Case Report

Tubercular epidural abscess presenting as acute cauda equina syndrome

Lakhey RB, Kafle D, Pokharel RK

Spine Unit, Department of Orthopedics, Tribhuvan University Teaching Hospital, Kathmandu, Nepal

Corresponding Author: Dr. Rajesh Bahadur Lakhey

Email: neprajesh@hotmail.com

Abstract:

Tubercular epidural abscess without osseous and pulmonary involvement is an extremely rare scenario. Presentation of the same with cauda equina syndrome is even rarer. We present a case of tubercular epidural abscess in 31-year old male patient. He presented with acute cauda equina syndrome and was shown to have epidural abscess extending from L4-S3 vertebral level without any evidence of vertebral involvement in MRI. The patient did not have pulmonary involvement. The patient made an uneventful recovery following surgical decompression and anti-tubercular chemotherapy. The diagnosis was confirmed by histo-pathological demonstration of tubercular granuloma in the biopsy specimen.

Keywords: tuberculosis, epidural abscess, cauda equina syndrome, decompression

Introduction

Tuberculous epidural abscess secondary to tubercular spondylitis is common in developing countries but its occurrence without osseous involvement is rare. This is due to the hematogenous spread from primary focus.[1,2,3] Tuberculous epidural abscess without bone involvement causing cauda equina syndrome is rarer.[4] This presentation without pulmonary involvement is even rarer. Early decompression of the neural tissues and institution of antitubercular treatment in adequate dose and course is mandatory for good outcome.[5,6] We hereby present a rare case of tuberculous epidural abscess involving lumbosacral spine without bone and pulmonary involvement, and causing cauda equina syndrome which was managed successfully.

Case report

A 31-year-old male patient referred from outside the capital presented to us with complaints of decreased power in bilateral lower limbs, saddle paraesthesia and hesitancy in micturition for 6 days. He had history of low back pain radiating towards left leg for 3 months. There was no history of other systemic illness including tuberculosis.

On general physical examination, vitals were stable. There was no spinal tenderness or swelling in the back. There was loss of power of dorsiflexors and planterflexors of bilateral ankles and toes all of which had power of 4/5. Sensory loss of 25% to touch, pinprick and temperature in L4 to S5 dermatome bilaterally was observed and there was loss of sensation in perineal region. Ankle reflex was absent bilaterally and planters were mute. There was loss of anal tone.

The haematological investigations showed presence of leukocytosis (10900/cumm) and raised erythrocyte sedimentation rate (46mm after 1 hour). The radiographs of the lumbo-sacral spine were and the chest rediograph unremarkable. Magnetic resonance imaging (MRI) of the lumbo-sacral spine showed a collection in the epidural region extending from the L4 to S3 vertebra. It was not associated with changes in bone architecture. (figures 1-4) MRI diagnosis was infection or epidural metastasis.

Urgent surgical decompression was performed. Spinoplasty and laminectomy[7]was done at L4-S2 levels. The dura was found to be covered with friable granulation tissue, on careful removal of which healthy dura was seen. The granulation tissue and osseous tissue from lamina were sent for culture and histo-

pathological examination. Histopathology report showed caseous necrosis and few ill-defined epitheloid cell granulomas and a single multinucleated giant cell in soft tissue biopsy while the bone tissue was normal. The features were suggestive of tuberculosis.

Post-operative recovery was uneventful. Antitubercular treatment with four drugs in higer dose for 18 months, as recommened by Nepal Orthopedic Association (NOA)[8] was started. Motor and sensory recovery was observed in two weeks after surgery.

The patient regained his bladder sensations and voluntary control after three weeks of surgical decompression. At 8 months follow up, the patient was asymptomatic.

Discussion

Tuberculosis a common disease in developing countries and emerging again in developed countries. Spine is the commonest site for musculoskeletal tuberculosis.[1] Typically, spinal tuberculosis affects the anterior elements and pus collects in prevertebral, paravertebral and epidural spaces sometimes resulting in neurological symptoms and signs. Rarely, spinal epidural abscess may occur in tuberculous spine without bone involvement. [2,3,9]

In our case, the spinal epidural abscess was collected in the lumbosacral region without bony and pulmonary involvement and caused cauda equina syndrome, which is a rare occurrence. This type of lesion is may be due to spread of Mycobacterium tuberculosis to the epidural space by hematogenous route probably from an occult primary focus.

It is a great challenge for the clinicians for diagnosis of a common disease when it presents in an uncommon manner. An epidural abscess involving the lumbar-sacral spine without osseous and pulmonary lesion may be considered an extremely rare manifestation of tuberculosis. Acute cauda equina syndrome in tuberculous spondylodiscitis is a rare clinical entity.[6,10,11,12]

Timely MRI was helpful in the management of our patient, especially when the entity was cauda equina syndrome where early diagnosis and early decompression are the two most important predictors of a successful outcome.[5]

MRI is useful for early diagnosis of tuberculous spine.[13] In the cases like ours, it is significantly difficult for finding out the causative disease process causing compression of cauda equina even with MRI.

Tuberculous spinal epidural abscess may be treated surgically or non-surgically depending upon the clinical presentation of the disease. Generally, the condition is managed with antitubercular chemotherapy. Surgical decompression is done when neurology deteriorates despite treatment [3,6,10,12]

On the other hand, tuberculous epidural abscess causing cauda equina syndrome is a surgical emergency. Early decompression is very essential for neurological recovery.[2,3,5,6,10,12] Early diagnosis and early decompression are the two most important predictors of a successful outcome.[5] In our case, we emergently decompressed the cauda equina by performing L4 to S2 laminectomy.

Concusion

In this case report, we presented a rare case where tuberculous epidural abscess without bony and pulmonary involvement presented with of cauda equina syndrome and which was managed successfully with early surgery and antituberculous therapy.

Figure 1. X-ray showing normal vertebrae

Figure 2. T1-weighted sagittal image of MR scan showing the epidural space involving lumbar and sacral region. All visualized vertebrae are normal.

Figure 3. T2-weighted sagittal image of MR scan showing.

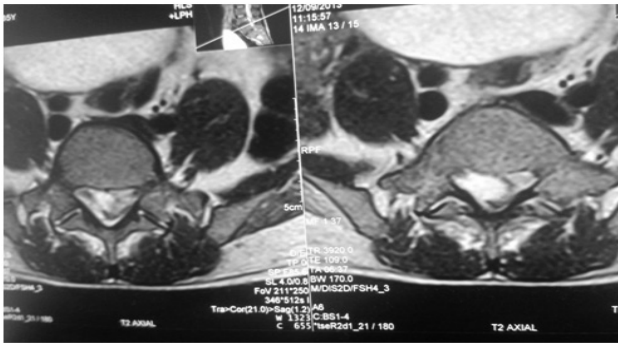

Figure 4. Axial MR image showing the epidural abscess compressing cauda equina.

Conflict of interests: None Declared

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