

## CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

### Pediatric Radiology Quiz – Case 8

An 11-year-old boy, of average size regarding his age, presented to the Emergency Department of our hospital complaining for intermittent right posterior heel pain. The boy mentioned no history of trauma and his parents reported that the onset of heel pain was gradual, about 3 months ago. The heel pain was worsening while running or playing sports. The boy had no fever. Physical examination revealed tenderness to compression over the right posterior heel. Laboratory tests were unremarkable; ultrasonography (US) exam of right Achilles tendon was normal. X-rays of right feet showed sclerosis of the calcaneal apophysis (fig. 1). Due to clinical suspicion of chronic osteomyelitis, orthopedics referred the patient for a focused low dose computed tomography (CT) scan of the right calcaneus. Non contrast enhanced CT (NECT) was performed that revealed sclerosis and fragmentation of the secondary ossification center of the calcaneus (figures 2a, b).

#### Comment

*The most common cause of heel pain in children and adolescents is calcaneal apophysitis (Sever disease). An apophysis is a growth plate that does not contribute to the length of the bone. The Achilles tendon inserts in the calcaneal apophysis. The onset of ossification*

*of the calcaneal apophysis begins at an average age of 8 years in boys and 6 years in girls, respectively. For the next 2–3 years the secondary ossification center appears irregular and fragmentation may be observed.*

#### References

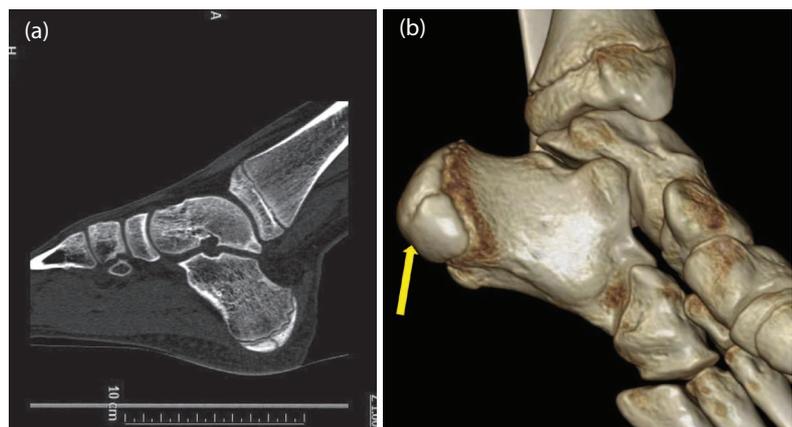
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**Figure 1.** Lateral X-ray of right feet: Sclerosis of calcaneal apophysis is observed.



**Figure 2.** Non contrast enhanced computed tomography (NECT) of right feet: (a) Sclerosis and fragmentation of calcaneal ossification center; (b) 3D reconstruction posterior-oblique view shows a cleft at the medial posterior aspect of calcaneal apophysis.

*Diagnosis: Calcaneal apophysitis (Sever disease)*