



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## SYLLABUS DEL CORSO

### Patologia Generale

1920-1-I0101D005-I0101D017M

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#### Aims

GENERAL PATHOLOGY-Know the basic mechanisms of the onset of disease and the means of defense.

#### Contents

GENERAL PATHOLOGY-Know the underlying causes and pathogenic mechanisms of human diseases, as well as the etiology of the fundamental alteration of the structures, functions and control mechanisms at different levels of integration and acquire the basic knowledge to understand and deal with functional alteration. Control the appropriate terminology to interact with lecturers and, in perspective, with the multidisciplinary team and with patients to meet their health needs. Use the acquired skills to facilitate the development of additional advancement in clinical disciplines.

#### Detailed program

GENERAL PATHOLOGY-Concept of disease (acquired, congenital hereditary); areas of general pathology (etiology, pathogenesis). Chronic-degenerative and acute diseases. Immunology. Organs, B and T cells, antibodies. Concept of self and non-self. Complement. Immune reaction, primary and secondary. Hypersensitivity type I, II, III, IV. Etiology. Ionizing and exciting radiations as etiological agents. Diseases from radiation and from high temperatures. Burns, characteristics and pathogenic mechanisms. Freezing. Inflammation. Definition of acute inflammations, vascular phenomena in exudate development. The cells involved in inflammation acute, diapedesis, chemotaxis, phagocytosis, differences between exudate and transudate. Classification of exudates, evolution and complications of acute inflammation. Chronic interstitial inflammation and granulomatous. Cells involved in chronic inflammation. Formation and structure of the granuloma. Examples of granulomatous inflammation (TBC, Lue, silicosis, foreign body). Evolution of the granuloma. Systemic manifestations of inflammation: fever, leukocytosis, acute phase proteins. Repair processes. Wound healing. Regeneration, repair, organization. Granulation tissue

and its evolution. Scar tissue. Healing by first and secondary intention. Factors conditioning healing. Complications in wound healing. Fibrosis. Chronic degenerative diseases. Definition of atherosclerosis. Vessels affected by atherosclerosis. Structure of the altered arterial walls. Plaques distribution in the arterial tree. Etiology of atheromatous plaque and complications. Thrombosis, embolism. Functional adaptation. Hypertrophy, hyperplasia, homeostasis, balance and functional failure, organ failure, multiple organ failure and system failure. Growth disease. Pre-neoplastic lesions. Tumors: definition, classification (benign, malignant), nomenclature, malignant cancer features, atypia, TNM. Tumors etiology: chemical, physical and viral (general concepts). Genes involved in neoplastic transformation (general concepts). Concepts of tumor growth and angiogenesis phenomenon. Tumor metastasis, metastatic stages of the process. Biology of cancer cachexia.

## **Prerequisites**

Positive evaluation in Biomedical Sciences 1.

## **Teaching form**

Lectures through presentations in electronic form of drawings and diagrams explaining concepts and functions of the organism.

## **Textbook and teaching resource**

GENERAL PATHOLOGY

Pontieri G.M. (2007) Patologia generale e Fisiopatologia generale per le professioni sanitarie, II ed., Padova, Piccin; Spector T.D. e Axford J.S. (2007) Introduzione alla Patologia generale, II ed., Milano, Casa Editrice Ambrosiana; Quaglino E., Cavallo F., Forni G. (2010) Le difese immunitarie, I ed., Padova, Piccin;

- FOR ALL THE MODULES: Slides and bibliographic references

## **Semester**

2 Semester

## **Assessment method**

FOR THE ENTIRE COURSE: Written examination: 60 closed quiz with multiple choice answer and one open ended question. The 60 quiz are subdivided for different subjects: 20 for general pathology, 20 for pharmacology, 10 for clinical biochemistry, 10 for microbiology. The examination will be passed with 36 exact answers.

## **Office hours**

On appointment

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