Pituitary Tuberculoma

Pitüiter Tüberkülom

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Abstract: We report a rare case of pituitary tuberculoma. Surgery was performed via the pterional approach, and the lesion was totally excised. Based on the histopathological diagnosis, the patient underwent 9 months of triple-drug antituberculosis treatment with isoniazid, ethambutol and rifampin.

Key Words: Pituitary neoplasm, pituitary pathology, tuberculoma.

Özet: Nadir görülen pituiter tüberkülom olgusu sunuldu. Operasyonda piteriyonal yaklaşımla lezyon total olarak çıkartıldı. Histopatolojik tanıya dayanarak hastaya, isoniasid etambutol ve rifampin ile 9 ay süreyle üçlü anitüberküloz ilaç tedavisi uygulandı.

Anahtar Kelimeler: Pituiter neoplazma, pituiterpatoloji, tüberküloma.

INTRODUCTION

Tuberculomas of the central nervous system are rare manifestations of tuberculosis, but remain a significant problem in developing countries (1,17). Use of chemotherapeutic agents and improvements in socioeconomic conditions have greatly reduced the frequency of thes problem across the globe (1,4,8,15,18); however, even though it is rarely seen in industrialized countries today, suprasellar tuberculoma is still occasionally reported (1,12,16,18). This type of lesion represent 0.15 to 0.18 % of all intracranial masses (4,5,11), with adult immigrants from developing countries being most commonly affected. Pituitary tuberculomas, which clinically mimic adenomas and disrupt endocrine function, are extremely unusual findings. Only 15 surgically verified cases have been reported to date (Table I), and this lesion is not often noted at postmortem (2,5,10).

CASE REPORT

A 19-year-old man was admitted to our medical service in September 1996. At presentation, he had a 1-year history of generalized headache, and reported progressive loss of vision in both eyes over the past 3 months. He also described progressive weight loss, and complaints of weakness, stomach ache, cough, and epistaxis during the 6 months prior to admission. He showed no overt clinical signs of endocrinopathy. Ophthalmologic examination revealed reduced visual acuity (right eye 1/10, left eye unable to distinguish shapes) and bilateral optic nerve atrophy. Apart from the latter, we found no neurological abnormalities. The clinical diagnosis was sellar tumor. Endocrine testing showed below-normal levels of free T3 (1.98 pg/ml) free T4 (0.42 ng/dL), total T3 (0.27 ng/ml), total T4 (2.8 µg/ml), total testosterone (1.5 ng/ml) and cortisol (4.0 µg/dL). Cranial computed tomography (CT) revealed a

Tablo I: Published cases of pituitary tuberculoma

Reference	Age/Gender	Presentation	Tuberculosis Elsewhere?	Endocrine Findings Before Treatment	Suprasellar Extension?	Endocrine Findings After Treatment
Coleman et al. 1940	57/F	Headache Bitemporal Hemianopia	No	???	???	???
Pereira et al. 1995	55/F	Headache Cranial nerve VI palsy	No	Hypopituitarism	Yes	Improved
Brooks et al. 1973	33/F	Headache Amenorrhea Mild bitemporal field cut	Lung	Hypopituitarism	Yes	Improved
Esposito et al. 1987	54/F	Headache	Lung	Normal	No	Normal
Eckland et al. 1987	37/F	Headache Cranial nerve VI palsy Temporal hemianopia	Cervical lymph no des	Hypopituitarism	Yes	Improved
Delsedime et al. 1988	45/F	Headache Amenorrhea Deafness	Sinusitis otitis	Hyperprolactinemia	No	Same
Taparia et al. 1992	40/M	Headache Consricted visual fields	No	Normal	Yes	Normal
Ghosh et al. 1992	35/F	Headache Amenorrhea Mild bitemporal field cut	No	Hypopituitarism Hyperprolactinemia	Yes	Improved
Ranjan et al. 1994	32/F	Headache Nausea	???	Hypopituitarism	Yes	Worse
	40/M	Headache Lethargy	???	Hypopituitarism	Yes	Improved
	18/F	Headache Vomiting	???	Normal	Yes	Worse
	27/M	Headache Lethargy	???	Hypopituitarism	Yes	Improved
	35/F	Headache Galactorrhea Amenorrhea Mild bitemporal field cut	???	Hypopituitarism	Yes	Improved
K. Ashkan et al. 1997	33/F	Headache Amenorrhea Weight loss	Lung	Hypopituitarism	Yes	Improved
	31/F	Headache Amenorrhea Galactorrhea	Lung	Hypopituitarism	Yes	Improved

lobulated lesion 26 mm in diameter occupying the pituitary fossa and expanding into the suprasellar region (Figure 1). The lesion enhanced with contrast injection.

