

CASE REPORT

Osteoid Osteoma of the Talus Neck

¹Arup K Daolagupu, ²Vikash Agarwala, ³Gaurav Khanted

ABSTRACT

Introduction: Osteoid osteoma mainly occurs in long bones (75%) and represents 2 to 11% of all bone tumors of foot and ankle and, most commonly, in talus. Here, we present a case of osteoid osteoma of neck of right talus, which was presented as chronic ankle pain and was treated with curettage and cancellous bone graft.

Case report: A 19-year-old patient presented to us with chronic right ankle pain on anteromedial aspect of dorsum of right ankle with difficulty in walking. Plain radiograph of right ankle joint revealed sclerosis in neck of talus. Both computed tomography (CT) and magnetic resonance imaging (MRI) were suggestive of osteoid osteoma involving superior aspect of talar neck. An incision was made over anteromedial aspect of dorsum of right ankle. Curettage was done and cavity was filled with cancellous bone graft from iliac crest. Patient was advised nonweight bearing for 4 weeks and physiotherapy.

Discussion: There is difficulty in diagnosis of osteoid osteoma of talus. The time delay in diagnosis is about 2.5 to 10 years. In our case, it was about 4 years. Radiograph features include small radiolucent area (nidus) with surrounding sclerosis. A CT is the best method for diagnosis. Rashid et al⁵ had done subtalar arthrodesis with curettage. Assafiri et al had done arthroscopic resection. In our case, we performed curettage and cancellous bone grafting.

Conclusion: A high index of suspicion of this disease should be held while treating patients with chronic ankle pain. A CT scan is the best method to identify the nidus. Although multiple treatment modalities are available, open resection with curettage and cancellous bone graft showed good result in our case.

Keywords: Cancellous bone grafting, Curettage, Nidus, Osteoid osteoma, Talar neck.

How to cite this article: Daolagupu AK, Agarwala V, Khanted G. Osteoid Osteoma of the Talus Neck. *J Foot Ankle Surg (Asia-Pacific)* 2018;4(3):39-42.

Source of support: Nil

Conflict of interest: None

INTRODUCTION

Osteoid osteoma was first described in 1935 by Jaffe as a "benign osteoblastic tumor composed of osteoid and

atypical bone, generally occurring in younger adults and more common in males."¹ It mainly occurs in the long bones, in particular, the femur and the tibia (75%). It represents 2 to 11% of all bone tumors located in the foot and ankle, and most commonly affects the talus.^{2,3} 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.⁴ A high index of suspicion of this disease should be kept in mind while treating patients with chronic ankle pain. This will allow early diagnosis, expedite the treatment, and avoid suffering and late complications.⁵ Here, we present a case of osteoid osteoma of neck of right talus, which was presented as chronic ankle pain and was treated with curettage and cancellous bone graft.

CASE REPORT

A 19-year-old male patient presented to us with chronic right ankle pain in our outpatient department in December 2015. The patient gave a history of fall while playing football 4 years back. On further evaluation, he gave a history of taking analgesics from the local chemist, hot compresses, and ankle support. The pain was not relieved on taking medication, but it was relieved on rest. Initially, he was able to walk with mild pain, but, gradually, the pain increased and it persisted throughout the day. The pain increased on walking and was hampering his routine activity. On examination, local temperature was normal, tenderness was localized anteromedially over dorsum of ankle, and he had significant limp and swelling over ankle joint. There was mild restriction of both dorsiflexion and plantar flexion of right ankle as compared with left ankle.

Routine blood investigation was within normal range with hemoglobin 13.6 gm/dL, total count 9,010/cc, and normal C-reactive protein. Plain radiograph of right ankle joint revealed sclerosis in neck of talus in lateral view (Fig. 1). Computed tomography (Fig. 2) of right ankle showed small lucent lesion with surrounding sclerosis involving the superior aspect of neck of talus. No extension of lesion was noted in articular surfaces. There was a central isodense nidus measuring approximately 15 mm × 10 mm involving superior aspect of neck of talus in MRI (Fig. 3). Both CT and MRI were suggestive of osteoid osteoma involving superior aspect of talar neck. An

¹Professor and Head, ²Assistant Professor, ³Postgraduate Trainee

¹⁻³Department of Orthopedics, Silchar Medical College & Hospital, Silchar, Assam, India

Corresponding Author: Gaurav Khanted, Postgraduate Trainee, Department of Orthopedics, Silchar Medical College & Hospital, Silchar, Assam, India, Phone: +918133878070, e-mail: gauravkhanted@gmail.com



