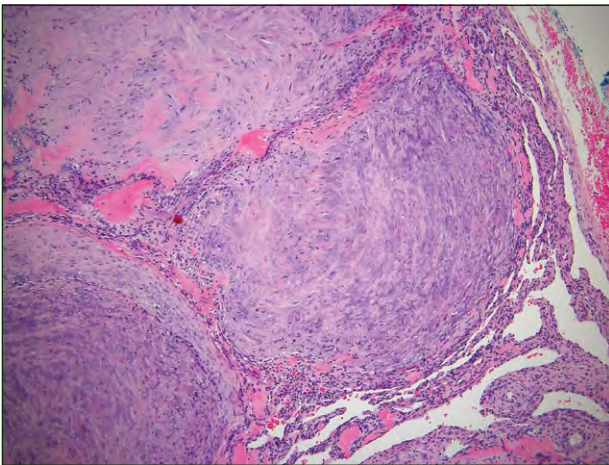


H&E, original magnification  $\times 40$ .



H&E, original magnification  $\times 100$ .

## The best diagnosis is:

- a. chondroma
- b. mixed tumor (chondroid syringoma)
- c. nerve sheath myxoma (neurothekeoma)
- d. nodular fasciitis
- e. solitary adult myofibroma

PLEASE TURN TO PAGE 235 FOR DERMATOPATHOLOGY DIAGNOSIS DISCUSSION

L. David Hall, MD; Tammie Ferringer, MD

Dr. Hall was from and Dr. Ferringer is from the Department of Dermatology, Geisinger Medical Center, Danville, Pennsylvania. Dr. Ferringer also is from the Department of Laboratory Medicine. Dr. Hall currently is from Ackerman Academy of Dermatopathology, New York, New York.

The authors report no conflict of interest.

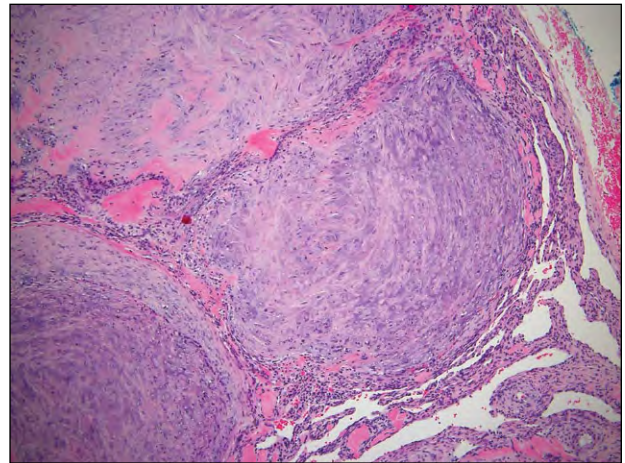
Correspondence: L. David Hall, MD, Ackerman Academy of Dermatopathology, 145 E 32nd St, Floor 10, New York, NY 10016 (lawrence.hall@downstate.edu).

