Bone Tuberculosis: Rare Condition Among Infants

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ABSTRACT

Bone tuberculosis in infancy has become rare these days. Here we report a case of 12 months old male infant who had presented with complaints of fever and skin rash for one month, along with protuberance of toe joint for 15 days. He was being treated with antibiotics, vitamin D and calcium without improvement. Further investigations led to mycobacterium positivity in bone biopsy. He was treated with anti-tubercular therapy and he responded to the treatment dramatically. So, though rare, it is important to consider bone tuberculosis when there are bony issues even in infancy, especially in endemic regions like ours.

Key words: bone tuberculosis; diagnosis; infant

INTRODUCTION

Bone tuberculosis is not common in paediatric population. It occurs in around 5% of all paediatric TB cases.[1] In Nepal bone tuberculosis is reported only to be 2% of total cases of paediatric tuberculosis.[2] The diagnosis of tuberculosis is very difficult in children, because of their subtle symptoms.[3] Among bone tuberculosis also, Potts spine or the tuberculosis of spine were frequently reported in earlier days but these diseases have started becoming rarer at present.[4] In recent years there have been very few reports describing tuberculosis in infancy.[5,6]

CASE REPORT

A 12 months old male infant from Pokhara, Nepal, presented with complaints of fever for one month along with papular, round skin rash for one month (Figure 1), and protuberance of toe joint for 15 days (Figure 2). He was first treated with oral amoxicillin and paracetamol for three days and simultaneously the blood investigations were sent for workup. X-rays from various involved sites were obtained. Child was immunised with BCG vaccine and came from low socioeconomic background with normal birth and perinatal history. There was no past medical illness, history of tuberculosis or chronic cough in family and relatives and history of consanguinity or sibling death.

On examination, the child was stable with respiratory rate of 34/minute and temperature 38^{0}C. Systemic examination was within normal limit and there were no significant palpable lymph nodes. There was mild anaemia with haemoglobin of 9.4 gm/dl, ESR was 22 mm/hr but other blood parameters were within normal limits. X-ray right toe joint showed disproportionately enlarged first phalanx (Figure 4). Similarly the anteroposterior radiograph of pelvis showed erosion of the body of pubison both sides (Figure 4). Mantoux test was done which showed positive result of 12 mm induration. Baby was then referred to higher centre in the capital for expert opinion. Further evaluation was done with bone biopsy, which showed chronic, suppurative, granulomatous inflammation consistent with tubercular osteomyelitis. Thus final diagnosis of bone tuberculosis was made and the patient was started on anti tubercular therapy with the regimen of 2 [HRZE] + 10 [HR], according to Directly Observed Treatment Short course (DOTS). Patient was followed up for one year of ATT. There was no subjective complaint and patient is now fully cured and is under our regular follow up.

DISCUSSION

Bone tuberculosis in an infant is a rare entity. It usually results due to haematogenous spread of Mycobacterium tuberculosis into the vasculature of cancellous bone with the primary site of infection usually being a pulmonary or genitourinary lesion.[7] The minimum time required for osteoarticular tuberculosis to manifest is postulated as one year after the primary infection hence it is extremely unusual to present before one year of age.[8]

The clinical features of bone tuberculosis in infants are often subtle as compared to older children and may go unnoticed by the caregivers.[9] This may have resulted due to their inability to express their

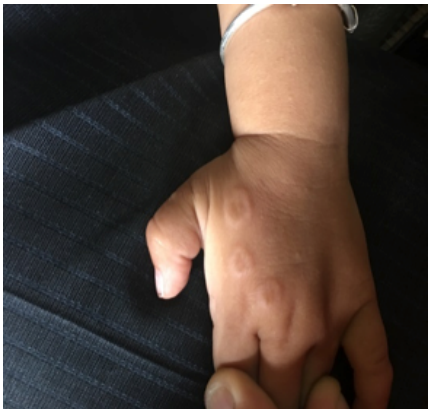

Figure1. Papular lesions in hand

Figure 2. Swelling in foot

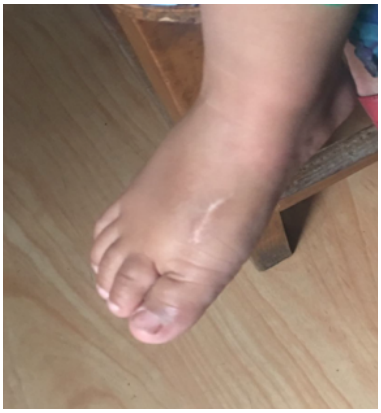

Figure 3. After antitubercular therapy

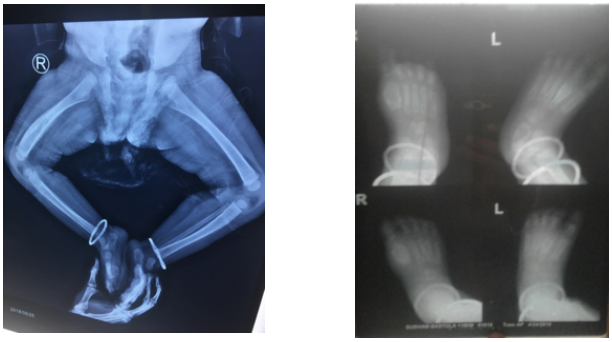

Figure 4. Radiographic findings

symptoms clearly. Along with clinical and laboratory investigations, imaging plays a crucial role in diagnosing the disease and defining the extent of involvement. Imaging modality also helps in evaluation of complications, providing suitable differential diagnosis and monitoring response to treatment. However, in our case, instead of the imaging modalities, histopathology report played a crucial role for the final diagnosis. In today's world, bone tuberculosis is not common, and even so in infancy. Peterson RR et al. in 2012 described a case of spinal tuberculosis in an infant of 10 months old with maternal genitourinary tuberculosis but in our case patient was 12 months old without parental history of tuberculosis.[10]

First and foremost, an evaluation of close contacts for possible pulmonary tuberculosis or other forms of tuberculosis is essential for any type of infantile tuberculosis. Treatment should be adequate and completion of the regimen is necessary for complete cure. It is better to follow WHO/National guideline to achieve good result. Therefore, tuberculosis in infancy does exist and hence high level of suspicion, prompt diagnosis and early treatment are crucial to prevent permanent deformity and neurological deficit. Timely diagnosis and treatment will result in good out come even in infants.

CONCLUSIONS

Children of any age group presenting with bony issues is quite common. When common bony diagnosis are ruled out, it is imperative to think about a rare entity as bone tuberculosis in these children, especially so when they are present in the endemic area. Although the incidence of tuberculosis has been steadily going down, it still may present with unusual features, especially in the low resource countries where the endemicity of tuberculosis is high.

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