Abstract

Diaphyseal tuberculosis (TB) is a rare case of the skeletal TB. The following report documents the case of a 52-year-old Moroccan woman with a swelling over the right forearm followed by pulmonary TB under treatment for 3 months. The radiographs of the forearm show a lytic image located at the radius mid-diaphysis. The histopathology confirmed the diagnosis. The patient received surgical drainage with trepanation of the bone. The antibacillary chemotherapy was administered for 6 months. It is, therefore, indispensable to bear in mind the possibility of such atypical presentations of TB when making a rapid and pertinent diagnosis and prescribing the appropriate treatment.

Keywords: Diaphysis tuberculosis, mid, radius, treatment

INTRODUCTION

Tuberculosis (TB) osteoarthritis is easy to diagnose. However, the occurrence of diaphyseal TB involvement is exceptional even in areas where TB is commonplace. TB is endemic in certain areas such as Asia, the Middle East, and Africa.[1] An unusual presentation of pulmonary TB with a second location in the diaphysis radial is reported. The current clinical, radiological, biological, and therapeutic data are also presented.

CASE REPORT

A case report of a 52-year-old Moroccan woman presented with a swelling of the forearm with inflammatory signs, associated with pulmonary TB under antibacillary treatment for 3 months. The swellings had progressively aggravated, and the pain was not relieved by analgesics.

The patient has night sweats without fever. The physical examination revealed a painful swelling over the right forearm localized with irritation and inflammatory signs [Figure 1]. Laboratory tests revealed inflammation with C-reactive protein of 86 mg/L and a white blood cell count of 11,500/ml. The tuberculin skin test was positive as well as the QuantiFERON-TB Gold. The radiographs of the forearm show a lytic image of the average third of the radius [Figure 2]. The chest radiograph revealed apical opacity of the right lung. The surgical drainage and trepanation were objectified as an abscess with caseous necrotic material [Figures 3 and 4].

Direct examination and culture on the Löwenstein–Jensen medium were negative. The histopathology confirmed the presence of giant cells with caseous necrosis and epithelioid granulomas. The diagnosis of Brodie’s abscess was proved, and chemotherapy was continued for 6 months [Figure 5].

Figure 1: Swelling of the right forearm

Acknowledgments

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After the cessation of therapy, the patient did heal without any evidence of recurrence.

**Discussion**

The rare and unusual locations of osteoarticular TB often pose a diagnosis problem for the clinician. Thus, in our context, any suspicious bone lesion and atypical presentation must evoke the diagnosis of osteoarticular TB.

TB osteitis is most often monofocal, but can be multifocal in children.[2] This multifocal bone TB of long bones, in its lacunary form, was described in 1920 by Jungling under the name of pseudocystic multiple tuberculous osteitis.[3]

Among the factors favoring the occurrence of OA-TB, we find the notion of trauma that would activate a preexisting osteoarticular focus,[1,4] the concept of precariousness and the low-socioeconomic level responsible for immunodepression that favors TOA even in vaccinated persons.[5]

It is rare in developed countries because of the generalization of vaccination with the Boston consulting group and especially the improvement of the socioeconomic level.

TB is endemic in certain areas, such as Asia, the Middle East, and Africa.[6] Musculoskeletal TB is difficult to diagnose.[7]

Common symptoms of TB include low-grade fever, anorexia, weight loss, and night sweats. Specific symptoms and signs in the upper limb vary and include pain, stiffness, swelling, joint effusion, digital enlargement, and carpal tunnel syndrome.[9] The classic presentation with localized pain together with fever and weight loss is rarely seen.

The radiographic appearance of tuberculous osteitis is varied, although some aspects can be very evocative. The most frequent radiological image is that of an osteolytic lesion with clear or sometimes irregular contours, inconstantly surrounded by a thin zone of osteocondensation.[10,11]

Biological blood tests have little diagnostic value. An increase in the sedimentation rate (SV) between 25 and 100 mm 1/h is present in the vast majority of cases. Nevertheless, SV is normal in 10%–20% of cases.[5] The intradermoreaction is usually positive but does not exclude the diagnosis in case of negativity.

To reach a definitive diagnosis, a biopsy should be taken for microscopy, culture, and histology, especially when lesions are accessible, as was the case with this patient.[7] Tuberculous bacilli are rarely seen (with Ziehl–Neelsen staining) or grown in culture, and the diagnosis often has to be made based on
the granulomatous appearance histologically, along with high clinical and radiographic suspicion.[12]

The various studies of the literature and the international recommendations (notably those of the center of control of the diseases and prevention and those of the Superior Council of Public Hygiene of France indicate treatment of 6 months is as effective as a treatment of longer duration.[13]

Current recommendations for the treatment of osseous TB include a 2-month initial phase of isoniazid, rifampicin, pyrazinamide, and ethambutol followed by a 6–9-month regimen of isoniazid and rifampicin.[14]

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflicts of interest.

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