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Hospital Universitario La Paz
Paseo de La Castellana, 261
Edificio Norte, 4ªPlanta
28046 - Madrid

POSITION

1. Project Title/ Job Position title:

Novel inflammatory and antinflamatory mechanisms associated to cardiovascular damage in hypertension and obesity / PhD in hypertension and obesity research.

2. Area of Knowledge:

Life Sciences

3. Group of disciplines:

Human Biology, Microbiology, Genetics, Cell Biology, Genomics and Proteomics, Biochemistry

4. Research project/ Research Group description

Endothelial dysfunction, arterial remodeling and increased vascular stiffness are typical features of vascular damage in cardiovascular diseases such as hypertension and obesity and are predictors of future adverse cardiovascular events. In the heart, both hypertension and obesity induce structural and mechanical alterations that impair cardiac performance and predispose to cardiac disease. Several lines of evidence suggest that low-grade inflammation driven by different components of the renin-angiotensin-aldosterone system plays a key role in cardiovascular damage associated with hypertension and obesity. Proinflammatory enzymes such as those involved in oxidative stress and protanoids generation, mitochondrial dysfunction and/or proinflammatory cytokines, are increased in vessels and/or heart of animal models of hypertension and obesity and in patients. They might act through different intracellular pathways to facilitate the cardiovascular damage observed in these pathologies. Moreover, growing studies suggest that not only persistent inflammatory stimuli but also inefficient resolution of inflammation might be responsible for the chronic inflammation observed in different pathologies. However, the role of these mediators in the cardiovascular damage associated with hypertension and obesity remains unclear and it is unknown whether specifically targeting these pathways prophylactically or therapeutically might prevent or reverse the cardiovascular damage underlying these pathologies.

We are a group of experts in vascular biology focused in the study of functional, structural and mechanical properties of conductance and resistance of arteries. We also hold active collaborations with clinical researchers at different hospitals in Madrid. Our research project focuses on analyzing novel inflammatory and antinflammatory mediators involved in cardiovascular damage in hypertension and obesity.

5. Job position description

Role: The ESR will perform a wide range of experimental approaches in order to benefit from a multidisciplinary formation plan. His/her formation in cardiovascular biology will be complemented with studies in primary cultures of cardiovascular cells (smooth muscle, endothelial, fibroblasts, cardiomyocytes, adipocytes etc.). For mice models, the ESR will work on hypertension and/or obesity models using different transgenic mice available in our laboratory or in collaboration with other groups.

Responsibilities

Set up and perform experiments, maintain experimental resources (as cell lines, reagents, etc.) according to protocols, analyze & interpret results and contribute to the development of experimental strategies with accuracy and honesty.

Keep updated the laboratory notebook and properly store and manage the data produced during the project.

Collaborate with colleagues and participate in team activities (such as meetings, seminars, workshops, etc.) across the research group and wider scientific community while keeping up to date with current knowledge and recent advances.

Participate in knowledge exchange with several stakeholders, to promote the value of research in public health and to contribute to the dissemination of his/her research results in the principles of EU's Open Science policy.

Undertake any other duties of equivalent standing as assigned to him/her.

Skills

MSc degree, or equivalent, in Medicine, Biomedicine, or other bio/health sciences.

No previous lab experience is needed, but past experience will be taken into account.

Willingness to travel and to stablish different collaborations.

Motivation, critical thinking and problem-solving oriented skills.

Good interpersonal skills. Team work is essential to this position.

Good communication skills, willingness to engage in public presentations and ability to transmit complex concepts in a clear way.

Good time and workload management skills, including both initiative and flexibility.

GROUP LEADER

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4. **Research project/ Research Group website (Url):**
http://www.idipaz.es/PaginaDinamica.aspx?IdPag=125&Lang=EN

OTHER RELEVANT WEBSITES

http://www.cibercv.es/grupos/grupo-de-investigacion/ficha-personal?id=22677

Novel inflammatory and anti-inflamatory mechanisms associated to cardiovascular damage in hypertension and obesity.