



Case report

Tuberculosis of talus: A case report

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ABSTRACT

Introduction: Osteoarticular tuberculosis represents 1 to 3% of all tuberculosis cases, the tuberculosis of the talus is a very rare form of osteoarticular tuberculosis. Its clinical and radiological features are not specific.

In this study, we report a case of ankle tuberculosis involving the talus in a 5-year-old girl.

Case report: A 5 years old girl, was admitted for pain, swelling, and functional impairment of the left ankle, on the clinical examination, the patient manifested a painful oedematous ankle. The biological examination revealed a slight inflammatory syndrome, The X-ray of the ankle showed a lytic image of the posterior part of the talus with a cortical involvement.

The biopsy revealed an epithelioid cell granuloma without any caseous necrosis.

The medical management consisted of anti-tuberculosis multi-drug.

Discussion: The tuberculosis of the talus is a very rare form of osteoarticular tuberculosis. In this study, we report a rare case of this localization of a 5-year-old girl.

The non-specificity of symptoms is the main difficulty that causes a delay in diagnosis.

Standard radiology, MRI, and biology were non-contributory. Bone biopsy and anatomopathological study led to the diagnosis of tuberculosis of the talus.

The main aims of the surgical treatment are to take some sample for histological study, and to curette the diseased part in the bone followed by 6 to 9 months of anti-tuberculosis chemotherapy.

Conclusion: Tuberculosis of the talus is extremely rare, it deserves special attention especially in endemic areas.

1. Introduction

Tuberculosis constitutes a major health problem worldwide and presents a high prevalence in Morocco particularly. Osteoarticular tuberculosis represents 1 to 3% of all tuberculosis cases while about 15% of extrapulmonary tuberculosis cases [1]. It is found predominantly in the spine, the weight-bearing joints and is found to be rare at the level of ankle and foot bones [1,2].

The diagnosis used for ankle tuberculosis could be difficult because of the rarity and the non-specificity of the clinical presentation. In the majority of the treated cases, the medical treatment is efficient while in some cases the surgical intervention is mandatory.

In this study, we report a case of ankle tuberculosis involving the talus without other adjacent bone involvement in a 5-year-old girl. This case report was written according to the SCARE criteria [3].

2. Case report

We report a case of a 5 years old girl without medical history. She presented pain, swelling, and functional impairment of the left ankle. 5 months before the patient was treated several times without any improvement. When first admitted to our department, no trauma or fever was reported, while a weight loss of 5 kg was noticed. On the clinical examination, the patient manifested a painful oedematous ankle.

The biological examination of the patient revealed a slight inflammatory syndrome with a sedimentation rate of 28 mm at the first hour, and 60 mm for the second hour. The C-reactive protein value was 4 mg/l. On the other hand, no hyperleukocytosis was observed with a positive intradermal reaction.

The X-ray of the ankle showed a lytic image of the posterior part of the talus with a cortical involvement. While the chest radiograph was found to be normal. The ankle CT-Scan illustrated the presence of a poorly limited osteolytic process of the left talus. The MRI scanning of

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the ankle was conducted afterward. The scanning thus obtained indicated the presence of an aggressive astragalus process which suggests osteosarcoma (Figs. 1–3).

After a bone biopsy and curetting were performed by a group of highly qualified professors and medical residents in the operating room under sedation through a lateral approach of the left ankle. The biopsy revealed an epithelioid cell granuloma without any caseous necrosis (Fig. 4).

The medical decision was to put the hospitalized patient under a four-drug therapy for 2 months followed by a two-drug therapy for 12 months with good evolution. After 12 months of anti-tuberculosis treatment, the patient was able to walk normally without pain. This effect was verified by X-rays of the ankle that confirmed bone healing of the talus (Figs. 5 and 6).

