

Academic Year/course: 2022/23

26717 - Diagnostic and Therapeutic Procedures: Anatomical-Pathological

Syllabus Information

Academic Year: 2022/23

Subject: 26717 - Diagnostic and Therapeutic Procedures: Anatomical-Pathological

Faculty / School: 104 - Facultad de Medicina

Degree: 304 - Degree in Medicine

ECTS: 6.0

Year: 3

Semester: First semester

Subject Type: Compulsory

Module:

1. General information

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. It favors the acquisition of knowledge related to biostatistics, and health services. A wide range of teaching and learning tasks are implemented, such as lectures, practice sessions, assignments, and autonomous work.

Students are expected to participate actively in the class throughout the semester. Classroom materials will be available via Moodle. These include a repository of the lecture notes used in class, the course syllabus, as well as other course-specific learning materials, including a discussion forum. Further information regarding the course will be provided on the first day of class.

4.2. Learning tasks

This is a 6 ECTS course organized as follows:

- Lectures (3.6 ECTS: 36 hours). Whole group sessions of 50 minutes each one. The professor will explain the theoretical contents, which are available in advance on the virtual platform Moodle.
- Practice sessions (1.4 ECTS: 14 hours). Sessions where a short theoretical content is first introduced to the students; in the second part, the students will work individually reviewing some slides corresponding to case studies corresponding to the topic.
- Seminars (1 ECTS: 10 hours). In small groups, students will discuss interactively clinical cases with its pathological findings.

4.3. Syllabus

The course will address the following topics:

THEORETICAL PROGRAM:

0. Presentation, general rules and introduction to the course

1. Cellular Pathology. Cellular tissue's components. Cell injury. Tissue necrosis. Types of necrosis. Apoptosis

2. Metabolic disorders 1. Alterations in lipid metabolism. Steatosis, Lipomatosis and Cholesterol accumulation disorders. Cholesterolosis. Arteriosclerosis.

3. Metabolic disorders 2. Proteins. Pigment deposit related diseases.

4. Metabolic disorders 3. Pigment deposit related disease cont. Calcification. Gout. Lithiasis

5. Circulatory disorders I: Hyperemia and / or congestion, Hemorrhage, Edema.

6. Circulatory disorders II: Thrombosis, Embolism, Ischemia and Infarction.

7. Inflammation and repair I. Inflammation. Basic morphological processes of inflammation. Classification of inflammation. Acute inflammation.

8. Inflammation and repair II. Chronic inflammation. Chronic granulomatous inflammation. Tissue repair. Regeneration. Fibrosis.

9. Immunopathology. Immunodeficiencies. Autoimmune diseases. Immune pathology associated with organ transplantation. Graft rejection. Graft versus host disease.

10. Alterations in cell growth. Adaptive changes. Hypertrophy. Hyperplasia. Constitutional defective alterations of fetal and adult development. Atrophy. Metaplasia.

11. Premalignant lesions. Neoplastic cells. Intraepithelial neoplasia. Dysplasia. Carcinoma in situ. Differentiation and anaplasia. Benign and malignant tumors.

12. Neoplastic growth. Tumour spread, grade and stage. Etiopathogenesis and carcinogenesis. Benign and malignant neoplasms. Metastasis. Gradation and staging.

13. Molecular bases of cancer. Basic techniques of molecular diagnosis.

14. Benign Epithelial Tumors. Definition and terminology. General classification. Papillomas. Adenomas and polyps. Cystadenomas

15. Malignant epithelial tumors. Definition and terminology. General classification. Histogenetic classification of carcinomas. Diagnostic methods. Relevant morphological parameters. Molecular characteristics of carcinomas. Biomarkers in carcinomas.

16. Mesenchymal tumors 1. Definition, origin and classification criteria. General characteristics. Terminology according to its biological behavior. Diagnosis: grade and stage. Adipocytic tumors. Fibroblastic / myofibroblastic tumors,

17. Mesenchymal tumors 2. Fibrohistiocytic tumors. Muscle tumors. Vascular tumors. Tumors of uncertain histogenesis.

18. Pathology of the skin. Dermatitis: basic patterns. Neoplastic pathology. Epithelial neoplasms. Melanocytic neoplasms. Mesenchymal neoplasms. Lymphoproliferative disorders and lymphomas, and other skin infiltrates.

19. Pathology of the blood vessels. Hypertensive vascular disease. Aneurysms and dissection. Vasculitis. Vascular tumors.

