Isolated Sellar Tuberculoma With a Thickened Pituitary Stalk: Case Report

Hipofiz Sapını Kalınlaştıran İzole Sellar Tüberküloma: Olgu Sunumu

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Abstract: This report is of a patient with an isolated sellar tuberculoma with suprasellar extension in association with thickening of the pituitary stalk who presented with signs and symptoms of hypopituitarism. Magnetic resonance imaging showed a sellar mass with suprasellar extension associated with thickening of the pituitary stalk. Endocrinological parameters indicated hypopituitarism. The patient underwent a transsphenoidal procedure. The pathological diagnosis was of a typical structure of tuberculoma. If a pituitary tumor with suprasellar extension in association with the thickening of the pituitary stalk is suspected, the possibility of sellar tuberculoma must be considered in the differential diagnosis of nonsecreting sellar masses, even when no history of tuberculosis exists.

Key words: Granulomatous hypophysitis, pituitary stalk, sellar tuberculoma

Özet: Hipopituitarizmin belirti ve bulgularını gösteren hipofiz sapı kalınlaşması ile birlikte suprasellar uzanımı olan izole sellar tüberkülomalı bir olgu sunulmaktadır. Manyetik rezonans görüntülemede hipofiz sapının kalınlaşması ile beraber suprasellar uzanımlı sellar kitle tespit edildi. Hipofiz hormonları sonuçları hipopituitarizm ile uyumluydu. Olgu transsfenoidal girişim ile opere edildi. Eksize edilen kitlenin histopatolojik muayenesi sonucunda sellar tüberküloma tanısı konuldu. Hipofiz sapı kalınlaşması ile beraber suprasellar uzanımlı pituiter tümör şüphesi olduğunda, tüberküloz öyküsü alınmasa dahi nonsekretuvar sellar kitlelerin ayrıcı tanısında sellar tüberküloma olasılığı düşünülmelidir.

Anahtar kelimeler: Granülomatoz hipofizitis, hipofiz sapı, sellar tüberküloma

INTRODUCTION

Thirty-four surgical cases of pituitary tuberculomas have been reported in the literature. In only five cases was the localization exclusively intrasellar. Clinically, they can present as nonsecreting masses or mimic secreting adenomas (1,2,4,6,7,9,10,11,13,15,16,18,19,20).

This report is of a patient with an isolated sellar tuberculoma with suprasellar extension in association with thickening of the pituitary stalk who

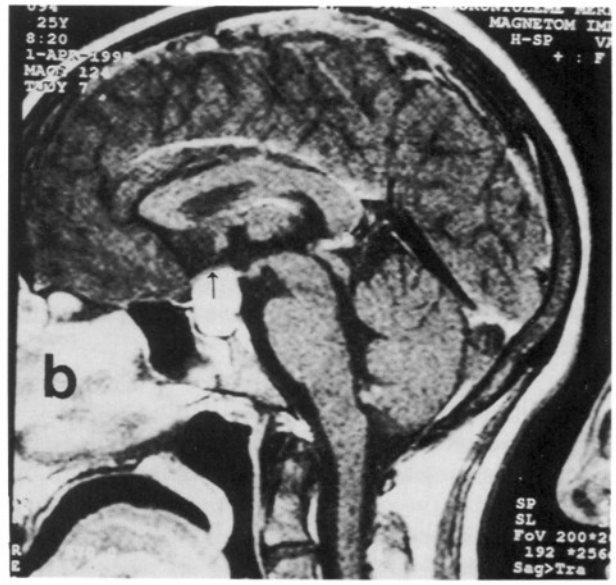
presented with signs and symptoms of hypopituitarism.