## Solitary Adult Myofibroma

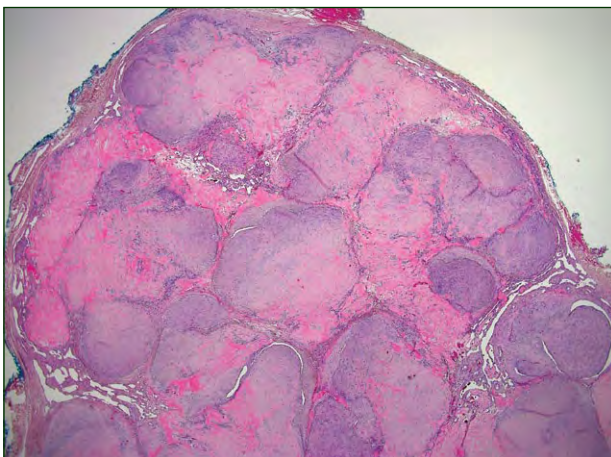
**M**yofibromatosis can be classified based on its clinical presentation as either solitary infantile myofibroma, congenital multiple myofibromatosis without visceral involvement, congenital generalized myofibromatosis with visceral involvement, or solitary adult myofibroma. Solitary adult myofibroma is a benign proliferation of myofibroblasts that most commonly presents as a firm superficial nodule on the skin or oral mucosa of young to middle-aged adults.<sup>1</sup> In contrast, congenital generalized myofibromatosis shows a female predominance and typically presents at or near birth as multicentric soft tissue tumors with associated bone, oral, and potentially fatal visceral involvement.<sup>2</sup> Histologically, solitary adult myofibroma and the infantile myofibromatoses are nearly identical. A well-circumscribed, often multilobular nodule is seen in the dermis or subcutaneous tissue with a characteristic biphasic pattern consisting of bland plump myofibroblasts and smaller, spindle-shaped mesenchymal cells (Figure 1). The spindle-shaped cells tend to be arranged around branching blood vessels that resemble hemangiopericytoma, also known as staghorn vessels, which may be seen in the center or periphery of the tumor (Figure 2).<sup>3</sup> Unlike the infantile myofibromatoses, the adult variant tends to undergo hyalinization, resulting in a pseudocondroid appearance.<sup>3,4</sup>

The histologic differential diagnosis may include other multilobular dermal or subcutaneous tumors with a mucinous or pseudocondroid stroma. The architecture and stroma of mixed tumor (chondroid

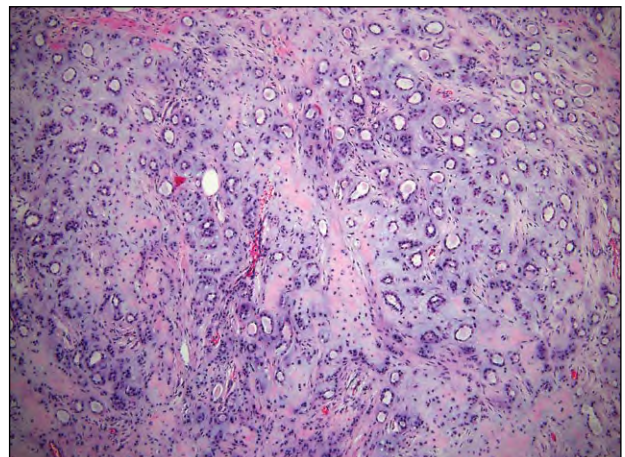
syringoma) may simulate myofibroma from low-power magnification, but it can be distinguished by the presence of tubuloalveolar and ductal structures within the chondroid stroma (Figure 3). Nerve sheath myxoma (neurothekeoma) displays myxoid lobules containing spindle-shaped, stellate, or epithelioid cells (Figure 4), and the lobules are separated by fibrous septa as opposed to the hemangiopericytomalike vessels of myofibroma. Nodular fasciitis should be included in the differential diagnosis of myofibroma, as both are unencapsulated nodules with variable amounts of myxoid stroma



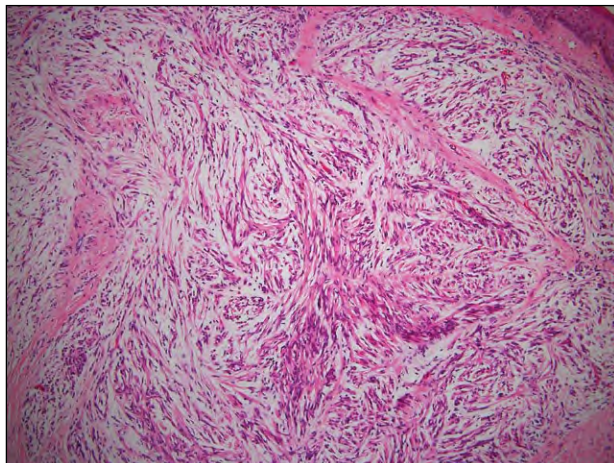
**Figure 2.** Biphasic tumor of plump myofibroblasts within a pseudocondroid stroma and small mesenchymal cells around peripheral vessels resembling hemangiopericytoma (H&E, original magnification  $\times 100$ ).



