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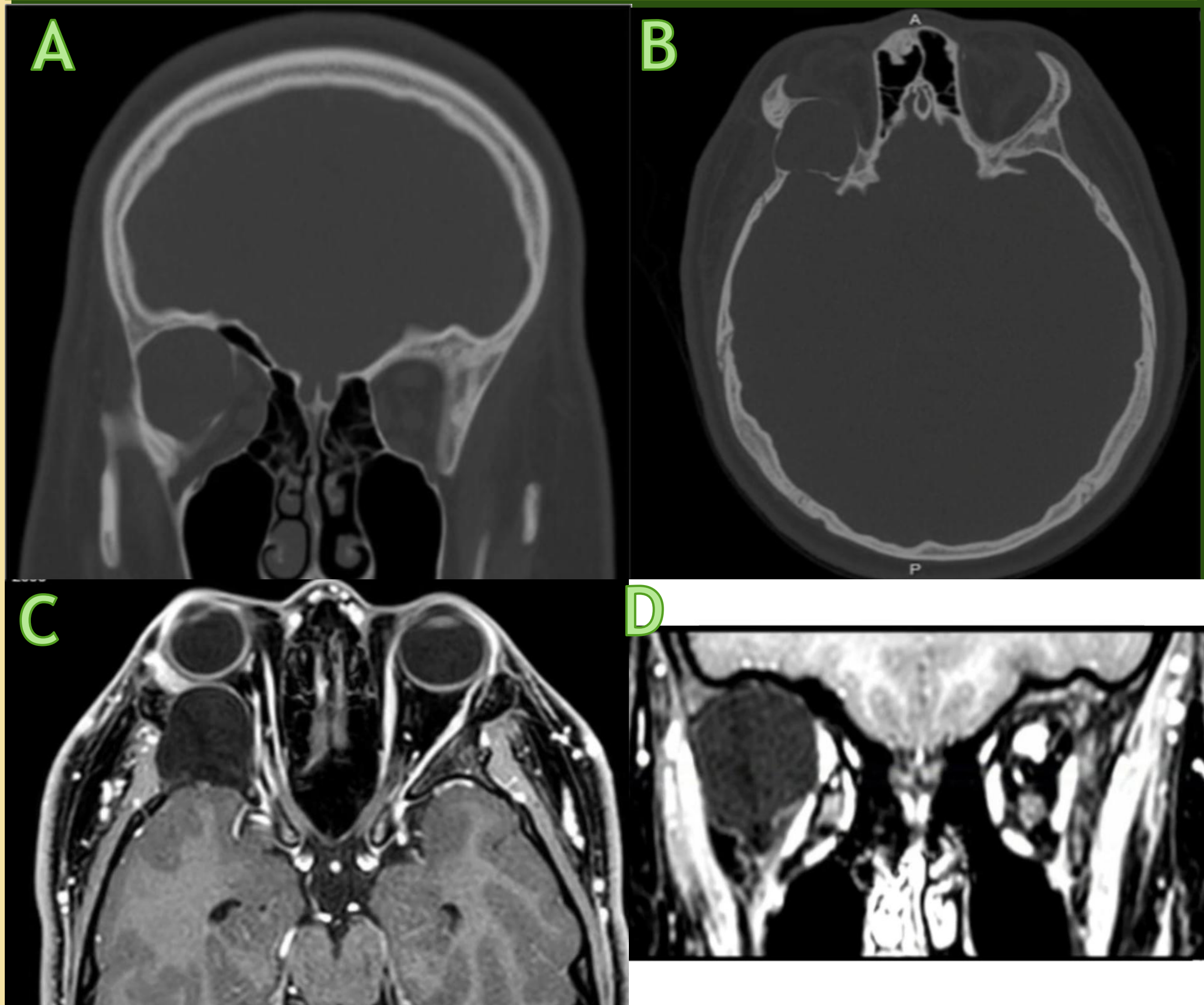
## Abstract

In this case, a young man presented with retro-orbital pressure headaches and right eye proptosis secondary to a sphenoid wing encephalocele. A lateral orbitotomy was performed to directly access the greater sphenoid wing site of dehiscence with minimal bone removal and a 1.5cm lateral canthal incision. The encephalocele was resected back to normal dural edges, and double-layered fascia lata graft was enveloped about the native dural edge to provide a reliable dural repair.

