

CASE REPORT

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Tuberculosis of fifth metatarsal bone- a rare case report

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Abstract

Abscess and ulcers of foot are common in adult, especially if they are diabetic and are commonly caused due to pyogenic infection. However, occasionally atypical organism gives us surgical surprises. Rarely, do we encounter tuberculosis of foot. We report rare case of tuberculosis of fifth metatarsal in a middle aged non diabetic female patient.

Keywords: Foot, abscess, tuberculosis, metatarsal, India

Introduction

Tuberculosis remains to be a challenge to the health in a country like India and other developing/under developed countries [1]. The osteoarticular tuberculosis accounts for less than 3% of the cases of the extra pulmonary tuberculosis [2]. The overall incidence of tubercular osteomyelitis is considered to be rare [3]. It can affect any bone of the human body. The involvement of short long bones is an uncommon entity in clinical practice and further, the involvement of foot and ankle is considered rare [2,3]. This case reports aims to highlight the fact that tuberculosis can occur at unusual location and one should be vigilant to identify it especially in countries where tuberculosis is common.

Case report

A 36 year old female patient presented to us with history of swelling and pain over left foot from past 2 weeks of duration. There was no history of any trauma. She had fever for first 2 days which subsided after taking oral medication from the local general practitioner. Her pain and swelling did not subside in spite of oral medications. Patient had history of loss of weight and appetite from 2 weeks. Patient was not a diabetic.

Physical examination showed presence of swelling over left side dorsum of forefoot and midfoot [Figure 1]. There was no local rise of temperature. Tenderness was present. Patient had oedema till lower leg. The swelling had variable consistency.



Figure 1. showing swelling over the dorsum of the left foot

A clinical diagnosis of abscess of foot was considered.

Her haemoglobin was 9.4g%, total WBC counts was 5500, random

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blood sugar of 108mg% , serum creatinine of 0.4mg%. Her ESR was 50.

Serology for HIV and HBsAg was negative

X ray foot showed a well defined expansile lytic lesion in the distal end of fifth metatarsal bone [Figure 2]. There was thinning of cortex. Rest of the visualized bones and joints appeared normal.

With a suspicion of abscess with osteomyelitis, patient underwent a 5th toe amputation with debridement. Intraoperative finding showed presence of beads of pus with unhealthy subcutaneous tissue and bone. The pus and tissue was sent for culture and bone for biopsy.



Figure 2. is x ray of the foot showing a well-defined expansile lytic lesion in the distal end of fifth metatarsal bone

Post operative period was uneventful and she was discharged. Her culture and sensitivity on day 3 showed Methicillin sensitive *Staphylococcus aureus*. She was given oral Clindamycin tablets in view of sensitivity. Her wound appeared healthy with no pus discharge.

On day 5 of follow up, her histopathology report of bone gave us a surprise. It showed bone tuberculosis with interspersed area of granulation tissue with epithelial granulomas and multinucleated Langhans' giant cells. There were areas of caseation [Figure 3]. Features were suggestive of tuberculosis osteomyelitis of 5th metatarsal bone.

Patient was referred to primary health care centre where she was started on antitubercular drugs for 1 year based on DOTS regimen followed at our place.

Patients used to come for weekly dressing at our centre. At end of 3 weeks, her wound granulated well. She underwent secondary suturing. Her 3 month follow up showed a good healthy scar [Figure 4]. She was on antitubercular drug of 1 year duration.

