

Extensive Paraspinal Tuberculosis Masquerading Malignant Tumor in an Elderly Male

Abstract

Paraspinal tuberculosis is an uncommon manifestation of extrapulmonary tuberculosis, and in rare cases, these lesions can mimic malignant lesions. We report a case of an elderly man where imaging showed extensive left paraspinal lesion which was mimicking malignant neoplasm. The patient underwent L3–L4 unilateral partial laminotomy, there was grayish, relatively avascular lesion in the left paraspinal region, involving the left psoas muscle and going into the neural foramina, and a subtotal resection of the lesion could be performed. However, after biopsy, it turned out to be tuberculoma, and the patient was on antitubercular therapy and doing well. The present case illustrates that extensive involvement of the paraspinal soft tissue and adjacent bony structures on imaging in tuberculosis can mimic malignant tumors. Conservative surgical excision will help in preserving the bony elements and in establishing the diagnosis.

Keywords: Paraspinal tuberculosis, paraspinal tumors, spinal tuberculosis, tuberculoma

**Veldurti Ananta
Kiran Kumar,
Vissa Shanthi¹,
Yashwanth
Sandeep,
Veda Dhruthy
Samudrala,
Amit Agrawal**

*Departments of Neurosurgery
and ¹Pathology, Narayana
Medical College Hospital,
Nellore, Andhra Pradesh, India*

Introduction

Involvement of thoracolumbar spine is one of the most common sites for musculoskeletal tuberculosis.^[1] However, paraspinal extension of tuberculosis and involvement of psoas muscle are uncommon.^[2] Rarely, this paraspinal involvement can mimic malignant lesion and can be diagnostic challenge even in endemic countries.^[1,3-8] In the present article, we report a case of an elderly man who presented with a large paraspinal tubercular lesion which was masquerading malignant lesion and review the literature.

Case Report

A 65-year-old man presented with a history of mild low back ache pain 1-month duration, radiating to flanks and anterior aspect of abdominal wall. He also had burning sensation and paresthesia in both lower limbs (below groin) of 1-month duration. He had dull abdominal pain for the last 3 weeks, which was associated with loss of appetite. There was no history of fever, trauma, or any focal weakness. There was no history of bowel and bladder disturbances. There was no history of diabetes, hypertension, or tuberculosis. There was no history suggestive of contact

with tuberculosis. He was not a smoker or alcoholic. His nutritional status and general and systemic examination were normal. His abdominal examination was unremarkable, and there was no tenderness or hepatosplenomegaly. On spine examination, there was tenderness over L3–L4 region. There was no gibbous or deformity. Higher mental functions and cranial nerves were normal. Motor and sensory examination was normal. Deep tendon reflexes in the upper and lower limbs were normal. Planters were bilateral flexors. X-ray of the chest and lumbar spine was normal. His blood investigations except erythrocyte sedimentation rate (40 mm in 1 h) were within normal range. Ultrasound abdomen showed a lobulated measuring 5.8 cm × 4 cm × 7.3 cm in the left retroperitoneal paraspinal region lateral to the aorta at L3 level. The patient was further investigated with magnetic resonance imaging (MRI) of the lumbar spine which showed a heterogeneous mass at L3 level, mainly located in the left paraspinal area and involving the left psoas muscle. The lesion was extending into the neural foramina with signal changes in vertebral bodies; there was compression of the thecal sac and obliteration of the subarachnoid space [Figures 1-3]. The mass was heterogeneously enhancing after

Address for correspondence:

*Dr. Amit Agrawal,
Department of Neurosurgery,
Narayana Medical College
Hospital, Chinthareddypalem,
Nellore - 524 003,
Andhra Pradesh, India.
E-mail: dramitagrawal@gmail.
com*

Access this article online

Website: www.asianjns.org

DOI: 10.4103/ajns.AJNS_2_17

Quick Response Code:



How to cite this article: Kumar VA, Shanthi V, Sandeep Y, Samudrala VD, Agrawal A. Extensive paraspinal tuberculosis masquerading malignant tumor in an elderly male. Asian J Neurosurg 2018;13:1202-4.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

contrast administration. Based on imaging findings and short clinical history, a diagnosis of the left paraspinal malignant tumor was suspected. The patient underwent L3–L4 unilateral partial laminotomy, there was grayish, relatively avascular lesion in the left paraspinal region, involving the left psoas muscle and going into the neural foramina, and a subtotal resection of the lesion could be performed. There was no pus in the lesion. Bony elements were relatively healthy on inspection. The patient recovered well after surgery. Histopathological examination of the excised tissue showed caseous necrosis with adjacent granulomas containing epithelioid cell, Langhans giant cells, and lymphocytes suggestive of tuberculosis [Figure 4]. The patient was advised to bear thoracic corset and started on antitubercular treatment (rifampicin, isoniazid [INH], pyrazinamide, and ethambutol for 3 months followed by rifampicin and INH for further 9 months) and doing well at 9-month follow-up.

