Spheno-tubercular-planum meningiomas with vision changes - importance of optic nerve decompression in optic canal

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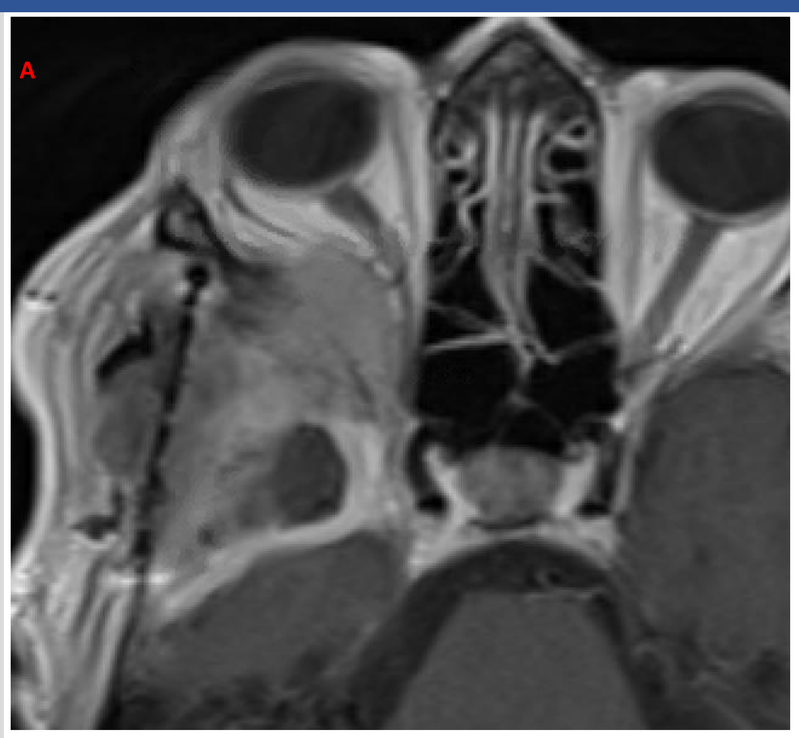

