



Title: Effect of occipital artery - posterior cerebral artery bypass on visual disturbance due to occipital lobe infarction

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Abstract:

OBJECTIVE: The purpose of this study is to retrospectively analyze the clinical data of the patients with posterior circulation involvement who underwent combined vascular bypass surgery(occipital artery-posterior cerebral artery bypass+ encephalon -dura-periosteal anastomosis.

METHODS: From May 2013 to January 2021, 62 patients with moyamoya disease involving the posterior circulation were treated with OA-PCA+EDPS.

RESULTS: Among the 62 cases in this group, 34 were males and 28 were females; they range from 4 to 71 years old, with an average of 39.5 ± 16.9 years old. Clinical manifestations: 58 cases started with acute cerebral infarction; 4 cases presented with cerebral hemorrhage in the internal carotid artery system; 1 case showed epilepsy. A total of 65 OA-PCA+EDPS operations were performed, and all cases were successfully bypassed. Intraoperative fluoroscopic angiography showed that the anastomotic stoma was unobstructed and there was no stenosis.

Fifty-eight cases reported significant improvement in visual function on the first day after surgery, but 12 cases deteriorated again a week later. Surgical complications: no epileptic seizures, no strokes, no deaths during the perioperative period, and 2 cases (all were obese) who had an infection in the surgical area within 3-6 months after surgery. Five patients developed transient aphasia, headache within 1-7 days after surgery, which were confirmed by MRI scans to be caused by mild cerebral hyperperfusion, and the symptoms disappeared after an average of 2 weeks after surgery. 56 patients were followed up for 2-70 months, with an average follow-up time of (35.48 ± 15.32) months. 46 Clinical symptoms, especially visual impairment and cognitive function, have improved to varying degrees. None of the 56 patients had a new stroke after the operation.

CONCLUSIONS: OA-PCA+EDPS can significantly improve patients' symptoms, delay disease progression, and can significantly improve visual impairment for some patients.