



Scurvy Mimicking Spondyloarthropathy with Bone Marrow Edema

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Clinical Image

A nine-year-old girl unable to weight bear due to swollen and restricted ankles and knees was referred with suspected Juvenile Idiopathic Arthritis (JIA).

Features suggestive of enthesitis and arthritis were present in addition to irritability, Petechial rash and mouth ulcers. Detailed history revealed background of autism, learning difficulties and poor nutrition. Bloods showed normal inflammatory and autoimmune work-up.

Short-tau inversion-recovery turbo spin MRI of the right ankle showed well-defined bone marrow edema in the distal dia-metaphysis of the tibia (white arrowhead) (Figure 1), proximal of the first metatarsal (dotted arrow) deep to the Achilles tendon in the calcaneum (arrow) and in the dome of the talus (black arrowhead) suggestive of chronic non-infectious osteomyelitis with enthesitis.

Anteroposterior radiograph of the right knee was typical of scurvy with dense zones of provisional calcification (white arrow) (Figure 2), lucent scorbutic zones (black arrow) and periosteal thickening that may suggest subperiosteal hemorrhage.

Serum vitamin C level was undetectable; thus vitamin C treatment was commenced, and followed by rapid symptom resolution.

Clinical manifestations in scurvy are related to abnormal collagen production, resulting in vascular fragility and abnormal bone [1].

Musculoskeletal manifestations are frequent but due to the rarity of scurvy, MRI findings are not well-established [2]. Subperiosteal hemorrhage that can be seen as periosteal elevation with increased signal intensity and heterogeneous bone marrow signal might be misleading [2]. Recently, soft tissue edema on MRI was reported as a consistent finding [3].

In conclusion, detailed history taking and plain radiography are crucial for the differential diagnosis of JIA.

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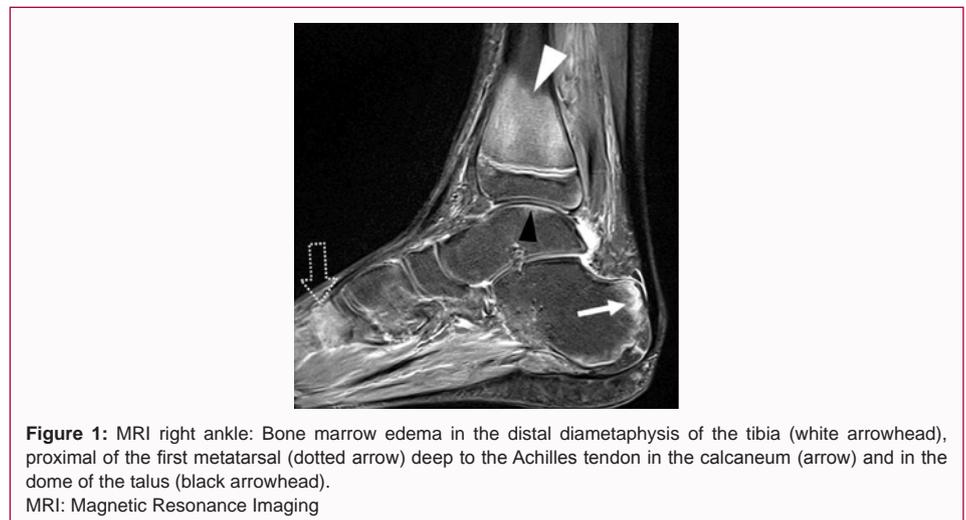


Figure 1: MRI right ankle: Bone marrow edema in the distal diametaphysis of the tibia (white arrowhead), proximal of the first metatarsal (dotted arrow) deep to the Achilles tendon in the calcaneum (arrow) and in the dome of the talus (black arrowhead). MRI: Magnetic Resonance Imaging



Figure 2: Anteroposterior radiograph right knee: Dense zones of provisional calcification (white arrow), lucent scorbutic zones (black arrow) and periosteal thickening.

References

1. Maxfield L, Crane JS. Vitamin C deficiency. In: StatPearls [Internet]. 2020.
2. Polat AV, Bekci T, Say F, Bolukbas E, Selcuk MB. Osteoskeletal manifestations of scurvy: MRI and ultrasound findings. *Skeletal Radiol.* 2015;44(8):1161-4.
3. Perkins A, Sontheimer C, Otjen JP, Sheno S. Scurvy masquerading as juvenile idiopathic arthritis or vasculitis with elevated inflammatory markers: A case series. *J Pediatr.* 2020;218:234-7.e2.