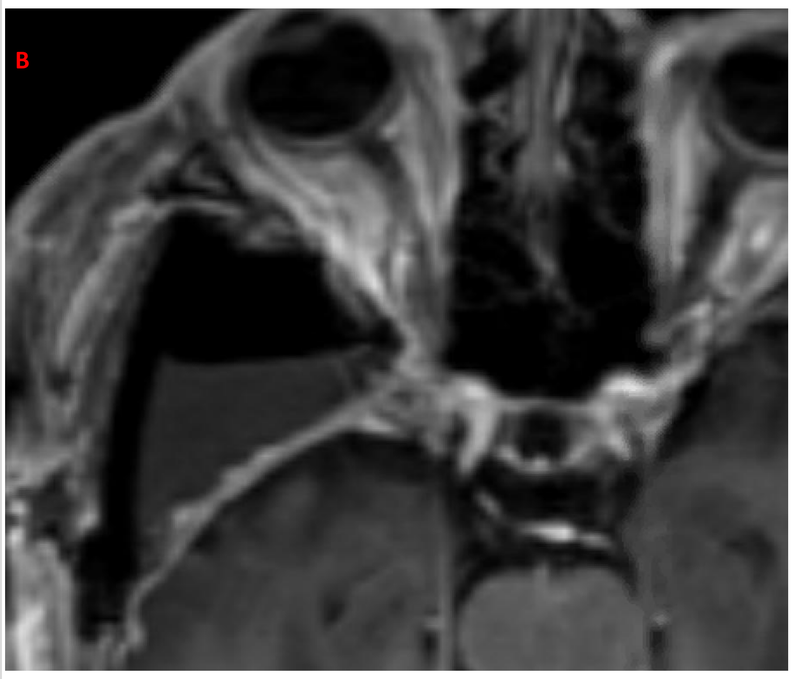

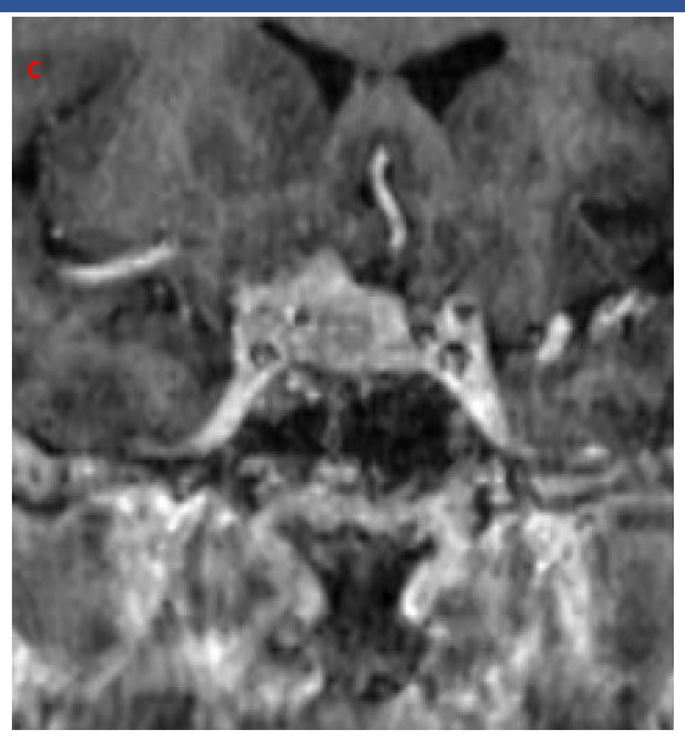

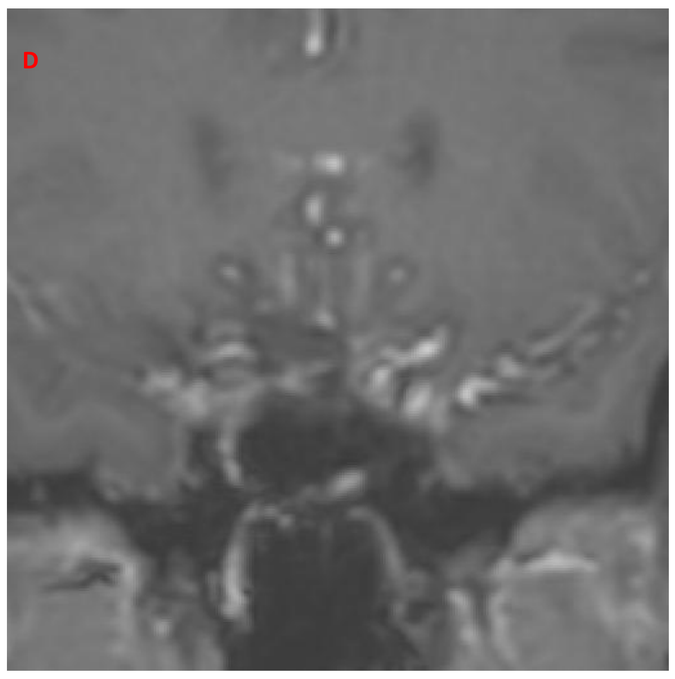

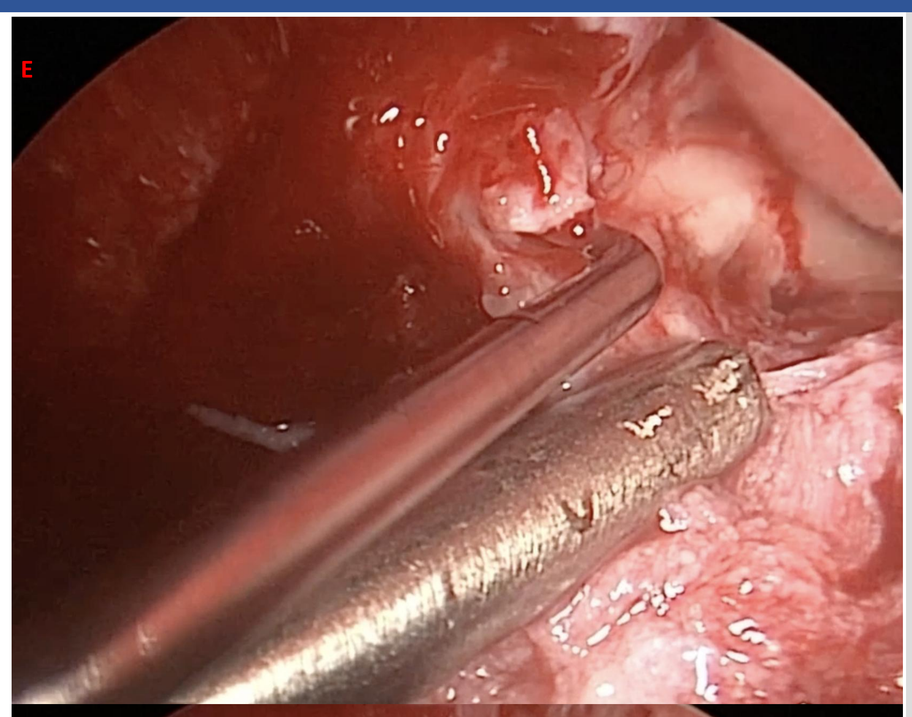

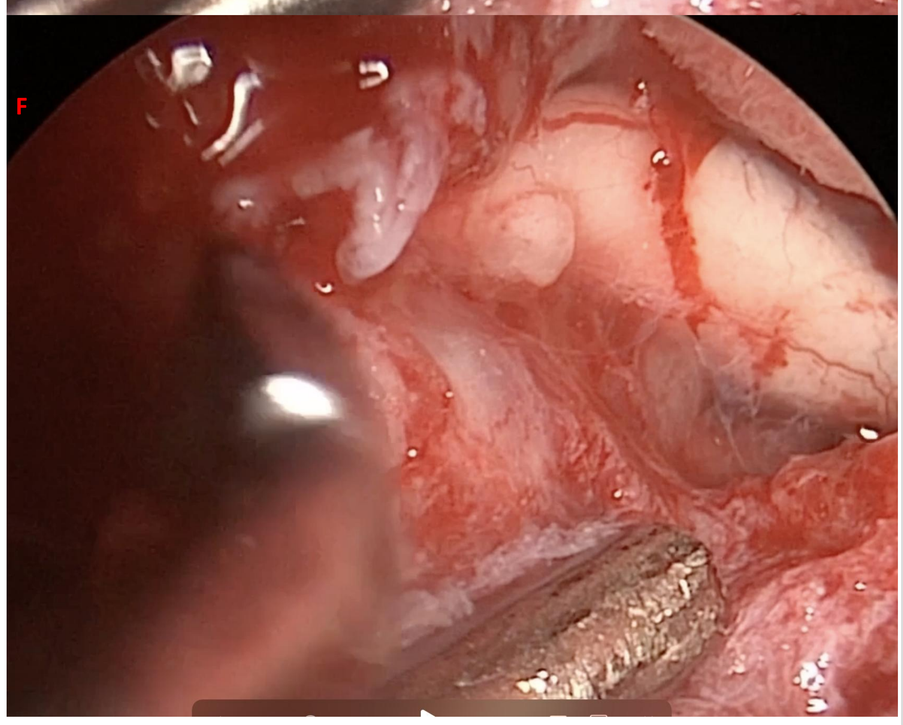

Introduction

Spheno-tuberculum-planum (STP) meningiomas usually present with vision changes due to optic nerve compression, either from soft tumor compression in the cerebrospinal fluid spaces or due to hyperostosis of bony optic canal. It is critical not only to decompress the cisternal portion of the nerve but also to decompress the bony optic canal to help preserve or improve vision.

Methods and Materials

A retrospective analysis of the cases performed by the author in past 6 months were reviewed and 3 cases were identified with STP meningiomas with vision changes.

Results

2 out of 3 patients had been operated on before presenting to primary author. First patient had initially been presented to an outside hospital (OSH) with a large STP meningioma. She underwent a staged transcranial and endoscopic endonasal approach for removal of the majority of soft tumor.

Results

Unfortunately, a layer of soft tumor was left along the parasellar carotid and optic canal and no bony decompression was performed from either approach. Patient presented with tumor progression and worsening vision. She underwent expanded endoscopic endonasal approach for resection of residual tumor. At the same time, bilateral optic canal decompression with optic nerve sheath opening was performed. Second patient presented with STP meningioma and vision changes and found to have a large tumor with significant anterior clinoid hyperostosis, narrowing of bony optic canal, intra-orbital