### Subject: Pathological Anatomy 1

**Study Programme:** General Medicine  
**Study Period:** 1. semester  
**Evaluation:** graduated  
**Subject Type:** necessary  
**Content:** 4 h lectures and 4 h practices / week  
**Department:** Institute of Pathology

| Week | Lectures | Histomorphological practices  
Necropsy practices |
|------|----------|-----------------------------|
| 1.   | **Introduction to Pathology**  
Pathology as a basic medical discipline, basic terminology, the difference between pathology and forensic pathology, basic legislative norms, role of pathology in contemporary healthcare and prevention. Principles of organization of learning activities, overview of assessment, study literature and resources. | Excursion to the Department of Pathological Anatomy, divisions of biopsy, cytology, immunohistochemistry, electron microscopy. |
| 2.   | **Biopsy, cytology and autopsy**  
Definition, the purpose of a biopsy, techniques used for material withdrawal, histological specimens processing, significance of biopsy in clinical practice, methods of examination, types of histological stains and visualization of basic tissue systems, special methods of examination. The purpose of a cytology, screening. Autopsy and its significance, laws regarding supervision in healthcare. | Introduction to autopsy seminars, Occupational Safety and Health in the autopsy room, documentation required for performing an autopsy. |
| 3.   | **Thanatology**  
Process of death, categories of death, postmortial changes, death in hospitalized patients, death extra muros clinicæ, legislative norms and guidelines on confirmation of moment and cause of death, legal and medical procedures following the death, examination of the dead body, autopsy, handling and disposal of dead bodies and remains, clinicopathological diagnostics. | Attendance at an autopsy, demonstration of postmortial changes and important techniques used in autopsy. |
| 4.   | **Cell Injury**  
Cell and tissue death, signs of injury of cell and organelles, apoptosis, basic types of dystrophic changes. | Attendance at an autopsy with demonstration of basic pathological processes and disorders, hierarchy of final diagnosis, ICD, autopsy protocol. |
| 5. | **Dystrophic changes:**  
*Alterations in protein metabolism:* Hyalinization, hyaline droplets, hydropic and vacuolar degeneration, fibrinoid dystrophy, amyloidosis, atherosclerosis.  
*Alterations in carbohydrate metabolism:* Changes of serum proteins, parenchymal and mucous dystrophy.  
*Alterations in lipid metabolism:* Steatosis and lipomatosis. | Coagulative necrosis of the kidney, caseous necrosis – TB of the lymph node, liquefaction necrosis of the brain, brown atrophy of the liver, fatty infiltration of the heart, hyaline arteriolosclerosis of the kidney, hyaline droplets in the renal tubules, perisplenitis cartilaginea, fibrinoid necrosis, amyloidosis of the kidney, steatosis of the liver |
| 6. | **Disturbances of electrolytes and body fluids:** Hydration, overhydration and dehydration.  
**Pigments, calcification, crystals and lithiasis.**  
**Progressive changes:** Regeneration, hyperplasia, hypertrophy and metaplasia, types of healing and reparation. | Virus inclusions, dystrophic calcifications in the heart, cholesterol crystals, anthracosis of the lung, hemosiderosis of the liver, silicosis of the lung. Hypertrophy of the heart. Granulation tissue, recanalized thrombus, foreign body granuloma, squamous metaplasia. Repetition. |
| 7. | **Inflammation:** Signs, purpose and causes, mediators, types of inflammation, cardinal signs, the course and forms, alteration, exudation, infiltration, proliferation, immune response, inflammation – serous, purulent, non-purulent, fibrinous, gangrene, TB, sarcoidosis, syphilis, leprosy, infectious scleroma, lymphogranuloma venereum, epithelioid granuloma. | Hepar moschatum, brown induration of lung, fresh mixed thrombus, white infarct of the kidney, red infarct of the lungs, lung edema. Acute catarrhal inflammation, rhinitis, leptomenigitis, appendicitis, granulomatous inflammation and sarcoidosis of the lymph node. |
| 8. | **Growth disorders**  
**Teratology**  
**Pseudotumors**  
**Basic histological features of tumors**  
**Tumor classification** | Epidermoid cyst, dysplasia of cervical epithelium, carcinoma in situ, metastasis of a carcinoma in the lymph node, stroma and parenchyma of a tumor, cell polymorphism, atypical mitoses. |
| 9. | **Tumors**  
Cytologic characteristics of tumors, histological composition of tumors, tumor growth, metastasizing, incidence and causes of tumors  
**Tumor systematics**  
Mezenchymal and epithelial tumors | Fibroma, fibrosarcoma, lipoma, chondroma, chondrosarcoma, osteoma, cavernous hemangioma, leiomyoma. Repetition of histomorphological findings. Attendance at an autopsy. |
| 12. | **Cardiovascular system:** Malformation of the heart and blood vessels, diseases of endocardium, myocardium, valvular diseases, circulation disorders, ischaemic heart disease, transplantation of the heart, malformations of blood vessels, arteritis, aneurysms. | Bacterial endocarditis, acute myocardial infarction, healing myocardial infarction, purulent myocarditis, atherosclerosis of the aorta, polyarteritis nodosa, acute purulent bronchitis, asthma bronchiale, bronchopneumonia. |
| 13. | Heart failure, myocardial infarction, cardiomyopathies, sudden death, thrombosis and embolism, phlebitis, phlebectases, lymphangitis, lymphostasis. | Repetition of histomorphological findings. Completion of diagnosis based on autopic findings. |
| 14. | Test – part pathological anatomy 1 | Histomorphological colloquium. |

Elaborated: MUDr. Patrik Fiala, PhD. Head Institute of Pathology Faculty of Medicine UPJŠ Košice