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Transcatheter cerebral revascularization in the treatment of atherosclerotic lesions of the brain

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Background: The research investigates the possibility of treating patients suffering from chronic atherosclerotic lesions of the brain by means of transcatheter cerebral revascularization.

Methods: We examined 946 patients aged 29-81 (average age 74) with various types of cerebral atherosclerotic lesions not burdened with stroke: 701 male (74.10%), 245 female (25.90%) patients. The examination plan included CDR assessment, MMSE, IB, cerebral CT, MRI, scintigraphy (SG), rheoencephalography (REG), cerebral MUGA.248 (26.22%) patients had minor disorders of cerebral circulation;698 (73.78%) patients had chronic cerebrovascular insufficiency. According to the type of atherosclerotic lesion, patients were divided into: Intracranial type-435 (45.98%); mixed type-425 (44.93%) and extracranial type-86 (9.09%).568 (60.04%) patients underwent transcatheter treatment-Test Group.378 (39.96%) patients underwent conservative treatment-Control Group. To conduct transcatheter revascularization of both extra and intracranial arteries, high-energy pulsed lasers were used for the revascularization of distal intracranial branches; low energy continuous lasers were used.

Results: Test Group: Good immediate angiographic outcome-restoration of the patency and lumen of the affected vessels, collateral revascularization was achieved in 546 (96.13%) cases. In the early postoperative period, the results depended on ischemic injury severity and the timing of transcatheter intervention. Good clinical outcome (complete recovery of mental and motor functions)-459 (80.81%) patients; satisfactory clinical outcome (incomplete recovery of mental and motor functions)-91 (16.02%) patients; relatively satisfactory clinical outcome (partial recovery of mental and motor functions)-18 (3.17%) patients and relatively positive clinical outcome (no negative trend with slight mental and motor functions reduction) was not obtained in any case. Control Group: Good clinical outcome was not obtained in any case; satisfactory clinical outcome-65 (17.20%) patients; relatively satisfactory clinical outcome-121 (32.01%) patients and relatively positive clinical outcome-192 (50.79%) patients.

Conclusion: In the treatment of atherosclerotic lesions of the brain, cerebral transcatheter revascularization is more effective than the therapeutic method. It can significantly reduce the level of cognitive and motor disorders and dementia allowing patients to return to active daily life.

Biography

Ivan V Maksimovich, MD, is a ISTAART member, Head Physician of Clinic of Cardiovascular Diseases named after Most Holy John Tobolsky (Moscow, Russia) since 1993. One of the major problems the clinic deals with is the diagnosis and treatment of various brain lesions including Alzheimer's disease.

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