver
29. Epithelial metaplasia
30. Mucinous metaplasia of the ovary

II. Situational tasks:

Situational task № 1. In the oral mucosa multiple gray densified areas without perifocal inflammatory changes were revealed. Histologically: thickening of stratified squamous epithelium, signs of hyperkeratosis and acanthosis.

Diagnose and describe the pathological process.

Situational task № 2. The patient with heart defect died during the growth of clinical signs of cardiovascular insufficiency (edema, dyspnea, cyanosis). At autopsy: the transverse size of the heart is increased, chambers are dilated, myocardium is flabby. From the side the endocardium mainly in the papillary muscles - transverse yellow-brown striations.

Diagnose and describe the pathological process.

Situational task № 3. Patient for many years suffered from bronchoectatic disease. In recent years complained of sudden rises in blood pressure, edema of the lower extremities. Urinalysis reveals an abnormal protein (proteinuria), protein cylinders in the blood - dysproteinemia hypercholesterolemia. Intravenous test with congo red - positive.

Diagnose and describe the pathological process.

Situational task № 4. Patient (pastry chef) went to the doctor complaining of being overweight, wheezing, swelling of the lower extremities. After a course of treatment (diet, exercise), weight decreased.

Diagnose and describe the pathological process.

Situational task № 5. In a patient with rheumatic mitral valve stenosis objectively with symptoms of cough with mucus brownish shade, suffocation, death occurred. In the microscopic analysis of mucus: macrophage which is loaded with granules of dark brown color in cytoplasm, which when stained with Prussian blue purchased blue found. At autopsy: lungs condensed, cut surface mottled with diffuse foci of rust-colored, peribronchial lymph nodes on the cut had a similar shade.

Diagnose and describe the pathological process.

Situational task № 6. The patient for a long period observing the pain in the right upper quadrant radiating to the right half of the back. A few days after the last attack the patient was hospitalized with a low grade fever, yellowing of the sclera, mucous membranes and skin, itching, presence of acholia and dark colored urine. In the lumen of the common bile duct during diagnostic ultrasound calculus was revealed.

Diagnose and describe the pathological process.

Situational task № 7. At autopsy of the deceased, 85 years old, with evidence of general exhaustion identified: reducing the size of the heart and liver, dark brown color of their parenchyma. Histological examination of the cytoplasm of hepatocytes and cardiomyocytes yellow-brown granules, which are stained with Sudan, give a positive PAS-reaction and negative reaction Perls were found.

Diagnose and describe the pathological process.

Situational task № 8. The patient died of alcoholic cirrhosis. At autopsy, the liver is increased; parenchyma is homogeneous, the clay kind of yellowish color. Histological examination of hepatocytes revealed: Sudanophilic vacuole that filled the entire cytoplasm; cell nuclei are condensed, shifted to the periphery.

Diagnose and describe the pathological process.

Situational task № 9. On microscopic examination of the internal organs of the deceased from hypertensive disease (brain, pancreas, kidneys), the lumens of small arteries and arterioles are narrowed; walls - homogeneous pink, differentiation into layers is absent.

Diagnose and describe the pathological process.

Situational task № 10. In deceased patients with chronic osteomyelitis during his lifetime: lower limb edema, anemia, accompanied dysproteinemia and proteinuria were observed. At autopsy kidneys are enlarged, pale, condensed; cortex - wide, matte; medulla - gray-pink, has a distinctive "greasy" appearance. Diagnose and describe the pathological process.

Situational task № 11. At autopsy of the child, 4 years old, who died from complications during measles, on the right cheek and in the crotch area found off-black soft tissues defects with an unpleasant odor.

Diagnose and describe the pathological process.

Situational task № 12. The patient, 37 years old, for a long time suffering from gastric ulcer, suddenly (after eating) appeared weakness, epigastric pain, vomiting with semi-liquid mass of black-brown color resembling "coffee grounds", tachycardia, melena.

Diagnose and describe the pathological process

Situational task № 13. Patients with coronary heart disease, 60 years old, died of acute heart failure. At autopsy the heart increased in size, flabby, in the anterior wall of the left ventricle motley focus with hemorrhages in the periphery. In the lumen of the left main coronary artery occlusive red thrombus.

Diagnose and describe the pathological process

Situational task № 14. Patient suddenly lost consciousness, after the death occurred. At autopsy in the middle cerebral artery of the left hemisphere of the brain tissue porridge-like consistency, grayish color. The walls of the arteries of the brain irregularly thickened and narrowed lumens, revealed a large number of atherosclerotic plaques and lipid spots.

Diagnose and describe the pathological process

Situational task № 15. In patient with diabetes stenosing atherosclerosis of artery of the right leg was diagnosed. Right foot and lower third of the tibia with edema, dark color; on the periphery observed zone yellowish red color.

