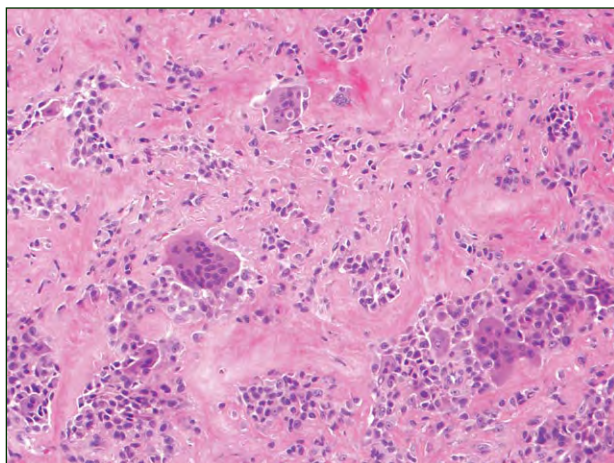


H&E, original magnification $\times 20$.



H&E, original magnification $\times 200$.

The best diagnosis is:

- a. epithelioid sarcoma
- b. fibroma of the tendon sheath
- c. fibrous histiocytoma
- d. giant cell fibroblastoma
- e. giant cell tumor of the tendon sheath

PLEASE TURN TO PAGE 181 FOR DERMATOPATHOLOGY DIAGNOSIS DISCUSSION

Ronda S. Farah, MD; Heather M. Holahan, BA; Brian L. Swick, MD

All from the Department of Dermatology, University of Iowa Hospitals and Clinics, Iowa City. Dr. Swick also is from the Department of Pathology. Ms. Holahan also is from Rutgers-New Jersey Medical School, Newark.

The authors report no conflict of interest.

Correspondence: Ronda S. Farah, MD, University of Iowa Hospitals and Clinics, Department of Dermatology, 200 Hawkins Dr, Iowa City, IA 52242 (ronda-farah@uiowa.edu).

Giant Cell Tumor of the Tendon Sheath

Giant cell tumor of the tendon sheath (GCTTS) is a benign neoplasm that typically presents on the hands.¹ These lesions commonly are seen in the fourth decade of life and affect women most often. Physical examination typically reveals a painless asymptomatic nodule on the finger with a clinical history of slow growth over several months or years.¹

Histologic examination of GCTTS classically reveals a lobulated, circumscribed, cellular tumor (Figure 1). Osteoclastlike giant cells, histiocytes, and lymphocytes throughout the tumor are characteristic (Figure 2); hemosiderin, xanthomatous cells,

and a fibrous capsule also may be present.¹ These lesions often demonstrate hyalinization, especially if long standing.

Similar to GCTTS, histologic examination of fibroma of the tendon sheath typically reveals a hyalinized nodule; however, unlike GCTTS, the stroma generally is hypocellular and demonstrates spindled fibroblasts and slitlike vascular spaces at the periphery (Figure 3).²

Epithelioid sarcoma is a nodular dermal tumor that is distinguished from GCTTS by atypical epithelioid cells with central necrosis (Figure 4).³ As in GCTTS, mitoses may be noted; however, unlike

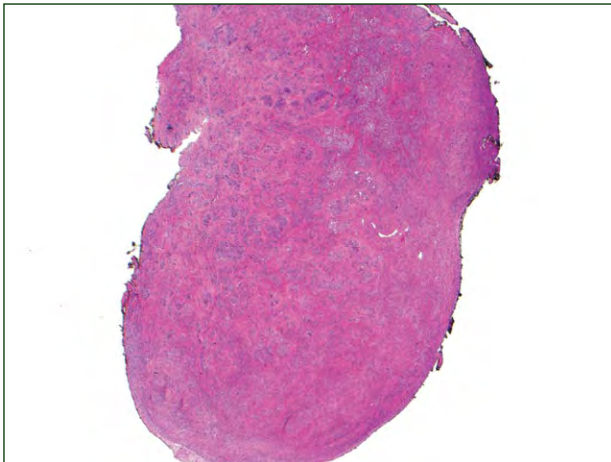


Figure 1. Sharply demarcated, encapsulated tumor in a giant cell tumor of the tendon sheath (H&E, original magnification $\times 20$).

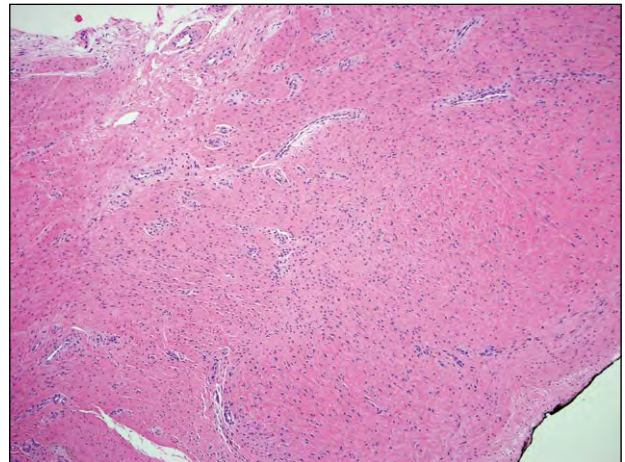


Figure 3. Hypocellular stroma with spindled cells and slitlike vascular spaces at the periphery in fibroma of the tendon sheath (H&E, original magnification $\times 100$).