Fig. 1: Preoperative X-ray

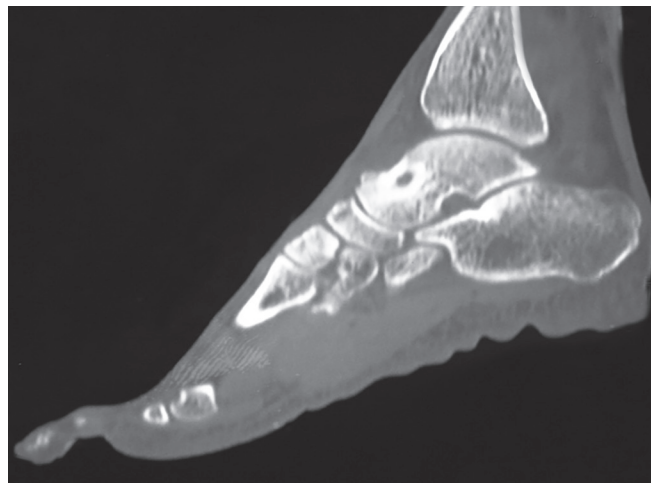


Fig. 2: Preoperative CT scan

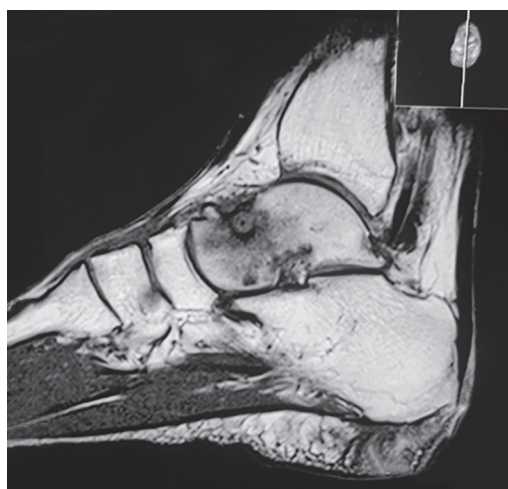


Fig. 3: Preoperative MRI

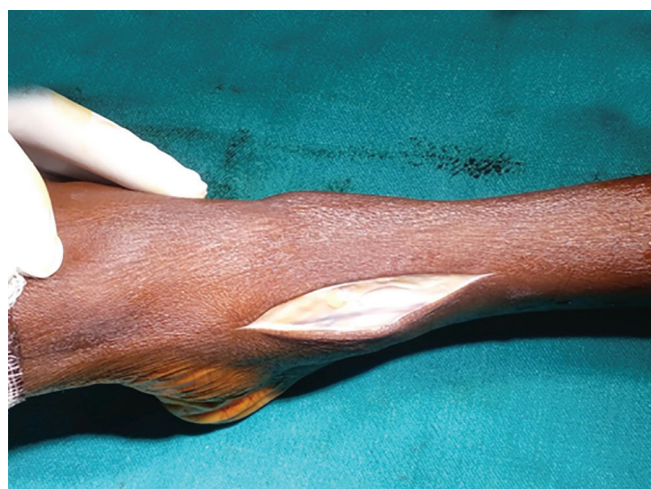


Fig. 4: Anteromedial incision

incision (Fig. 4) was made over anteromedial aspect of dorsum of right ankle. Curettage was done and cavity (Fig. 5) was filled with cancellous bone graft from iliac crest. Patient was advised nonweight bearing for 4 weeks and physiotherapy. Histopathological report of

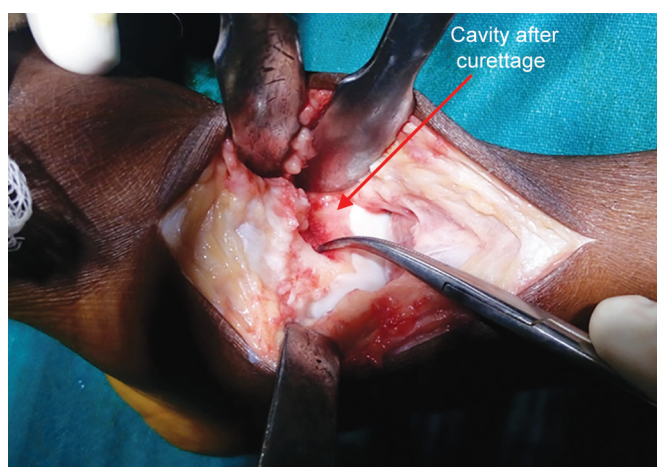


Fig. 5: Intraoperative view

curettage material confirmed the diagnosis of osteoid osteoma. He was advised radiograph post-operatively (Fig. 6), after 1 month (Fig. 7) and after 5 months (Fig. 8). Patient was advised non weight bearing for 4 weeks and physiotherapy. Partial weight bearing was started after 4 weeks of operation. Patient was pain-free after 4 weeks follow-up. There was pre-operative restriction (Fig. 9) of both dorsiflexion and plantar flexion and there was no restriction (Fig. 10) 2 months post-operatively. Patient is able to perform all his activities and able to bear full weight without any restriction or pain.

