



THE FEDERAL STATE BUDGETARY EDUCATIONAL  
INSTITUTION OF HIGHER EDUCATION  
**'Kemerovo State Medical University'**  
The Ministry of Healthcare, Russian Federation

APPROVED  
Head of the Department of  
Morphology and Forensic Medicine  
Senior Lecturer S.F. Zinchuk *S.F. Zinchuk*  
'30' August 2023

**A LIST OF QUESTIONS FOR EXAM REVISION**  
Student Course **'PATHOLOGIC ANATOMY'**

implemented competencies – OPK-5

***A. General pathologic anatomy***

1. The subject and the composition of the pathologic anatomy, its objectives. Objects, methods and research levels.
2. Pathoanatomical service and significance in the system of the Russian healthcare. Clinic-pathoanatomic conferences, general concepts.
3. The problem of unity of the structure and function in pathologic anatomy, the interrelation of parts and the whole. Examples.
4. Development of pathologic anatomy in Russia in XIX century (A.I. Polunin, M.N. Nikiphorov, M.M. Rudnev). N.I. Pirogoff and his contribution to the development of pathologic anatomy.
5. The Russian pathologic anatomy of the XX century. The contribution by A.I. Abrikosov, N.N. Anichkov, M.A. Skvortsov, I.V. Davidovsky, G.V. Shoor, D.I. Golovin, N.A. Krayevsky in the development of pathologic anatomy.
6. Systemic pathologic processes, classification, brief characteristic.
7. Dystrophies: causes, morphogenetic mechanisms, classification, morphology, detection methods, clinical outcomes.
8. Parenchymatous proteinoses, causes, mechanisms of development, morphological manifestations, clinical outcomes.
9. Vasculo-stromal proteinoses, general characteristic, classification, causes, mechanisms of development.
10. Mucoid, fibrinoid degeneration, causes, mechanisms of development, morphological manifestations, clinical outcomes. Examples.
11. Hyalinosis, types, causes, mechanisms of development, morphological manifestations, clinical outcomes. Examples.
12. Amyloidosis, classification, causes, mechanism of development, morphological manifestations, clinical outcomes. Examples.
13. Changes in organs in amyloidosis, histochemical reactions to detect the amyloid.
14. Lipidoses, general characteristic, causes, the main mechanisms of development. Detection methods for fats.
15. Parenchymatous lipidoses (fat degeneration/steatosis), causes, mechanisms of development, morphological manifestations, clinical outcomes. Fat degeneration of myocardium, liver, kidneys.
16. Vasculo-stromal lipidoses (ordinary obesity, cachexy, lipomatosis, regional lipidodystrophies), causes, mechanisms of development, morphological manifestations, clinical outcomes.
17. Mixed dystrophies, general characteristic. Types of endogenic pigments, causes of their impaired metabolism, morphological characteristic.
18. Hematogenous pigmentoses (hemosiderosis, hemochromatosis), causes, mechanisms of development, morphological manifestations.

