

Faculty of Medicine



DENT2450 General pathophysiology of diseases

[45h] 4 credits

Teacher(s): Daniel Manicourt
Language: French
Level: Second cycle

Aims

In approaching the disease as a disorder of physiologic and biochemical processes, the teaching enables the student to understand how and why the symptoms and signs of different disease syndromes occur, so that rational therapies and prevention of diseases can be devised. The course is a logic continuation of basic sciences and provides the foundations to foster understanding of the lectures in clinical medicine and pharmacology. We integrate into the discussion of pathologic processes and disorders the newest established information available at the genetic and molecular levels. Emphasis is given on the oral manifestations of diseases.

Main themes

The first part explores and explains the development of basic pathologic mechanisms without detailing the additional specific changes occurring in different organs. After having reviewed the basic aspects of cell adaptation to altered environment and the major abnormalities of interstitial tissues, we analyze host response to injury, major agents causing tissue injury as well as disorders of growth and development.

In the second part, the pathologic mechanisms discussed in the first part are related to various organ systems: heart, blood cells and bleeding disorders, lung, gastrointestinal tract, pancreas, liver, kidneys, the endocrine system, bone and joints, the peripheral nerve and skeletal muscle as well as the central nervous system.

Content and teaching methods

In the first part we consider the pathologic changes occurring in the prototype of every tissue of the body : parenchymal cells and interstitial connective tissue. The physiologic and biochemical changes are related to symptoms and signs as well as to laboratory findings. Emphasis is given to inflammatory changes, nutritional and genetic diseases, disorders due to physical and chemical injuries, infectious diseases, disorders of cell growth, differentiation and maturation as well as mechanisms and causes of neoplasias.

In the second part, for each system, normal structure and function, and the symptoms and signs that arise from pathologic changes are discussed first. The major disease avenues of each organ system are then overviewed with emphasis given to those that have oral manifestations.

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

Required : basic cell biology, basic physiology and basic biochemistry.

Dynamic interactions between students and teacher. At the beginning of each lecture, a summary of the previous lecture is given and a student is invited to explain to his fellows how he understands the topic.

Clinical illustrations of major syndromes

Programmes in which this activity is taught

NUT2 Licence en sciences biomédicales (nutrition humaine)

Other credits in programs

DENT21 Première licence en science dentaire (4 credits) Mandatory