



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Cardiovascular Imaging

2223-4-H4101D214

Aims

Giving students the tools to learn theoretical and practical indications to invasive and non-invasive study of heart and blood vessels with the most modern methods supported by the most recent guidelines. Provide students the opportunity to see these methods.

Contents

Technological developments of the last twenty years have given on one hand new non-invasive diagnostic tools that allows to obtain important and until recently no imaginable information about the structure and function of arteries and heart. On the other hand also the invasive methodology have known a rapid evolution allowing the cardiologist to treat non invasively the great majority of CAD patients.

Content of this course will be the approach to non-invasive methods for studying the structure and function of blood vessels and heart: Echo Color Doppler (cardiac, carotid and lower limbs), carotid echotracking)Intima Media Thickness and distensibility), brachial Flow Mediated Dilation (FMD), Ankle Brachial Index (ABI) and study of pulse wave velocity and central pulse waveform.

It will be shown also a cardiac angiography with treatment of coronary stenosis. The techniques are contextualized to the study of major cardiac and vascular acute and chronic diseases with particular interest to indications in hypertension, ischemic heart disease, and heart failure.

Detailed program

The course will be done at the Niguarda Hospital in order to offer the possibility to interact with the methodology

used.

- DAY 1: study of the structure of the heart using ultrasound technique: anatomical measurements and derived indices of left ventricular hypertrophy and left ventricular remodeling (h / r), "normalization" of values (BSA, h2.7), study of systolic and diastolic function of left ventricle: traditional methods (E / A, dec Time, FE) and more innovative based on tissue Doppler and strain rate. Hints of three-dimensional echocardiography.
- DAY 2: carotid IMT and distensibility, FMD, ABI and vascular function (pulse wave velocity and central blood pressure).
- DAY 3: morpho-functional study of carotid arteries and of the lower limb vessels.
- DAY 4: study of coronary angiography with possible means of endovascular treatment of coronary stenosis.

Prerequisites

From the 4th year of Medicine and Surgery.

Teaching form

Lectures and training.

Textbook and teaching resource

Laurent et al. Expert consensus document on arterial stiffness: methodological issues and clinical applications.

European Heart Journal Volume 27, Issue 21 Pp. 2588-2605. Essential Echocardiography - Scott D. Solomon.

European Heart Journal (2010) 31, 2501–2555, Guidelines on myocardial revascularization.

Semester

Second semester; April-May.

Assessment method

Interactive check at the course conclusion.

Office hours

e-mail contact.

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING
