Research Paper Medical Science

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 midbrain was made . Ventriculoperitoneal Shunt was done to lower the intracranial pressure and Antitubercular treatment consisting of rifampicin, isoniazid, ethambutol, and pyrizinamide was started and on review after one and half month there was improvement in right eye opening.

Patient at the time of admission. Note marked ptosis on right side and lateral gaze in right eye.

Patient at the time of review after one and half month . Note increased eye opening on right side .

MRI T1 sagittal and axial view showing lesion in brainstem and dilated ventricle

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.

The clinical picture in our case favors the proposed transverse neuroanatomic organization of the fasicular 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, conglumoerate lesions.

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