soft tumor and involvement of middle cranial fossa. A transcranial approach was adopted at the OSH but no bony decompression was performed and intra-orbital portion of the tumor left (A). Patient presented with progressively worsening vision loss and tumor recurrence. She was also noted to have a large intracranial loculated abscess. She underwent redo transcranial approach (B) for anterior clinoidectomy, decompression of superior orbital fissure and maxillary strut resection along with resection of soft tumor from the orbit and drainage of abscess.

Results

Third patient (C, D) presented with STP meningioma with significant optic canal narrowing and soft tumor compressing the optic nerve. She underwent her naïve expanded endoscopic endonasal approach for removal of soft tumor in sphenoid sinus, tuberculum and planum. Further, extensive bilateral bony optic canal decompression was performed along with nerve sheath opening (E, F). All patient noted subjective improvement immediately post-op. 2 patient who had neuro-ophthalmological exams post-op, demonstrate stable vision loss while the exam on third patient is pending.

Conclusions

Patients presenting with spheno-tuberculo-planum meningiomas with optic canal narrowing should undergo bony optic canal decompression. Patients undergoing transcranial approach should have optic canal decompression with anterior clinoidectomy. Similarly, for those undergoing endoscopic endonasal approach should also have bony optic canal decompression along with resection of tuberculum and planum. This provides the patients with the best chances of vision preservation and improvement

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