Intracellular monocytic cytokine levels in schizophrenia show an alteration of IL-6.

Several studies have shown an involvement of the immune system, in particular the monocytic system, in the pathophysiology of schizophrenia. Beside others, the monocyte-derived cytokines TNF-?, IL-6 and IL-10 were found to be affected. Since cytokines are secreted by several different cell types, the cellular source is only clear if intracellular levels are measured. Thus, in order to study the monocytic system in schizophrenia, the intracellular levels of TNF-?, IL-6 and IL-10 were determined. The intracellular concentration of TNF-?, IL-6 and IL-10 in CD33 positive monocytes was evaluated in schizophrenic patients and controls with monoclonal antibodies against these cytokines. In addition, in vitro stimulation with lipopolysaccharide (LPS) or poly I/C, which mimic a bacterial and viral infection, was performed before immunocytochemistry. At baseline, monocytic IL-6 levels were significantly lower in schizophrenic patients than in controls. After stimulation with LPS, compared with baseline, monocytic intracellular IL-6 production tended to increase more in schizophrenic patients. The present results provide further support for the hypothesis of an involvement of a dysfunction of the monocytic system in the pathophysiology of schizophrenia and indicate that especially the pro-inflammatory immune response seems to be impaired.