CASE REPORT

Intrasellar Tuberculoma Presenting as Pituitary Apoplexy

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Summary

The combination of apoplectic symptoms and a sellar mass most often points to a diagnosis of a pituitary adenoma. Sellar tuberculomas are not considered as a cause of 'pituitary apoplexy' and there has been no radiological documentation of haemorrhage associated with them. We report a 27 years old man who presented with 3 previous episodes of pituitary apoplexy. CT scan showed evidence of a sellar mass with haemorrhage. Transsphenoidal biopsy of the intrasellar mass was reported as 'tuberculoma'. The patient had marked reduction in the size of the lesion following antituberculous therapy with no recurrence of symptoms. Intrasellar tuberculomas must be considered as one of the differential diagnosis when patients present with a pituitary apoplexy.

Key words : Apoplexy, Pituitary tumour, Tuberculosis, MRI.

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Introduction

Only few cases of isolated intrasellar tuberculoma have been reported in English literature.[1,2] Coleman and Meredith were the first to report on intrasellar tuberculomas in 1940.[3] Subsequently, there have been reports on tuberculomas of the sella diagnosed both at postmortem and in life.[1,2,4-9] Although some of these patients had an 'ictus' with or without endocrine dysfunction, there has been no report on radiological documentation of a bleed in the sella. We report a patient with a pituitary tuberculoma who presented with apoplexy and had radiological evidence of sellar haemorrhage.

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Case Report

A 27 year old man presented with three episodes of intense headache with giddiness over a 5 month period. During the last episode, which occurred a month before he visited our hospital, he had altered sensorium and blurring of vision which gradually recovered. There was no history of diplopia, seizures or hypothalamo-pituitary dysfunction. He had no history of contact with pulmonary tuberculosis. His general and systemic examination was normal. There were no neurological deficits. The hormonal profile was as follows: serum cortisol 8 am : 17.3 µg%, 4 pm : 11.7 µg%, T4 : 7.9 µg% (normal : 5-12 µg%, FTC : 0.92 µg% (normal: 0.8 - 2 µg%); TSH : 3.6 mIU/ml (normal : 2-5 mIU/ml), FSH : 17.07 mIU/ml, LH : 6.0 mIU/ml, S. Prolactin : 8.3 µg%, GH : 1.1 µg/ml. CT scan done at the time of the ictus showed evidence of

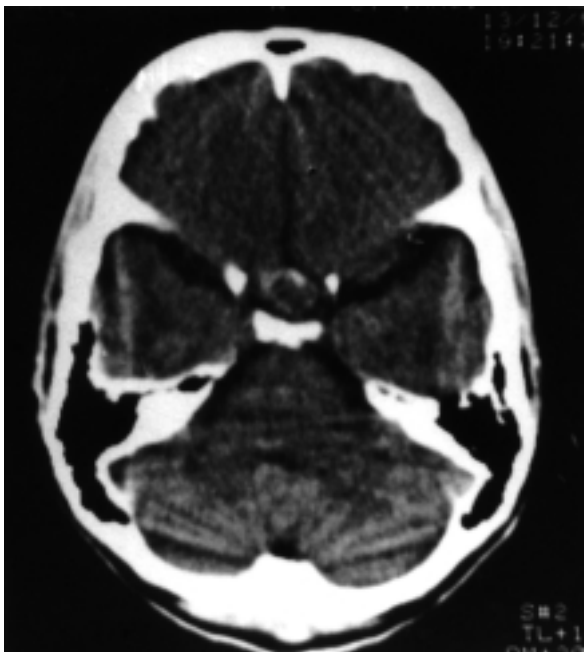

Fig. 1 : Axial section of the CT scan (plain study) showing blood within the tumour capsule.

a sellar and suprasellar mass (1.6 x 1.8 cm) with haemorrhage (Fig. 1). MRI done 6 weeks later showed decrease in the size of the sellar mass, which measured 0.6 cm. in diameter, and was confined to sella. The hypophysial stalk appeared thick but was in the midline (Fig. 2a and b). With a clinical and imaging diagnosis of a pituitary adenoma with apoplexy, the patient underwent a transnasal trans sphenoidal exploration of the sellar mass. At surgery, the sellar floor was found to be very thin. The dura was intact and was opened using a cruciate incision. The tumour was greyish, very firm and not suckable. Therefore, it was opened into, and only a biopsy of the capsule could be taken. The mass showed areas of necrosis in the centre, but there was no evidence of haemorrhage. Histopathological examination showed small fragments of fibrotic and largely hyalinised connective tissue containing dispersed small alveolar clusters of pituicytes as well as focal aggregates of lymphocytes and a couple of ill defined granulomata composed of epitheloid histiocytes. There were no acid fast bacilli or evidence of haemorrhagic necrosis. Pathological impression was that of granulomatous inflammation suggestive of tuberculosis (Fig. 3). Post operative period was uneventful except for a transient diabetes insipidus in the first 48 hours, which resolved with 2 doses of pitressin injections. He was discharged with an advice to take anti tuberculous therapy for 18 months (INH and rifampicin for 18 months; ethambutol for 3 months).

