



Endoscopic Endonasal Transcavernous Transoculomotor Triangle Approach for the Resection of a Knosp 4 Pituitary Adenoma

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Abstract

Objectives The current video presents the nuances of the endoscopic endonasal transcavernous transoculomotor triangle approach for the resection of a Knosp 4 pituitary adenoma protruding through the superior wall of left cavernous sinus.

Design The video analyzes the clinical presentation, preoperative workup, and imaging, surgical steps and technical nuances of the surgery, the clinical outcome, and follow-up imaging.

Setting The patient was treated by a skull base team with bimanual, three- to four-handed endoscopic technique.

Participants The patient was a 54-year-old male with a Knosp 4 prolactinoma presented with headaches and blurred vision in both eyes for 3 weeks. He was managed with endoscopic surgery due to his preference of surgery as a rapid primary therapy to relieve mental stress of an invasive brain tumor after awareness of all therapeutic options, including the preoperative medical treatment.

Main Outcome Measures The main outcome was measured in the following aspects, including the resection extent, the symptoms improvement, the radiological and endocrinological follow-up results, as well as the postoperative course of complications.

Results Nearly gross total resection was achieved with one-stage endoscopic surgery. The patient recovered well with improved headaches. Postop oculomotor deficit was recovered in 2 months. Endocrinological remission was kept for 12 months with one pill of bromocriptine daily.

Conclusion The endoscopic endonasal transcavernous transoculomotor triangle approach is an appropriate option for resecting Knosp 4 pituitary tumors with intracranial extension through the roof of cavernous sinus at one stage.

The link to the video can be found at <https://youtu.be/-YJ2PKP9voY>.

Keywords

- ▶ endoscopic endonasal
- ▶ cavernous sinus
- ▶ oculomotor triangle
- ▶ pituitary adenoma



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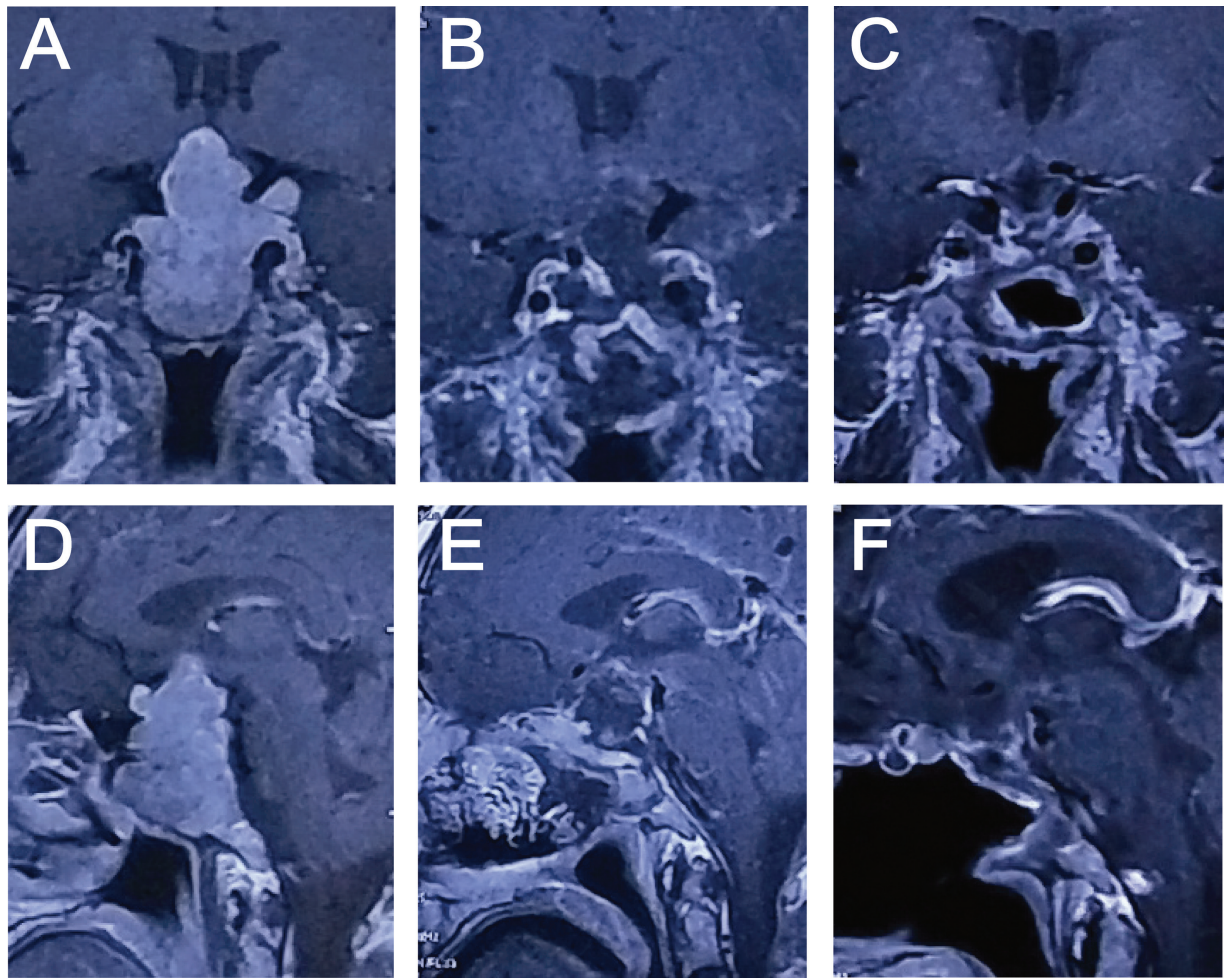
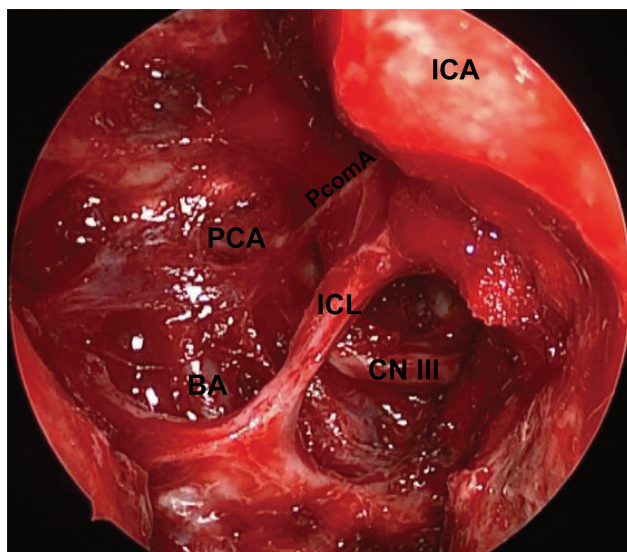


Fig. 1 Patient's magnetic resonance imaging (MRI). Preoperative (A, D), 2 days postoperative (B, E), and 3 months postoperative (C, F) MRIs with coronal and sagittal views showing the removal of a Knosp 4 pituitary adenoma with left cavernous sinus invasion.



Conflict of Interest
None declared.

Fig. 2 Intraoperative image showing the superior and lateral exposure through oculomotor triangle and the essential neurovascular structures in this area during tumor resection.