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Case Report

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Rare case of Sternoclavicular joint tuberculosis with non contiguous multifocal spine involvement.

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Abstract

Tuberculosis is a chronic disease which may have varied presentations. Though pulmonary tuberculosis is the commonest, extrapulmonary tuberculosis involving skeletal system is often seen. We here present a case of tuberculosis involving multiple anatomical locations in an immune-competent patient which was diagnosed radiologically and confirmed with histological examination. Patient was put on multidrug antitubercular therapy and responded well to the treatment with improvement clinically. This report of a rare case makes us aware of the varied presentations which tuberculosis can present with. This is even more important in countries with poor socioeconomic conditions.

Keywords: Sternoclavicular joint, Tuberculosis, Spine

Introduction

TB infection of the bones and joints causes chronic pain, deformity and disability, and TB of the cervical spine can be life threatening. Bone and joint TB makes up around 10% of all EPTB cases, with spinal TB being the most common form. Around 1–2% of all TB cases worldwide are spinal TB cases. Both adults and children can be affected.

The sternoclavicular joint is a rare site for extra pulmonary tuberculosis and that too along with other anatomical sites involvement. Diagnosis may be

delayed because of its rarity and unusual clinical presentation. Early diagnosis and prompt treatment with standard antituberculous agents would hasten complete recovery.

Tuberculosis of the chest wall constitutes 1-5% of all cases of musculoskeletal tuberculosis, which in turn represents between 1-2% of the total cases of tuberculosis.^[1] Common sites of skeletal tuberculosis are spine, hip joint, knee joint, foot, elbow, hand, and shoulders.^[2] The sternum, ribs, and the sternoclavicular joints are uncommonly affected.^[3,4]

Case Report

A 34-year-old married female presented to the outpatient clinic with painless swelling of the right sternoclavicular joint of two and a half months duration without any discharging sinus. The swelling was gradually increasing in size and was not accompanied with pain. She also complained of neck stiffness and pain on neck movements with severe backache and headache. There was no history of any injury. History of weight loss and low grade fever was present for the past 3 months. There was no history of previous tuberculosis or contact with an open case of tuberculosis. She had been prescribed several antibiotics and analgesics at another centre but had no symptomatic improvement.

On physical examination, the swelling (2×3 cm) was present over right sternoclavicular joint and was not associated with any tenderness, erythema, or local rise of temperature.

Laboratory tests revealed haemoglobin of 9.7 gm%; total leukocyte count was 11000/mm³. Her ESR was 44mm in first hour. She was negative for HIV. No cervical or axillary lymphadenopathy was detected. The chest and other systemic examinations were non

contributory. The sputum samples for acid-fast bacilli were found to be negative. Tuberculin skin test was positive with an induration of 15mm.

On radiographic evaluation there was destruction with sclerosis the medial end of the right clavicle. MRI of mediastinum revealed inflammatory pathology involving the right sternoclavicular joint with underlying soft tissue collection probably tubercular. Then, sternum lesion biopsy was done that revealed necrotising suppurative granulomatous inflammation with sclerotic and dead bone. The features were suggestive of tuberculous osteomyelitis. MRI spine was also done for the complaint of severe backache. The report was suggestive of degenerative changes in spine with posterior bulging of C3-C4 intervertebral disc upto T3-T4 intervertebral disc and posterocentral protrusion of L4-L5 and L5-S1 intervertebral disc causing compression of the corresponding neural foraminae and the exiting nerve roots. MRI brain was done for complaint of headache that revealed mastoiditis with mild cerebellar atrophic changes. Nerve conduction study/electromyography was performed on bilateral median, ulnar, peroneal and tibial nerves and the impression came out to be normal.



Fig 1: MRI spine showing posterocentral compression of L4-L5 intervertebral disc

Antitubercular chemotherapy with four first line antitubercular drugs (rifampicin, isoniazid, ethambutol, and pyrazinamide) was started. The patient had a good clinical response within 6 weeks and was switched to three drugs (rifampicin, isoniazid,

and ethambutol) after 3 months of therapy with four drugs. The clinical, haematological, and radiological parameters showed complete healing of the lesion after 1 year of treatment with ATT, which was further continued for a total duration of 18 months.

Discussion

Chest wall involvement is an uncommon manifestation of tuberculosis. Tuberculosis localization in the thoracic cage is rare and difficult to discern on radiographs.^[1] Spinal tuberculosis is most common and a dangerous form of skeletal tuberculosis in adults. The lower thoracic and upper lumbar vertebrae are the most common sites of involvement.

Tuberculosis of the ribs constitutes 2% and that of the sternum and sternoclavicular joints about 1-2% of the total cases of musculoskeletal tuberculosis.^[1,3] The incidence is not expected to stay so low in the near future due to the emergence of multidrug-resistant strains and the rapid increase in the number of immunocompromised patients.

Some investigators believe that chest wall tuberculosis occurs by reactivation of latent foci formed during hematogenous or lymphatic dissemination of primary tuberculosis, while others opine that it occurs by direct extension from contiguous lung/pleura.^[4,6]

The rarity of the occurrence of sternoclavicular arthritis was attributed to the peculiar blood supply of the joint.^[7] Sternoclavicular joint tuberculosis can present as painful swelling alone or discharging sinus.^[8] Our patient had painless swelling. The common conditions which have to be differentiated from sternoclavicular tuberculosis are low grade pyogenic infections, rheumatoid arthritis, myeloma or secondary deposits.^[9,10]

Sternoclavicular joint tuberculosis should be treated with a combination of operative debridement and systemic administration of antituberculous agents. If the infection is diagnosed at an early stage, treatment with antituberculous agents alone may be sufficient^[10] Conventional radiographs usually do not show sternoclavicular joint involvement, which can however be demonstrated by CT scan which would also show the extent of joint destruction as demonstrated in this patient. Magnetic resonance imaging will help to delineate the soft tissue abscess formation.^[8]

Cases of involvement of sternoclavicular joint along with spinal tuberculosis has been reported very rarely previously in English literature. This case report describes a rare type of tuberculosis involving multiple anatomical structures i.e., sternoclavicular joint with concomitant multifocal non contiguous spine involvement.

Usual pulmonary TB treatment lasts from 9 to 12 months but a 14–18-month duration of antitubercular therapy is required in spinal and sternoclavicular tuberculosis^[11,12]. Total duration of antitubercular therapy in our case was also of 18 months.

Conclusion

Cases of involvement of sternoclavicular joint along with spinal tuberculosis has been reported very rarely previously in English literature. This case report describes a rare type of tuberculosis involving multiple anatomical structures i.e., sternoclavicular joint with concomitant multifocal non contiguous spine involvement.

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