

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Medical Imaging Quiz – Case 22

A 10-year-old girl presented to the Emergency Department of our hospital with right ankle pain, aggravated by exercise. Her mother mentioned that she was complaining of ankle swelling after basketball training; in fact, during the last months pain in the same joint prevented her daughter from doing sports. Clinical examination revealed minor swelling, tenderness and a degree of joint's motion limitation.

The patient was subsequently referred by the orthopaedic physician for X-ray of the affected ankle that showed a peripheral lucent subchondral lesion with sclerotic margin, on the edge of the ossification center near the joint surface (figures 1, 2). The main differential diagnosis included osteochondritis

dissecans (OCD), normal variant of irregular epiphyseal ossification, avascular necrosis and osteochondral fracture. The girl was subsequently referred for a CT scan of the affected joint that revealed the presence of a detached bony fragment at the dome of right talus (figures 3, 4). The clinical along with radiological

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Figures 1 and 2. Anteroposterior and profile radiographs of the right ankle demonstrate a lucent subchondral lesion with sclerotic margins at the talar dome (arrows).



Figures 3 and 4. Axial and sagittal CT images show a bony fragment at the dome of right talus. The lesion has sclerotic margins, is detached from the parent bone, without deformation of the articular surface.

findings were suggestive of OCD of the right talus. The patient was treated conservatively with rest and NSAIDs. On follow-up physical examination the girl was pain-free with full range of motion of affected joint.

Comment

Osteochondritis dissecans is characterized by bone necrosis followed by re-ossification and healing.¹ OCD is not a frequent pathology in the general population; however, it is an important cause of joint pain in children and adolescents, especially those involved in sports or other physical activities. In fact, OCD is the most common cause of a loose body in the joint space in adolescent patients.² Its etiology remains unclear; genetic predisposition, repetitive microtrauma, abnormal ossification and ischemia have all been suggested as risk factors in the pathogenesis of OCD.^{1,2}

OCD usually affects the lateral aspect of the medial femoral condyle (70–85%), the lateral femoral condyle (10–20%), tibia or patella (5%). Much less commonly it affects the elbow, the ankle or the hip. In about 25% of cases it is bilateral.²

OCD lesions are classified in four stages: In stage I, there is a lesion sized 1–3 cm, whereas the articular cartilage is intact. In stage II, there is an articular cartilage defect without presence of a loose body. In stage III, a partially detached fragment is observed, whereas in stage IV a loose body in the articular joint is recognized.

OCD can be asymptomatic; however, patients most commonly

present with pain aggravated by exercise, swelling, clicking or even joint locking. Conservative management is the mainstay of treatment for stable lesions: Rest, physical therapy and NSAIDs, whereas in unstable lesions surgical therapy is implemented (chondroplasty, osteochondral autografts or allografts etc.).

References

1. WALL E, VON STEIN D. Juvenile osteochondritis dissecans. *Orthop Clin North Am* 2003, 34:341–353
2. HIXON AL, GIBBS LM. Osteochondritis dissecans: A diagnosis not to miss. *Am Fam Physician* 2000, 61:151–156
3. LETTS M, DAVIDSON D, AHMER A. Osteochondritis dissecans of the talus in children. *J Pediatr Orthop* 2003, 23:617–625
4. ROACH R. Osteochondral lesions of the talus. *J Am Podiatr Med Assoc* 2003, 93:307–311
5. AGUNG M, OCHI M, ADACHI N, UCHIO Y, TAKAO M, KAWASAKI K. Osteochondritis dissecans of the talus treated by the transplantation of tissue-engineered cartilage. *Arthroscopy* 2004, 20:1075–1080

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