Firm Tumor Encasing the Left Second Toe of an Infant

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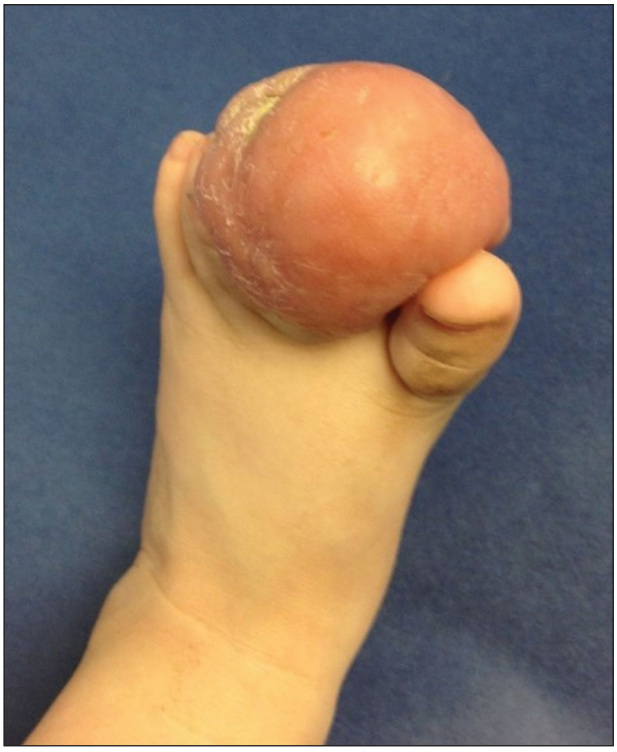

A 10-month-old infant boy presented to the dermatology clinic with a firm, nonpainful, 5.5×5.6-cm tumor encasing the left second toe, with associated skin breakdown, gait impairment, and lateral displacement of the third toe. The lesion began as a small bump under the toenail at 2 months of age; it then grew rapidly without bleeding or ulceration. It was diagnosed as a hemangioma at 4 months of age, and oral propranolol was initiated for 3 months, without suppression of tumor growth. The patient was referred to the pediatric dermatology department where a clinical diagnosis was made, and the patient was subsequently referred to plastic surgery for excision.

WHAT'S THE **DIAGNOSIS?**

a. fibrosarcoma
b. infantile digital fibromatosis
c. infantile hemangioma
d. keloid
e. supernumerary digit

PLEASE TURN TO PAGE 20 FOR THE DIAGNOSIS

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The authors report no conflict of interest.

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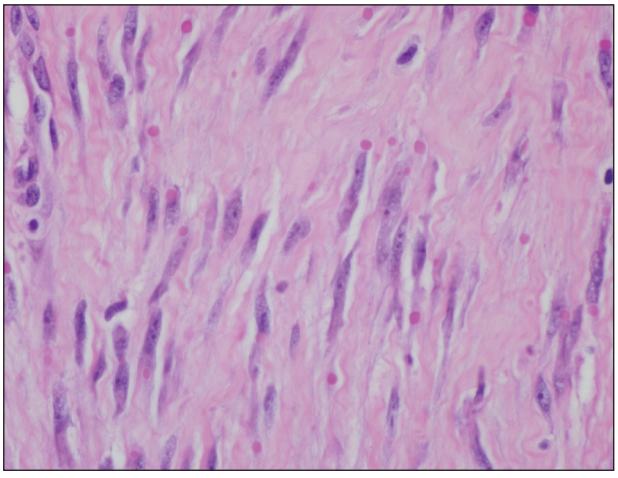
THE **DIAGNOSIS:** Infantile Digital Fibromatosis

Infantile digital fibromatosis (IDF), or recurring digital fibrous tumor of childhood, is a benign juvenile myofibromatosis that presents as a firm, flesh-colored or slightly erythematous, dome-shaped papule or nodule on the dorsolateral aspects of the digits, usually sparing the thumbs and great toes.[1] The tumor appears most commonly at birth and in infants younger than 1 year. It grows slowly over the first month, then rapidly over the next 10 to 14 months.[1,2]

Although lesions usually regress spontaneously within a few years, excision may be necessary when functional impairment and joint deformity occur. Tumors, however, may recur locally.[1,2]

Histologically, IDFs are composed of spindled myofibroblasts with characteristic round eosinophilic intracytoplasmic inclusion bodies, which represent actin and vimentin filaments.[1] In our case, histopathologic evaluation showed a proliferation of fibrous spindle cells with pathognomonic eosinophilic intracytoplasmic inclusions consistent with IDF (Figure).



Fibrous spindle cells with pathognomonic eosinophilic intracytoplasmic inclusions (H&E, original magnification ×600).

Fibrosarcomas are high-grade and low-grade soft-tissue neoplasms comprised of atypical spindle cells in a herringbone pattern with mitotic figures on pathology.[3] They typically present as a slowly growing subcutaneous tumor on the lower extremities of young to middle-aged adults that may progress to become a palpable tender nodule. Infantile hemangiomas, the most common benign soft-tissue tumors of childhood, are vascular proliferations more commonly seen in low-birth-weight female white infants of multiple gestation pregnancies. Superficial hemangiomas present as bright red and lobular nodules or plaques. Deep hemangiomas present as ill-defined, blue-violaceous nodules with no overlying skin changes. Mixed hemangiomas present with features of both superficial and deep hemangiomas. Infantile hemangiomas experience a proliferative phase until 9 to 12 months of age, followed by a gradual involutional phase ending with possible residual telangiectases or fibrofatty change. Unlike IDFs, infantile hemangiomas favor the head and neck over other areas of the body. Keloids are firm, smooth, variably colored papules or plaques of haphazardly arranged thick dermal collagen bundles. They usually develop within a year of skin injury and extend beyond the original injury margin into normal tissue. Supernumerary digits present as small fleshy papules or larger nodules with a vestigial nail, most commonly on the ulnar side of the fifth finger or the radial side of the thumb. Histologically, they are composed of fascicles of nerve fibers.[3]

Treatment in our patient included partial amputation of the left second toe and excision with local tissue rearrangement by a plastic surgeon. His postoperative course was complicated by a minor wound infection, which resolved with a 7-day course of cephalexin. Since then, the patient has healed well, with gradual toe tissue and nail growth. No recurrence was reported 11 months after surgery.

REFERENCES

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3. Bolognia JL, Schaffer JV, Cerroni L, eds. *Dermatology*. Philadelphia, PA: Elsevier Limited; 2018.