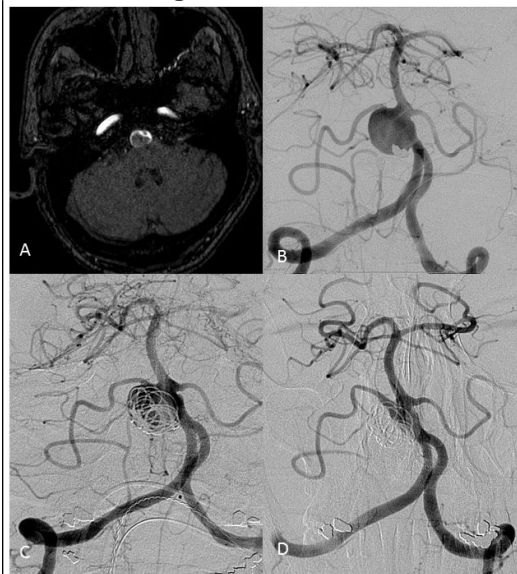


Introduction

Anterior-inferior cerebellar artery (AICA) aneurysms are extremely rare, with 100 cases reported in the literature, often with varying management offered and outcomes observed. Even high volume tertiary care centers see these entities infrequently.

Figure 1: Patient 1



55 year old patient with incidental AICA aneurysm. (A) is the initial MRA demonstrating the aneurysm. (B) PA angiogram demonstrating the aneurysm. (C) s/p Y stenting and deployment of the first coil, (D) 3 month follow up angiogram

Methods

A literature search and retrospective case series of the 3 most recently treated AICA aneurysms was performed. Two dual trained endovascular neurosurgeons treated the 3 aneurysms; one surgeon treated two, while the other treated one. The first AICA aneurysm arose from the AICA origin and basilar artery, measured 14mm, and was incidentally found; the second aneurysm arose from the post-meatal segment at a branch point of the AICA, measured 5mm, and was ruptured; the third aneurysm measured 8mm, arose from the pre-meatal segment, and was incidentally found.

Figure 2: Patient 2

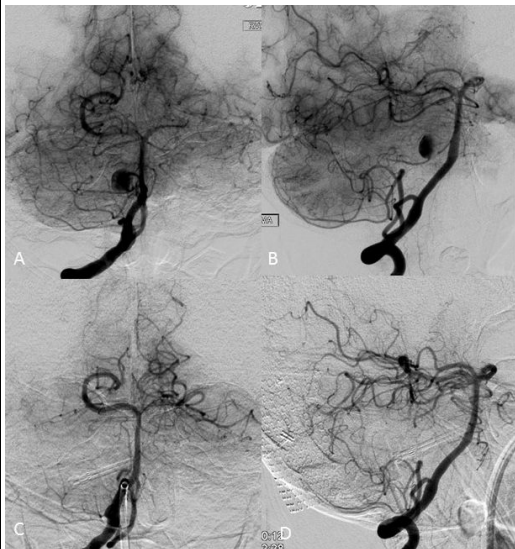


62 year old with distal AICA aneurysm. (A) noncontrasted CTH on presentation. (B) initial angiogram. (C, D) partial and complete n-BCA embolization of aneurysm, with maintained patency of distal vasculature

Results

The first aneurysm was successfully treated with Y-stent-assisted coil embolization, and remained neurologically intact The second patient was successfully treated with n-BCA embolization with a flow-directed microcatheter as a larger coil-compatible microcatheter was unable to be navigated distally in AICA to the aneurysm. Patency of all distal AICA branches was maintained; the patient did well and was neurologically intact. The third patient was successfully treated with surgical clip reconstruction, with maintenance of distal AICA patency; the patient remained neurologically intact.

Figure 3: Patient 3



57 year old with unruptured AICA aneurysm. (A, B) preoperative angiogram demonstrating large AICA aneurysm with contrast stasis; (C, D) postoperative angiogram demonstrating successful clip treatment

Conclusions

AICA aneurysms are extremely rare entities, often requiring a multidisciplinary approach to help determine the best treatment course for individual patients. This case series and literature review helps guide decision-making for the treatment of this heterogenous aneurysm group, utilizing open surgery, modern complex techniques, and the judicious application of liquid embolization techniques.

Learning Objectives

By the conclusion of the session, participants should be able to 1) describe the various types of AICA aneurysms, including AICA origin, premeatal, meatal, and postmeatal types; 2) discuss varying open- and endovascular-treatment options, including the application of aneurysm treatment techniques for aneurysms of more common locations; 3) recognize that despite the heterogeneity of the aneurysm population, excellent radiographic and clinical outcomes may be achieved.