



NON PITUITARY METASTATIC SELLAR MASS - A CASE REPORT

Surgery

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ABSTRACT

Evaluation of sellar and supra sellar masses by MRI helps in characterizing the mass and also determine its extent and spread into surrounding structures. However, a significant overlap between the clinical features and MRI findings of pituitary and non-pituitary sellar masses still results in undesirable surprises during surgery. In this case report, we present a similar case of a large sellar mass, initially diagnosed as a pituitary macroadenoma which turned out to be metastasis from adenocarcinoma of prostate.

KEYWORDS

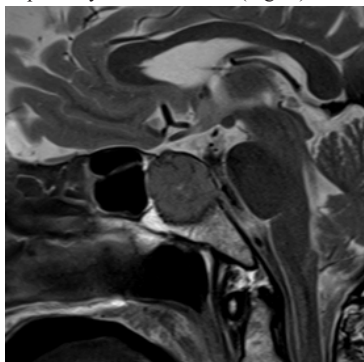
Sellar mass, Pituitary macroadenoma, Sellar Metastasis.

INTRODUCTION

Sellar masses can have their origin either from the pituitary or non-pituitary structures. Incidence of non-pituitary lesions in the sella varies from 9% to 15% in different series. Though a pituitary adenoma is the commonest cause of a sellar mass, it is important to consider and exclude non pituitary origin of the mass, especially when the clinical features and imaging findings are equivocal. This assumes significance especially because the treatment and surgical approach for both conditions are vastly different.

CASE REPORT

An 80-year-old male patient presented with history of headache, diplopia and ptosis. MRI of the brain revealed a large sellar mass which was labelled as a pituitary macro adenoma (Fig - 1).

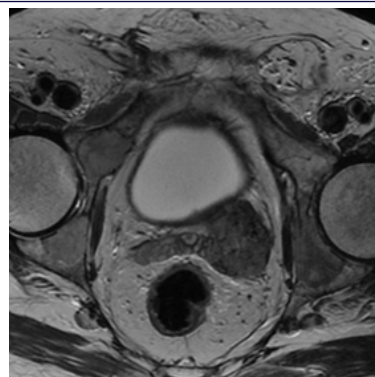


(Fig - 1) Preoperative T2 Sagittal image showing T2 iso to hypointense mass initially diagnosed as pituitary macroadenoma.

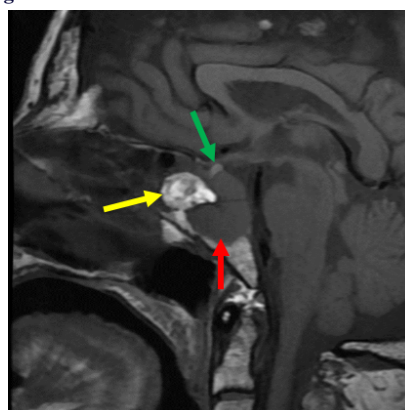
A trans sphenoidal approach for resection was attempted. However, at surgery the mass was found to have extensive extensions beyond the sella. Hence resection was not attempted. Biopsy report was suggestive of adenocarcinoma.

Patient was sent for relevant blood tests to search for primary malignancy. The blood test was suggestive of high PSA levels of 8.5 ng/ml (Normal values < 0.2 ng/ml).

MRI prostate was performed which showed a large mass in the left half of the prostate with extra capsular spread and involvement of the left seminal vesicle. Multiple osseous metastatic lesions were also seen in the pelvic bones. (Fig - 2)

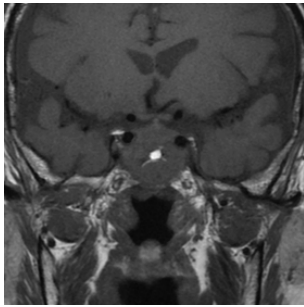


(Fig -2) T2 Axial image of prostate showing prostatic malignancy involving left seminal vesicle.



