

Ruptured anterior communicating artery aneurysm

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Ruptured [anterior communicating artery aneurysms](#) are heterogeneous [intracranial aneurysms](#) whose diverse morphological features influence treatment modality.

All patients with ruptured ACoA aneurysms in the Barrow Ruptured Aneurysm Trial were included. Clinical follow-up at 1 and 3 years was analyzed; charts were reviewed for patient demographics, aneurysm characteristics, and in-hospital complications.

This cohort included 130 patients (mean age, 52.5 years). Mean aneurysm size was 5.8 mm. Most aneurysm domes projected anteriorly (n = 52). After randomization and crossover, 91 ACoA aneurysms (70%) were clipped and 39 (30%) were coiled. Twenty-two patients (16.9%) initially randomized to coiling crossed over to clipping after evaluation. No patients crossed over from clipping to coiling. Characteristics precluding aneurysms from coiling included unfavorable dome-to-neck ratio, lesions difficult to access by catheter, and branch vessel involvement. Aneurysm size and dome projection were not significantly associated with treatment group, clinical outcome, or retreatment. No significant difference existed in clinical outcome (modified Rankin Scale scores) between groups at discharge or at 1-year or 3-year follow-up using as-treated and intention-to-treat analyses. Retreatment was performed in 3 clipped patients (2.3%) and 3 coiled patients (2.3%).

Ruptured ACoA aneurysms, regardless of size and projection, were safely treated by both treatment modalities in a large-scale randomized clinical trial. Clinical outcomes and stroke rates did not differ significantly in as-treated or intention-to-treat analyses ¹⁾.

An unusual case of bitemporal hemianopsia caused by a large intracranial aneurysm of the ACoA. A 41-year-old woman was admitted to our neurosurgical department with a sudden-onset bursting headache and visual impairment. On admission, her vision was decreased to finger counting at 30 cm

in the left eye and 50 cm in the right eye, and a severe bitemporal hemianopsia was demonstrated on visual field testing. A brain computed tomography scan revealed a subarachnoid hemorrhage at the basal cistern, and conventional cerebral catheter angiography of the left internal carotid artery demonstrated an 18×8 mm dumbbell-shaped aneurysm at the ACoA. Microscopic aneurysmal clipping was performed. An ACoA aneurysm can produce visual field defects by compressing the optic chiasm or nerves. We emphasize that it is important to diagnose an aneurysm through cerebrovascular study to prevent confusing it with pituitary apoplexy ²⁾.

Mishima et al., reported a ruptured anterior communicating artery (ACoA) aneurysm in a patient whose anterior cerebral artery (ACA) arose from the left C3 portion and ascended between the optic nerves. A 50 year-old woman was admitted to our department with complaints of headache and vomiting. CT scan showed thick subarachnoid hemorrhage. Left carotid angiography revealed a saccular aneurysm of the anterior communicating artery and an abnormal vessel which arose from the left C3 portion and terminated in the territory of the ACoA. Surgery was performed about eight hours after subarachnoid hemorrhage. The abnormal vessel was identified as it ascended between the optic nerves. There are only 25 reported cases of this abnormality including our own case. The right carotid artery was the most frequent origin of the abnormal artery (18 cases). 13 aneurysms were associated in 11 cases, in which seven were located in the anterior communicating artery. It was the most frequent site of the aneurysm. There were various explanations for this anomalous ACA. Because of the angiographical and operative findings, we prefer to use “inter-optic course of ACA” as the medical terminology better suited to describe this condition ³⁾.

Ruptured anterior communicating artery aneurysm outcome

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References

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