CASE REPORT

TUBERCULUM SELLAE MENINGIOMA CAUSING VISUAL IMPAIRMENT- VISUAL RECOVERY AFTER TUMOUR RESECTION

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ABSTRACT: A 41-year-old woman presented with sudden progressive loss of vision in the right eye since 10 days and frontal headache since 5 days. Patient had no history of any trauma, vomiting and seizures. After Patient's ophthalmologic, neurosurgery evaluation was diagnosed to have Tuberculum sellae meningioma which caused vision loss. After surgery, patient's best corrected visual acuity improved from perception of light and projection of rays to 6/9.

INTRODUCTION: Meningiomas of anterior skull account for 40% of all intracranial meningiomas. ^[1] 25% of these are tuberculum sellae (TS) tumors with three times more female preponderance and usually diagnosed in the fourth or fifth decade. ^[2] Meningiomas of the TS (member of a group called "parasellar meningiomas") arise from the limbus sphenoidale, chiasmatic sulcus and tuberculum. ^[3]

Patients with TS meningiomas present visual symptoms mimicking a pituitary macroadenoma. So, correct diagnosis and management require appreciation of clinical, neuroimaging and surgery related features that distinguish TS meningiomas from other tumors. Patients with TS meningiomas present with either monocular or binocular visual loss which is the most common symptom. These tumors present with gradual visual deterioration secondary to optic chiasma compression and if untreated complete blindness may occur. Many neurosurgeons reported TS meningiomas have a high tendency to extend into the optic canal regardless of their size. ^[4, 5]

Here, we like to report one such case where early intervention by us saved patient losing vision permanently.

KEYWORDS: Tuberculum sellae meningioma, Parasellar meningiomas, Vision loss, Optic canal involvement

CASE REPORT: A 41-year-old woman presented with sudden progressive loss of vision in the right eye since 10 days and frontal headache since 5 days. Patient had no history of any trauma, vomiting and seizures. The results of general physical examination were unremarkable.

Patient's best corrected visual acuity (BCVA) was perception of light and projection of rays was good in all the four quadrants. Patient was further evaluated with slit lamp

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biomicroscopy and fundoscopy. Anterior segment examination revealed normal anterior chamber, good pupillary reaction to both direct and indirect light with no cataract changes under slit lamp biomicroscopy. Fundoscopy revealed slight pallor in the optic disc with clear margins and normal foveal reflex. Patient was sent to neurosurgeon for further evaluation.

Enhanced magnetic resonance imaging (MRI) revealed a well defined extra axial solid mass lesion in the anterior cranial fossa about 27x23x26mm causing mass effect over the optic chiasma and also with extension into the right optic canal. (Figure 1) Serum prolactin, thyroid hormone profile was completely normal. Patient was diagnosed to have tuberculum sellae meningioma and planned for surgery. Methylprednisolone was administered intravenously (IV) two days preoperatively and postoperatively. Patient underwent craniotomy and total excision of SOL SIMPSON GR II. Postoperative period was uneventful. Postoperative patient's BCVA was 6/9.

DISCUSSION: TS is a slight osseous protuberance between chiasmatic sulcus and anterosuperior limit of pituitary fossa. It is usually bounded laterally by clinoid processes, internal carotid and posterior communicating arteries with arachnoid of the carotid cisterns, posteriorly by the pituitary stalk, infundibulum and Liliequist membrane and superiorly by the optic chiasm, lamina terminalis and anterior cerebral artery complex. Overall morbidity and mortality with removal of the TS meningiomas is quite low. Preservation of vision is the most important goal and many factors have been shown to effect outcome. They should be resected early in patients with symptoms of optic chiasm compression for a better outcome. [6, 7]

Visual deterioration begins unilaterally often and is seen very early. As growth is slow and insidious in most cases, evaluation and diagnosis are typically delayed. 95% of patients suffer visual acuity/field defects and 75-90% has optic atrophy. Quadrantanopsia and unilateral temporal field defects are seen commonly in patients who had formal ophthalmological visual field testing. [8, 9] Headache is the second most common symptom seen in almost 35-45% of patients as in our case. Facial numbness, altered mental status, seizures, anosmia have all been reported but rare in association with TS. [10]

Very few patients present with evidence of endocrinopathies. Reduced libido, alteration in menstrual cycle, raised prolactinemia found in 5-10% of patients suggests a diagnosis of pituitary adenoma than meningioma. [11] Diaphragm sellae tumors are associated with higher rates of Diabetes Insipidus. [12] Our patient didn't have any of the above presentation and diagnosed to have TS meningioma which was even confirmed by Histopathological examination.

Acute visual loss, the most common finding in TS meningiomas is due to optic canal involvement which happened in our case. Ophthalmologists should be well aware that a small TS meningioma may cause acute visual loss and early consultation with a neurosurgeon helps in preventing further damage to the patient. [4]

CONCLUSION: Here, we reported a case of TS meningioma with acute visual loss due to optic canal involvement. Our findings, early consultation with the neurosurgeon, surgery, proper care and evaluation by us helped patient not to loose vision.

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