

Severe Cerebral Infarction after Encephaloduroarteriosynangiosis (EDAS) in a Patient with Moyamoya Disease

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Purpose:

We aim to discuss a case of severe cerebral infarction that occurred after Encephaloduroarteriosynangiosis (EDAS) in an adult patient diagnosed with Moyamoya disease (MMD), who presented with ischemic symptoms.

Methods:

A 43-year-old man was diagnosed with MMD five years ago due to recurrent transient ischemic attacks (TIAs) manifesting as left-sided weakness. As a result, he underwent Extracranial-intracranial arterial bypass (EIAB) on the right side. He had been doing well since then. However, four months ago, he began experiencing newly recurrent TIAs with right-sided weakness. Consequently, we planned for EIAB on the left side. The left parietal branch of the superficial temporal artery was dissected, and a craniotomy was performed around Chater's point. While the dura mater was opened and the recipient vessel was examined, there was no artery with a diameter of 1mm or more suitable for performing a direct bypass. Thus, an EDAS was performed.

Results:

Following the surgery, the patient was cared for in the intensive care unit. Global aphasia occurred in the patient 5 hours after the operation. The aphasia symptoms repeated improvement and deterioration, and 30 hours after surgery, right-sided weakness and decreased consciousness occurred. Forty-two hours after surgery, the patient's consciousness deteriorated to stupor, and a severe middle cerebral artery territory infarction was identified on a brain CT scan. We performed revision surgery, followed by conservative treatment. Eight weeks after the surgery, the patient was transferred to a rehabilitation hospital. The final condition of the patient was right hemiplegia, global aphasia, and effective communication was impossible.

Conclusions:

In MMD, both direct and indirect surgical revascularization procedures are being performed to improve symptoms through restoring cerebral blood flow. However, it is crucial to consider that the surgery itself imposes significant stress on the patient, which can potentially lead to a severe ischemic stroke immediately after the surgery.