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Dynamic Correction of the Activity Sympathetic Nervous System (Dcasns) to Restore Cognitive Functions

T.S. Petrenko¹, V.S. Kublanov², K.Y. Retiunskiy³

¹Psychiatry, Ural State Medical University, Yekaterinburg, Russia ; ²Institute of radioelectronics and information technology, Ural Federal University, Yekaterinburg, Russia ; ³Psychiatry, Ural State Medical University, Yekaterinburg, Russia

Introduction: The efficiency DCASNS method to restore cognitive function in patients with organic amnesic syndrome.

Objectives: Three patients with clinical organic amnesic syndrome resulting of brain damage (poisoning, alcohol and trauma) held inpatient treatment for at least 12 months in the neurology or psychiatry department without a significantly improvement.

Aims: Determine of the effectiveness of the DCASNS method to restore cognitive functions.

Methods: DCASNS method implemented using an electrical pulse generator that delivers the spatially-distributed field of the carefully-controlled current pulses in the nervous structures of the neck (Kublanov V.S., 2008). This allow to control of autonomic regulation activity (by stellatis ganglion) and stimulate stem neural centers. Patients were assessed using the clinical method, neuropsychological scales: Frontal Assessment Batter? (FAB), Montreal Cognitive Assesmnet (MCA), Mini-Mental State (MMSE), MRI, EEG, Heart rate variability (HRV).

Results: The initial clinical state of the patients was severe, with structural damage on MRI and low rates of neuropsychological tests. As a result of seven DCASNS procedures improved significantly neuropsychological assessments: FAB (from 5,7±3,1 to 12±4,0); MCA (from 11,3±3,0 to 16,3±4,0); MMSE (from 15,3±6,2 to 21,3±8,3). EEG comparison analysis showed an increase in power of Alpha waves and power reduction of Delta waves on all leads. HRV comparison analysis showed an increase total power and the change in autonomic balance.

Conclusion: DCASNS method can be used for the effectiveness treatment of cognitive dysfunctions resulting organic lesions of the central nervous system.