19. Hematogenous pigmentoses (porphyria, jaundices, malarial pigmentation), causes, mechanisms of development, morphological manifestations, clinical outcomes.
20. Proteinogenous pigmentoses (melanoses, Addison's disease, albinism), causes, mechanisms of development, morphological manifestations, clinical outcomes.
21. Lipidogenous pigmentoses, causes, mechanisms of development, morphological manifestations, clinical outcomes.
22. Impaired metabolism of nucleoproteids (arthrolithiasis/arthritis, uric acid infarct, urolithiasis), causes, mechanisms of development, morphological manifestations, clinical outcomes.
23. Mineral dystrophies, their types. Calcinosis, types, causes, mechanisms of development, morphological manifestations, clinical outcomes.
24. Lithogenesis, causes, mechanisms of lithogenesis, types of calculi, sequelae and clinical outcomes.
25. Necrosis (paraneerosis, necrobiosis, autolysis), classification, causes, mechanisms of development, morphological manifestations, clinical outcomes, significance.
26. Clinic-morphological forms of necrosis (gangrene, decubitus, sequester), their characteristic, clinical outcomes.
27. Infarction as an angiogenic necrosis, causes, mechanisms of development, morphological manifestations, clinical outcomes.
28. Types of infarction (lungs, myocardium, cerebrum, kidneys, spleen, intestine), brief characteristic.
29. Apoptosis as a natural cell death, causes, mechanism of development, morphological features. The difference between apoptosis and necrosis.
30. Death, types, causes, expiration mechanisms, death mechanism, its signs. Post-mortem changes, their morphological characteristic. The ethics of cadaveric dissection.
31. Arterial hyperemia, causes, types, morphological manifestations, clinical outcomes.
32. Venous hyperemia (systemic and local, acute and chronic), causes, mechanisms of development, morphological manifestation, clinical outcomes.
33. Bleeding and hemorrhage, causes, types, mechanisms of development, morphological manifestations, significance for the organism, clinical outcomes.
34. Plasmorrhagia, stasis, causes, mechanisms of development, morphological manifestations, clinical outcomes.
35. Thrombosis, causes, conditions of thrombus-formation, mechanism of development, significance of thrombus-formation for the organism.
36. Thrombosis, types and the structure of thrombus, clinical outcomes of thrombus, the difference between a thrombus and a post-mortem blood clot.
37. The DIC syndrome, general characteristic, morphological manifestations, clinical outcomes.
38. Embolism, causes, mechanisms of development, morphological manifestations, clinical outcomes and significance for the organism.
39. Thromboembolism of the systemic and pulmonary circulation.
40. Lymphokinesis insufficiency, causes, mechanisms of development, morphological manifestations, clinical outcomes and significance for the organism.
41. Impaired metabolism of interstitial fluid: edema, swelling, dropsy, causes, morphological manifestations, clinical outcomes. Exsiccosis.
42. Inflammation, essentials and biological significance. Age-related peculiarities of inflammation. Inflammation and immunity, immune reactions as a cause of inflammation.
43. Inflammation, causes, mechanism of development, dynamics of inflammatory reaction, morphological manifestations of inflammation phases, classification.
44. Exudative inflammation, general characteristic, classification. Serous inflammation, causes, mechanisms of development, morphological manifestations, clinical outcomes. Examples.
45. Exudative fibrinous inflammation, causes, mechanisms of development, types, morphological manifestations, clinical outcomes. Examples.
46. Exudative purulent inflammation, causes, mechanisms of development, types, morphological manifestations, clinical outcomes. Examples.

