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LETTER TO THE EDITOR

Solitary Cutaneous Myofibroma on the Sole: An Unusual Localization

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Dear Editor:

A 61-year-old man presented with several years of history of a solitary cutaneous mass on his left sole. A clinical examination revealed a 26×22 mm sized, skin-colored, firm, asymptomatic subcutaneous nodule (Fig. 1). General laboratory screening, including a complete blood count, renal and liver function tests and lipid levels, were within normal limits. A histopathological examination showed a well-circumscribed mass composed of spindle cells that were arranged in interlacing fascicles or whorls. The spindle cells had elongated nuclei, inconspicuous nucleoli and eosinophilic cytoplasm, resembling smooth muscle cells (Fig. 2). As a result of immunohistochemical staining, these cells were found to be positive for smooth muscle actin, but negative for S-100 protein and desmin. On Masson trichrome staining, many spindle cells with red cytoplasmic stain were found to be dispersed among the blue collagen bundles. Based on both clinical and histological features, a diagnosis of solitary cutaneous myofibroma was made.

Solitary cutaneous myofibroma is a circumscribed benign neoplasm of superficial soft tissue in adolescents and adults; it represents the adult counterpart of infantile myofibromatosis[1]. Clinically, it typically presents as a painless, slow-growing, firm cutaneous or subcutaneous nodule with an occasional bluish hue. There is a predilection for it to occur on the head and neck, shoulder girdle, lower extremity and hand[2,3]. Oral and genital solitary cutaneous myofibromas have also been identified. Plantar involvement is exceptionally rare, and there has been only one case of solitary cutaneous myofibroma affecting the sole in the literature[3]. Histological findings reveal a distinctive appearance, well recognized in children but much less so in adults. It manifests as a biphasic pattern or a zoning arrangement of two cell types[4]. Among them, the hemangiopericytomatous components, which are typical of infantile myofibromatosis, may sometimes be inconspicuous or even absent in adult lesions, as in our case[3]. Spindle cells have eosinophilic cytoplasm arranged in short bundles and fascicles resembling leiomyoma. These cells demonstrate features of both myofibroblasts and fibroblasts. Myofibroblastic differentiation of the tumor cells is supported by their immunophenotype. The spindle cells are desmin negative, but smooth muscle actin positive. The Masson trichrome stain, in which thick fibrous bundles with random, irregularly intersecting angles are

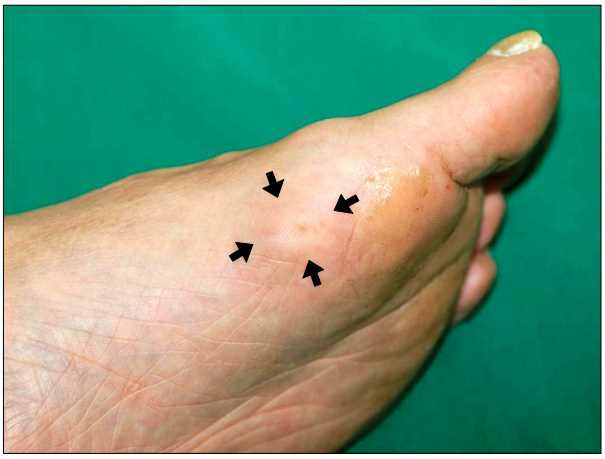

Fig. 1. 26×22 mm sized, skin-colored, firm, asymptomatic subcutaneous nodule on the left sole.