20. Pathology of the heart. Ischemic heart disease. Hypertensive cardiomyopathy. Valvular pathology. Myocarditis. Cardiomyopathies. Heart tumors. Pericarditis

21. Respiratory tract pathology 1. Respiratory insufficiency. Infectious diseases of the respiratory system. Bronchiectasis. COPD: Emphysema. Restrictive lung diseases.

22. Respiratory tract pathology 2. Lung and pleural tumours. WHO classification of lung tumors. Pulmonary metastases. Pleural mesothelioma.

23. Nephrourothelial Pathology I. Kidney. Glomerulonephritis and Tubulointerstitial nephritis. Hydronephrosis. Kidney tumors.

24. Nephrourothelial Pathology II. Bladder. Cystitis. Urothelial carcinoma. Prostate. Nodular hyperplasia. Adenocarcinoma. Prostate Cancer grading system. Testicle. Cryptorchidism. Infertility. Testicular tumors.
25. CNS pathology I. Pathology of neurodegenerative and demyelinating diseases.
26. CNS Pathology II. CNS tumors.
27. Pathology of the gastrointestinal system 1. Esophagus: esophagitis. Reflux and Barrett's esophagus. Benign and malignant tumors of the esophagus. Stomach pathology: Acute and chronic gastritis. Gastroduodenal ulcers.
28. Pathology of the gastrointestinal system 2. Gastric tumors. Intestinal malabsorption. Celiac Disease. Inflammatory bowel disease.
29. Pathology of the gastrointestinal system 3. Intestinal tumors. Pancreatic pathology.
30. Liver pathology I. Liver architecture and function. Acute and chronic hepatitis. Cirrhosis.
31. Liver pathology II. Cirrhosis cont. Metastasis. Benign and malignant liver tumors. Liver transplantation.
32. Endocrine pathology. Pituitary disorders. Thyroid, Parathyroid and Adrenal glands pathology.
33. Pathology of the lymphoid and hematopoietic system. Lymph node pathology. Lymphadenitis. Lymphomas. Metastasis. Bone marrow biopsy.
34. Breast pathology. Anatomical / histological introduction. Reactive / inflammatory changes. Fibrocystic changes. Fibroepithelial lesions. Epithelial lesions. Mesenchymal lesions. Lymphoproliferative processes. Male breast. Genetic syndromes.
35. Gynecological Pathology. Cervix, Endometrium and Ovarian tumors.
36. Osteoarticular Pathology. Tumors and pseudotumor lesions of bone. Chondrogenic tumors. Osteogenic Tumors. Ewing sarcoma / primitive neuroectodermal tumor. Giant cell tumor of bone. Vascular tumors. Chordoma. Pseudotumor pathology.

PRACTICAL PROGRAM

Practice sessions

Session 1. Metabolic disorders. Pigmentations. Pathological calcification. Uric acid deposits Lithiasis.

Session 2. Circulatory disorders and tissue necrosis.

Session 3. Inflammation, regeneration and healing. Immunopathology. Infections.

Session 4. Cell growth and differentiation abnormalities. Benign and malignant neoplasms.

Session 5. Epithelial and mesenchymal neoplasms. Vascular and melanocytic neoplasms.

Session 6. Pathology of the Cardiovascular System.

Session 7. Pathology of the Respiratory System.

Session 8. Pathology of the Nephrourological System and Male Genitalia

Session 9. Pathology of the Central Nervous System

Session 10. Endocrine Pathology

Session 11. Gastrointestinal Pathology

Session 12. Haematopathology and Bone and Soft tissue tumours

Session 13. Gynecological Pathology

Session 14: The students will go to the Pathology Department in Hospital Clínico Universitario Lozano Blesa. There, they will see the full process for an specimen, starting from the moment it is received and ending when it is ready to be reviewed for diagnosis under the microscope.

SEMINAR PROGRAMME:

1. Cardiovascular
2. Respiratory tract
3. Uropathology
4. Central Nervous System
5. Mammary and gynecological pathology
6. Gastrointestinal
7. Haemathopathology
8. Endocrinology
9. Bone and Soft tissue

TUTORING: Students can discuss issues related to the study of the subject, in person, by appointment with Professor directly or via e-mail

4.4. Course planning and calendar

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the "Facultad de Medicina" website and the Degree website (<https://medicina.unizar.es/tercer-curso>, <http://moodle2.unizar.es>).

4.5. Bibliography and recommended resources

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=26717>