

Dynamics of Cognitive Impairment in Patients Undergoing Thrombectomy for Thrombotic Occlusion

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The relevance of this study is due to the need for a deeper understanding of the cognitive consequences of ischemic stroke after endovascular intervention, which is key to optimizing rehabilitation strategies and improving the overall prognosis.

Objectives

To determine the dynamics of cognitive impairment in patients undergoing thrombectomy for thrombotic occlusion.

Methods

During 2023–2024, a prospective study of 96 patients who underwent thrombectomy for thrombotic occlusion was conducted at the Centre for X-ray Endovascular Neurosurgery of the Kyiv City Clinical Hospital No 1 (Kyiv, Ukraine). The dynamics of cognitive impairment was analyzed by comparing the results of anamnestic, clinical-psychopathological and psychodiagnostic studies on days 7–8 and 30–35 after the surgical intervention. In order to validate the data obtained, the Trail making test (TMT, R. M. Reitan and D. Wolfson, 1993), Stroop color word interference test (J.R. Stroop, 1935) and Luria’s Ten Word Memory Test (A.R. Luria, 1969) were used.

Results

The dynamics of cognitive impairment in patients undergoing thrombectomy for thrombotic occlusion was determined. Thus, positive dynamics in the recovery of cognitive functions in patients during the first 30–35 days after surgery was revealed: a statistically significant improvement in the cognitive status in the field of concentration, flexibility and attention switching, as well as the long-term memory component suggests the activation of compensatory neuroplastic processes in the early post-stroke period. It is also worth noting that despite the changes detected, patients retained a tendency to plateau in their memorization, when the number of words they could reproduce ceased to increase significantly after 2–3 readings, which was clinically manifested in a tendency to rapid exhaustion of mental and cognitive processes.

Conclusion

The detected improvement of the studied cognitive functions during the first month after surgery gives grounds for optimistic prognoses, but further research is needed to clarify the mechanisms of recovery, determine the mutual influence of affective disorders and formulate optimal approaches to the comprehensive neuropsychological rehabilitation of such patients, which will meet the principles of personalized medicine.