SCIENTIFIC ARTICLE

Stenosing Synovitis of the Extensor Pollicis Longus Tendon

George Kardashian, MD, Alexander D. Vara, BS, Stephen J. Miller, MD, Roberto A. Miki, MD, Jean Jose, DO

There are only a few published cases of extensor pollicis longus (EPL) tenosynovitis in patients without rheumatoid arthritis. Even less common are cases of stenosing tenosynovitis of the EPL associated with triggering. This article presents 2 cases of EPL stenosing tenosynovitis with triggering of the thumb in the area of Lister's tubercle and addresses how to treat them. *(J Hand Surg 2011;36A:1035–1038. Copyright © 2011 by the American Society for Surgery of the Hand. All rights reserved.)*

Key words Extensor pollicis longus tendon, snapping, tenosynovitis, triggering.

Additional material is available online.

De Quervain[1] described the "schnellender Finger" (trigger finger) in 1895 as a disease resulting from the nodular swelling of the extensor tendons and corresponding thickening of the tendon sheath in the first extensor compartment. With time, hand surgeons have realized that stenosing tenosynovitis can also occur in the other extensor compartments. Stenosing tenosynovitis of the third extensor compartment involving the extensor pollicis longus (EPL) tendon has been reported rarely in patients without rheumatoid arthritis.[2–6] Even less common are cases of stenosing tenosynovitis of the EPL causing triggering of the thumb, with only 3 previously published.[4–6] We present 2 cases of EPL stenosing tenosynovitis with snapping of the thumb caused by EPL tendon irritation in the area of Lister's tubercle. Swelling of the EPL leads to a size discrepancy between the tendon and the cross-sectional area of the third extensor compartment, which results in the sensation of tendon snapping. In addition to describing this rare condition, we propose using the term *snapping* instead of *triggering* when the symptoms occur along the dorsum of the wrist and hand, in order to make a distinction from the trigger fingers occurring along the palmar side. Finally, a detailed description of the preoperative and postoperative findings, with photographic and video evidence of pathology and surgical treatment, is provided.

From the University of Miami Miller School of Medicine, Miami, FL; The Miami Hand Center, Miami, FL; Private Practice, Miami, FL.

Received for publication July 2, 2010; accepted in revised form February 2, 2011.

No benefits in any form have been received or will be received related directly or indirectly to the subject of this article.

Corresponding author: Roberto A. Miki, MD, Assistant Professor of Clinical Orthopaedics, University of Miami Miller School of Medicine, 900 NW 17th Street, Miami, FL 33136; e-mail: miki.hand@gmail.com.

0363-5023/11/36A06-0012$36.00/0
doi:10.1016/j.jhsa.2011.02.004

CASE 1

A 26-year-old, right-handed banker and avid drummer presented with a 4-week history of left wrist pain in the area of Lister's tubercle, as well as a painful snapping of his thumb with extension. His medical history reflected no illness or injury to the left upper extremity. The patient had already tried immobilization. Radiographs showed no abnormalities. Magnetic resonance imaging (MRI) performed at an outside institution was of poor quality and failed to define the diagnosis. A targeted, dynamic ultrasound was ordered, which demonstrated a 2.7-cm segment of moderate EPL tendinosis with minimal tenosynovial thickening (Fig. 1). Dynamic sonographic cine loops obtained during provocative hand movement confirmed an obstruction to the movement of the EPL as it passed around Lister's tubercle and distally; however, no gross dislocation of the tendon was noted. After discussion with the patient, a decision was made to release the third extensor compartment surgically. A 3-cm longitudinal incision was made just ulnar to Lister's tubercle. The fourth extensor compartment was incised, and the third extensor compartment was entered by division of the septum separating the third and fourth extensor compartments. The EPL was

