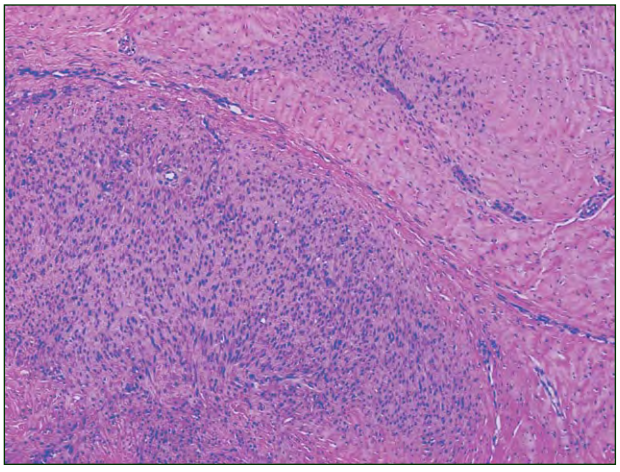
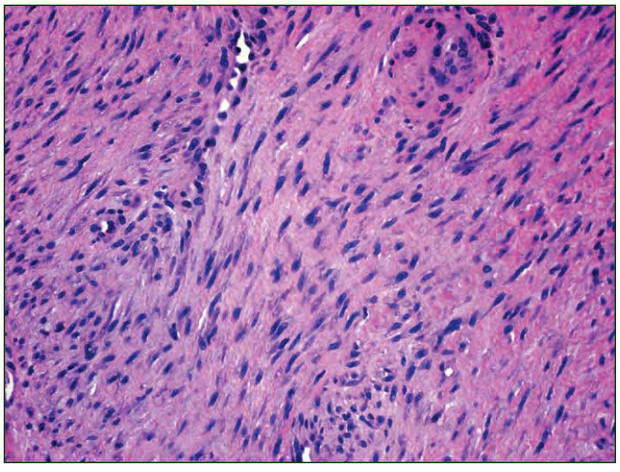


H&E, original magnification ×40.



H&E, original magnification ×400.

The best diagnosis is:

a. dermatofibroma
b. keloid
c. neurofibroma
d. nodular fasciitis
e. superficial plantar fibromatosis

PLEASE TURN TO PAGE 225 FOR DERMATOPATHOLOGY DIAGNOSIS DISCUSSION

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Superficial Plantar Fibromatosis

Plantar fibromatosis typically presents as firm plaques or nodules on the plantar surface of the foot.[1] The process is caused by a proliferation of fibroblasts and collagen and has been associated with trauma, liver disease, diabetes mellitus, epilepsy, and alcoholism.[2] Unlike the fibromatoses associated with Gardner syndrome, superficial plantar fibromatosis has not been associated with abnormalities in the adenomatous polyposis coli gene or with the β-catenin gene.[3,4] Lesions typically present in middle-aged or elderly individuals and involve the medial plantar fascia. Men are affected more often than women. Biopsy often reveals changes analogous to Dupuytren disease of the foot, namely proliferation of mature fibroblasts associated with collagen. Characteristic long sweeping fascicles of spindle cells can be observed (Figures 1 and 2).[1]

The differential diagnosis includes other spindle cell proliferations. Dermatofibromas often are associated with hyperplasia of the overlying epidermis and increased pigmentation along the basal layer of the epidermis. Fibrocytes encircle hyperplastic collagen bundles. Dermatofibromas often are centered in the mid dermis (Figure 3). Neurofibromas are associated with delicate spindlelike cells embedded in a loose acidophilic stroma. Numerous mast cells may be observed (Figure 4). Keloids are associated with markedly thickened and eosinophilic collagen bundles arranged in a haphazard fashion (Figure 5). Nodular fasciitis represents a reactive proliferation of spindle cells most often encountered on the extremities of young adults. Spindle cells are loosely arranged in a mucinous stroma and are not circumscribed (tissue culture appearance). Vesicular nuclei are encountered, but there is no remarkable nuclear pleomorphism. Extravasated