He was followed in the out-patient department after 9

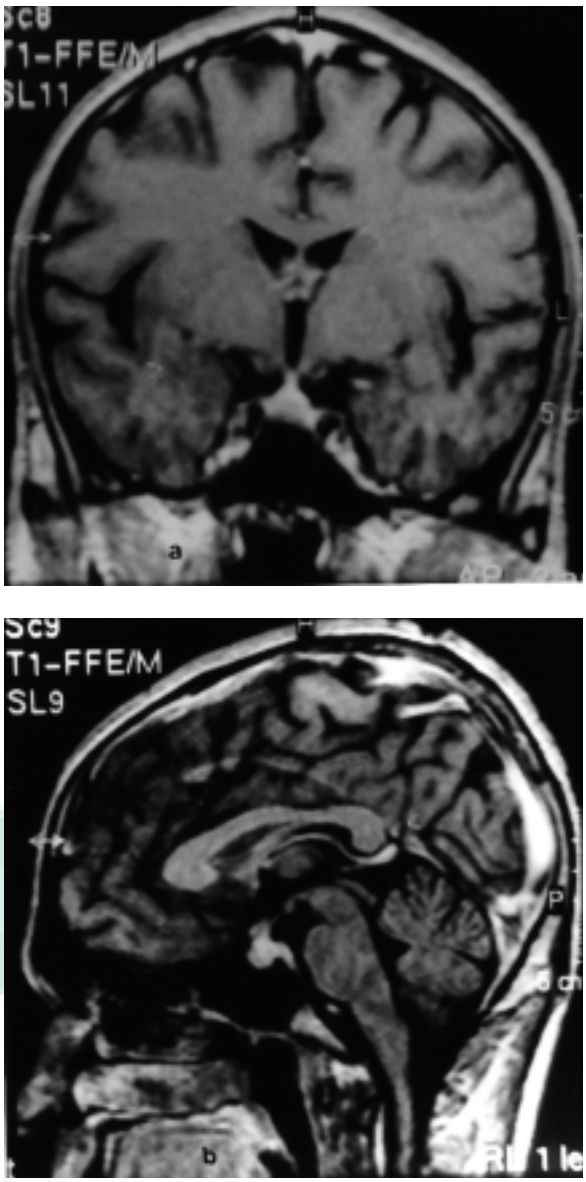

Fig. 2a and b : Coronal and sagittal sections of T1WI MRI (with gadolinium) showing an uniformly enhancing sellar mass with thickened pituitary stalk in the midline.

months of anti tuberculous treatment. He was asymptomatic and hormonal profile was normal. MRI of the brain showed that the lesion had markedly reduced in size. The hypophyseal stalk, however, was still thick and in midline (Fig. 4a and b).

Discussion

In developing countries, tuberculomas account for almost 30 to 34% of all intracranial space occupying lesions.[10-12] With the advent of chemotherapy for tuberculosis, the incidence of these lesions has come down to 0.15 to 4% of all intracranial space occupying lesions.[2,13,14] Pituitary tuberculomas are rare, though

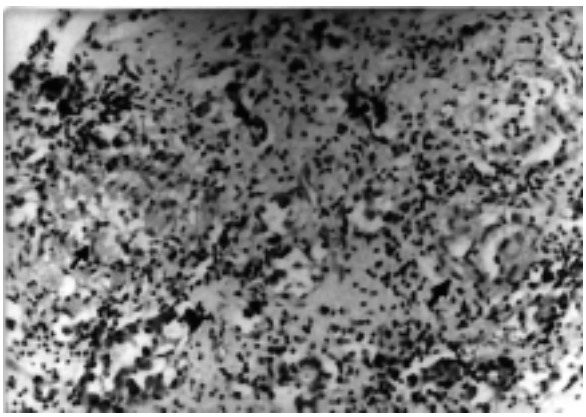

Fig. 3 : Photomicrograph showing fibrous wall of the pituitary gland containing ill formed granuloma (arrows) (H and E, X 90).

they were not an uncommon finding in autopsy material reported in the early half of this century.[3,4,15] In a review of reported cases of intrasellar tuberculoma, we found that most have headache as the presenting complaint in addition to visual disturbances. The mean age was found to be 36.7 years (Range : 18 - 55 years). The male : female ratio was 1 : 2.25 (male: 4 and female: 9). Three patients, out of the total of 13, had sixth cranial nerve palsy (23.1%). Endocrinological disturbances were found in 8 of 13 (61.5%) cases. Four of 13 (30.8%) had purely an intrasellar location of the mass, while the remaining 9 (69.2%) had an intrasellar mass with suprasellar extension.

