Tuberculosis of Calcaneum – A Rare presentation

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What to Learn from this Article?

Suspected infectious pathologies should always be evaluated cautiously. These pathologies can be treated cautiously under strict supervision. Surgical intervention is required only when associated with complications.

Abstract

Introduction: Tuberculosis of calcaneum is a rare entity. Osteoarticular tuberculosis of foot is uncommon and that of calcaneum is very rare. In children, diagnosis is often delayed as clinical presentation is non-specific and awareness is low due to its rare presentation. Also pediatric tuberculosis has traditionally received a lower priority than adult TB in National TB programmes.

Case presentation: 8 yr old girl presented to OPD with swelling and dull aching pain over left heel. Radiograph of calcaneum showed small lytic puctate lesions in the calcaneum. Further investigations showed presence of multiple tuberculous bacilli. Anti-Kochs treatment was started immediately and patient was treated conservatively. Four drugs (HRZE) were prescribed for a period of 12 months. Radiographs at 2 years follow-up showed a healed lesion.

Conclusion: Rare and unusual locations of osteoarticular TB often pose a problem of differential diagnosis. Meticulous history and clinical examination helps in reaching the diagnosis. Start of AKT drugs as soon as reports show presence of tubercular bacilli plays a vital role in treatment as well as functional outcome of the patient.

Keywords: Calcaneum, Tuberculosis, Paediatric.

Introduction

Today, tuberculosis remains a major public health problem in India. Osteoarticular TB constitutes 1.7-2% of all tuberculosis cases. The localization in the foot is rare and accounts for less than 10% of osteoarticular TB. Tubercular involvement of the foot and ankle is uncommon and difficult to diagnose. Tuberculosis may involve virtually any organ, tissue or any bone in the body. The diagnosis of calcaneal tuberculosis is often delayed due to lack of awareness of the surgeon. Early diagnosis and prompt treatment is of utmost importance for a satisfying clinical outcome.

Case Presentation

8 yr old girl presented to OPD with swelling, dull aching pain and unable to bear weight over left heel (tip-toe walking) since four months. Clinically, there was swelling over the ball of calcaneum with tenderness on deep pressure. Local temperature was not raised, with absence of discharging sinus. Inguinal lymphnodes were not palpable. Radiograph of calcaneum lateral view showed small lytic puctate lesions of various sizes in the metaphyseal region of the calcaneum and epiphysis was spared. The patient was further investigated. Investigations showed raised ESR with lymphocytosis. Aspiration biopsy and smear stained with Zeil Nelson stain showed presence of multiple tuberculous bacilli. Anti-Kochs treatment was started immediately and patient was kept under close observation and was treated conservatively. Four drugs (HRZE) were prescribed for a period of 12 months. Radiographs and blood tests were performed every 3 months until treatment completion. Non-weight bearing walking was advised, and foot was protected in a below knee slab for 6 weeks. Partial weight bearing was allowed at 6 weeks and progressed to full weight

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Author's Photo Gallery


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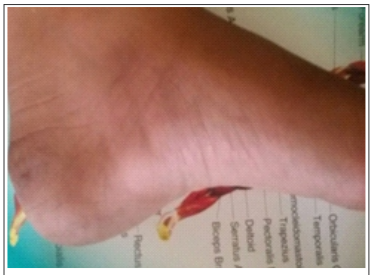

Figure 1: clinical photograph

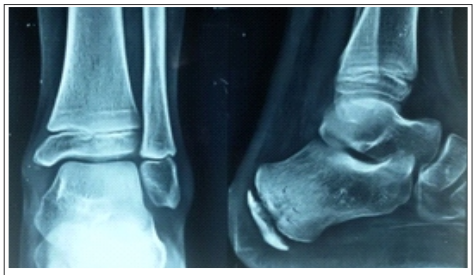

Figure 2: X-ray at presentation (pre - treatment)

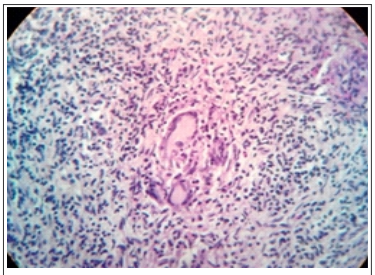

Figure 3: histopathology slide

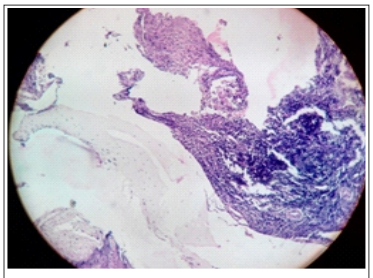

Figure 4: histopathology slide

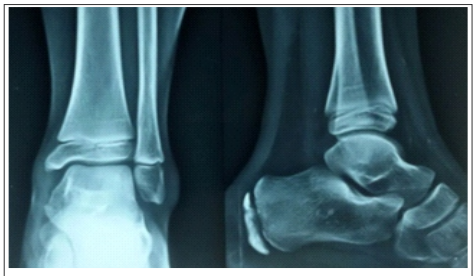

Figure 5: X-ray at 6 months

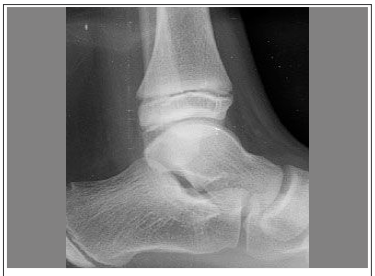

Figure 6: X-ray at 2 yrs

bearing at 10 weeks. Two years follow-up didn't show any increase in the size of the lytic lesion. Clinically, pain and swelling subsided and patient's general condition also improved. Radiographs at 2 years follow-up showed a healed lesion.

Discussion

Skeletal TB being extrapulmonary is more challenging than pulmonary TB as it is less common and less familiar to surgeons.

TB of calcaneum is very rare, and its incidence in children is extremely low. As calcaneal tuberculosis is rare, its awareness among surgeons is low and diagnosis is often delayed[1]. Calcaneal tuberculosis is debilitating if untreated; delayed treatment may lead to functional disability [1-5].

The child in this study presented with painful swelling and stiffness (without sinuses), toe walking, inability to bear weight and the 'heel-up' sign, which are similar to pyogenic osteomyeliti. [6.7]. The 'heel-up' sign in a patient warrants further investigatio, particularly in regions where tuberculosis is endemic. Rarely, tuberculosis of calcaneum may reach ankle joint after involvement of subtalar joint and the talus.

Anti-tubercular drugs are the main treatment modality. A minimum of 12 months of AKT is necessary to prevent recurrence. Debridement or resection, with or without arthrodesis should be reserved for cases resistant to AKT or for those with deformity or painful joint [1]. In such cases surgery has a limited role except for biopsy.

Conclusion

TB calcaneum is an extremely rare presentation leading to misdiagnosis. Lytic lesion with long standing history should never be ignored. We concluded that TB calcaneum is a very rare condition and can be treated conservatively unless associated with discharging sinuses, metastatic changes or any other complications. Conservative treatment with AKT has excellent results without any complications.

Clinical Message

TB calcaneum though rare, should be evaluated cautiously when presented to OPD. These pathologies can be conserved with strict supervision on doses of AKT and blood profile. Surgical exploration and resection is the treatment of choice when associated with complications.

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