



Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

ScienceDirect

journal homepage: [www.e-fjs.com](http://www.e-fjs.com)



## CASE REPORT

# Anastomotic aneurysm formation after superficial temporal artery – middle cerebral artery bypass surgery in 5 months



Chien-Lun Tang<sup>a</sup>, Chiung-Chyi Shen<sup>a,b,\*</sup>

<sup>a</sup> Department of Neurological Surgery, Taichung Veterans General Hospital, Taichung, Taiwan

<sup>b</sup> Division of Minimally Invasive Skull Base Neurosurgery, Neurological Institute, Taichung Veterans General Hospital, Taichung, Taiwan

Received 25 October 2015; received in revised form 12 January 2016; accepted 8 March 2016

Available online 4 July 2016

### KEYWORDS

anastomotic aneurysm;  
moyamoya;  
vascular bypass

**Summary** Direct revascularization is beneficial in patients with moyamoya disease under selective conditions. Here, we report the case of a patient with moyamoya disease who developed a complication following revascularization through cerebrovascular bypass surgery. A 42-year-old man experienced an acute onset of weakness in the right limbs with slurred speech. He was initially treated for a suspected transient ischemic attack. Further workup revealed luminal narrowing in the left M1 segment (from the origin of middle cerebral artery to its bifurcation) and total luminal occlusion of the right M1 segment of the middle cerebral artery. Direct revascularization using a superficial temporal artery to the middle cerebral artery bypass procedure was performed. Postoperative follow-up brain computed tomography in the outpatient clinic revealed aneurysm formation at the anastomotic site of the right superficial temporal artery to the middle cerebral artery. Various theories have been postulated to explain this rare complication. Here, we discuss possible etiologies for the formation and management of aneurysms at anastomotic sites with a review of similar cases in the literature. Copyright © 2016, Taiwan Surgical Association. Published by Elsevier Taiwan LLC. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Conflicts of interest: The authors report no conflict of interest concerning the materials or used in this study or the findings specified in this paper.

\* Corresponding author. Division of Minimally Invasive Skull Base Neurosurgery, Neurological Institute, Taichung Veterans General Hospital, Number 1650, Taiwan Boulevard, Section 4, Taichung City 40705, Taiwan.

E-mail address: [shengeorge@yahoo.com](mailto:shengeorge@yahoo.com) (C.-C. Shen).

## 1. Introduction

Surgical intervention is one of the major treatment modalities for moyamoya disease.<sup>1,2</sup> Both direct and indirect revascularizations are widely used surgical options. However, a superior surgical technique is required for direct revascularization. In direct revascularization, anastomosis of the

<http://dx.doi.org/10.1016/j.fjs.2016.03.008>

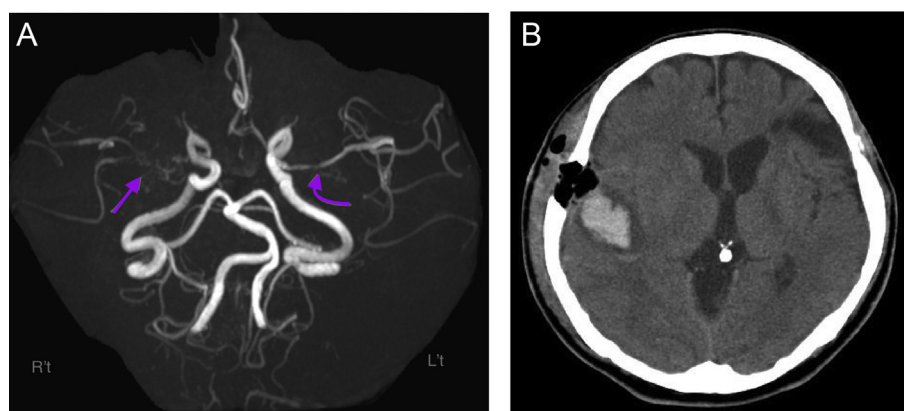
1682-606X/Copyright © 2016, Taiwan Surgical Association. Published by Elsevier Taiwan LLC. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

superficial temporal artery (STA) to the middle cerebral artery (MCA; denoted as STA–MCA) is commonly performed; however, this procedure can cause complications. Here, we report the case of a patient with moyamoya disease who developed an aneurysm in the STA–MCA anastomotic site following direct revascularization. The successful treatment of the aneurysm prevented its catastrophic sequelae.

