UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Pressione Arteriosa ed Emodinamica Vascolare: Dalla Fisiologia alla Prevenzione Cardiovascolare

1819-3-H4101D249

Aims

To present the basic principles of vascular hemodynamics in order to improve the understanding of main factors determining blood pressure, considering the relationship between properties of large arteries and blood pressure values.

To provide fundamental clinical indications on the evaluation of cardiovascular risk and organ damage in hypertensive patients

Contents

Over the past twenty years, there has been a radical change in scientific knowledge, thanks to clinical research, and this has dramatically changed the approach to the hypertensive patient. Moreover, the outcomes of important clinical trials have recently pointed out some peculiar aspects of vascular hemodynamics, stressing the importance of the mechanical properties of the aorta and of the large arterial vessels, of central blood pressure, of the amplification phenomenon, of incremental pressure etc. To understand these parameters, a basic knowledge of cardiovascular pathophysiology is required, and particularly, of vascular hemodynamics.

This course offers the explanation of basic principles of vascular hemodynamic pathophysiology as well as basic information on the assessment of cardiovascular risk in hypertensive patients and of hypertensive organ damage.

Detailed program

Prerequisites

3rd year Medical Student and over

Teaching form

1) Lectures

2) Technical and diagnostic laboratory: Teaching of diagnostic methods of peripheral and central arterial pressure assess and of the methods for the evaluation of the viscoelastic properties of the aorta.

Textbook and teaching resource

1) Mancia G et al.; Task Force Members. 2013 ESH/ESC Guidelines for the management of arterial hypertension: the Task Force for the management of arterial hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC). J Hypertens. 2013;31:1281-357.

2) Nichols W, O'Rourke M, Vlachopoulos C. McDonald's Blood Flow in Arteries. Theoretical, Experimental and Clinical Principles. 6th ed. New York, USA: Oxford University Press 2011.

3) Salvi P. Onde di polso: Come l'emodinamica vascolare determina la pressione arteriosa. Milan, Italy: Springer; 2012.

Semester

Assessment method

Office hours

by appointment by mail