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Cortical Desmoid – Distal femur cortical irregularities mimicking Malignancies

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Background

Cortical Desmoid are self-limiting reactive fibrous lesions, considered to be a variant of fibrous cortical dysplasia, which has benign biological and clinical behaviour.

These lesions have highly characteristic locations and radiologic pattern, which corresponds to a focal intracortical defect located at the posteromedial aspect of the distal femoral metaphysis, at the site of muscle insertion of the medial gastrocnemius or adductor longus. The radiological findings of this entity range from a slight loss of cortical definition, to a ragged spiculation with ill-defined borders, suggestive of malignancy (surface osteosarcoma).

It has been observed in active children between the ages of 3 and 17 (most commonly among 10-15 years old). It has been reported to occur in 11.5% of males and in 3.6% of females, 35% being bilateral cases.

Most patients are asymptomatic and don't have palpable masses, reason for which most cases are accidentally discovered in a knee radiograph performed for other reasons.

The authors aim to present two clinical cases of Cortical Desmoid lesions.

Case Report

A 10 years old male and a 14 years old female were observed in the emergency department after knee trauma during sport activities.

Clinical examination showed a physical pasting on inner side of distal thigh, tender to pressure.

Radiologically, spiculated lesions were observed at the distal femoral metaphysis, proximal to the growth plate.

The cases were discussed in a multidisciplinary meeting between Orthopaedics and Radiology. To distinguish between benign and malignant disease, further imaging was done: contralateral knee Xray and bilateral knee MRI/CT scan showed very similar images at the end of both distal femoral knees; bone scan was normal.

The correlation of imaging with clinical findings allowed to diagnose desmoid cortical lesions and no biopsy was performed.

Conclusion

Cortical desmoid is observed in children and adolescents at posteromedial metaphysis of distal femur, and has a highly characteristic location and radiologic pattern.

It is important to diagnose cortical desmoid as a variant of normal and thus avoid the need to perform invasive diagnostic procedures to exclude malignancy.

This entity doesn't need treatment, just clinical and radiological follow-up.

The prognosis is excellent and lesion disappears upon reaching adulthood.

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