Microsurgical Clip Ligation of a Recurrent, Previously Ruptured and Coil Embolized Distal Pericallosal Artery (A5) Aneurysm via the Interhemispheric Approach: Dealing with Large Calcifications Along the Superior Sagittal Sinus

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Introduction

- Aneurysm recurrence after coiling is common (15-35%), with retreatment rates as high as 20-25% for ruptured aneurysms.
- Dural calcifications in adults are rare (~1%) and often small in size. Large idiopathic ossifications of the dura are exceedingly rare.

Case Presentation

- 47-year-old woman, heavy smoker, hypertensive, former cocaine user, and with a family history of intracranial aneurysms.
- Two prior SAH episodes:
  - SAH #1 (2 years ago): ruptured distal left ACA/pericallosal (A5) aneurysm, endovascularly coil embolized;
  - SAH #2 (9 months ago): ruptured right MCA bifurcation aneurysm, microsurgically clip ligated.
- Follow-up DSA: 2-mm neck recurrence of previously coiled ACA aneurysm.
- Clip ligation of the recurrent A5 aneurysm via a right frontal interhemispheric approach (see video).
- Large dural calcifications arising from the superior sagittal sinus were encountered and were excised en bloc.
- Postoperative DSA showed complete aneurysm obliteration.
- Uneventful hospital course, discharged on POD#3 with a normal neurologic exam.