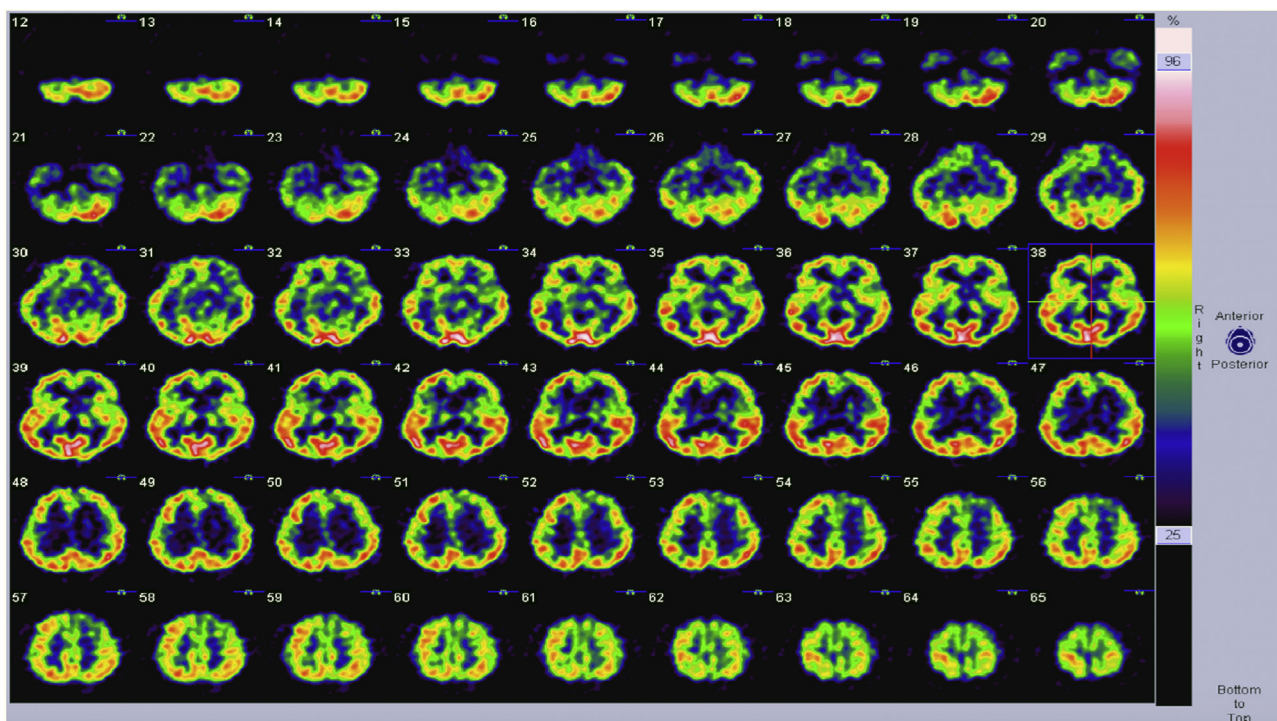
## 2. Case Report

A 42-year-old man with hypertension under medication experienced an acute onset of weakness in the right limbs

with slurred speech for 2 years. He was initially treated with hydration and aspirin at a local clinic for a suspected transient ischemic attack. He was then transferred to our department for further evaluation. At our hospital, brain MR(Magnetic Resonance) angiography revealed luminal narrowing in the M1 segment (from the origin of middle cerebral artery to its bifurcation) and total occlusion of the right M1 segment of the MCA (Figure 1A). Digital subtraction angiography demonstrated severe stenosis of the M1 segment of the right MCA with moyamoya vessels in the M1 region, in addition to total occlusion of the left M1 segment with compensated collateral flow from the left ECA(External Carotid Artery) and moyamoya vessels to the right M1



**Figure 1** (A) Preoperative MR angiography revealed luminal narrowing in the left M1 segment (curved arrow) and total occlusion of the right M1 segment of the MCA (straight arrow). (B) Postoperative noncontrast brain CT showed right-side temporal intracranial hemorrhage. CT = computed tomography; L't = left; MCA = middle cerebral artery; MR = magnetic resonance; R't = right.



**Figure 2** Preoperative regional cerebral perfusion SPECT (Single-Photon Emission Computed Tomography) revealed significant hypoperfusion in the left frontal cortex, left basal ganglion, and right frontoparietal junction and relative hypoperfusion in the right temporal cortex and right thalamus.

Download English Version:

<https://daneshyari.com/en/article/4284908>

Download Persian Version:

<https://daneshyari.com/article/4284908>

[Daneshyari.com](https://daneshyari.com)