DISCUSSION

Osteoid osteoma was first described in 1935 by Jaffe as a benign osteoblastic tumor composed of osteoid and atypical bone, generally occurring in younger adults and more common in males.¹ It is present frequently in long bones, commonly in femur or tibia, and in foot and ankle, it is present in 2 to 11% cases and most commonly affects the talus.^{2,3} The pain and symptoms are out of proportion as



Fig. 6: Immediate postoperative view



Fig. 7: Postoperative view after 1 month



Fig. 8: Postoperative view after 5 months

compared with size. It usually presents as chronic case. The typical presentation for osteoid osteoma is bone pain at night that responds to nonsteroidal anti-inflammatory drugs and is not usually activity-related,⁶ but, in our case, pain persisted throughout the day and was not relieved by analgesics and pain was increased on ambulation.

Juxta-articular osteoid osteomas in the ankle and foot can be difficult to diagnose. The most common site is the talus.⁷ Most patients have a history of remote ankle injury. The time delay to diagnosis is on average

2.5 years, but sometimes, it is as long as 10 years.⁸⁻¹⁰ In our case, it was about 4 years. Radiographic features include a small radiolucent area (nidus) with surrounding dense sclerosis. A CT scan is the best method to identify the nidus.^{8,9,11}

Medical treatment with nonsteroidal anti-inflammatory drugs has been used, but is reported to take 2 to 4 years for resolution of symptoms; many patients may consider the treatment timeframe too long when other alternatives are available.¹² Rashid et al⁵ had done subtalar arthrodesis and the lesion was curetted from talar dome. There was restoration of full ankle range of movement as we did not perform arthrodesis. Ibrahim Assafiri et al¹³ had done arthroscopic resection and radiofrequency ablation. In our case, we did open resection, curettage, and the cavity was filled with cancellous bone graft from iliac crest. Arthroscopic resection is costly and technically demanding as compared with open resection.

CONCLUSION

The typical presentation for osteoid osteoma is bone pain at night that responds to nonsteroidal anti-inflammatory drugs. This presentation is not universal, however, and is frequently missed, especially when the pain is associated with a prior injury. A high index of suspicion of this disease should be kept in mind while



Fig. 9: Preoperative dorsiflexion and plantar flexion



Fig. 10: Postoperative dorsiflexion and plantar flexion

treating patients with chronic ankle pain. A CT scan is the best method to identify the nidus. Although multiple treatment modalities are available, open resection with curettage and cancellous bone graft showed good result in our case.

REFERENCES

1. Panni AS, Maiotti M, Burke J. Osteoid osteoma of the neck of the talus. *Am J Sports Med* 1989 Jul-Aug;17(4):584-588.
2. Freiburger RH, Loitman BS, Helpert M, Thompson TC. Osteoid osteoma-a report of 80 cases. *Am J Roentgenol* 1959;82:194-205.
3. Jackson RP, Reckling FW, Mants FA. Osteoid osteoma and osteoblastoma: similar histologic lesions with different natural histories. *Clin Orthop Relat Res* 1977 Oct;128:303-313.
4. Khan JA, Vaidya S, Devkota P, Acharya BM, Pradhan NM, Shrestha S. Subperiosteal osteoid osteoma of the neck of talus. *J Nepal Med Assoc* 2009 Jan-Mar;48(173):58-61.
5. Rashid S, Khursheed O, Manaan Q, Khan I. Osteoid osteoma of talus: case report. *Foot Ankle Online J* 2015 Mar;8(1):9.
6. El Rayes MA, El Kordy S. Osteoid osteoma of the talus. *The Foot* 2003 Feb;13(3):166-168.
7. Capanna R, Van Horn JR, Ayala A, Picci P, Bettelli G. Osteoid osteoma and osteoblastoma of the talus. *Skeletal Radiol* 1986 Jun;15(5):360-364.
8. Chuang SY, Wang SJ, Au MK, Huang GS. Osteoid osteoma in the talar neck: a report of two cases. *Foot Ankle Int* 1998 Jan;19(1):44-47.
9. Snow SW, Sobel M, DiCarlo EF, Thompson FM, Deland JT. Chronic ankle pain caused by osteoid osteoma of the neck of the talus. *Foot Ankle Int* 1997 Feb;18(2):98-101.
10. Yercan HS, Okcu G, Ozalp T, Osiç U. Arthroscopic removal of the osteoid osteoma on the neck of the talus. *Knee Surg Sports Traumatol Arthrosc* 2004 May;12(3):246-249.
11. Mazlout O, Saudan M, Ladeb MF, Garcia JF, Bianchi S. Osteoid osteoma of the talar neck: a diagnostic challenge. *Eur J Radiol Extra* 2004 Feb;49(2):67-70.
12. Kneisl JS, Simon MA. Medical management compared with operative treatment for osteoid-osteoma. *J Bone Joint Surg Am* 1992 Feb;74(2):179-185.
13. Assafiri I, Sraj S. Osteoid Osteoma of the Talar Neck With Subacute Presentation. *American journal of orthopedics* (Belle Mead, NJ). 2015 Oct;44(10):E404-E406.