



Endoscopic Endonasal Approach with Selective Medial Wall Resection for an ACTH-secreting Pituitary Adenoma



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Case Presentation

This is a case of a 38/F patient with Cushing's disease undergoing an endoscopic endonasal transsellar and parasellar approach for an adenoma resection. After evaluation of tumor involvement of the posterior pituitary lobe and adjacent medial wall of the cavernous sinus, careful dissection allowed complete removal of the adenoma with selective medial wall resection. Successful preservation of the pituitary gland and surrounding neurovascular structures was achieved.

Figure 1. MRI reveals a small nodule in the posterior pituitary gland (in green)



Surgical Technique

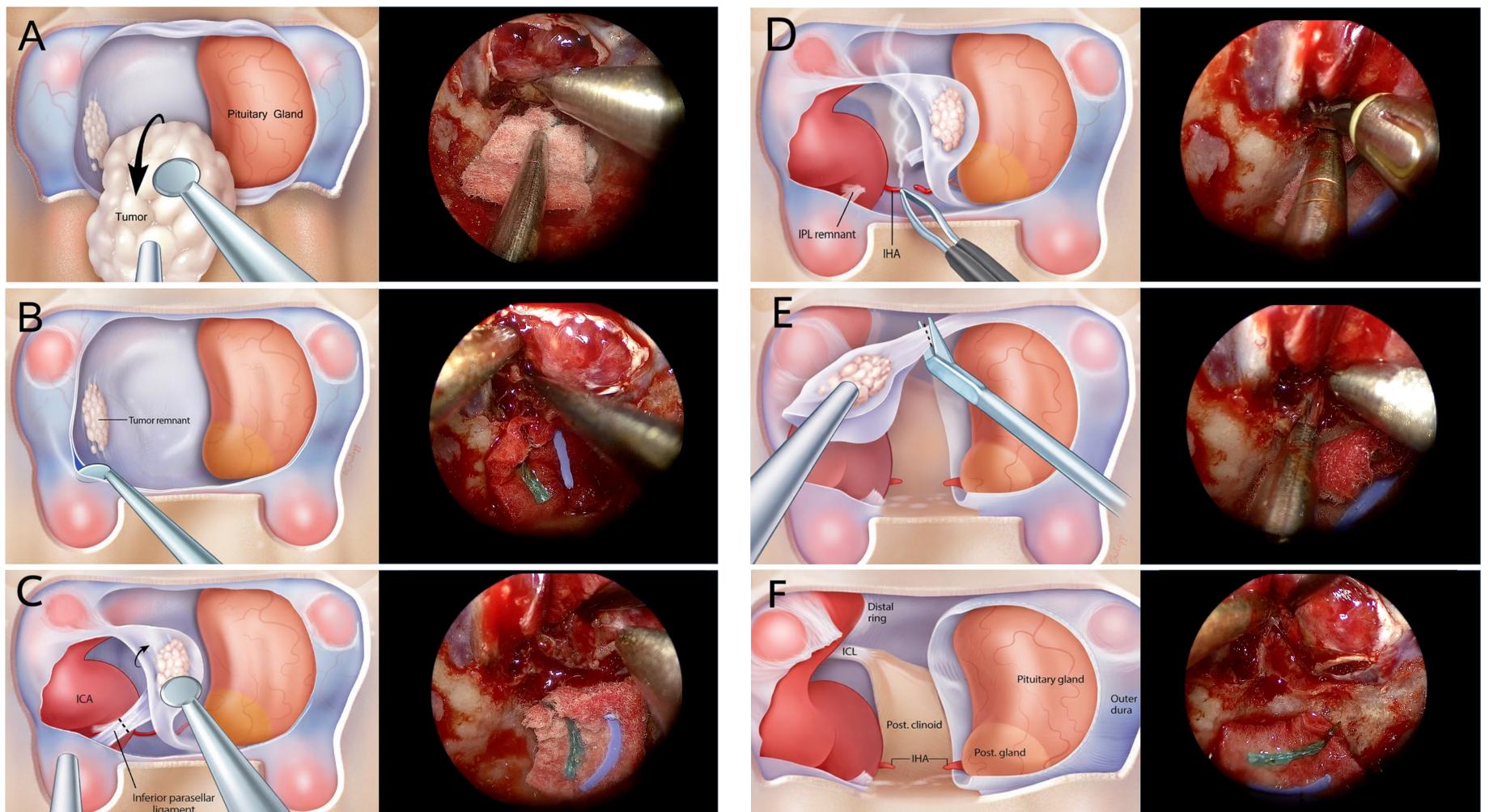
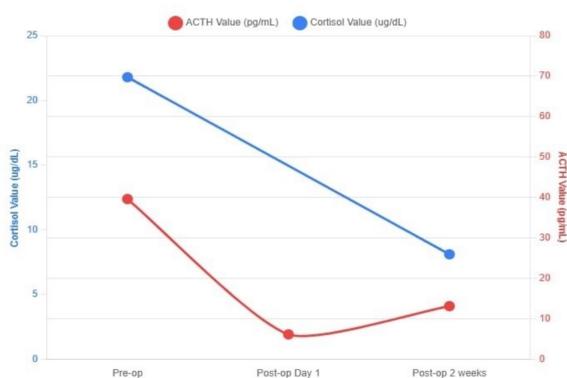


Figure 2. Sequential steps for this endoscopic endonasal technique with side-by-side medical illustrations to highlight relevant surgical anatomy for selective cavernous sinus medial wall resection. After wide bilateral parasellar region sphenoidotomy, sellotomy, and sellar durotomy performed, **A**, a right posterior lobe adenoma confirmed with frozen section was resected. **B**, Tumor invasion into the right medial cavernous sinus wall grossly identified. **C**, Anterior wall of the right cavernous sinus opened and inferior parasellar ligament (IPL) identified and cut to allow mobilization of medial wall away from the internal carotid artery (ICA). **D**, Inferior hypophyseal artery (IHA) encountered, ligated, and cut. **E**, After medial wall detachment from sellar attachments, a selective medial wall resection is performed below the level of the caroticoclinoid ligament (CCL), not shown. **F**, Margins around the resection cavity carefully inspected to ensure no residual tumor. Here the posterior clinoid is revealed where the interclinoid ligament (ICL) is attached, showing no residual tumor in the posterior wall of the cavernous sinus.

Conclusions

SCAN
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The patient tolerated the procedure well with no complications, discharged on the 3rd post-operative day. Pathology confirmed corticotroph adenoma/pituitary neuroendocrine tumor (PitNET) in both the posterior pituitary lobe lesion and the partial medial wall resected. Post-operative imaging showed no complications, achieving gross total resection. The patient showed subsequent clinical improvement consistent with biochemical remission, documented on hormonal workup day 1 and 2-weeks post-operative hormone levels workup.

Figure 3. ACTH and cortisol levels showing biochemical remission

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