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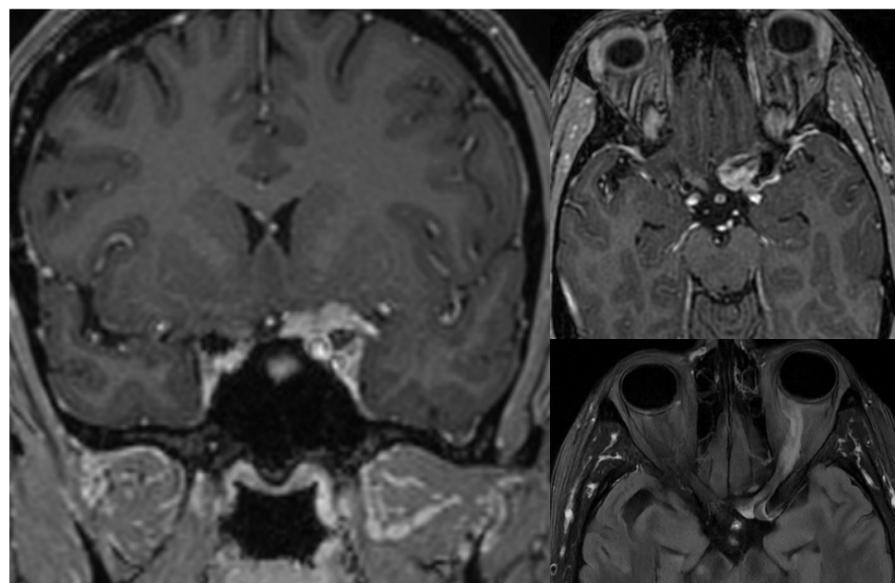
## Introduction

- The endoscopic endonasal approach (EEA) is a common minimally invasive technique to treat conditions of the skull base, sellar region, orbit, and sinuses.
- Sinusitis is an uncommon complication of EEA, with an occurrence of 1-2%.<sup>(1)</sup>
- The optic nerve courses from the posterior globe, through the orbit, and the optic canal, which is adjacent to the sphenoid sinus.
- Optic neuritis, which presents as eye pain, photophobia, and visual loss, is a rare complication of sinusitis.<sup>(2-4)</sup>
- Optic neuritis can occur secondary to demyelination, ischemia, infiltration, compression, and trauma; while only rarely reported to occur secondary to direct spread of local infection.
- Here we report the first case of optic neuritis secondary to sinusitis after an endoscopic endonasal approach for optic nerve decompression.

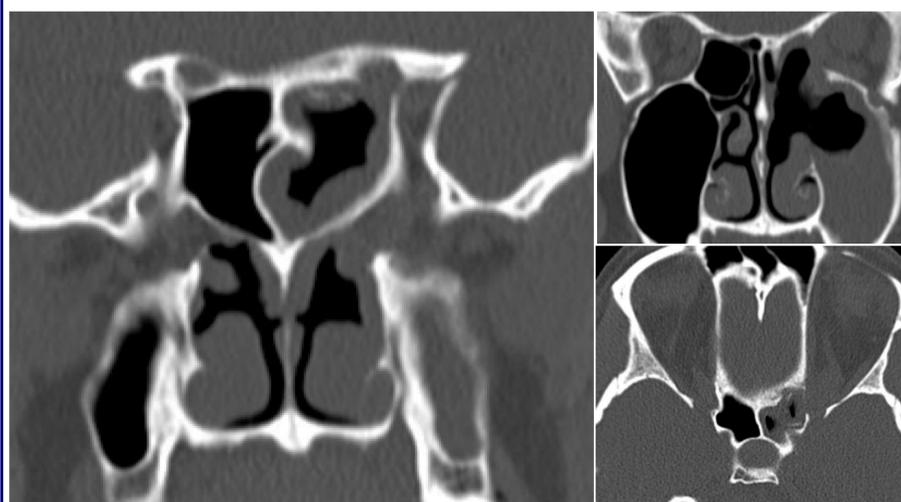
## Case Report

- The patient presented after two years of progressive left sided visual loss.
- An MRI demonstrated a homogeneously enhancing lesion of the left optic nerve sheath extending to the clinoid process, consistent with an optic nerve sheath meningioma (Fig. 1).
- EEA was performed for optic nerve and left orbital apex bony decompression in preparation for radiosurgery.
- The surgery was uneventful and the periorbita and nerve sheath were left intact.
- On post-operative day eight the patient was seen for routine follow-up in otolaryngology clinic and reported having improvement of their vision and normal nasal endoscopy.
- Fractionated radiation therapy (50.4Gy/28fx) was performed starting one month post-operatively.
- Four months after surgery the patient developed left eye pain, facial pain, headache, and worsening left sided visual decline.
  - CT Sinus was obtained at outside hospital (Fig. 2) and patient was discharged with course of antibiotics for presumed sinus infection.
- During urgent follow-up in otolaryngology clinic mucoid discharge was noted on nasal endoscopy concerning for underlying infection.
  - Endoscopic debridement was performed and cultures were taken. The patient was started on a course of Augmentin and Prednisone.
- Cultures subsequently demonstrated methicillin resistant staphylococcus aureus.
  - The patient was transitioned to a course of Bactrim.
- Repeat endoscopy demonstrated resolution of drainage.
- The patient was successfully treated with a course of Bactrim, Prednisone and Budesonide irrigations with improvement in their facial pain and visual changes.
- At most recent follow-up, the patient had no recurrence of their symptoms.

## Images



**Figure 1:** Pre-operative MRI Brain (coronal and axial post-contrasted images (left and upper-right) and FLAIR (lower-right)). Demonstrating a homogeneously enhancing lesion of the left optic nerve sheath extending to the clinoid process consistent with an optic nerve sheath meningioma with resulting optic nerve edema.



**Figure 2:** Post-operative CT Sinus images obtained demonstrating mucosal thickening involving the maxillary sinus, ethmoid air cells, and the left sphenoid sinus adjacent to the left orbital wall bony decompression and optic nerve.

## Conclusions

- **To our knowledge we are the first to report optic neuritis occurring secondary to sinusitis after an endoscopic endonasal approach for optic nerve decompression.**
- **Successful treatment can be achieved with a combination of debridement, antibiotics, and steroids.**

## References

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