

# Endovascular Treatment of Posterior Cerebral Artery Aneurysms: Comparison of PVO, Coiling and Stent-assisted Coiling Techniques

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## Introduction

To compare the efficacy and safety of sac coiling, parent artery occlusion (PAO) and stent-assisted coiling (SAC).

## Methods

This study involved 52 consecutive patients with total 53 PCA aneurysms. The clinical data of PCA aneurysms were retrospectively reviewed. The efficacy and safety of three different techniques used here were analyzed and compared.

## Results

There were 31 man and 21 women. They aged from 13 to 75 years (mean 46 years). Thirty-two cases presented with SAH. Eighteen aneurysms were saccular one, 35 were pseudoaneurysms. Aneurysm diameter of 12 cases (22.6%) was < 5mm, 30 (56.6%) between 5 mm and 15 mm, and 11 (20.8%) between 16 mm and 25 mm. Eight aneurysms located in P1 segment, 9 in P1/P2 junction, 25 in P2 segment, 11 in P3 and distal segment. Twelve (22.6%) aneurysms received sac coiling alone, nine (17.0%) SAC, 1 (1.89%) single stenting, and 31(58.5%) PAO with/without sac embolization. In twelve aneurysms received sac coiling, ten were totally occluded, two were subtotal occlusion, with no procedure-related complication occurred. One recurrence with no rebleeding occurred during follow-up. One case died of a suspicious SAH with no definition. In 31 cases received PAO, 7 (22.6%) cases suffered brain infarction, of which 5 (16.1%) suffered permanent neurologic defect. Of the PAO cases, three recurrences were revealed with no rebleeding in follow-up. In nine SAC cases, two were totally occluded, three subtotal occlusion, four partially occluded, with no complication occurred. Eight aneurysms were stable or improved except one recurrence with no rebleeding during follow-up.

## Conclusions

Our results showed that sac coiling, PAO and SAC are all safe for PCA aneurysm treatment. They suit to different aneurysmal geographic characteristics and should be alternative to each other in treatment of PCA aneurysms.

## Learning Objectives

By the conclusion of this session, participants should be able to: 1) Describe the importance of the three endovascular techniques for PCA aneurysms with different geographic characteristics, 2) Discuss, in small groups, the indication for each technique in PCA aneurysm treatment, 3) Identify an effective treatment strategy with alternative selection form sac coiling, PAO and SAC.