

Scurvy: A rare cause of arthritis in a child with neurologic disorder

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A 7-year-old boy presented with swelling in the knees, walking difficulty, petechial rashes on the lower extremity, and gum swelling and bleeding. His medical history was remarkable for mental retardation and autism. He was referred to our clinic with a differential diagnosis of bleeding disorder. His dietary history was positive for unbalanced nutrition (yogurt soup, chocolate, and wheat bread). On admission, his weight and height were normal, looked very ill, and had a body temperature of 38.3°C. His physical examination was remarkable for swollen and bleeding gum, follicular hyperkeratosis with perifollicular purpura at the lower extremities, and soft tissue swelling of both knees, which were painful during passive motion with bilateral 30° flexion contracture of the knees (Figure 1a and b). He had persistent and severe self-injurious behavior. Blood investigations showed anemia of chronic disease, elevated CRP level, and prolonged in vitro bleeding time. Bilateral knee diagraph showed a radio-dense band at the chondro-osseous junction Frankel's line (Figure 2a). Magnetic resonance imaging demonstrated bright signal intensity on the metaphyses and juxtaosseous soft



Figure 1. a, b. Perifollicular hyperkeratosis on the lower extremity (a); gingival hypertrophy and gum bleeding (b)



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Figure 2. a, b. Frontal radiograph of lower extremity shows increased density at the zone of provisional calcification (Frankel's line) (a); coronal a T1-weighted image demonstrates bright signal intensity within the metaphyses of the distal femurs and proximal tibias (b)

tissue (Figure 2b). Because we could not measure leukocyte vitamin C level, we measured serum vitamin C level, which was very low (<0.1 mg/dL). He was diagnosed with scurvy. His clinical and laboratory findings returned to normal with vitamin C supplementation.

Scurvy was first documented in the Ebers papyrus in 1550 BC (1) and became famous as a sailor disease after the death of at least two million sailors between the 16th and 18th centuries (2). Because scurvy is uncommon in pediatric patients, a high degree of suspicion is required to reach the diagnosis of scurvy, especially in children with severely restricted diets because of either developmental or psychiatric disturbances (1, 3-5). Clinicians should have an

awareness of vitamin C deficiency as the differential diagnosis of musculoskeletal pain and purpura at-risk children with/without gingival bleeding and hypertrophy.

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References

1. Duggan CR, Westra SJ, Rosenberg AE. Case 23-2007: A 9-year-old boy with bone pain, rash, and gingival hypertrophy. *New Engl J Med* 2007; 357: 392-400. [\[CrossRef\]](#)
2. Lind J. A treatise of the scurvy. 1753. www.jameslindlibrary.org/lind-j-1753.
3. Weinstein M, Babyn P, Zlotkin S. An orange a day keeps the doctor away: Scurvy in the year 2000. *Pediatrics* 2001; 108: e55. [\[CrossRef\]](#)
4. Akikusa JD, Garrick D, Nash MC. Scurvy: Forgotten but not gone. *J Paediatr Child Health* 2003; 39: 75-77. [\[CrossRef\]](#)
5. Seya M, Handa A, Hasegawa D, Matsui T, Nozaki T. Scurvy: From a Selective Diet in Children with Developmental Delay. *J Pediatr* 2016; 177: 331. [\[CrossRef\]](#)