## Patient History

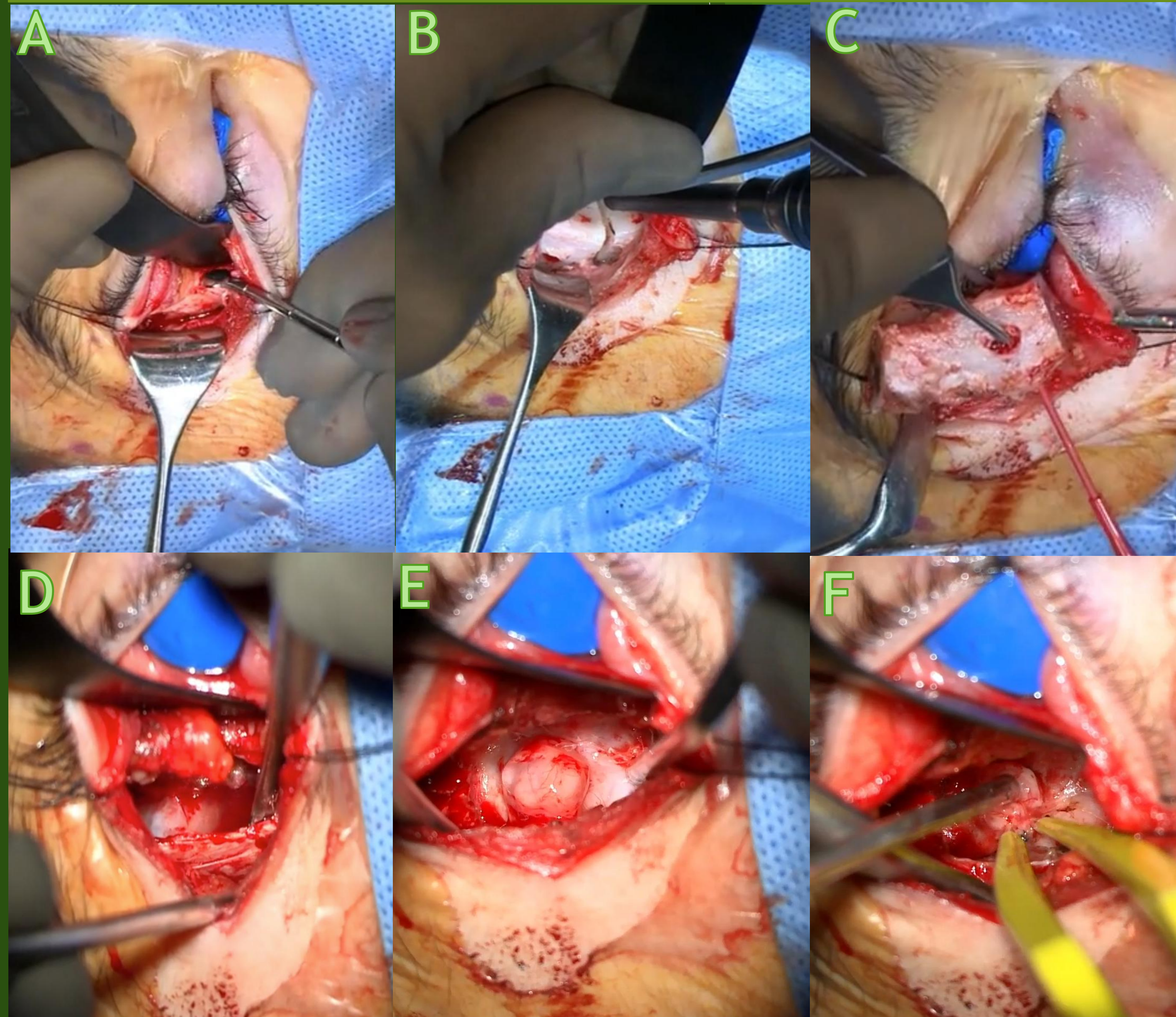
- An 18yo male presented with Right eye proptosis, retro-orbital pressure, and pain with lateral or medial eye movements over a one-year period prompting imaging and subsequent neurosurgical consultation,
- Visual acuity was normal on ophthalmological exam.