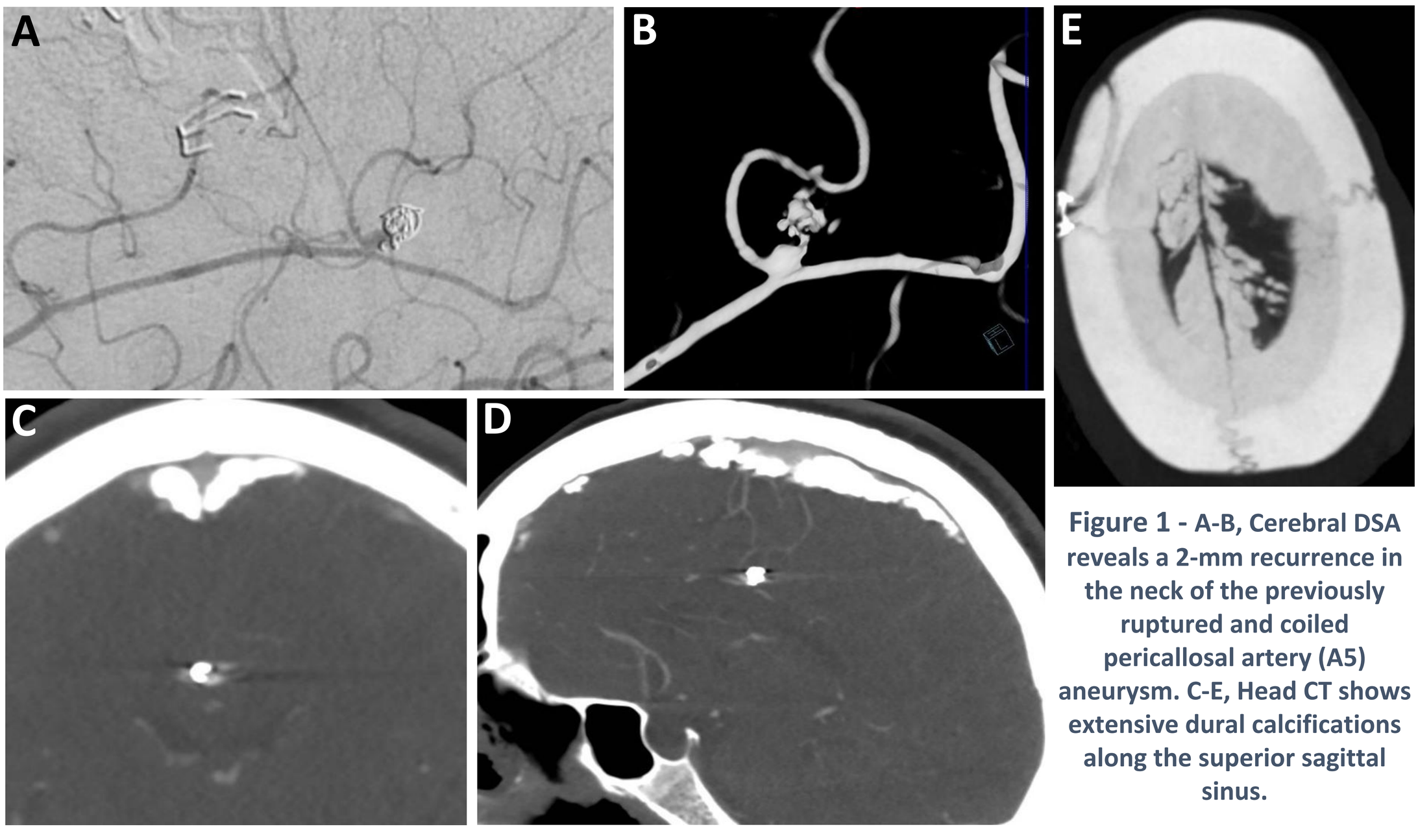

Figure 1 - A-B, Cerebral DSA reveals a 2-mm recurrence in the neck of the previously ruptured and coiled pericallosal artery (A5) aneurysm. C-E, Head CT shows extensive dural calcifications along the superior sagittal sinus.

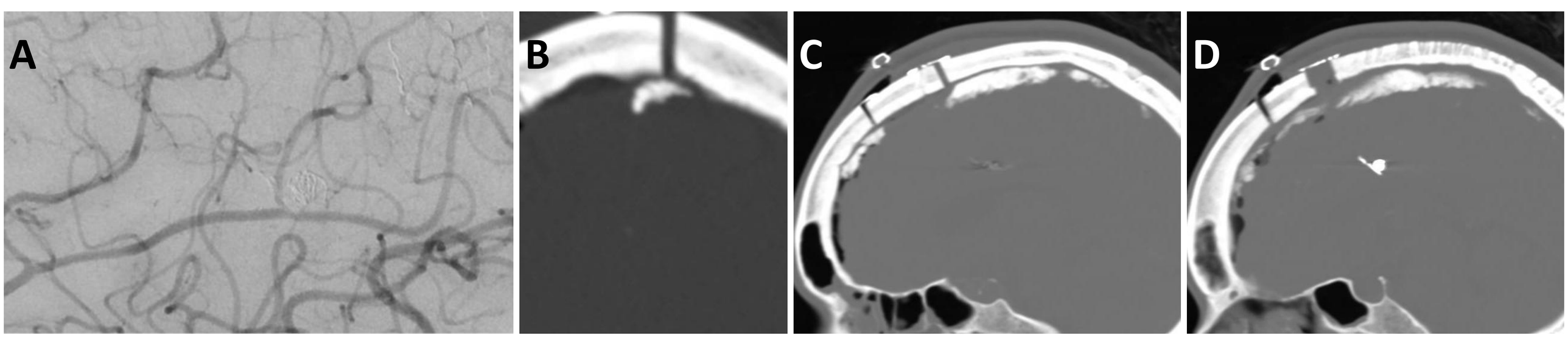

Figure 2 - A, Postoperative DSA shows complete obliteration of the clip ligated aneurysm. B-D, Postoperative head CT demonstrates the right frontal interhemispheric surgical corridor. A sizable portion of dural calcifications has been excised during surgery.

Conclusion

- Large dural calcifications along the superior sagittal sinus can constitute a significant obstacle during the interhemispheric approach to deep brain structures. Excision of those rare lesions can be easily achieved, tremendously facilitating surgery.