

Autoantibodies against Central Nervous System Antigens and the Serum Levels of IL-32 in Patients with Schizophrenia

Authors : Fatemeh Keshavarz

Abstract : Background: Schizophrenia is a disease of the nervous system, and immune system disorders can affect its pathogenesis. Activation of microglia, proinflammatory cytokines, disruption of the blood-brain barrier (BBB) due to inflammation, activation of autoreactive B cells, and consequently the production of autoantibodies against system antigens are among the immune processes involved in neurological diseases. Interleukin 32 (IL-32) a proinflammatory cytokine that important player in the activation of the innate and adaptive immune responses. This study aimed to measure the serum level of IL-32 as well as the frequency of autoantibody positivity against several nervous system antigens in patients with schizophrenia. Material and Methods: This study was conducted on 40 patients with schizophrenia and 40 healthy individuals in the control group. Serum IL-32 levels were measured by ELISA. The frequency of autoantibodies against Hu, Ri, Yo, Tr, CV2, Amphiphysin, SOX1, Zic4, ITPR1, CARP, GAD, Recoverin, Titin, and Ganglioside antigens were measured by indirect immunofluorescence method. Results: Serum IL-32 levels in patients with schizophrenia were significantly higher compared to the control group. Autoantibodies were positive in 8 patients for GAD antigen and 5 patients for Ri antigen, which showed a significant relationship compared to the control group. Autoantibodies were also positive in 2 patients for CV2, in 1 patient for Hu, and in 1 patient for CARP. Negative results were reported for other antigens. Conclusion: Our findings suggest that elevated the serum IL-32 level and autoantibody positivity against several nervous system antigens may be involved in the pathogenesis of schizophrenia.

Keywords : schizophrenia, microglia, autoantibodies, IL-32

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