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Increased IL-17 and TGF- β as a positive correlation of pro-inflammatory response with major depressive disorder

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Introduction: Depression is a mental disorder that highly associated with immune system. Therefore, this study compares the serum levels of IL-21, IL-17, and transforming growth factor β (TGF- β) between patients with major depressive disorder and health controls.

Material and Methods: A convenient sample of 41 patients with major depressive disorder and 40 healthy age-matched controls were participants of this study. The patients were interviewed face to face according to DSM-IV diagnostic criteria. Depression score was measured using completed Beck Depression Inventory in both groups. The serum level of the interleukins of IL-21, IL-17, and TGF- β were assessed using ELISA-kits.

Results: The mean score of Beck Depression score in the patient and control groups was 35.4 ± 5.5 and 11.1 ± 2.3 . IL-17 serum level in the patients and the control group was 10.03 ± 0.6 and 7.6 ± 0.6 pg/ml, respectively ($P=0.01$). TGF- β level in the patients group was significantly higher than that of the control group; 336.7 ± 20.19 vs. 174.8 ± 27.20 pg/ml, ($P<0.0001$). However, the level of IL-21 was not statistically different between the two groups 84.30 ± 4.57 vs. 84.12 ± 4.15 pg/ml ($P>0.05$).

Conclusion: Considering pro-inflammatory cytokines, current results support the association of inflammation and depressive disorder. So, it seems that pro-inflammatory factor profile can be used as indicator in following of depression progress and its treatment impacts.

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