
ELEVATED SERUM LEVELS OF FGF-2, NGF AND IGF-1 IN PATIENTS WITH MANIC EPISODE OF BIPOLAR DISORDER

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Introduction: Multiple neurotrophic factors, including vascular endothelial growth factor(VEGF), fibroblast growth factor(FGF)-2, nerve growth factor(NGF) and insulin-like growth factor(IGF)-1, have been shown to play important roles in the pathophysiology of mood disorders. However, insufficient clinical data supporting the importance of these neurotrophic factors in mood disorders, especially manic episode, have made inconclusive to make a connection between these factors and the disorder.

Objectives: This study intended to investigate possible peripheral biomarkers in serum of manic episode of bipolar disorder.

Aims: We aimed to investigate whether or not serum levels of VEGF, FGF-2, NGF and IGF-1 varied in manic state.

Methods: Serum levels of VEGF, FGF-2, NGF and IGF-1 were examined in 70 drug-naïve patients with manic episode of bipolar disorder(BM) as well as 50 healthy controls, using an ELISA method.

Results: The mean serum levels of VEGF, FGF-2, NGF and IGF-1 were 168.13±225.61pg/ml, 279.09±378.62pg/ml, 61.38±171.67pg/ml and 162.01±72.00ng/ml in BM patients, and 140.80±143.71pg/ml, 275.46±235.29pg/ml, 36.34±15.14pg/ml and 138.90±80.11ng/ml in healthy controls, respectively. Serum levels of FGF-2, NGF and IGF-1 in patients were significantly higher than those in healthy controls ($Z=-2.896$, $P=0.004$; $Z=-2.050$, $P=0.040$; $Z=-2.188$, $P=0.029$; respectively), although there was no statistical difference in the serum levels of VEGF between two groups ($Z=-0.468$, $P=0.639$). Moreover, serum levels of NGF in patients correlated with the duration of disorder ($r_s=-0.241$, $P=0.044$).

Conclusions: The increase in serum levels of FGF-2, NGF and IGF-1 in manic state may reflect a neuroprotective role for these factors, and these factors may be considered biological markers for manic episode.