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Management Of Recurrence Benign Histiocytofibroma of Tibia: Case Report and Review Of Literature

Case Report

Lahsika Mohammed*, Filali Baba, Maanouk, Abid, El Idrissi, El Ibrahimi, El Mrini

Department of Traumatology and Orthopedics, UHC Hassan II, Fez, Morocco.

Abstract

The histiocytofibroma is a mesenchymal tumor of distal cutaneous localization in most cases, bone location is unusual and especially in the long bones. She usually sits in epiphyseal or metaphyseal location. The location of the tibial shaft is very rare. Few studies have described the clinical, pathological and prognostic of bone histiocytofibroma, it is difficult to differentiate them from other rare lesions such as giant cell tumor (GCT) and non-ossifying fibroma. In this article, we will describe this very rare bone lesion and describe the clinical, therapeutic and prognostic characteristics from a case.

Keywords: Bone Tumor; Benign Histiocytofibroma Of Bone; Tibia.

Introduction

Benign histiocytofibroma (BHF) is one of the most common benign tumors. It is usually located on the skin, particularly the limbs [1, 2]. Bone localization is rare, representing 1% of all benign bone tumors operated [3]. In the rare case of infringement of the long bones, the seat is especially epiphyseal and metaphyseal. The diaphysis location is exceptional.

Few studies have described the clinical, pathological and prognostic bone BHF, it is difficult to differentiate them from other rare lesions such as giant cell tumor (GCT) and non-ossifying fibroma.

The purpose of this article is to describe this rare bone injury and to summarize the clinical, therapeutic and prognostic from a case.

Observation

This is an 18-year-old patient, with no history, presenting for 8 years (at the age of 12) a palpable swelling of progressive on set with mechanical pain in the right leg.

The patient was operated on for excisional biopsy with an anatomopathological result in favor of a benign histiocytofibroma.

The development was marked 1 year ago by the onset of swelling and pain at the same site.

Clinical examination revealed firm swelling, poorly defined, tender to palpation and fixed relative to the deep plane at the anterior tibial ridge 2cm below the anterior tibial tuberosity. It measured 4 × 2 cm. There was no vascular or nervous deficit, the regional lymph nodes were free, and the knee and ankle joints were free. The standard radiograph showed a well-defined lacunar image, mid-diaphyseal of the tibia, with sclerotic marginal sclerosis without periosteal reaction making stage Ia according to the LODWICK classification [4]. (Fig. 1).

MRI revealed an osteolytic lesion, spindle-shaped with lobulated contours, hyper T1 and hyper T2 very restrictive in diffusion and quite strongly enhanced at the periphery, blowing the cortex with rupture in places, without periosteal reaction. No infiltration of the soft parts opposite. This lesion measured 30 × 10 × 8 mm (Fig. 2).

Laboratory results including a complete blood count, routine biochemical studies, serum calcium, phosphorus and parathyroid

***Corresponding Author**:
Lahsika Mohammed,
Resident, Department of Traumatology Orthopedic B4, University Hospital Hassan II Fez, Morocco.
E-mail: mlahsika@gmail.com

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Figure 1. Standard radiograph showed lacunar image, mid-diaphyseal of the tibia, with sclerotic marginal sclerosis without periosteal reaction making stage Ia according to the LODWICK classification.

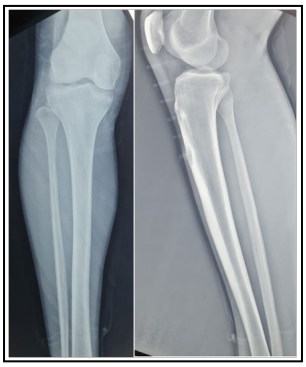


Figure 2. MRI revealed an osteolytic lesion, measured 30 × 10 × 8 mm , hyper T1 and hyper T2, blowing the cortex with rupture in places, without periosteal reaction. No infiltration of the soft parts opposite.

