

Isolated Tuberculosis of Right Talus in a Teenage Girl

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Abstract

Isolated tuberculosis of talus is a rare form of tuberculous involvement. We report a case of isolated tuberculosis of talus in a young immune-competent female with no evidence of tuberculosis involvement in any other part of the body. An 18 year old female patient presented with a 5 month history of pain and swelling in her right ankle joint. Routine investigations indicated positive etiology of tubercular infection. Bone curettage was performed and a below knee fiber cast applied along with administration of antitubercular treatment (ATT) which resulted in a favorable clinical outcome.

Key words: Tuberculosis; Talus; Immuno-Competent Female; Curettage.

Tuberculosis is one of the major causes of morbidity in a developing country like India. To add to the disease burden the severity is on an upsurge due to various immunocompromised states, increasing multi drug resistant (MDR) and extensive drug resistant (XDR) tuberculosis. The prevalence of osteoarticular tuberculosis is approximately 1-3 % with incidence of isolated osseous lesion being even less. It most often affects the axial skeleton followed by the weight-bearing large joints such as the hip and the knee joint. The incidence of ankle tuberculosis is less than 5 per cent of all osteo-articular tuberculosis. Isolated tuberculosis of talus is very rare with only few cases reported so far in the literature [1]. We report a patient with isolated tuberculosis of the talus bone of right side.

Case report

An 18 year old female patient presented to our outpatient department (OPD) with a 5 month history of pain and swelling in her right ankle joint more

towards the anteromedial aspect. She was also complaining of fever, weakness and loss of appetite with loss of weight. Complaint of decrease in girth of right leg was also presented by the patient. There was no significant history of any trauma or pus discharge. On examination dorsiflexion and plantar flexion were painful. On laboratory investigation patient was anemic with Hb level 8.6. ESR by Wintrobe's method was 36 in 1st hour. C reactive protein (CRP) was positive by semi quantitative method. PPD test (10TU) after 72 hours was positive. The skiagram of chest was normal. Anteroposterior (AP) and lateral skiagram of the right ankle showed an extensive lytic lesion of the talus bone, without the involvement of surrounding bones or the ankle joint (Fig 1). Magnetic Resonance Imaging (MRI) of right ankle joint showed necrotic and lytic lesion involving the dome, neck and body of talus (Fig 2). Aspirated fluid from swelling was straw coloured, which showed acid fast bacilli on Ziehl Nelson staining. Bone curettage was performed and sample sent for histo-pathological examination which confirmed the diagnosis of tuberculosis.

Postoperatively a below knee fiber cast was applied for 3 months and patient was advised not to bear weight. Four drugs anti-tubercular treatment (Isoniazid, Rifampicin, Pyrazinamide, Ethambutol) for 5 months, followed by 3 drugs (Isoniazid, Rifampicin, Pyrazinamide) for 4 months, and 2 drugs (Isoniazid, Rifampicin) for 9 months was given.

Physiotherapy for ankle range of motion with hot saline fomentation was advised after 3 months. Partial weight bearing was allowed 4 months after the operation and full weight bearing was allowed after 9 months. At the end of the complete treatment patient had full and painless motion at the ankle and subtalar joint.



Fig 1: Lateral view showing (arrow head) area of involvement.

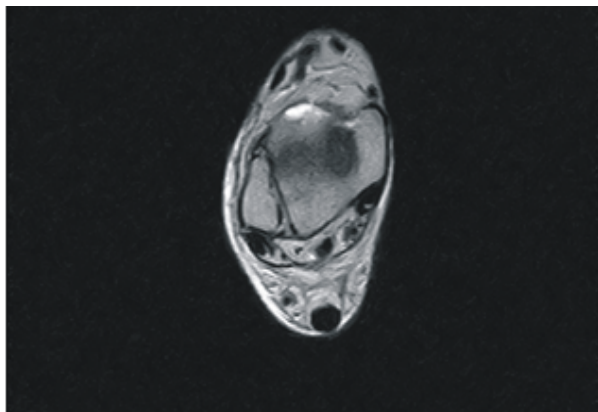


Fig 2: MRI image showing involved area (arrow head)

Discussion

Tuberculosis is an infectious disease caused mainly by *Mycobacterium tuberculosis*. It still remains a serious disease burden with a rate of mortality [2, 3]. It mainly affects the lungs but other parts of the body can also be involved in the disease process (extra pulmonary involvement). Extra pulmonary involvement of tuberculosis is seen in

about 23–30% of patients infected with the disease [2], out of which only 1–3% have osseous involvement. Majority of patients with osseous involvement have affliction of the axial skeleton [3, 4]. Involvement of appendicular skeleton is less frequently seen, mainly involving the weight bearing large joints of the lower extremity such as hip and knee joints. Tuberculosis of ankle and foot are very rare and constitutes only 1% of the disease burden [2, 3, 5, 6,]. In a study of 74 patients with foot or ankle tuberculosis, Dhillon and Naji found only one case of tuberculosis of talus [3]. Symptomatology mainly consists of gradually progressive pain in the ankle causing functional disability [7, 8, 9]. Inflammatory symptoms are non-specific and can mimic septic arthritis [5, 10]. Varying characteristics of the symptoms result in difficult and delay in diagnosis, also noticed by Anderson [5]. X-ray usually shows non-specific changes with signs of bone destruction and osteolysis appearing in later stages. Computed Tomography (CT) scan and Magnetic Resonance Imaging (MRI) are better radiological investigations. CT scan reveals bony lesions like destruction and extension of lesions. MRI is the best radiological investigation revealing bone destruction at an earlier stage [3, 11]. Confirmation of diagnosis can only be

done by the identification of Mycobacterium Tuberculosis from the local lesion or by a bone biopsy. There are mainly two aims of surgical treatment. First, for the conformation of diagnosis by histopathological examination and secondly curettage of the diseased part improves the outcome of the disease. This treatment should always be complemented with immobilization in plaster cast for a period of minimum three months, followed by physiotherapy [7]. The treatment was completed with 18 months of anti-TB drug regime. As mentioned above talus tuberculosis is an extremely rare disease but it should be considered while dealing with any inflammatory ankle symptoms with unspecific lesions. Symptomatology is often varying and may result in the late diagnosis. We can get the best result with proper anti-tubercular treatment and early surgery, as in our case.

Conclusion

Tuberculosis of talus is a very rare disease and its atypical presentation makes it difficult to diagnose solely on clinical basis. Hematological investigations varies from case to case. This case has been reported to highlight the unusual and rare manifestation of tuberculosis of talus so as to prevent its misdiagnosis and delayed treatment.

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