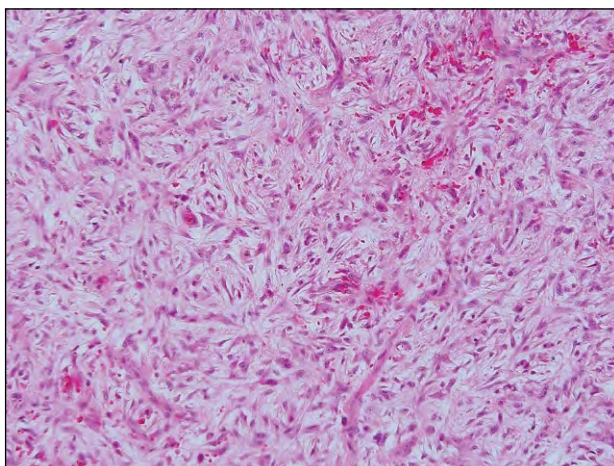
**Figure 1.** Subcutaneous tumor composed of nodular aggregates of spindle-shaped cells with central pseudocondroid stroma and irregular vascular spaces peripherally (H&E, original magnification  $\times 40$ ).



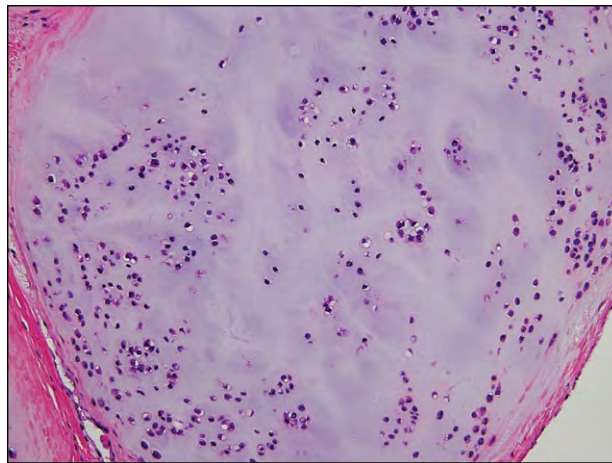
**Figure 3.** Small nonbranching ducts resembling eccrine syringoma embedded within a myxoid and chondroid stroma of mixed tumor (H&E, original magnification  $\times 100$ ).



**Figure 4.** Multilobular dermal tumor comprised of delicate spindle-shaped and stellate cells within a loose myxoid stroma characteristic of nerve sheath myxoma (H&E, original magnification  $\times 100$ ).



**Figure 5.** Haphazardly arranged, plump, spindle-shaped cells within a myxoid stroma, giving a tissue culture appearance characteristic of nodular fasciitis. Extravasated red blood cells and sparse lymphocytes also were noted (H&E, original magnification  $\times 200$ ).



**Figure 6.** Subcutaneous tumor of mature cartilage with chondrocytes occupying lacunae characteristic of chondroma (H&E, original magnification  $\times 200$ ).

and thin-walled blood vessels. In contrast to myofibroma, nodular fasciitis is composed of plump, spindle-shaped cells arranged in a haphazard array (tissue culture appearance) with extravasated red blood cells and scattered lymphocytes (Figure 5). Chondroma is an encapsulated tumor of mature cartilage and can be distinguished from myofibroma by the presence of chondrocytes occupying individual lacunae (Figure 6).

## REFERENCES

1. Daimaru Y, Hashimoto H, Enjoji M. Myofibromatosis in adults (adult counterpart of infantile myofibromatosis). *Am J Surg Pathol.* 1989;13:859-865.
2. Chung EB, Enzinger FM. Infantile myofibromatosis. *Cancer.* 1981;48:1807-1818.
3. Elston D, Ferringer T, Ko C, et al. *Dermatopathology: Requisites in Dermatology.* London, England: Elsevier; 2009.
4. Calonje JE, Brenn T, Lazar AJ, et al. *McKee's Pathology of the Skin.* 4th ed. London, England: Elsevier; 2012.