

Pericallosal artery aneurysm endovascular treatment

J.Sales-Llopis

Neurosurgery Department, University General Hospital of Alicante, Foundation for the Promotion of Health and Biomedical Research in the Valencian Region (FISABIO), Alicante, Spain

The initial results of [endovascular coiling](#) for [pericallosal artery aneurysms](#) were not satisfactory because most aneurysms in this location are small and distally located ¹⁾.

Since the recent improvements in endovascular techniques and equipment, [pericallosal artery aneurysms](#) have become accessible for endovascular coiling and the results have thus been improving with success rates to be 92.9–100% ^{2) 3) 4)}.

[Intracranial hemorrhage](#) (ICH) associated with this aneurysm location is not uncommon, and is viewed as a relative contraindication for heparinization and requires management of increased intracranial pressure. Particular attention must be paid to perioperative management and coiling is still considered to be controversial. Thus, these conditions have resulted in under-utilization of endovascular therapy and under-representation in coiling trials.

Yamazaki et al. applied endovascular coiling for ruptured pericallosal artery aneurysms, including those associated with ICH, as the first-line treatment.

They consider to be important to refrain from bolus heparin injection during endovascular coiling for cases with concomitant dense hematoma. Otherwise, coil embolization should be postponed until 8 hours after the onset to lower the risk of hematoma enlargement ⁵⁾.

Endovascular approaches for aneurysms < 3mm in size reportedly have higher risks for intraoperative rupture ^{6) 7)}.

Case series

In a retrospective study of patients treated endovascularly for PAAs from December 2007 to January 2019, a total of 33 patients with 34 aneurysms were included (25 aneurysms ruptured, 9 unruptured or recurrent). Of the ruptured group, 22 were coiled (88%) and rest treated with flow diversion. The initial angiographic follow up rate was 72%, a median of 159 days. The overall recurrence rate was 40% (10/25) at median of 376 days, all among coiled aneurysms. 6 recurrent aneurysms retreated with further coiling (2) and flow diversion (4). Of the unruptured/recurrent group, 5 were coiled (55%) and the remainder treated with flow diversion. The angiographic follow-up rate was 100% at a median of 267 days. The recurrence rate was 22% (2/9), both in coiled aneurysms. Overall, 27 aneurysms were coiled, 9 treated with flow diversion and 3 with “partial” flow diversion. All aneurysms treated with pipeline flow diversion achieved 100% occlusion. No re-rupture or new rupture was observed. Good clinical outcome (modified Rankin Scale 0-2) was seen in 79% of patients.

This study demonstrates that endovascular coiling for PAAs is associated with a definite rate of recurrence, which has to be monitored with timely angiography. They also demonstrates the excellent

effectiveness of flow diversion for PAAs with either presentation ⁸⁾.

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