Case Report

Sternoclavicular Joint Tuberculosis: A rare extra pulmonary manifestation

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Abstract

The sternoclavicular joint is a rare site for extra pulmonary tuberculosis. 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. We report a patient with sternoclavicular joint tuberculosis in association with pleural effusion.

Keywords: Sternoclavicular joint, tuberculosis, extrapulmonary

Introduction

Skeletal tuberculosis makes up about 10% of the extra pulmonary cases of tuberculosis. Spine, hip, knee, sacroiliac joint, ankle, elbow, wrist and shoulder are usual sites of involvement in order of prevalence.[1] Involvement of flat bones of the skull and chest wall are very rare. Here we present a case of tuberculosis of the sternoclavicular joint.

Case report

A 40 year old previously healthy male presented with a swelling over the left sternoclavicular joint of a month's duration, which was gradually increasing in size and associated with loss of appetite and loss of weight. He had low grade nocturnal fever. He did not have any chronic cough or night sweats.

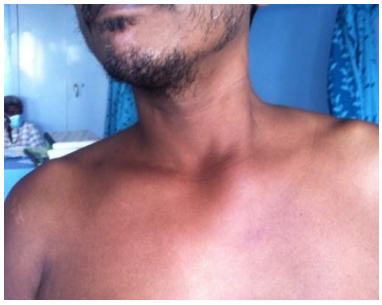

Figure 1: Left sternoclavicular joint swelling

The swelling was 3 cm in diameter involving the left sternoclavicular joint (Figure 1). Warmth, tenderness and redness were not noticed over the skin. There was no cervical or axillary lymphadenopathy. On examination of the respiratory system he had a right sided mild pleural effusion.

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His full blood count, urine full report, liver and renal profiles were within normal limits. The ESR was 87 mm/hour. The plain radiograph of the chest revealed a right sided mild pleural effusion with clear lung fields.

On CT scan of the chest, an erosion of the lateral margin of sternum, medial ends of the first rib and left clavicle were noted (Figure 2). A 2.6 × 2.8cm fluid collection was seen anterior to the left clavicle. Right sided mild pleural effusion was also found. The lung fields and pleura were reported as normal.

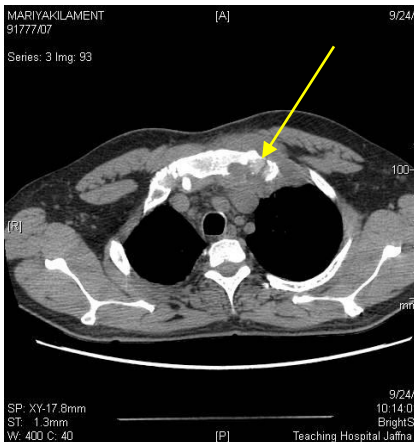

Figure 2: CT chest shows erosion (indicated by arrow) of the let sternoclavicular joint

The tuberculin skin test was positive with an induration of 17 mm. PCR performed on the pleural aspirate was positive for *Mycobacterium tuberculosis complex.*

Diagnostic aspirate of the left sternoclavicular joint yielded caseous material. A biopsy was taken from the swollen joint capsule simultaneously. Histology showed almost complete replacement of the synovial lining by epithelioid histiocytes with Langhans and foreign body type giant cells and granulomata like collections of epithelioid histiocytes with evidence of caseous necrosis. Direct staining for acid fast bacilli was not done. Culture for acid fast bacilli from joint aspirate was not performed due to unavailability of laboratory services.

He was diagnosed as having left sternoclavicular tuberculous arthritis and commenced on the standard antituberculous treatment regimen. Rifampicin, isoniazid, ethambutol and pyrazinamide for two months followed by rifampicin and isoniazid for seven months were given. The joint swelling completely resolved and the pleural effusion had cleared on follow up a month after initiation of therapy.

Discussion

Sternoclavicular joint tuberculosis is a rare presentation of extra pulmonary tuberculosis and its association with tuberculous pleural effusion is very rare.

Sternoclavicular joint tuberculosis can present as painful swelling, swelling alone or discharging sinus.[3] Our patient had painless swelling.

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.[3]

Diagnosis is confirmed by the presence of acid fast bacilli in the aspirate or if biopsy reveals epithelioid cells or Langhans giant cells or evidence of tuberculosis elsewhere, such as pleural effusion as demonstrated in this patient.[1] Presence of epithelioid cells or Langhans giant cells

alone is not sufficient to diagnose TB. Culture and antimicrobial sensitivity should be carried out when possible.

Common differential diagnoses of sternoclavicular joint tuberculosis are low grade pyogenic infections, rheumatoid disease, myeloma and tumour metastasis.[2,4] Differentiating between these requires appropriate imaging followed by aspiration, biopsy of joint tissue or bone, histology and acid fast staining, microbiological culture including for mycobacteria and molecular tests for mycobacteria if available.

Pathogenesis is usually a matter of debate. It can be a direct spread from pulmonary tuberculosis or by haematogenous spread from active pulmonary tuberculosis [5,6] or primary focus could be the medial end of the clavicle.[3]

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.[4] The duration of antituberculous treatment is usually nine months to one year but can be extended to 14 – 18 months based on clinical resolution.[2,3]

Conclusion

Sternoclavicular joint tuberculosis is a rare condition that requires specific diagnosis and treatment. The clinician should be aware of this possible aetiology and ensure that appropriate samples are tested for mycobacteria. Early diagnosis and prompt treatment with standard anti tuberculous agents will help achieve complete recovery.

Ethics

Patient consent was received for publication of this case report.

References

1. Pandita KK., Sharma R., Dogra S, et al. Bilateral sternoclavicular joint tubercular cold abscess. *Ann Thorac Med* 2010; 5(1):56–57. *http://dx.doi.org/10.4103/1817-1737.58966*
2. Khan SA., Zahid M., Asif N., Hasan AS. Tuberculosis of sternoclavicular joint. *Indian J Chest Dis Allied Sci* 2002; 44:271–273. *No doi*
3. Dhillon MS., Gupta R., Nagi ON., et al. Tuberculosis of the sternoclavicular joints. *Acta Orthop Scand* 2001; 72(5): 514–517. *http://dx.doi.org/10.1080/000164701753532862*
4. Saibaba B., Meena U., Behera P., et al. Multicentric spinal tuberculosis with sternoclavicular joint involvement: a rare presentation. *Case Reports in Pulmonology* 2014 Article ID 685406 *http://dx.doi.org/10.1155/2014/685406*
5. Yasuda T., Tamura K., Fujiwara M. Tuberculous arthritis of the sternoclavicular Joint. *J Bone Joint Surg Am* 1995; 77(1):136–139 *No doi*
6. Shrivastav A., Pal J., Karmakar. PS, et al. Tuberculosis of sternoclavicular joint - uncommon manifestation of a common disease. *J Medicine* 2010; 11:102–104. *http://dx.doi.org/10.3329/jom.v11i1.4286*