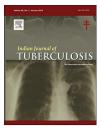
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#### **Case Report**

# Multifocal pure tubercular osteomyelitis: An unusual presentation in childhood

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#### ABSTRACT

Tuberculosis is a major health problem in the developing world. One-third of children infected with *Mycobacterium tuberculosis* have extra pulmonary involvement. Skeletal tuberculosis occurs in 1–6% of them with vertebra being the commonest site. Pure tubercular osteomyelitis without joint involvement occurs in only 2–3% cases of osteoarticular tuberculosis. Common sites are femur, tibia, and fibula. Disseminated skeletal involvement is very rare in children (7%) and calvarial osteomyelitis is even rarer (1%). Here, we report a unique case of disseminated skeletal TB. A 7-year-old tribal girl with no evidence of immunodeficiency presented with multiple lytic lesions involving skull, sternum, and hip bone surprisingly sparing the joints and appendicular skeleton. There was no pulmonary involvement either. FNAC from all three swellings showed presence of acid-fast bacillus. Bone biopsy followed by culture in BACTEC further confirmed the diagnosis. There was complete resolution of the swellings after one year of anti-tubercular drug therapy.

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#### 1. Introduction

Tuberculosis is a major health problem in the developing world with myriad presentations. WHO estimated half a million children were ill with tuberculosis worldwide in the year 2012 with the disease incidence decreasing very slowly.<sup>1</sup>

One-third of children infected with Mycobacterium tuberculosis have extra pulmonary involvement. Skeletal tuberculosis occurs in 1–6% of them.<sup>2</sup> Vertebra is the commonest site of involvement across all age groups.<sup>3</sup> Pure tubercular osteomyelitis without joint involvement occurs in only 2–3% cases of osteoarticular tuberculosis. Common sites are femur, tibia, and fibula.<sup>4</sup> Disseminated skeletal involvement is very rare in children (7%) and calvarial osteomyelitis is even rarer accounting for approximately 1% of skeletal tuberculosis disease.<sup>5</sup> We report a child with disseminated skeletal TB who presented to us with multiple lytic lesions involving skull, sternum, and hip bone.

#### 2. Case report

A 7-year-old female patient from a tribal village of West Bengal presented with gradually increasing swelling over sternum,

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over right periorbital region and right lower back. The parents vaguely referred to them as being present for 1–2 years. All the swellings (Fig. 1a–c) were noticed around the same time.

The swelling over sternum was firm in consistency, nontender, not mobile, and fixed to underlying bone.

Swelling over right periorbital region was firm, nontender in relation to the zygomatic bone and was associated with a chronic discharging sinus over the lateral canthus of right eye. It caused misalignment of the two palpebral fissures and nonparalytic squint.

Swelling in right lower back was soft, fluctuating, nontender, and was in relation to right hip bone.

There was no history of trauma, persistent low-grade fever, cough, lymphadenopathy, weight loss, or contact with suspected or known case of TB.

On general examination, patient had pallor, discharging sinus over the lateral canthus of right eye and grade II PEM. No BCG scar was visible. No immunization records were available. Examination of respiratory system was normal and there was no lymphadenopathy or hepatoslenomegaly. Examinations of all other systems were unremarkable. Swelling in lumbar region was in relation to right hip bone but there was no restriction of movement at right hip joint.

Routine blood investigations were done. Complete hemogram: Hb% – 9gm%, TC  $11 \times 10^9$ /L, PLT –  $4 \times 10^{11}$ /L. Peripheral blood film showed evidence of anemia of chronic disorder. ESR was 92 mm in first hour LFT and RFT were within normal range. HIV ELISA was negative.

Mantoux test was positive ( $12 \text{ mm} \times 14 \text{ mm}$ ). X-ray chest revealed no lung parenchymal lesion; Skeletal X-rays revealed multifocal bone destruction in the calvarium, sternum, and right hip bone. USG showed hypoechoic globular swelling ( $3.45 \text{ cm} \times 3 \text{ cm}$ ) in the sternum and elongated SOL ( $5.7 \text{ cm} \times 2 \text{ cm}$ ) with internal fluid, in the right hip bone. No effusion was found in right hip joint. USG guided FNAC of all three swellings and sinus tract revealed presence of acid-fast bacilli.





Fig. 1 – (a) Note the swellings at the manubrium sterni and right periorbital region. Chronic discharging sinus over the lateral canthus of right eye. It caused misalignment of the two palpebral fissures and nonparalytic squint. (b) Right lateral view showing swelling in the right periorbital region in relation to the zygomatic bone and the discharging sinus over right lateral canthus. (c) Swelling in right lower back was soft, fluctuating, nontender, and was in relation to right hip bone.

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