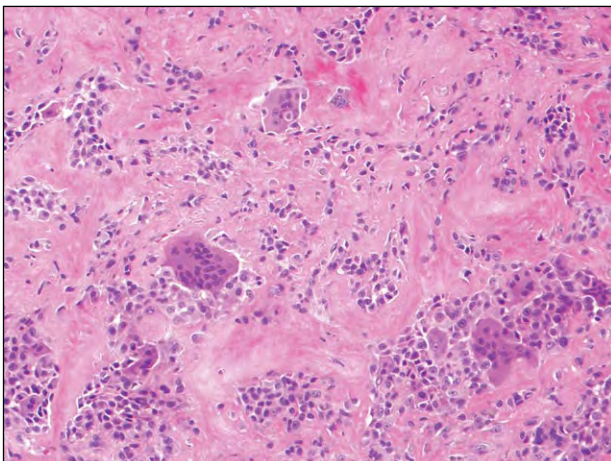


Figure 2. Osteoclastlike giant cells and prominent hyalinization in a giant cell tumor of the tendon sheath (H&E, original magnification $\times 200$).

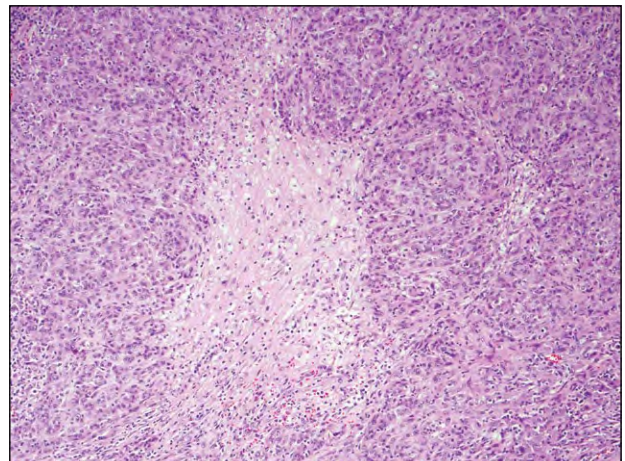


Figure 4. Central necrosis in the dermis with surrounding atypical epithelioid-appearing cells characteristic of epithelioid sarcoma (H&E, original magnification $\times 40$).

GCTTS, epithelioid sarcoma may demonstrate perineural or vascular invasion. Epithelioid sarcoma may be further differentiated from GCTTS by its unusual immunophenotype. It demonstrates expression of vimentin, cytokeratin, and epithelial membrane antigens in the majority of cases, while GCTTS expresses vimentin without cytokeratin or epithelial membrane antigens.³ Chbani et al³ reported CD34 expression in 62.3% (66/106) of epithelioid sarcomas, while GCTTS failed to express CD34.

Fibrous histiocytoma is characterized by acanthosis, epidermal basal layer hyperpigmentation, and a grenz zone separating the epidermis from the underlying spindled cell proliferation demonstrating factor XIIIa, storiform growth pattern, and collagen trapping at the periphery of the neoplasm (Figure 5).

Giant cell fibroblastoma, a dermatofibrosarcoma-like tumor of childhood, also is a spindled fibrous tumor of the dermis that often extends into the subcutis in a honeycomb pattern. Similar to epithelioid

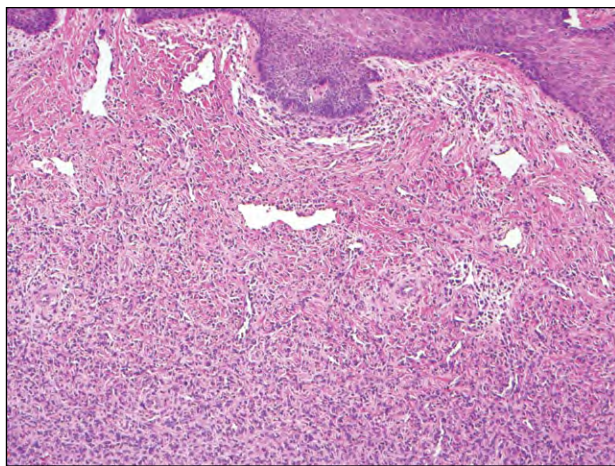


Figure 5. Spindled cells in a storiform pattern with overlying epidermal acanthosis and follicular induction in fibrous histiocytoma (H&E, original magnification $\times 100$).

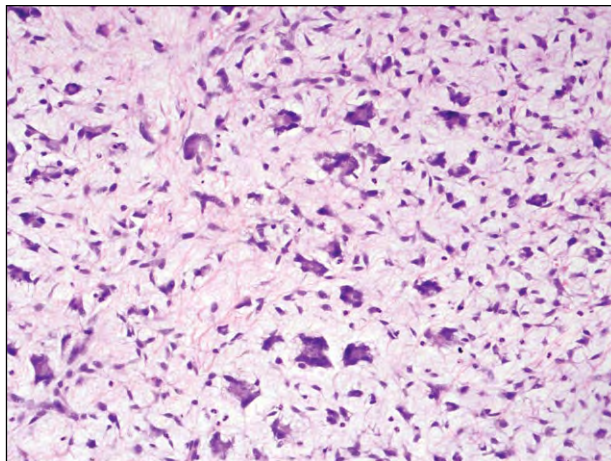


Figure 6. Floretlike multinucleated giant and spindled cells in a fibromyxoid stroma in giant cell fibroblastoma (H&E, original magnification $\times 40$).

sarcoma, it generally demonstrates CD34 expression.⁴ Additionally, giant cell fibroblastoma is characterized by floretlike multinucleated giant cells lining pseudovascular spaces and may demonstrate a fibromyxoid stroma (Figure 6).

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