

PATOLOGIA E SISTEMATICA CARDIOVASCOLARE (MG00022)

1. language

Italian.

2. course contents

Coordinator: Prof. LANZA GAETANO ANTONIO

Year Course: IV

Semester: II

UFC: 5

Modules and lecturers:

- DISEASES OF THE CARDIOVASCULAR SYSTEM 1 (MG0218) – 2 UFC - SSD MED/11
Prof. Giovanna Liuzzo, Carlo Trani, Francesco Burzotta, Gaetano Antonio Lanza

- DISEASES OF THE CARDIOVASCULAR SYSTEM 2 (MG0220) – 1 UFC - SSD MED/11
Prof. Gaetano Antonio Lanza, Carlo Trani, Francesco Burzotta, Giovanna Liuzzo

- CARDIAC SURGERY (MG0216) - 1 UFC - SSD MED/23

Prof. Massimo Massetti, Piergiorgio Bruno

- VASCULAR SURGERY (MG000125) - 1 CFU - SSD MED/22

Prof. Giovanni Tinelli, Yamume Tshomba

3. bibliography

Textbook:

Rugarli C. Medicina Interna Sistemica. Masson 8° Edizione. Malattie dell'Apparato Cardiovascolare. Pagg. 31-367.

For some topics to be explored, the professors will provide the materials used.

4. learning objectives

At the end of the course the student will have a preparation that will allow him to understand both the pathogenesis of cardiovascular diseases and the mechanisms underlying the symptoms of cardiac and vascular origin. Furthermore, he will be able to use the information acquired in the course in the clinical evaluation and management of the patient and discuss, with autonomy of evaluation and judgment, the most important cardiovascular diseases.

Through the integrated use of first level diagnostic methods of cardiac (ECG, echocardiogram) and vascular (echo-Doppler) function, together with clinical (blood pressure, cardiological and vascular semeiotics) and laboratory (common blood chemistry tests) findings, the student will be able to propose second level diagnostic tests (myocardial scintigraphy, chest-heart-vessel CT, cardiac MRI, coronary angiography, vascular angiography) according to a well-defined diagnostic procedure.

Diagnosis is defined in terms of precision and accuracy, severity of the picture and basic and advanced therapeutic approach (percutaneous cardiovascular interventions, cardiac and vascular surgery, multidisciplinary approach), with patient involvement in diagnostic-therapeutic management.

The student will also receive information on how to use the many resources available today, in particular on the web, to be able to deepen specific topics or topics of interest, also developing self-learning skills.

5. PREREQUISITES

The student should have adequate knowledge of anatomy, physics, biochemistry, microbiology, physiology and general pathology. In particular, adequate knowledge of anatomy and physiology of the cardiovascular system is required.

6. teaching methods

The course will take place through lectures and exercises, as established by the Board of the Graduation Course.

The lessons will emphasize the importance of a pathophysiological approach to cardiovascular disease, as well as the importance of a careful evaluation of symptoms and physical examination. The epidemiology, natural history (onset, course and prognosis), the methods to achieve a correct diagnosis and the main therapeutic options will be described for each disease. In particular, the student will be stimulated to consider the various possible diagnoses within a symptom picture, thus developing analytical skills for differential diagnoses.

The course includes a period of professional training, which will take place in the wards and diagnostic laboratories of the Department of Cardiovascular Sciences of our University Hospital under the guidance and supervision of clinical tutors.

The professional training will be aimed at making the student achieve the following knowledge and skills:

- How to perform a cardiovascular history
- How to perform a cardiovascular physical examination, with particular attention to heart listening
- How to recognize a normal ECG and the main pathological pictures of the ECG: myocardial ischemia and infarction, ventricular and atrial hypertrophy, sino-atrial abnormalities, atrio-ventricular and intraventricular conduction disorders, extrasystoles and main tachyarrhythmias
- Having seen to perform and read a normal echocardiogram and some echocardiograms with the main valve anomalies and cardiac contractile dysfunction, with the aim of being able to provide a correct indication and an adequate interpretation of the examination
- Having seen to perform and read a normal and pathological coronary angiography, with the aim of being able to give a correct indication to the examination and evaluate the risks and benefits associated with this diagnostic method
- Know the diagnostic path of chest pain, dyspnea and syncope/pre-syncope.

