Case Reports

Tubercular Spinal Epidural Abscess Involving the Lumbo-Sacral Region: A Case Report with Review of Literature

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Abstract:

Tubercular spinal epidural abscess (SEA) without bony involvement is a rare condition but may be devastating and fatal.

This is a report of a rare case of a tubercular spinal epidural abscess in a 60 years old man who presented with paraparesis and Cauda-Equina Syndrome with Fournier's gangrene, but without vertebral bony involvement. MRI of the lumbosacral spine revealed huge collection of thick pus extradurally and posteriorly extending from L2 vertebra to sacral region. The abscess was treated surgically by posterior surgical decompression that involved laminectomy of L2 to L5 vertebra and pus was completely drained. Histopathology demonstrated Mycobacterium Tuberculosis bacteria in the drained pus. Anti- tubercular drugs were started postoperatively. The patient showed progressive improvement in his neurological deficits and started walking without support at 6 months of follow-up after hospital discharge.

Keywords: *Epidural; abscess; paralysis; lumbar-sacral; laminectomy; ATT; Ambulation*

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Introduction:

Spinal epidural abscess represents a severe pyogenic infection of the epidural space which may compress neural elements and require urgent surgical intervention to avoid permanent neurological deficits.[1] It is a rare variety reported with an incidence of 0.2 -2 cases per 10000 admissions at hospital.[2] The incidence of spinal epidural abscess is increasing in developing country which usually occurs secondary to tubercular spondylitis but may rarely develop by haematogenous spread by any foci. Tubercular spondylitis and its resulting complications are common in developing nations.[3] Early diagnosis with advanced imaging techniques, proper surgical intervention and effective coverage of broad spectrum antibiotics have led to gradual decrease in mortality rates but still data show high mortality rates of 5-33% in some series .[4] The purpose of this study was to analyse the clinical manifestations, prognostic indicators, source of infection and final outcomes in patients with SEA.[4]We present a rare case of spinal epidural abscess of tubercular origin involving the lumbar and sacral spine without osseous involvement.

Case Report:

A 60 years old man, farmer by occupation, developed pain, tingling and numbness in his both lower limbs for 2 months which was insidious in onset. After one and half months later, he developed dribbling of urine and slowly over one week, he developed incontinence of urine. During the course of his illness, he had history of intermittent type of fever and weight loss, for which he visited a general practitioner. He was

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diagnosed as a case of UTI and was advised some drugs. But the patient condition got worsened over time and got admitted at nearby hospital. A self-retaining urinary catheter with some medicines were advised and discharged after two weeks. After 2 weeks, patient developed Fournier's gangrene with bed sore in left sacral region. Surgical wound debridement and S.P.C was done under spinal block in September 2014 and was put on anti-tubercular regimen but patient later developed drug induced hepatitis. The drug was stopped and referred to higher centre and the patient was admitted in our hospital. MRI of the lumbosacral spine with whole spine screening film was done which showed there was significant compression over thecal sac extending from L2 to sacral region by huge collection of pus extradurally and posteriorly (Figure 1). Chest x-ray showed some patchy infiltrates around the mediastinal-hilar region. Neutrophil was 88%, ESR was 85 in 1st hour and was diagnosed as a case of epidural abscess from L2 to sacral region with lower limbs paraparesis and incontinence of urine.

Posterior surgical decompression was done by laminectomy of L2 to L5 vertebra. A thick collection of pus was found extraduraly and posteriorly which was sticky, yellowish in colour and was evacuated and thorough irrigation done with normal saline mixed with antibiotic Gentamycin. Dural sac was made free and pus was sent for Gram stain, culture and sensitivity, and Acid Fast Bacillus (AFB). Wound was closed over a suction drain.

Pus for AFB was found to be positive. Again, anti-tubercular therapy (ATT) was started following the report and was discharged under supervision. After one week, patient developed ulceration in the genito-perineal region which was treated conservatively. Postoperatively no significant improvement was noted and passive physiotherapy was advised. Gradually,

