

II INTERNATIONAL SYMPOSIUM

**“INTERACTION OF THE NERVOUS
AND IMMUNE SYSTEMS IN HEALTH
AND DISEASE”**

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Russia

Abstracts

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**«ВЗАИМОДЕЙСТВИЕ НЕРВНОЙ И
ИММУННОЙ СИСТЕМ В НОРМЕ И
ПАТОЛОГИИ»**

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correction of demyelinating processes is a new promising approach that is likely to reach significant results in treatment of this group of diseases.

A POSSIBLE ROLE FOR LPS-INDUCED UP-REGULATION OF BLOOD MONONUCLEAR CELLS ALPHA-SYNUCLEIN IN NEUROINFLAMMATION

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Though the etiology of Parkinson's disease (PD) remains unclear, alpha-synuclein (alpha-SN) is regarded as a major causative agent of PD. Several lines of evidence indicate that immunological abnormalities are associated with PD for unknown reasons. While searching for a link between the CNS and peripheral immune system in PD, we examined α -SN expression in the peripheral blood mononuclear cells and investigated its functional role in the peripheral immune system and CNS. In the present study, we report the up-regulation of alpha-SN in mononuclear cells of LPS and alpha-SN treated rats vs. controls. This up-regulation was closely correlated to apoptotic cell death and with parallel changes in the expression levels of glucocorticoid receptor (GR), and in caspase activation. Apoptotic mononuclear cell death correlated with microglial activation and dopaminergic neuronal cell loss in brain. This study advances understanding of the role of peripheral immune system in the pathogenesis of PD.