

described.^[1,2] We describe an unusual variant of AComA aneurysm located on the planum sphenoidale.

A 51-year-old previously healthy woman was admitted with a sudden onset of headache. On examination the grade of subarachnoid hemorrhage (SAH) was Grade V (World Federation of Neurological Surgeons). The initial computerized tomography scan revealed widespread SAH with right frontal intracerebral and intraventricular hemorrhage [Figure 1a and 1b]. Three dimensional computed tomography angiography (3D-CTA) revealed an aneurysm located at the AComA complex on the planum sphenoidale. Both A1s had a course to the planum sphenoidale over the tuberculum sellae to join the AComA [Figure 2a and 2b]. The length of the left and right A1s were 20.5 and 16.0 mm, respectively [Figure 2c]. No other aneurysms were identified. Surgical clipping of the aneurysm through the right pterional approach was performed without complication. The aneurysm was located on the planum sphenoidale, but was not adhered to the frontal skull base [Figure 3]. The postoperative angiogram revealed a complete obliteration of the aneurysm [Figure 4]. The patient underwent the ventricular-peritoneal shunt for the hydrocephalus developed two months after the initial SAH. Patient

An unusual variant of the ruptured anterior communicating artery aneurysm located on the planum sphenoidale

Sir,

The anatomy of the anterior cerebral artery (ACA) is highly variable and the variations in the anterior communicating artery (AComA) complex are quite common and are well

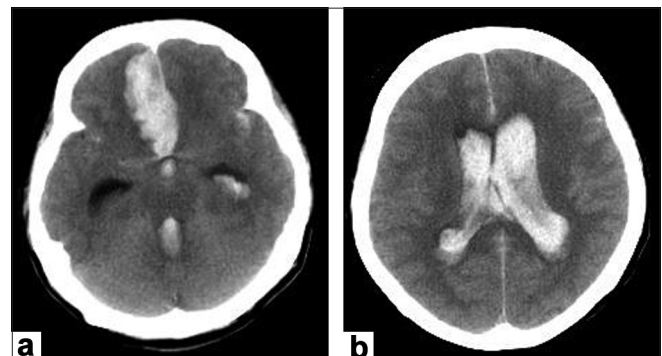


Figure 1: Axial CT scan of the head revealing widespread SAH with intracerebral (a) and intraventricular (b) hemorrhage

