UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Cardiovascular Diseases A

2223-3-H4101D257-H4101D043M

Aims

The Medical-Surgical Pathology 1 course - Diseases of the Cardiovascular system - is aimed at the acquisition of the various methods of patient assessment with particular emphasis on the collection of the medical history, physical examination and laboratory tests in the perspective of their subsequent application in different specialties. The topics of the course provide the necessary tools for understanding the semeiological bases and the pathophysiology of the main pathological conditions affecting the cardiovascular system. The educational elements provided represent the indispensable basis for the acquisition of a scientific method applicable to all the medical specialties that the students will face in the course of their professional growth.

In particular, the tools useful for the optimal management of a diagnostic evaluation will be provided, based on an in-depth pathophysiological understanding of disease mechanisms. Specifically, the following topics will be addressed: Medical history, critical evaluation of symptoms, detrection of main clinical signs and symptoms related to medical and surgical pathologies of the cardiovascular system. Role, limitations and purpose of laboratory tests.

Contents

History collection and performance of general and specific physical examination and laboratory tests for cardiovascular system. Differential diagnosis of the symptoms of major cardiovascular diseases and understanding of their pathophysiological mechanisms in relation to clinical manifestations

Detailed program

CLINICAL METHODOLOGY

- Anamnesis

- Anamnesis techniques
- Evaluation of the patient's clinical record
- Function of the patient interview
- Relationship with the patient and physician's behaviour
- Role of family history
- Physiological, remote pathological and pathological history

- Clinical cardiological semiotics

- General objective examination

- Head and neck
- Chest
- Abdomen

- Diagnostic tests in cardiology

- ECG, 24-hour Holter ECG
- Approach to ultrasound techniques
- Exercise tests
- Myocardial scintigraphy
- Coronary CT and cardiac MRI
- Coronarography

- Chest pain

- Correct interpretation, differential diagnosis and instrumental investigations

- Semeiological characteristics of pain

- Somatic pain and visceral pain
- Thoracic, abdominal, radicular and headache pain

- Primary and secondary arterial hypertension

- Management of the hypertensive patient
- Correct interpretation of instrumental investigations
- Therapeutic goals in the hypertensive patient

- Main congenital cardiopathies

- Physiological and haemodynamic aspects of structural alterations of the heart muscle and valves

- Diseases of the pericardium, endocardium and myocardium

- Pathophysiological mechanisms of pericarditis, endocarditis and myocarditis
- Signs and symptoms of the disease, its evolution and aggravation
- Management of the pathology based on current international guidelines
- Follow-up and interpretation of instrumental and laboratory examinations

- Ischaemic heart disease

- Stable and unstable angina
- Myocardial infarction
- Pathophysiological mechanisms
- Signs and symptoms of the disease, its evolution and aggravation
- Acute and chronic management of the patient
- Planning and interpretation of instrumental and laboratory examinations

- Pulmonary embolism

- Pathophysiology
- Main aetiological factors
- Clinical picture
- Diagnostic procedure and follow-up

- Pulmonary hypertension

- Pathophysiology
- Main aetiological factors
- Clinical picture
- Diagnostic procedure and follow-up

- Valvulopathies

- Congenital and acquired valvulopathies
- Aetiopathogenetic and physiological mechanisms
- Signs and symptoms of the disease, its evolution and aggravation
- Follow-up, indications and interpretation of instrumental examinations

- Heart rhythm disorders

- Hypokinetic arrhythmias
- Hyperkinetic arrhythmias
- Principles of electrophysiology and electrostimulation
- Indications for PM and ICD implantation

- Heart failure

- Pathophysiological mechanisms and aetiology of heart failure
- Symptoms and signs: from development to disease progression
- Acute pulmonary oedema
- NYHA classification
- Planning and interpretation of laboratory and instrumental examinations
- Management of the patient with acute and chronic heart failure

- Syncope and lipotimia

- Mechanisms and physio-pathogenetic diagnosis of the various forms of syncope
- Patient management and follow-up

- Shock

- Physiology and aetiopathogenesis of the different forms of shock
- Clinical presentation, instrumental diagnostic framework and management of the patient in shock

DISEASES OF THE CARDIOVASCULAR SYSTEM General aspects

- Aetiopathological interpretation of the following symptoms and signs
- dyspnoea, cough, haemoftoe, cyanosis, oedema, dizziness, vomiting, diarrhoea
- Pathophysiology of febrile states
- Pathophysiology and semeiotics of loss of consciousness

  *Etiopathological interpretation of the following symptoms and signs:
- Semeiotics, pathophysiology and diagnosis of conditions such as heart failure, hypo- and hyperkinetic arrhythmias, sleep and respiratory sleep disorders and their cardiovascular impact, arterial hypertension, syncopes, endocarditis, pericarditis, myocardiopathy, hypertension and pulmonary embolism

- Rationale for the correct prescription of instrumental investigations
- The measurement of blood pressure
  -Measurement techniques and modalities
- Epidemiology, cardiovascular risk factors and prevention

Prerequisites

Propaedeutic skills as indicated in the main program of the School of Medicine and Surgery

Teaching form

Lectures and practical training provided in presence, subject to any changes in ministerial laws in the case of incoming pandemic-related emergencies

Textbook and teaching resource

Harrison's: "Principles of Internal Medicine" Ed. McGraw Hill

other textbooks:

HURST- The Heart 12th Ed. McGraw Hill

Dioguardi – Sanna: Moderni aspetti di semeiotica medica - Segni sintomi e malattie Ed.Seu

Sabiston: "Textbook of surgery" Ed. Saunders

Zanussi: "Il metodo in medicina clinica" Ed. Mattioli

McPherson RA, Pincus MR Henry's Clinical Diagnosis and Management by Laboratory Methods, 23a edizione in lingua inglese. Ed. Elsevier, 2016

Federici G. Medicina di laboratorio ed McGraw-Hill. IV edizione, 2014

Marshall W, Lapsley M., Day A Clinical chemistry ed Mosby. 8a edizione in lingua inglese. Ed. Elsevier, 2016

Semester

First Semester

Assessment method

Oral test aimed at evaluating global comprehension and knowledge of course program.

Office hours

Appoinment scheduled through email contact

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING