10.5005/jp-journals-10039-1205

CASE REPORT

A Case Report of Spondylodiscitis Masquerading as Malignancy

[1]K Naveenkumar, [2]R Krishnakumar

ABSTRACT

Aim: A case report of spondylodiscitis mimicking as malignancy.

Background: Spinal infections include a broad spectrum of presentations like spondylodiscitis, osteomyelitis and paravertebral abscess formation. Disease presentation is varied and can be back pain, leg pain, fever or neurologic deficit. Diagnosis is often delayed by misinterpretation of spinal infectious diseases with urological or abdominal disorders and malignancies.

Case description: Sixty-year-old male presented with Low Back pain and radiating right leg pain. He underwent computed tomography (CT) guided biopsy from the left paravertebral region at L3 level. Biopsy showed fibromuscular tissue and collagen infiltrated with poorly differentiated spindle cells, suggestive of poorly differentiated low-grade mesenchymal neoplasm. He was started on radiotherapy and chemotherapy. The patient followed the treatment for 4 weeks and his condition continued to worsen since then. The patient was referred to our center. magnetic resonance imaging (MRI) showed L2-L3 level T1 hypointense endplate changes with marrow edema with thick walled soft tissue paravertebral collections on bilateral psoas. Laboratory results showed elevated ESR (65 mm) and Image result for CRP full form in medicalwww.medicalnewstoday.com

C-Reactive Protein (CRP) (102) values. Intraoperatively, granulation tissue was seen compressing the cord and frank pus discharge seen after annulotomy of the L2–L3 Disc space. Biopsy obtained, decompression and stabilization done. Histopathology showed tissue infiltrated by neutrophils, no granuloma/malignant cells, consistent with suppurative inflammation. *Escherichia coli* heavy growth obtained in tissue culture. The patient was started on culture sensitive antibiotics. He showed signs of clinical improvement and continued on intravenous antibiotics for 3 weeks, followed by oral antibiotics for 3 weeks. At 24 weeks, he is completely relieved of pain, doing his routine activities, walking independently and lab values normal.

Conclusion: Spinal infections should be suspected in patients with back pain, fever, and elevated inflammatory markers. Diagnosis should involve imaging, microbiology, and histopathology.

[1]Senior Resident, [2]Consultant and Unit Head

[1]Department of Orthopedics, Sri Manakula Vinayagar Medical College and Hospital, Puducherry, India

[2]Department of Spine Surgery, Medical Trust Hospital, Kochi, Kerala, India

Corresponding Author: R Krishnakumar, Consultant and Unit Head, Department of Spine Surgery, Medical Trust Hospital, Kochi, Kerala, India, e-mail: Krishnakumar.ram@gmail.com

Clinical significance: Tissue culture and histopathological examination should be indicated for all spinal lesions to avoid mismanagement.

Keywords: Mesenchymal neoplasm, Role of culture and biopsy

How to cite this article: Naveenkumar L, Krishnakumar R. A Case Report of Spondylodiscitis Masquerading as Malignancy. J Spinal Surg 2019;6(1):22-25.

Source of support: Nil

Conflict of interest: None

BACKGROUND

Spinal infections include a broad spectrum of presentations like spondylodiscitis, osteomyelitis and paravertebral abscess formation.[1] Disease presentation is varied and can be back pain, leg pain, fever or neurologic deficit. Psoas mass is a unique entity in spondylodiscitis due to its anatomic position and its proximity to abdominal organs.

CASE DESCRIPTION

Sixty-year-old male presented with Low Back pain and radiating right leg pain for the past four months. Back pain increased in severity and later he developed difficulty in walking. History of low-grade fever associated with chills and rigors. The patient was treated at another center for Low back pain initially. MRI showed altered signal intensity in L2 and L3 vertebra with enhancement of left prevertebral region, enlarged paraaortic lymph nodes. He underwent CT guided biopsy from the left paravertebral region at L3 level. Biopsy showed fibromuscular tissue and collagen infiltrated with poorly differentiated sheets of the spindle to ovoid cells with moderate eosinophilic cytoplasm and vesicular nuclei, suggestive of poorly differentiated low-grade mesenchymal neoplasm. He was referred to another center for further intervention, where he was started on radiotherapy and chemotherapy, based on MRI and biopsy findings. The patient followed the treatment for 4 weeks, and his condition continued to worsen since then. Back pain increased significantly, which was severe in nature. He then started developing right leg pain and became bedridden. He discontinued the treatment and went to another center, where a repeat MRI scan was advised. MRI showed altered signal intensity at L2 and L3 vertebra with fluid signal intensity in disc space with

Fig. 1: MRI T1 weighted sagittal image showing altered signal intensity at L2 and L3 end plates

