

Enchondroma: About a Case

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Abstract

Background: Bone tumors are frequent lesions each histological type has typical patterns that identify them. However, they can sometimes occur atypically.

Objective: To present a patient with enchondroma in the proximal region of the right tibia.

Clinical Case: A 74-year-old white female patient with a history of arterial hypertension and bronchial asthma, who went to the Orthopedics and Traumatology office for referring pain at the level of the right knee that increases with physical activity. It is accompanied by functional limitation and joint crepitus. The computerized axial tomography detected osteoblastic image at the level of the right tibial plateau that does not break the cortex. In addition, multiple subchondral cysts with a degenerative appearance, presence of tibial osteophytes, ipsi and contralateral femoral bones, a very diminished femoro-patellar space associated with sclerosis of the femoral condyle were evidenced. When taking into account all the above elements, it was decided to take the patient to the operating room, for surgical treatment, where excision of the previously described tumor was performed, which was sent to the department of pathology for histological study that confirmed the enchondroma. The area of bone removed was filled with surgical cement.

Conclusion: Enchondroma is a benign tumor of cartilaginous origin, its presence over 40 years of age is occasional and constitutes the main differential diagnosis of Chondrosarcoma of low histological grade. Due to the infrequent nature of this condition outside of its age range, a biopsy is necessary to confirm the diagnosis.

Keywords: *Bone Tumors (TO); Cartilaginous Bone Tumors (TOC); Tumor Resection (RT); Computerized Axial Tomography (CT Scan)*

Introduction

Bone tumors are frequent conditions that affect patients at any age, the specific clinical and imaging characteristics are varied according to the histological nature of the lesion [1-3].

Pain, functional importance and volume increase are the main symptoms and signs of bone tumors, although they are sometimes asymptomatic or are accompanied by other entities that mask their clinical manifestations, which is why they constitute a fortuitous finding on imaging examination [2,4].

Despite the varied histological types in bone tumors, there are specific patterns that help identify these conditions, among which are: age, location, situation and radiographic characteristics [5,6].

The bony structures that make up the knee joint are some of the most affected by tumors, hence the need to support the diagnosis in patterns such as age. From the imaging point of view, radiographs are needed in several projections, computerized axial tomography, magnetic resonance imaging and scintigraphy if necessary, supported by laboratory tests that are markers of tumor activity [5,7].

Primary bone tumors are more frequent in the second and third decades of life, but not in others where secondary lesions usually predominate especially in those over 60 years of age [1,3].

Due to the infrequent bone mass presented in this work in relation to age, and its association with another entity that masks its symptoms and signs, the authors of this study aim to show a patient with enchondroma in the proximal region of the right tibia.

Presentation of the Case

A 74-year-old white female patient with a history of arterial hypertension, bronchial asthma, ischemic heart disease and left bundle branch block, clinical file 239475, named NMRV, which goes to the Orthopedics and Traumatology office for pain referral of the right knee that increases with physical activity, and is accompanied by functional limitation and joint crepitus.

Physical examination revealed an increase in the volume of the right knee with vascular changes of the limb proper to age. Upon palpation, the articular crepitus was checked, as well as the limitation of movement.

The computerized axial tomography (TAC2 2291/19) detected osteoblastic imaging at the level of the right tibial plateau that does not break the cortex, with well-defined contours, with dimensions of 2.59 by 2.46 centimeters. In addition, multiple subchondral cysts with a degenerative appearance, presence of tibial osteophytes, ipsi and contralateral femoral bones, a very diminished femoro-patellar space associated with sclerosis of the femoral condyle were observed (Figures 1 and 2).



Figure 1: Topogram showing intra-osseous tumor (yellow arrow) on the right tibial plateau. Own image of the authors.

