Case Report

Pituitary tuberculoma

S Shukla, A Trivedi, K Singh, V Sharma

Department of Neurosurgery, IMS, BHU, Varanasi, UP, India

ABSTRACT

Tuberculosis of pituitary gland is rare. We report a case of tuberculosis of pituitary gland in a 68-year-old male presented with holocranial headache of four months duration with left temporal hemianopia, with visual acuity of 6/6, without any localizing sign. Magnetic resonance imaging showed a sellar ring enhancing mass with suprasellar extension. Patient was taken up for surgery and put on antitubercular treatment and hormone replacement therapy.

Key words: Craniotomy, pituitary, tuberculoma

DOI: 10.4103/0976-3147.63099

Introduction

Tuberculosis of pituitary is a very rare condition Despite the high incidence rates of systemic tuberculosis, intracranial tuberculomas account for 0.15-5% of intracranial space occupying lesions, sellar tuberculomas, as isolated manifestations of the disease are extremely rare[1,2] with only about 40 cases reported in the literature till date.[1-5]

We report this case because it is a rare presentation .We found only one case of pituitary tuberculoma in our 10-year experience in this hospital, though this belt is rich in tuberculosis cases.

Case Report

A 68-year-old male presented with holocranial headache of four-month duration. Headache was mainly located in the frontal region with gradual diminution of vision on left eye for two months. On examination, patient was conscious, oriented, afebrile, vitals were normal with left temporal hemianopia with visual acuity 6/6. Cranial nerves were normal with no motor or sensory deficits. Biochemical, hematological profile was normal. X-ray chest showed prominent bronchovascular markings. Endocrinal study revealed prolactin 8.6 ng / ml (normal range 1-25) and GH 1.8 ng / ml (normal range 0-3), T_4 7.6mg/dl (range 5-12), T_3 2.5 nmol/ L (1.2-3.1), TSH - 3.8 mI U/ml (2-5). Contrast T_1W MRI study revealed ring enhancing mass in sella with hypo intensity at center with suprasellar extension, T_2W MRI showed homogenously hyper intense lesion. A right sub frontal osteoplastic flap craniotomy was done. The suprasellar lesion had thick wall, with caseous material inside; sella evacuated by ring curette. The lesion was avascular and postoperative period was uneventful. Patient was put on antibiotics and continuous lumbar drainage. Histopathological examination revealed diffuse infiltration of lymphocyte with destruction of pituitary gland and multiple foci of epitheliod and langhanse giant cells. Zheil Nelson staining and culture of caseous material was negative for acid fast bacilli. No fungus was isolated. Polymerase chain reaction (PCR) for *Myobacterium tuberculosis* was positive. Patient was put on standard anti-tuberculosis treatment for 18 months. On follow-up, there was no headache; visual symptoms also improved.

Discussion

Pituitary adenomas are the most common lesions of the sellar region, but it is important to consider unusual non-adenohypophyseal lesions in the differential diagnosis of a sellar mass, including inflammatory and infectious processes.[6]

Our case did not present any evidence for systemic or primary active tuberculosis and although pituitary and suprasellar lesions can interfere with normal delivery of prolactin-inhibitor factor to the adenohypophysis with resulting hyperprolactinemia, in our case, the prolactin levels were normal.

Tuberculosis still remains a major public health problem

Address for correspondence:
Dr. Sujeet Shukla, Bunglow-12, Straightmile Road, Jamshedpur, India. E-mail: shuklaims@sify.com

all over the world, mainly in developing countries, with an estimated incidence rate in Brazil ranging from 50-99 cases/100,000 and 16,500 new cases in USA, in 1999[7] and 1-2 case/100 population in India. The variety of clinical and radiological presentation of pituitary tuberculomas and low reported rate make accurate preoperative diagnosis almost impossible.[1,2,6] Some reports have emphasized the presence of a thickened pituitary stalk in pituitary tuberculomas as a possible hallmark of this lesion. However, this a nonspecific finding as pointed out by other authors. In addition, the tuberculoma suprasellar extension makes an appropriate pituitary stalk evaluation very difficult on neuroimaging tests. In order to obtain an accurate diagnosis and optic chiasma decompression by right sub frontal craniotomy procedure was offered to this patient. A retrospective analysis would lead us to use a transsphenoidal approach to lesion removal, but the radiological features on computerized tomography (CT) and MRI suggest a major suprasellar extension with clinical diminution of visual symptom. In this way, we made an option for the right sub frontal approach, which could probably expose the patient to the risk of CSF contamination.[3]

Surgical intervention can decompress adjacent structures and also confirm the diagnosis of tuberculoma. The most important therapy for sellar tuberculomas is the antitubercular drug regimen relied on histopathological diagnosis even in the absence of acid fast bacilli on tissue sections. Acid-fast bacilli was observed in only two cases[1,5] and a positive polymerase chain reaction (PCR) result was reported confirming the diagnosis in another one,[4] as PCR was positive in our case. Although Catanzaro *et al*. had recently reported on the PCR test for respiratory smear (positive and negative BAAR smears); in the diagnosis of tuberculosis, we were unable to find any reference to validate the use of it in analysis of extra pulmonary samples. All the remaining reported cases,[1-5] as ours, had a diagnosis based on the presence of chronic granulomatous inflammatory process with central caseous necrosis.

The importance of histopathological examinations relies on the fact that it is the single manner to start specific treatment for the tuberculoma.

Conclusion

We report on an additional case of pituitary tuberculoma, a rare lesion that should be included in the differential diagnosis of sellar lesions. We also emphasize the importance of histopathological examination and contribute towards further management of this disease presentation.

References

1. Sharma MC, Arora R, Mahapatra AK, Sarat-Chandra P, Gaikwad SB, Sarkar C. Intrasellar tuberculoma: An enigmatic pituitary infection: A series of 18 cases. Clin Neurol Neurosurg 2000;102:72-7.
2. Jain R, Kumar R. Suprasellar tuberculoma presenting with diabetes insipidus and hypothyroidism: A case report. Neurol India 2001;49:314-6.
3. Coleman CC, Meredith JM. Diffuse tuberculoma of the pituitary gland simulating tumour with post operative recovery. Arch Neuro Psy 1940;44:1076-85.
4. Petrossians P, Delvenne P, Flandroy P, Jopart P, Stevenaert A, Beckers A. An unusual pituitary pathology. J Clin Endocrinol Metab 1998;83:3454-8.
5. Patankar T, Patkar D, Bunting T, Castillo M, Mukherji SK. Imaging in pituitary tuberculosis. Clin Imaging 2000;24:89-92.
6. Scheithauer BW. Pathology of the pituitary and sellar region: Exclusive of pituitary adenoma. Pathol Annu 1985;20:67-155.
7. CDC. Reported Tuberculosis in the United States, Department of Health and Human Services CDC. Atlanta: Georgia; 2001.

Source of Support: Nil, **Conflict of Interest:** None declared.