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Video Abstract

Double bypass for mycotic middle cerebral artery aneurysm

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ABSTRACT

Background: Ruptured intracranial mycotic aneurysms have high morbidity and mortality and present unique surgical challenges because of vessel friability.[1] Flow-preserving strategies are needed for more proximal lesions that cannot be treated with vessel sacrifice.

Case Description: A 33-year-old man with no medical history who presented with fevers and peripheral septic emboli was found to have infective cardiac valve vegetations. He reported headaches and left arm weakness; an irregular 7 × 8 × 9 mm bilobed middle cerebral artery mycotic aneurysm involving multiple M3 branches with subarachnoid hemorrhage was found on cranial imaging. Multifocal and small intraparenchymal hemorrhages from septic emboli were also seen. Clip trapping and revascularization were recommended. A right frontotemporal craniectomy was performed, preserving the superficial temporal artery. After extradural exposure, a hole was drilled in the middle fossa floor lateral to the foramen ovale. The Sylvian fissure was split and the larger M3 branch was isolated. An endoscopically harvested saphenous vein graft was anastomosed to the cervical external carotid artery, tunneled through the middle fossa floor, and anastomosed end-to-side to the larger M3. The aneurysm was clip trapped and the involved smaller M3 was transected and anastomosed end-to-end to the superficial temporal artery. Indocyanine green videoangiography confirmed patency of both bypasses. Postoperatively, the patient received antibiotics and a mitral valve replacement. He was neurologically intact on 1-month and 2-year follow-up.

Conclusion: Although technically demanding, tailored revascularization and clipping of ruptured mycotic cerebral aneurysms are a viable treatment option for these complex lesions.

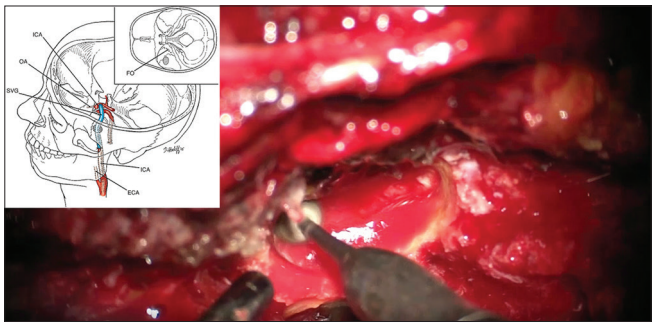
Keywords: Cerebral revascularization, High-flow bypass, Mycotic aneurysm

[Video 1]-Available on:

www.surgicalneurologyint.com

Annotations[1]

1) 0:06 – Patient history.
2) 0:18 – Preoperative imaging.
3) 0:48 – Operative positioning.
4) 0:56 – Surgical procedure.



Video 1: Video demonstrating technique for double bypass for mycotic middle cerebral artery aneurysm.

Declaration of patient consent

Patient's consent not required as patient's identity is not disclosed or compromised.

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Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCE

1. Monsuez JJ, Vittecoq D, Rosenbaum A, Goujon C, Wolff M, Witchitz S, *et al*. Prognosis of ruptured intracranial mycotic aneurysms: A review of 12 cases. Eur Heart J 1989;10:821-5.

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