Serum matrix metalloproteinase-9 (MMP-9) in patients with drug-resistant depression treated with electroconvulsive therapy.

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The aim of the study was to determine the relationship between MMP-9 concentration in the serum of patients with drug resistant depression, and with the intensity of their depressive symptoms, for the purpose of assessing the effectiveness of electroconvulsive therapy.

Some reports of recent years suggest a relationship between the occurrence of depressive symptoms in affective patients and elevated MMP-9 levels, also in drug-resistant depression. The standard treatment for the drug-resistant depression is electroconvulsive therapy (ECT), the effectiveness of which varies between 50% and 80%. The aim of the study was to determine the concentration of serum matrix metalloproteinase-9 (MMP-9) in patients with drug resistant depression treated with ECT.

Materials and Methods:

Materials and methods:Forty patients with drug-resistant depression treated with ECT were studied. Severity of depressive symptoms was assessed using the 17-point Hamilton Depression Rating Scale (HDRS), before and after ECT. Serum levels of MMP-9 were determined, before and after ECT using the ELISA method.

17-point Hamilton Depression Rating Scale

Results:Treatment with ECT resulted in a significant decrease of serum MMP-9 concentrations in this group of treatment-resistant depressive patients. This decrease also correlated with the improvements to depressive symptoms, as measured by the HDRS. **Conclusions:** The results obtained may indicate that elevated concentrations of MMP-9 in patients with drug-resistant depression can be reduced by ECT. Such a reduction can make a marker of efficacy of this therapeutic method.

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