

# Isolated Left Ilium Bone Tuberculosis: A Case Report

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## Abstract

Tuberculosis (TB) remains the most common cause of death worldwide, affecting approximately one-third of the world's population. Osteoarticular involvement occurs in less than 3% of patients with extrapulmonary tuberculosis and of which spine represents half of this lesions<sup>1-2</sup>. Tuberculous osteomyelitis of the ilium is seen very rarely. Here we report a case of tubercular osteomyelitis of the isolated left ilium bone, proved on the basis of microbiological and histopathological examination of excisional biopsy specimen.

## INTRODUCTION

Tuberculosis is a major health problem worldwide, especially in developing countries like India<sup>3</sup>. Tuberculous osteomyelitis is not uncommon but isolated involvement of bone other than spine or joints is a rare entity. Tuberculosis of the sacroiliac joint, sacrum, and pubic bones have been reported in literature<sup>4</sup> but to the best of our knowledge isolated ilium bone tuberculosis is very rare clinical entity<sup>5</sup>. The incidence is so rare and the presentation is so variant and diverse that the diagnosis becomes a clinical challenge. This case is reported because of the rarity with which tuberculosis of the isolated left ilium is encountered.

## CASE REPORT

A 42 year old male patient presented to us with complaints of pain in left upper anterior part of hip bone for three months. He took antibiotics and other supportive treatment for three month without any clinical improvement. There was no past history of trauma, antitubercular treatment and family history of tuberculosis. Clinical examination revealed bony tenderness on palpation in an area of 4 cm around anterior superior iliac spine on left ilium. Local temperature was not raised. There was no other positive finding. X- Ray HIP AP view was done that showed lytic area near the Anterior Superior Iliac Spine of left ilium (Fig:1)

## Figure 1

Figure 1: X- Ray HIP AP view was done that showed lytic area near the Anterior Superior Iliac Spine of left ilium



His respiratory system examination was within normal limit. His chest x-ray was normal. His Haemoglobin was 14 gm%; Total Leucocyte count was 8,900/cmm; Differential Leucocyte count was Neutrophils 17%, Lymphocytes 72% and Monocytes 1% and Erythrocyte sedimentation rate was 58 mm/hour. He was HIV seronegative. His PPD showed 30 mm indurations at 72 hours.

His excisional biopsy of left ilium bone was done that revealed caseation and a granulomatous lesion strongly suggestive of tuberculosis. Cytological examination was positive for Acid fast bacilli. Culture examination for Mycobacterium tuberculosis was positive through Bactec culture method. Thus the diagnosis of isolated left ilium bone tuberculosis was made and his treatment was started

with four drugs (Rifampicin, Isoniazid, Ethambutol and Pyrazinamide) for 2 months, followed by 2 drugs (Rifampicin, Isoniazid) for thirteen months. After one and a half months of therapy, patient was asymptomatic and radiology revealed no progression. His repeated radiography of HIP region after treatment completion revealed was close to earlier. (Fig:2).

### Figure 2

Figure 2: X- Ray HIP AP view after treatment completion.



## DISCUSSION

Extra Pulmonary Tuberculosis (EPTB) constitutes about 15 to 20 per cent of all cases of tuberculosis in immunocompetent patients and more than 50 per cent of the cases in HIV-positive individuals<sup>6</sup>. A study from India reported, EPTB as 45 to 56 per cent of all the cases of tuberculosis in persons with AIDS<sup>7,8</sup>. Skeletal tuberculosis is one of the important manifestations of extrapulmonary tuberculosis and it is estimated that about 10% of extrapulmonary tuberculosis is skeletal and almost half of the patients with skeletal tuberculosis have spinal involvement<sup>9</sup>. Tuberculosis of the ilium is a rare entity, and till now fewer cases are reported in literature<sup>10</sup>. In a review of the literature we have been able to find reference to first case, that reported by Nelaton<sup>11</sup> in 1892. The exact incidence of ilium bone tuberculosis is not known but it accounts for less than 1% of all skeletal tuberculosis<sup>5</sup>. Tuberculous bony lesion can start anywhere in the bone with bony necrosis, caseation and formation of cold abscesses, which may or may not form a sinus ( no sinus formation seen in present case ).

Osteoarticular tubercular lesions are the result of haematogenous dissemination from primarily infected focus. The primary focus may be active or quiescent, apparent or

latent, either in lungs or in other viscera. The infection reaches the skeletal system through vascular channel, generally arteries as a result of bacilleemia or rarely in axial skeleton through batson's plexus of veins. Bone and joint tuberculosis is said to be developed generally 2 to 3 years after the primary focus.

Clinical presentation of EPTB is atypical. Especially when the disease involves obscure occult sites, EPTB may not even be considered in the initial list of differential diagnosis.

Definitive diagnosis of tuberculosis is made after demonstration of *M. tuberculosis* by microbiological, cytopathological or histopathological methods (as done in present case). Diagnosis at an early stage is by far the most important of the management, which is often missed because of the rarity of bony involvement, atypical clinical presentation as in this case. Histology is mandatory for the confirmation of the diagnosis. Excision biopsy is preferred method, which not only confirms the diagnosis but also helps in the removal of osseous necrotic material and early healing<sup>12</sup>. In countries like India where tuberculosis is highly endemic, tuberculin skin test result alone is not sufficient evidence to diagnose EPTB in adult patients.

Differential Diagnosis of shoulder joint tuberculosis comprises of chronic pyogenic osteomyelitis, fungal infection and neoplastic pathology.

Antituberculosis treatment is the mainstay in the management of osteoarticular tuberculosis, rest to part in functioning position and early active exercises of the involved parts. However, the ideal regimen and duration of treatment have not yet been resolved. While the RNTCP and other National Tuberculosis Programmes world over which follow the World Health Organization's guidelines, directly observed treatment, short-course (DOTS) approach and advocate the use of short-course intermittent chemotherapy for patients with osteoarticular tuberculosis. Treatment includes standard antituberculosis drugs for six months or category-I under RNTCP as per as WHO Guideline for management of tuberculosis<sup>13</sup>. Current recommendations for the treatment of osseous tuberculosis include a 2-month initial phase of isoniazid, rifampin, pyrazinamide, and ethambutol followed by a 6- to 12-month regimen of isoniazid and rifampin ( as in present case)<sup>14</sup>. There are few studies argue that the paucibacillary nature of the lesion make a 6-month treatment course appropriate<sup>15</sup>.

In conclusion, high index of clinical suspicion, timely

judicious use of invasive diagnostic methods and confirmation of the diagnosis, early institution of specific antituberculosis treatment and close clinical monitoring for adverse drug reactions are the key to the successful management of osteoarticular tuberculosis.

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