For students wishing to deepen aspects of cardiovascular medicine, 6 courses of elective didactic activity (EDA) are available:

- Electrocardiography (Prof. Gaetano A. Lanza): CFU 0.5
- Echocardiography (Dr. Antonella Lombardo): CFU 0.5.
- New frontiers in the endovascular treatment of complex aortic pathology (Dr. Fabrizio Minelli): CFU 0.5
- Emergency vascular surgery (Dr. Marco Natola): CFU 0.5
- Minor invasiveness and new techniques in cardiac surgery (Dr. Federico Cammertoni): CFU 0.5
- Urgency and emergencies conditions in cardiac surgery (Dr. Piero Farina): CFU 0.5
- Ethical dilemmas for young surgeons (Dr. Tommaso Donati): CFU 0.5

7. other informations

All teachers are available to receive students every day (Monday to Friday) by appointment.

8. methods for verifying learning and for evaluation

Students will be assessed by an oral exam, which consists of three separate interviews. The final grade will be expressed out of thirty and will be given by the average, weighted for the UFC, of the grades obtained in each individual discipline: Diseases of the Cardiovascular System = 3 CFU;

Cardiac Surgery = 1 CFU; Vascular Surgery = 1 CFU.

A grade of less than 18 in any of the 3 interviews involves failing the exam. Honors can only be given when all examiners have given 30 and at least one of them has proposed honors. The exam may include the discussion of clinical cases or diagnostic tests.

Interpretation of the vote:

<18, Insufficient: Exam failed. The student is unable to orient himself on the main clinical pictures.

20-23, Fair: The student knows the main clinical pictures in a general way but the exposition has several inaccuracies.

24-27, Good: The student answers the questions, however limiting himself to the main aspects and presents difficulties in entering into application problems.

28-29, Very Good: The student answers all questions comprehensively, however his presentation has some minor inaccuracies.

30, Excellent: The student exposes the approach to the problem posed in a sequential and logical manner using appropriate terms and is able to orient himself within the framework of differential diagnoses.

30 and honors, Outstanding. The student answers the questions comprehensively with a considerable level of competence in the pathophysiological and clinical aspects and shows that he has deepened the topics covered.

9. program

Diseases of the Cardiovascular System

- Physiology of the mechanical and electrical function of the heart
- Physiology of the systemic and coronary circulation
- Pathogenesis of atherosclerosis and mechanisms of myocardial ischemia
- Cardiovascular history and physical examination
- Cardiological diagnostic methods: Electrocardiography, echocardiography, nuclear cardiology, MRI and cardiac catheterization
- Acute and chronic heart failure: pathogenetic mechanisms and diagnosis
- Heart disease secondary to acute and chronic pulmonary disease
- Stable angina
- Variant and microvascular angina
- Acute coronary syndromes
- Valve heart disease
- Cardiomyopathies
- Endocarditis
- Myocarditis
- Pericardial diseases
- Tachyarrhythmias and bradyarrhythmias
- Congenital heart disease

Cardiac Surgery

- Principles of Minimally Invasive Cardiac Surgery
- Extracorporeal circulation: components, physiology and conduction of the ECC; pathophysiology and complications
- Hypothermia and myocardial protection techniques
- Valve prostheses: mechanical and biological
- Indication for surgical treatment of stable ischemic heart disease and acute coronary syndromes
- Surgical treatment of mechanical complications of myocardial infarction
- The ducts used in myocardial revascularization: arterial and venous
- Indications for the surgical treatment of valve heart disease
- Surgical treatment of heart failure

Vascular surgery

- Aortic pathology
- Thoracic and thoraco-abdominal aneurysms
- Abdominal aortic aneurysms
- Aortic dissection

- Acute aortic syndromes
- Pathology of supraortic trunks
- Cerebrovascular insufficiency and carotid stenosis
- Subclavian theft syndrome
- Glomus tumors
- Aneurysms of the visceral arteries
- Chronic obstructive arteriopathies of the lower limbs
- Acute peripheral ischemia
- Vascular trauma of the lower and upper limbs
- Venous pathology of surgical interest
- Main techniques in open and endovascular surgery

Professional Training:

- Knowing how to perform a cardiovascular history
- Knowing how to perform a cardiological physical examination, with particular attention to heart auscultation and examination of peripheral pulses
- Knowing how to recognize a normal ECG and the main ECG abnormal findings (ischemia, infarction, atrial and ventricular hypertrophy, main bradyarrhythmias and tachyarrhythmias)
- Know the diagnostic path of chest pain, dyspnea and syncope/pre-syncope
- Having seen to perform and read a normal and pathological echocardiogram
- Having seen to perform and read an echo-Doppler of the main vessels
- Having seen to perform and read a normal and pathological coronary angiography