UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Malattie dell'Apparato Cardiovascolare C

1718-3-H4101D257-H4101D045M

Aims

Patient’s history taking, with focus on cardiovascular and respiratory problems, Diagnostic assessment with critical data interpretation, Physical examination, Main clinical signs and symptoms. Knowledge of normal ranges of the main diagnostic tests for the cardiovascular and respiratory systems.

CARDIOLOGY. Epidemiology of cardiovascular diseases and cardiovascular risk factors, Clinical and instrumental cardiologic assessment, with focus on EKG and cardiovascular ultrasound testing. Basic knowledge of electrocardiography. Congenital and acquired heart diseases, Diseases of pericardium, endocardium and myocardium, Alterations of cardiac rhythm, Ischemic heart disease, Pulmonary embolism and hypertension, Arterial hypertension, Syncope and lipothymias. Heart Failure.

VASCULAR SURGERY. Atherosclerosis and plaque formation. Arterial and venous peripheral vascular diseases including aneurisms. Thrombophlebitis.

PNEUMOLOGY. Anatomy and physiology of the lung; epidemiology, pathophysiology, prevention and cure of lung infections, chronic respiratory diseases (COPD, asthma), Interstitial lung disorders, pleural and lung tumors, pleural diseases. Basic knowledge of respiratory endoscopy, pulmonary function tests, acute and chronic respiratory failure.

CLINICAL BIOCHEMISTRY 1 AND CLINICAL PATHOLOGY: The goal of the course is to provide the students with the tools for the correct use of biochemical tests, the elements for the comprehension of their physio-pathologic basis and the definition of their indications and interpretation.

Contents

Collection and interpretation of patients' medical history, main signs and symptoms of cardiovascular and respiratory diseases. To provide the tools for the correct use of biochemical tests, and the definition of their indications and interpretation. Information on how to perform correctly a physical examination with particular regards to venous and arterial vessels, as well as to cardiovascular and respiratory systems.

Detailed program

GENERAL SEMEIOTICS

The medical history

- Techniques of history taking

- Evaluation of patient's clinical data and files

- How to interview a patient

- Doctor-Patient interaction, physician's attitude and behaviour

- The role of the family history

- Physiological and pathological history

General physical examination

- Head and neck

- Chest

- Abdomen

Etio-pathological interpretation of the following symptoms and signs:

- dyspnoea, cough, haemoptysis, cyanosis, oedema, vertigo, vomit, diarrhoea

- Pathophysiology of fever

- Pathophysiology and semeiotics of loss of consciousness

Semeiotics of pain

- Somatic pain and visceral pain

- Chest, abdominal, radicular pain and headache

Rationale for the correct prescription of instrumental tests

Measurement of blood pressure

- Measurement techniques.

CARDIOLOGY

Epidemiology, cardiovascular risk factors and prevention.

Physical examination of the Heart and Circulation

Diagnostic tests in Cardiology

- Electrocardiography (EKG), 24 hours EKG Holter recording
- Echocardiography
- Exercise Stress Testing
- Cardiac nuclear imaging
- Computed Tomography and Magnetic Resonance of the Heart
- Coronary Angiography

Systemic Hypertension (primitive and secondary forms):

- Clinical management
- Interpretation of diagnostic tests
- Therapy

Chest Pain

- Approach to the patient with chest pain, differential diagnosis and diagnostic tests

Congenital Heart Diseases

- Physiological and hemodynamic aspects of structural changes in the muscle and heart valves

Valvular Heart Disease

- Congenital and acquired valvular heart diseases
- Physiopathological mechanisms
- Signs and symptoms of the disease and its evolution
- Follow-up and interpretation of diagnostic tests

Pericardial, endocardial and myocardial diseases

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

Heart Rhythm Disorders

- Hypokinetic arrhythmias
- Hyperkinetic arrhythmias
- Genesis of cardiac arrhythmias
- Indications for cardiac pacemakers and cardioverter-defibrillators

Ischemic heart disease

- Stable and unstable angina
- Myocardial infarction
- Pathogenetic mechanisms

Signs and symptoms of the disease, its evolution and aggravation

- Acute and chronic patient management
- Planning and interpretation of instrumental and laboratory examinations

Heart Failure

- Pathophysiological mechanisms and aetiology of heart failure
- Symptoms and signs: from development to disease progression
- Acute Pulmonary edema
- NYHA Classification
- Planning and interpretation of laboratory and instrumental examinations
- Management of Patients with acute and chronic heart failure

Pulmonary embolism

- Pathophysiology
- Main etiological factors
- Clinical presentation
- Diagnostic process and follow-up

Pulmonary hypertension

- Pathophysiology
- Main etiological factors
- Clinical presentation
- Diagnostic process and follow-up

Syncope and hypotension

- Pathophysiological mechanisms and diagnosis of the various forms of syncope
- Clinical management and follow-up

Shock

- Physiology and etio-pathogenesis of the various forms of shock
- Clinical presentation and management

VASCULAR SURGERY

- Specific history of risk factors and circulatory system diseases
- Semiology and physical-instrumental evaluation of circulatory system diseases
- Arteriosclerotic obliterating arteriopathy (systemic and local artery disturbances)
- Acute arterial obliteration of the limbs
- Arterial aneurysms (true and false)
- Aortic dissections
- Arterial and venous ulcers
- Varicose veins of the lower limbs
- Thrombophlebitis and deep venous thrombosis

PNEUMOLOGY

- Anatomy, physiology and pathophysiology of the lung;
- basic knowledge of respiratory endoscopy, pulmonary function tests, imaging of the thorax, acute and chronic respiratory failure, including blood gas analysis interpretation;
- prevention and diagnosis of lung infections, including pneumonia and tuberculosis;
- chronic pulmonary diseases, including asthma, COPD, bronchiectasis and cystic fibrosis;
- pleural diseases, including pneumothorax, pleural effusion and pleural infections. Basic knowledge of pleural procedures and imaging;
- interstitial lung disorders, including sarcoidosis and idiopathic pulmonary fibrosis;
- epidemiology, diagnosis and staging of pleural and lung tumors;
- Principles of smoking cessation.

CLINICAL BIOCHEMISTRY 1 AND CLINICAL PATHOLOGY

- Roles, limits and aims of laboratory tests.
- How to ask for a test.
- Pre-analytical, analytical and post-analytical variability.
- Lab test interpretation: reference values and decisional process; sensibility, specificity and predictive

values.

- Lab tests for cardiovascular risk, myocardial infarction and heart failure.

- Coagulation tests and oral anticoagulant therapy monitoring. Haemorrhage and thrombosis. Anticoagulant therapy monitoring.

- Immunopathology and immunodeficiency diagnostics.

- Tests for allergy.

- Lab evaluation of inflammation.

Prerequisites

Propaedeutic skills

Teaching form

Lectures and exercises

Textbook and teaching resource

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

For further insight

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 English edition. Ed. Elsevier, 2016

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

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

Semester

First semester

Assessment method

Multiple choice test

Oral examination

Office hours

9.00-16.00