Scholars Academic Journal of Biosciences (SAJB) **ISSN 2321-6883 (Online)**
Sch. Acad. J. Biosci., 2015; 3(6):515-517 **ISSN 2347-9515 (Print)**

(An International Publisher for Academic and Scientific Resources)
www.saspublishers.com **DOI :** 10.36347/sajb.2015.v03i06.002

Case Report

Isolated Tubercular Osteomyelitis of Calcaneum: A Rare Case Report

Varun Vijay*[1], Naveen Srivastava[2], Gaurav Kumar[3], Yogesh Kumar Yadav[4], Shilpi Srivastava[5], Saumya Shukla[6]
[1]D.Orth, DNB (Orthopaedics), Integral Institute of Medical Sciences and Research, Lucknow, Uttar Pradesh
[2]MS (Orthopaedics), Integral Institute of Medical Sciences and Research, Lucknow, Uttar Pradesh
[3]MS (Orthopaedics), Integral Institute of Medical Sciences and Research, Lucknow, Uttar Pradesh
[4] MD (Pathology), Integral Institute of Medical Sciences and Research, Lucknow, Uttar Pradesh
[5]MD (Microbiology), Integral Institute of Medical Sciences and Research, Lucknow, Uttar Pradesh
[6]MD (Pathology), Dr. Ram Manohar Lohia Institute of Medical Sciences, Lucknow, Uttar Pradesh
***Corresponding author**
Dr. Varun Vijay
Email: dr.varunvijay@gmail.com

Abstract: Tuberculosis is a leading cause of morbidity and mortality in developing countries including India. Skeletal tuberculosis accounts for 1-3% of all cases of tuberculosis. 10% of osteoarticular tuberculosis affects the foot. Tuberculosis of bone mimics numerous clinical conditions like chronic osteomyelitis, madura mycosis and actinomycosis. Rarely skeletal tuberculosis involves unusual sites. We present a rare case of tuberculosis of the calcaneum with an unusual presentation.
Keywords: Musculo skeletal, Extrapulmonary, tuberculosis**,** Osteomyelitis, Calcaneum.

INTRODUCTION

Skeletal tuberculosis constitutes 1% to 3% of extrapulmonary cases and involvement of foot bones is even rare [1-2]. In the foot, the lesion involves calcaneum, talus, 1st metatarsal and navicular bones in order of decreasing frequency [3-4]. The paucibacillary nature of the discharging sinus makes the bacteriological confirmation more difficult and warrants the use of invasive procedures to establish the diagnosis[5].

CASE REPORT

A 15 year old female patient presented at the orthopaedics outpatient department with history of pain and swelling over the left ankle since 2 years with difficulty in walking for past 1 year. There was no history of fever, night cries, weight loss or any other constitutional symptoms given by the patient. No history of any trauma associated was elicited. On local examination, a localized swelling was present over lateral aspect of left heel about 3 cm in maximum dimension below the lateral malleolus. The swelling was 3 x 2 cm in size, hard in consistency, non mobile, non compressible and tender to touch. The skin overlying the swelling was normal with no local rise in temperature. The X-ray of left ankle was done which showed a well demarcated lytic lesion in antero-inferior part of left calcaneum (Figure 1).

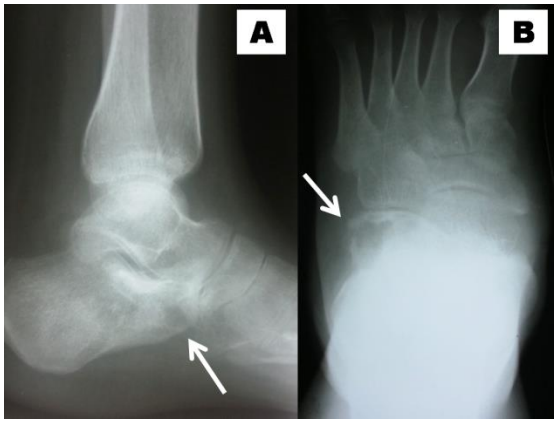

Fig-1: A=Lateral and B=Antero-posterior radiograph of left ankle showing a well demarcated lytic lesion in anterior and inferior part of the calcaneum.

The routine laboratory investigations revealed hemoglobin of 11.7gm%, with a total leucocyte count of 9200 per cubic mm with 70% neutrophils, 26% lymphocytes and 4% eosinophils. The erythrocyte sedimentation rate (ESR) was 48mm after 1 hour and the C-reactive protein was 9.7mg/l. The viral markers were normal. Routine radiograph of the chest was normal. Curettage of the lesion was performed after anesthetic clearance. A longitudinal incision was given over the swelling, the lesion was reached and a thorough curettage of the lesion done (Figure 2). Whitish necrotic tissue was curetted out which was sent for Gram staining, Ziehl Neelsen staining, culture sensitivity and biopsy. Before closure, 2 ampules of streptomycin powder were instilled in the defect. As the defect was small bone grafting was not done. A below knee plaster of Paris slab was applied post operatively. Gram staining and Ziehl Neelsen staining were negative. The Culture report revealed positivity for Mycobacterium tuberculosis.