Diagnose and describe the pathological process

Situational task № 16. Patients with gastric cancer, a long time being in a forced position, lying on the back, along the spine in some areas of the body have appeared dark red spots, swelling of soft tissue, defects of the skin, bad smell.

Diagnose and describe the pathological process

Situational task № 17. Patient by hematogenous tuberculosis revealed enlarged lymph nodes, soft to the touch, the skin over them is not changed, the nodes are not soldered with the surrounding tissues, the cut found foci presented dry, dense masses of gray and yellow color. In the study of node biopsy revealed areas homogeneously pink color, karyorrhexis, karyopyknosis. Diagnose and describe the pathological process

Situational task № 18. In a patient with signs of cardiovascular insufficiency clinically observed the lower extremities edema, ascites, hydrothorax, hypertrophy of the right ventricle of the heart. At autopsy the liver is dense, the surface is smooth, the cut resembles "nutmeg". Diagnose and describe the pathological process

Situational task № 19. In a patient with acute left ventricular failure (clinically - myocardial infarction) the death occurred. At autopsy of the lungs: a large number of clear pink liquid (foam-character) flows from the surface.

Diagnose and describe the pathological processes

Situational task № 20. At autopsy revealed about 2 liters purulent fluid in the abdominal cavity. The peritoneum is dim, with a grayish tinge on serosa of the intestine grayish film can be easily removed without forming deep tissue defect.

Diagnose and describe the pathological processes

Situational task № 21. At microscopic research of the surgical removal of the tonsils is marked hyperemia, edema, the presence of fibrinous film and ulcers on their surfaces. Fibrinous film tightly linked to the underlying tissues, infiltrated leukocytes, hard to remove and leaves a deep ulcerative defect tissue.

Diagnose and describe the pathological processes

Situational task № 22. Patient with chronic glomerulonephritis showed signs of chronic renal failure, further death occurred from uremia. At autopsy found that the pericardium dim gray "hairy" surface; on the visceral pleura found film of gray color, which is easily removed and does not leave deep tissue defect.

Diagnose and describe the pathological process

Situational task № 23. At autopsy of the deceased in the tertiary period of syphilis rupture of an aortic aneurysm in the liver revealed the formation consisting of amorphous, structureless mass of necrosis, which are located around the lymphocytes, plasma cells, Pirogov-Langhans cells, fibroblasts, blood vessels with productive endovaskulitis.

Diagnose and describe the pathological process

Situational task № 24. At autopsy of the deceased from the focal hypostatic pneumonia in the right lung detected correctly rounded form cavity 70 mm in diameter with thick walls. Inside the cavity is a thick opaque liquid yellow-green color with an unpleasant smell.

Diagnose and describe the pathological process

Situational task №25. At autopsy, died of cardiovascular insufficiency (in the anamnesis the past 25 years suffered from hypertension): heart increased in size, expanded its the chamber, the wall thickness of the left ventricle to 2.0 cm.

Make a diagnosis and describe the pathological process.

Situational task №26. Woman, 45 years old, went to the doctor-gynecologist with menstrual irregularities, drawing pains in the abdomen, increased in the amount of abdomen. On ultrasound examination: the uterus increased in size with multiple intramural and subserous formations. Surgical treatment was performed. The postoperative material presented uterus large sizes with multiple nodes located in the myometrium intramural and subserous, with distinct outlines growth of fibrous tissue; subserous node with foci of calcification.

Make a diagnosis and describe the pathological process.

Situational task №27. The patient, aged 17, intraoperative on the lower surface of the liver revealed a tumor the size of 4,5x5,0x3,5 cm subserous localization, dark red, well demarcated from the surrounding tissue; the cut found large cavity filled with blood.

Make a diagnosis and describe the pathological process.

Situational task №28. In the investigation of postoperative material soft tissue tumor of a left lower limb identified node, constructed out of the capillaries between which the connective tissue in the form of rhythmic structures with cell type fibroblasts, histiocytes – macrophages and fibroblasts. Is also characteristic of the presence of multinucleated giant cells, which accumulates in the cytoplasm of a significant amount of lipids and hemosiderin (Tuton cells).

Make a diagnosis and describe the pathological process

Situational task № 29. On the skin of a woman's face appeared pigmented nodule, which is rapidly increasing. Microscopically in biopsy: fields from fusiform and polymorphic cells that contain brown pigment, numerous mitoses.

Make a diagnosis and describe the pathological process

Situational task № 30. The woman, 45 years old, in a study of cervical biopsy revealed significant polymorphism stratified squamous epithelium, the presence of pathological mitoses and horny "pearls" in the depths of the epithelial layers.

Make a diagnosis and describe the pathological process