3. Discussion

In developing countries generally, and in Morocco particularly, tuberculosis stills a major health problem. Among, the extra-pulmonary tuberculosis cases, musculoskeletal involvement accounts for 1–3% [1], out of which 30–50% involve axial skeleton (spinal tuberculosis). The spine, hip, and knee are considered among the most frequent sites affected by osteoarticular TB, while the ankle and the foot are among the zones less affected with only 1% of all tuberculosis infections [1,2]. It was mentioned that the tubercular disease isolated from the talar bone is rarely described in the literature. Also, it was reported in a retrospective study assessed by Dhillon et al., the presence of only a single case of talus TB out of 992 cases over a period of 20 years [4].

It was also noted that talus tuberculosis is characterized by some frequent symptoms such as an onset of pain in the ankle which is related to a decrease of motion and functional disability [5]. The non-specificity of symptoms is the main difficulty that causes a delay in diagnosis as declared by Anderson [2].

On the other hand, the recommendation of an X-ray scan could be useless especially at the early stage where all scans appeared normal which is the same thing in our case. While the CT scan and magnetic resonance imaging MRI could play a crucial role in the early detection of the unusual sites [6]. The wide spectrum of symptoms leads to a late diagnosis but on the counter part surgical treatment and prompt chemotherapy could play a significant role in a favorable outcome. The main aims of the surgical treatment are to take some sample for bacteriological diagnosis and histological study, and to curette the diseased



Fig. 1. X-ray of ankle joint showing lytic lesion in the talus.

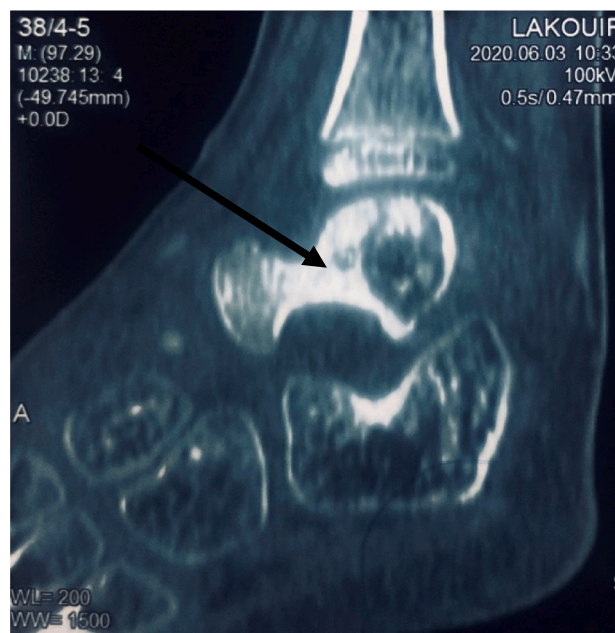


Fig. 2. CT of the left ankle in face view showing an osteolytic lesion with sequestrum at the talus.

part in the bone [7]. The surgical procedure needs to be completed by using a plaster cast for immobilization for a period of 3 months accompanied by physiotherapy [8], which helps in the fast recovery with about 18 to 20 months of anti-tuberculosis regime. A study performed by Dahuja et al., who have reported that the debridement and curettage intervention accompanied with anti-tuberculosis in a study involving a talus of a 14 years old boy gave satisfactory results [9]. The prognosis of the disease and its resolution rely mainly on the early diagnosis and treatment of the disease.

In the present study, the patient suffered from foot pain and swelling for a period of five months. The diagnosis was significantly delayed due to the lack of awareness as well as due to the lack of classical constitutional symptoms of tuberculosis. At the clinical level, the scans indicated the presence of a long-standing lytic lesion pointed towards the diagnosis of either a benign tumor or a chronic-infective etiology. Afterward the diagnosis was confirmed after the staining and histopathology of the curetted material. Furthermore, the Debridement and curettage helped both as a diagnostic and therapeutic intervention, confirming the diagnosis and evacuation of the caseous material. Finally, the child achieved an excellent outcome after completing the anti-tubercular therapy and the X-ray confirmed the full resolution of the lytic lesion. In the above case, standard laboratory investigations, as well as imaging studies like MRI and X-ray, failed to establish the diagnosis of TB, which was done by histopathological examination.

