

Encephaloduroarteriosynangiosis

- [The Orbital Grading system yields higher precision than the Matsushima grading system in assessing angiographic outcomes after EDAS for Moyamoya disease: an interrater reliability analysis](#)
- [Long-Term Outcomes in Patients With Hemorrhagic Moyamoya Disease Combined With Hypertension After Encephaloduroarteriosynangiosis](#)
- [Moyamoya Disease in a Patient With Cerebral Palsy Presenting With Intraventricular Hemorrhage and Hydrocephalus Requiring Ventriculoperitoneal Shunt Placement: A Case Report](#)
- [The Role of Encephaloduroarteriosynangiosis in Moyamoya Disease: A Consecutive Case Series From Pakistan](#)
- [The Clinical and Neuroimaging Factors of Stroke Outcome of Unilateral Moyamoya Disease](#)
- [Encephaloduroarteriosynangiosis for the Treatment of Cerebral Arteriovenous Malformations in the Pediatric Population](#)
- [The Association of Heterozygous p.R4810K of RNF213 and Long-Term Unfavorable Outcomes after Encephaloduroarteriosynangiosis in Chinese Pediatric Patients with Moyamoya Disease](#)
- [Safety analysis of STA-MCA bypass combined with EDAS in the treatment of patients with moyamoya disease](#)

In this procedure, the surgeon takes a healthy artery from the scalp, typically the superficial temporal artery, and attaches it to the surface of the brain (cerebral cortex). Over time, new blood vessels form from the scalp artery, creating a network of collaterals that supply blood to the deprived areas of the brain.

EDAS (encephaloduroarteriosynangiosis) uses a branch of the [superficial temporal artery](#) which is laid directly on the surface of the brain without doing a direct anastomosis. The expectation is that it will eventually grow new arteries into the brain and therefore provide more blood flow. This surgery is done only when a direct bypass graft is not feasible. Children tend to have better results with this procedure than adults. Once used for an indirect bypass, the STA branch cannot be used again for direct bypass, even if the indirect bypass is not successful. It usually requires at least 6-8 weeks for new blood supply to develop from this procedure.

Indications

see also [Encephaloduroarteriosynangiosis for atherosclerotic middle cerebral artery occlusion](#).

Encephaloduroarteriosynangiosis (EDAS) as a form of indirect [revascularization](#) has been proposed as a potentially promising alternative for patients with [intracranial atherosclerotic disease](#) (ICAD).

Patients with Type 2 Diabetes mellitus (T2DM) had a higher postoperative [Suzuki staging](#) ($p < 0.01$) and more frequent development of collateral angiogenesis germinating from the external carotid after

indirect revascularization procedures in the surgical cerebral hemisphere (82.7% vs 72.2%; $p < 0.05$). The extent of postoperative collateral formation in patients with diabetes mellitus was significantly higher ($p < 0.01$). Postoperative clinical improvement in the diabetes group was more common after revascularization procedures ($p < 0.05$), and the diabetes group had lower modified Rankin Scale scores ($p < 0.05$) in comparison with the nondiabetes group. Late postoperative stroke and posterior cerebral artery involvement were identified as predictors of unfavorable clinical outcome in both groups, while T2DM was associated with a favorable clinical outcome.

Encephaloduroarteriosynangiosis is an efficacious treatment for adult patients with MMD. Patients with T2DM could achieve better collateral circulation and clinical improvement following surgery ¹⁾.

Encephaloduroarteriosynangiosis for Pediatric Moyamoya disease

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¹⁾

Ren B, Zhang ZS, Liu WW, Bao XY, Li DS, Han C, Xian P, Zhao F, Wang H, Wang H, Duan L. Surgical outcomes following encephaloduroarteriosynangiosis in adult moyamoya disease associated with Type 2 diabetes. J Neurosurg. 2016 Aug;125(2):308-14. doi: 10.3171/2015.7.JNS15218. Epub 2016 Jan 8. PubMed PMID: 26745491.

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