

Nora's Lesion in a Child: A Case of Complete Spontaneous Regression

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We describe a complete spontaneous regression of the Nora's lesion of the first metatarsal in a 3-year-old child with hereditary sensory and autonomic neuropathy type IV (HSNA IV) with congenital insensitivity to pain and anhidrosis. The patient presented at our clinic with a non-tender mass in the dorsal region of the foot. No history of trauma was reported. The skin above the lesion was slightly warm without local bruising. Routine laboratory examinations were unremarkable, except

for an elevated C-reactive protein (CRP) level of 6.13 mg/dL (normal range, <0.5 mg/dL).

X-ray scan and magnetic resonance imaging of the foot revealed a calcified mass adjacent to the cortical surface of the first metatarsal bone (Figure 1). The imaging findings were not specific; therefore, biopsy was performed to achieve an accurate histological diagnosis. Possible differential diagnoses included bizarre parosteal osteochondromatous proliferation (known

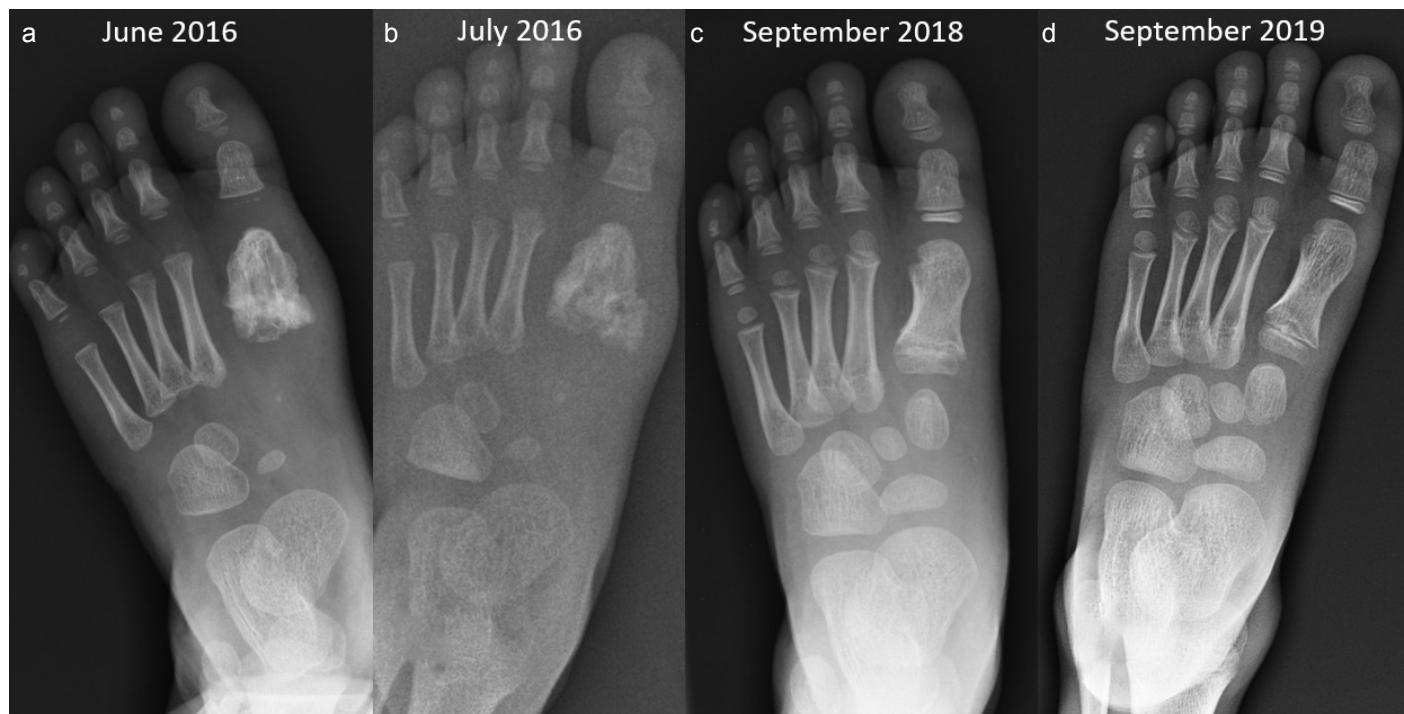


FIG. 1. a-d. (A) X-ray of the foot at the first observation: a calcified mass adjacent to the cortical surface of the first metatarsal is detected. (B) X-ray of the foot performed 2 weeks after biopsy: a calcified and ossified mass is still evident around the first metatarsal. (C) After 2 years: the calcified mass has disappeared and the first metatarsal bone assumes a more physiological morphology. (D) After 3 years: no local recurrences of Nora's lesion are evident and the first metatarsal shows a completely normal structure

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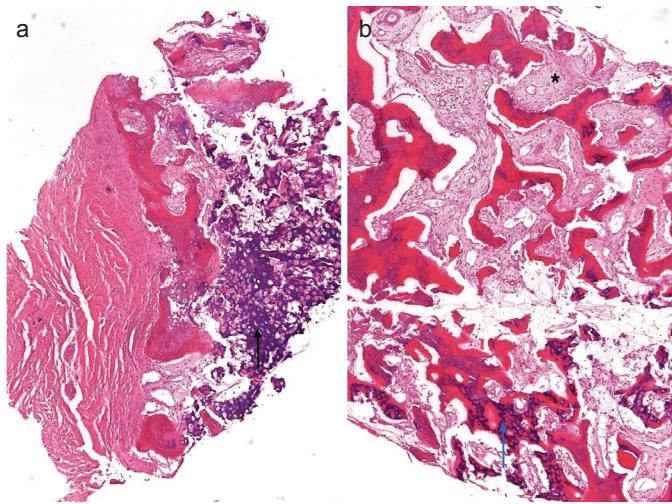


FIG. 2. a, b. Microscopic features of bizarre parosteal osteochondromatous proliferation: (A) Cartilaginous cap with conspicuous areas of basophilic calcifications (black arrow, hematoxylin and eosin staining, x25). (B) Woven bone trabeculae characterized by the presence of so-called "blue bone" (blue arrow) and loose, well-vascularized, and banal spindle-cell stroma present between the bony trabeculae (asterisk, hematoxylin and eosin staining, x50)

