American Journal of
Experimental and Clinical Research

Am J Exp Clin Res 2024;11(1):497-498

Case Report

Osteoid osteoma in the tibia: A case report

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Abstract. Osteoid osteoma (OO) is a benign osteoblastic bone tumor, most frequently affecting young male patients. It is commonly seen in the 2nd & 3rd decades, more often between 5-30 years.It involves the appendicular skeleton & the spine more often, rarely the flat bones and unheard in the membranous bones. Many forms of treatment are available but the classical method of treatment is surgical excision. We at Avicenna Military Hospital report such a case of osteoid osteoma of tibia in a 43 year old female treated with surgical excision. Patient was pain free with no signs of recurrence after two years.

Keywords: Osteoid osteoma, tibia, tumor.

Introduction

Osteoid osteoma is a small discrete benign bone tumor that is usually solitary but can be multiple [1]. It presents as a painful bone lesion in the young population with 80% presenting before the age of 30, more common in males than in female [2].Although its pathogenesis is unknown, it seems that a high level of prostaglandins is produced in the nidus center resulting in arteriolar vasodilation and edema, which stimulates the nerve terminals, causing pain [3]. Osteoid osteoma has distinctive radiographic findings with intensely reactive bone around a radiolucent nidus. The classic radiographic appearance is an oval, radiolucent central focus smaller than 2 cm with surrounding reactive sclerosis [4].Treatment can be surgical and non-surgical [1-3]. Using NSAIDs and waiting for spontaneous resolution is an alternative. However, surgery is indicated when there is no improvement with conservative treatment or when the medication presents side effects or risks. The success of surgical treatment is achieved with nidus resection or destruction [5].

Observation

A 43 year old female came to our orthopaedic department at Avicenna Military Hospit with complaints of pain & swelling of the right leg since 8 months. He had no history of trauma in the past. He was treated at a local hospital with various different types of analgesics but the patient had only temporary relief of pain. Patient had typical nocturnal pain which was relieved by NSAID's for few hours.On examination there was tenderness of the right tibia at the junction of lower & middle 1/3rd area
Conventional radiography showed a small lytic area in the tibia middle 1/3 rd area with a speck of nidus in the centre surrounded by a rim of sclerotic bone Figure 1. The situation was subcortical in nature.
MRI (Figure 2) showed a well-defined bony lesion mimicking oedema.
The patient was posted for surgery .Fusiform shaped elevation of the bone was noted and bone was shaved using a small guage & an osteotome. The nidus was visualised shortly after several shavings of the cortex [Fig-3]. The nidus was completely excised making a small window in the bone & sent for histopathological examination.
Histo-pathological examination confirmed the diagnosis of the osteoid osteoma. Pre-operative pain status completely disappeared after surgery.His last follow-up was 2 years after surgery. He was completely asymptomatic.

Discussion

The natural history of an untreated osteoid osteoma is natural regression, which occurs within 6 to 15 years but can be reduced to 2 to 3 years with treatment with aspirin or other NSAIDs [6]. Nonoperative management should be considered in patients where osteoid osteoma is not easily accessible by surgery due to its small size, nidus is not easily detected by plain radiographs. Magnetic resonance imaging is helpful for the differential diagnosis [7].

Due to its benign nature, with no potential for malignant degeneration, OOs have a good prognosis. Spontaneous regression has been reported in the literature, occurring at 33 months [8], therefore, some authors consider conservative management with NSAIDs [9].

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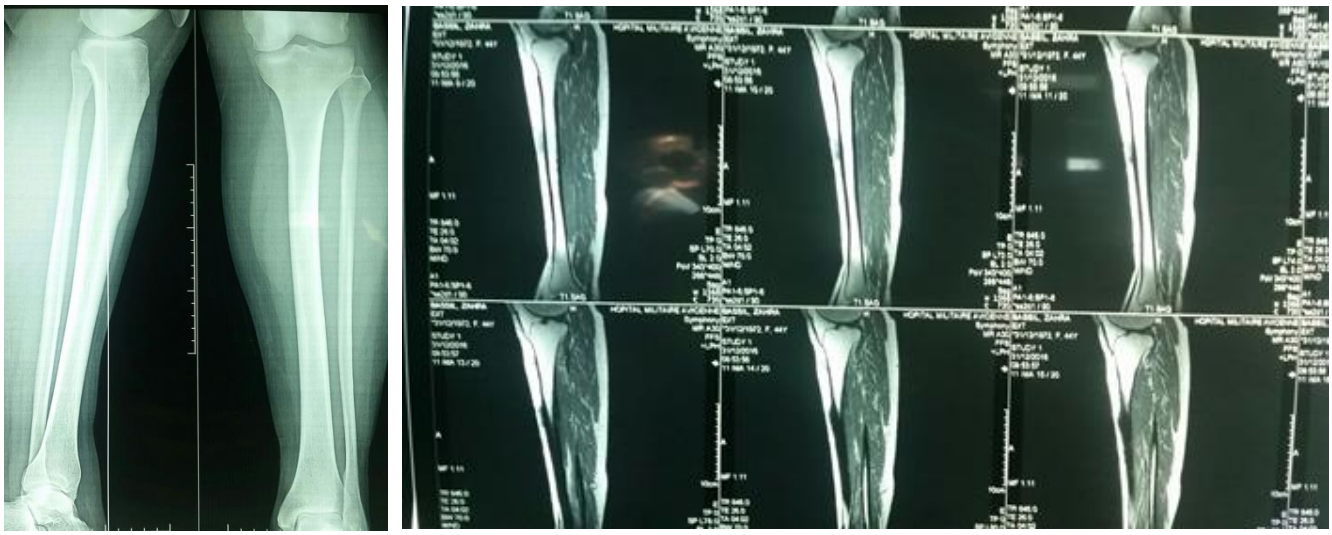

Figure 1 Osteoid osteoma of the right tibia (left panel) and MRI of the tibia showing the tumor (right panel)..

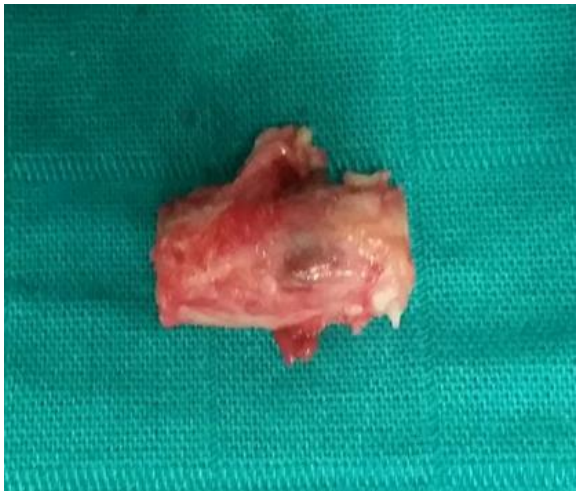

Figure 2 tumor removed en bloc.

Surgical “en bloc” resection of the nidus and drilling of the surrounding bone sclerosis has been considered the best choice for years, with a success rate of 88 to 100%. Although it provides the benefit of histopathological diagnosis [10].

Conclusion

Osteoid osteoma is a small discrete benign bone tumor presenting with bone pain. Most of the cases can be treated conservatively as they are often self-limiting. Surgery is only indicated for big lesions or after conservative management has failed.

Conflict of interest

The author declares no conflicts of interest.

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