Isolated spinal intramedullary tuberculoma in a healthy immunocompetent adult

Central nervous system tuberculosis (CNS TB) is common in developing countries like India. Intramedullary tuberculomas (IMT) though, are not a common form of CNS TB and form only 8% of all the lesions.1 These lesions can be treated with anti-tuberculous chemotherapy as well as microsurgical excision.2 We present a case of isolated IMT without any evidence of pulmonary or systemic tuberculosis in an immunocompetent patient. This report highlights the possibility that intramedullary lesions seen in healthy immunocompetent adults could turn out to be tuberculomas even in the absence of any evidence of systemic TB.

A 38-year-old man, resident of Kolkata, India, presented with progressive weakness of all four limbs of three weeks duration with difficulty in passing urine. Neurological examination revealed spastic paraplegia, weakness of both hands and wasting of the small muscles of the hand. He had no history of any previous or concurrent illness suggestive of either pulmonary or meningeal infection. He had upper motor neuron-type bladder dysfunction with urinary retention, a sensory level below T-1, spastic reflexes and up-going planters. Thoracic, cervical and lumbar X-rays were normal. Cervical and thoracic spinal magnetic resonance imaging (MRI) revealed a circumscribed intramedullary mass at the level of the T-1, T-2 vertebrae with a hyperintense ring enhancement (Figure 1) and extensive edema extending above and below. Cerebrospinal fluid (CSF) analysis revealed an elevated protein level and lympho- and monocytesis with normal sugar levels and negative bacterial and acid-fast bacilli (AFB) cultures. Hepatitis B surface antigen (HBsAg) and HIV tests were negative. Because of the relatively rapid progression of neurological deficits, and to confirm the diagnosis, a decision for surgical excision was taken. Through a posterior myelotomy a hard, well-circumscribed, gray mass was excised piecemeal. Histopathological examination of the mass revealed caseation with Langhans-type giant cells and lymphocytes. The patient was started on anti-TB therapy. At the 6-month follow-up he was able to walk with support and handgrips had become stronger.

IMT is a rare form of CNS TB. In spinal TB the cord compression is generally due to vertebral involvement.3 IMT are generally secondary to pulmonary TB or TB meningitis.4 There is a strong association between IMT and pre-existing immunodeficiency due to HIV or other autoimmune diseases.5 Imaging characteristics on contrast-enhanced MRI show ring enhancement and central hypointensity inside the cord.6,7 These lesions respond well to anti-tuberculous therapy.7 Surgery in the treatment of spinal intramedullary

Figure 1 Cervico-thoracic spinal magnetic resonance imaging (MRI) showing (A) extensive edema extending above and below the lesion on plain films and (B) a circumscribed intramedullary mass at the level of T-1, T-2 vertebrae with a hyperintense ring enhancement.
tuberculomas is advocated when (1) diagnosis is in doubt, (2) there are large lesions that produce rapid deterioration of the neurological status and (3) there is paradoxical increase in the size of the lesion following anti-tuberculous therapy.2,8

The rarity of our report lies in the absence of any evidence of pulmonary or extrapulmonary TB and of any immune deficiency. The patient warranted surgery due to diagnostic difficulty and severity of symptoms. He was treated with microsurgical excision with excellent results. This report emphasizes the possibility that intramedullary lesions seen in healthy immunocompetent adults could turn out to be tuberculomas even in the absence of any evidence of systemic TB.

References


Milind Deogaonkar*
Department of Neurosciences, NB20, Cleveland Clinic Foundation, 9500 Euclid Avenue, Cleveland, OH 44195, USA

Shishir Das
Department of Neurosurgery, National Neurosciences Centre, Kolkata, India

*Corresponding author. Tel.: +1 216 445 2358 fax: +1 216 445 1446

Corresponding Editor: Michael Whitby, Brisbane, Australia

12 March 2005