

Vertebral Osteomyelitis Caused by Candida Albicans in an IV Drug Abuser

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Abstract The incidence of back pain is listed only second to upper respiratory tract infection in symptomatic reason for office visits for a physician. Diagnosing rare and serious causes of back pain may be challenging in outpatient setting. We present a 31 year old male, an IV drug abuser, presenting with severe back pain radiating to his bilateral hips due to L1-L2 Osteomyelitis secondary to Candida Albicans infection.

Keywords: candidial vertebral osteomyelitis, back pain

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1. Introduction

Back pain is the most common complaint by patients in outpatient set up. The challenge for clinicians is to identify the fewer patients with a significant probability of a more serious problem that requires further workup. Spondylodiscitis is a relatively unusual disease accounting for 2–7% of all cases of pyogenic osteomyelitis, with incidence varying from 1 per 100,000/year to 1 per 250,000/year [1]. The mean age for the disease incidence is 50 years, and the lower thoracic or lumbar spine is involved in 95% of patients [2]. Here we present one such challenging case who presented to us as lower back pain.

2. Case Presentation

A 31 year old male with history of drug abuse presented to emergency department with lower back pain for a month which had worsened for last 2 days. He had previously presented to clinic for back pain, X ray lumbar spine was ordered at that time which was normal. He was prescribed painkillers and flexeril. This time back pain got worst and he developed severe lower extremity weakness. On examination there was mild tenderness at L1-L2 with no redness or warmth. Neurological examination showed power 4/5 in both extremities and areflexia but no sensory loss. MRI of the spine was performed, which showed discitis and osteomyelitis at L1-L2 with destructive endplate changes including phlegmonous change extending along the anterior cortex of L1-L2 and involving the right psoas muscle with myositis [Figure 1, Figure 2]. An approximate of 4ml of fluid was aspirated from the L1-L2 vertebra, and patient was empirically treated with I.V vancomycin. The Drained fluid was sent for culture and sensitivity which was reported positive for

Yeast. Empiric treatment for Candida with I.V Micofungin 100mg daily was started. Once the final fungal culture showed Candidial Albicans growth, a loading dose of Oral Fluconazole 800 mg was given and patient was discharged home on maintenance dose of 400mg daily to be continued for 6. His symptoms continued to improve in next couple of weeks. HIV testing was also done which came back negative.



Figure 1. MRI spine showing L1- L2 Osteomyelitis

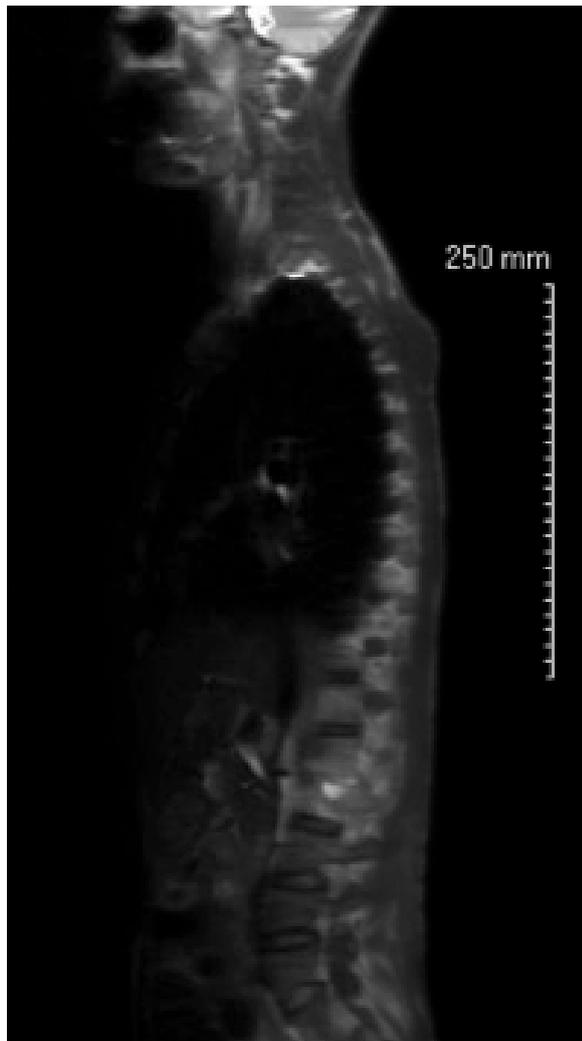


Figure 2. MRI spine showing prominent Psoas Abscess

3. Discussion

Back pain is the second most common symptom-related reason for clinician visits in the United States [3]. Up to 85 percent of adults have low back pain at some point in their lives [4]. The etiologies for Back pain has a broad spectrum. For most patients with low back pain, an accurate patho-anatomical diagnosis is often not possible, which leads to numerous imprecise diagnoses (eg: sprain or strain). Vertebral bone infections caused by fungi are not common. A recent review of vertebral osteomyelitis caused by *Aspergillus* species describes only 41 cases in the published literature [5]. Cases of fungal vertebral osteomyelitis caused by the endemic fungi *Coccidioides immitis* and *Blastomyces dermatitidis* have also been described [6,7]. We came across a case of vertebral osteomyelitis caused by *C. Albicans* in IV drug abuser and searched the medical literature for similar cases. *Candida* species are typically commensal organisms and are either a part of the normal human flora or associated with clinically benign infections, such as vaginitis. [8] However, in the presence of impaired host immunity as in HIV infection or repeated intravascular access as in our case with IV drug abuse, *Candida* species can become invasive pathogens. Other organisms which are known to cause Osteomyelitis in IV drug abusers are *Staphylococcal*

aureus, *Pseudomonas aeruginosa* [1]. Early detection of Candidial Lumbar Osteomyelitis is difficult unless the patient develops back pain with or without fever or Neurological deficits impending Vertebral compression or abscess formation. As soon as Vertebral Osteomyelitis is diagnosed, urgent confirmation of organism with bone biopsy or bone aspiration is necessary as treatment involves long term use of antibiotics for at least 6 weeks [1]. MRI of spine for confirmation of underlying complications like compression or Abscess formation also plays a prime role. Our patient was diagnosed with vertebral Osteomyelitis after MRI spine with contrast and aspiration of L1 L2 diskitis. Drainage culture was positive for Yeast infection. Patient was started on emperic I.V Micafungin for possible Candidial infection which was switched to oral Flucanazole once the report confirmed *Candida albicans* infections, which was continued for 6 months. His symptoms resolved with the treatment.

4. Conclusion

1. Although *Staphylococcus aureus* is the most important infecting organism of osteomyelitis in drug users, other organisms including *pseudomonas aeruginosa*, *candida albicans* or even gram-negative bacilli can be the cause which should not be neglected in IV drug abusers.
2. Vertebral Osteomyelitis should be high on differential diagnosis in IV drug abusers presenting to clinics with back pain. Vertebral osteomyelitis should still be considered if such patients don't have any constitutional symptoms.
3. Early detection and appropriate treatment of Candidial Osteomyelitis with antifungals is important to prevent disabling conditions like vertebral abscess and compression.

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