

Case Report

Unusual Involvement of Lateral Recess of Vertebrae in Potts Spine

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A B S T R A C T

Spinal tuberculosis is the commonest manifestation of extra-pulmonary tuberculosis. It usually presents with backache, paraparesis, and spinal deformity. It accounts for 2% of all tuberculosis cases, 15% of extra-pulmonary, and 50% of skeletal tuberculosis. Common vertebral lesions are paradiscal, central, anterior subligamentous, and neural arch. Most commonly affected vertebrae are thoracic followed by lumbar and cervical vertebrae. Lateral recess involvement is a rare entity. Here, we report a case of thoracolumbar tuberculosis with atypical involvement of bilateral lateral recess of thoracic vertebrae complicated with abscesses.

Keywords: Lateral recess, Paraparesis, Pott's spine, Tuberculosis

Introduction

Percival Pott first described spinal tuberculosis (TB) in 1779; hence, spinal TB was called Pott's Disease.¹ Tuberculosis is a major infectious disease worldwide, despite the improvement in public health policies and effective antitubercular treatment. Approximately nine million cases of TB are reported annually by WHO.² Vertebral involvement is common in extra pulmonary TB, accounting for 50% cases of osteoarticular TB.³ Due to nonspecific sign and symptoms, extra pulmonary TB is much difficult to diagnose. Complications like abscesses, fistula, neurological deficits occur if treatment is delayed. Spinal TB has the potential for serious morbidity, including permanent neurologic deficits and severe deformity.⁴ Thoracic and lumbar vertebrae are commonly involved in Pott's spine.

Case Presentation

A 26-year-old male presented with complaints of backache and progressive bilateral lower limb weakness for one month and urinary retention and constipation for three days. On general examination, patient was conscious and oriented. Blood pressure was 100/ 76 mmHg, pulse rate was 100 beats/ minute regular. On physical examination of the spine there was soft tissue swelling at lower thoracic region, localized tenderness, paravertebral muscle spasm, root pain, and motor and sensory involvement below the swelling. Power in upper limbs was normal while in lower limbs it was decreased up to 1/ 5 grade at the time of presentation. Knee jerk and ankle jerk reflexes were brisk while all deep tendon reflexes were normal in upper limbs. Bilateral planters were extensor. All other systems were within normal limit.

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Biochemical investigations revealed haemoglobin (Hb) of 10.3 gm/dl, total leukocyte (TLC) of 11,800 cells/ cumm, polymorphs 45% and lymphocytes 55%. Mantoux test was positive with induration of 20 mm, ESR was 56 mm/hr and CRP were 100mg/L. MRI spine revealed bilateral lateral recess involvement at D11 and D12, posterior element and vertebral body involvement at D12 was complicated with abscesses (Figure 1).

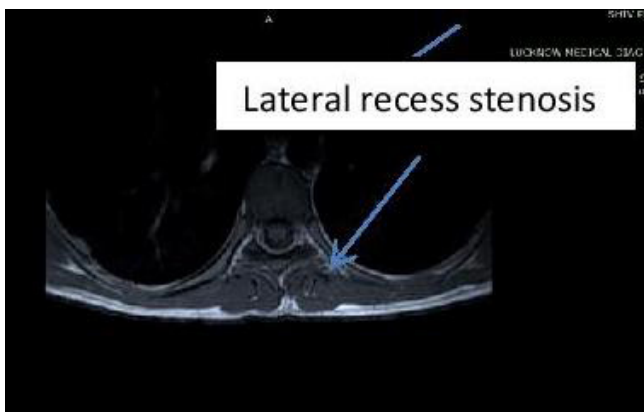


Figure 1. Axial view of MRI thoracic spine showing bilateral lateral recess stenosis

Dorsal spine epidural collection signifies pott's spine. CT guided fine needle aspiration cytology (FNAC) was done. Reports showed presence of tuberculoma which further confirmed tubercular aetiology (Figure 2).



Figure 2. FNAC smear showing epithelioid granuloma comprising of epithelioid cell, histiocytes lymphocytes in the background of caseous necrosis and inflammatory infiltrates

The main differential diagnosis of Potts spine is brucellosis, syphilis, salmonella osteomyelitis, pyogenic spondylodiscitis, actinomycosis, benign and malignant tumours of vertebral column and systemic fungal infections.

Patient was advised to start two-month course of rifampicin, isoniazid, pyrazinamide and ethambutol followed by rifampicin, isoniazid and ethambutol for next seven months. He was referred to neurosurgery department for surgical intervention, where debridement and bony fusion was done. Patient is improving well on ATT.

Discussion

Presentation of pott's spine varies depending on age of patient, stage of disease, site involved and complications. It presents initially as backache, anorexia, fever and weight loss. Average duration of symptom may be 4 month or longer at time of presentation.⁵ Severe complications like spinal deformity, neurological weakness, cold abscess and sinus tracts may occur.⁴ Lower thoracic and lumbar vertebrae are the most common sites of spinal TB followed by middle thoracic and cervical vertebrae.^{3,6} The lamina is most commonly involved followed by pedicles, articular processes, spinous processes, and transverse processes.⁶ On progression of disease, bone destruction and abscess formation occur in 75% of cases without causing any symptom and it may lead to high volume abscess and then compression of nerve structures and various neurological sequel occurs.⁷

Neurological deficit is more common in thoracic involvement of Pott's spine. Chemotherapy regimen used in pulmonary TB is currently also used for spinal TB, which includes two months of rifampicin (R), isoniazid (H), pyrazinamide (Z) and ethambutol (E) followed by rifampicin, isoniazid and ethambutol for next four months. Some physicians treat spinal TB for more than six months depending on clinical, laboratory and radiological finding.⁸ There is difference of opinion regarding the duration of drug therapy in spinal TB. Most of the prior studies favour 18-24-month anti-TB treatment. According to WHO recommendation spinal TB without neurological deficit should be treated for 6 months with 2HRZE/4HR, while the spinal TB with neurological deficit may be treated for 9 months with 2HRZE/7HR as we did in our case.⁹

In our case, there was thoracolumbar involvement of vertebrae with atypical involvement of bilateral lateral Recess at D11 and D12, posterior element and vertebral body at D12 complicated with abscess. After thorough clinical evaluation, biochemical and radiological investigations patient received both chemotherapy and surgical interventions and get improved.

In current practice, both clinical as well as surgical approach are used in Potts spine treatment.⁸ Drug failure, spinal

deformity, large paravertebral abscess, neurological deficit and pain are main indication for surgical approach in which debridement and removal of septic focus, sample collection for lab examination, decompression of spinal canal with stabilisation and restoration of infected segment and subsequent bony fusion are done. Effectiveness of chemotherapy gets increased after surgical approach. Anterior approach is better for surgery.¹⁰

Competing Interests: None

Ethical Clearance: Written informed consent was obtained from all participants.

Conflict of Interest: None

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