Middle cerebral artery aneurysm surgery approaches

- Endovascular or microsurgical? Defining the best approach for blood blister aneurysms: A comparative meta-analysis
- Unilateral approach to bilateral middle cerebral artery aneurysms: a large series and a proposed grading system to predict technical difficulties
- Efficacy and performance of the new pipeline vantage flow diverter stent with shield technology: Short-term results of a single-center experience
- Analysis of the Role of Vasa Vasorum in the Oxygen Transport to the Aneurysm Wall
- Successful Retrieval of Migrated Coil Tangle in Femoral Artery Following Aneurysm Embolization: A Case Report
- Successful endovascular occlusion of multiple fusiform aneurysms on the persistent primitive lateral basilovertebral anastomosis
- Machine Learning-Based Rupture Risk Prediction for Intracranial Aneurysms: A Systematic Review and Meta-Analysis
- Right occipital to Right distal PICA bypass and trapping of ruptured Right PICA dissecting aneurysm after initial coil embolization

The main access route for middle cerebral artery (MCA) aneurysms is the transsylvian approach.

see Transsylvian approach to middle cerebral artery aneurysm.

see Superior Temporal Gyrus Approach to Middle Cerebral Artery Aneurysm.

Pterional craniotomy

see Pterional craniotomy.

In most cases of Middle cerebral artery aneurysm surgery the decision as to which surgical approach to use is made preoperatively depending on the presence of intraparenchymal clot, size of aneurysm, direction of aneurysm, and length of the proximal middle cerebral artery

Ogilvy et al., used the superior temporal gyrus when intraparenchymal hematoma was present in the temporal lobe or when the length of the middle cerebral artery trunk was long (average length 2.44 +/- 0.41 SE cm). This approach was used in 20 operations on 22 aneurysms. The sylvian fissure approach was used in cases where the middle cerebral artery main trunk was short (1.32 +/- 0.41 SE cm) or the direction of the aneurysm was favorable. [1)].

Transsylvian Approach to Middle Cerebral Artery Aneurysm

see Transsylvian Approach to Middle Cerebral Artery Aneurysm.

Through small temporal craniotomy and linear skin incision

There were no complications of temporal muscle atrophy, scar deformity, paresthesia, or pain around the scalp incision and frontalis palsy. This approach offers good surgical possibilities and little approach related morbidity in the clipping of incidental MCA aneurysms [2].

Sylvian fissure dissection

Sylvian fissure dissection.

References

1)
Ogilvy CS, Crowell RM, Heros RC. Surgical management of middle cerebral artery aneurysms: experience with transsylvian and superior temporal gyrus approaches. Surg Neurol. 1995 Jan;43(1):15-22; discussion 22-4. PubMed PMID: 7701417.
2)
Mun JH, Cho KY, Lee RS, Lim BC, Choi TM, Lim JS. Clipping of incidental aneurysm of middle cerebral artery through small temporal craniotomy and linear skin incision. J Cerebrovasc Endovasc Neurosurg. 2014 Mar;16(1):32-8. doi: 10.7461/jcen.2014.16.1.32. Epub 2014 Mar 31. PubMed PMID: 24765611.