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Osteoid Osteoma Imaging: A case report and review of the literature

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CASE REPORT

ABSTRACT

Osteoid osteoma is a benign bone tumour usually occurring in young individuals (10–30 years). It presents with intense pain (typically nocturnal), which can be alleviated by salicylates. Knowledge of the common imaging features of osteoid osteomas will improve our diagnosis of this condition, subsequently facilitating treatment and reducing morbidity.

INTRODUCTION

Osteoid osteoma is a benign bone tumour with a predilection for long bones, occurring predominantly in children and young adults. Advanced radiological techniques now allow us to evaluate pathology more confidently, sometimes eliminating the need for histological confirmation.

MATERIALS AND METHOD

Case presentation:

A 25-year-old woman was referred to our clinic with a 1-year history of pain in her right leg. The pain was constant but increased at night and after manual labor, and was reduced by non steroidal anti-inflammatory agents. The patient reported no history of antecedent trauma to the knee. A physical examination showed some mild swelling and tenderness over the posterior aspect of the right distal thigh, but no mass was palpated. A lateral radiograph showed a lesion with increased soft tissue density adjacent to the posterior surface of the distal femur (Figure 1). Computed tomography (CT) of the right leg clearly showed an oval radiolucent zone at right femoral and marked sclerosis around the lesion (Figure. 3). The histological examination confirmed the diagnosis of Osteoid osteoma, showing the nidus, surrounding osteosclerosis, and catarrhal synovitis. The patient's symptoms disappeared immediately after surgery (Figure. 2). Two months later, the patient is pain-free and has a good range of motion, and there is no local recurrence of the tumor.

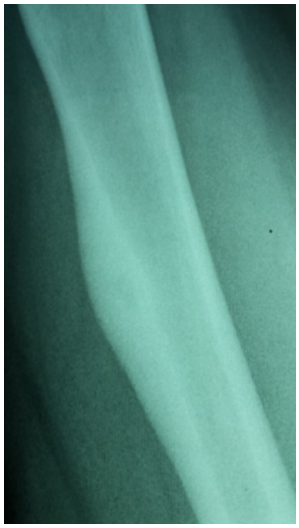

Figure 1: Plain radiograph in a 25-year-old woman with cortical osteoid osteoma. Lateral view of the right femoral shows a radiolucent nidus surrounded by fusiform cortical thickening.

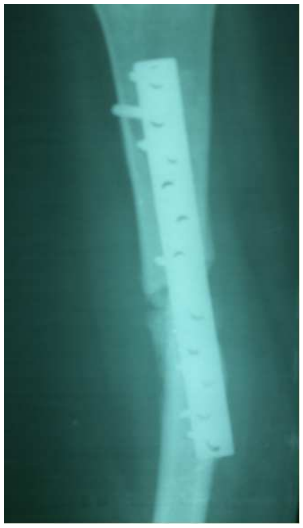

Figure 2: Postoperative aspect

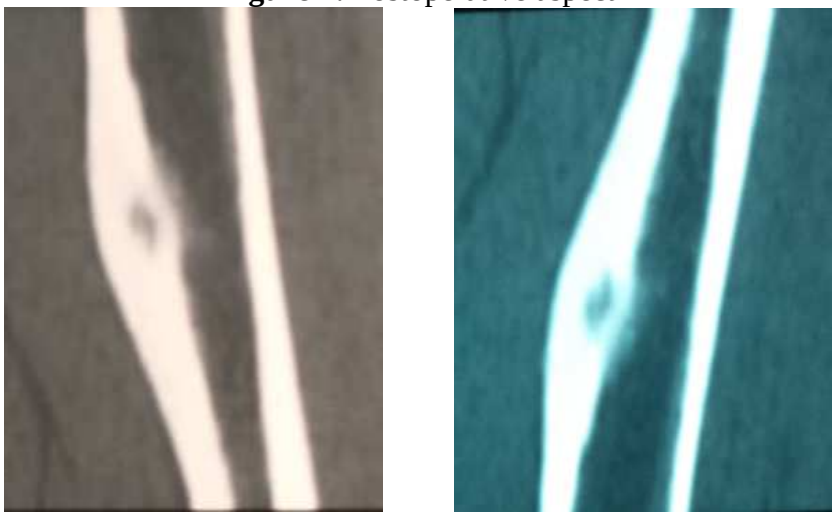

Figure 3: CT:the nidus is well defined

RESULT AND DISCUSSION

Osteoid osteoma is a benign osteoblastic neoplasm typically smaller than 1.5 cm. The condition was first described in 1930 by Bergstrand (1), and Jaffe (2) first characterized osteoid osteoma as a discrete clinical entity in 1935. Osteoid osteomas are usually found in children and adolescents - the vast majority of cases occur in patients between the ages of 10 and 35 years (3). Classically patient present with nocturnal pain and is relieved by salicylates.

An osteoid osteoma is composed of three concentric parts: nidus, fibrovascular rim, and surrounding reactive sclerosis.

Osteoid osteomas can occur anywhere within the bone, including cortex, medulla or subperiosteal or even intra-capsular.

Typical radiographic findings of osteoid osteoma include an intracortical nidus, which may display a variable amount of mineralization, accompanied by cortical thickening and reactive sclerosis in a long bone shaft (4). At CT, the nidus is well defined and round or oval with low attenuation (Fig 3). MR imaging depicts not only the nidus and accompanying sclerosis but also adjacent bone marrow and articular abnormalities (5).

CT remains the best imaging modality for diagnosis of osteoid osteoma. MR images should not be interpreted without reference to plain radiographs and CT scans if serious errors in diagnosis are to be avoided (6).

Table showing the results of bacteriological samples before and after heat disinfection night

CONCLUSION

Osteoid osteoma is characterized by an intracortical nidus with a variable amount of calcification, as well as cortical thickening, sclerosis, and bone marrow edema. When these findings are present, a diagnosis of osteoid osteoma is easily made.

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