

CARDIOVASCULAR AND METABOLIC RESEARCH GROUP OF UNIVERSIDAD COMPLUTENSE

Institution

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Members

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Laboratory research interests

Our group is a well-established Research Group in the field of biomedical research in the cardiovascular field that is currently staffed by both basic and clinical researchers of different departments of Universidad Complutense. The group has worked for almost 30 years with the mechanisms involved in the cardiovascular damage associated with cardiovascular risk factors such as ageing, diabetes, hypertension and, more recently, obesity. Since 2004 we have launched a line of research into the impact of increased body mass on the cardiovascular system. Such research has been focused on the problem in a global manner – from laboratory to patient – and therefore representative of a translational approach. Overweightness and obesity constitute a major public health problem in the western world, with a more than 50 percent incidence in Europe, associated comorbidities and health care costs, and compromising of quality of life and overall survival. Both overweightness and obesity are related to other risk factors such as hypertension, dyslipidemia, diabetes and atherosclerosis – the two latter of which have been an area of research in our laboratory for over 20 years. At this moment some our major aims of interest are:

- Explore the mechanisms involved in the cardiovascular damage associated with obesity with special interest in the potential role of aldosterone.
- Analyze the potential mechanisms involved in aorta abdominal dilatation to abdominal aorta aneurism with special interest in the potential role of aldosterone.
- Explore and look for biomarkers that help to identify those of patients which can get more benefit for bariatric surgery.
- Analyze the mechanisms involved in the cardiovascular consequences of ageing with special interest in the potential role of aldosterone.

The group also participates in different clinical trials as a laboratory of reference.

Facilities

- Molecular laboratory: Analysis of nucleic acids (DNA and RNA) and proteins
- Cell culture laboratory: the equipment includes CO₂ incubators and inverse microscope.

- Immunohistochemistry and Imaging: this unit is equipped with all the material necessary to prepare the tissues which also includes bright field and fluorescence microscopes with fluorite lens and monochrome and colour cameras and an analysis system.
- General Laboratory: This unit is equipped with all the material necessary to perform any biochemical techniques. .
- Animal facilities for different animals with operating facilities and the systems for measurement of cardiac, vascular and renal functions.

In addition, the University has proteomic, genomic as well as Image Units :

Expertise

The group belongs to Cardiovascular Spanish Research Network (RIC) which permits an interaction with different Spanish groups -- both clinical and basic. In addition, we have international collaborations with some groups in Brasil: Dra Luciana Rossoni (Sa Paulo) and Dr Dalton Vassalo (Vitoria). Through a collaboration with Dra. Natalia López-Ándres (Pamplona), we have some interactions with Drs. Faiez Zannad and Patrick Rossignol (Nancy, France) and Frederic Jaisser (Paris, France).

Publications (last 5 years)

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