ABSTRACT

Two cases of benign chondral tumors of the talar neck region (an osteoid osteoma and a chondroblastoma) were described. Because of their specific, unusual site they could be resected by arthroscopy. The imaging aspects, incidence in foot bones and possibilities of treatment were discussed, and a literature review is presented.

Keywords: Chondroblastoma/surgery; Bone neoplasms/surgery; Osteoma, osteoid/surgery; Talus/surgery; Arthroscopy; Case reports

INTRODUCTION

Arthroscopy has been used for treating many pathological conditions of the ankle joint. The authors showed relatively uncommon causes of ankle pain: an osteoid osteoma and a chondroblastoma of the talar neck (a rare site)\(^1\), in the subperiosteum, and with no common radiographic changes related to these lesions\(^2\). Due to the particular site, the resection could be performed by arthroscopy, with complete excision of the lesions and resolution of the patients’ complaints.

The authors described two cases of young male patients suffering severe anterior ankle pain associated with previous traumas, and treated as ankle sprains and anterior impingement syndromes without resolution.

The radiographs showed no significant changes; however, upon magnetic resonance imaging (MRI), there were localized lesions at the talar neck, surrounded by a thick synovial membrane. Both patients underwent ankle arthroscopy and the removal of associated synovitis and entire nidus resection. The pain disappeared in both patients immediately after surgery, and late results were excellent.

CASE 1

F.S.M., a 37 year-old male patient suffered from severe left ankle pain, with a giving way sensation for over one year. The pain increased with normal daily activities, and at night, slightly relieved with non-steroidal anti-inflammatory drugs. Upon physical examination he complained of severe tenderness in the anteromedial aspect of his left ankle with moderate effusion, without instability as seen in the anterior drawer test. Imaging investigation with MRI showed an important anterior medial synovitis, with an irregularity on the dorsal medial cortex of the talar neck (Figure 1). He was treated by hindfoot elevation and physiotherapy for six months with no pain resolution, and was submitted to another MRI, which showed a round lesion on the dorsal medial aspect of the talar neck. He underwent ankle arthroscopy to resect synovitis and remove a flesh-colored round lesion, 8 mm in diameter that was resting in the cortical bed (Figure 2). The pathological
study revealed a chondroblastoma of the talar neck. After surgery the pain completely disappeared, and the patient returned to pre-lesion status after four weeks of rehabilitation. Presently he is in the third postoperative year, with no complaints or physical limitations.

CASE 2
D.R.C., 21 year-old male patient had been suffering with right ankle pain for over 5 months. He had a history of an ankle sprain 18 months prior to the onset of symptoms, treated with rest, ice and restriction of physical activities for one month. Pain severity increased and, during the first visit, he had severe anterior lateral pain on his right ankle joint, with tenderness on palpation, a moderate ankle effusion, and restricted range of motion due to intense pain. The radiography revealed an irregularity on the dorsal aspect of the talar neck (Figure 3), and the MRI showed exostosis and synovitis in the same region, with inflammatory changes on the talar neck (Figure 4). He underwent ankle arthroscopy to remove the hypertrophic synovial tissue, and to remove exostosis. During the procedure a round red mass measuring 5 mm in diameter was found in the exostosis region (Figure 5), which was removed and its bed curedted (Figure 6). The pathological study revealed a benign tumor characterized by bone trabeculae surrounded by osteoblasts and osteoclasts, in a fibrovascular tissue structure, with bone sclerosis on its periphery, confirming the diagnosis of osteoid osteoma (Figure 7). The patient had no pain during the early postoperative period, and, after three weeks of physiotherapy, returned to his regular sports activities, without symptoms. On the recent three-year follow-up visit, he had no complaints.
as central osteolitic lesions (called nidus) with a
surrounding dense osteoblastic reaction. The typical
presentation is well localized pain that is more severe
at night, relieved by aspirin and other salicylates
and prostaglandin inhibitors. The most frequent
site is cortex of the affected bone; however it can
occur in the subperiosteal and endosteal regions. On
these sites the radiographic characteristic of typical
bone sclerosis is not always present. Treatment
is symptomatic, in order to relieve pain, as it can
came asymptomatic in 1.5 to 2 years. If pain is
not well controlled, a surgical resection is indicated.
Histology reveals a nidus composed of thick, vascular
bars of osteoblastic tissue surrounded by a thin zone
of vascular fibrous tissue and by a dense margin of
mature reactive sclerotic bone.

Chondroblastoma is a rare cartilagenous benign
tumor having a typical histological appearance of
closely compacted polyhedral cells, with focal areas
of calcification and necrosis without mitotic figures.
Clinically it is similar to an osteoid osteoma, with pain
is relieved by salicylates. When it is located near a joint
there is effusion and sometimes mobility limitation.
This lesion occurs in adolescence, more common in
male, and the most frequent sites are epiphyses of
the proximal humerus, distal femur and proximal
tibia\(^1,3\). Nonetheless, there are some references of
chondroblastoma affecting the talus\(^4-8\).\)

The diagnosis of these lesions, in uncommon sites,
is often delayed for months or even years, and are often
treated as ankle sprains\(^2,9\).

MRI is an important tool for diagnosing pathologic
conditions of the hindfoot, but the computed
tomography (CT) is the best modality to identify and
find the characteristic nidus of these lesions\(^10\).

These cases are significant because they highlight
the diagnostic possibility of benign chondral tumors
(osteoid osteoma and chondroblastoma) as causes
of chronic ankle pain. Moreover, considering their
uncommon site, they are frequently diagnosed without
the typical findings of sclerosis in radiographs\(^11\).

The site of these specific lesions (superficial and
intra-articular) allows them to be arthroscopically
resected, as demonstrated by other authors\(^12-14\).

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DISCUSSION

Osteoid osteomas are benign osteoid-forming lesions
that are not uncommon in tarsal bones and from
2 to 11% affect the foot, with the talus being the
most common location. They are small, very painful
tumors that classically appear in the radiographs

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**Figure 5.** Case 2: Arthroscopic aspect

**Figure 6.** Case 2: Resected lesion

**Figure 7.** Case 2: Pathological image