

Tubercular Osteomyelitis Clavicle: A Case Report

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What to Learn from this Article?

A prolonged case of neglected disease still responds to treatment

Abstract

Introduction: Osteomyelitis of the clavicle is a rare entity particularly in adults. Most infective lesions of the clavicle are traumatic and are not difficult to diagnose. Nontraumatic clavicular lesions, on the other hand, are rare and are difficult to diagnosis. It can also occur as a complication of head and neck surgery and subclavian catheter placement.

Case Report: We describe this case in a 61-year-old male who presented with a discharging sinus since 2 years at his left shoulder tip with purulent discharge. Clinoradiologically, patient was diagnosed as a case of pyogenic osteomyelitis of the lateral end of the clavicle. However, biopsy proved it to be a tubercular osteomyelitis.

Conclusion: Discharging sinus along with secondary infection made diagnosis difficult and delayed appropriate treatment. Thus, as skeletal tuberculosis (TB) can mimic any bony pathology, TB has to be included in the differential diagnosis especially at unusual sites.

Keywords: Tuberculosis, Clavicle, Osteomyelitis

Introduction

Osteoarticular tuberculosis (TB) involves 2-5% of all tubercular lesions in the body, of which 50% affects the spine [1] TB of the sternoclavicular region constitutes 1-2% of all peripheral TB cases [2].


In addition, TB has been known to mimic all types of lesions and the absence of pulmonary lesions and other concomitant features, in addition to an atypical radiographic picture may not bring the diagnosis primarily to mind [3].

Osteomyelitis of the clavicle is a rare form of infection occurring

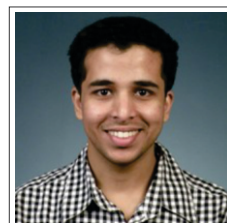
from hematogenous spread or trauma. This has been reported following head and neck surgery and subclavian catheter placement [4].

Of the 1074 cases of osteoarticular TB reported by Tuli and Sinha, only seven cases were reported to be involving the clavicle and the sternoclavicular joint [5]. Here in our case even the sternoclavicular joint was not involved, thus making this case purely one that of tuberculous osteomyelitis of clavicle.

We report this case for its atypical presentation which initially appeared to be pyogenic osteomyelitis and later turned out to be

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Figure 1: Sinus at left shoulder tip. Details-no signs of inflammation seen.



Figure 2: Anteroposterior view left shoulder. Details-pathological fracture and sequestrum seen.

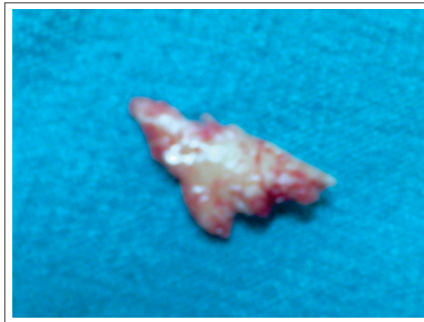


Figure 3: Sequestrum. Details- sequestrum as seen intraoperatively after removal.

tubercular osteomyelitis without any clinically evident lesion.

Case Report

A 61-year-old male presented to orthopedic OPD with complaint of pus discharge from a sinus on his left shoulder tip since 2 years and pain in left shoulder region since 2 months.

Initially, patient was treated outside as a case of soft tissue abscess over shoulder tip for which incision and drainage were done, and antibiotics were given. Later, he developed a discharging sinus. Pus was whitish in color, sticky in nature, and non-foul smelling. He consulted several local practitioners who gave him antibiotics. But there was no change in the amount and color of pus from the sinus.

Later, patient developed pain in left shoulder just after getting up from bed. Pain was continuous and not relieved by painkillers. There is no history of trauma and swelling in the neck.

Local examination revealed a single sinus at left shoulder tip. No signs of inflammation were present (Fig. 1). The margins of the opening of the sinus were inverted, and no granulation tissue was observed at its mouth. Tenderness at lateral end clavicle was present. On pressing, the sinus minimal thick purulent discharge was seen. Sinus was thick walled and fixed to underlying bone. On probing, hard bony structure was felt in the depth of the wound. No cervical or axillary lymphadenopathy was present.

Laboratory tests showed hemoglobin - 14.4 g/dl, total leucocyte count of - 10500/cumm, neutrophils - 62%, lymphocytes - 30% with erythrocyte sedimentation rate - 35 mm/h. On X-ray, lung fields were clear. Culture revealed coagulase-negative staphylococcus and *Acinetobacter calcoaceticus baumannii* complex sensitive to a combination of amoxicillin clavulanic acid and amikacin. Anteroposterior radiographs of left shoulder with clavicle revealed pathological fracture of the lateral end of clavicle and sequestrum with periosteal reaction at lateral end clavicle. Acromioclavicular joint appeared to be normal (Fig. 2).

