Tuberculosis of Navicular Bone - A Rare Presentation

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What to Learn from this Article?
Rare presentation of tuberculosis can be diagnosed by high index of suspicion. Tuberculosis can masquerade any infectious pathology specially in endemic areas.

Abstract

Introduction: Tuberculosis of Navicular bone is a rare entity. Osteoarticular tuberculosis of foot is uncommon and that of navicular bone is extremely rare. It is important to recognize skeletal tuberculosis in the initial stages as early treatment can effectively eliminate long-term morbidity.

Case presentation: A 42 yrs old male presented to OPD with swelling and dull aching pain over dorsum of left foot. Radiograph of foot showed lytic punctate lesion in the navicular bone. Further investigations in the form of aspiration biopsy and ZN staining showed presence of multiple tuberculous bacilli. Anti-Kochs treatment was started immediately and patient was treated conservatively. Four drugs (HRZE) were given for a period of 12 months. Radiographs at 2 years follow-up showed a healed lesion.

Conclusion: TB navicular bone is a very rare condition and can be treated conservatively unless associated with metastatic changes or any other complications. Conservative treatment with AKT has excellent results without any complications.

Keywords: Navicular bone, Tuberculosis, Rare.

Introduction

Tuberculosis remains a major public health problem in India today. Skeletal tuberculosis is a very rare disease comprising 1-3% of the total population of tubercular patients [1]. Tubercular involvement of the foot and ankle is uncommon and difficult to diagnose. Tuberculosis may involve virtually any organ, tissue or bone in the body. The diagnosis of navicular bone tuberculosis is often delayed due to uncommon site, lack of awareness, and ability to mimic other disorders clinically and radiographically. The early diagnosis and prompt treatment is of utmost importance for good clinical outcome.

Case Presentation

A 42 yrs old male presented to OPD with swelling, dull aching pain and unable to bear weight over left foot for past four months. The patient had trauma to his foot which was not taken care off at that time. Clinically, there was swelling over the antero medial surface of dorsum of the foot with tenderness on deep pressure over the navicular bone. The patient didn’t have any history of pulmonary kochs in the past. Patient had discharging sinus at the site and local temperature was also raised [Fig. 1]. Inguinal lymphnodes were not palpable. Radiograph of foot showed lytic punctate lesion in navicular bone [Fig. 2]. The patient was further investigated and blood Investigations showed raised ESR with lymphocytosis. Aspiration biopsy and smear stained with Zeil Nelson stain showed presence of multiple tuberculous bacilli [Figs. 3,4]. Diagnosis was...
confirmed on CT scan [Fig. 5]. Anti-Kochs treatment was started immediately and patient was kept under close observation and was treated conservatively. Four drugs (HRZE) for the period of 12 months were given. Radiographs and blood tests in the form of CBC, ESR, CRP and LFT were performed every 3 months until completion of treatment. Foot was protected in a below knee slab for 6 weeks. Partial weight bearing was allowed at 6 weeks followed by full weight bearing at 10 weeks. Two years follow-up didn’t show any increase in the size of the lytic lesion [Fig. 6]. Clinically, pain and swelling subsided and discharging sinus had healed completely. Patient’s general condition also improved. Radiographs at 2 years follow-up showed a healed lesion [Fig. 7].

Discussion

Extrapulmonary M. tuberculosis is reportedly on the rise, and may manifest itself at a number of sites in the body including the peripheral skeleton. It is important to recognize skeletal tuberculosis in the initial stages because early treatment can effectively eliminate long-term morbidity. Skeletal TB being extrapulmonary is more challenging than pulmonary TB as it is less common and less familiar to surgeons. The common site, lack of awareness, and ability to mimic other disorders clinically and radiographically leads to diagnostic and therapeutic delays. Foot tuberculosis is manifested in only 8-10% of the patients with osteoarticular tuberculosis (approximately 0.1-0.3% of all patients with extra-pulmonary tuberculosis) [2-4]. Any of the foot joints can be affected either alone or in combination, but the midtarsal joints are the most common sites [4] for these pathologies. The bones involved are usually the calcaneum, talus, first metatarsal, navicular bone and medial and intermediate cuneiforms. Infection in the midfoot spreads rapidly to many joints because of their intercommunicating synovial spaces [5]. The radiological appearances of rheumatoid arthritis particularly when monoarticular, osteoarthritis, gout, neuropathic joints, sarcoïdosis and neoplasms may be similar, but can be distinguished from those of osteoarticular tuberculosis [6, 7-9]. The ESR is almost always elevated in patients with tuberculosis [10,11,6]. Pulmonary involvement is uncommon [12,13,14]. Anti-tubercular drugs are the mainstay of treatment modality. Unlike pulmonary lesions, bone and joint tuberculosis should be treated with anti-tuberculous drugs for more than nine and preferably for 18 months [15]. Debridement or resection, with or without arthrodesis should be reserved for cases resistant to AKT or for those with deformity or painful joint. In such cases except for biopsy, surgery has a limited role.

Conclusion

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

Clinical Message

TB navicular bone is very rare. Though highly uncommon, it 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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