Fibroma of the Tendon Sheath

A 53-year-old man with an 18-month history of an enlarging dorsal left wrist mass was referred for an MRI, which demonstrated a heterogeneous soft-tissue mass involving the tendon sheaths of the dorsal third through fifth extensor compartments. The mass was essentially isointense to skeletal muscle on T1-weighted precontrast (star annotation, Figures A and B) and fat-saturated proton density-weighted sequences (star annotation, Figure C). Postcontrast fat-saturated imaging showed mild heterogeneous enhancement (star annotation, Figure D). The pathologic diagnosis was a fibroma of the tendon sheath (FTS).

FTS, also known as synovial fibroma, is a benign soft-tissue tumor representing 2% to 3% of all hand tumors.1 The typical presentation is an asymptomatic palpable mass in the third to fifth decades with a male predominance. The tumor most commonly affects the flexor surfaces. Imaging features are nonspecific with radiographs often appearing normal. CT demonstrates a mass isodense to musculature with encasement of tendons. MRI demonstrates a lobulated heterogeneous mass with T1-signal intensity similar to skeletal muscle and low to intermediate signal on T2-weighted images. Enhancement is variable.2

The differential diagnosis includes giant cell tumor, nodular fasciitis, and fibrous histiocytoma. FTS is composed of scattered benign fibroblasts within a dense background of collagen. By definition, no giant cells, xanthoma cells, inflammatory cells, or areas of necrosis are seen on histology. Surgical excision is the treatment of choice given the inability to prospectively distinguish FTS from other common tumors.1

References