

Nodular fasciitis

Lester D.R. Thompson, MD

Nodular fasciitis is generally regarded as a benign, reactive, tumor-like proliferation of myofibroblasts. It quite commonly occurs in the head and neck region in young patients shortly after they develop an enlarging mass (ulceration is infrequent). In some cases, nodular fasciitis is associated with antecedent trauma.

The masses arise in the dermis and progress to deeper soft tissues. They measure approximately 2 cm at their largest dimension. Most of these lesions are well circumscribed and compress the surrounding muscle. The lesions are made up of a loosely cellular proliferation of tissue-culture-like myofibroblastic cells. These cells are arranged in a loosely storiform (cartwheel) growth pattern and juxtaposed next to hypocellular myxoid areas (figure 1) with extravasated erythrocytes (figure 2, A) and lymphocytes. The lesional cells are spindle-shaped or stellate in appearance, and they contain oval nuclei, abundant basophilic cytoplasm, and variably sized nucleoli (figure 2, B). On occasion, multinucleated giant cells or macrophages can be identified. Dense, keloid-like collagen (pink, acellular matrix material) is present in variable amounts (figure 2, A). Mitotic figures are easily identified, but atypical mitotic forms are not seen (figure 2, B).

Frequently, nodular fasciitis is incorrectly considered to be a neoplastic lesion because of its rapid growth, high cellularity, abundant mitotic figures, and capacity to be poorly circumscribed. The histologic differential diagnosis includes dermatofibrosarcoma protuberans, fibrosarcoma, and malignant fibrous histiocytoma. Nodular fasciitis can be distinguished from these other lesions by its lack of nuclear atypia, a herringbone fascicular growth pattern, and atypical mitotic figures. On immunohistochemical staining, myofibroblasts are reactive to vimentin, smooth muscle actin, and CD68 (a histiocytic marker).

Surgical excision is the treatment of choice. Incompletely excised lesions can recur (~10%). An accurate diagnosis is essential, especially in young patients, to avoid administering overly aggressive therapy.

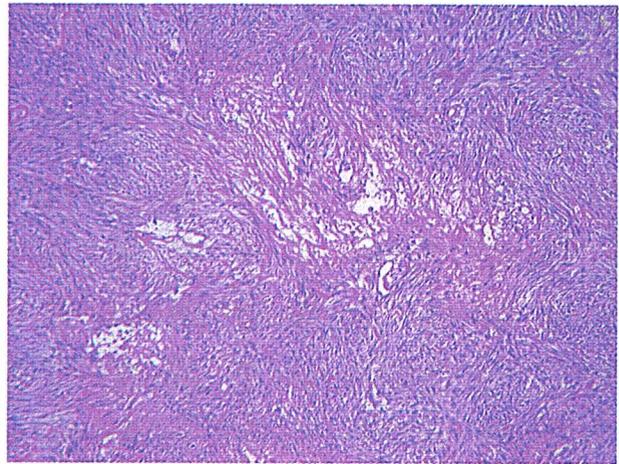


Figure 1. Nodular fasciitis is made up of a spindle-cell proliferation arranged in a storiform pattern with areas of myxoid degeneration (the cleared spaces around the center).

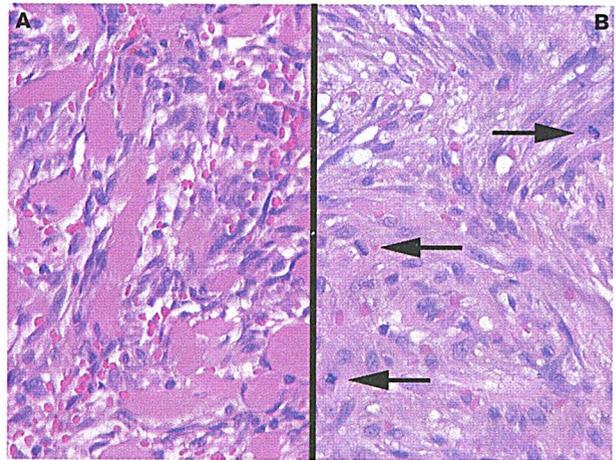


Figure 2. Nodular fasciitis is characterized by a tissue-culture-like myofibroblastic proliferation and spindle-shaped cells with slightly basophilic cytoplasm. A: Dense, keloid-like collagen (pink, acellular matrix) and extravasated erythrocytes are visible between the myofibroblasts. B: Numerous mitotic figures (arrows) are easily identified.

Suggested reading

Dahl I, Jarlstedt J. Nodular fasciitis in the head and neck. A clinicopathological study of 18 cases. *Acta Otolaryngol* 1980;90:152-9.

Thompson LDR, Fanburg-Smith JC, Wenig BM. Nodular fasciitis of the external ear region: A clinicopathologic study of 50 cases. *Ann Diagn Pathol* 2001;5:191-8.