

modulate pro/anti-inflammatory pathways, but the specific mechanisms involved remain elusive. One attractive possibility is the regulation of the intracellular signalling pathways of the innate immune receptors Toll-like 3 (TLR3), which triggers antiviral and inflammatory responses.

**Aims** To elucidate the regulatory role of paliperidone on maternal immune activation (MIA) induced alterations on TLR3 pathway and on the two emerging endogenous antiinflammatory/antioxidant mechanisms NRF2/antioxidant enzymes pathway and the cytokine milieu regulating M1/M2 polarization in microglia.

**Methods** Pregnant mice were treated with the synthetic Toll-like Receptor 3 (TLR3) agonist Poly(I:C) in gestational day 9 and chronically treated with paliperidone (0,05 mg/kg i.p.) in adult offspring. Animals were sacrificed one day after treatment and behavioral test. Inflammation oxidative stress-related mediators were analysed at mRNA and protein level in prefrontal cortex samples. In addition, behavioral test t-maze was conducted.

**Results** Paliperidone prevented TLR3 pathway activation and the subsequent MIA-induced neuroinflammatory response. Also, paliperidone induced an increment in the activity and protein expression of nuclear NRF2, as well as increased mRNA levels of the antioxidant enzymes HO1, SOD and catalase in the MIA model. Otherwise, paliperidone increases the antiinflammatory cytokines levels TGF $\beta$  and IL-10 in favour of a M2 microglia profile and increased the levels of the M2 cellular markers Arg1 and FOLR2.

**Conclusions** The modulation of neuroinflammation and enhancement of endogenous antioxidant/anti-inflammatory pathways by current and new antipsychotics could represent an interesting therapeutic strategy for the future.

**Disclosure of interest** The authors have not supplied their declaration of competing interest.

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#### EW424

### Psychosis among HIV-infected patients –a serious and complex association

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**Introduction** Psychosis represents an uncommon but serious complication in the course of HIV infection, and always requires a careful differential diagnosis.

**Objectives** To provide an overview of psychosis in HIV-infected patients.

**Methods** Literature review based on PubMed/MEDLINE, using the keywords “HIV” and “psychosis”.

**Results** Psychosis in HIV-positive individuals can be divided into psychotic disorders predating HIV infection and new-onset psychotic disorders in HIV-seropositive patients. The pathophysiology of psychosis in this population is complex and a multifactorial etiology is likely in most instances. The authors will analyze them and describe the differences of psychopathological pattern in first-episode psychosis between HIV-positive and HIV-negative patients. Antipsychotic agents are the treatments of choice regardless of the underlying diagnosis. However, they should always be used at the lowest possible dose for the shortest possible duration. Increased sensitivity to extrapyramidal reactions, high risk for dyslipidemia and hyperglycemia, potential interactions between HAART and some antipsychotic agents are also important considerations. Importantly, psychosis may be a harbinger of dementia. Cross-sectional studies have also suggested that psychosis may

adversely impact the morbidity and mortality associated with HIV-infection.

**Conclusions** Psychosis disorders may arise before or at any time during the course of HIV infection. A solid understanding of the complex relationship between psychosis and HIV allows for better evaluation and more effective treatment for psychotic individuals at risk for or infected with HIV. Thus, both HIV care programs and psychiatric care clinics should be made familiar with this important subject.

**Disclosure of interest** The authors have not supplied their declaration of competing interest.

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#### EW425

### Neuroleptic effect in aggressive mice after the transplantation of immune cells treated in vitro with chlorpromazine

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**Introduction** Existence of integration, mutual relations of nervous and immune systems, which cellular elements are characterized by expressed phenotype and functional similarity, means the possibility of immune cells participation in the regulation of higher nervous activity.

**Objectives** Previously, we demonstrated the possibility of targeted regulation of animal's behavior by the transplantation of immune cells with definite functional characteristics. Based on the our previous research results in the present study, we investigated the modulating effect of the immune cells, treated in vitro with chlorpromazine on the nervous and immune systems functional activity in aggressive mice.

**Methods** (CBA  $\times$  C57Bl/6) F1 aggressive mice, exposed to 10-days chronic social stress, were undergoing the transplantation of immune cells in vitro treated with chlorpromazine. Animal's behavioral parameters, cytokines synthesis in the brain and immune cells before and after transplantation were estimated.

**Results** It was shown that aggression is associated with the increased production of spleen T-helper 1 cell-derived cytokines IL-2 and IFN $\gamma$ , as well as decreased TNF $\alpha$  production by the spleen mononuclear phagocyte cells. These alterations were more pronounced following mitogen stimulation. Spleen cells, obtaining from aggressive mice, were treated in vitro with chlorpromazine and then injected intravenously into syngeneic aggressive recipients. The cell's transplantation led to the reduction of the recipient's motor activity in the “open field” and Porsolt swimming tests and normalized cytokines synthesis in the brain and immune cells.

**Conclusion** Research results demonstrated the neuroleptic effect in aggressive mice, obtained by the transplantation of immune cells treated in vitro with chlorpromazine.

**Disclosure of interest** The authors have not supplied their declaration of competing interest.

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#### EW426

### Impact of anti-inflammatory drugs on the risk of anxiety disorders after critical illness

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