

Solitary Fibrous Tumor Presumed to Be a Peripheral Nerve Sheath Tumor Involving Right Branchial Plexus

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Abstract : Introduction: Solitary Fibrous Tumors (SFT) have many histologic mimickers and the only way to diagnose it, particularly in an unusual location, such as peripheral nerve trunks, is to use a comprehensive immunohistochemical staining panel. Monoclonal STAT6 immunostain is highly sensitive and specific for SFTs and particularly useful in the diagnosis of difficult SFT cases. Methods: We describe a solitary fibrous tumor (SFT) involving the right branchial plexus in a 66 yo female with 4-year history of slowly growing chest wall mass with recent dysesthesias in fingers 4th and 5th. MRI showed a well-circumscribed heterogenous mass measuring 5.4 x 3.8 x 4.0 cm and encircling peripheral nerves of the branchial plexus; no involvement of the bone or muscle was noted. A biopsy showed a bland spindled and epithelioid proliferation with no significant mitotic activity, no necrosis, and no atypia; peripheral nerve fascicles were encircled by the lesion. The main clinical and pathologic differential diagnosis included peripheral nerve sheath tumor, particularly schwannoma; HE microscopy didn't show the classic Antoni A and B areas but showed focal subtle nuclear palisading, as well as prominent vessels with hyalinization. Immunohistochemical stains showed focal, weak cytoplasmic S100 positivity in the lesion; CD 34 and Vimentin were strongly and diffusely positive; the neoplastic cells were negative with AE1/AE3, EMA, CD31, SMA, Desmin, Calretinin, HMB-45, Melan A, PAX-8, NSE. The immunohistochemical and histologic pattern was not typical of peripheral nerve sheath tumor. On additional stains, the tumor was positive with STAT-6 and bcl-2 and focally positive with CD99. Given this profile, the final diagnosis was that of a solitary fibrous tumor. Results: NA Conclusion: Very few SFTs involving peripheral nerves and mimicking a peripheral nerve sheath tumor are described in the literature. Although histologically benign on this biopsy, long-term follow-up is required because of the risk of recurrence of these tumors and their uncertain biological behavior.

Keywords : solitary fibrous tumor, pathology, diagnosis, immunohistochemistry

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