Stenosing Tenosynovitis of the Flexor Hallucis Longus Tendon at the Sesamoid Area

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ABSTRACT

The author presents a case of stenosing tenosynovitis of the flexor hallucis longus tendon at the sesamoid area of the great toe following injury of the hallux. Although stenosing tenosynovitis of the flexor hallucis longus tendon is not rare, occurring frequently in ballet dancers, its entrapment at the sesamoid area was rarely described in the literature. Early recognition of this condition is very important for successful treatment. This patient did not respond to nonoperative treatment and surgical tenolysis was very successful for relief of the symptoms.

Key Words: Tenosynovitis; Flexor Hallucis Longus

INTRODUCTION

There is a great number of cases of tenosynovitis of the flexor hallucis longus (FHL), especially in ballet dancers, described in the literature, but in the great majority of cases entrapment of this tendon occurs in the posterior area of the ankle. The purpose of this work is to point out that stenosing tenosynovitis of the FHL tendon may occur in an unusual area and may simulate a rupture of this tendon, thus masking proper diagnosis.

Case Report

A 46-year-old white female reported inability to flex the distal end of the left hallux associated with local tenderness two days after directly injuring her great toe. She hit her great toe against the foot of a table. On the second day following the trauma she observed that her great toe lost mobility compared to the other side. The patient presented with the inability to actively flex the left hallux (Fig. 1), but total passive mobility was preserved. She also showed discomfort to palpation along the flexor hallucis longus tendon in the plantar surface of the toe. Testing the FHL with the ankle in neutral position and the first MTP joint stabilized with the thumb, as proposed by Gould, was positive (the patient was not able to flex the IP joint). Traumatic rupture of the FHL tendon was hypothesized as a diagnosis. Radiographic study of the hallux was normal. The

Fig. 1: Preoperative clinical photograph with attempted flexion in the toes of both feet.

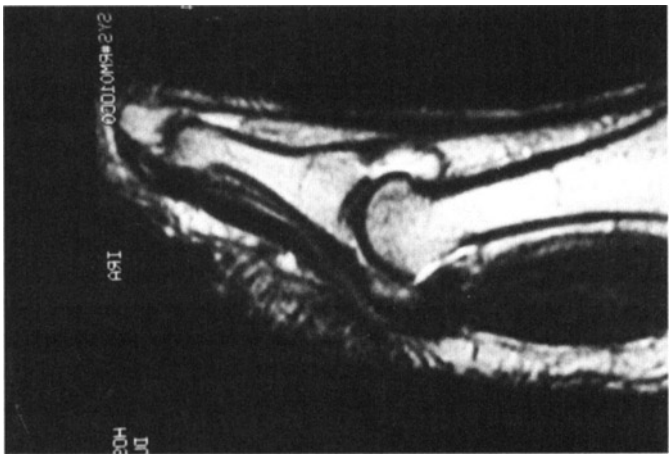

Fig. 2: Sagital T1-weighted MR image showing tenosynovitis. Note enlarged FHL tendon distal to sesamoids and fluid in tendon sheath.

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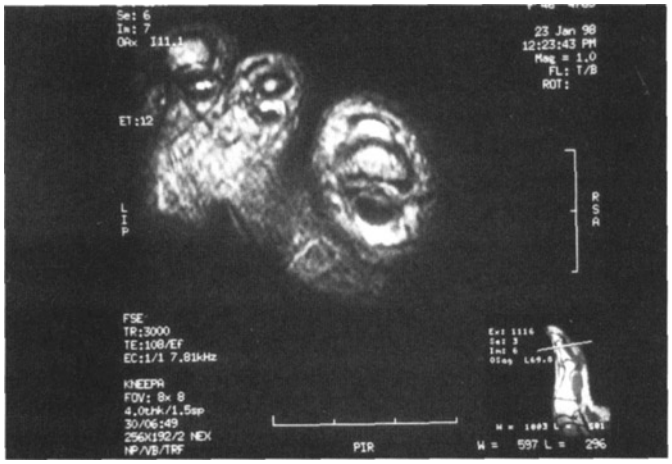

Fig. 3: Coronal T1-weighted MR image shows markedly enlarged FHL tendon and fluid in tendon sheath indicative of tenosynovitis.