as Nora's lesion), periosteal chondroma, osteochondroma, osteomyelitis, myositis ossificans, and parosteal osteosarcoma. Histological examination revealed a diagnosis of Nora's lesion (Figure 2), and intraoperative microbiological examinations were negative for infection. Considering the very young age of the patient, the benign nature of the lesion, and the high recurrence rates (55%) reported in the literature (1), we decided to follow a "wait and see" protocol. Surgical treatment would have been considered only in case of an increase in the lesion size. Although an evident source of infection was not found and the blood cultures were negative, an intravenous antibiotic therapy (ceftriaxone, 50 mg/kg/day) was started to prevent infection that represents one of the possible complications related to HSNA IV (2). The therapy was continued for 7 days, achieving normalization of the CRP level that remained negative even at the follow-up after 4 and 8 weeks of the antibiotic therapy. We evaluated the patient every 6

months with a clinical and radiological assessment. Surprisingly, the X-ray imaging performed during the follow-up showed a progressive remission of the lesion with complete regression within 2 years (Figure 1).

In this report, we present a pediatric case of a Nora's lesion that showed a progressive, spontaneous, and complete regression. The choice of a "wait and see" approach with clinical and radiological evaluation every 6 months proved to be successful, and a preventive antibiotic therapy avoided any infective complications. Surgical treatment remained an option to be considered only in case of an increase of the lesion size, which did not occur. To the best of our knowledge, this is the first case reported in literature in which Nora's lesion regressed spontaneously (3). This peculiarity makes it original and may support the theory that the Nora's lesion may be a reactive process. In contrast, recent studies have reported some chromosomal anomalies associated with this entity, whose etiopathology remains to be completely understood (4, 5).

Patient Consent for Publication: Written informed consent was obtained from the patient.

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