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SLOVENSKÁ ZDRAVOTNÍCKA UNIVERZITA

Plan of Practical trainings from subject "Histology I" for students of the study program General Medicine, summer semester 2023/2024

1. PC 16/02/2024	**Introduction into practical trainings. Practical work in the MS Teams environment. Construction of light microscope, histological technique:** chicken blood smear (HE), epidermis of onion (HE)
2. PC 23/02/2024	**Cell in the level of light microscopy - example of various cell shapes and sizes:** Purkynje neurons in cortex cerebelli (HE) and multipolar neurons in medulla spinalis (HE), demonstration of mitochondria in the proximal tubules of nephron (IH), demonstration of glycogen in hepatocytes (PAS-H), melanin granules in the melanocytes of the bulbus oculi (HE), brush border on the apical surface of epithelial cells of proximal tubules of nephron (alkaline phosphatase), mitosis in intestinum tenue (rat) (HE)
3. PC 01/03/2024	**Electron microscopy, ultrastructure of the cell, cell organelles:** student seminar with clinical correlations, study of electronograms
4. PC 08/03/2024	**Epithelial tissue (part I.: covering and lining epithelium):** simple columnar epithelium – intestinum tenue (rat) (HE), simple columnar, cuboidal and squamous epithelium – papilla renis (IH-E), pseudostratified columnar epithelium with cilia and goblet cells – trachea (HE), pseudostratified columnar epithelium with stereocilia - ductus epididymidis (HE), transitional epithelium (urothelium) – vesica urinaria (HE), stratified squamous epithelium non-keratinized – oesophagus (IH-E), stratified squamous epithelium non-keratinized – vagina (trichrome), stratified squamous keratinized – epidermis of the skin (HE)
5. PC 15/03/2024	**Epithelial tissue (part II.: glandular epithelium):** simple tubular glands (crypts of Lieberkuhn) – intestinum crassum (HE), alveolar glands with holocrine type of secretion – sebaceous glands in labium minus pudendi (HE), compound alveolar glands - gl. parotis (HE), compound tubulo-alveolar glands - gll. submandibularis et sublingualis (Azan), compound tubulo-alveolar glands – gl. sublingualis (PAS, celestin blue, orange G), compound tubulo-alveolar glands – gl. mammae (HE), cords of endocrine glandular epithelium - gl. suprarenalis (HE), follicular type of endocrine glandular epithelium - gl. thyroidea (HE)
6. PC 22/03/2024	**Supporting and connective tissue:** mast cells in loose connective tissue (tionin), plasma cells in connective tissue of synovial membrane (HE), collagen fibers in loose connective tissue (aniline blue), elastic fibers in the wall of aorta (orcein), mucous connective tissue (Wharton's jelly) – funiculus umbilicalis (trichrome), regular dense connective tissue - tendo (HE), irregular dense connective tissue - stratum reticulare corii of the skin (trichrome), reticular tissue – nodus lymphaticus (silver impregnation), white adipose tissue - univacuolar type of adipocytes (HE), loose areolar connective tissue – villi of intestinum tenue (slide #8) *1st partial credit test – histological technique and cytology, epithelial tissue*
7. PC 29/03/2024	*Holiday – Good Friday*
8. PC 05/04/2024	**Investigation of peripheral blood, blood smear. Differential blood count** peripheral blood smear (May-Grünvald Giemsa), bone marrow smear (May-Grünvald Giemsa), bone marrow (HE)
9. PC 12/04/2024	**Cartilage, bone and ossification:** hyaline cartilage - trachea (HE; trichrome; PAS), elastic cartilage - epiglottis (HE; orcein), fibrocartilage (HE, trichrome), transversal and longitudinal bone cut, intramembranous ossification (trichrome), endochondral ossification (trichrome or Azan)
10. PC 19/04/2024	**Muscle tissue:** cross-striated skeletal muscle (HE; IH), skeletal muscle in different section planes – lingua (IH), smooth muscle – intestinum crassum (HE) and uterus (HE), cross-striated and smooth muscle – oesophagus (trichrome), myocardium (HE; IH; trichrome) *2nd partial credit test – connective tissue (connective tissue proper, blood, cartilage, bone, ossification)*
11. PC 26/04/2024	**Nervous tissue - neurons:** multipolar neurons – medulla spinalis (luxol blue – cresyl violet; HE; Holmes), neurons and astrocytes - cerebrum (Golgi), pyramidal neurons – cortex cerebri (luxol blue and cresyl violet), Purkynje neurons – cerebellum (Golgi; luxol blue and cresyl violet), ganglion spinale (HE), nervus spinalis – transversal and longitudinal section (Holmes),
12. PC 03/05/2024	**Nervous tissue – glial cells:** nervus spinalis – transversal and longitudinal section (OsO_4), microglia – cerebrum (Rio del Hortega), satellite cells – ganglion spinale (HE), astrocytes - cerebrum (Golgi, Cajal), ependymal cells – medulla spinalis (HE), plexus choroideus (AZAN) *3rd partial credit test – muscle tissue, nervous tissue*
13. PC 10/05/2024	**Repetition, consultation, completion and checking of notebooks with drawings** *correction credit test from the general histology*

Bratislava, January 19th 2024

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