

Primary Tuberculous Osteomyelitis of Tibia

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ABSTRACT

Tuberculous osteomyelitis affecting the long bones is extremely rare. Here is a case of a 20 year old girl who had pain in her right lower leg for 12 months. There was often a slight fever but no history of loss of weight or pulmonary symptoms. Chest X-ray was normal. X-rays and MRIs of the Right leg suggested osteomyelitis. Curettage and bone biopsy were performed and the report suggested Tuberculous osteomyelitis. Because tuberculosis is still common in developing countries, if there is an osteocytic lesion in the bone, tuberculous osteomyelitis should be considered in the differential diagnosis.

Key words: Osteomyelitis, Tuberculosis, Chest X-ray

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CASE REPORT

INTRODUCTION

Tuberculosis of bones and joints is a rare disease caused by Mycobacterium tuberculosis. It is mainly a disease in developing countries. Tuberculosis is also found in Europe and North America due to a pandemic of human immunodeficiency virus infection¹.

In 2010, approximately 8.8 million new cases of tuberculosis were reported, killing 1.45 million people worldwide². Tuberculosis in HIV infection is usually extra pulmonary. Although the incidence of skeletal symptoms in tuberculosis is very low and can affect any bone, the spine is the most common site of skeletal tuberculosis, accounting for more than 50% of all cases, which is succeeded by Femur, tibia, and fibula. Tuberculous osteomyelitis is secondary to lymphedematous spread and the lungs are the main focus in 75% of cases.

Bone and joint tuberculosis is a rare form of disease that accounts for 1-5% of all cases. Joints, long bones, skulls, and soft tissues that support heavy weight may be involved. Primary diaphyseal tuberculosis of the long bones is extremely rare and very few cases have been reported in the literature. Identification of M. tuberculosis by culture is a long process. Average delay with a diagnosis of Tuberculous osteomyelitis for 6.6 months. Biopsy and histopathological evaluation are more useful for early diagnosis [1,2].

A 20-year-old girl visited our hospital and had a history of leg pain for the past 12 months. The pain was mild, increased during walking and relieved by rest. I had a history of low-grade fever. There was no history of trauma, cough, or weight loss. The family had no history of tuberculosis. BCG vaccination was given in childhood. She belonged to a lower middle class family and was young, intelligent and nutritious. Examination of the lower extremities revealed a diffuse soft swelling 3x7 cm in size at normal local temperatures. The sub-X-ray tibia showed a 1 cm diameter osteocytic lesion at the junction of the upper 2/3 and lower 1/3 of the tibia (Figure 1). The MRI lower leg showed an unusually high intensity signal in the lower third of the tibia. This includes the diaphysis associated with mild dilation and erosion of the lateral cortex (Figure 2). The Mantoux test was positive, with an erythrocyte sedimentation rate of 30 mm/hour and a CRP of 25. The X-ray chest was normal. Chronic purulent osteomyelitis is tentatively diagnosed and after consent a biopsy curettage was performed. Histopathological reports suggested tuberculous osteomyelitis (Figures 3). After reports of curettage and biopsy, anti-tuberculosis therapy was started with four drug therapies. Rifampicin 10 mg/kg/day, pyrazinamide 35 mg/kg/day, isoniazid 5 mg/kg/day, ethambutol 25 mg/kg/day, vitamin B-6 started for the first 2 months, then rifampicin, isoniazid, vitamin B-6 has started. It lasted another 12 months. Clinically, patients improved significantly after curettage and anti-tuberculosis drugs. X-rays showed good healing at 12 months (Figure 4).



Figure 1: Sub-X-ray tibia showing a 1 cm diameter osteolytic lesion at the junction of the upper 2/3 and lower 1/3 of the tibia.

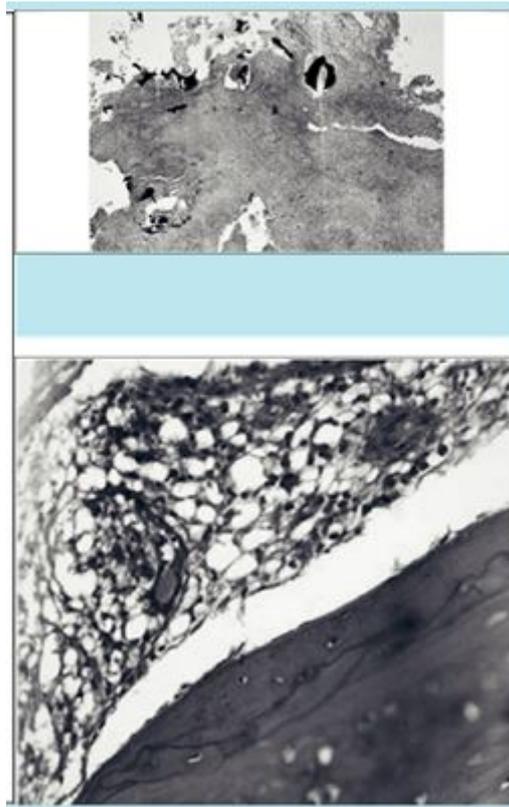


Figure 3: Histopathological reports.



Figure 2: Mild dilation and erosion of the lateral cortex.



Figure 4: X-rays showed good healing at 12 months.

DISCUSSION

Tuberculosis remains a major problem despite progress and anti-TB treatment. Musculoskeletal tuberculosis is difficult to diagnose, has very non-specific signs and symptoms, and is often overlooked for a long time because it includes insidious pain, swelling, weight loss, night sweats, and difficulty walking. In the early stages of laboratory tests for diseases such as increased erythrocyte sedimentation rate, total blood cell counts are not definitive and the radiological appearance depends on stage of disease at Presentation. Primary tibial tuberculosis without joint involvement is extremely rare and only a few cases have been reported. Jacob, a series of 30 cases of immigrant atypical tuberculosis, reported only 2 cases, including tubular bone. 80% of 15 cases, mainly including long bones. Another case of diaphyseal tuberculosis of the tibia was reported by Richter 7 in 1983 in a 27-year study. One male patient

with primary tibial tuberculosis. Although our patients had no history of pulmonary tuberculosis, the literature reports that one-third of patients with skeletal tuberculosis have pulmonary tuberculosis [1,2].

CONCLUSION

Tuberculosis is a widespread problem in our region. This should be considered one of the differentials in the diagnosis of osteolytic lesions in the long bone diaphysis.

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