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LETTER TO THE EDITOR

A rare cause of carpal tunnel syndrome: Fibroma of the tendon sheath

Dear Editor,

A fibroma of tendon sheath (FTS) is most commonly found in the hand. FTSs are usually seen in the fingers after the age of fifty and are clinically slow-growing well-defined mass. Here, we report the case of a 26-year-old man who featured a compression of the median nerve at the carpal tunnel secondary to a FTS of the flexor digitorum superficialis. Fibromas of a tendon sheath that compress the median nerve (MN) are rare causes of carpal tunnel syndrome (CTS).

The patient was admitted with chief complaints of a growing bulge, numbness and pain in the left palm for 6 months (Figure 1A). There was a history of wrist fracture ~8 months prior. Upon examination of the left-hypothetar region, a nonmobile, solid mass was detected, with no associated edema, erythema, or increased warmth. Following magnetic resonance imaging (MRI) the diagnosis of a regular soft-tissue mass under the hypothetar muscle, which was applying pressure to the carpal tunnel (Figure 1B) was suspected. Neurological and vascular examinations were unremarkable, and electrophysiological studies were not performed. The mass was totally excised under regional anesthesia. Macroscopically, the tumor was a smooth, dense, well-circumscribed, multinodular mass (Figure 1C). Final histological examination showed a circumscribed and lobulated hypocellular mass containing dense fibrocollagenous stroma with scattered spindle-shaped fibroblasts without inflammatory cells. Narrow, slit-like vascular spaces were also present (Figure 1D). These histological findings were diagnostic of FTS. There were no operative or postoperative complications, and after surgery, the patient's complaints of pain and numbness passed. Two years later, the patient remained free of symptoms and showed no recurrence.

The symptomatic compression of the MN in the carpal tunnel is the main cause of CTS. Symptoms include pain, weakness, and a tingling sensation along the MN distribution in the hand [1]. An FTS is an unusual, benign tumor that is rarely reported as a cause of CTS [2,3]. Although there are many causes of CTS, tendon sheath tumor compression is an uncommon feature.

FTS is often associated with tendons or tendon sheaths, and a history of trauma is reported in <10% of cases. In our case, the patient did have a history of trauma to the region. Macroscopically, an FTS is similar to a giant-cell tumor of the tendon sheath and is recognized histologically by a lack of giant cells, foamy histiocytes, and synovial cells. Microscopically, FTSs comprise fibroblast-like spindle cells in a fibromyxomatous matrix, with dilated, but frequently slit-like vascular channels [4]. Differential diagnoses would include fibromatosis, giant-cell tumor, nodular fasciitis, leiomyoma, neurofibroma, and fibrous hystiocytoma [3]. The appearance on MRI of the FTS presented as a well-described mass with homogeneously low or isointensity on T1-weighted images and low- or high-intensity on T2-weighted images [5]. For this reason, no other studies were performed.

Despite treatment with wide surgical excision, a 24% recurrence rate was reported [5]. At 2-year follow-up, the patient in this case remained free of symptoms and showed no recurrence. FTSs should be surgically excised, because late tumors can cause a variety of complications due to the mass effect.

In spite of its rarity, this lesion should be included in the differential diagnosis of a palmar mass on physical exam or imaging, especially if it is painful, benign appearing, and present in a middle-aged male presenting with CTS.

Conflicts of interest: All authors declare no conflicts of interest.

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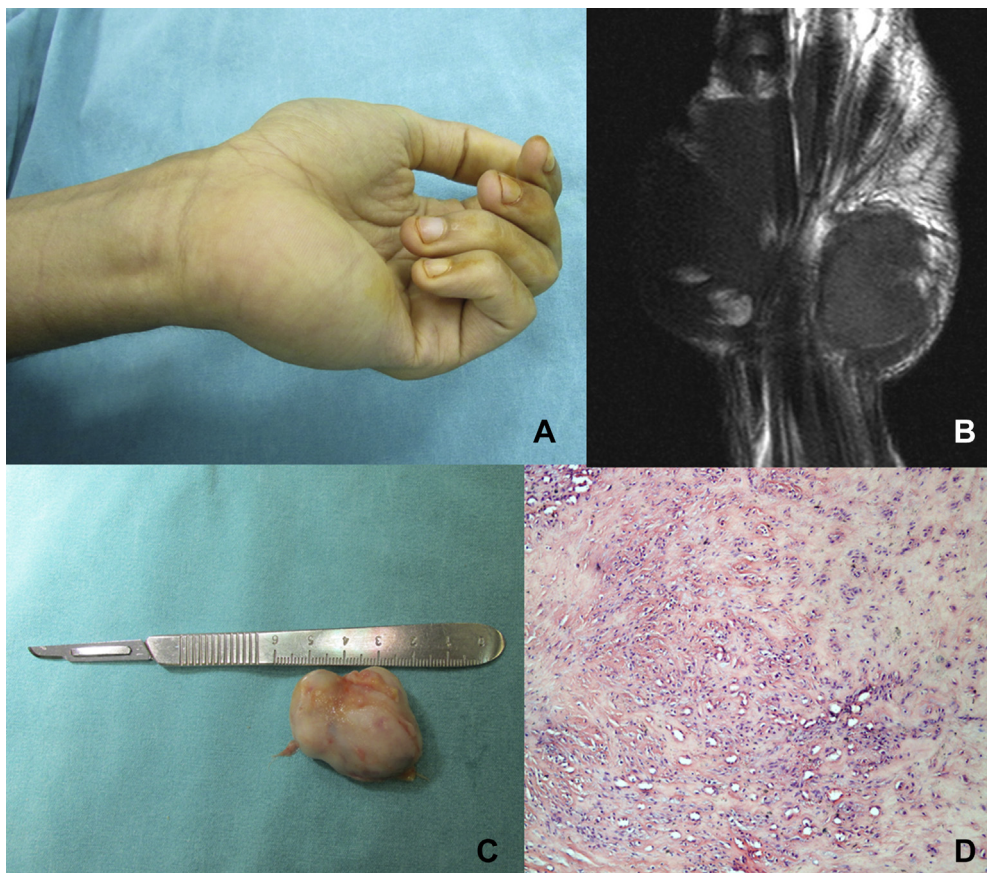


Figure 1. Preoperative magnetic resonance and histological views of the mass. (A) Preoperative view of the mass; (B) magnetic resonance image of the mass; (C) intraoperative appearance of the excised tumor; and (D) hematoxylin and eosin stains (200 \times). Tumor cells appear to be spindle shaped and surrounded by an abundant collagenic matrix.

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