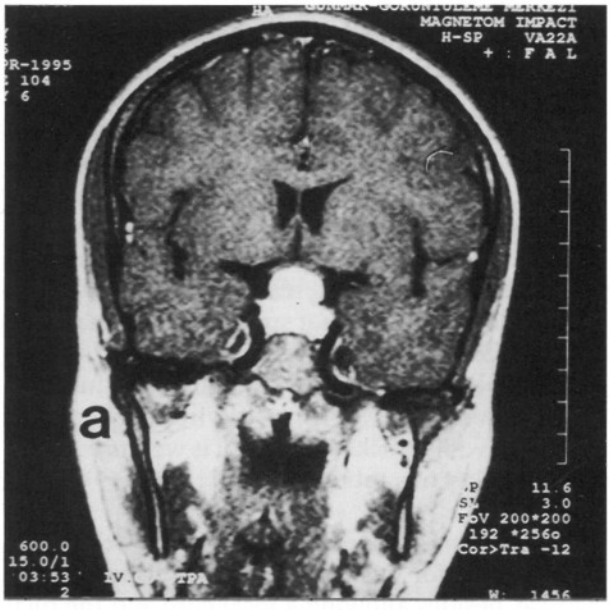
CASE REPORT

A 25-year-old woman was admitted with a history of headaches in the past 6 months. During the last 3 years, she noted irregular menses with frequent amenorrheic episodes. She had one normal delivery, and never noticed any unusual discharge from the breasts. However, galactorrhea was demonstrated on expression of both breasts. General physical and neurological examinations were normal. She was examined in consultation with the Ophthalmology Service: She had 6/10 of visual acuity and loss of the temporal half of the visual field in the right eye. Complete blood count, erythrocyte sedimentation rate, chest x-ray films and electrocardiography were also normal. There was no past or family history of tuberculosis or any known contact with the disease.

Magnetic resonance imaging showed a sellar mass with suprasellar extension associated with thickening of the pituitary stalk (Fig. 1-a, b and c).

Endocrinological studies yielded the following results: T3, 56 ng/dl (normal: 85 to 215 ng/dl); T4, 3.5 mg/dl (normal: 4.0 to 12 mg/dl); thyroid stimulating hormone, 0.7 mU/ml following thyrotropin-releasing hormone stimulation (TRH) (normal: 0.5 to 3.5 mU/ml); growth hormone: 0.7 ng/ml (normal: 2 to 5 ng/ml), without response after insulin hypoglycemia; luteinizing hormone and follicle-stimulating hormone, 0.8 and 3.1 ng/ml, respectively, without modification following administration of GnRH; basal prolactin, 25 ng/ml





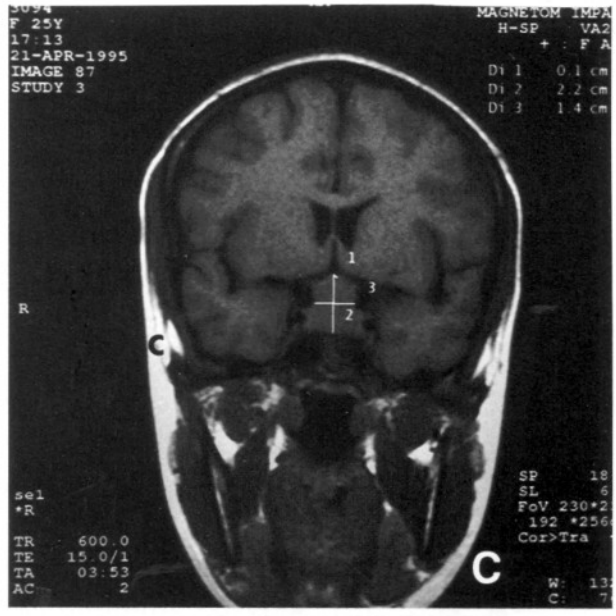


Figure 1: Magnetic resonance image after paramagnetic contrast agent injection showing the sellar mass with suprasellar extension and the thickened pituitary stalk (arrow). (a), coronal view; (b), sagittal view. (c), magnetic resonance image without paramagnetic contrast agent, coronal view.

(normal: 2.7 to 26 ng/ml). These parameters indicated hypopituitarism.

The patient underwent a transsphenoidal procedure. The sellar floor was normal. A gray-white, nonbleeding, fibrous mass that occupied the whole sellar cavity and extended upward was completely excised, and no remains of a normal pituitary gland were found.

The histopathological examination demonstrated that, among rests of pituitary cellular elements, there were many inflammatory granuloma cells surrounded by a rich network of collagen and reticulin. Necrosis and Langhans' giant cells were seen in the center and periphery of the granuloma. There was also diffuse inflammatory infiltration by lymphocytes, eosinophils, and plasma cells. No alcohol acid-fast organisms or Treponema were seen. The pathological diagnosis was of a typical structure of tuberculoma (Fig. 2).