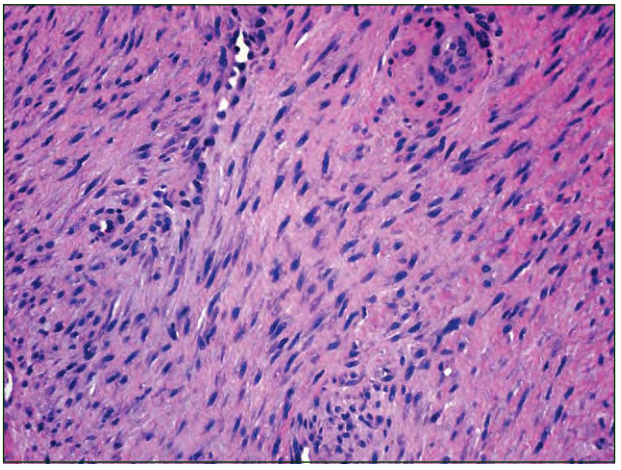

Figure 2. High-power view of superficial plantar fibromatosis reveals fibroblasts associated with eosinophilic collagen. Abnormal mitotic figures are not demonstrated, and substantial nuclear pleomorphism is not evident (H&E, original magnification ×400).

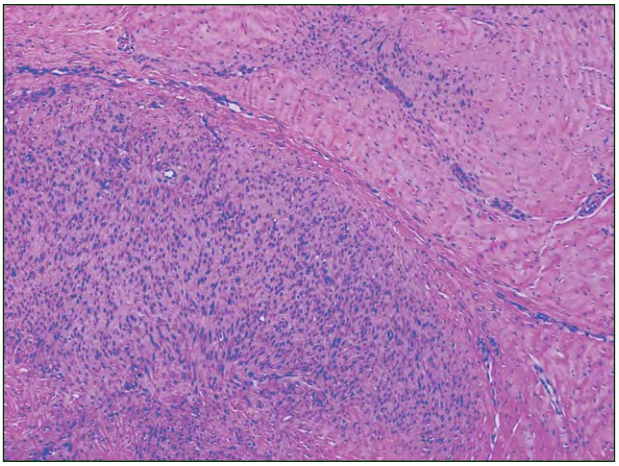

Figure 1. In superficial plantar fibromatosis spindle cells are closely associated with collagen and lack a storiform pattern. Inflammatory cells are rare and some areas exhibit greater cellularity than others (H&E, original magnification ×40).

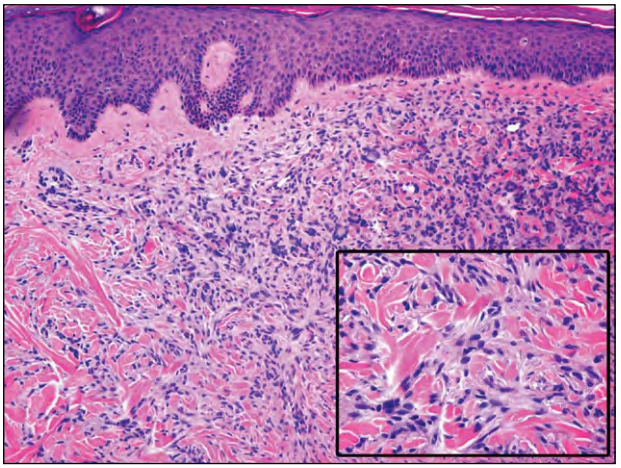

Figure 3. Dermatofibromas usually are associated with hyperplasia of the epidermis. Spindle cells at the periphery of the neoplasm encircle hyperplastic collagen bundles (H&E, original magnification ×20 [inset in bottom right corner, original magnification ×400]).