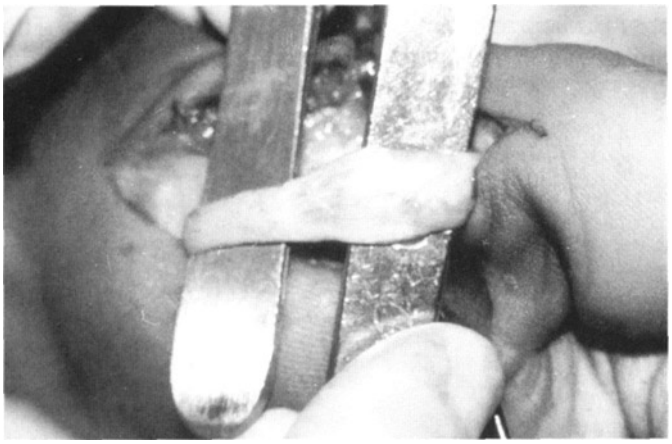

Fig. 4: Intraoperative image. Note the fusiform widening of the FHL just distal to the sesamoid.

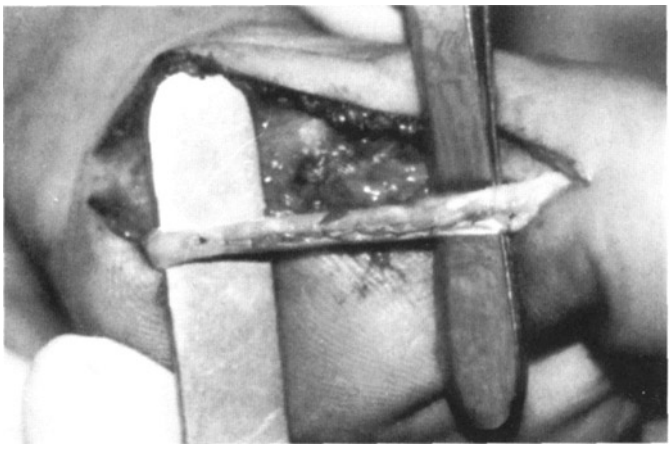

Fig. 5: View of the same region after resection and repair. Note significant reduction of the thickness of the tendon.

magnetic resonance imaging study (MRI) was indicative of stenosing tenosynovitis of the FHL in the sesamoid area of the hallux, but the possibility of tendon rupture was not ruled out.

The patient was initially treated nonoperatively by immobilization of the region in a Plaster of Paris cast including the great toe in neutral position for seven days. Non-steroidal anti-inflammatory medication was prescribed during this period. Local infiltration or inflation of the tendon sheath as a nonoperative treatment was not tried. Upon failure of nonoperative treatment, surgery was proposed and accepted by the patient. On the twelfth day after the trauma, the procedure was performed through a medial incision at the intersection of the plantar and dorsal skin. Avoiding the plantar nerve of the hallux and the accompanying vessels, the plantar aspect of the tendon sheath was fully visualized and opened. The tendon presented a longitudinal split and significant thickening just distal to the sesamoid area, causing a typical picture of stenosing tenosynovitis in that area. A longitudinal intertendinous portion of the tendon was excised including the split, and a longitudinal closure of the tendon was made with absorbable suture, resulting in a significantly narrower tendon. The patient was kept in a plaster cast without support for 10 days, and afterwards progressive partial support with a postoperative shoe was allowed so as to avoid hyperextension of the MTP joint for six weeks following surgery. Twenty months after the surgery the patient is asymptomatic, with full passive mobility and 80% of active mobility at the level of the interphalangeal joint of the hallux as compared to the opposite side.

DISCUSSION

Tenosynovitis is a widely known pathology of the FHL that is often seen in ballet dancers.[1,2,4,5,6,10,12] Entrapment of this tendon usually occurs in the posterior area of the ankle in the tunnel proper for its passage between the lateral and medial tubercles of the talus.[7,8,11] The single paper I was able to find about entrapment of the FHL tendon in the plantar area of the hallux was published by Gould et al.,[3] who presented nine cases in which injury was the cause in most of the patients. Three patients were successfully treated by local inflation of the tendon sheath with 1% lidocaine, while the remaining six required surgery. The local infiltration or inflation of the tendon sheath was not tried in our patient. Gould et al.[3] recommended the hockey stick incision as a better means to localize the injury, but I visualized the lesion very well with the longitudinal approach. The author warned about the as-yet unnoticed occurrence of this pathology and the importance of early recognition and treatment.[3]

Tenosynovitis should be taken into consideration in the differential diagnosis of FHL rupture. In cases in which nonoperative treatment fails to improve symptoms, surgical intervention must be considered so as to restore mobility of the hallux and provide improvement of the articular function.

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