

Faculty of Medicine



MED1300 Basic pathology and introduction to medical semeiology

[30h] 3 credits

This course is taught in the 2nd semester

Teacher(s): Pierre Courtoy
Language: French
Level: First cycle

Aims

(1) to learn the dynamics of elementary pathological processes translated into visible alterations of cells (specific overload, changes in size or number, suffering and necrosis) and of the extracellular compartments (oedema, extracellular matrix disorders, pathological deposits) and (2) to understand cell-cell and cell-matrix interactions underlying inflammation, the fight against infection and tissue repair ; as well as the origin, invasion and distance spreading of solid cancer.

Main themes

This course aims at integrating at the tissular level basic knowledge gained at the preclinical level of academic training, in order to understand the general processes of disease, while stressing the diversity of their evolution among individual patients, so as to facilitate transition from the generality of certitudes in basic knowledge (" science "), to the differentiated and probabilistic approach of sick individuals learned during clinical training (" the quite art "). Lectures (1) show the essence of pathogenesis, deriving from single causes and combined risk factors a logical sequence of reactive processes, leading to a visible translation, the lesions; (2) unravel for exemplary diseases the relations between lesions and dysfunctions, their clinical manifestations, and the derived preventive, diagnostic and therapeutical implications ; (3) illustrate that (even rare) pathologies are part of life and that elucidation of these natural experiments of nature lead one to discover new biological mechanisms.

Content and teaching methods

This course focuses on the pathogenesis and manifestations of the major human pathologies that can best be explained from a structural perspective. Are covered : (1) the natural history of diseases (exemplified by atheromatosis leading to heart infarction) ; (2) how primary alterations of the metabolism and of fluxes between biological compartments result into morphological translations and clinical signs; (3) mechanisms and manifestations of cell suffering and necrosis ; (4) deficits of blood and tissue exchange ; (5) general pathology of extracellular matrix ; (6) infection, inflammation and repair ; and (7) the natural history of cancer.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Pre-requisite : cell and molecular biology, general and systemic histology, human anatomy, general and medical biochemistry, general and systemic physiology, notions of statistics and epidemiology.

Method : lectures with multiple illustrations showing the continuity from microscopic lesions to macroscopic signs.

Evaluation : oral examination after written preparation, based on a structured presentation addressing two general questions selected by chance, followed by specific checks throughout the course. Best students can be asked additional questions not developed during the course, but for which they should have adequate training.

Individual support : printed notes, recommended textbooks available at the Faculty library.

Other : particular synergy with the course General pathology (ANPG1300).

Other credits in programs

BIOL22/A	Deuxième licence en sciences biologiques (Biologie moléculaire, cellulaire et humaine)	(3 credits)	
BIOL22/B	Deuxième licence en sciences biologiques (Biologie des organismes et des populations)	(3 credits)	
FARM31DS/AN	Première année du diplôme d'études spécialisées en sciences pharmaceutiques (analyses biologiques)	(3 credits)	Mandatory
MED13BA	Troisième année de bachelier en médecine	(3 credits)	Mandatory
SBIM13BA	Troisième année de bachelier en sciences biomédicales	(3 credits)	Mandatory