Case Report

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Diagnosis and Management of Spondylodiscitis

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Abstract

Spondylodiscitis is an infection of the spine that involves the intervertebral disc and the vertebral body characterized by insidious onset and nonspecifific symptoms. The clinical examination, neurological status at the time of presentation and strong suspicion are major factors in the treatment decision making and patient outcome. Early diagnosis has a crucial role in the management of the disease and inclines the morbidity rates. We present a case of 53-year-old female who presented with back pain and diagnosed to have spondylodiscitis. The diagnostic work-up included blood investigations, MRI, CT guided biopsy and culture.

Keywords: Spondylodiscitis, back pain, management, diagnosis.

Introduction

The incidence of spondylodiscitis seems to be increasing in the last years as a result of higher life expectancy and improved diagnostic tools. Although it is polymicrobial in nature, tuberculous spondylodiscitis is more common in developing and underdeveloped countries. Staphylococcus aureus is the most common organism implicated in pyogenic spondylodiscitis.[1]

Clinical presentation of spondylodiscitis is generally vague and non-specific.[2] The most common symptom is back or neck pain, typically worse at night. During physical examination, in the majority of cases, tenderness, paravertebral muscle spasm and restricted spinal range of movement are observed.[3] The general symptoms include weakness, fatigue, fever and chills.

Laboratory tests like Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) levels are more helpful in the diagnosis.[3] X-ray is helpful at the beginning; however it is not a sensitive method for diagnosis.[4] MRI is the most sensitive (93–96%) and specific (92.5–97%) modality for early detection

of spondylodiscitis.[5] It can differentiate between pyogenic discitis, neoplasia and TB, provides better definition of the paravertebral and epidural spaces. It also allows optimal assessment of any compression of neural elements.[6]

The treatment of pyogenic spontaneous spondylodiscitis is either conservative or surgical. The goals of treatment should be to relieve pain, prevent or reverse neurologic deficits, eradicate infection, prevent relapse, and establish spinal stability.

Case Report

A 53-years-old female with no medical co-morbidities presented with 3 months history of upper back (thoracic) pain without relevant general symptoms. Associated morning stiffness was present. Laboratory tests were: ESR– 52 mm/1st hour, HsCRP– 17.9 mg/L, Hb– 13.3g/dl, WBC– 10,300, RA factor-Negative, Uric acid– 1.8 mg/dl, Viral markers- non-reactive.

MRI spine– Features suggestive of spondylodiscitis at D7–D8 level, likely to be of Koch's etiology. Broad based disc bulge at L4–L5 causing compression on subarachnoid space. Posterocentral disc protrusion with focal annular tear at L5–S1 causing compression on subarachnoid space. Bilateral sacroilitis.

CT guided biopsy at D7–D8 level- microscopy revealed epitheliod granuloma with Langhan's giant cells. The adjacent area shows chronic inflammation admixed with few calcified tissue bits.

ZN stain– Free AFB-negative for AFB.

Impression– D7–D8 vertebral body features suggestive of Granulomatous lesion possibly Tuberculosis.

Results

After the diagnosis, we started the patient on Anti tubercular treatment for 6 months as stated in the literature. On subsequent follow ups the back pain gradually subsided with no residual stiffness of the back.

Fig. 1:

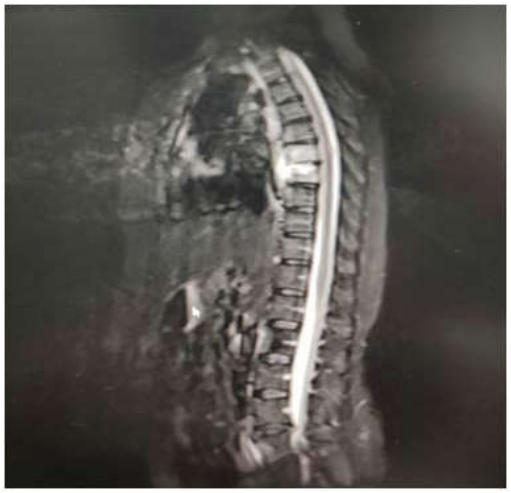

Fig. 2:

Discussion

Experimental studies suggest that low back pain mayoriginate from many spinal structures and 85% of patients with isolated lowback pain cannot be given a precise pathoanatomical diagnosis. The association between symptoms and imaging results often feeble.[7] As reported by Goel et al. often in the older population the absence of fever or leukocytosis in almost half the patients, coupled with nondiagnostic plain radiograph changes resulted in a delayed diagnosis.[8] It is common the presence of comorbidities in these patients, especially those who have a decreased immune response cell type. Increased risk has been observed in patients with diabetes mellitus, HIV infection, kidney or liver failure, obstructive pulmonary disease, chronic corticosteroid use, alcohol consumption and use of immunosuppressive transplanted. Our patient was lacking the above

history. Imaging studies like MRI and CT guided biopsy are of great importance for the diagnosis along with the strong suspicion for the condition. Treatment involves the administration of anti tubercular drugs for aminimum period of 6 months and surgical intervention reserved for the patients presenting mainly with neurological symptoms or progressive deformity or instability.

Conclusion

A high degree of suspicion is required for ealy diagnosis of spondylodiscitis and to prevent surgical intervention. Patients with suspicious spondylodiscitis should receive appropriate blood examinations, MRI and CT guided biopsy. Those selected for conservative treatment without surgery should be monitored closely with serial clinical examinations (at least weekly), ESR determinations (every 2–4 weeks), and MRI or CT (to assess the abscess size and extent, until resolution).

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