47. Exudative hemorrhagic and ichorous inflammations, causes, morphological manifestations, clinical outcomes. Examples.
48. Exudative catarrhal inflammation, causes, mechanisms of development, morphological manifestations, clinical outcomes. Examples. Mixed inflammation.
49. Productive inflammation, types, causes, mechanisms of development, morphological manifestations, clinical outcomes.
50. Productive interstitial inflammation, causes, morphological manifestations, clinical outcomes. Examples.
51. Productive inflammation with granuloma formation, causes, morphological manifestations, clinical outcomes. The structure of specific and non-specific granulomas.
52. Productive granulomatous inflammation around animal parasites and foreign bodies. Example: opisthorchiasis.
53. Productive inflammation with the formation of polyps and pointed condylomas, causes, localization, morphological manifestations, clinical outcomes.
54. Specific granulomas in tuberculosis, syphilis, leprosy, rhinoscleroma, equinia/maliumus.
55. The influence of the organism reactivity on the character of interstitial reactions in tuberculosis. The types of interstitial reactions in syphilis.
56. Regeneration, general characteristic, types and forms, age-related peculiarities.
57. The morphogenesis of regenerative process, phases of regeneration. The concept of cambial cells, progenitor cells, stem cells. Examples.
58. Reparative regeneration, types, their morphological characteristic, significance for the organism.
59. Wound reparation, types, morphological characteristic.
60. The processes of adaptation and compensation, their essentials. Phases of compensatory process, their morphofunctional characteristic. Examples.
61. Types of adaptive reactions: atrophy, hypertrophy, hyperplasia, organization, tissue restructuring, metaplasia, dysplasia, definition of the concepts, brief morphological characteristic.
62. Compensation, definition, types, morphological manifestations. Examples.
63. Sclerosis and cirrhosis, causes, mechanism of development, morphological manifestations, clinical outcomes, relation to the chronic inflammation.
64. Tumors: definition of the concept, causes, contemporary theories of tumor growth.
65. The concept of morphogenesis and histogenesis of tumors. Tumor classification.
66. The concept of tumoral atypism, level of tumor differentiation.
67. Neoplastic field, neoplastic proliferation, laws. Examples.
68. The structure and forms of tumor growth (benign, malignant and tumors with the local invasive growth).
69. The criteria of tumor malignance. Metastasis, recurrence, secondary changes in tumors.
70. Benign epithelial tumors, general characteristic, types, morphological manifestations, clinical outcomes. Examples.
71. Malignant epithelial tumors, general characteristic, types, morphological manifestations. Examples.
72. Benign mesenchymal tumors, general characteristic, types, sequelae, morphological manifestations. Examples.
73. Malignant mesenchymal tumors, types, morphological manifestations. Examples.
74. Benign and malignant tumors from melanin-forming tissue, types, morphological manifestations. Examples.
75. Benign and malignant tumors of CNS and cerebral meninges, types, morphological characteristic. Examples.
76. Benign and malignant tumors of PNS, general characteristic, morphological manifestations.
77. Teratomas, their types.
78. Autoimmunisation and autoimmune diseases: causes and mechanisms of development.
79. Immediate and delayed hypersensitivity reactions, transplant reject phenomenon. Classification, causes and mechanisms of development, morphological characteristic. Clinical outcomes. Significance.

80. Immune deficiency: classification, causes of development, morphological characteristic, clinical outcomes and sequelae of primary and secondary immune deficiency diseases. Significance.

### ***B. Special pathologic anatomy***

1. Anemiae, their types.
2. Post-hemorrhagic anemiae (acute, chronic), their morphological characteristic.
3. Anemia as a result of discirculation disorder. Their pathologic anatomy.
4. Hemolytic anemiae, their types, morphology.
5. Leukoses, their essentials, contemporary classification.
6. General morphological signs of acute leukoses.
7. General morphological signs of chronic leukoses.
8. Chronic myelogenous leukaemia, morphological characteristic.
9. Chronic lymphocytic leukaemia, morphological characteristic.
10. The most frequent types of childhood leukaemia.
11. Lymphogranulomatosis. Its variants, morphological characteristic.
12. Childhood tumors (angioma, retinoblastoma, Wilms tumor).
13. The concept of the group of rheumatic diseases. The general morphology of immune disorders and processes in connective tissue.
14. The etiology and pathogenesis of rheumatism. The general morphology of rheumatism. The works by Sokolsky, Bouillaud, Aschoff-Talalaev. Clinic-anatomic forms of rheumatism.
15. Rheumatic endocarditides, their morphology, clinical outcomes.
16. The peculiarities of rheumatism in children. Rheumatic endocarditis and pericarditis, their clinical outcomes.
17. The most frequent acquired cardiac failures and their consequences.
18. Congenital cardiac defects. Thallo's group of defects. Causes of death.
19. Congenital cardiac defects. Transposition of great vessels. Coarctation of aorta.
20. Clinic-anatomic forms of atherosclerosis, sequelae, outcomes, causes of death.
21. Hypertensive disease, etiology, pathogenesis. Clinic-anatomic forms of hypertensive disease, morphological manifestations, sequelae, clinical outcomes, causes of death.
22. Ischemic diseases of heart, classification, causes, morphological manifestations, clinical outcomes. Relation to atherosclerosis and hypertensive disease.
23. Cerebrovascular diseases. Etiology, pathogenesis, classification, pathologic anatomy, sequelae, clinical outcomes.
24. Croupous pneumonia. Contemporary views of morphogenesis. Morphological stages.
25. Bronchopneumonia. Age-related peculiarities of the course of bronchopneumonia.
26. Staphylococcal pneumonia, its morphological peculiarities.
27. Acute and chronic bronchitis, their clinical outcomes.
28. Chronic non-specific lung diseases. Bronchial asthma. Etiology, pathogenesis. Causes of death.
29. Obligate and facultative signs of the chronic non-specific pneumonia.
30. Emphysema of lungs. Types, causes, cardiac changes.
31. Gastritis, its types.
32. Gastric and duodenal ulcer. Etiology and pathogenesis.
33. Chronic gastric ulcer, morphological signs. Sequelae and clinical outcomes.
34. Erosion and acute gastric ulcers. Etiology, clinical outcomes.
35. Appendicitis, acute and chronic. Morphological forms. Sequelae.
36. Necrotic nephrosis (acute renal insufficiency). Causes, morphology, clinical outcomes.
37. Nephrotic syndrome (lipoid nephrosis). Morphology, clinical outcomes.
38. Renal amyloidosis. Etiology. Morphological characteristic of stages. Clinical outcomes.
39. Glomerulopathies. Glomerulonephritis, causes, mechanisms of development, classification, morphological manifestations, sequelae, clinical outcomes. Renal and extra-renal changes.
40. Acute (streptococcal) and subacute glomerulonephritis, morphological manifestations,

