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Case report

Enchondroma protuberans of the hand. A case report

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SUMMARY. Enchondroma protuberans is a long-bone exophytic enchondroma. This kind of tumor is very uncommon. There are only 7 cases reported in the literature. Of these, 2 involved the hand. A case of enchondroma protuberans of the middle phalanx of the left little finger is reported. The tumor was treated by marginal resection and intramedullary curettage. Diagnostic tests included clinical examination, X-rays, and MRI.

Key words: enchondroma, tumors, hand.

RESUMEN. El enchondroma protuberans es un enchondroma exofítico de los huesos largos, este tipo de tumor es poco frecuente, sólo existen 7 casos reportados en la literatura y de éstos, 2 en la mano. Se informa un caso de enchondroma protuberans en la falange media del dedo meñique izquierdo tratado con resección marginal, y curetaje de la cavidad intramedular. El diagnóstico se hace mediante el examen clínico, rayos X y resonancia magnética.

Palabras clave: enchondroma, tumores, mano.

Introduction

Enchondroma protuberans is a very uncommon benign bone tumor of chondral origin distinguished from enchondroma by its exophytic behavior on the long bones. It stems from the medullary cavity and grows towards the cortex creating a prominence on the bone surface.¹ Of the seven cases reported in the literature, only two are located on the hand.¹⁻⁶ A case of enchondroma protuberans of the mid phalanx on the left little finger is reported. It is the 8th in the literature and the 3rd one located on the hand.

Case study

Forty-two year-old female patient, who first noticed a protuberance growing on her left little finger. This growth continued for one year and the patient felt occasional pain

ranging from mild to moderate intensity, with no specific pattern but progressive. Upon physical examination, an enlargement of the proximal dorsal cubital surface of the middle phalanx was noticed, about 10 mm x 9 mm, of a hard consistency, attached to deep planes. This growth was not tender and the patient retained full ranges of motion of the proximal and distal interphalangeal joints, with normal distal neurovascular status of the finger (*Figure 1*). AP and oblique hand X-rays showed a proximal metaphyseal-epiphyseal exophytic lesion on the cubital border of the middle phalanx of the finger with thinned cortical bone and an intraosseous radiolucent image showing small calcifications adjacent to the exophytic lesion on the metaphysis. Laboratory tests were within normal ranges (*Figure 2*).

Surgical treatment was chosen. Through a mid-lateral cubital longitudinal approach of the finger, the tumor was identified and resected. An intramedullary defect, about 5 mm in diameter, was found. Curettage was performed by removing a white, lustrous tissue with an irregular surface and hard consistency, wrapped in a fibrous capsule (*Figure 3*). A palm splint was placed for 2 weeks. After that, hydrotherapy was started at home. At 7 weeks, the patient had recovered full ranges of motion.

The pathology report showed cartilaginous tissue compatible with enchondroma with no evidence of malignancy, consistent with enchondroma protuberans (*Figure 4*).

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Figure 1. Clinical picture of the lesion on the left little finger.



Figure 2. Anteroposterior and oblique X-rays of the left little finger showing the lesion on the middle phalanx.

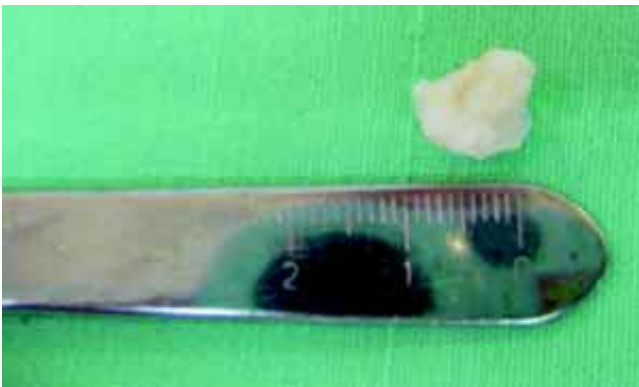


Figure 3. Photograph of the exsurgant specimen.

