

# International Congress on Neuroimmunology and Therapeutics

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## Serum BDNF, TNF $\alpha$ , IL -2, IL- 6, IL – 8 changes and correlation in schizophrenia patients

Numerous studies report that abnormalities in both Brain-Derived Neurotrophic Factor (BDNF) and cytokines may be involved in the pathophysiology of schizophrenia. While recent studies have shown that immunocytokines interact with BDNF, however, the possible interaction between BDNF and cytokines; and their role in the psychopathology of schizophrenia have not been reported. We have analyzed serum BDNF, tumor necrosis factor-alpha (TNF $\alpha$ ), Interleukin (IL)-2, IL-6 and IL-8 levels from the blood samples of 92 chronically medicated schizophrenia patients and 60 healthy controls. The symptoms of schizophrenia were assessed using the Positive and Negative Syndrome Scale (PANSS) with cognitive and depressive factors derived from the five-factor model of the PANSS. Compared to the control group, the schizophrenia patients' samples have significantly decreased levels of BDNF and TNF $\alpha$ , but significantly increased level of IL-2, IL-6 and IL-8. In patients, but not in controls, we observed a significant negative correlation between BDNF and IL-2; and between BDNF and IL-8. Furthermore, the negative correlation between BDNF and IL-8 was associated with the PANSS depressive factor, while decreased levels of BDNF and TNF $\alpha$  were associated with the PANSS cognitive factor. The decreased level of BDNF and change of immunocytokines level may be implicated in the pathophysiology of chronic schizophrenia. Moreover, immunocytokines may interact with BDNF in schizophrenia, which may contribute to the clinical symptoms and cognitive impairment of schizophrenia.

### Biography

Hanjing Emily Wu is a resident in the Department of Psychiatry and Behavioral Science at the University of Texas Health Science at Houston. She received her Doctor of Philosophy from University of Texas Health Science at Houston and Doctor of Medicine from St. Matthews University School of Medicine. She is currently pursuing residency at Psychiatry Residency Program. Dr. Wu is interested in psycho-immunology. Her major interests include inflammation in schizophrenia and its mechanism involved the pathophysiology of schizophrenia. She is passionate on developing novel treatments for schizophrenia. Dr. Wu has published over 20 peer-reviewed articles in immunology field as a young investigator.

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