sequelae, clinical outcome.

41. Chronic glomerulonephritis, variants, morphological manifestations, sequelae, clinical outcome.
42. Nephrotic syndrome, primary and secondary. Primary nephrotic syndrome, causes, mechanisms of development, morphological manifestations, sequelae, clinical outcome.
43. Pathologic anatomy of pyelonephritis, their pathogenesis. Pathologic anatomy, sequelae, clinical outcomes.
44. Chronic renal insufficiency (uremia). Its morphological manifestations.
45. Diabetes, causes, mechanisms of development, morphological manifestations, sequelae, clinical outcome, its peculiarities in children.
46. Toxic dystrophy of liver, its forms, clinical outcomes, morphological changes in other organs.
47. Hepatic cirrhosis. Concept. Classification. Etiology. Pathogenesis. Morphological types.
48. Hepatic and extra-hepatic manifestations of hepatic cirrhosis. Sequelae. Clinical outcomes, causes of death.
49. Rachitis. Etiology and pathogenesis. Incipient and delayed forms, pathologic anatomy, sequelae.
50. The concept of congenital deformities and their causes.
51. Impaired development of face, oral cavity and digestive organs.
52. Pathology of the CNS development.
53. Pathology of the secundines. Congenital deformities (form, weight, size, localization, placental abruption, umbilical cord, amnion), brief characteristic.
54. Pathology of the secundines. Discirculation disorder (hemorrhage, thromboses, embolism, infarctions), brief characteristic.
55. Placental inflammation. Placental insufficiency, causes, pathogenesis, clinical outcome.
56. The most frequent secundines pathology.
57. Birth trauma, its causes, types, morphology.
58. Intrauterine asphyxia, its types, morphology.
59. Fetal erythroblastosis. Its forms, morphology.
60. Fungoid diseases. Candidiasis. Actinomycosis.
61. Pathology of reanimation and intensive therapy, general concept, immediacy of the problem.
62. Endocervicoses. Morphological characteristic, sequelae.
63. Cancer of the uterine corpus and cervix. Types of growth, histological variants, stages.
64. Signs of pregnancy by the endometrium scrape. Placental polyp, hydatidiform mole. Morphology, sequelae.
65. Spontaneous abortion, premature delivery. Chorionepithelioma. Morphology.
66. Gestoses, definition of the concept, types (edema of pregnancy, nephropathy, preeclampsia, eclampsia). Eclampsia, causes, pathologic anatomy, clinical outcomes.
67. Ectopic pregnancy. Types, morphology, sequelae.
68. Placental infarction.