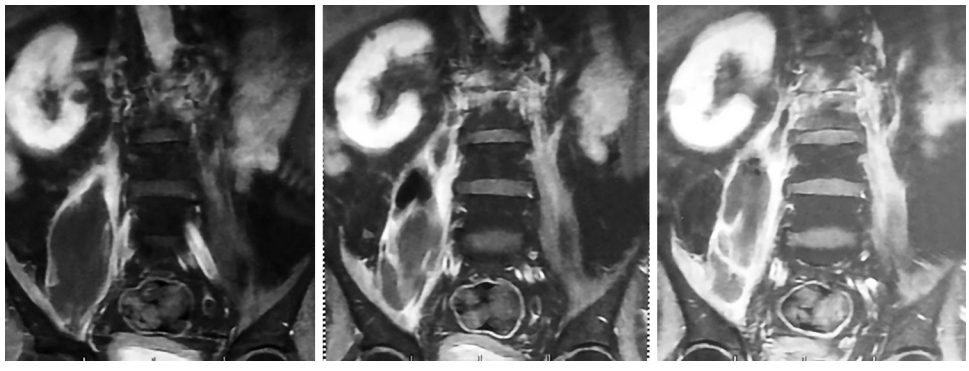

Fig. 2: MRI STIR coronal image showing signal alteration in L2-L3 paravertebral region with enhancing lesion in right psoas region.

a communicating large psoas abscess over right (Figs 1 and 2). Technetium bone scan showed increased tracer uptake at L2 and L3 vertebra. The patient was referred to our center for further care. On examination there was tenderness over back (thoracolumbar junction), spine range of movements was restricted, decreased sensations over the anterior aspect of the leg, no motor weakness, reflexes were normal and right hip flexion deformity was noted. Radiographs showed the collapse of L2–L3 disc space. MRI showed L2–L3 level T1 hypointense endplate changes with marrow edema and heterogeneous enhancement of L2 body and L3 superior endplate (Figs 3 to 6) with thick walled soft tissue paravertebral collections on bilateral psoas. Moderate spinal Cord compression from epidural collections was seen. Laboratory results showed elevated ESR (65 mm) and CRP (102) values. We planned for open biopsy, Decompression, surgical drainage of psoas abscess and spine stabilization. Intraoperatively, granulation tissue was seen compressing the cord and frank pus discharge seen after annulotomy of the L2–L3 Disc space. Biopsy obtained, decompression and stabilization done. Frank pus drained from bilateral psoas abscess and drain was kept. Histopathology showed tissue infiltrated by neutrophils, no granuloma/malignant cells, consistent with suppurative inflammation. *Escherichia coli* heavy growth obtained in tissue culture. Urine culture showed Escherichia coli significant growth. The patient was started on culture sensitive antibiotics. He showed signs of clinical improvement and continued on intravenous antibiotics for 3 weeks, followed by oral antibiotics for 3 weeks. At 24 weeks, he is completely relieved of pain, doing his routine activities, walking independently and lab values (ESR-12 mm, CRP-3) are normal.

DISCUSSION

Diagnosis of patients with Infections and malignancy is of major importance, which decides the course of management. A delay in diagnosis or misdiagnosis results in progression of the disease and worsening of the clinical scenario. Spinal infections present with back pain, leg pain, neurologic problems or a psoas

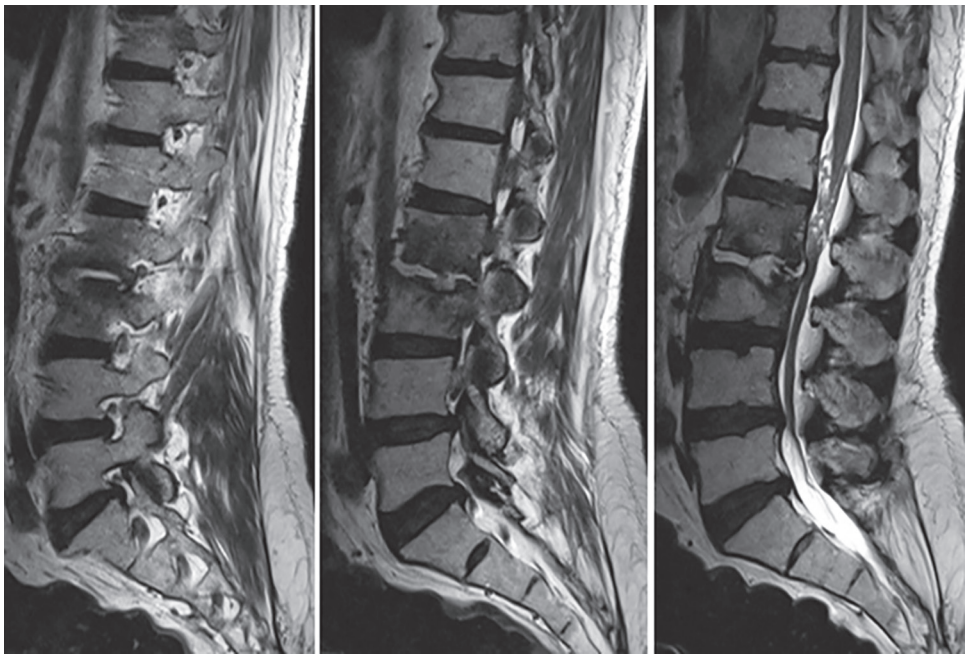

Fig. 3: MRI T2 weighted sagittal image showing L2-L3 end plate enhancement with hyperintensity over disc space

