International Post-Graduation Program

Arterial Stiffness and Early Vascular Aging


Center for the Research and Treatment of Arterial Hypertension and Cardiovascular Risk, Internal Medicine Department, Guimarães – Centro Hospitalar do Alto Ave / Minho University. Portugal

Life and Health Sciences Research Institute (ICVS), School of Health Sciences, Minho University

ICVS/3B’s - PT Government Associate Laboratory, Braga/Guimarães, Portugal

School of Health Sciences, University of Minho, Braga, PORTUGAL

1. Scope

This will be the sixth edition of this International Post Graduation Course. The main goal is to create a scientific forum on new aspects and concepts concerning cardiovascular risk evaluation and stratification, as well as discussing interactions between aspects of the cardiovascular and the central nervous system disease process. At the end of this course, all participants should:

1) Understand the concept of Arterial Stiffness and know its clinical applicability;

2) Know how to measure arterial stiffness markers (Pulse wave velocity and Central Blood Pressure) both theoretically and practically;

3) Identify subjects with Early Vascular Aging syndrome and be aware of its clinical implications;

4) To discuss the connection between brain and arterial aging,

5) To recognize the relationship between micro and macrovascular changes, cognitive decline and cerebrovascular disease;
6) Acquire technical skills in Pulse Wave Velocity, Central Blood Pressure and Carotid Evaluation (Intima/Media thickness evaluation and Carotid Doppler).

7) To apprehend new research perspectives in the field of cardiovascular research involving the brain and arterial disease.

2. Faculty

ORGANIZING COMMITTEE

Nuno Sousa, MD, PhD
- President of the School of Medicine, University of Minho
- Full Professor and Director of the Integrated Masters in Medicine, School of Medicine, University of Minho, Braga, PORTUGAL

Pedro Cunha, MD, PhD
- Coordinator of the Hypertension and Kidney Disease Outpatient Clinic of the Centre for the Research and Treatment of Arterial Hypertension and Cardiovascular Risk, Internal Medicine Department - Guimarães Hospital, Guimarães, PORTUGAL
- Assistant Professor of the School of Medicine, University of Minho, Braga, PORTUGAL
- Life and Health Sciences Research Institute (ICVS), School Medicine, University of Minho
- ICVS/3B’s - PT Government Associate Laboratory, Braga/Guimarães, Portugal

Jorge Cotter, MD, PhD
- Director of the Centre for the Research and Treatment of Arterial Hypertension and Cardiovascular Risk
- Director of Internal Medicine Department, Guimarães Hospital Guimarães, PORTUGAL
- Assistant Professor of the School of Medicine, University of Minho, Braga, PORTUGAL
- Life and Health Sciences Research Institute (ICVS), School Medicine, University of Minho
- ICVS/3B’s - PT Government Associate Laboratory, Braga/Guimarães, Portugal
INVITED LECTURERS

Angelo Scuteri, MD, PhD
Scuola Specializzazione Geriatria
Universita’ di Roma Tor Vergata
Roma, ITALY

Peter M Nilsson, MD, PhD
Department of Clinical Sciences
Lund University, University Hospital
Malmö, SWEDEN

Pierre Boutouyrie, MD, PhD
Pharmacologie, HEGP, APHP
Paris, FRANCE

Stephane Laurent, MD, PhD
Université René Descartes, Faculté de Medecine Paris V
Unité INSERM U970 – Physiology and pharmacology of large arteries
Pharmacologie, HEGP, APHP
Paris, FRANCE
3. Preliminary Program

**November 15th**

9h00 – Post-Graduate Course/Opening Ceremony

**9h. Measuring Central Blood Pressure (Prof. Pierre Boutouyrie)**

1) Validation of devices.
2) Measurement protocol, Valid Measurements and Clinical Significance.
3) Research opportunities

**10h30. Coffee Break**

**10h45. Non-Hemodynamic components of vascular Aging (Prof. Peter Nilsson)**

1) Large artery changes in Diabetes Mellitus
2) Large Artery changes in Metabolic Syndrome and Obesity;
3) Clinical practical implications;
4) Research opportunities.

**12h15 Research Projects – presentation and discussion with the faculty**

**13h. Lunch**

**14h – 18h. Practical component of the Course (Hands on practice in PWV/Central Blood Pressure and Carotid Evaluation)**

**16h. Coffee Break**

**November 16th**

**9h. New perspectives in cardiovascular disease treatment and prevention (Prof. Stephane Laurent)**

1) Arterial Stiffness as a therapeutic target;
2) New drugs under development / developed for cardiovascular disease prevention;
3) Super Normal vs Early Vascular Aging;
4) Research opportunities.

**10h30. Coffee Break**

**10h45. Impact of Arterial Aging on Early and Late Stages of Brain Damage. (Prof. Angelo Scuteri)**

1) Cognitive Decline and dementia – the role of arterial aging;
2) Structural brain changes and arterial aging;
3) Early detection of Cognitive decline in hypertensive patients;
4) Research opportunities
12h15. Central Hemodynamics and Cognitive Function (Prof. Pedro Guimarães Cunha)

13h. Lunch

14h – 18h. Practical component of the Course (Hands on practice in PWV/Central Blood Pressure and Carotid Evaluation)

16h. Coffee Break

**November 17th**

9h. Arterial Stiffness and Early Vascular Aging in the Iberian Peninsula

1) Prof. Pedro Guimarães Cunha; The Guimarães/Vizela Study. Center for the Research and Treatment of Arterial Hypertension and Cardiovascular Risk, Guimarães Hospital; School of Medicine and Life and Health Research Institute, Minho University, Portugal.

2) Prof. Luis Garcia Ortiz; Centro de Salud La Alamedilla, Unidad de Investigacion, Salamanca. – “The Evident II study: main outcomes in lifestyles, cardiovascular risk factors and arterial stiffness”

3) Prof. Vicente Martinez Vizcaino – Centro de Estudios Sociosanitarios. Cuenca. Universidad de Castilla-la-Mancha - The role of cardiorespiratory fitness in the relationship between arterial stiffness and cognition

4) Profª Valentina Vassilenko - LIBPhys- Laboratory of Instrumentation, Biomedical Engineering and Physics of Radiation, Faculdade Ciência e Tecnologia, Universidade Nova de Lisboa, Portugal Central Hemodynamics under the mental stress: a pilot study

10h30. Coffee Break

10H45. Arterial Stiffness and Early Vascular Aging in the Iberian Peninsula

1) Prof. Marc Elosua, Instituto Catalá de la Salud, Girona - Determining the association between cardiovascular risk age and arterial stiffness as a measure of subclinical atherosclerosis: The REGICOR study”

2) Prof. Drª Cátia Leitão, Hospital de Aveiro, Portugal - Exploring optical techniques for arterial stiffness and central pressure assessment

3) Prof. Enrique Rodilla Sala – Universidade Cardenal Herrera, Departamento de Medicina Valência - "Can assessment of arterial stiffness predict the development of hypertension in normotensive subjects?".

4) Prof. Auxiliadora Graciani, School of Medicine, Universidad Autónoma de Madrid - Normal and reference values of central blood pressure in older people in Spain
12h. Constitution of the Iberian Network on Central Hemodynamics, Arterial Structure and Neurocognition

13h. Lunch

14h – 18h. Practical component of the Course (Hands on practice in PWV/Central Blood Pressure and Carotid Evaluation)

16h. Coffee Break