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BRAIN-DERIVED NEUROTROPHIC FACTOR AND ELECTROCONVULSIVE THERAPY IN A SCHIZOAFFECTIVE PATIENT WITH TREATMENT-RESISTANT PARANOID-HALLUCINATORY SYMPTOMS

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It has been proposed that deficits in the production and the utilization of brain-derived neurotrophic factor (BDNF) may contribute to the pathogenesis of schizophrenia. At the same time, electroconvulsive therapy (ECT) has been shown to induce a robust increase of BDNF protein in animal models. These findings suggest that one putative mechanism of action of ECT is the regulation of BDNF and/or related neurotrophins. In this case report a 54-year-old man with severe treatment-resistant schizophrenic symptoms was treated with ECT. In order to evaluate the effect of ECT on BDNF serum levels, we collected a blood sample before each ECT session. During the course of ECT treatment the paranoid and hallucinatory symptoms gradually improved while BDNF levels increased over time. In addition, there was a general improvement of its positive and negative schizophrenic symptoms and depressive state.

In conclusion, this case report further validates the therapeutic efficacy of ECT in schizophrenic patients with inadequate or poor response to traditional treatments. Moreover, ECT therapeutic effect is associated with an increase in BDNF serum levels. Further studies are needed to characterize the relationship between BDNF and ECT in patients with schizophrenia symptoms.

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