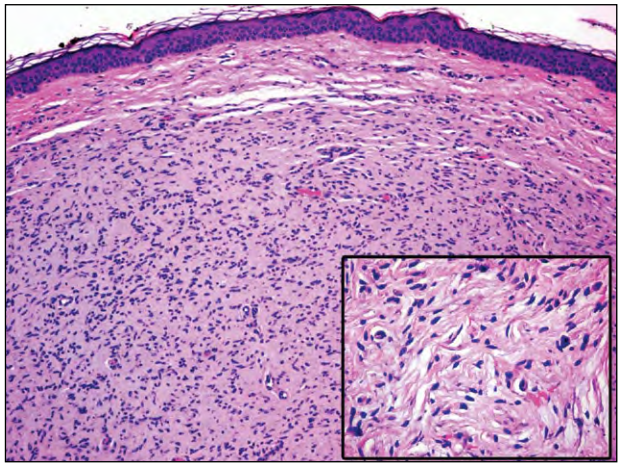

Figure 4. Neurofibromas are associated with delicate spindlelike cells. Slender spindle cells are embedded in an eosinophilic stroma. Abnormal mitotic figures are not present (H&E, original magnification ×100 [inset in bottom right corner, original magnification ×400]).

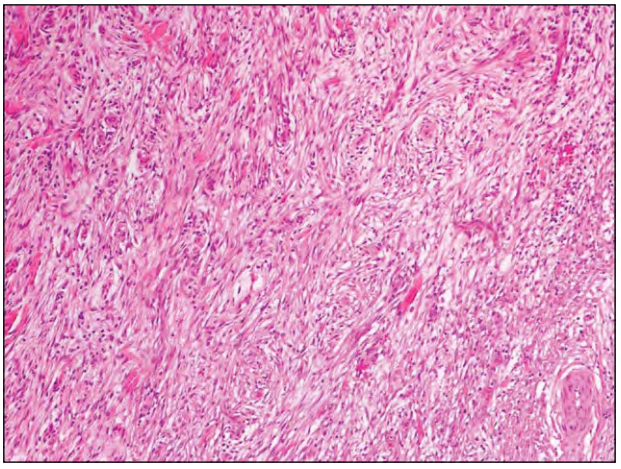

Figure 6. Nodular fasciitis represents a reactive proliferation of spindle cells most often encountered on the extremities of young adults. Spindle cells and fibroblasts are arranged in a mucinous stroma. Atypical mitotic figures are not identified (H&E, original magnification ×40).

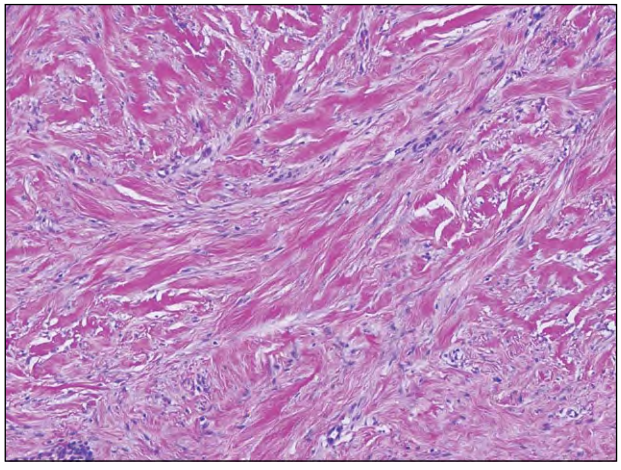

Figure 5. A keloid reveals markedly eosinophilic collagen bundles (H&E, original magnification ×100).

erythrocytes are noted and numerous mitotic figures often are seen, though atypical mitoses usually are not identified (Figure 6). Mature lesions of plantar fibromatosis are associated with dense collagen and bland spindle cells. The dense collagen, absence of mucin and hemorrhage, and smaller nuclei of the spindle cells allow for differentiation.

Extensive cases of superficial plantar fibromatosis may be treated by plantar fasciotomy. Because surgical treatment of plantar fibromatosis is associated with frequent recurrence, only highly symptomatic lesions typically are excised.[1] However, recurrence has not been shown to be associated with any specific clinical or pathologic features.[5] Postoperative radiotherapy may diminish the risk for recurrence.[6]

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