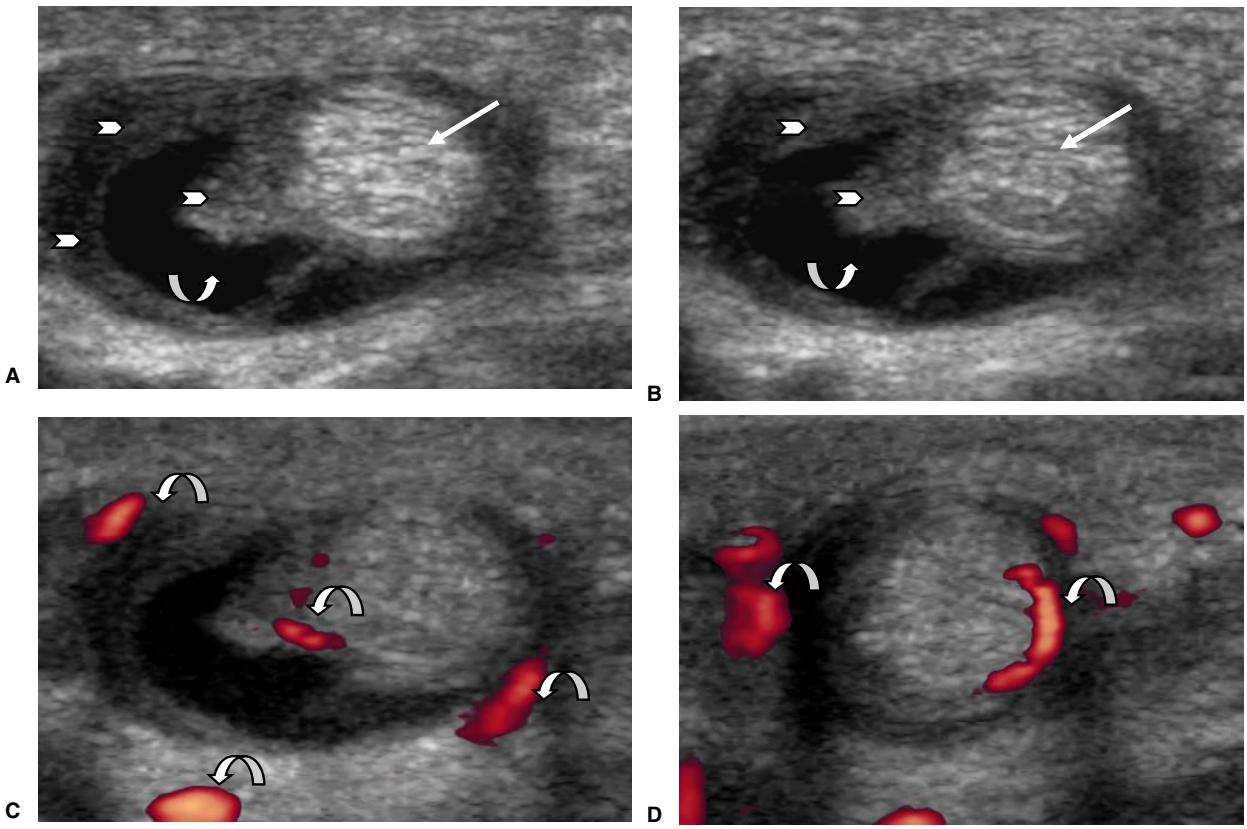

FIGURE 1: A, B Short axis, grayscale ultrasound images demonstrate enlargement and hypoechoic echotexture of the EPL tendon (straight arrows), reflecting tendinosis. There is surrounding tenosynovial fluid (curved up arrows) and synovitis (chevrons) within the tendon sheath, reflecting tenosynovitis. **C, D** Short-axis power Doppler ultrasound images demonstrate increased hyperemia within and surrounding the EPL tendon and tendon sheath (curved down arrows), reflecting acute inflammation.

found to be intact but with slight swelling, reflecting tendinosis. The fourth extensor compartment was closed to prevent bowstringing of the third and fourth compartments, but the septum between the compartments was not repaired. Intraoperative video of snapping before the release, and absence of such after the release, is available (Video is available on the *Journal's* Web site at www.jhandsurg.org). After surgery, the patient was placed in a thumb spica splint for 4 weeks to protect the extensor retinacular repair. At 5 months after the surgery, the patient had no evidence of snapping and had pain-free return to full activities.

CASE 2

A 44 year-old, right-handed man presented with a history of a fall onto his left hand 1 month earlier. He complained of painful snapping along the dorsal radial side of the wrist during thumb extension. The patient also reported a remote history of a wrist fracture that had healed uneventfully without surgical intervention. Medical history was otherwise noncontributory. The snapping of the thumb was visibly apparent and initially thought to be the result of subluxation of the EPL tendon over Lister's tubercle. An MRI demonstrated stenosing tenosynovitis of the EPL tendon. There was moderate to severe EPL tendinosis, evidenced by enlargement and intrasubstance increased signal intensity within the tendon, as well as fluid surrounding the tendon reflecting tenosynovitis (Fig. 2). No discrete tendon tear was evident. In a similar fashion to the first patient, the fourth extensor compartment was incised, and the septum separating the third and fourth extensor compartments was dissected. The EPL tendon showed evidence of tendinosis, with discoloration and fraying of the tendon, as well as loss of glistening of its surface but without tearing. Closure, postoperative management, and outcome followed the description for case 1.

DISCUSSION

McMahon and Posner[4] in 1994 reported a case of snapping thumb secondary to tenosynovitis in the third extensor compartment. They used the term *triggering* instead of *snapping*, and attributed it to a normal-sized tendon compressed by a small third compartment near the Lister's tubercle. In our cases, the snapping was caused by an enlarged tendon within a normal-sized