

**Syllabus of general pathology
for medical students - III year , 2024-2025**

1. Subject, tasks and methods of pathology.
2. Health and disease. Main categories in pathology (etiology, pathogenesis, Morphogenesis, sanogenesis, tanatogenesis).
3. Death: Clinical and biological. Signs of biological death.
4. Cell injury. Definition. Categories of cellular injury. Causal factors. Pathogenetic and morphogenetic mechanisms.
5. Cellular injury. Types of degeneration. Acute reversible cellular damage (cellular swelling). Hydropic degeneration.
6. Abnormal accumulation of substances in the cell. Mechanisms. Accumulation of protein (hyaline-drop degeneration, Lewy and Mallory bodies; Russel bodies) and carbohydrates. Methods of proof.
7. Disorders of the metabolism of lipids. Types of adipose degeneration. Accumulation of cholesterol and cholesterol esters. Methods of proof. Total obesity. Lipomatosis. Cachexia.
8. Lysosomal diseases (tesaurismoses) - features. Lipidoses (Gaucher disease, Niemann-Pick disease, Tay-Sacks, disease, Hand-Schuller-Christian) and glycogenoses.
9. Disturbances in the metabolism of the pigments. Classification. Accumulation of exogenous pigments.
10. Accumulations of iron-containing pigments (hemoglobinogenic).
11. Accumulation of iron-free hemoglobinogenic pigments. Jaundice.
12. Disturbances in the metabolism and accumulation of proteinogenic (tyrosine, tryptophan) and lipidogenic native pigments.
13. Abnormal accumulation of substances in the extracellular matrix Muroid edema. Fibrinoid. Hialinosis - types. Accumulation of fibrillary substances in the interstitium: scarring, fibrosis (sclerosis) and cirrhosis.
14. Amyloidosis. Common physical and chemical characteristics. Classification. Types according to their composition. Methods of proof.
15. Types of amyloidosis depending on cause and spread of the process. Organ deposits. Diagnosis.
16. Disturbances in the metabolism of calcium and copper. Abnormal accumulation of salts of the uric acid.
17. Cell death. Necrobiosis. Necrosis: definition, types (coagulation and kaseous; liquefactive), nuclear and cytoplasmic morphological changes.
18. Clinical and anatomical forms of necrosis (infarction, gangrene, decubitus, sequesters, mutilation, steatonecrosis, fibrinoid necrosis, 'noma'). Evolution and complications.
19. Apoptosis. Definition, differences between apoptosis and necrosis. Role of apoptosis.
20. Hemodynamic disorders: an overview, local and general hemodynamic disorders. Changes in the amount of blood. Arterial hyperemia.
21. Venous plethora (congestion). Acute and chronic left heart failure – morphological changes.
22. Venous plethora. Acute and chronic right heart failure - morphological changes. Local venous plethora.
23. Ischemia: definition, types, complications.
24. Bleeding and bleeding disorders. Plasmorrhagia. Terminology, mechanisms, outcome.
25. Rheological disorders: prestasis, stasis, 'sludge'-phenomenon.
26. Thrombosis. Order and Morphogenesis. Structure of thrombi. Difference between the thrombus and post-mortem blood clot.
27. Thrombosis. Types of blood clots, complications and evolution. Disseminated intravascular coagulopathy (DIC syndrome).
28. Embolism. Definition. Types of embolism by the way of their distribution: venous and arterial, orthograde, retrograde and paradoxical embolism.

29. Pulmonary thromboembolism: cause, proof, complications and outcomes.
30. Types of embolism, according to the substrate: air, gas, fat, amnial, bacterial, parasitic, tumor cell. Comparison between embolism and metastasis.
31. Infarction. Definition. Types. Morphological characteristics of anemic infarction.
32. Infarction. Definition. Types. Morphogenesis of hemorrhagic infarctions. Types of hemorrhagic infarctions.
33. Shock. Definition, pathogenetic types and organ morphological changes.
34. Disorders of lymph circulation: terminology and complications. Quantitative changes of tissue fluid. Oedema: definition, types. Pulmonary and cerebral edema. Dehydration.
35. Inflammation. Definition. Terminology. Main features. Etiologic factors.
36. Inflammation. Phases of inflammatory reaction. Pathogenesis and morphogenesis of inflammation. Plasma and cellular mediators.
37. Morphogenesis of acute (exudative) inflammation. Hemodynamic changes in microcirculation. Leukocyte migration and phagocytosis.
38. Cell types in the outbreak of acute and chronic inflammation.
39. Exudative inflammation. Morphology, complications and outcomes.
40. Productive inflammation: forms and morphological characteristics of diffuse productive inflammation.
41. Nonspecific and specific productive – ‘granulomatous’ inflammation. Morphology of foreign body granuloma, tubercle, luetic ‘gumma’, granulomas in leprosy and sarcoidosis, catscratch disease, toxoplasmosis, rhinoscleroma.
42. Pathology of immunity. Hypersensitivity reactions. Anaphylactic cytotoxic type immune reactions (first and second type reactions).
43. Pathology of immunity. Hypersensitivity reactions. Immune complexes reactions. Delayed type hypersensitivity (third and fourth type reactions).
44. Pathology of immunity - types. Autoimmune diseases. Congenital syndromes and acquired immune deficiency.
45. Adaptive processes: hypertrophy and hyperplasia, atrophy - definition, types, morphological characteristics.
46. Metaplasia - definition, types, morphological characteristics, complications.
47. Regeneration. Restitution and substitution. Factors affecting recovery processes. Wound healing. Regeneration of bone tissue.
48. Tumors: definition, incidence and prevalence. Biology of tumor growth (irreversibility, relative autonomy, tumor impact on the whole body).
49. Tumors: Terminology. Classification. Tumor structure.
50. Etiology of tumors. Chemical, physical, genetic and viral carcinogenesis. Role of growth factors.
51. Morphogenesis of tumors. Monocentric and multicentric theories for their emergence. Proliferating and non-proliferating tumor fractions. Biological basis of invasion of malignant tumors. Metastasis.
52. Morphological characteristics of tumors. Differences between benign and malignant tumors. Tissue and cellular atypia.
53. Precancerous. Dysplasia. Carcinoma in situ.
54. Metastasis of tumors.
55. Degree of differentiation and staging in the development of tumors. TNM-system.
56. Structure and shape of tumors - macroscopic and microscopic characteristics. Role of immunohistochemistry for the diagnosis of tumors.
57. Benign tumors of epithelial origin.
58. Malignant tumors of epithelial origin.
59. Benign soft tissue tumors.
60. Malignant soft tissue tumors.
61. Tumors of the central nervous system - general features, classification, basic representatives.
62. Tumors of the nerve sheath. Tumors of the meninges.
63. Tumors and tumor-like entities of melanocytes. Teratomas.