

# Personalized Approach to the Treatment of Posterior Inferior Cerebellar Artery Aneurysms

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I read with interest the article “Surgical Management of Aneurysms of Posterior Inferior Cerebellar Artery: Location-Based Approaches and Outcomes with Review of Literature,”<sup>1</sup> in which authors stratified surgical approaches to the posterior inferior cerebellar artery (PICA) aneurysms regarding their locations, followed by a large review of the literature.

Authors present a retrospective study of 20 patients with 21 PICA aneurysms treated with microsurgical clipping via midline suboccipital approach for distal PICA aneurysms and far-lateral approach for the aneurysms, located at VA (vertebral artery)/PICA junction. Authors report zero mortality and 20% surgical morbidity that support our concept that there is no unique method or approach to treat all the PICA aneurysms.<sup>2</sup>

Any aneurysm of PICA requires specific and individual analysis of its anatomy and clinical presentation for selection of adequate treatment strategy, which in turn may be very valuable. In addition to microsurgical clipping for saccular aneurysms, IC-IC (intracranial-to-intracranial) bypass is also a valuable microsurgical technique for fusiform ones.<sup>3</sup> Talking about endovascular techniques for PICA aneurysms treatment, we must admit that nowadays coiling is not a single available option here. For choosing an endovascular tactics, we should consider aneurysm size, shape, presence, and size of neck, exact location on a PICA trunk, and diameter of PICA. Recent studies show that stenting is becoming a feasible technique for PICA aneurysms, not only as a part of stent-assisted coiling, but also as a flow diverter. Appearance of low-profile intracranial stents—both flow diverters and assisting ones—let us use stenting within PICA itself, if the diameter of vessel is appropriate.<sup>4-6</sup>

During evaluation of any new PICA aneurysm, we should consider an optimal tactics among this wide variety of

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options, regarding anatomical characteristics of the aneurysm itself, parent arteries, and clinical presentation.

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## Conflict of interest

None declared.

## References

- 1 Deora H, Nayak N, Dixit P, et al. Surgical management and outcomes of aneurysms of posterior inferior cerebellar artery: location based approaches with review of literature. *J Neurosci Rural Pract* 2020;11(1):34–43
- 2 Aronov M, Mokin M, Zelenkov A, Popugaev K, Tsarikaev A, Reutov A. Endovascular coiling of ruptured very small dissecting fusiform aneurysm of posterior inferior cerebellar artery with parent artery preservation by microcatheter auto-assistance. *World Neurosurg* 2019;121:152–155
- 3 Pilipenko YV, Eliava SS, Kisar'ev SA. Successful treatment of proximal fusiform aneurysm of right posterior inferior cerebellar artery by its trapping after PICA-to-PICA bypass performance. *Russ J Neurosurg* 2017;2:42–47
- 4 Srinivasan VM, Ghali MGZ, Reznik OE, et al. Flow diversion for the treatment of posterior inferior cerebellar artery aneurysms: a novel classification and strategies. *J Neurointerv Surg* 2018;10(7):663–668
- 5 Samaniego EA, Abdo G, Hanel RA, Lima A, Ortega-Gutierrez S, Dabus G. Endovascular treatment of PICA aneurysms with a low-profile visualized intraluminal support (LVIS Jr) device. *J Neurointerv Surg* 2016;8(10):1030–1033
- 6 Jeon SI, Kwon BJ, Seo DH, Kang HI, Park SC, Choe IS. Bilateral approach for stent-assisted coiling of posterior inferior cerebellar artery aneurysms—two cases. *J Cerebrovasc Endovasc Neurosurg* 2012;14(3):223–227