

## Oral Presentations

Umbilical Cord Stem Cells are able to integrate within the CNS upon injury and to improve the condition of animals suffering from neurodegenerative diseases. However the mechanisms by which such phenomena are mediated are unknown. Therefore the main objective of the present work was to understand how a population of umbilical cord mesenchymal progenitor cells isolated from the Wharton Jelly (HUCPVCs), regulates viability, proliferation and differentiation of post-natal hippocampal neurons and cortical glial cells. Hippocampal neurons and glial cells were exposed to HUCPVCs conditioned media (CM) (obtained 24, 48, 72 and 96 after 3 days of culture of HUCPVCs) for 1 week. Cell viability (MTS test) experiments revealed that HUCPVCs CM obtained for all time points did not cause any deleterious effects on both cell populations when compared to the control condition. Immunocytochemistry and total cell counts revealed that HUCPVCs CM triggered an upregulation of the proliferation on astrocytes (GFAP), oligodendrocytes (O4) and the differentiation of hippocampal neurons (MAP-2). For the latter this was noticed even in the absence of neuronal supplements B27 and FGF-2. In direct contact co-culture systems the total numbers of hippocampal neurons, astrocytes and oligodendrocytes increased, in spite of the fact that the numbers of HUCPVCs were decreasing in this new environment. We believe that the phenomena here in described are related to the release of neuroregulatory molecules by HUCPVCs. Current work is focused on their identification as well as the consequent cross-talking mechanisms related to the phenomena herein presented.

### **(OP 2) Role of Paracrine Factors Released by Mesenchymal Progenitors from the Umbilical Cord in Neurons/Glial Cell Viability, Proliferation and Differentiation**

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