P-1316 - EARLY POSTNATAL EXPOSURE TO LPS OR POLY I: C CHANGES BEHAVIOUR AND LEVEL OF CYTOKINES IN ADULT RATS: AN ANIMAL MODEL OF SCHIZOPHRENIA

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Introduction: Many clinical and experimental studies indicate an association between the incidence of inflammation during a vulnerable development period of the CNS and an increased risk of the development of psychiatric disorders such as schizophrenia.
Objectives: To simulate the effects of maternal infectious processes on the development of the brain and determine their postnatal consequences, this study was aimed at describing the behavioural deviations and cytokine profile alterations in rats systemically neonatally exposed to viral/ bacterial components.
Methods: To induce inflammation, male rats were injected (i.p.) with lipopolysaccharide (LPS, 2 mg/kg) or with Poly I:C (5 mg/kg) between postnatal day (PD) 4 and 8. All rats were assessed in terms of their prepulse inhibition (PPI) and locomotion on PD 50 and 90. The delayed effect of the neonatal challenge on immune status was evaluated as cytokine expression levels by multiplex immunoassay.
Results: Both LPS and Poly I:C-treated rats had unchanged open field general activity, only LPS induced impairment in PPI. Dysregulation of cytokine expression was documented in the LPS-treated groups: a higher ratio of IL-10/IL-4 and marginally non-significant IL4/TNFalfa on PD 50, with a higher level of IL1A, IL1B, IL4, IL6, GMCSF, IL4/IL2 on PD 90. The expression of cytokines in Poly I:C-treated animals was analogous to the controls.
Conclusions: These findings suggest that neonatal immune activation may have long-lasting effects both on the development of the behavioural phenotype and on the immune Th1/Th2 system.
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