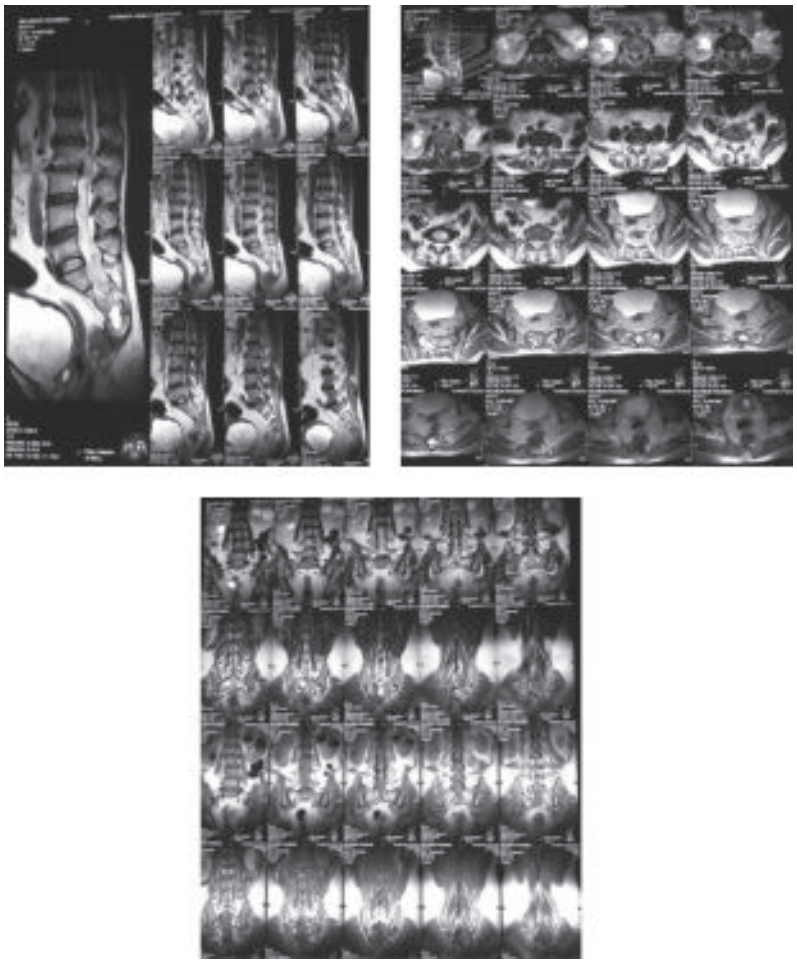

Fig.-1. *Preoperative MRI of Lumbosacral spine with different views showing significant compression over thecal sac extending from L2 to sacral region by huge collection of pus extradurally and posteriorly.*

patient regained improvement in power of his lower limbs and at 6 months of follow up, patient was found to have muscle power of 4 out of 5 in both his lower limbs and also control over his bladder function.

Discussion:

Most spinal infections in developed countries are due to pyogenic infections where as non pyogenic organisms are responsible for most spinal infections in developing countries and also in the immunocompromised patients in the developed nations.[1,3] Mycobacterium Tuberculosis is the most important organisms in developing nations.[1] One of the common cause of death in the world is tuberculosis (TB) which is assumed that two billion people are infected with TB, who can develop TB disease in their course of illness. TB mostly affects children and young adults. The risk factors regarding the development of the disease depends on the patient compliance and the geographical variations because of the different incidence of TB in each country. [5,9] Infection of the spine can pose a wide range of problems for both patient and the surgeon. Tuberculosis demonstrates a varieties of clinical and radiological findings and has a known propensity for dissemination from its primary site; therefore it can mimic a number of disorders. The microbiological diagnosis of spinal infection is very important because despite the surgical treatment, the medical management with ATT drugs is essential postoperatively for resolution of infection. An estimated 20% - 40% involved spinal tuberculosis patients have another focus of infection and due to lack of proper antimicrobial treatment, poor compliance of the patients and proper duration lead to flare of the infection. Despite proper management, the resistance to spinal tuberculosis is increasing.[6] Innumerable patients and lack of risk factors in most of the patient results in diagnosis delay during the process of the disease[11].

Cauda equina syndrome is uncommon; accounting for an incidence of 1–5% of spinal pathology in the literature. Acute trauma is a rare cause of this syndrome. The most common presenting features are bladder symptoms, saddle anaesthesia and loss of motor function. Early surgical decompression has been suggested to obtain a satisfactory recovery[7, 8, 10]. Patient with spinal epidural abscess (SEA) may have unknown focus of infection with pain and tenderness of the spine clue to proper investigation lead to early diagnosis of the disease[12].

Conclusion:

Spinal epidural abscess without bony and pulmonary involvement is uncommon but potentially devastating condition that challenge many clinicians regarding its proper diagnosis in timely fashion for appropriate management. MRI of the spine is a noninvasive and sophisticated tool for the early diagnosis of SEA due to spinal TB. Early diagnosis and adequate surgical decompression of the SEA compressing the thecal sac and nerve roots along with proper postoperative anti tubercular therapy leads to cure of the patient having good chances of recovery of neurological functions.

Conflict of interest

Authors declare no conflict of interest.

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