

Endoscopic Endonasal Medial Orbital Decompression and Orbital Apex Tumor Biopsy

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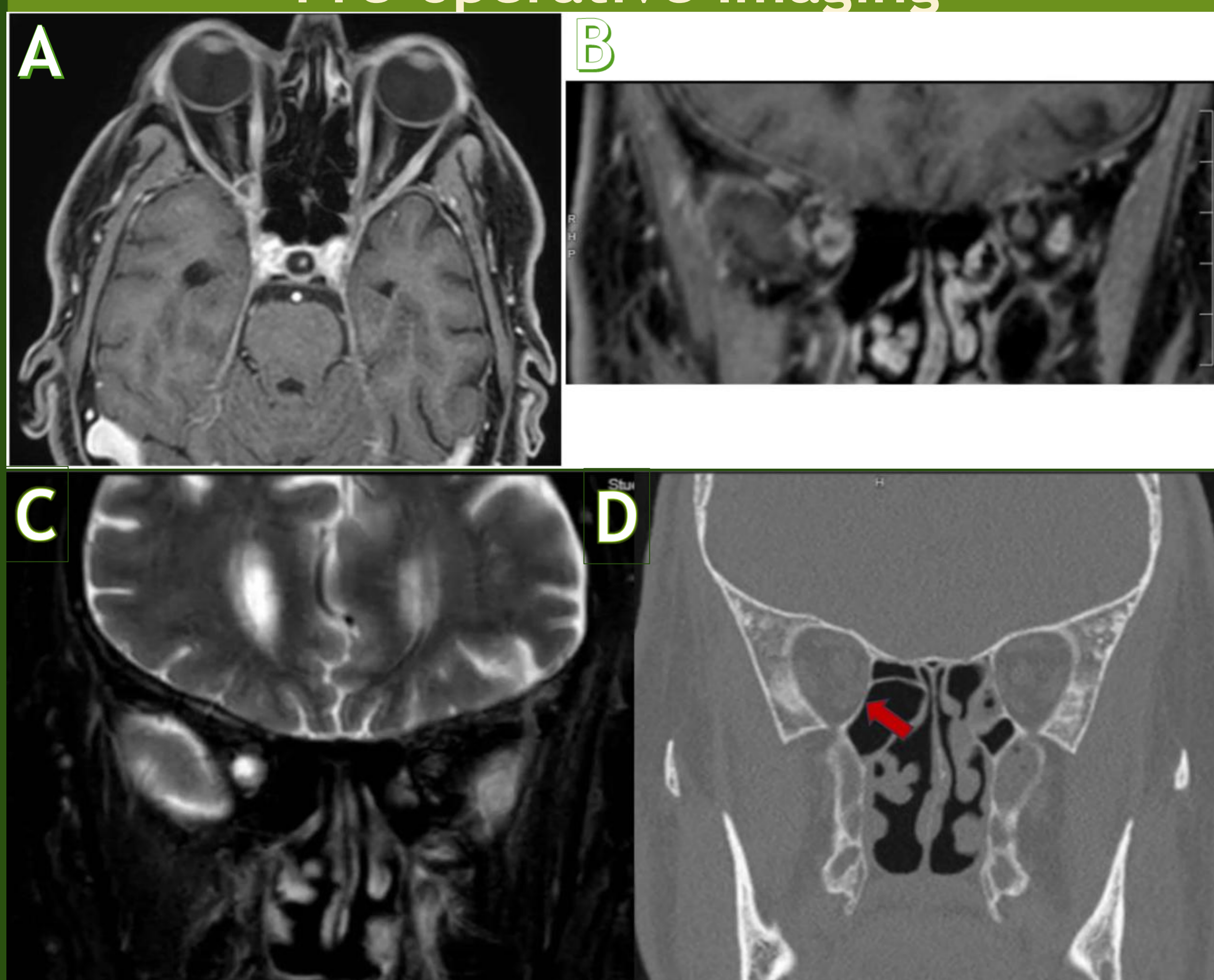
Abstract

The trans-ethmoidal, trans-lamina papyracea approach is a unique endoscopic endonasal approach to the medial orbit. It affords surgical access to the inferomedial quadrant of the orbit without significant disruption to otherwise structurally and/or cosmetically integral orbital boundaries. In this case, the approach is exploited to enter the inferomedial orbit, transgress the plane between the medial and inferior rectus muscles, and decompress the optic nerve by resecting an offending medial orbital apex tumor.