4. Conclusion

In the present study, we have reported a case report that is related a rare localization of tuberculosis. Tuberculosis of the talus deserves special attention in endemic areas. The clinical and biological signs are generally non-specific, which explains the delay in diagnosis and therapeutic management. A positive diagnosis is based on histological analysis after bone biopsy. The treatment is essentially medical with a well-codified protocol. While the surgery has limited indications.

Provenance and peer review

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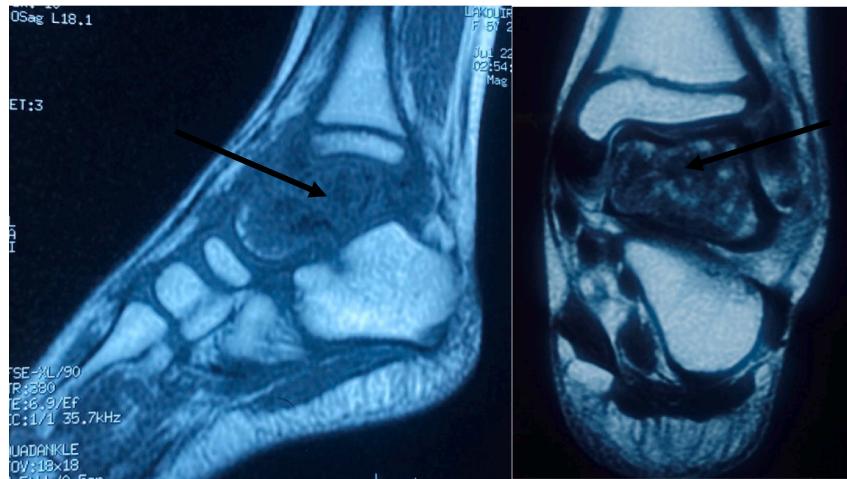


Fig. 3. Magnetic resonance imaging (MRI) of the left ankle.

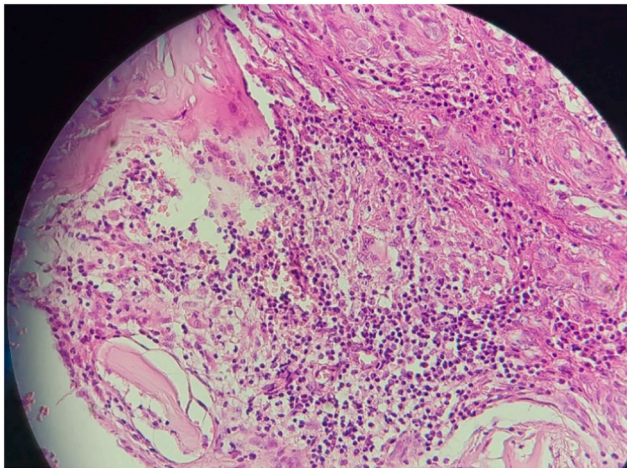


Fig. 4. Histopathology of the talus showing an epithelioid cell granuloma without any caseous necrosis.



Fig. 6. Postoperative X-ray of the patient after 12 months of anti-tubercular chemotherapy.



Fig. 5. Clinical result one year postoperatively showing healed surgical scar.

Sources of funding

We have any financial sources.

Ethical approval

Not required.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Guarantor

Dr. Siham Abbaoui.

CRediT authorship contribution statement

Dr. Siham Abbaoui and Dr. El Hassan Hadi wrote the manuscript and analysed the literature research, Pr. Mohamed Belahcen supervised the writing of manuscript and performed the scientific validation. All authors read and approved the manuscript.

Declaration of competing interest

The authors have no conflicts of interest to declare.

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