

Encephalodurofascioarteriopericranialsynangiosis

Direct bypass surgery for moyamoya disease and/or indirect bypass surgery is the established approach for preventing stroke in patients with Moyamoya disease. However, conventional indirect revascularization, including encephalo-myo-synangiosis, have some disadvantages associated with the mass effect of the temporal muscle under the bone flap and post-surgical depression in the temporal region. Noguchi et al. devised a novel indirect revascularization method, using only the temporal fascia, to address the aforementioned disadvantages.

A skin incision was performed along the superficial temporal artery. The temporal fascia was cut such that the base of the fascia flap was on the "posterior" side. The fascia and temporal muscles were dissected separately. After turning over the fascia, the muscle was cut such that the base of the muscle flap was on the "anterior" side. Craniotomy, direct bypass, and encephalo-duro-synangiosis were performed conventionally. Only the temporal fascia was used for indirect revascularization and duraplasty. The muscle was replaced in the anatomically correct position after replacing the bone flap.

They performed the aforementioned surgery on 18 (13 women and 5 men) consecutive patients (21 cerebral hemispheres) enrolled between 2012 and 2016. The average age was 28.7 years. The mean follow-up period was 31.6 months. In 17 (94%) patients, the symptoms and cerebral blood flow improved. Digital subtraction angiography showed satisfactory angiogenesis from the temporal fascia. Depression in the temporal region and atrophy of the temporal muscle were negligible.

This surgical technique provides good clinical and cosmetic outcomes. It may also be one of the good surgical treatments available for symptomatic Moyamoya disease ¹⁾.

1)

Noguchi K, Aoki T, Orito K, Kajiwara S, Fujimori K, Morioka M. Novel indirect revascularization technique with preservation of temporal muscle function for Moyamoya disease encephalo-duro-fascio-arterio-pericranial-synangiosis: A case series and technical note. World Neurosurg. 2018 Sep 6. pii: S1878-8750(18)31954-5. doi: 10.1016/j.wneu.2018.08.171. [Epub ahead of print] PubMed PMID: 30196169.

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Last update: **2024/06/07 02:58**