Patient History

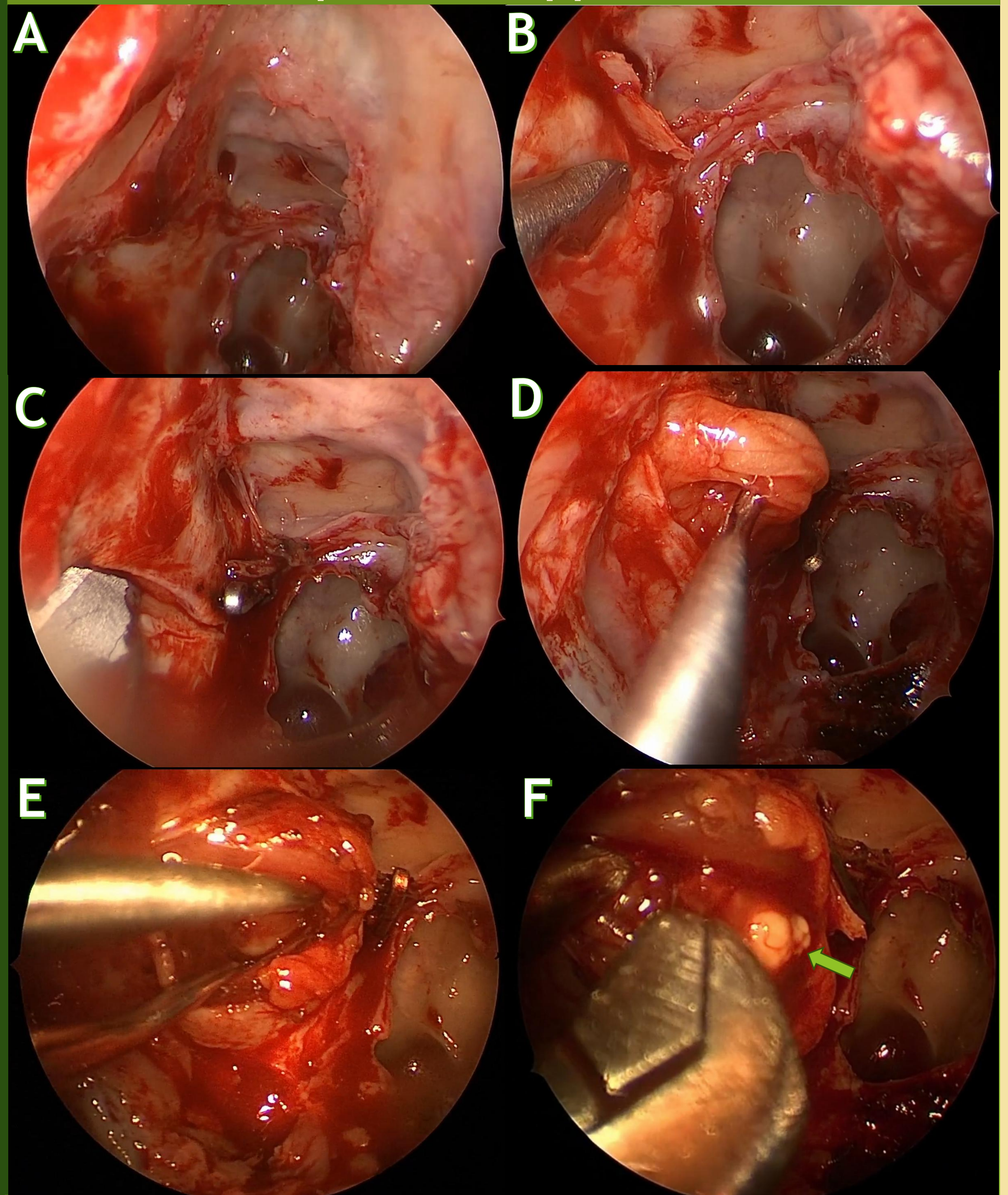
- A 70-year-old male presented with progressive right eye vision loss over a period of several months.
- He was found to have a right orbital apex mass with compression of the optic nerve.
- Initially, the patient opted for medical management and experienced some improvement on high dose steroids.
- However, vision further deteriorated to a point of complete blindness with no light perception, and the patient opted to pursue surgery.

Pre-operative Imaging



Axial (A) and Coronal (B) Pre-operative MRI Orbits demonstrates an enhancing orbital apex mass with some central cystic component. **C) A T2 weighted coronal MRI** demonstrates a T2-bright lesion situated in the inferomedial most aspect of the orbital apex. **D) A coronal bone-windowed CT sinuses** is displayed to the right with a red arrow identifying the lamina papyracea, the bony boundary of the medial orbit through which the endonasal endoscopic approach can be carried out in this case.

Operative Approach



(A) A trans-ethmoidal view of the right skull base is achieved with wide exposure of the lamina papyracea. **(B)** The lamina papyracea is in-fractured to expose a wide surface of medial periorbital fat. **(C)** The periorbital fat is sharply opened to expose the periorbital fat. **(D)** The periorbital fat is bluntly teased off the underlying medial and inferior rectus muscles. **(E)** The plane between the medial and inferior rectus muscles is widened to expose the target lesion. **(F)** Tumor (arrow) is grasped and resected in a piecemeal fashion until no additional tumor tissue is visualized between the medial and inferior rectus muscles.

Post-operative Course

- The patient was discharged home on post-operative day 1 with return of light perception in the right eye and return of ability to detect moving objects with the right eye.
- He continued high dose prednisone pending further improvement.
- Pathology revealed a spindle celled tumor with a high mitotic rate favored to represent a peripheral nerve sheath tumor of the optic nerve.

Contact

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