

Tuberculosis Mimicking Bone Tumor.

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ABSTRACT

Tuberculosis has been greatest mimicker in medicine. Tuberculosis of skeletal system can simulate a malignancy both clinically and radiologically. As tuberculosis of Ulna is a rare, we report a case of unifocal diaphyseal tubercular osteomyelitis of Ulna which resembled malignancy in a 60yrs male with mildly painful, gradually increasing swelling over dorso medial aspect of left distal forearm since 5 months duration. Radiological findings were suggestive of aggressive bone tumor and biopsy was planned. Tru-cut biopsy revealed sterile pus and open biopsy was performed. Intraoperatively there was cheesy pus with flakes of sequestra and multiple breaches in ulna cortex. Histo-pathological examination revealed chronic inflammatory granulomatous lesion suggestive of tubercular osteomyelitis. We report this case not only because tuberculosis of ulna is rare, but also because it mimicked malignant bone tumor both clinico-radiologically leading to delay in diagnosis and institution of treatment.

Key-words: ulna, tubercular osteomyelitis, sequestra.

INTRODUCTION

Tuberculosis is common in our part of world¹. In developed countries also its resurgence is seen due to various immunodeficiency conditions². However, isolated primary tubercular osteomyelitis of ulna diaphysis is extremely rare, with very few reported cases^{3,4}. The clinical and radiological picture of tuberculosis resembles closely with many benign or malignant musculoskeletal conditions like bone cyst, osteoclastoma, osteoblastoma, ewing's sarcoma and osteosarcoma^{2,5}.

We present this case not only because tubercular osteomyelitis of ulna diaphysis is rare but also to highlight its resemblance with musculoskeletal tumors and share our experience we gained during the process of diagnosis.

CASE REPORT

A 60-year gentleman presented to us with 5 months' history of insidious pain and gradually increasing swelling on dorso-medial aspect of left distal forearm. No fever or

other constitutional symptoms were present. There was 8cm by 5cm swelling over dorso-medial aspect of left distal forearm, (fig 1), overlying skin was warm; swelling had variable consistency from hard at the periphery to soft with fluctuation at the center. It was attached to underlying bone i.e. ulna. The overlying skin had venous prominences but skin was non adherent. It was non-compressible, non tender, no bruits and no scar marks were present. Plain radiograph revealed solitary lytic lesion over distal ulna diaphysis with moth eaten type of bone destruction and wide zone of transition. The lesion was concentric and expansile with cortical breach and periosteal reaction with significant amount of soft tissue swelling (fig 2). On MRI there was large heterogeneously enhancing intra-osseous lesion with erosion of the cortex and predominantly cystic soft tissue lesion. Considering the clinical, X-ray and MRI findings suggesting of primary bone malignancy, biopsy of the lesion was planned. As we have been practicing Tru-cut biopsy at our institute, Tru-cut biopsy was planned. During the procedure, after infiltration with local anesthetic agent, we routinely aspirate the lesion with the same needle used for injecting

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the local agent. To our surprise, frank pus was aspirated (fig 3) which was sterile in subsequent investigations. Open drainage and curettage rather than wide/local excision with histopathological examination was our next step. Intraoperatively there was approximately 200ml of caseous pus in the soft tissues communicating with the lesion in the ulna. There were multiple breaches in the ulnar cortex with various types of feathery and sandy sequestra (fig 4) in the bone cavities. Curettage and saucerization of the bone was done and anti-tubercular therapy was initiated. The histopathological examinations revealed necrotic bone tissue with epithelioid cell granuloma along with langhans as well as foreign body type multinucleated giant cells with areas of caseous necrosis, suggestive of Tubercular Osteomyelitis. Patient is improving clinically and radiologically and still administering ATT on regular follow up.

DISCUSSION AND REVIEW OF LITERATURE

Tuberculosis is a major health burden in our part of world with over 2 billion people being infected with tuberculosis world-wide¹. TB primarily affects lungs and only 10% of the extra pulmonary infections are of musculoskeletal system of which spinal tuberculosis accounts for 50% of cases. Extraspinal tuberculosis is only 2-3% and primarily seen around the hip and knee, however any bone can be affected^{3,4,5,6,7,8}.

Tubercular osteomyelitis is rare when compared with skeletal tuberculosis involving the spine or a joint, leading to low index of suspicion during management by clinician. Chest radiographs and tuberculin test are used to support the diagnosis but their absence doesn't exclude the disease. In more than 50% of cases there is no evidence of active pulmonary tuberculosis.

Sciberras et al have reported a similar case of tubercular osteomyelitis of ulna styloid process in a Caucasian lady in which the diagnosis was made after 26 months of first appearance of symptoms³. Shantanu K et al also have reported a similar case of unifocal tubercular osteomyelitis of distal ulna in a 28 years male resident doctor, with a less extensive and less aggressive looking osteolytic lesion of distal ulna diaphysis than in our case⁴. Ali M et al have reported a case with symmetrical lytic lesions in ulna in a 25 years lady⁵. In all the above literatures the authors have emphasized high index of suspicion as a key to reach the final diagnosis as the clinical and radiological picture of the cases were non specific and non conclusive.

The tubercular osteomyelitis has an indolent course with gradually progressive symptoms. Periarticular osteopenia, joint effusion and muscle wasting is common with articular involvement. In case of purely bony lesion, it presents as an osteolytic lesion often crossing the physis and poorly defined margins with varying amounts of sclerosis and

periosteal reaction or periostitis⁵. These findings are non-specific and can be found in varieties of other conditions including bone tumors.

In our case the findings of the plain radiographs were more suggestive of a neoplasm than infection. As there was significant amount of soft tissue involvement, we opted for MRI over CT scan as our next investigation. MRI also showed the lesion to be a neoplasm (osteosarcoma). Although all the imaging studies showed malignancy, we thought of a remote possibility of infective pathology and wanted to have microbial/histopathological confirmation and went for tru-cut/open biopsy rather than excisional biopsy. The histopathological examination turned out to be Tubercular Osteomyelitis.

The clinical and radiological features of tubercular osteomyelitis are inconstant and inconclusive and there is overlap in appearances of tubercular osteomyelitis and malignancy. Although in some cases the clinical and imaging study strongly suggest malignancy, the final diagnosis has to be confirmed with histopathological and microbial studies.

CONCLUSION

Tuberculosis can mimic many benign and malignant musculoskeletal conditions and present at very unusual sites like ulna diaphysis. Tuberculosis should be considered as a differential in diagnosing musculoskeletal tumors.

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Fig 1. Clinical Photo



Fig 2. X-Ray



Fig 3. Pus-Aspirated



Fig 4. Sequestrum