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Inflammation and oxidative stress in transgenic app/preseniline 1 mice and in neuronal primary culture cells

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The use of transgenic mice to elucidate Alzheimer's disease has been development in the last decade. Here we use APP/Preseniline 1 transgenic mice to analyse inflammation and oxidative stress in transgenic mice compared with wild type. Microarray from inflammation proteins, Western-blot and RT-PCR are used to compare wild type and transgenic mice. Increase in pro-inflammatory proteins and decrease in anti-inflammatory proteins were detected in transgenic compared with wild type. Also, using western-blot assay we detect an increase of NMDA R1 and a decrease of NMDA R2 in transgenic mice compared with wild type in hippocampus, limbic and cerebellum. In conclusion, an unbalance between inflammatory and anti-inflammatory proteins and also different regions in brain use different pathways to protect viability of cell brain against the toxicity in Alzheimer's disease.

Biography

Valles S. L. graduated in Biological Science at the University of Valencia in 1990 and remained there to undertake a Ph.D. under the supervision of Consuelo Guerri at Research Institution (Instituto de Investigaciones Citológicas), which I completed in 1996. During my Ph.D. my dissertation was "Changes of astroglia intermediate filaments gene expression during rat brain development: Effect of alcohol exposure". I analyze the events which occur during the early stages of astrogliogenesis during brain development, using *"in vivo" and "in vitro"* experiments. I did experiments in cells in culture primary as radial glia (stem cells in brain), astrocytes and neurons.

In 1997 I joined Eva Qwanstrom's group at the Hallamshire Hospital (University of Sheffiel) in Sheffield, UK and spent three years involved in the identification of an adhesion-regulated subunit of the interleukin-1 (IL-1) receptor complex. I was working in immunology, cytokines, inflammation processes and matrix regulation of IL-1 responses.

In 2000 I returned to Spain at Department of Physiology, Medicine Faculty of Valencia. University of Valencia and I were appointed to a part-time position as Lectureship. In 2004 I was appointed to a fixed-term position as permanent University Lecturer at this department in the University of Valencia. During this time I was involved in the mechanisms of oxidative stress in the generation of Alzheimer's disease with Jose Viña's group. Also at this time I developed my lectures with Luis Such's group with who I learned a lot about physiology and how to do a correct lecturer to pupils in my our department.

At this moment I work in Alzheimer's diseases and in inflammation and oxidative stress mechanisms. Also I would like to work in precursor cells and the subsequently ability to further differentiate into neurons and astroytes inside the brain. I order a grant from my sanity government and I still waiting for the resolution grant, about stem cells and brain.

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