



Brain Stem Tuberculoma Presenting with Ptosis and Isolated Ocular Movement Abnormality : A Rare Case

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ABSTRACT

Tuberculosis is still endemic in developing countries such as India and tuberculomas account for up to 40% of space occupying intracranial masses.[1] Isolated brain stem tuberculomas are rare lesions and account for about 5% of all intracranial tuberculomas.[2] These intracranial lesions commonly present as oculomotor and other cranial nerve palsies one and a half syndrome, other ocular signs, and neurological deficits .

KEYWORDS

Case Reports

A 12-year-old male presented with a complaint of drooping of right eyelid and throbbing headache for 1 month. He was non-hypertensive and non-diabetic. **On examination**, he had visual acuity of 6/6 in both eyes, ptosis in right eye , paralysis of medial rectus muscle of right eye due to involvement of oculomotor nerve of right side. **Magnetic resonance imaging (MRI)** brain revealed a ring enhancing lesion in the ventral midbrain, in the area of tegmentum at the level of superior colliculus, with perilesional edema and dilatation of third ventricle and causing pressure on brain stem . X-ray chest and ultrasound of the abdomen was normal. The patient did not have any feature of immunocompromised state. On the basis of MRI findings and the endemicity of tuberculosis in our country, a presumptive diagnosis of tuberculoma of the mid-brain was made . [Ventriculoperitoneal Shunt](#) was done to lower the intracranial pressure and Antitubercular treatment consisting of rifampicin, isoniazid, ethambutol, and pyrazinamide was started and on review after one and half month there was improvement in right eye opening.



Discussion

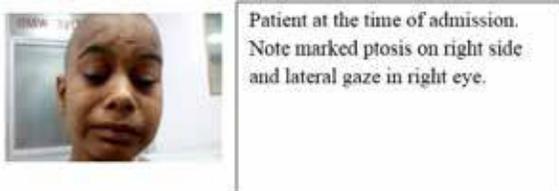
Tuberculomas are usually located in the cerebral or cerebellar hemisphere due to the high blood supply to these areas. The brain stem is an uncommon location for tuberculomas.[2] Only three cases have been reported in the literature where brainstem tuberculoma presented with isolated ocular movement abnormality.[5-7] [Table 1](#) summarizes the details of these cases.

Author(s) year	Age (years/sex)	Clinical features	Site of lesion	Outcome
Sharma et al., (2004)	72/M	Diplopia, ipsilateral gaze palsy	Multiple small lesions in brain stem and cerebellum	Death
Murphy et al. (2004)	62/F	Diplopia, one and half syndrome	Pons and midbrain tuberculoma	Improved after ATT
Marini S. et al. (2008)	34/F	Bilateral ptosis	Cerebral midbrain tuberculoma	Improved with ATT
Present case (2015)	25/M	Diplopia	Midbrain tuberculoma	Improved with ATT
Present case (2015)	16/M	Right gaze palsy	Pons tuberculoma	Improved with ATT

The clinical picture in our case favors the proposed transverse neuroanatomic organization of the fascicular fibers of the oculomotor nerve proposed by Castro *et al.*[1] That is, mediolateral somatotopy with superior rectus and inferior rectus being the most lateral and caudal, and the pupilloconstrictor fibers and the inferior rectus being the most medial and rostral. The tuberculoma in our patient was located in ventral midbrain tegmentum on right side near the midline where fibers of pupilloconstrictor and inferior rectus are situated.

Our patient presented with a rare clinical presentation of brainstem tuberculoma in the form of an isolated ocular movement abnormality with ptosis. This isolated single extraocular muscle paresis is seen commonly in infarction or hemorrhage of brain stem.[3,4] Our patient had symptoms and signs correlating with the site of the tuberculoma. The clinical presentation of our patient supports the accepted topographical fascicular arrangement of the oculomotor nerve in the midbrain tegmentum.

The important differential diagnosis of intracranial ring enhancing inflammatory lesion is neurocysticercosis which are thin-walled, fluid-containing cysts and sometimes have scolex inside. In contrast to these, tubercular lesions are thick-walled, conglomerate lesions.



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