## Pre-operative Imaging



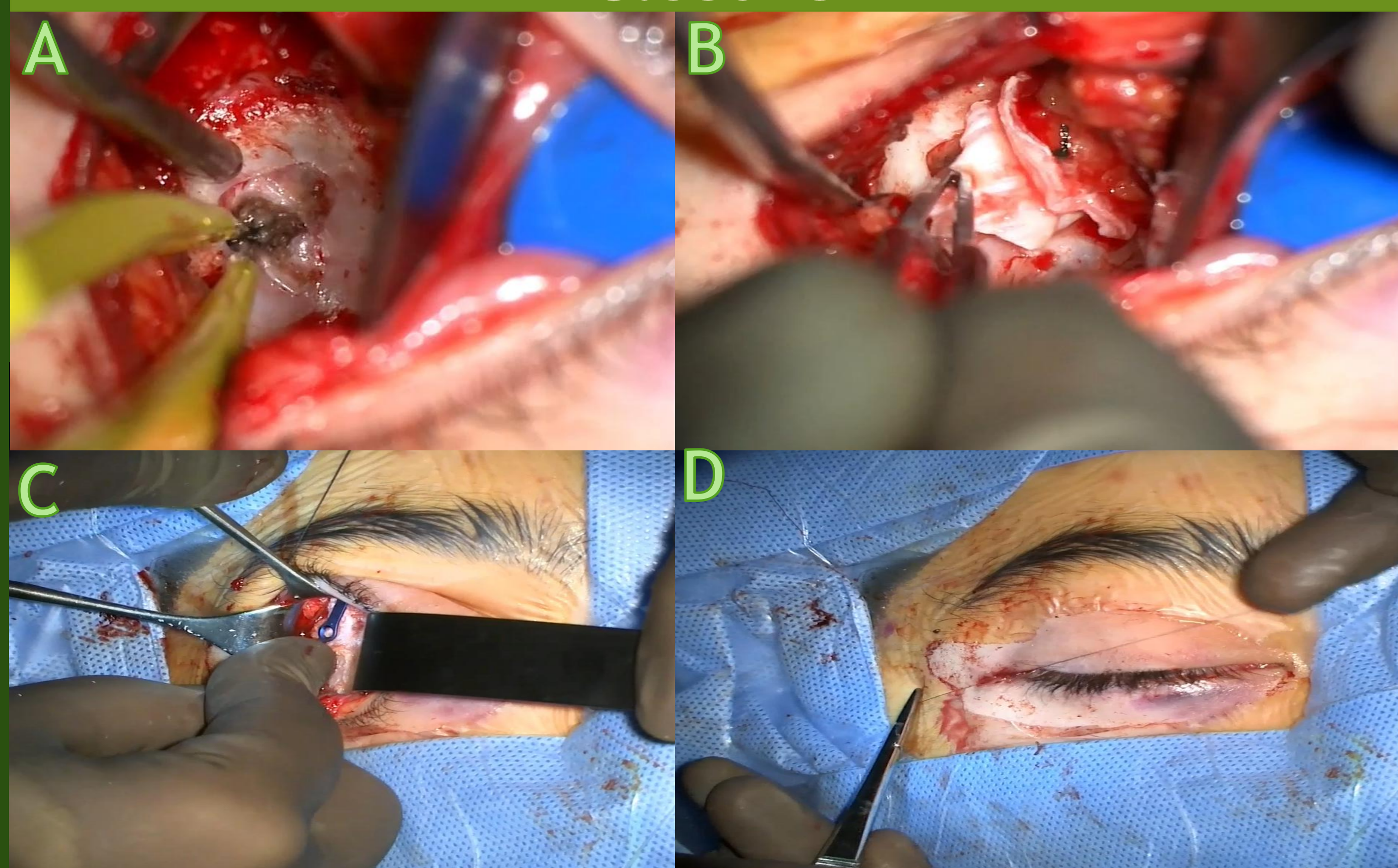
(A) Coronal and (B) Axial cuts of a bone-windowed CT scan demonstrate a lobulated, cystic lesion centered in the right greater wing of the sphenoid with adjacent osseous remodeling and bony thinning. (C) Axial and Coronal cuts of a T1, post-contrast MRI orbits confirms the presence of a right sided cystic lesion emanating from a possible small area of dehiscence in the right greater sphenoid wing. Right orbital proptosis is appreciated, and the right lateral rectus muscle is deviated medially secondary to mass effect from the cystic lesion.

## Operative Approach



(A) A lateral canthal incision is made and the lateral rim of the orbit is exposed. (B) A Sonopet bone saw is used to make cuts inferiorly and then superiorly in the lateral rim of the orbit with the superior cut made just above the frontozygomatic suture. (C) The lateral rim of the orbit is removed in a single piece and detached from the temporalis muscle. (D) A significantly thinned lateral orbital wall is visualized and then rongeured down to the ace of the sphenoid. (E) The encephalocele is visualized protruding through the sphenoid bone. (F) The encephalocele was peripherally cauterized and shrunk down prior to excision.

## Closure



(A) The site of origin is cauterized back to normal underlying dural. (B) A button-type, 2-layer fascia lata graft is used for closure with the inner layer placed underneath the dural edge and the outer layer placed over the overlying bone. This was supplemented with dural glue as well as a fat graft to fill dead space prevent recurrent CSF leaking. (C) The lateral rim of the orbit was replaced and secured with micro titanium plates. (D)The small lateral orbitotomy incision is closed with a single layer subcutaneous absorbable suture.

## Post-operative Course

- The patient was discharged home on post-operative day 3 with no new deficits.
- At 3 week follow up, there was some demonstrated improvement in visualized proptosis. The patient also noted improvement in prior discomfort with lateral and medial eye movements.

## Contact

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