Microscopic examination of the sputum, gastric juice, and cerebrospinal fluid centrifugate with Ziehl-Neelsen staining and culture tests disclosed nothing abnormal. On the other hand, there was a positive intradermal reaction to tuberculin (swelling, 35 mm in diameter).

For anti-tuberculosis treatment, the patient was started on a combination of isoniazid, 300 mg, and rifampicin, 600 mg, daily. During a 24-month follow-up, a persistent hypopituitarism with minimal response of prolactin to TRH stimulation was observed.

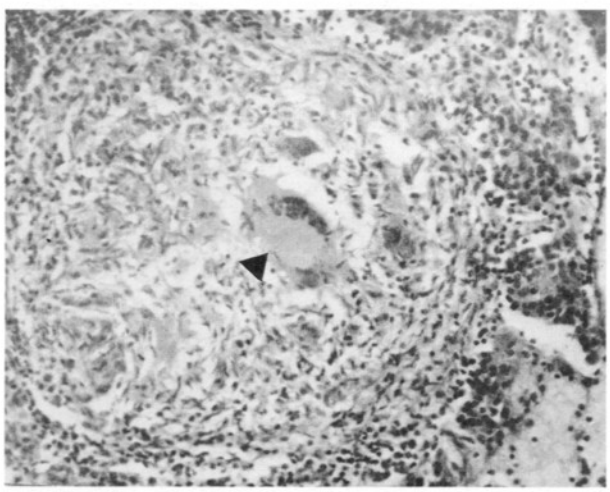


Figure 2: Histological photomicrograph of the specimen showing epithelioid granuloma surrounded by fibroblasts, giant cell of Langhans (arrowhead), infiltration by lymphocytes and plasma cells. On the right side, remains of pituitary cells can be seen (H & E, X 400).

DISCUSSION

Granulomatous hypophysitis is a rare condition that may present with a sellar-suprasellar mass and hypopituitarism and is most commonly seen in middle aged and older women. The hypothalamus is not likely to be involved in this disease, and, therefore, diabetes insipidus is less common (5,8,12).

The differential diagnosis of intrasellar lesions must include granulomatous diseases. Tuberculosis, syphilis and sarcoidosis have been most often considered etiological factors in pituitary granuloma. Microscopic granulomatous tubercles are not uncommonly found in either the anterior or the posterior lobe as part of a generalized hematogenous dissemination. Furthermore, the gland is quite often involved by direct extension from basal tuberculous meningitis (3,17). As many as 4 % of cases of late generalized tuberculosis can lead to hypopituitarism from either hematogenous or direct spread through the meninges (5,8,12). Both of these mechanisms were ruled out in our case. No known reason clearly explains this atypical localization.

Because of the variability of signs and symptoms and the absence of characteristic aspects on CT and magnetic resonance imaging; the diagnosis can be made only postoperatively, especially if there is no history of symptoms of tuberculosis (15).

In our case, the magnetic resonance imaging findings were consistent with those of an adenoma. As Higuchi (14) and Pereira (15) have reported it, we also found thickening of the hypophyseal stalk. That finding, although not specific, as it can arise in other neoplastic or inflammatory diseases, such as sarcoidosis and syphilis, can also occur in sellar tuberculoma (15). When faced with a sellar mass associated with a thickened stalk, it is wise to consider the possibility of a tuberculoma (11,14,18,19).

The transsphhenoidal approach is the most suitable way for dealing with sellar tuberculoma, because, besides allowing a local cure and the final diagnosis, it also avoids cerebrospinal fluid contamination (13,15,16,20).

Conclusively, if a pituitary tumor with suprasellar extension in association with the thickening of the pituitary stalk is suspected, the possibility of sellar tuberculoma must be considered in the differential diagnosis of nonsecreting sellar masses, even when no history of tuberculosis exists.

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Normal thickness of the pituitary stalk is approximately equal to basilar artery diameter.
Thickening of stalk ⟶
- *not adenoma*
- *lymphoma*
- *lymphocytic hypophysitis*
- *granulamatous disease*
- *hypothalamic glioma*