Pituitary Macroadenoma A Case Presentation

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A 30-year-old male presented to the Department of Ophthalmology, Medical College Hospital, Calicut with chronic headache and proptosis of left eye since 1 month. On detailed general examination, we noticed bilateral gynecomastia. There was no thyroid swelling, and all other systems were found within normal limits. Ocular examination showed axial proptosis of 3 mm left eye (Fig. 1 & 2), extra ocular movements were full, a relative afferent pupillary defect and defective colour vision. Best corrected visual acuity of 6/36 LE, vision in right eye being 6/6. Fundus examination was within normal limits. There was no mass palpable in the orbit, no resistance to retropulsion, and no bruit, Lister’s perimetry showed a 10° constriction in superotemporal field.

We investigated the patient. CT showed (Fig. 3 & 4) a 31 x 42 x 47 cms well defined moderately contrast enhancing iso-hyperdense lesion with irregular margins and lobulated contour in the sellae, parasellar region with asymmetric growth with greater volume on left.

Fig. 1 & 2. Unilateral Axial Proptosis of 3mm

Fig. 3. C.T.scan showing hyperdense lesion in the sellar-parasellar region with asymmetric growth

Fig. 4. C.T.scan showing suprasellar extension
side. Posterior aspect of left superior orbital fissure and posterior optic foramen was indented. There was no evidence of significant extension into anterior aspect of optic foramen or into the orbit. Laterally the lesion was extending to the cavernous sinus on left side more than right. CT impression was sellar-parasellar mass lesion. According to the Radiologist, this could be an aggressive pituitary neoplasm. The second and third possibilities were large aneurysm with thrombosis or meningioma.

MRI scan showed (Fig. 5 & 6) large sellar, supra sellar mass lesion with lateral, superior and inferior extension suggestive of pituitary macroadenoma.

Hormonal assay was done. Prolactin level was found to be >470 ng/ml (normal range : Male 4.6 – 21.4ng/ml). Thyroid function test was found to normal.

From the clinical examination and investigation, we came to a clinical diagnosis of pituitary macroadenoma – Prolactinoma.

We treated the patient with bromocriptine, 2.5mg OD along with systemic steroids continued in tapering doses. At present he is on T.Bromocriptine 2.5mg OD and T.Prednisolone 10mg OD.

On follow up, his visual acuity has improved to 6/9. Proptosis and visual field defect remain the same. Since proptosis is not increasing and the vision has improved, the patient is advised to continue medical treatment.

**Discussion**

Pituitary tumours constitute 10-15% of intracranial neoplasm. Symptoms depend on presence of pituitary hypersecretion, absence or reduced hormone levels caused by destruction of normal pituitary gland or direction of local expansion and invasion of adjacent structures. Tumours can be classified on the basis of their appearance after standard histologic staining – chromophobic, acidophilic and basophilic adenoma. Tumour size also can be used to classify tumors. Microadenomas are tumours measuring less than 10mm in diameter and those of more than 10mm are termed macroadenomas. Physiological classification by immunohistochemical staining or by serum hormone measurement divide tumours into non secreting and secreting types. The secreting (functional tumours) constitute 75% of pituitary adenoma. They include:

- Growth hormone (GH) cell adenoma
- Prolactin PRL cell adenoma (Prolactinoma)
- Mixed GH & PRL adenoma
- Corticotroph (ACTH) cell adenoma
- Thyrotroph (TRH) cell adenoma
- Gonadotroph (LSH) and FSH cell adenoma

40-50% of pituitary adenomas are constituted by prolactinoma. In females, this presents with amenorrhoea, galactorrhea and in males with testicular atrophy, gynaecomastia, reduced body hair and
impotence.

Tumours which are secreting are detected early due to the various syndromes they produce. Non-secreting tumours are large at the time of diagnosis and present with various structural problems like head ache, loss of visual fields, typically bitemporal field loss, cranial nerve palsies due to the invasion into cavernous sinus or with epistaxis due to downward extension through floor of sella.\(^2\) The mass can extend to orbit resulting in proptosis.\(^3\) They can present with sudden onset of head ache / loss of vision due to haemorrhage or necrosis of tumour as pituitary apoplexy.\(^4\)

Diagnosis and treatment planning is greatly facilitated by CT and MRI. Pituitary adenoma are isodense or slightly hyperdense compared with adjacent brain and shows homogenous contrast enhancement with IV contrast material.\(^3\) MRI allows evaluation of the degree of suprasellar extension and involvement of chiasma and cavernous sinus. MRI of pituitary macroadenoma reveals prolonged T\(_1\)T\(_2\) signal compared with normal brain tissues.\(^5\) Patients with sellar abnormalities whether clinically symptomatic or not should have lab investigation for anterior pituitary dysfunction.

The newest most specific form of therapy for hypersecreting pituitary adenoma is medical. The drug used is bromocriptine. It is a dopamine D\(_2\) agonist, thereby inhibits prolactin secretion. Bromocriptine effectively reduces high prolactin levels, result in shrinkage of tumour and relief of compressive symptoms.\(^7\) Withdrawal may lead to re expansion of tumour.\(^8\) In 80% of patients with prolactinoma medical therapy is sufficient to control symptoms and reduce prolactin levels to normal levels. For the rest 20%, it provides an useful adjunct to subsequent surgery or radiation therapy. Management of pituitary adenoma often requires the combined or sequential use of multiple forms of therapy. We should follow up the patient with hormonal assay, neuroimaging studies and neuro-ophthalmic evaluation at 6 month intervals.\(^9\).

**Conclusion**

Usual presentation of pituitary tumours are with visual field defect or head ache and this is one of the rare presentation with axial proptosis.

**References**

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