



ORIGINAL RESEARCH PAPER

Orthopaedics

TUBERCULAR OSTEOMYELITIS OF CLAVICLE- CASE SERIES.

**KEY WORDS:** osteomyelitis clavicle, lytic lesion clavicle, TB clavicle.

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ABSTRACT

We report the clinic radiological features of tuberculosis in the clavicle in 3 patients. The patients' ages ranged from 25 years to 60 years. Of the three patients one patient has had associated c3 caries spine. All patients were managed with anti tubercular drug therapy and two underwent surgical debridement and curettage as well. Cervical spine caries is also managed conservatively. Clinicians should be aware of the varied presentation (pain, non-healing ulcer, abscess, multifocal osteo articular tuberculosis) of this condition. With the worldwide resurgence of tuberculosis, clinicians should maintain a high index of suspicion. The diagnosis of osteoarticular tuberculosis is usually made on clinico-radiological features.

**Introduction :**

Osteoarticular tuberculosis accounts for 1 to 3% of all tuberculosis. Tuberculosis of the clavicle without involvement of the neighbouring joint accounts for <1% of all osteoarticular tuberculosis<sup>[1] [2]</sup>. We report the clinico-radiological features of tuberculosis in the clavicle in 3 patients.

**Case Illustrations:**

In march 2013, our first patient 25 year old male presented with complaints of neck pain, pain and swelling over lateral end of right side clavicle. On clinical examination of shoulder joint, there is no restriction of movement and no neurological deficit [Fig-1]. Radiological investigation revealed osteolytic lesion of lateral end of clavicle [Fig-2], and C3 body collapse without any deformity [Fig-3]. Blood investigation revealed elevated ESR and lymphocytosis. We planned for biopsy and biopsy report came as granulomatous lesion and confirmed as tubercular osteomyelitis and patient was put on 8 months of anti tuberculous regime [2HRZE+6HR]. In September 2014, 55 year old female with complaints of swelling and pain in the right side clavicle distal end, associated with an ulcer [Fig-4]. X-ray shows lytic lesion of lateral end of clavicle with resorbed ends [Fig-5]. CT demonstrates huge cold abscess posterior to the lesion [Fig-6]. ESR is 75 mm at one hour. Surgical debridement and drainage of abscess done. Biopsy material confirmed as tubercular osteomyelitis. anti-tubercular treatment was started, she is in intensive phase of 4 drug regimen. In September 2014, 60 yr old lady with complaints of pain and swelling in the lateral end of clavicle region. X-ray shows lytic lesion in the lateral end of clavicle [Fig-7]. Blood investigations shows elevated ESR, lymphocytosis. Biopsy was taken and confirmed as granulomatous lesion<sup>[3]</sup>. Patient was started on anti-tuberculous treatment.

**DISCUSSION**

Tuberculosis of the clavicle with no involvement of the neighbouring joints is rare. Isolated clavicular tubercular osteomyelitis is less common than bacterial osteomyelitis. In the early stage, the patient may present with painful swelling of the clavicle, with no major bone destruction. In the late stage, a cold abscess or sinuses/ulcers may form. Tuberculosis of the sterno clavicular region may be suspected in patients with unexplained chronic shoulder pain<sup>[4]</sup>. The lesions may be destructive or proliferative (spina ventosa). 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 because of overlapping anatomic structures. CT or magnetic resonance imaging (MRI) provide superior anatomic images. On CT, destructive changes are better appreciated, particularly in the bone window setting<sup>[6]</sup>. On MRI, they are seen as breaching the normally hypo intense rim formed by the cortices of the bones. MRI is useful for determining the extent of the lesion, particularly marrow and soft tissue involvement. All imaging methods provide complementary information.

The differential diagnosis of non-traumatic lesions of the clavicle includes infection, (pyogenic, granulomatous or syphilitic),

neoplasms, congenital pseudoarthrosis, condensing osteitis, and sterno clavicular hyperostosis. In a patient on dialysis who had tuberculous osteomyelitis of the clavicle, the clinico-radiological characteristics closely resembled a neoplasm or metastatic disease<sup>[5]</sup>. Osteomyelitis of the clavicle can resemble a neoplastic process on radiographs, hence a biopsy may be necessary to confirm the diagnosis. Tissue needed for histopathological and microbiological investigation can be obtained from the sinus/ulcer edge during debridement. Anti tubercular drug therapy may be started based on clinico-radiological features or the presence of an obvious tubercular focus. Curettage and antitubercular drug therapy were used to treat children with tuberculosis of the clavicle. Advanced tubercular arthritis and osteomyelitis in the sterno clavicular joint should be treated with a combination of operative debridement and systemic administration of anti tubercular agents<sup>[7]</sup>. If the infection is diagnosed at an early stage, treatment with anti tubercular agents alone may be sufficient. Surgical excision may be justified when the diagnosis is uncertain or the disease is unresponsive or for removal of a large sequestrum. A large part of the clavicle can be excised without loss of function. Clinicians should be aware of the varied presentation (pain, non-healing ulcer, abscess, multifocal osteoarticular tuberculosis) seen in tubercular osteomyelitis of the clavicle. In an endemic region, it is necessary to maintain a high index of suspicion, especially with the worldwide resurgence of tuberculosis. Histopathological and microbiological investigation, or PCR can confirm the diagnosis. Nonetheless, the bacteriological diagnosis is made in only one to 30% of cases. The diagnosis of osteoarticular tuberculosis in endemic areas is usually made on clinico-radiological features. We are presenting this case series for rare presentation of tubercular osteomyelitis in lateral end of clavicle and the importance of early diagnosis and management.

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