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FIBRO-CHONDRODYSPLASIA OF PROXIMAL FIBULA. A BENIGN ENTITY TO CONSIDER IN THE DIFFERENTIAL DIAGNOSIS OF CHONDROSARCOMA.

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Background

Fibro-chondrodysplasia or fibrocartilagenous dysplasia(FCD) is a variant of fibrous dysplasia(FD) in which extensive cartilagenous differentiation is identified. The amount of cartilage varies from case to case, however, no percentage has been proposed to consider this diagnosis.

In radiologic as well as macroscopic appearance, FCD is similar to a low-grade chondrosarcoma, but the key to a correct diagnosis is the histologic identification of the classical component of FD among of large lobules of cartilage, sometimes with increased cellularity and atypical chondrocytes.

We present an unusual pathology as FCD in an unusual location, proximal fibula.

Methods

Seventeen-year-old boy with one-year history of growing mass in lateral site of the right knee and loss of External Popliteal Sciatic nerve (EPS) function. In another hospital they performed radiographs (Fig. 1) that showed a huge lucent lesion in the proximal fibula with popcorn densities and thin but defined cortex. MRI (Fig. 2) reported a 80x70x80mm lesion in proximal fibula, suggestive of chondrosarcoma, confirmed in a preliminary histological report of an incisional biopsy.

Results

The patient was referred to our center for management and definitive treatment. The Sarcoma Committee reviewed the images and the histology, and the definitive diagnosis was FCD.

Due to complete paralysis of EPS nerve because of the tumor, we performed a resection of proximal fibula and reconstruction with calcaneus allograft screwed to proximal tibial and plasty of achilles tendon allograft for reinforcing the lateral ligament and avoid residual instability of the knee.

Currently, 4 months after surgery, the patient has a complete articular balance, and he recovered at the moment 1/5 of muscle strength in motor evaluation of EPS nerve.

Discussion

First description of FCD was made by Pelzmann et al in 1980s. Series in literature reports few cases of FCD. More than 60% of the cases are in patients with polyostotic FD, and 27% of FCD cases had associated McCune-Albright syndrome.

Radiologically, FCD is well-demarcated and shows ground-glass opacity, stippled or ring-like calcifications suggesting cartilagenous malignant lesion. The cortex is always intact in spite of cortical expansion. The age of presentation ranged from 4 to 53 years. The proximal femur is the most common site of FCD. The differential diagnosis of FCD includes: enchondroma, chondrosarcoma, well-differentiated intramedullary osteosarcoma and fibrocartilagenous mesenchymoma.

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