(Fig - 3.1) Post biopsy T1 Sagittal image showing packing material of T1 hyperintensity. (Yellow arrow) T1 hyperintense pituitary superior to mass. (Green arrow). Clival erosions inferior to mass. (Red arrow)

MRI Brain- post biopsy revealed a large sellar mass extending laterally into the cavernous sinus. Erosion of adjoining portion of the clivus was also noted. The pituitary gland was identified separately with posterior bright spot seen displaced along the superior margin of the mass. (Fig - 3.1 and 3.2)



(Fig – 3.2) Post biopsy T1 Coronal image shows bilateral cavernous involvement by sellar mass.

Biopsy of Prostate gland revealed adenocarcinoma with Gleasons score of 4+4.

In view of above findings, possibility of the sellar mass being metastasis from the carcinoma of prostate was raised and a PSMA PET CT was advised.

DISCUSSION

Magnetic resonance imaging is now the preferred imaging modality for the sellar and parasellar region.⁽²⁾

About 10-15 percent of Sellar masses in various series have a non-pituitary origin. While there are often similarities in their clinical presentations and sometimes in their radiological appearances to those of pituitary tumors, the possibility of the mass having a non-pituitary origin needs to be considered.⁽²⁾

Non pituitary masses may include neoplastic lesions and nonneoplastic etiologies like inflammatory, infectious or vascular causes.⁽³⁾

Of these, about 16% are malignant and of the malignant lesions, about 25% are metastatic.

Origin of the Nonpituitary sellar masses is often from the para sellar structures which in turn are close to the cavernous sinus. Hence involvement of the Cranial nerves III, IV and VI which traverse through the cavernous sinuses is more commonly seen.

As was seen in our case; about one fourth of patients present with signs and symptoms of Cranial nerve involvement. (1)

At times, the pituitary mass maybe the presenting feature with a silent primary, especially in elderly patients above 50 years of age. Breast cancers in women and lung cancers in men are the commonest to metastasize to the Sella.⁽³⁾ Prostate metastases constitute about 18 percent of the total metastasis to the sella in men.

Bony erosion of the sella is not specific to metastasis and can also occur with pituitary macro adenomas and meningiomas.⁽⁴⁾

Preoperative identification of nonpituitary sellar masses is important due to one or more of the following reasons-

1. The required surgical approach maybe different- trans sphenoidal versus transcranial depending on the extension of the lesion beyond the sella.
2. Surgical or non-surgical therapy- metastasis may require radio therapy/ chemotherapy instead of surgical resection.⁽⁵⁾

Quite a few of the non-adenomatous tumors lack specific imaging features and are often indistinguishable from adenomas on imaging alone.

Fibrosarcomas and lung cancer metastasis are especially notorious for being indistinguishable from Pituitary adenomas. In many instances, a definitive diagnosis is only possible on Histopathology.

REFERENCES:

1. Freda PU, Wardlaw SL, Post KD: Unusual causes of sellar/parasellar masses in a large transsphenoidal surgical series. J Clin Endocrinol Metab 81:3455, 1996.
2. Elster AD: Imaging of the sella: Anatomy and pathology. Semin Ultrasound CT MR 14:182, 1993

3. Branch CL, Laws ER: Metastatic tumors of the sella turcica masquerading as primary pituitary tumors. J Clin Endocrinol Metab 65:469, 1987
4. Aaberg TM, Kay M, Stemau L: Metastatic tumors to the pituitary. Am J Ophthalmol 119:779, 1995
5. Laws ER: Pituitary tumors. therapeutic considerations: surgical. In: Barrow DL, Selman WR, eds. Neuroendocrinology; vol. 5. Concepts in neurosurgery: Baltimore: William & Wilkins, 1992: 395-400
6. Morita A, Meyer FB, Laws ER: Symptomatic pituitary metastases. J Neurosurg. 1998; 89:69-73.