

Surgical Revascularization For Moyamoya Disease

Anna Shulgina¹, Md, Phd Vasily Lukshin², Prof. Dmitry Usachev³

¹Vascular Department/ Burdenko Neurosurgical Institute/ Russia

Purpose:

Evaluation of the results of various methods of surgical revascularization in patients with MMD based on the patient's age, stage of the disease and preoperative diagnostics.

Materials and Methods:

Between 2008 to 2018 in BNI 64 patients with MMD were observed. Among them there were 14 adults (aged 19-37) and 50 children (aged 1,2-17). The clinical manifestations included those of transient ischemic attacks (74%), ischemic strokes (50%), epilepsy (24%), intracranial hemorrhage (8%), hyperkinesia (5%) and cephalgia (55%). Diagnostics were performed by subtraction angiography, MR-angiography and CT-angiography. Surgical treatment was performed in 13 adults (17 sides) and 33 children (52 sides). Total number of operations was 69. Indirect revascularization was performed in 12 patients (22 sides), direct revascularization was performed in 11 patients (15 sides), and combined revascularization was performed in 23 patients (32 sides). Follow-up period was up to 9 years.

Results:

In group of indirect revascularization improvement of the symptoms was seen in 77% of cases, in group of direct revascularization – in 91%, and in group of combined revascularization there was the improvement in 100% of cases. The complications were seen more often in group of indirect revascularization and were associated with the perioperative ischemic disorders.

Conclusion:

Variant of surgical revascularization should be chosen individually based on the age of patient, clinical severity of the disease, angiographic characteristics of donor and recipient vessels, state of collateral circulation and degree of cerebrovascular insufficiency with better results and a smaller percentage of complications observed in revascularizations with direct component.