Discussion

Skeletal tuberculosis, an extrapulmonary of tuberculosis, can present without significant systemic clinical manifestation,^[5,7,9,10] and the disease in the dorsolumbar region can extend into the adjacent paravertebral tissue and can involve psoas muscle as well.^[5,10-13] As we observed in the present case, the clinical manifestation of paraspinal tuberculosis can be vague and may not be associated with

constitutional symptoms, particular in cases where the disease mimics malignant lesions.^[1,7] Imaging modalities to investigate paraspinal lesions include computed tomography scan and MRI.^[12] Because of its multiplanar capability, MRI is the preferred investigations as it will help understand the extent of the disease and plan the surgical approach.^[14-16] However, if there is unusual presentation of the paraspinal lesions, based only on imaging, there may be a difficulty in making a correct preoperative diagnosis.^[17-19] The differential diagnosis of extensive paraspinal soft tissue and adjacent include malignant tumors, metastasis, pyogenic and fungal infections, sarcoidosis, and rarely paraspinal tuberculosis.^[1,20] The management of paraspinal lesions is aimed to confirm the diagnosis, either fine needle aspiration cytology or preferably by complete surgical resection.^[5,21-23] To maintain the stability of the spine, we performed the partial unilateral laminotomy. In the present case, we could perform subtotal resection, and once we could confirm the diagnosis of tuberculosis, the patient received antitubercular treatment as per standard protocol.^[4,21,22,24]

Conclusion

The present case illustrates that extensive involvement of the paraspinal soft tissue and adjacent bony structures on imaging in tuberculosis can mimic malignant tumors. Surgical excision while preserving the bony elements can help in ascertaining the diagnosis which can be followed by an adequate course of antitubercular therapy.

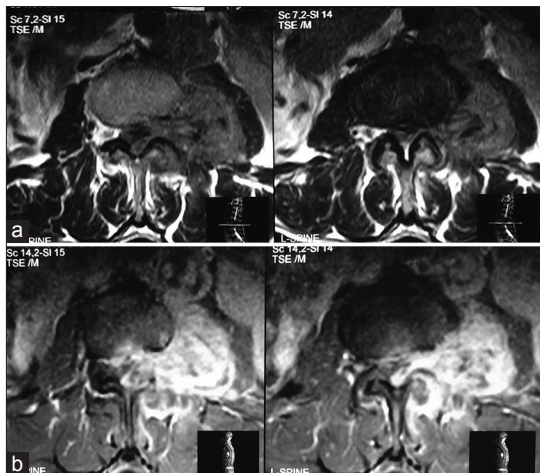


Figure 1: Axial T2 (a) and fluid-attenuated inversion recovery (b) images of the spine showing altered signal intensity in vertebra with enhancing soft tissue causing neural foraminal narrowing and traversing nerve root compression

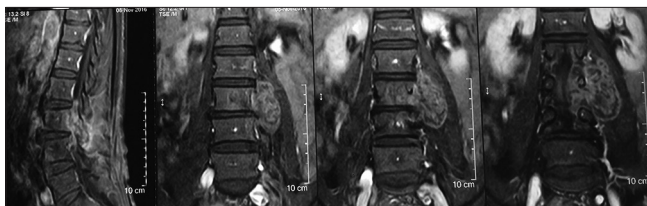


Figure 3: Postcontrast coronal images showing the extension of the lesion along the left psoas muscle

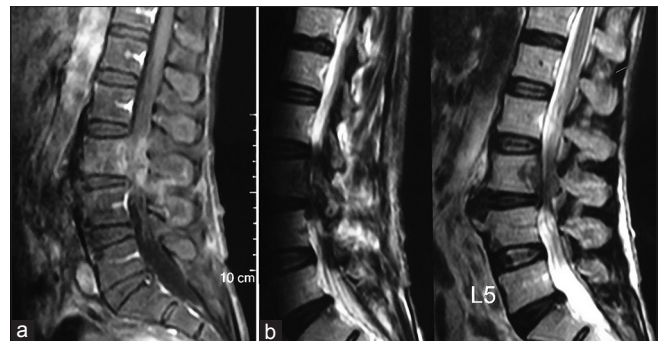


Figure 2: Sagittal fluid-attenuated inversion recovery (a), T2 (b) images of the spine showing altered signal intensity lesion which involving epidural soft tissue

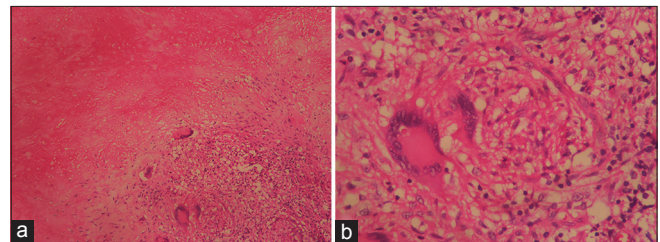


Figure 4: (a) Section showing caseous necrosis with adjacent granulomas containing epithelioid cell, Langhans giant cells and lymphocytes (H and E, ×100) and (b) granuloma with Langhans giant cell, epithelioid cells, and lymphocytes (H and E, ×400)

