

SYMPTOMATIC HYPERPERFUSION AFTER SURGICAL REVASCULARIZATION FOR MOYAMOYA DISEASE: INCIDENCE, NATURAL HISTORY AND PREDICTORS

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AIM: To study the incidence, natural history and predictors for post-revascularization symptomatic hyperperfusion in moyamoya patient.

BACKGROUND: Moyamoya disease is an uncommon cerebrovascular disease. It refers to progressive stenosis of the internal carotid artery at supraclinoid level, resulted into cerebral ischemia. Direct and/or indirect revascularizations are well established procedures to improve cerebral perfusion and decrease the risk of future stroke in patients with moyamoya disease. Peri-operative ischemic stroke is one of the major complications. Transient neurological events may occur other than that.

METHOD: Patients with moyamoya disease undergone revascularization operation were included. All the medical records were studied retrospectively. Symptomatic hyperperfusion was defined as new neurological event with improved perfusion on perfusion scan.

RESULTS: From January 2009 to February 2015, 16 patients with moyamoya disease had undergone 22 revascularization operations. The mean age was 38.9 years old. 15 of them presented with ischemic symptoms. The mean follow-up was 16 months. All grafts of direct revascularization were patent on post-operative computed tomographic angiogram. Two patients (9%) had persistent/ recurrent ischemic symptoms after the operation. 9 operated hemisphere (40%) were found to have symptomatic hyperperfusion. The mean onset interval from operation was 4 days. All were transient with complete resolution of symptoms. No significant predictor was identified, including the presence of pre-existing extracranial-intracranial anastomosis and the proximity of the recipient vessel.

SUMMARY: New neurological event after revascularization operation for moyamoya disease could be ischemic or hyperperfusion related. Symptomatic hyperperfusion was not uncommon in our series. All patients improved with time.