

# Supra-sellar tubercular abscess

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## ABSTRACT

Intracranial tuberculomas are less common lesions; sellar, suprasellar, or parasellar involvement is further rarer with only few case reports in the literature. We describe a case of 44-year-old female, discussing the imaging findings that were managed successfully for tubercular hypothalamic-pituitary abscesses.

**Key words:** Abscess, hypothalamic abscess, magnetic resonance imaging, sellar, tubercular abscess, tuberculoma, tuberculosis

## Introduction

Intracranial tuberculomas are less common lesions, accounting for 0.15-5% of intracranial space occupying lesions;<sup>[1,2]</sup> sellar, suprasellar, or parasellar involvement is further rarer with only few case reports in the literature.<sup>[1-6]</sup> Although there are cases of pyogenic hypothalamic-pituitary abscesses,<sup>[4,7]</sup> in the present case, we describe an extremely rare case of supra-sellar tubercular abscess managed successfully.

## Case Report

A 44-year-old lady presented with altered behavior and increased frequency of micturation, since six months. She was a known case of tuberculous meningitis, on treatment since one year. On examination, patient did not have any focal neurological deficit. Cranial nerves and fundus examination were normal. Her magnetic resonance imaging (MRI) scan revealed a hypointense lesion on T1 images, iso-hyperintense lesion on T2 images in the hypothalamic region, and restricted diffusion on DW images [Figure 1 a-c]. On contrast, administration the lesion was ring enhancing with lobulation [Figure 1 d-e]. Patient was operated through pterional craniotomy and sylvian fissure opening. The lesion was identified and it was

containing pus. It could be totally excised. The pus was sent for culture and sensitivity testing and the abscess wall was sent to histopathological examination, which revealed changes suggestive of tuberculosis [Figure 2]. After surgery, the patient had type II diabetes insipidus that recovered completely and was discharged without any neurological deficit after 13 days. Follow-up MRI showed disappearance of the abscess [Figure 3].

## Discussion

Rarely, unusual non-adenohypophyseal, inflammatory, and infectious processes can involve sellar and suprasellar region and should be considered in the differential diagnosis of mass lesions in this area.<sup>[4,7-10]</sup> Abscess formation in this region is uncommon, pyogenic abscess can develop through direct expansion of an adjacent infection in the meninges, the sphenoid sinus, or the cavernous sinus,<sup>[4,11]</sup> and in many cases it may not be possible to find out any primary source of infection or causative agent.<sup>[7]</sup> Although in cases of pituitary and suprasellar tubercular lesions there may not be any evidence of systemic or primary active tuberculosis,<sup>(9)</sup> however, in the present case, the patient was treated for tubercular meningitis. As in the present case, MRI features specific to sellar-suprasellar abscesses characteristically include an isointense to mildly hypointense signal on T1-weighted sequences, and high signal intensity on T2-weighted sequences<sup>[12]</sup> associated with ring enhancement after contrast administration. In addition, the presence of infundibular thickening and enhancement of the adjacent dura should suggest the presence of a granulomatous lesion like tuberculoma.<sup>[3,9]</sup> Demonstration of acid fast bacilli (AFB) by smear or culture within the abscess can help to confirm the diagnosis of tubercular brain abscess,<sup>[13]</sup> however in present case, the diagnosis was confirmed by histopathology. The recommended treatment in suspected cases included a complete course of anti-tubercular treatment (ATT) and regular follow-up to confirm the response to chemotherapy and regression of the lesions,<sup>[2,10]</sup> however surgical intervention

