

ASTROGLIAL AND MICROGLIAL CELLS IN THE PRENATAL IMMUNE CHALLENGE MODEL: A PRELIMINAR STUDY.

Ribó, D¹; Romero, E²; Acarín, L¹; González, B¹; Borrell, J²; Castellano, B¹.

(1) Unit of Histology, Dept. Cell Biol., Fisiol. and Immunol., Automomus Univ. of Barcelona. (2) Neuroimmunology Group, Cajal Institute. CSIC. Madrid

In this study the putative morphological changes in glia were assessed in a supposed murine model of schizophrenia, the Prenatal Immune Challenge Model (PICM) (Borrell et al, *Neuropsychopharmacology* 26:204-215, 2002), whereby endotoxic shock produces alterations in the neural mechanisms in sensorimotor information processing. Brains from 170 days old male Wistar rats, whose mothers were exposed to endotoxic shock by subcutaneous administration of LPS (2 mg/Kg/day) during pregnancy were used. Cryostat sections were processed for GFAP and vimentin immunohistochemistry to visualise astrocytes. To visualize microglia, the tomato lectin histochemistry method was performed. Our observations revealed slight glial alterations in certain regions (mostly in white matter areas) and preferently in astrocytes. In the cingulum, fimbria and internal capsule among others, astrocytes showed a certain degree of reactivity characterized by a small increase in GFAP and vimentin. Astroglial reactivity in the corpus callosum increased progressively towards caudal levels. In some grey matter areas such as the cingular cortex there was increased GFAP staining but no “de novo” expression of vimentin. In the hippocampus, in addition to slightly increased GFAP expression, alterations in the arrangement of astrocytes were found. Those changes were mainly apparent in those areas occupied by mossy fibers.

In conclusion, morphological glial alterations found in PICM were subtle, which differs from the strong characteristic glial reactivity generally observed in the neurodegenerative processes.

We would like to thank M. A. Martil and Maryam Faiz for his excellent technical help. Supported by “Fondo de Investigación Sanitaria” (01/1138), “Fundació La Marató de TV3” (014931) and “Comunidad de Madrid” (08.5/0020/2001).