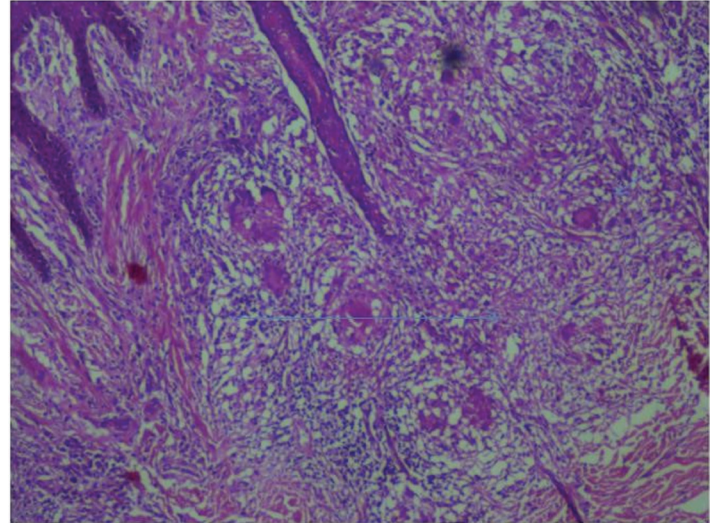


Figure 3. showing presence of epithelioid granuloma, Langhans giant cell and central necrosis in the bone



Figure 4. shows well healed wound during follow-up period

Discussion

Musculoskeletal tuberculosis accounts for around 1-2% of all cases of tuberculosis seen in the western world and they are often difficult to diagnose [4]. Tuberculosis osteomyelitis are known to have unusual course and often the diagnosis is delayed due to unusual presentation and absence of clinical features [3].

The osteoarticular tubercular infection accounts for 1-3% of cases wherein it affects commonly the spine and major joints like hips and knees [1,3,5]. Around 10% of osteoarticular tuberculosis are known to affect the foot and ankle [5]. Among the foot bones, calcaneum is the most commonly affected bone followed by metatarsal and phalanges [3,5]. The possible explanation for involvement of calcaneum is that it is the largest foot bone making it possible to detect lesions early and also due to its vulnerability to trauma [2].

It has been observed that there have been 35 cases of tuberculosis of metatarsal being documented in literature [5]. Literature suggests that metatarsal TB osteomyelitis is less than 0.5% [5].

The fifth metatarsal bone is rarely affected by pyogenic or tubercular infection [3]. Patient's common foot symptoms are pain, swelling, stiffness, redness and sometimes formation of abscess [1,6]. Often patient has either with a sinus or non healing ulcer with secondary infection [1].

The classical symptoms of fever and weight loss is rarely seen [4].

The tuberculosis of the foot and ankle are classified into 4 basic forms namely periarticular granuloma, central granuloma, primary haematogenous synovitis and bursal tuberculosis [2,6]. Although tuberculosis osteomyelitis of metatarsal bones are secondary to lymphohaematogenous spread from a pulmonary lesion, up to 50% of patients do not show pulmonary manifestation [1,3].

The X ray of foot in tuberculosis of foot are non specific and includes bone marrow oedema, osteoporosis or lytic lesions [3, 4]. Mittal et al have classified tuberculosis of foot into 5 radiological types namely cystic, subperiosteal, rheumatoid, kissing and spina ventosa [2,5].

However, these features are not exclusive for tuberculosis and are also seen in chronic pyogenic osteomyelitis, sarcoidosis,

enchondromata, etc [5].

In view of paucibacillary infection, mycobacterium can rarely be isolated from tissue [2,5]. Diagnosis is often made on histopathology [4]. In our case too, we were able to obtain final diagnosis only after histopathology of the metatarsal bone. Antitubercular drugs are recommended at least for 12 months [2, 5]. It comprises of four drugs for 2 months (isoniazid, rifampicin, pyrazinamide and ethambutol) followed by two drugs for 10 months or more (isoniazid and rifampicin) [5]. Prognosis is usually good unless other adjacent bones or joints are involved [5].

Conclusion

Tuberculosis is a common problem in India. It can affect any part of the body. However, it rarely involves the foot. Involvement of 5th metatarsal is very rare just like our case. Most of the time the diagnosis at presentation is not taught and we can face with histopathological surprises in view of non specific clinical and radiological presentations.

Competing interests

The authors declare that they have no competing interest.

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