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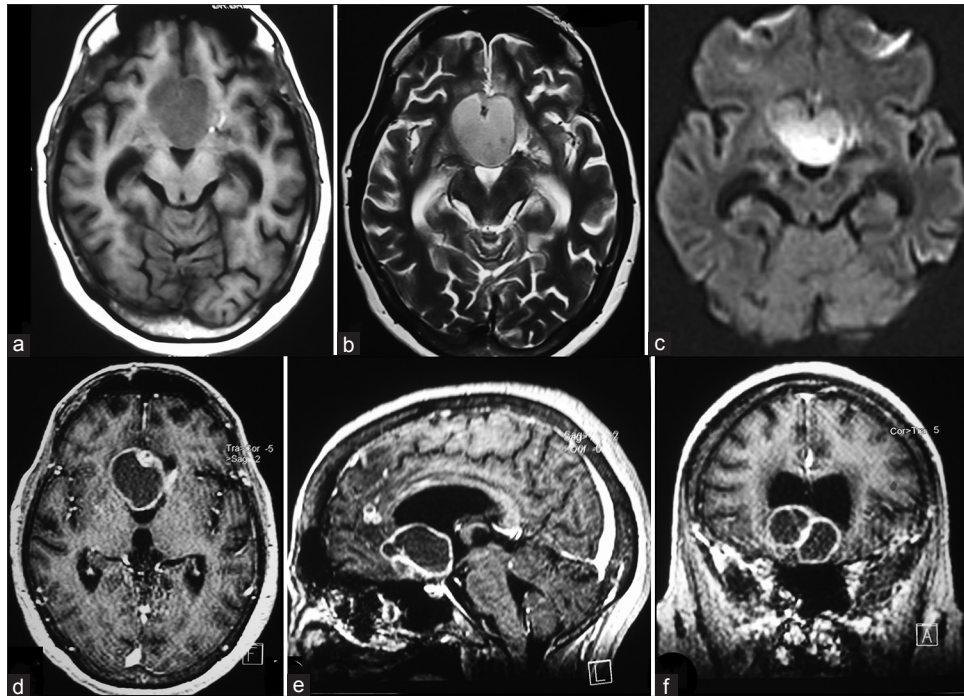
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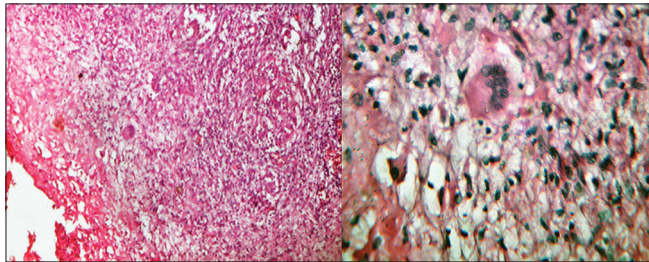
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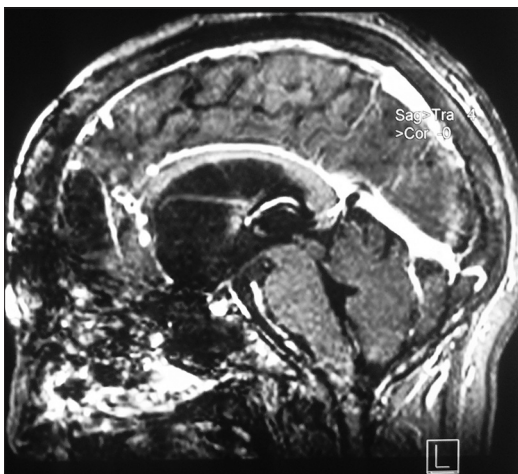
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**Figure 1:** MRI T1W axial images (a) Hypointense lesion becoming hyperintense lesion on T2W image, (b) Restricted diffusion on DW images, (c) and Contrast enhanced MRI, (d, e and f) Axial, sagittal and coronal images showing a large cystic ring enhancing lesion in the suprasellar region with multiple small ring enhancing lesions



**Figure 2:** Left image showing multiple epithelioid cell granulomas with Langhan type giant cells and mixed inflammatory infiltrate (H and E, x10), right image high power view of the same focus showing Langhan type giant cell surrounded by epithelioid cells (H and E, x10)



**Figure 3:** Follow up sagittal image shows that the abscess was largely disappeared

can help to decompress the adjacent structures and also to confirm the diagnosis of tubercular lesion (as in present case).<sup>[9]</sup> In conclusion, involvement of hypothalamus with tubercular abscess is a rare entity, and sellar-suprasellar abscess should be considered in the differential diagnosis in patients whose sellar-parasellar mass on MRI shows regular or irregular, hypo- or hyperintense areas.<sup>[7]</sup>

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