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Khattry N, Thulkar S, Das A, Khan SA, Bakhshi S. Spinal tuberculosis mimicking malignancy: Atypical imaging features. *Indian J Pediatr* 2007;74:297-8.
2. Ingole K, Pawar S, Pathak S, Sharma A. Psoas abscess secondary to Pott's spine: A case report. *IOSR J Dent Med Sci* 2016;1:118-21.
3. Yalniz E, Pekindil G, Aktas S. Atypical tuberculosis of the spine. *Yonsei Med J* 2000;41:657-61.
4. Markowski J, Witkowska M, Gierek T, Pasternak K, Ciupinska-Kajor M, Kajor M, *et al.* Head and neck tuberculosis – Still current problem in ENT practice. *Otolaryngol Pol* 2011;65:272-5.
5. Emir S, Erdem AY, Demir HA, Kaçar A, Tunç B. Spinal tuberculosis (Pott's disease) mimicking paravertebral malignant tumor in a child presenting with spinal cord compression. *J Lab Physicians* 2012;4:98-100.
6. Alherabi AZ, Marglani OA, Gazzaz MJ, Abbas MM. Paraspinal tuberculosis mimicking malignancy. *Saudi Med J* 2013;34:1296-8.
7. Nohrström E, Kentala E, Kuusela P, Mattila PS. Tuberculosis of the head and neck in Finland. *Acta Otolaryngol* 2007;127:770-4.
8. Wierzba-Bobrowicz T, Michalak E, Michalik R, Stepień T. Case report. Cervical spinal tuberculosis. *Folia Neuropathol* 2010;48:300-4.
9. Nalini B, Vinayak S. Tuberculosis in ear, nose, and throat practice: Its presentation and diagnosis. *Am J Otolaryngol* 2006;27:39-45.
10. Benzagmout M, Boujraf S, Chakour K, Chaoui Mel F. Pott's disease in children. *Surg Neurol Int* 2011;2:1.
11. Adelekan MO, Taiwo SS, Onile BA. A review of psoas abscess. *Afr J Clin Exp Microbiol* 2004;5:55-63.
12. Yao DC, Sartoris DJ. Musculoskeletal tuberculosis. *Radiol Clin North Am* 1995;33:679-89.
13. Malaviya AN, Kotwal PP. Arthritis associated with tuberculosis. *Best Pract Res Clin Rheumatol* 2003;17:319-43.
14. Hoffman EB, Crosier JH, Cremin BJ. Imaging in children with spinal tuberculosis. A comparison of radiography, computed tomography and magnetic resonance imaging. *J Bone Joint Surg Br* 1993;75:233-9.
15. Modic MT, Feiglin DH, Piraino DW, Boumpfrey F, Weinstein MA, Duchesneau PM, *et al.* Vertebral osteomyelitis: Assessment using MR. *Radiology* 1985;157:157-66.
16. Gautam VK, Singh R. Surgical management of neurotuberculosis: Review of radiological spectrum. *Int J Health* 2013;1:1-7.
17. Huang B, Li CQ, Liu T, Zhou Y. Primary non-Hodgkin's lymphoma of the lumbar vertebrae mimicking tuberculous spondylitis: A case report. *Arch Orthop Trauma Surg* 2009;129:1621-5.
18. Gunes D, Uysal KM, Cetinkaya H, Tekin HG, Yuceer N, Sarialioglu F, *et al.* Paravertebral malignant tumors of childhood: Analysis of 28 pediatric patients. *Childs Nerv Syst* 2009;25:63-9.
19. Sinan T, Al-Khawari H, Ismail M, Ben-Nakhi A, Sheikh M. Spinal tuberculosis: CT and MRI feature. *Ann Saudi Med* 2004;24:437-41.
20. Burrill J, Williams CJ, Bain G, Conder G, Hine AL, Misra RR. Tuberculosis: A radiologic review. *Radiographics* 2007;27:1255-73.
21. Soares Do Brito J, Tirado A, Fernandes P. Surgical treatment of spinal tuberculosis complicated with extensive abscess. *Iowa Orthop J* 2014;34:129-36.
22. Maron R, Levine D, Dobbs TE, Geisler WM. Two cases of pott disease associated with bilateral psoas abscesses: Case report. *Spine (Phila Pa 1976)* 2006;31:E561-4.
23. Handa U, Garg S, Mohan H, Garg SK. Role of fine-needle aspiration cytology in tuberculosis of bone. *Diagn Cytopathol* 2010;38:1-4.
24. McAllister KA, MacGregor FB. Diagnosis of tuberculosis in the head and neck. *J Laryngol Otol* 2011;125:603-7.