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# GRANULOMATOUS HYPOPHYSITIS MIMICS AS A PITUITARY MACROADENOMA. CASE REPORT.

Radiology

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## ABSTRACT

Granulomatous hypophysitis is a rare pathology that mimics pituitary adenoma. Due to the presence of pituitary mass and hormonal dysfunction, trans-sphenoidal exploration and histological examination are always advised to reach at final diagnosis. Pathological findings reveal granuloma, multinucleated giant cells, plasma cells, and lymphocytes. Corticosteroid therapy may be a potential treatment for hypophysitis.

## KEYWORDS

Granulomatous hypophysitis, pituitary adenoma, trans-sphenoidal surgery

**Case report**

A young lady of 34 years, admitted with complaints of moderate fever associated with generalised body ache for 15-20 days. She had double vision and frontal headache for 1 week. She also, complaint of nausea and had 3 episodes of vomiting for 3 days. Her menarche started at the age of 13 years and periods were regular but now, she missed her period for the last 1 month. Her body weight was stable and denied any history of excessive thirst or polyuria. On examination she had mild fever with no neck rigidity, Diplopia on horizontal gaze, visual acuity of 6/6 in both eye, her Fundus examination was normal, on confrontation there was bitemporal field loss. Hormonal assay revealed hypothyroidism with low morning & evening cortisol levels. Routine blood investigations, Chest x-ray and USG abdomen were normal. Contrast MRI Brain (Fig. 1) revealed enhancing sellar tumor, abutting optic chiasma, infundibulum enhancement & thickening (Fig. 2, 3 a), dural tail enhancement (Fig. 3 b). Pre-anaesthetic evaluation & optimization done (Hydrocortisone & Thyroxine were started) and taken up for surgery, after informed consent. Endoscopic trans-nasal trans-sphenoidal decompression of sellar tumor done. Operative findings revealed thickened sphenoid sinus mucosa, sella floor was papery thin, dura found thickened; on opening the dura, yellowish-white, firm, relatively avascular tumor found, it was decompressed with no visualization of normal pituitary gland. Histopathology report showed inflammatory tissue with numerous giant cells and epithelioid cells forming granulomas at places, features were suggestive of granulomatous lesion. She was put on steroids & Thyroxine and on follow-up visits (for1 month, thereafter lost follow up) her Fever, headache, double vision resolved but didn't resumed normal menstrual cycles.

**Fig. 1 Contrast MRI Brain, axial image**

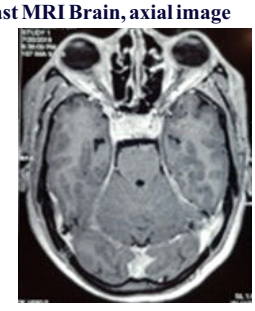


**Fig. 2 Coronal image (Infundibulum enhancement & thickening)**

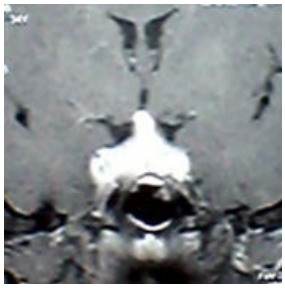
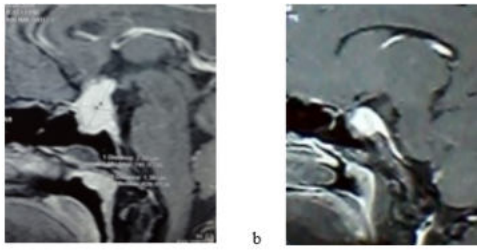


**Fig. 3 Sagittal image (Dural tail)**




**Discussion**

The clinical features of granulomatous hypophysitis usually include headache, visual deterioration and double vision, low-grade fever, nausea and vomiting [1-4]. Headache and visual symptoms as a result of progressive chiasmal compression are the most common presenting symptoms of granulomatous hypophysitis. Patients may also present with diabetes insipidus, amenorrhea–galactorrhea, hyperprolactinemia, fatigue, and aseptic meningitis [5-9].

It is challenging to diagnose hypophysitis preoperatively, as contrast enhanced magnetic resonance imaging revealed sella and pituitary stalk lesions that resembles pituitary adenomas. The diagnosis is usually made by histopathologic findings and corticosteroid therapy may be a potential treatment for hypophysitis [5-7].

The authors report a rare case of granulomatous hypophysitis in a young lady, who presented with sellar mass lesion as pituitary macroadenoma. In this case, patient presented with symptoms like fever, generalized body ache, and contrast MRI (Fig. 2, Fig. 3 a, b) revealed enhancement and thickening of infundibulum, and dural tail, which are unlikely to be seen in pituitary adenoma**.**

Histopathology appearance of granulomatous hypophysitis usually contains necrotizing granulomas that are mainly formed of histiocytes, multinucleated giant cells, lymphocytes and plasma cells [10]. Presence of non-caseating granulomatous inflammation could be compatible with tuberculosis despite negative ZN stain. Differential diagnoses should include tuberculosis, sarcoidosis, Wegener's granulomatosis, and mycotic infections [6,9].

Although most reported cases respond to high dose of steroid therapy. Transsphenoidal surgery is indicated to decompress the mass lesion, thereby resolving headache and visual deficits, and to obtain a significant tissue specimen for histological diagnosis, so as to facilitate appropriate treatment. This should be applied to all patients whose clinical and radiological findings are not typical and diagnosis is not confirmed. In fact, majority of reported cases were misdiagnosed as pituitary adenomas preoperatively, and diagnosis was confirmed only after surgery on histopathology examination [11].

**Conclusion**

Granulomatous hypophysitis is a rare inflammatory condition that mimics pituitary adenoma. One must thoroughly go through the clinical history and MRI scan finding, and can get hint to differentiate Pituitary adenoma from infective pathology.

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**Consent**: Patient's consent was taken for publication, taking due care in hiding the identity of the patient.

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