Posterior communicating artery aneurysm recurrence

Seven of eight aneurysms (87.5%) were ruptured. Stent-assisted coiling was used in one case that a stent was deployed via PCoA-ipsilateral P2 segment. The dual-microcatheter technique was used in one case. The remaining six cases were treated by coiling alone. One patient (12.5%) suffered perioperative complication, of which a coil herniated into parent vessel during the procedure without symptomatic stroke or other adverse event after the procedure. The initial embolization results showed complete occlusion in five cases and residual neck in three. Six patients (75%) had a mean of 15-month angiographic follow-up and two of them revealed recurrence (33.3%) [1)]

Dome size, aneurysm neck width, aneurysm volume, and Pcom diameter were associated with recurrence after coil embolization for IC-PC ANs. In particular, Pcom diameter could be an independent risk factor for recurrence [2)]).

Lee et al. from the Chuncheon Army Hospital and St. Mary's Hospital in Seoul, demonstrated that fetal posterior cerebral artery may be an independent risk factor for the recurrence of posterior communicating artery aneurysms. Therefore, fetal-type posterior cerebral artery can be considered as an important risk factor for posterior communicating artery aneurysm recurrences, along with other known risk factors such as size, ruptured status, endovascular treatment, and incomplete occlusion [3)].

In 2010 Golshani et al. from the Division of Vascular and Interventional Radiology, Duke University Medical Center, Durham published that coiled posterior communicating artery aneurysms have a particularly high risk of recurrence and must be followed closely. Posterior communicating artery aneurysms with an elongated fundus, true posterior communicating artery aneurysms, and aneurysms associated with a fetal posterior communicating artery may have better outcome with surgical clipping in terms of completeness of occlusion and preservation of the posterior communicating artery. However, as endovascular technology improves, endovascular treatment of posterior communicating artery aneurysms may become equivalent or preferable in the near future [4)].

References

1)
Liu J, Zhang Y, Li W, Wang K, Zhang Y, Yang X. Treatment of true posterior communicating artery aneurysms: Endovascular experience in a single center. Interv Neuroradiol. 2020 Feb;26(1):55-60. doi: 10.1177/1591019919874603. Epub 2019 Sep 5. PMID: 31488022; PMCID: PMC6998000.
2)
Shinya Fukuta, Chiyoe Hikita, Mitsuhiro Iwasaki, Masahiro Maeda, Yasufumi Inaka, Hidekazu Yamazaki, Hiroaki Sato, Masafumi Morimoto, Hidenori Oishi, Risk factors for recurrence after coil embolization for internal carotid artery-posterior communicating artery aneurysms, Interdisciplinary Neurosurgery, Volume 24, 2021, 101097, ISSN 2214-7519, https://doi.org/10.1016/j.inat.2021.101097. (https://www.sciencedirect.com/science/article/pii/S2214751921000098
3)
Lee HJ, Choi JH, Shin YS, Lee KS, Kim BS. Risk Factors for the Recurrence of Posterior Communicating

Artery Aneurysm: The Significance of Fetal-Type Posterior Cerebral artery. J Stroke Cerebrovasc Dis. 2021 Apr 26;30(7):105821. doi: 10.1016/j.jstrokecerebrovasdis.2021.105821. Epub ahead of print. PMID: 33915389.

4)

Golshani K, Ferrell A, Zomorodi A, Smith TP, Britz GW. A review of the management of posterior communicating artery aneurysms in the modern era. Surg Neurol Int 22-Dec-2010;1:88