Giant intracranial aneurysm treatment

Conventional clipping and endovascular treatment are difficult to apply for some giant intracranial aneurysms (GIAs), and sometimes extracranial-intracranial bypass becomes the optional choice. However, not all GIA patients can benefit from it.

Options include:

1. direct surgical clipping: usually possible in only ≈ 50% of cases

2. vascular bypass of the aneurysm with subsequent clipping

3. trapping

4. proximal arterial ligation (hunterian ligation)

a) for vertebral-basilar aneurysms:results in improvement of cranial nerve deficit in≈95%of patients. A reasonable alternative in the presence of an adequately sized contralateral VA that unites with the VA to be ligated

5. wrapping

6. endovascular treatment

Coiling, may be burdened by the risk of coil compaction and recanalization, but it has the advantage of not affecting the flow in the perforating arteries [1)].

Endovascular GIA treatment produced higher direct costs than surgical GIA treatment mainly due to higher implant costs. Reducing endovascular implant costs may be the most effective tool to decrease direct costs of GIA treatment [2)].

1)
Graziano F, Iacopino DG, Ulm AJ. Insights on a Giant Aneurysm Treated Endovascularly. J Neurol Surg A Cent Eur Neurosurg. 2015 Aug 21. [Epub ahead of print] PubMed PMID: 26296255.
2)
Familiari P, Maldaner N, Kursumovic A, Rath SA, Vajkoczy P, Raco A, Dengler J. Cost Comparison of Surgical and Endovascular Treatment of Unruptured Giant Intracranial Aneurysms. Neurosurgery. 2015 Nov;77(5):733-43. doi: 10.1227/NEU.0000000000000917. PubMed PMID: 26225854.