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Intraosseous Lipoma of the Calcaneus: Rare Cause of Talalgia (One Case Report)

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Authors' contributions

All the authors contributed to the conduct of this work. All authors also declare that they have read and approved the final version of the manuscript.

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Case Study

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ABSTRACT

Intraosseous lipomas are rare primary benign tumors, their location is unusual in the calcaneus, even rare at 15% of tumors of the lower limb, and 0.1% of all skeletal tumors, we report a case of intraosseous lipoma of the calcaneus in a 42-year-old patient with no particular history who presents ankle mechanical pain, X-ray of the ankle revealed a bone defect and complement CT scan confirmed the diagnosis, the treatment was an abstention with a good clinical and radiological evolution.

Keywords: Intraosseous lipoma; calcaneus; talalgia.

1. INTRODUCTION

The intraosseous lipoma of the calcaneus is a rare primary benign tumor, representing 0.1% of all skeletal tumors [1], its discovery is fortuitous following a radiological assessment, or revealed by the presence of talalgia [2].

We report a case of intraosseous lipoma with a review of the literature, and the aim of our work is

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to show this rare location of this tumor, their diagnostic methods, as well as the therapeutic options.

2. PRESENTATION OF CASE

This is a 42-year-old patient with no pathological history, who consulted for an ankle sprain and the interview found chronic talalgia that has progressed for more than 6 months, becoming more pronounced with prolonged standing and with physical activity; Clinical examination found evasive lameness, pain on palpation, no swelling, no bruising, no ankle impasto, mobility of the tibio-talar and talar-calcaneal joints was normal. All this evolving in a context of apyrexia and preservation of the general condition.

X-ray of the right ankle showed on the lateral view a lacunar lytic image blowing the cortex without breaking it with a clear edge classified as type IA according to the Lodwick classification, located at the WARD triangle [Fig. 1]. The x-ray suggested a benign process, including a solitary cyst, chondroblastoma, and aneurysm cyst.

Due to financial issue the patient could not do an MRI so a CT scan was prescribed and showed an osteolysis gap with clear contours at the external anterior surface of the right calcaneus, blowing the cortical without breaking it and place to very thin bony partitions measuring 26x37 mm of fat density evoking an intraosseous lipoma of the calcaneus [Fig. 2].

Fig. 1. Profile x-ray of the ankle showing a calcaneal gap

Fig. 2. CT view in sagittal section showing a well circumscribed lytic lesion with central partitions

The patient received treatment consisting of analgesics and antithrombotic with discharge, regular clinical and radiological monitoring in consultation with good progress. Six months later, the functional discomfort disappeared with resumption of normal physical and professional activity have been observed.

3. DISCUSSION

Intraosseous lipoma is a rare benign bone tumor representing 0.1% of all skeletal tumors [1], in the lower limb the location in the calcaneus is found in approximately 15% of intraosseous locations [2], its location may be intramedullary, intracortical or periosteal [3], and most often poses a problem of differential diagnosis with other cystic images of the calcaneus, in particular the solitary cyst, chondroblastoma and aneurysmal cyst [4].

In 30% of cases, the lipoma remains asymptomatic, and this is a pathology most often discovered incidentally on a standard X-ray. However, the lipoma is little manifested by talalgia, difficulty in walking and sensitivity to pressure. The standard radiograph shows an osteolytic image well limited by a peripheral rim which poses the problem of differential diagnosis with an essential or aneurysm cyst or another benign tumor such as enchondroma and angioma [5]. The CT scan remains very helpful thanks to the dimensional analysis and the very limited hypodense aspect of the tumor. The MRI remains the most effective examination for making the diagnosis with certainty by objectifying a well-defined fatty lesion which appears in hypersignal on T1 and T2, fading from the T1 sequences after fat saturation [6]. The anatomopathological confirmation is the fatty nature of the tumor with the presence of mature adipocyte cells with multiple calcifications [7].

The treatment of intraosseous lipoma is a subject of controversy, it remains divided between abstention in asymptomatic and well tolerated forms with low risk of fracture [8-9]. For the painful lipoma resistant to symptomatic treatment with a high risk of fracture, curettage, and filling of the cavity with cancellous grafts is performed, with results showing good healing without recurrence of the operated cases [10]. In our case, we chose symptomatic treatment with discharge and monitoring of the patient whose evolution is continuously favorable with a follow-up of 2 years in the following table [Table 1] we show a summary of different cases of calcaneus lipoma with diagnostic and therapeutic modalities.

Table 1. Different cases of calcaneus lipoma

	Clinical presentation	radiological exploration	Treatment
Bousbaa H et al. [11]	40 y.o male with continuous talalgia	X-ray, CT scan Lytic lesion in the calcaneum with lipidic nature	Symptomatic treatment
Yildiz HY et al. [12]	34 y.o female with Bilateral heel pain	Xray, CT scan, MRI:	Curettage and calcium sulphate tablets graft
Mawardi M, et al. [13]	50 y.o man with continuous right heel pain	X-ray, MRI: lytic lesion in the calcaneum consistent with a lipoma.	Curettage and graft with bone cement.
Weinfeld GD et al. [14]	4 cases of hell pain	X-ray, CT scan, MRI: all results suggesting an intraosseous lipoma	1) Curettage and graft with bone substitute 2) Curettage and graft with autogenous corticocancellous bone 3) Curettage and autogenous iliac crest bone graft 4) Curettage and autogenous iliac crest bone graft

4. CONCLUSION

Lipoma of the calcaneus is a very rare location of the pathology. Expressed by talalgia and whose differential diagnosis with a cystic lesion justifies the use of more specific radiological examinations such as CT and MRI which allow the diagnosis to be made. Its treatment remains divided between abstention for the fortuitously discovered forms, and surgery for the symptomatic forms requiring curettage and filling by cancellous graft allowing healing without recurrence.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline patients consent and ethical approval has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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