UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Onco-hematological Diseases

2122-3-H4102D020

Aims

Pathology: Understanding the pathology of cancer, the carcinogenic process and the transformed cell, the initiation promotion progression, the tumor microenvironment, the inflammation and cancer, the carcinogenesis and tumor progression in breast colon and lung cancer: targets in breast colon and lung cancer.

Diagnostics and Radiation Oncology: Understanding the basic principles of conventional radiology, computed tomography, ultrasound, and magnetic resonance imaging. Understanding the importance of each imaging modality in detecting, staging, and follow-up of neoplastic disease. Morphologic and functional imaging in oncology: state of the art, and future perspectives.

Oncology: The aim is to provide students with basic knowledge of Oncology (the specific terminology, the diagnostic criteria of the main neoplastic diseases and treatment guidelines)

Hematology: Understanding the basis of blood coagulation, the hemorrhagic and the thromboembolic diseases, the cancer and thrombosis, the thrombotic thrombocytopenic anemia, the principles and clinical practice of blood transfusions. Understanding the anatomy, the normal physiology and the hierarchical organization of the normal bone marrow and of the hematopoietic system, the molecular basis and the clinical behavior of the onco –hematological diseases.

Contents

Pathology: The cellular and molecular bases of the carcinogenic process (carcinogens, classification, action, DNA mutations, oncogenes); the components of the tumor microenvironment and of the tumor infiltrate; the growth factors and receptors in major tumors and their microenvironment; the molecular bases of targeted therapy and

immunotherapy

Diagnostics and Radiation Oncology: The Imaging technique of choice for detection of the most common solid tumors in the central nervous system, thorax, and abdomen: the rationale. The staging of the most common solid tumor as above: the key point of diagnostic imaging. Strength, and weakness of cross sectional imaging techniques. How to properly assess actual tumor spread in the view of optimal treatment planning. Imaging follow up, and patient tailored therapy.

Oncology: The basic knowledge of Oncology: the terminology, the diagnostic criteria and treatment guidelines of the main neoplastic diseases, the staging principles of pharmacology of antineoplastic agents.

Hematology: The clinical approach to the ambulatory patient presenting with hemorrhagic or thrombotic symptoms. The management of the outpatient anticoagulation clinics. The Laboratory diagnosis of coagulation disorders. The apheretic therapies, the blood transfusion, the phlebotomy and the plasma exchange treatments.

The mechanism of regulation of the normal hematopoiesis, the biology of hematopoietic growth factors. The morphology and immunology of hematopoietic progenitor cells. The morphology of mature peripheral blood cells. The molecular genetics, the biological characteristics, the classification and the clinical findings of the onco-hematological diseases.

Detailed program

The detailed program is available in each teaching Unit.

Prerequisites

Basic Clinical Skills course and for pathology the II year basic pathology course.

Teaching form

frontal lessons, lectures and small group activities

Textbook and teaching resource

to be defined or educational material provided by the professors

Semester

second term

Assessment method

integrated oral exam

Office hours

Appointment by email