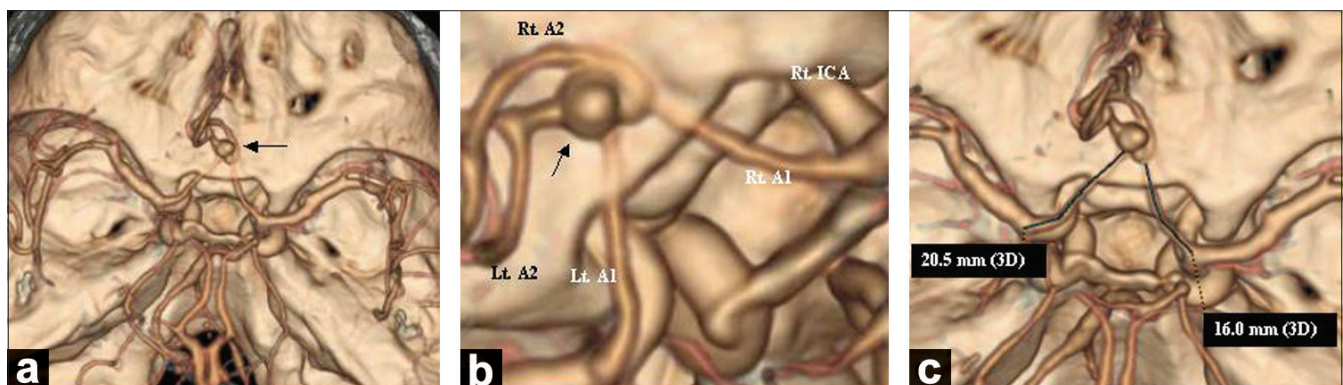


Figure 2: Three dimensional computed tomography angiography images. (a) Superior view of the circle of Willis showing the anterior communicating artery aneurysm (arrow) on the planum sphenoidale. (b) Right supero-anterior view of the A1s-AComA-aneurysm complex (arrow) on the planum sphenoidale. Both A1s travel not tortuously. (c) Lengths of right and left A1s are 16.0 mm and 20.5 mm, respectively. Rt: right, Lt: left, ICA: internal carotid artery

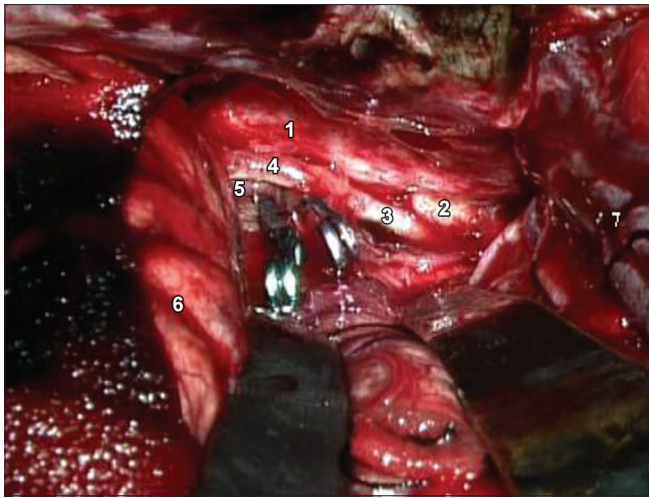


Figure 3: Intraoperative view, right pterional approach. The A1s-ACoM complex is located on the planum sphenoidale. The right A1 passes straight above the right optic nerve to join the left A1 on the frontal cranial base. The neck of the anterior communicating artery aneurysm has been obliterated using two clips. 1. planum sphenoidale, 2. right optic nerve, 3. right A1, 4. right A2, 5. left A2, 6. right frontal lobe, 7. superficial sylvian veins



Figure 4: Postoperative angiogram (right ICA), antero-posterior view. The angiogram revealed a complete obliteration of the anterior communicating artery aneurysm

was left with severe disability because of the initial SAH.

Morphological variations of ACA, including duplicate A1, duplicate or multichanneled ACoM, and failure of pairing of the distal ACA have been frequently reported.^[1-6] However, variations in the location of the ACoM complex have not been well documented in the literature. In the cases of intrasellar aneurysms originating from the ACoM,^[7,8] ACoMs were located above the chiasm or optic nerves. The A1 courses above the optic chiasm or nerves to join the ACoM. The junction of the ACoM with the right and left A1 is usually above the chiasm (70% of brains) rather than above the optic nerves (30%).^[1,2] Of the arteries traversing above the optic nerves, most traverse

above the nerve near the chiasm rather than distally. The arteries with a more forward course are often tortuous and elongated and some of them rest on the tuberculum sellae or planum sphenoidale. The length of A1 varies from 7.2 to 18.0 mm (average, 12.7 mm).^[1,2] In the present case, the course of both the A1s were not tortuous, but were rather straight. The left A1 was 20.5 mm in length, which is probably the longest length ever reported. Preoperative recognition of the location of the aneurysm in our patients helped us to clip the aneurysm without much of intraoperative problems. 3D-CTA is superior imaging modality to magnetic resonance angiography (MRA) and conventional angiography in understanding the relationship between the aneurysm and surrounding structures in spite of the bony artifacts.^[9]

The ACoM aneurysm located on the planum sphenoidale is quite unique. To our knowledge, this ACoM aneurysm variant has not been previously described. The importance of recognizing this variant is related to the planning of surgery in the ACoM region.

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