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Polyphenols can regulate signaling cascades to stop conversion from normal to cancer cells

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Alzheimer's disease is the most prevalent neurodegenerative illness. The hallmark of AD is the higher presence of beta-amyloid outside of brain cells and the protein TAU inside the neuron cells in patients. Many studies have been doing in the possible mechanisms of AD but the influence of different nutrients in the recovery or attenuation symptom's patients have been poorly study. We published that estrogens and phyto-estrogens can influence such as anti-inflammatory and antioxidant nutrients. Furthermore resveratrol and vitamin C can diminish the Aβ action. In this study we try to understand the molecular mechanism action of different nutrients to decrease inflammation and oxidative stress in AD. We used rats and inmuno-histochemistry and inmuno-fluorescence and also studies with astrocytes and neurons in primary culture, to determine PPAR-γ, mnSOD, cu/znSOD, COX-2, caspase 3, AP-1, NFkB, IkB, iNOS, nNOS, and the MAP-kinases, jun, erk p-38. In rats and neural cells in culture Aβ produce increase in oxidative stress and inflammation, but with estrogens and phyto-estrogens a decrease was detected compared with not treated control rats and neural cell cultures. The presence of resveratrol in the medium produced a decrease in oxidative stress contributing to diminish cell death inside the brain.

Biography

Soraya L. Valles graduated in Biological Science at the University of Valencia 1990 and remained there to undertake a Ph.D. under the supervision of Consuelo Guerri at Research Institution (Instituto de Investigaciones Citológicas) in 1996. In 1997 she 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. In 2000 she returned to Spain at Department of Physiology, Medicine Faculty of Valencia, University of Valencia and she was appointed to a part-time position as Lectureship. In 2004 she was appointed to a fixed-term position as permanent University Lecturer at this department in the University of Valencia.

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