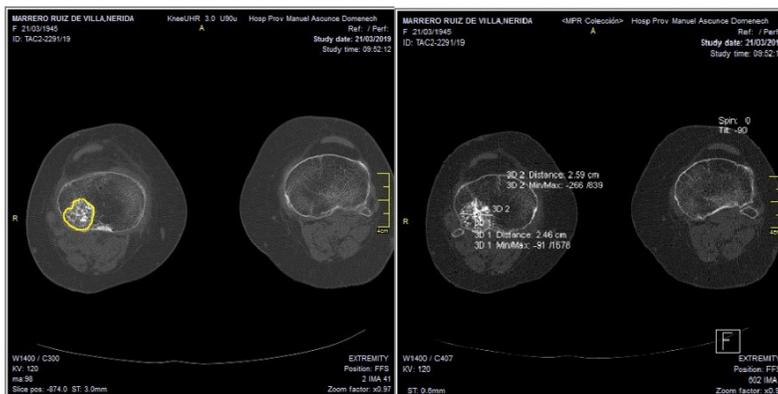


Figure 2: Computed axial tomography of the right knee, showing a bone tumor of 2.59 by 2.46 centimeters. Own image of the authors.

The analytical studies showed: hematocrit 0.36, glycemia 6.7 mmol/l, creatinine 79 µmol/l, TGP 5 u/l, TGO 19 u/l, LDH 508 u/l, blood group and Rh A + factor.

Taking into account all the above elements, it was decided to take the patient to the operating room, for surgical treatment, where excision of the previously described tumor was performed, which was sent to the department of pathology for histological study. The extracted area was filled with surgical cement (Figure 3).



Figure 3: Anteroposterior radiograph of the operated right knee, where the filling of the tumor cavity with bone cement is observed. Own image of the authors.

The histological report showed well-defined nodules of hyaline, cytologically benign cartilage and endochondral ossification (Figure 4).

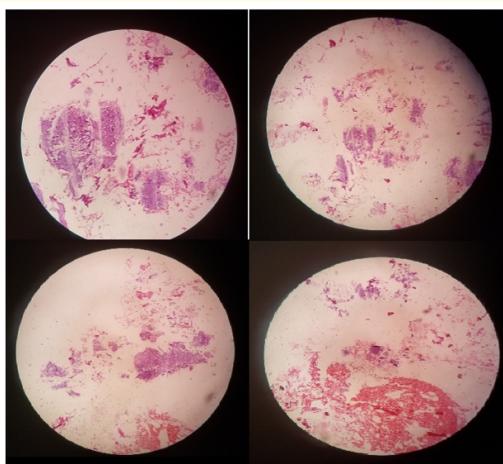


Figure 4: Histological section of the bone lesion. Own image of the authors.

At the end of the surgical act, calza-type immobilization was placed for a period of two weeks, to begin range-of-motion exercises with body weight support six weeks after the intervention.

Discussion

Cartilaginous tumors that affect bone can be benign or malignant. The former are classified according to the location in eccentrics such as: periosteal or juxtacortical chondromas and central or enchondromas [6,8],

According to Cable MG., *et al.* [9] enchondroma represents 10% of all benign tumors and 50% of them are located in the tubular bones of the hand, followed by the femur (17%) and the humerus (7%), hence the first characteristic that makes the presentation of this patient different; also in relation to the situation, this condition is usually located centrally and not eccentrically, as it happened in this patient.

Regarding the clinical manifestations, the enchondroma is usually asymptomatic, and one of its main forms of presentation is the pathological fracture. Pain in patients with this condition responds to this complication, compression of neighboring vascular structures, rapid growth, malignancy or combination with other entities in specific osteoarthritis, as is the case presented in this work, where there are marked radiographic changes of degenerative type in the knee joint. It is very difficult to define exactly the origin of the pain, however, the age of the patient, the affection of the contralateral knee, the degenerative changes and the characteristics of mechanical pain, support as the main source of symptoms and signs of gonarthrosis [4-6].

Age constitutes another pattern that makes this patient different, since this tumor predominates from 20 to 40 years in more than 60% of patients [3,8].

The main differential diagnoses include: low-grade chondrosarcoma and giant cell tumor, mainly taking into account the age of the patient [10].

The response to surgical treatment is good and the presence of recurrence suggests the possibility of malignancy, which is usually accompanied by soft tissue invasion and pain in the absence of trauma. The filling of the cavity with bone cement allows to eliminate the residual tumor cells due to the heat of the polymerization and the toxic effect [7,8].

Conclusion

The enchondroma is a benign tumor of cartilaginous origin, its presence over 40 years of age is occasional and constitutes the main differential diagnosis of Chondrosarcoma of low histological grade. Due to the infrequent nature of this condition outside of its age range,

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