Symptomatic haemorrhagic infarction in pituitary tumours has been reported to occur in about 6 to 10% of tumours.[16,17] Meningiomas of the sella or planum sphenoidale can also present with 'apoplexy-like' symptoms.[18,19] In such cases during surgery, there is no evidence of a bleed, as the tumour is confined to the closed dural layers of the sella and produce ischaemic disturbance of the surrounding pituitary gland which results in an apoplexy like picture.[19]

Our patient had multiple episodes of intense headache with and without altered sensorium and visual impairment. We speculate that the inflammatory process could have caused vasculitis which in turn can cause a haemorrhagic infarct of the lesion itself or the adjacent pituitary gland. However, the lack of pituitary dysfunction in our patient indicates that the haemorrhage was probably confined to the tuberculoma alone without any involvement of the gland. Intrasellar tuberculoma appears on CT as a hyperdense mass brightly enhancing with contrast with suprasellar extension.[1] On MRI, there can be additional findings of thickening of the infundibulum

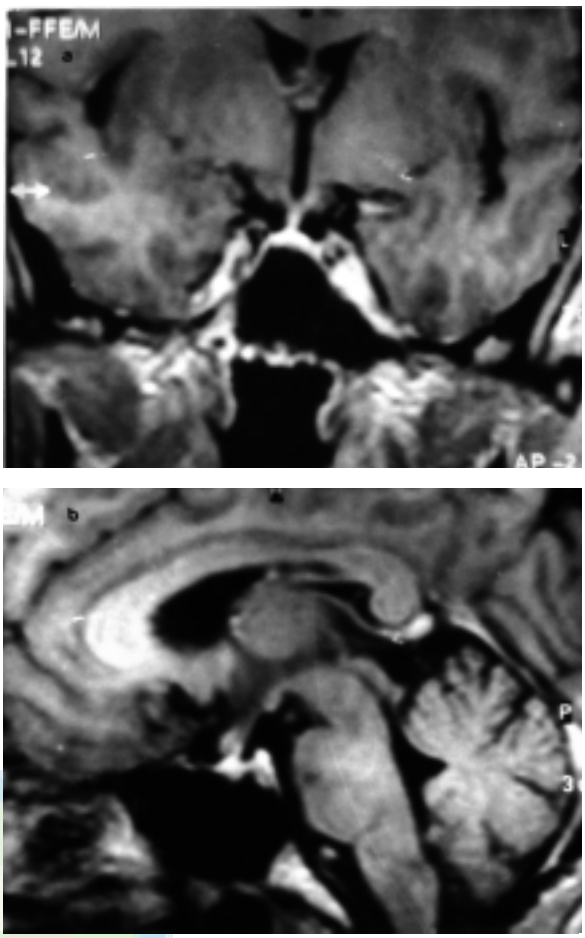

Fig. 4 a and b : Coronal and sagittal sections of the MRI with gadolinium taken at 9 month follow up examination, showing marked reduction in the size of the lesion. However, the hypophyseal stalk is still thickened.

and the hypophysial stalk. This finding can also be seen in neoplastic or infiltrative diseases such as sarcoidosis and syphilis, apart from sellar tuberculomas.[2,6,20]

The main role of surgery is to confirm the diagnosis. The preferred route for surgery of intrasellar tuberculoma is the transsphenoidal route,[1,2,21] though some had previously advocated a subfrontal approach for excision of these masses.[3,4] Transsphenoidal approach is most suitable in these cases, as it avoids cerebrospinal fluid contamination, apart from allowing a local cure and confirming the diagnosis.[2,8,9] At surgery, tuberculomas of the sella are found to be tough non suckable greyish white lesions; the dura itself being thickened and tough.[9]

It is interesting to note, that although all patients with an intrasellar tuberculoma presented with headache as one of the symptoms, there were only few cases who had severe headache suggestive of an apoplexy or

subarachnoid haemorrhage.[5,6] The patient described by Ranjan and Chandy[1] with a 'apoplexy-like' presentation showed evidence of basal exudates on imaging, suggestive of a tuberculous meningitis, in addition to a sellar tuberculoma. One cause of severe headache in this case could have been the meningitic process.[1] The case described by us is the only patient in whom haemorrhage in the sella has been documented on imaging.

Conclusion

Intrasellar tuberculomas must be considered as one of the differential diagnosis when patients present with a 'pituitary apoplexy-like' syndrome. Thickening of the hypophyseal stalk, a greyish, firm non suckable tumour with a thickened dura should alert the surgeon to the possibility of a tuberculoma. Transsphenoidal surgery is a safe and effective technique of obtaining a diagnosis, and when combined with post operative chemotherapy with anti tuberculous drugs usually results in a good outcome.

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