

Syllabus
Pathological Physiology 1
Winter Semester 2022/2023
Week 10

General Medicine

A. Lecture

1. Pathogenesis V

- Carcinogenesis. Tumors – typology, epidemiology
- Benign & malignant tumors – morphologic, functional & metabolic differences; precancerosis; invasive growth
- Tumor etiopathogenesis- physical, chemical, biological factors; hereditary forms of tumors
- Tumor transformation - oncogenes, tumor suppressor genes; Multi-hit theory; Clonal evolution

B. Seminars according to schedules on department webpage (patfyz.medic.upjs.sk)

1. T: Carcinogenesis

- Tumor markers, clinical signs of cancers
- Paraneoplastic syndromes

2. S: Carcinogenesis

- Molecular carcinogenesis - metastasis – forms, mechanisms; metastasis suppressor genes, angiogenesis; survival

3. Examination of knowledge (quiz, oral examination)

4. Presentations of the selected topics according to the group schedules

Dental Medicine

A. Lecture

1. Pathogenesis V

- Carcinogenesis. Tumors – typology, epidemiology
- Benign & malignant tumors – morphologic, functional & metabolic differences; precancerosis; invasive growth
- Tumor etiopathogenesis- physical, chemical, biological factors; hereditary forms of tumors
- Tumor transformation - oncogenes, tumor suppressor genes; Multi-hit theory; Clonal evolution

B. Seminars according to schedules on department webpage (patfyz.medic.upjs.sk)

1. T: Carcinogenesis

- Tumor markers, clinical signs of cancers
- Paraneoplastic syndromes

2. S: Carcinogenesis

- Molecular carcinogenesis - metastasis – forms, mechanisms; metastasis suppressor genes, angiogenesis; survival

- Precancerous states and cancers in oral cavity

3. Examination of knowledge (quiz, oral examination)

4. Presentations of the selected topics according to the group schedules

Seminars (S) = special topics for discussion; **Tutorials & homeworks & exams (T)** = discussions, consultations, oral and quiz exams on the current topics.

Note: The range of topics and their time-table during the tutorials and seminars in each group is determined by the teacher and to a large extent, by the presentations, consultation interests, questions and readiness of the group and may vary in between groups. Neither tutorials nor seminars are lectures, but dialogue and discussion and thus require an active participation and preparation of students for the topics.

Recommended audiovisual materials

Carcinogenesis

- Introduction to Cancer Biology (Part 1): Abnormal Signal Transduction https://www.youtube.com/watch?v=jifYQMW_nek
- Introduction to Cancer Biology (Part 2): Loss of Apoptosis <https://www.youtube.com/watch?v=8VSgOeJy4dQ>
- Introduction to Cancer Biology (Part 3): Tissue Invasion and Metastasis <https://www.youtube.com/watch?v=bdWRZd19swg>
- Introduction to Cancer Biology (Part 4): Angiogenesis https://www.youtube.com/watch?v=Ep_nCSEDeAE
- Cancer - Introduction I <https://www.youtube.com/watch?v=M5VM62MvKxM>
- Cancer - Introduction II <https://www.youtube.com/watch?v=H376Q6H0Se4>
- Oncogenetics - Mechanism of Cancer (tumor suppressor genes and oncogenes) <https://www.youtube.com/watch?v=1mo80kTZqW4>
- Metastasis and angiogenesis https://www.youtube.com/watch?v=eSwG5O_kiOQ
- P53 animation - tumor suppressor gene animation <https://www.youtube.com/watch?v=K79fVVwELR0>
- IMMUNOTHERAPY: The Path to a Cancer Cure (For Clinicians) <https://www.youtube.com/watch?v=UbFjiWOBErA>
- Oral Cancer - causes, symptoms, diagnosis, treatment, pathology <https://www.youtube.com/watch?v=aTvE7KM04EY>