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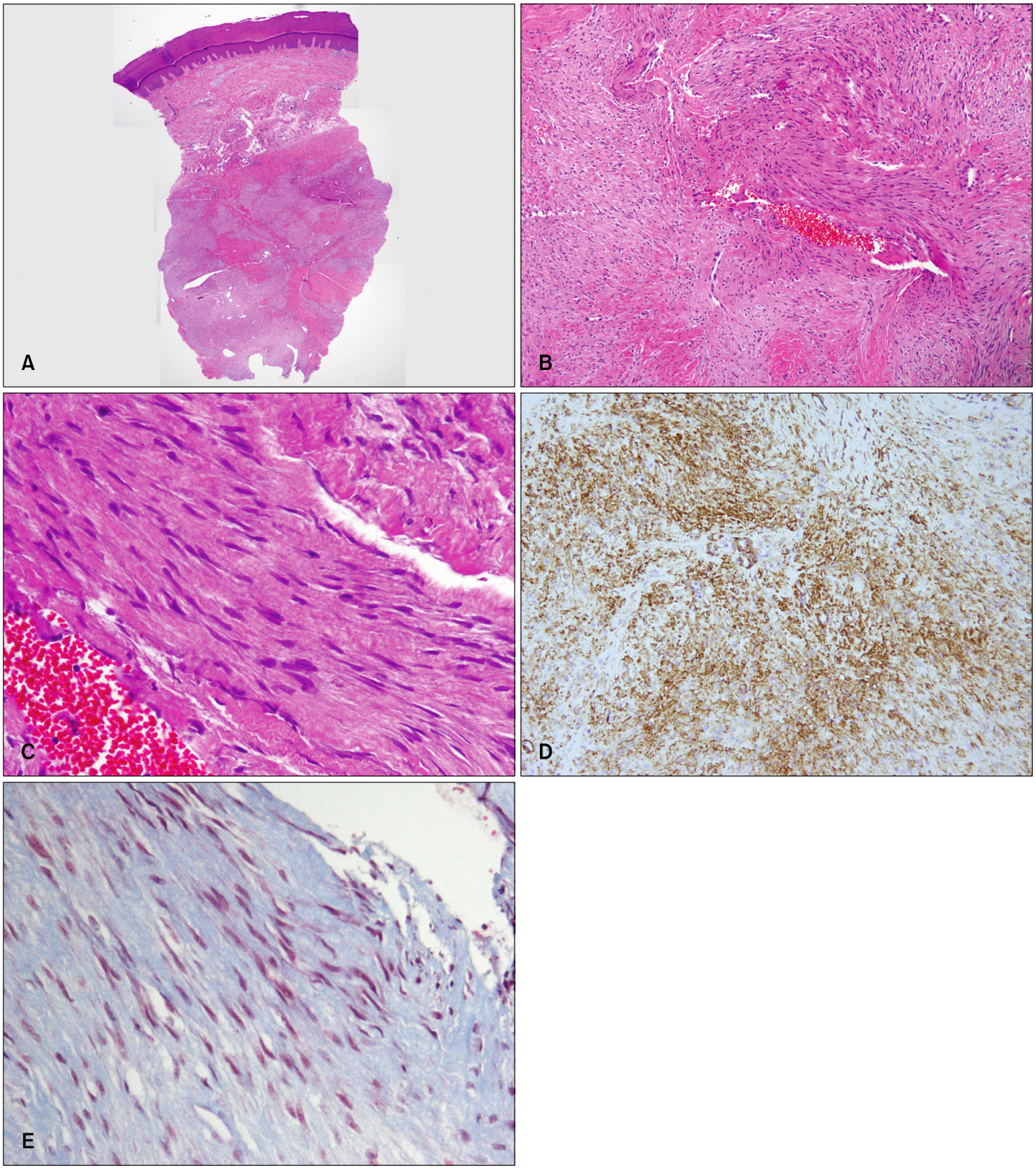

Fig. 2. (A) Skin biopsy showed a relatively well-circumscribed tumor in the dermis (H&E, Scanning view). (B) The tumor consists of spindle cells arranged in interlacing fascicles or whorls (H&E, ×100). (C) These spindle cells had pale pink cytoplasm, elongated nuclei, and inconspicuous nucleoli (H&E, ×400). (D) Immunoreactivity of the spindle cells with smooth muscle actin (Smooth muscle actin, ×200) (E) Many spindle cells with eosinophilic cytoplasmic stain dispersed among the blue collagen bundles (Masson-trichrome, ×400).

prominent, can be used to assist in differentiating myofibromas from smooth muscle lesions[5]. In contrast, smooth muscle lesions show delicate fibrous tissues surrounding the smooth muscle cells and in the septa between the smooth muscle masses. The limited follow-up of solitary cutaneous myofibromas suggests that they tend to follow a

benign clinical course with no evidence of recurrence or metastasis[1-3].

To our knowledge, our case represents only the second report of a solitary cutaneous myofibroma occurring on the sole. We suggest, even though it is very rare, that solitary cutaneous myofibroma should be considered in the differential diagnosis of solitary lesions involving the sole.

REFERENCES

1. Holst VA, Junkins-Hopkins JM, Elenitsas R. Cutaneous smooth muscle neoplasms: clinical features, histologic findings, and treatment options. J Am Acad Dermatol 2002; 46:477-490.
2. Guitart J, Ritter JH, Wick MR. Solitary cutaneous myofibromas in adults: report of six cases and discussion of differential diagnosis. J Cutan Pathol 1996;23:437-444.
3. Beham A, Badve S, Suster S, Fletcher CD. Solitary myofibroma in adults: clinicopathological analysis of a series. Histopathology 1993;22:335-341.
4. Requena L, Kutzner H, Hügel H, Rütten A, Furio V. Cutaneous adult myofibroma: a vascular neoplasm. J Cutan Pathol 1996;23:445-457.
5. Chang JY, Kessler HP. Masson trichrome stain helps differentiate myofibroma from smooth muscle lesions in the head and neck region. J Formos Med Assoc 2008;107:767-773.