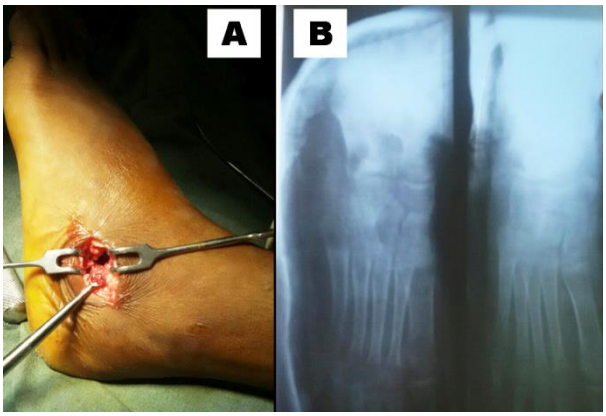

Fig2: A= Intraoperative image showing curettage of whitish necrotic tissue from left Calcaneum B= Immediate post operative radiograph of the lesion.

The histopathology report revealed presence of chronic inflammatory cells comprising chiefly of lymphocytes, plasma cells and epithelioid cells organized in granulomas along with Langhans type giant cells. The histomorphology was suggestive of tubercular granulation tissue.(Fig-3)

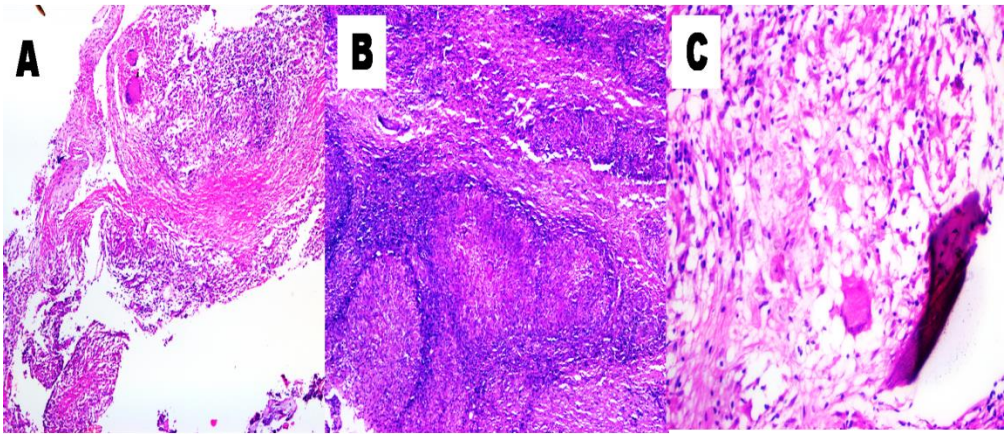

Fig-3: Histopathological section showing necrotic dead bone along with epithelioid cell granulomas with Langhans type of giant cells and chronic inflammatory cell infiltrate comprising of lymphocytes, plasma cells and histocytes (A=Hematoxylin & Eosin x50, B= Hematoxylin & Eosin x100, C= Hematoxylin & Eosin x200)

Post operatively the patient was put on anti tubercular treatment, the 4 drug regimen comprising of isoniazid, rifampicine, pyrazinamide and ethambutol. At 2 months post operative follow up, the patient was tolerating anti tubercular drugs very well. The pre operative symptoms of pain and difficulty in walking had subsided and the morbidity had reduced to a great extent.

DISCUSSION

Tuberculosis may involve virtually any organ, tissue or bone in the body. Osteoarticular tuberculosis, although rare, has shown resurgence in recent times[5]. The incidence of skeletal manifestation in tuberculosis is only 1-3%[1]. Bones generally involved are the spine (dorso-lumbar), skull, shoulder girdle and hip bones. Tuberculosis of the bone, in general usually begins in the cancellous portion of the bones involved. Involvement of the foot is infrequent. The route of infection in these cases is either direct inoculation or via blood stream[6-7]. Since the isolated osteomyelitis is

usually seen only in the early stages of the disease process, early diagnosis and appropriate therapy are imperative to get good long-term results. Neither the concomitant extra skeletal lesions or evidence of primary pulmonary tuberculosis are always seen nor does the culture or smear give positive results in majority of the cases due to the paucibacillary nature of the biopsy material. Thus a high index of suspicion is mandatory. Clinical and radiologic features, along with histopathologic evidence of granulomatous pathology should be sufficient to initiate therapy[8].

REFERENCES

1. Dhillon MS, Sharma S, Gill SS, Nagi ON; Tuberculosis of bones and joints of the foot: an analysis of 22 cases. Foot Ankle, 1993;14(9):505-13.
2. Manzella JP, Vanvoris LP, Hruska JF; Isolated calcaneal tuberculous osteomyelitis. A case report. J Bone Joint Surg Am, 1979;61(6):946-7.
3. Tripathi AK, Gupta N, Khanna M, Ahmad R, Tripathi P; Tuberculosis presenting as osteolytic soft tissue swellings of skull in HIV positive patient : A case report. Indian J Tuberc, 2007;(54):193-5.
4. Swain B, Mishra S, Pattnaik K, Pattnaikand D, Dutta P; tuberculosis of calcaneum: a case report . Indian J Tuberc, 2001;(48):209-10.
5. American Thoracic Society; Diagnostic standards and classification of tuberculosis in adults and children. Am J Respir Crit Care Med, 2000;161:1376-1395.
6. .Agarwal N, Jain SK; Tuberculous osteits of skull: A case report. Indian J Tuberc, 2009;(49):105.
7. Gupta KB, Manchanda M, Yadav SPS, Mittal A; Tubercular osteomyelitis of mandible. Indian J Tuberc 2005;(52):147-50.
8. Dhillon MS, Singh P, Sharma R, Gill SS, Nagi ON; Tuberculous osteomyelitis of the cuboid: a report of four cases. J Foot Ankle Surg, 2000;39(5):329-35.