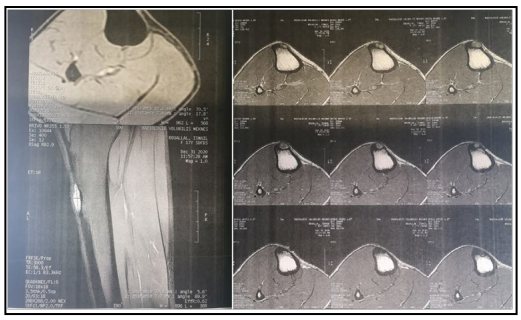
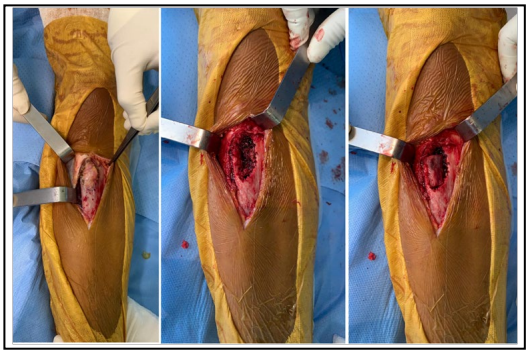


Figure 3. a. The tumor blew out the cortex without any foci of rupture. The solid component was yellowish shiny in appearance.

b. Large resection of the tumor was performed.

c. Reconstruction was carried out with a corticosteroid-cancellous graft from the ipsilateral anterior iliac crest.



hormone assays were unremarkable.

Macroscopically, the tumor blew out the cortex without any foci of rupture. The solid component was yellowish shiny in appearance.

A large resection of the tumor was performed. Reconstruction was carried out with a corticosteroid-cancellous graft from the ipsilateral anterior iliac crest (Figure 3).

Histological examination of the excisional piece revealed a benign fibroblastic tumor proliferation, the morphological appearance of which is compatible with a benign histiocytofibroma. There was no sign of malignancy, and the excisional margins were free from tumor proliferation.

The limb was immobilized by a knee brace for six weeks, then knee and ankle rehabilitation was scheduled afterwards.

Radiographic controls at 3, 6 and 12 months showed progressive integration of the graft. No sign of local recurrence, displacement or disassembly of the equipment was noted.

Discussion

BHF accounts for about 1% of all benign bone tumors treated with surgery [5]. HBF of bone presents a diagnostic challenge because this lesion shares clinical symptoms, radiological features and histological features common with other benign lesions such as non-ossifying fibroma, giant cell tumor, fibrous dysplasia, aneurysmal bone cyst, osteoblastoma and eosinophilic granuloma.

Clinically, BHF is more commonly present in young adults between the ages of 20 and 40 and has no gender predilection. This

tumor occurs more often in long bones than in flat bones, but the tibia is rarely involved.

Pain is the most frequent master of symptoms [4, 6, 7]. Non-ossifying fibromas are generally asymptomatic, except in the event of a fracture and it is sometimes difficult to distinguish this tumor from other rare tumors presenting with multi-compartmental osteolytic lesions, in particular the TCGs. Few works have described the radiographic characteristics of the HBFB of the tibial shaft [8].

BHF appears on radiography as a well-defined, osteolytic, uni or multilocular lesion, with a sclerotic border. It can be centered or eccentric. Cortical extension may be present, especially in flat bones. A periosteal reaction and extension to adjacent tissues are rarely described [9, 10]. Soft tissue extension is not present. Rarely, the lesion is less well defined, with fuzzy boundaries suggesting a malignant tumor [7].

Histologically, BHF contains varying amounts of spindle-shaped fibrohistiocytic cells, multinucleated giant cells and foam cells [7]. Immunohistochemically, the most prevalent reactivity is found for vimentin and CD68, S-100 protein, lysozyme, α1-antitrypsin and antichymotrypsin, indicating histiocytic differentiation.

These tumors are locally aggressive and tend to recur after curettage. Complete surgical excision is the recommended treatment with a good prognosis.

Marginal excision or wide excision is an open debate, Sanatkumar et al. reported a single case of recurrence 17 months after the operation, although the resection margin was 3,0 cm beyond the tumor [6]. Clarke et al. reported three cases of recurrence after tumor curettage among eight operated patients [11]. A case reported by van Giffen et al. had lung metastases [12].

Allografts, non-vascularized and vascularized autografts, and other osteosynthesis procedures have been used with varying degrees of success, and clinical outcomes are variable.

In our patient, to prevent recurrence and preserve optimal limb function, we performed a wide resection with a resection margin of 2.5 cm beyond the tumor and reconstruction with a graft taken from the ipsilateral iliac crest. No recurrence has been found after one year, but long-term follow-up is essential.

Conclusion

Bone BHF is a rare and little-known benign tumor. The diagnosis can be difficult, on the one hand because this tumor presents an atypical clinic and microscopic features which are not pathognomonic. The surgical excision must be complete to avoid recurrence.

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