Fig. 4: MRI Inversion recovery images showing L2-L3 space hyperintensity

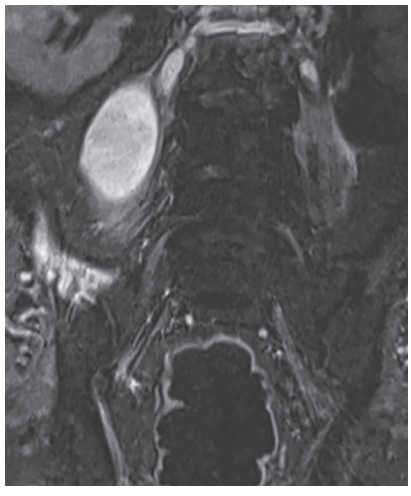

Fig. 5:MRI STIR image showing Right psoas showing thick walled lesion

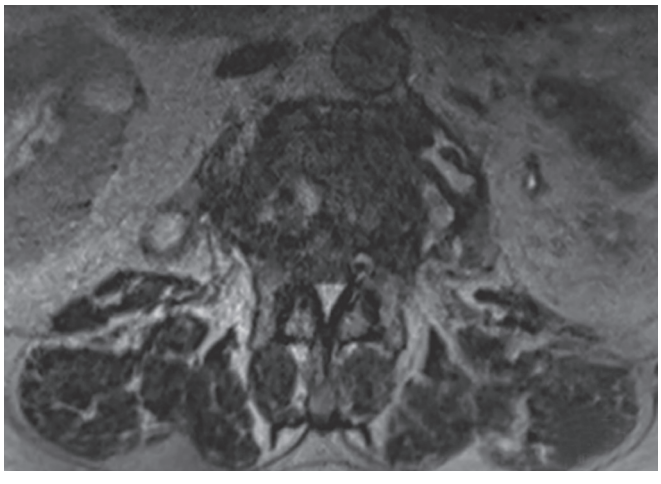

Fig. 6:MRI axial image showing Epiduracollection showing spinal cord compression

abscess with hip flexion deformity. Evidence of spondylodiscitis, though classic for infection, is not uniformly present in all cases and is often absent without involvement of contiguous vertebrae.[2] Psoas is generally associated with infectious abscess formation or malignancy. Psoas muscle originates from the transverse process of L2, L3 and L4 vertebra, lies close to major abdominal organs such as colon, jejunum, appendix, kidneys, ureter, aorta, pancreas, iliac nodes and lumbar spine. Psoas muscle has a rich vascular supply, which makes it a target for infectious or malignant deposits.[3] The spread can occur via the hematogenous route, contiguous from abdominal organs or from the spine. Misdiagnosis of a spinal infection may be detrimental; the commencement of immunosuppressive therapy may lead to dissemination and often fatal infections. Imaging demonstrating end plate erosions, disc enhancement, and paraspinal inflammation increases the sensitivity and specificity of infection, but atypical organisms often lack

these features.[4] Histopathology and microbiological examination of the biopsy sample are indicated. A frozen-section analysis should always be considered in suspected malignancy. The importance of obtaining an adequate biopsy sample is to be considered.[5] If the patient condition is not improving with treatment, it is always recommended to repeat the imaging and biopsy. García-Bordes et al.[6] believed MRI and microbiology are vital in diagnosing pyogenic discitis. Pramod et al.,[1] in their study on pyogenic spondylodiscitis, suggested debridement and stabilization followed by appropriate antibiotics based on culture and histopathology. Falagas et al.,[7] in their review on tuberculosis and malignancy stated that if biopsy specimens reveal infiltration by malignant cells, the material should also be sent to a microbiology laboratory with specific instructions to perform stain and culture for M. tuberculosis. They insisted on ruling out tuberculosis and other infections in all cases of suspected malignancy. Amukotuwa et al.,[8] in their case report stated imaging as a key tool in helping diagnosis, histopathological and microbiological confirmation ultimately confirms the diagnosis. The role of a clinically directed multimodality imaging approach for the exclusion of malignancy and infection was emphasized. Blum et al.,[9] in their report, recommended culturing all suspected tumors and obtaining a biopsy of all infections. Patil et al.[10] stated in their report to include tuberculosis or infections as a differential diagnosis of the malignant lesion and also the importance of tissue diagnosis and microbiology.

CONCLUSION

To conclude, spinal infections should be suspected in patients with back pain, fever, and elevated inflammatory markers. Diagnosis should involve imaging, Microbiology, and Histopathology. Tissue culture and Histopathology of the specimens is the key to avoiding mismanagement of any lesion.

CLINICAL SIGNIFICANCE

Tissue culture and histopathological examination should be indicated for all spinal lesions. Mismanagement will result in a disastrous outcome for the patient. Culture all biopsy specimens and do a biopsy for all infections.

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