### ***C. Pathologic anatomy of infectious diseases***

1. Primary tuberculosis. Primary tuberculosis complex without progression.
2. Primary tuberculosis. Primary tuberculosis complex with progression. Types of generalization.
3. Pathogenesis of hematogenous tuberculosis. Hematogenous generalized tuberculosis.
4. Hematogenous tuberculosis with the predominant pulmonary involvement.
5. Hematogenous tuberculosis with extra-pulmonary involvement.
6. Secondary tuberculosis, peculiarities of its course. Re-infections, their types, clinical outcomes.
7. Forms of secondary tuberculosis.
8. The most important sequelae in tuberculosis. Pathomorphosis of tuberculosis.
9. Pathologic anatomy of opisthorchiasis.
10. Pathologic anatomy of echinococcosis.
11. Pathomorphological characteristic of the primary syphilis.
12. Pathomorphological characteristic of the secondary syphilis.
13. Pathomorphology of the tertiary syphilis. Lesion of cardiovascular system, liver, nervous system.
14. Prenatal syphilis (incipient, delayed).

15. Salmonellosis, their forms and morphological characteristic.
16. Colienteritis. Etiology, pathogenesis, pathologic anatomy.
17. Parainfluenza, its morphology. Sequelae. Adenoviral infection, its morphology, sequelae.
18. Respiratory-syncytial infection, its morphology, sequelae.
19. Influenza. Etiology, pathogenesis, pathologic anatomy of various forms of influenzal infection.
20. Influenza. The most important sequelae and residual effects, clinical outcomes.
21. Measles/ epidemic roseola. Changes of mucosa and skin. Incipient manifestations of disease. Exanthema and enanthema.
22. Morbillous pneumonia, its peculiarities, sequelae, clinical outcomes.
23. Vernal encephalitis. Its morphological characteristic. Sequelae, causes of death.
24. Morphological characteristic of poliomyelitis.
25. Viral hepatitis. The main forms of disease and their pathomorphological characteristic, clinical outcomes.
26. Pathogenesis of viral hepatitis. Prenatal hepatitis.
27. Sepsis. Its difference from other infections. General characteristic, classification, clinic- anatomic forms.
28. Morphological manifestations of septicemia and septicopyemia.
29. Prolonged septic endocarditis. Etiology and pathogenesis. Morphological changes. The peculiarities of the septic endocarditis, treated by antibiotics.
30. Neonatal sepsis, umbilical sepsis, its morphological manifestations.
31. Cytomegaly, morphology. Manifestations in organs.
32. Toxoplasmosis. Etiology, pathogenesis, morphology.
33. Membranous and pseudocroup.
34. Pathologic anatomy of pertussis.
35. Pathologic anatomy of neonatal listeriosis.
36. Meningococcal infection, its types. Pathologic anatomy, sequelae, clinical outcomes.
37. Dothienenteritis/ enteric fever. Etiology, pathogenesis, pathologic anatomy. The peculiarities of the dothienenteritis course in children.
38. Bacterial dysentery, its morphology. The peculiarities of dysentery in children.
39. Scarletina/ scarlet fever, clinic-anatomic forms and their morphology. Morphological characteristic of the 1<sup>st</sup> and 2<sup>nd</sup> periods of scarlatina, sequelae. Pathomorphosis of scarlatina.
40. Diphtheria, pathologic anatomy of local manifestations of the disease.
41. Diphtheria, pathologic anatomy of systemic manifestations of the disease.
42. Incipient and delayed sequelae of diphtheria.
43. Cholera. Periods of course. Morphology, pathogenesis.
44. The general theory of infections. Clinic-morphological characteristic of infectious diseases.
45. The differentiation of intestinal ulcers in dothienenteritis, dysentery, amebiasis, tuberculosis.
46. Pathologic anatomy of chickenpox.
47. AIDS. Etiology. The main morphological changes. Causes of death.