Spindle-cell lipoma

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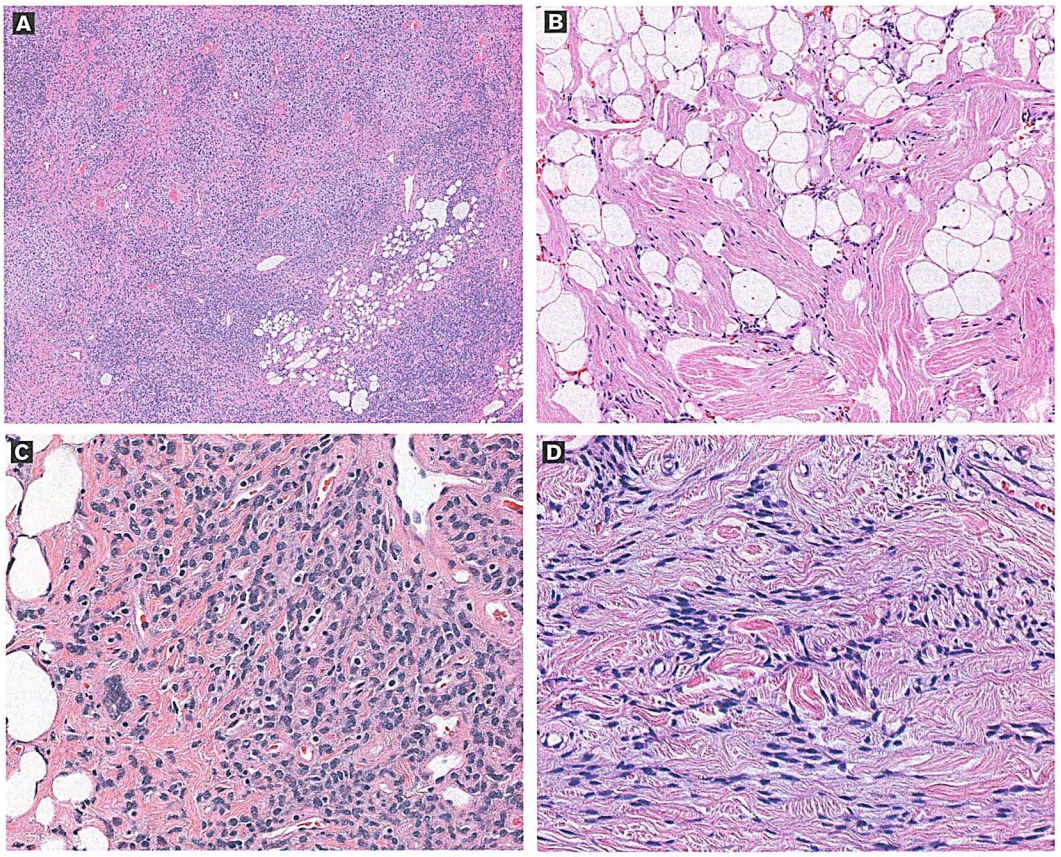

Figure. ***A:*** *At low power, only a scant amount of fat (lower right) is noted in this spindle-cell lipoma.* ***B:*** *Adipocytes are seen between bundles of spindled cells with abundant collagen. This is the typical histologic appearance of a spindle-cell lipoma.* ***C:*** *Focal fat is seen at the periphery (left), while the spindle-cell population exhibits isolated atypical or multinucleated cells. Mast cells are also present.* ***D:*** *No fat is identified in this tumor, but the characteristic spindle-cell population is seen with wire- or rope-like collagen fibers.*

Histologically, spindle-cell lipoma is a distinctive type of lipoma on a continuum with pleomorphic lipoma. It accounts for approximately 1.5% of all adipose tissue neoplasms. Men are affected significantly more commonly than women (9:1) at a mean age in the sixth decade. The vast majority of tumors are located in the subcutaneous tissue of the posterior neck, upper back, and shoulders. Patients present with a painless, mobile, subcutaneous mass. In rare cases, these tumors develop in other head and neck mucosal sites, such as the buccal fat pad. Spindle-cell lipomas grow as large as 13 cm (mean: 3.5). Grossly, they resemble ordinary lipomas, although they may be somewhat firmer, especially if the spindle-cell component predominates.

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Microscopically, these tumors are circumscribed, although not truly encapsulated. They are composed of mature fat cells mixed with bland spindle cells, hyperchromatic round cells, and multinucleated giant cells. The spindle cells are often arranged in parallel phalanxes admixed with wire- or rope-like collagen fibers and a myxoid stroma (figure). Mast cells are frequently numerous, along with occasional lymphocytes and plasma cells. Mitotic figures are inconspicuous. Myxoid areas may be seen. At the opposite end of the spectrum, a spindle-cell tumor may feature small, spindled, and round hyperchromatic cells and multinucleated giant cells with radially arranged (floret-like) nuclei—that is, the features of a pleomorphic lipoma. By definition, lipoblasts are not present.

On immunohistochemistry, the spindle cells express CD34 and they are negative for S-100 protein. Both spindle-cell and pleomorphic lipomas exhibit losses of chromosomes 13q and/or 16q—losses that are considered characteristic for this family of lipomas.

The differential diagnosis includes liposarcoma, neurofibroma, and nuchal fibroma. Complete local excision is curative.

Suggested reading

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