Bitemporal hemianopia as a presentation of pituitary macroadenoma

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Introduction

Pituitary adenomas can be broadly classified as functioning or nonfunctioning. Functioning adenomas typically present with symptoms associated with excess hormone release. Nonfunctioning adenomas often present with symptoms due to mass effect including headaches and vision changes. (1,3)

Case Presentation

A 36 year old male without significant past medical history and ocular history of optic disc drusen and keratoconus presented with complaints of decreased vision and worsening headaches

Visual complaints had previously been attributed to optic disc drusen; when symptoms worsened to include headaches, he was referred to neuro-ophthalmology

History revealed progressive decrease in vision and increased clumsiness and tunnel vision

Humphrey 24-2 perimetry revealed dense bitemporal hemianopia worse superiorly suggesting inferior chiasmal syndrome

OCT revealed bilateral marked RNFL thinning

MRI revealed large sellar mass with suprasellar extension and inferior chiasmal compression

Transsphenoidal resection was performed by neurosurgery and ENT with return to OR for additional debulking 2 days later

Histopathology revealed the mass to be of gonadotroph lineage

On follow up he had improved visual acuity and color perception. Only minor improvement on visual field testing was seen likely due to chronicity of compression

He may need adjuvant therapy including radiation

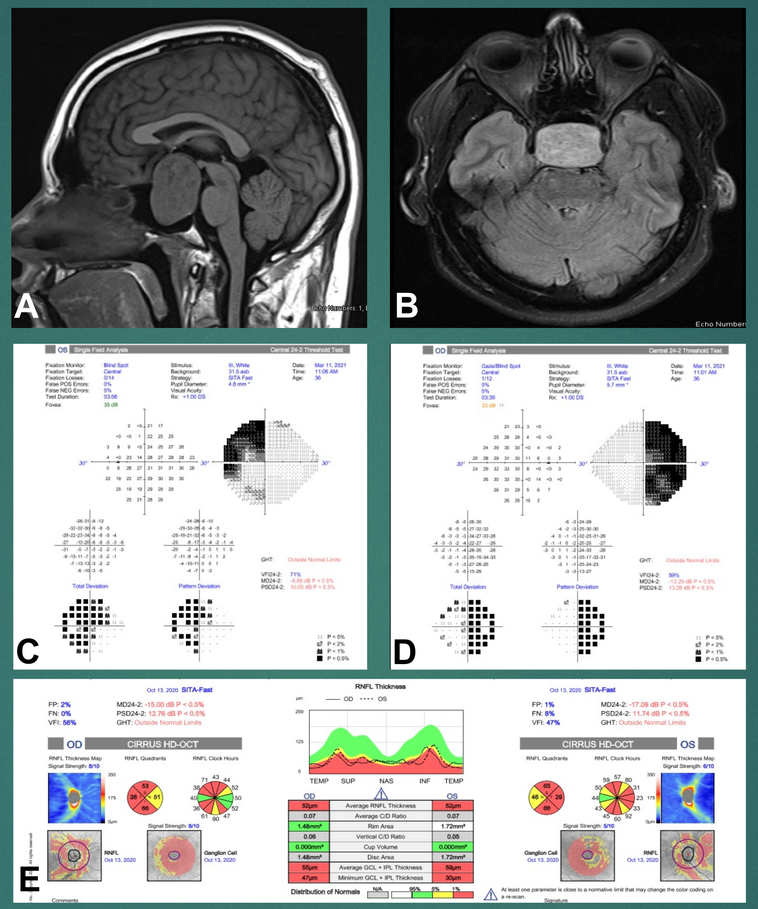

Figure 1A: pre-operative sagittal T1 MRI showing large pituitary mass. 1B: pre-operative axial T1 MRI through pituitary lesion. 1C and 1D: classic bitemporal hemianopia illustrated on perimetry testing. 1E: OCT illustrating ganglion cell loss

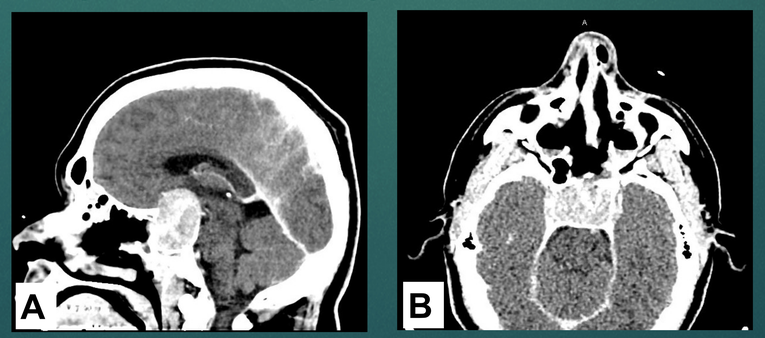

Figure 2A: post-operative sagittal CT with decreased lesion size; 2B: post-operative axial CT

Discussion

Pituitary adenomas are benign neoplasms that account for 10-15% of all diagnosed intracranial masses. Exact prevalence is unknown but one systematic review found 22.5% prevalence on radiographic studies. (2) The majority are microadenomas of no clinical significance. They can be of corticotroph, gonadotroph, lactotroph, somatotroph or thyrotroph cell origin. Lactotroph adenomas (prolactinomas) are the most common followed by nonfunctioning adenomas. (1)

Conclusion

Once diagnosed the ophthalmologist should refer to a multidisciplinary team to manage definitive medical and/or surgical treatment including neurosurgery and endocrinology. The ophthalmologist plays a key role in both diagnosing and then monitoring response to therapy via regular eye exams including color vision testing, visual acuity and visual field testing. (3)

References

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