A clinicoradiological diagnosis of chronic pyogenic osteomyelitis of clavicle with discharging sinus was made. Patient was put on injectable antibiotics. Sequestrectomy with sinus tract excision was done (Fig. 3). Histopathology showed chronic necrotizing granulomatous inflammation, suggestive of the tubercular osteomyelitis (Fig. 4). Patient was started on a multidrug antitubercular therapy. The wound healed with the primary intention.

There is terminal restriction of all range of movements at shoulder after 1 year of follow-up. (Fig. 5).

Discussion

In most of the cases, the diagnosis has to be suspected by clinical features, concomitant pathology, histopathological evidence of granulomatous tissue, and a high index of suspicion [3].

New bone formation in the long bones and other places does not rule out TB. Many cases diagnosed and treated as chronic osteomyelitis due to proliferative changes when sent for histological and bacteriological examination may show evidence of tuberculous disease and thus histopathological and bacteriological investigations for tuberculous infection are suggested for all cases of chronic infections of bones [5]. Osteoporosis, bone lysis, sclerosis, and periostitis are seen in both tuberculous osteomyelitis and chronic pyogenic osteomyelitis, and it is often difficult to differentiate the two conditions [6]. Sequestrum formation in osteomyelitis of clavicle is occasional. But due to superadded infection, it may have formed as in our case [7].

Tubercular infection at clavicle is reported to be of destructive or proliferative type and may be complicated by pathologic fracture. Even the joint space reduction and the surrounding rarefaction, a feature of typical osteoarticular Tb elsewhere in the body is not observed at this site. The acromioclavicular joint does not show much joint space reduction as the weight of the arm tends to distract it [3].

The diagnosis is rarely suspected before biopsies because tumors are much more frequent than infections in this bone. Plain radiographs may show diffuse thickening and honeycombing or multiple cystic cavities or sequestration, similar to pyogenic osteomyelitis. Radiography is not an effective means of evaluating changes in the clavicle due to overlapping anatomic structures. Magnetic resonance imaging (MRI) is an investigation of choice [8]. Though it has been said that TB should be suspected even if there is a lytic lesion in

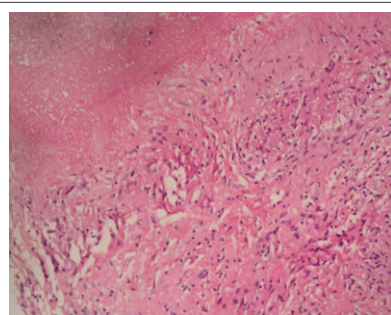


Figure 4: Histopathology. Details-on high power: necrotizing granulomatous inflammation.

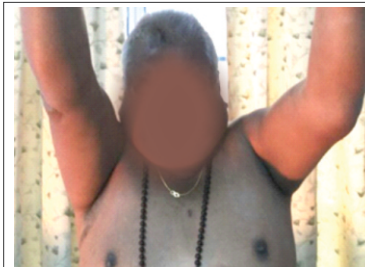


Figure 5: Range of movement at shoulder at 1 year. Details-restriction in terminal abduction overhead at shoulder.

clavicle in a region where it is endemic [9].

Shah et al. have described imaging techniques and findings in eight cases of TB in the sternoclavicular region. They feel that MRI is the best radiographic technique for the early detection and diagnosis of these perplexing cases. Financial limitation and lack of availability of MRI at most of the hospitals in our country make this a difficult procedure of choice [10].

The presence of a sinus from which pyogenic organisms are grown on culture, may lead to a diagnosis of chronic pyogenic osteomyelitis; but if the sinus persists after suitable antibiotics, underlying tuberculous osteomyelitis must be considered.

Surgical excision may be justified when the diagnosis is uncertain or the disease is unresponsive or for removal of the sequestrum. A large part of the clavicle can be excised without loss of function [5].

Conclusion

The rarity of site and ability of TB to mimic other diseases lead to diagnostic delays. We would like to emphasize that TB should be kept in differentials of any nonhealing ulcers, and sinuses and all samples should be sent for histopathological examination.

Clinical Message

India being an endemic country, tuberculosis should be considered as a differential diagnosis even in atypical presentation and final diagnosis should be made after histopathological confirmation.

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