

Alterations of serum-derived neurotrophic factor levels in early alcohol withdrawal

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摘要

Abstract

Aims: Alcohol withdrawal-enhanced neurotoxicity contributes to the addictive process. Brain-derived neurotrophic factor (BDNF) plays an important role in neuronal plasticity and learning. In this study, we explored the changes of serum BDNF levels in alcoholic patients at baseline and after one-week alcohol withdrawal. Methods: Twenty-five alcoholic patients were admitted for alcohol detoxification treatment, and 22 healthy control subjects were also enrolled. We collected blood samples of the patient group on the first and seventh day of alcohol withdrawal, and measured serum BDNF level with sandwich enzyme-linked immunosorbent assay. The severity of withdrawal symptoms was evaluated by the Clinical Institute Withdrawal Assessment-Alcohol, Revised every eight hours. Results: Serum BDNF levels did not differ significantly between alcoholic patients and control subjects. But BDNF levels were found to be significantly increased one week after alcohol withdrawal (from 13.9 ± 3.8 ng/ml to 15.4 ± 3.8 ng/ml, $P = 0.03$). A significant positive correlation was found between baseline BDNF level and baseline withdrawal severity ($r = 0.45$, $P = 0.03$). Conclusions: The present study suggests that elevated serum BDNF levels were found in early alcohol withdrawal, implying that BDNF may involve in neuroadaptation during the period