Discussion

Enchondroma is one of the most common primary bone tumors occurring between the second and fourth decades of life. It stems from cartilage remnants on the physal plate, which do not calcify normally, migrate with the physis as the bone grows longitudinally, and stay on the metaphysis or the shaft. Enchondromas may appear on X-rays in several ways that Takigawa⁷ classifies as follows: central (the most common form, accounting for 58% of cases), eccentric (19% of cases), combined (21% of cases), polycentric (11% of cases), and giant enchondroma (3% of cases) (*Figure 5*). Enchondroma protuberans is another variation of enchondroma that could very well be included in this classification as a new type.

Of the 7 cases reported of this kind of enchondroma, 3 were located on the humerus,^{2,3} 2 on the ribs^{5,6} and 2 on the hand; 1 on the metacarpal joint and another one on the middle phalanx.¹

The differential diagnosis must be done to rule out periosteal osteochondroma and chondrosarcoma.^{1,8} Treatment involves en-bloc tumor resection. Biopsies are not recommended in any cases.^{4,8} Curettage of the intramedullary defect is recommended. The defect may be left unfilled⁸ albeit some reports in which the cavity has been filled with bone tissue,⁷ bone cement,^{9,10} cement with calcium phosphate^{1,4,5} or bone morphogenetic protein.¹¹ All of these cases had a low relapse rate.

Enchondroma protuberans is a benign lesion. Diagnosis must be based on the case history and the non-aggressive X-ray behavior of the lesion. MRI is useful to rule out other possible neoplasias and confirm the diagnosis of enchondroma protuberans. We recommend en-bloc resection and intramedullary curettage.

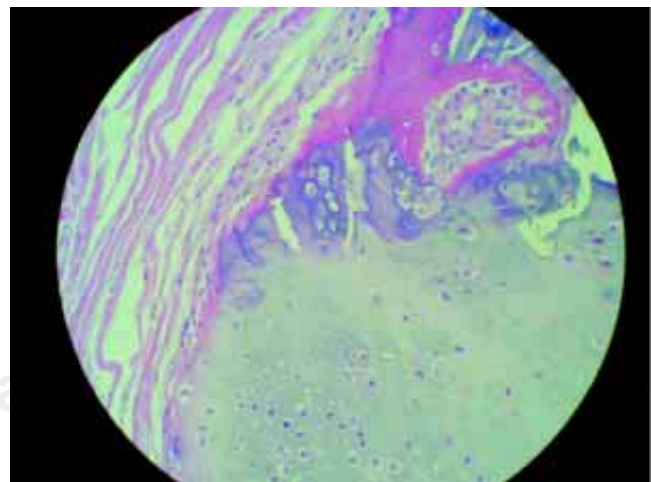


Figure 4. Microphotograph of the enchondroma protuberans. Hematoxylin-eosin stain showing the normal chondral tissue limited by bone tissue.

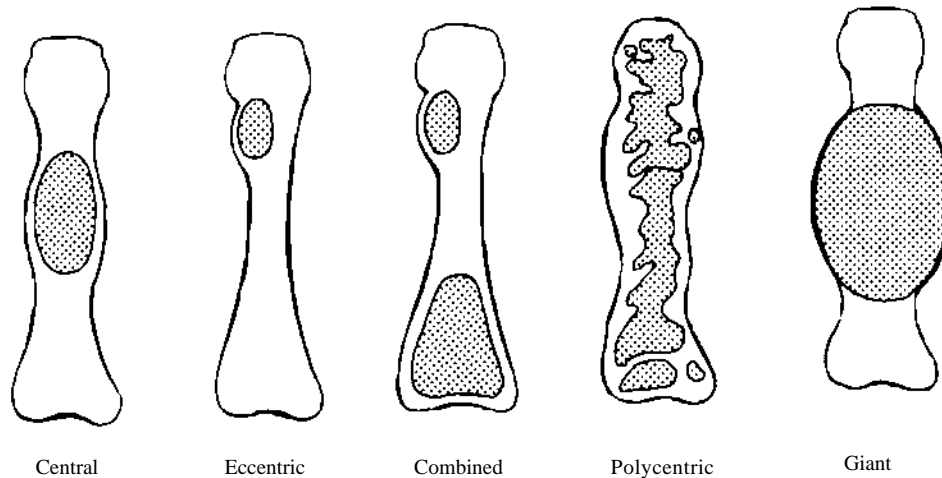


Figure 5. Takigawa classification.

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