Subperiosteal Osteoid Osteoma of the Neck of Talus

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ABSTRACT

Juxta-articular, subperiosteal osteoid osteomas arising around the ankle are unusual. Tumors arising on the neck of the talus commonly produce symptoms mimicking monoarticular arthritis. Patients are usually treated for arthritis or ankle sprain, which often leads to a delay in definitive diagnosis. Here we present a case of osteoid osteoma of neck of talus which was presented as ankle pain. It puzzled us until MRI was done. Diagnostic dilemma and delay can be avoided by high index of suspicion. The patient was treated with open removal of the tumor. We also present brief review of literature about juxta-articular, subperiosteal osteoid osteoma which is uncommon from the typical osteoid osteoma occurring elsewhere in the body.

Key words: juxta-articular, subperiosteal, osteoid osteoma, talus neck

INTRODUCTION

Most orthopedic surgeons are well aware of Osteoid osteoma.1 It is a common tumor comprising approximately 10-12% of all benign bone tumors.2 This tumor consists of a centrally located vascularized nidus, typically surrounded by a variable amount of sclerotic reaction. The nidus is usually 1-10 mm.3 This tumor predominantly occurs in children and young adults and is more common in males with a male-to-female ratio of 1.6:1 to 4:1.3 Clinically, osteoid osteoma is usually accompanied by nocturnal pain promptly relieved by salicylates. Although any bone of the skeleton can be involved, approximately 50% of all osteoid osteomas occur in the femur and tibia.2 Osteoid osteoma occurring in the foot is unusual and accounts for approximately 4% of cases.4 Diagnosis of this small benign tumor is often delayed for months or even years.5,6 Clinical symptoms may present long before radiographic change is evident; in unusual locations the lesion may remain radiographically invisible.7 This applies especially to a nidus which is juxta-articular and subperiosteal.8 Despite these general clinical characteristics, the preoperative diagnosis of osteoid osteoma occurring in the foot may be delayed because of unusual location and atypical symptoms.8,9 In this article, we report an unusual case of Osteoid osteoma of the Neck of Talus in a 19 year old student who presented with ankle pain and soft-tissue swelling mimicking arthritis.

CASE REPORT

A 19 years male student presented with pain and swelling in the left ankle for 12 months with no history of previous trauma but complaining of regular night
pain. He was on analgesics regularly for pain. He had been treated as a case of reactive arthritis for about three months elsewhere. Examination revealed diffuse swelling of the whole anterior aspect of right ankle and localized tenderness at the neck of talus. There was local rise of temperature at the site of swelling, but the overlying skin was normal in color and texture. The laboratory data including White Blood Count and erythrocyte sedimentation rate showed normal findings at the time of presentation. Imaging evaluation included radiography, Computerized Tomography (CT) scan and Magnetic Resonance Imaging (MRI) at our institution. Radiography showed normal bone with increased soft tissue shadow (Figure 1). CT scan showed small sclerosis at the neck of the talus (Figure 2). MRI showed a round focus of low-signal nidus in the dorsal aspect of the left talus neck with extensive surrounding marrow and soft-tissue edema on both spin-echo Time 1 (T1) and Time 2 (T2) weighted images which was consistent with an osteoid osteoma(Figure 3). Enblock excision and bone grafting was performed, the sample was sent for histopathological examination. Histopathology confirmed the diagnosis of Osteoid osteoma (Figure 4). The patient was post operatively immobilized in boot cast for four weeks. Six months after surgery patient showed no evidence of recurrence.

**Figure 1.** Ankle x-ray: Anteroposterior and Lateral view.

**Figure 2.** 2a. CT scan Sagittal Cut. 2b. CT scan Coronal cut

**Figure 3.** 3a. T2 MRI sagittal image 3b. T2 MRI coronal image

**Figure 4.** 4a. Cavity after curettage 4b. Curetted material

**Figure 5.** 5a. histopathology (H and E stain X 40) 5b. histopathology (H and E stain X 80) 5c. histopathology (H and E stain X 100) 5d. histopathology (H and E stain X 200)

**DISCUSSION**

Osteoid osteoma is a common bone tumor, comprising approximately 10-12% of all benign bone tumors. Osteoid osteoma occurring in the foot is unusual and accounts for approximately 4% of cases. The common site in the bone of the foot is the talus and in 75% of cases, it is subperiosteal at its juxta-articular region. Preoperative diagnosis of osteoid osteoma occurring in the foot may be delayed because of unusual location and atypical symptoms such as that of sprained ankle, monoarticular arthritis, anterior impingement syndrome, and traction spur of the talar neck. Edeiken, DePalma and Hodes (1966) distinguish three modes of presentation of osteoid osteoma according to the localization of the
REFERENCES


