Intra-osseous lipoma of the talus: a case report

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ABSTRACT

Intra-osseous lipomas are rare benign tumours. We report one such case in the talus of a 60-year-old man. The patient underwent curettage and bone grafting. At the 22-month follow-up, radiographs of the talus showed dense sclerosis with multiple cortical breaks in the anterior process and no evidence of local recurrence or avascular necrosis. The patient had a painless ankle joint with normal range of movement.

Key words: lipoma; talus

INTRODUCTION

Intra-osseous lipomas are rare benign tumours, with an incidence of <0.1% per year. They are usually asymptomatic and are diagnosed incidentally. Most patients are middle aged, and there is a slight male predominance. The commonly involved sites are long bones (60%), particularly the metaphyseal bone; the calcaneum is most commonly involved in foot lesions. Other bones of the hands and feet are less commonly affected. One case of intra-osseous lipoma of the talus has been reported. We report one more such case, in which the patient underwent curettage and bone grafting. The lesion healed completely, with no evidence of avascular necrosis and local recurrence.

CASE REPORT

In February 2009, a 60-year-old man presented with a 2-month history of dull pain in the left ankle, which increased in intensity for the past 2 days. The patient had no history of trauma or twisting of the ankle joint. There was mild and diffuse swelling over the anterior aspect of the ankle, with no discoloration of the overlying skin, which had a normal temperature and was mobile. The swelling was bony hard and mildly tender. The range of movement of the ankle joint was painless and full.

Radiography and magnetic resonance imaging of the talus revealed a well-defined, round-to-ovoid,
expansible lesion, with fat density and central calcification, suggestive of intra-osseous lipoma (Figs 1 and 2). The lesion was located in the head and neck of the talus and measured 26x24x23 mm. It was suppressed on STIR images (indicating fat content), and showed smooth and regular margins with a central hypointensity on all sequences, indicating central calcification. The lesion reached up to the articular surface of the talus but did not involve it. The muscles, soft tissues, and ligaments were normal in signal intensity, with joint spaces maintained. There was a minimal effusion in the ankle joint.

The lesion was approached from its most prominent site (i.e. anteromedially). There were signs of sinovitis, and the anteromedial surface of the talus was irregular. There were no degenerative changes in articular surfaces of the talus and soft tissues around the tibiotalar and talonavicular joints. The lesion was curetted and the cavity filled with autogenous bone grafts harvested from the ipsilateral iliac crest. The

![Figure 1](image1.png)  
**Figure 1** Anteroposterior, mortise, and lateral radiographs showing the intra-osseous lipoma in the talus.

![Figure 2](image2.png)  
**Figure 2** Magnetic resonance images showing a well-defined, round-to-ovoid, expanding lesion with fat density and central calcification in the talus.
curetted lesion was jelly-like and yellowish-white; its histopathology revealed lobules of mature triadepose tissue separated by thin fibrous septae forming a tumour in between bony trabeculae, all suggestive of an intra-osseous lipoma (Fig. 3).

Postoperatively, the swelling and pain subsided within one month. At the 22-month follow-up, radiographs of the talus showed dense sclerosis with multiple cortical breaks in the anterior process and no evidence of local recurrence or avascular necrosis (Fig. 4). The patient had a painless ankle joint with a normal range of movement.

DISCUSSION

Intra-osseous lipomas have 3 radiographical stages.2,4 Stage-1 lesions show a purely radiolucent area with cortical expansion. Stage-2 lesions show similar radiographic features but also contain localised calcification. Stage-3 lesions show considerable ossification around the calcified fat of the outer rim of the lesions. In our patient, the lesion was stage 2.

The differential diagnosis of intra-osseous lipoma includes simple bone cyst, fibrous dysplasia, enchondroma, and chondromyxoid fibroma. Based on magnetic resonance imaging, the fat density may also lead to differential diagnoses of intra-osseous liposarcoma and xanthoma. Nonetheless, primary intra-osseous xanthoma and liposarcoma are very rare.5,6 Four cases of malignant transformation from intra-osseous lipomas have been reported,7 but histopathologically there was coexistence of a malignant fibrous histiocytoma.

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REFERENCES