Suction Decompression Assisted Clipping of a Large Middle Cerebral Artery Aneurysm: 2-Dimensional Operative Video

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Key words

- Aneurysm
- Microsurgery
- Middle cerebral artery
- Operative surgical procedure
- Suction decompression

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This operative video demonstrates the important considerations and details to perform a suction decompression technique to assist in clipping of a large middle cerebral artery (MCA) aneurysm (Video 1). We present the case of a 58-year-old man with a 5-day history of dizziness. A computed tomography angiography revealed a 15-mm-diameter aneurysm in the left middle cerebral artery and a 6-mm-diameter aneurysm in the anterior communicating artery. Characterization of both lesions was obtained with a cerebral angiogram. Given the wide nature of the base of the MCA lesion, a surgical obliteration was considered best. A left frontotemporal craniotomy with the patient under total intravenous anesthesia and continuous neurophysiological monitoring was performed to approach both intracranial aneurysms. Access through the Sylvian fissure corridor was obtained, and the dome of the MCA lesion was quickly identified. The large aneurysm neck challenged visualization of the takeoff vessels of the MCA divisions, and after careful dissection, visualization remained poor; therefore, a suction decompression technique was considered appropriate to gain anatomical control.[1,2] For doing so, we used a 21-gauge needle wired to a 3-mm retractor on the Greenberg System, connected distally to suction. After cornering the lesion with temporary aneurysm clips, needle insertion was performed, enabling aneurysmal collapse and perfect visualization of the take-off vessels, which allowed proper clip deployment across the lesion. Next, we approached the anterior communicating artery aneurysm through the subfrontal region with successful clip deployment. Careful suction decompression could help the surgeon in obtaining better visualization. Patient approval and consent was obtained for submission of this video to this journal.

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