Neurociencias - Comunicación oral presencial

Neuroprotective properties of extracellular vesicles in in vitro models of Parkinson's disease

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Parkinson ?s disease is the second most prevalent neurodegenerative disease in the world. It is caused by death of dopaminergic neurons in the substantia nigra and characterized by the aggregation of the ?-Synuclein protein in cytoplasmic inclusions called Lewy bodies, mitochondrial dysfunction, generation of reactive oxygen species and apoptosis. The present study aimed to establish "in vitro" models of Parkinson's disease. For this, SH-SY5Y neuroblastoma cells were transfected with plasmids designed to overexpress the wild type ?-Synuclein or the mutant A53T (mutation of adenine by threonine in amino acid 53 that increases protein aggregation), or cells were treated with 6-hydroxydopamine, a drug that induces mitochondrial deficits and stimulates several pro-apoptosis molecular factors. To validate the models, survival and cellular death were analyzed and quantified by biochemical and morphological methods. Considering that there is no treatment, we have analyzed the effect of different molecules in the survival of neurons in the stablished models of Parkinson's disease