

Commentary

Tuberculosis is still a major cause of serious illness in many parts of the world. Tuberculosis can affect nearly any organ system in the body. Neurotuberculosis accounts for 5–15% of extrapulmonary tuberculosis cases and commonly affects the hemispheres of the brain or the cerebellum.^[1,2]

The presence of an isolated brainstem tuberculoma is an unusual complication of central nervous system

tuberculosis and its location at midbrain level is unique.^[2]

The semiology resulting from the lesion when the brainstem involved varies widely and may include the cranial nerves and neurological long tracts. The location of brainstem lesions is highly reliable if motor deficits are associated with signs of nuclear involvement. “Crossed brainstem syndromes,” well-known with

eponyms are characterized by palsy of one of the 12 cranial nerve pairs associated with a contralateral neurological deficit due to an involvement of the neurological long tracts (mainly motor or sensory).^[3] In these cases, the involved cranial nerve suggests the level of the lesion in the brainstem.

The most frequent syndromes due to midbrain lesions are the following:^[3] Weber's syndrome associated with the third cranial nerve palsy with contralateral pyramidal deficit; Claude's syndrome with the third cranial nerve palsy and contralateral cerebellar ataxia; Benedikt's syndrome with the third cranial nerve palsy and choreoathetosis, hemianesthesia, or contralateral tremors; and Nothnagel's syndrome with palsy of the third cranial nerve and hemiataxia, ptosis, and paresis of the superior rectus muscle. An upward fixed gaze and pupils or Parinaud syndrome indicates the involvement of the quadrigeminal plate.

The significance and clinical impact of the tuberculoma location in the midbrain are 2-fold. First, the injured area is a critical anatomical location which compression may result in permanent injury of vital structures of the brainstem that could lead to patient's death if such a space occupying lesion exerts a significant mass effect and causes a brain herniation. Second, differential diagnosis of isolated lesions in this topography includes a wide variety of conditions. They must be differentiated as soon as possible by neuroimaging and appropriate diagnostic procedures from primary brain tumors or metastasis, demyelinating diseases, neurocysticercosis, abscess, cerebral strokes of an unusual case,^[4] or atypical lacunar strokes.^[5,6]

Clinical response to antituberculous therapy in all forms of neurotuberculosis is excellent if the diagnosis is made before irreversible neurological deficit is established. That is why early and correct etiological diagnosis are essential to provide adequate treatment^[1,2,7] as described in the case report of this issue of Journal of Neurosciences in Rural Practice, in which proper administration of tuberculostatic treatment to the patient was effective and resolved the midbrain tuberculoma, an unusual clinical presentation of central nervous system tuberculosis.^[7]

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