INTRODUCTION

Tuberculosis is the most common infective lesion affecting spine. Nervous system involvement is one of the most feared complications as it is associated with high rates of morbidity and mortality. Tuberculosis is not only prevalent in underdeveloped countries but its incidence is increasing in developed countries as well, largely due to impairment of immune system by the human immunodeficiency virus (HIV) leading to reactivation of latent infection and likely progression to active disease.

Osteoarticular form is commonly seen, whereas direct involvement of neural tissue is also possible. Intramedullary tuberculosis is one of very rare form of spinal tuberculosis. It was first described by Abercrombie in 1828, since then around 170 cases have been reported, most of them being case reports.

Because of its typical presentation like progressive weakness and loss of sphincter control, without significant back pain it usually mimics intramedullary spinal cord tumours; MRI is the investigation of choice. Patients usually present with pulmonary tuberculosis in most of the cases, but they may present without any constitutional symptoms, or primary focus. Treatment is usually antituberculous chemotherapy but in cases with progressive weakness surgery is usually the preferred option.

We are reporting this rare case of intramedullary tuberculoma, secondary to TB meningitis, in a 15 years old girl leading to paraparesis.

CASE REPORT

A 15 years old girl was admitted with progressive weakness of both lower limbs over a period of one month. It was associated with dull, mild to moderate back pain which radiated to both legs. She had been diagnosed as a case of TB meningitis a year back and remained hospitalized for one month. She improved and was discharged on ATT (Anti-Tuberculous Therapy) which she took for 9 months. She had a strong family history of tuberculosis, her grandmother, maternal aunt and one of her cousins suffered from tuberculosis. She did not have any complains of headache, vomiting or visual problem at the time of admission.

She was alert, and oriented with all cranial nerves normal and bilaterally intact. The gait could not be assessed because of weakness. Both upper limbs were normal, while power in both lower limbs was significantly reduced along with exaggerated reflexes and positive Babinski’s sign. Sensations were decreased upto D9, no tenderness or gibbus was noted on local examination of the back. Rest of her neurological as well as systemic examination was unremarkable. Along with baseline investigations, which were all within normal limits, MRI dorsal spine with contrast was performed which showed a classical peripherally enhancing lesion at the level of D7, 8 with significant cord swelling (Figure 1).

First line ATT was started and dosage was tailored according to her weight. She did not show any improvement for one month on ATT so surgical intervention was planned. Posterior laminectomy from D7 to D9 was

ABSTRACT

Spinal intradural intramedullary tuberculoma is extremely rare entity of tuberculosis involving the nervous system. Because of its atypical symptomatology, it must be considered in differential diagnosis of spinal cord lesions, especially where prevalence of tuberculosis is high. In this case report this atypical disease is described where good outcome was achieved by surgical excision of the intramedullary lesion followed by antituberculous therapy.

Key words: Intramedullary tuberculoma. Backache. Paraparesis. Tuberculous meningitis.
performed in which no extradural mass was found; after opening the dura the cord was found swollen. Posterior midline myelotomy was performed and a tuberculoma of around 1 x 2 cm was excised along with small quantity of perilesional thick yellow pus, which was taken for AFB culture and detailed report. Tissue preserved in formalin for histopathology turned out to have chronic granulomatous change, positive for acid-fast bacilli.

Patient did not improve immediately after the operation and her postoperative hospital stay remained uneventful. She was discharged on ATT and physiotherapy. She started improving within a month and after 3 months she could walk with support.

**DISCUSSION**

Commonest form of tuberculosis (TB) involving the central nervous system is TB meningitis, tuberculoma in the brain is not very common, while an intramedullary tuberculoma of the spinal cord is extremely rare, with reported ratio of 1:42.6 It has rarely been reported in Pakistani literature before. Intramedullary tuberculosis is almost always secondary to pulmonary tuberculosis with rare exceptions associated with extrapulmonary foci.5 This case of intramedullary tuberculoma is one of those exceptions, as the intramedullary tuberculoma was secondary to TB meningitis.

As described by Mac Donnell et al. in a review of 17 cases,6 intramedullary spinal tuberculoma occurs in relatively young age (mean age = 28.6 years) and is more common in female (63% of cases) than in male population. Constitutional symptoms are less important, patient with intramedullary TB usually present with symptoms of progressive spinal cord compression (mean duration = 2.3 months) with progressive lower-limb weakness (94%), paresthesia, and bowel and bladder dysfunction.6 So was the case in this 15 years old young girl, without classical constitutional symptoms along with normal chest X-ray.

Ramdurg et al. noted the commonest location being dorsal spine, followed by cervical and lumbar spine;8 same was found by Mac Donnell et al.6 Dorsal spine involvement has been reported commonly in different case reports as well.6-8 Motor weakness has been the commonest presentation in almost all the cases in literature,7-9 followed by bladder and bowel dysfunction and sensory deficits.

The original documented case, *Mycobacterium tuberculosis* has been demonstrated in only a few cases.8 Intramedullary tuberculous abscess may be diagnosed by presence of acid-fast bacilli within the tissue or by positive culture. Diagnosis is made surgically; medical history usually not being sufficient and X-ray chest being generally normal.8 ESR may be raised and skin test may not be positive always.7

Imaging modalities such as radiography, bone scan, CT scan and myelography have all been reported to be helpful in the diagnosis of spinal TB, but MRI is more sensitive.9,10 Gd-DTPA (Gadolinium-diethylene triamine penta acetic acid) MRI study reveals typical peripherally enhancing lesion and can also differentiate it from spinal cord tumours.8,10 MRI has been considered as an indispensible tool for both the initial diagnosis as well as the follow-up of this disorder.4,5

Surgical excision along with antitubercular treatment has been considered the best modality in case of intramedullary tuberculosis. In the Ramdurg series, 80% of patients required surgical intervention, while others were managed conservatively.8 Mac Donnell et al. also required surgical intervention in 89% of patients for confirmation of diagnosis.6 Surgery has also been favoured in different case reports as well.6

Intramedullary spinal tuberculoma is a rare and dreadful lesion of spinal cord, but it can be managed effectively with surgical treatment along with antitubercular chemotherapy,7 although spinal intramedullary tumours are more common, intramedullary tuberculoma should always be considered in the differential diagnosis in a country where tuberculosis is prevalent.

**REFERENCES**


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Intramedullary spinal tuberculoma