## Anterior inferior cerebellar artery aneurysm endovascular treatment

Endovascular intervention for anterior inferior cerebellar artery aneurysm is in the process of development and should be reserved for special cases <sup>1)</sup>.

It may provide a feasible and safe option as an alternative, though a microsurgical option is initially considered for the management of AICA aneurysms. Further follow-up and more experience are also necessary <sup>2)</sup>.

A 42-year-old woman presented with Hunt and Hess grade (HHG) III subarachnoid hemorrhage (SAH) caused by a ruptured left distal anterior inferior cerebellar artery (AICA) aneurysm. Computed tomography showed a thin SAH on the cerebellopontine angle cistern, and small vermian intracerebral hemorrhage and intraventricular hemorrhage in the fourth ventricle. Digital subtraction angiography revealed the aneurysm on the postmeatal segment of left distal AICA, a branching point of rostrolateral and caudomedial branch of the left distal AICA. Despite thin caliber, tortuous running course and far distal location, the AICA aneurysm was obliterated successfully with endovascular coils without compromising AICA flow. However, the patient developed left side sensorineural hearing loss postoperatively, in spite of definite patency of distal AICA on the final angiogram. She was discharged home without neurologic sequela except hearing loss and tinnitus. Endovascular treatment of distal AICA aneurysm, beyond the meatal loop, is feasible while preserving the AICA flow. However, because the cochlear hair cell is vulnerable to ischemia, unilateral hearing loss can occur, possibly caused by the temporary occlusion of AICA flow by microcatheter during endovascular treatment <sup>3)</sup>.

A 73-year-old woman presented with subarachnoid hemorrhage caused by a ruptured left distal anterior inferior cerebellar artery (AICA) aneurysm. Computed tomography showed a thin subarachnoid hemorrhage in the ambient cistern, and digital subtraction angiography revealed an aneurysm arising from the lateral branch of the left AICA, which was separate from the meatal loop. Endovascular treatment was performed to achieve parent artery occlusion using two Guglielmi detachable coils. Postoperatively, the patient had no complications except for left hearing disturbance, and she was independent in daily life. Endovascular parent artery occlusion for distal AICA aneurysm, especially distal from the meatal loop, can avoid sacrificing the internal auditory artery if the lateral branch of the AICA could be occluded more distally from the meatal loop. Sufficient collateral circulation prevents major infarction, and this strategy may be the first-line treatment choice <sup>4)</sup>.

A 15-year-old girl presented with a distal anterior inferior cerebellar artery (AICA) dissecting aneurysm manifesting as sudden onset of general tonic-clonic convulsion while singing a song. Physical and neurological examinations found headache, vomiting, right perceptive deafness, and right cerebellar ataxia. Cranial magnetic resonance imaging demonstrated a hemorrhagic mass in the brainstem region, and digital subtraction angiography revealed a fusiform dilatation of the anterior pontine segment of the right AICA. The diagnosis was dissecting aneurysm. Endovascular embolization was

performed for aneurysm and parent artery occlusion using a Guglielmi detachable coil and 9 TruFill detachable coil systems, respectively, 2 weeks after occipital artery-AICA anastomosis. No ischemic complications were seen, and her neurological deficits completely recovered after the interventional therapy <sup>5)</sup>

## References

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Last update: 2024/06/07 02:53