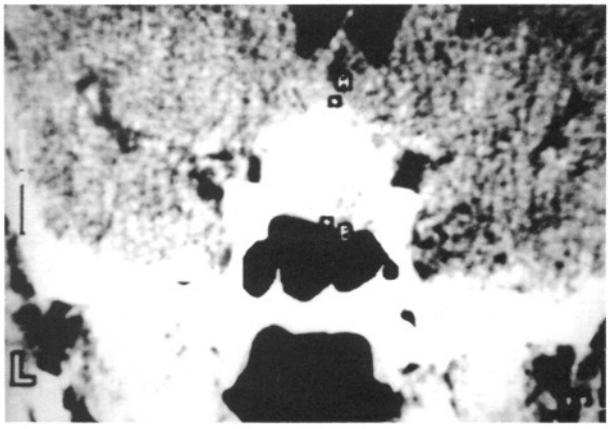

Figure 1: The preoperative CT scan showed a mass in the pituitary fossa.

On 20 September 1996, the patient underwent microsurgical removal of the mass via a pterional approach because his nasal structure precluded use of the transsphenoidal approach. Exploration revealed a pale gray lesion of rubbery consistency. The mass was totally excised, and dissection revealed that its center was necrotic. Histological examination of the specimen identified active chronic inflammatory infiltrate and focal granulomas within pituitary tissue (Figure 2). The diagnosis was pituitary tuberculoma.

One week after surgery the patient showed mild symptoms of diabetes insipidus. At 2 weeks after the operation, only his total T4 had normalized (54 µg/ml). Twenty days postsurgery, the patient was started on a 9-month antituberculosis regimen of isoniazid, ethambutol, and rifampin. He recovered from the surgery well, and his visual deficits began to resolve. At 1 month after the operation, the visual acuity in both eyes had improved considerably, with the right eye normal and the left at 2/10.

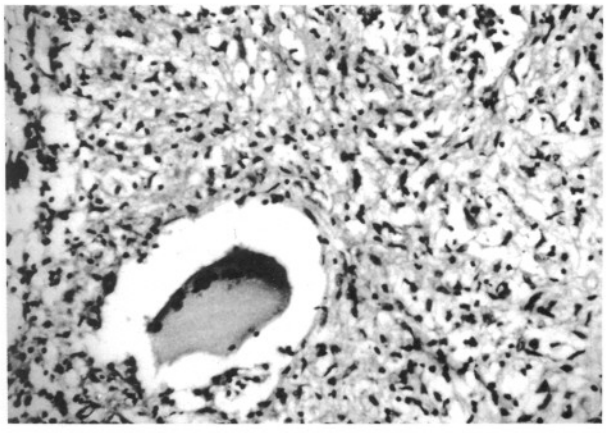

Figure 2: Photomicropraphs of the surgical specimen show an active chronic inflammatory infiltrate and focal granulomas within the pituitary tissue.

DISCUSSION

Sellar tuberculomas are very rare lesions, and, to our knowledge, only 15 surgical cases have been reported to date (2). In light of the relatively high prevalence of intracranial tuberculoma in developing countries, it interesting that these are almost never found in the intrasellar location. Basilar-hypophyseal invasion can occur via hematogenous spread, or as a direct result of infection at the base of the cranium (13).

Intrasellar tuberculoma has been found most often in adult females (14). In women, the combination of amenorrhea with headaches and malaise alerts the clinician to a possible pituitary issue; however, in men, the absence of menstrual signs makes it harder to pinpoint this gland as the problem site. The presenting complaints in our male patient were generalized headache of year's duration and progressive bilateral loss of vision over the 3-month period prior to initial examination (2). CT showed intense contrast enhancement in the pituitary fossa, expanding into the suprasellar region (3). During the surgical procedure, we noted thickening of the dura on the floor of the sella. As Higuchi et al. stated, this finding, although not specific since it occurs in other neoplastic and inflammatory diseases (sarcoidosis and syphilis, for example) is often seen in cases of sellar tuberculoma (9). Tuberculoma should be included in the list of differential diagnoses for any sellar mass with a thick stalk (6,9).

Although we overlooked the diagnosis of tuberculoma preoperatively, surgical decompression of the optic nerve and chiasm was the appropriate treatment for the lesion we detected. The transsphenoidal approach is preferred when addressing problems in this region, because it provides direct access to sella and there is less chance of contaminating the cerebrospinal fluid (5,6,7). Unfortunately, our patient's nasal structure precluded the use of this route, so we did the operation via the pterional approach. Since there is considerable risk of contaminating the subarachnoid space during the removal

of any pituitary tuberculoma, multidrug therapy is advised. Other authors have suggested that antituberculosis therapy be administered for 3-8 months after surgery (5,6,7,14), and we followed a similar protocol with our patient.

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