A CASE OF STENOSING PERONEAL TENDOVAGINITIS

N. WUELKER, C. J. WIRTH

At the foot and ankle, stenosing peroneal tendovaginitis has only rarely been described in literature. The superior and inferior peroneal retinacula, however, may cause symptoms of stenosis similar to other tendons in the foot and the hand. A case of a forty-three year-old woman is presented, where posttraumatic stenosing peroneal tendovaginitis caused sudden pain on supination of the foot. Nodular tendon swelling was present on a preoperative CT-scan. The condition was treated successfully by transsection of the peroneal retinacula.

Keywords : stenosing tendovaginitis ; peroneal.
Mots-clés : ténosynovite sténosante ; péronier.

INTRODUCTION

In the hand, stenosing tendovaginitis of the first extensor tendon compartment is well known as De Quervain's syndrome, and tendovaginitis of the finger flexor tendons is equally common. In the foot and ankle, however, this entity has only rarely been described in the literature. Whereas tenovaginitis of the tibialis posterior and anterior tendons seems to be somewhat more common (3), there are only a few reports on this condition affecting the peroneal tendons. A good number of patients, however, present to the orthopedic surgeon with ill-defined lateral ankle pain, many with a history of trauma or previous overuse. They often remain unresponsive to conservative therapy, and there may be a delay of many months until a definitive diagnosis is made. In these patients, stenosing peroneal tendovaginitis must always be included in the differential diagnosis.

ANATOMY

The peroneal tendons pass behind the lateral malleolus to reach the foot, changing direction at the level of the malleolus and at the peroneal tubercle of the calcaneus. Both tendons are enclosed in one synovial sheath down to the peroneal tubercle. At this point, each tendon gains its own separate sheath. The peroneus brevis tendon is recognized by its anterior position and its low musculotendinous junction. From the tip of the lateral malleolus to the superior and lateral portion of the calcaneus extends the superior peroneal retinaculum, as a thickening of the deep fascia. The inferior peroneal retinaculum runs from the peroneal tubercle to the lateral side of the calcaneus.

CASE REPORT

A 43-year-old woman had sustained a fracture of the lateral malleolus 26 years previously. This was treated conservatively and the patient became asymptomatic. Only one year prior to this admission she first noted some slight swelling just distal to the lateral malleolus. Subsequently, she developed a sharp, sudden pain on certain movements, particularly on supination of the foot. This was treated by immobilization for one week and by various other conservative measures, but without improvement. Plain xrays showed no significant

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findings. On CT scan marked soft tissue swelling around the area of the peroneal tendons was noted, compared to the opposite side (fig. 1). Surgery was performed and stenosis of the inferior peroneal retinaculum with proximal thickening and induration of the tendon was found (fig. 2). There was only mild synovitis of the tendon sheath. Impingement of the tendon within the retinaculum on supination could be demonstrated, explaining the patient's symptoms. The retinaculum was transsected and remained open. Histology of a tendon sample revealed nodular tissue proliferations and focal fibrinoid changes with scattered lymphocyte aggregations. The patient became asymptomatic postoperatively and was allowed to return to full activity after three months.

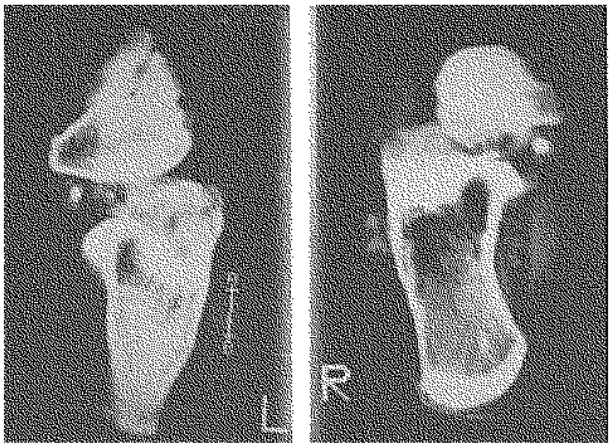

Fig. 1a *Fig. 1b*

Fig. 1. — a. CT scan showing soft tissue swelling at the peroneal tendons, just distal to the lateral malleolus; b. normal contralateral side.

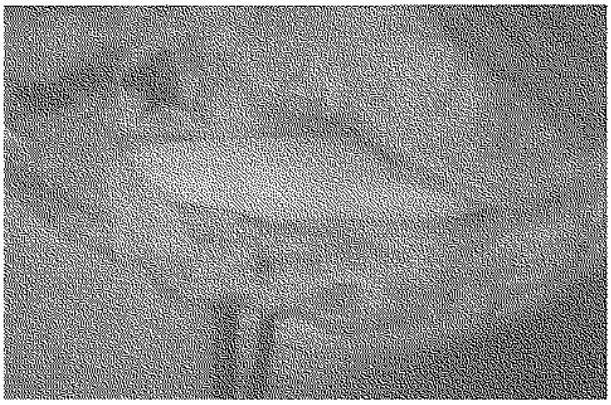

Fig. 2. — Peroneal tendons after excision of the inferior peroneal retinaculum. Thinning of peroneus brevis tendon (right) and bulding proximal to it (left).

DISCUSSION

Stenosing tendovaginitis of the peroneal tendons is a rare condition. Its cause is still not entirely clear, but it has been associated with trauma, overuse and an enlarged peroneal tubercle.

Schweitzer (10) reported three cases, two in patients active in sports, one following an inversion ankle injury and one bilateral case following subtalar dislocations. All were unresponsive to conservative treatment, and the patients underwent surgery, with histology demonstrating macroscopic thickening of the tendon sheath. They had complete relief of their symptoms.

Hackenbroch (6) reported two cases of peroneal tenosynovitis with thickening of the inferior peroneal retinaculum, treated surgically.

Aberle-Horstenegg (1) and Folan (4) presented cases of lateral foot pain, diagnosed as stenosing peroneal tendosynovitis by clinical findings alone. Some of these had a history of trauma or of overexertion. All healed with conservative treatment.

Burman (3) gave particular attention to the role of the peroneal tubercle in peroneal tendon synovitis; he reported the tubercle to occasionally protrude as far as the lateral malleolus, which necessitated surgical removal. He assumed stenosing tendinitis to follow inversion injuries, by which the tubercle, acting as fulcrum, stretches the peroneal tendon.

Andersen (2) reported one case of chronic, subjective lateral ankle instability in a soccer player, one year following an inversion injury. On clinical examination there was tenderness and swelling over the peroneal tendons, but no instability. On surgical exploration, the ligaments were found to be intact, but there was marked thickening and constriction of the peroneal tendon sheath, with bulbous enlargement of the peroneus brevis tendon itself. Histologic examination revealed small areas of myxomatous degeneration. The patient was free of symptoms two weeks after partial excision of the retinaculum.

Trevino (11) reported twelve cases of stenosing tenovaginitis of the ankle, four cases involving the peroneal tendons. One followed a calcaneus fracture ; another followed triple arthrodesis. Most of the tendons showed fibrosis without fraying or rupture. Surgical techniques of wedge resection in poststenotic tendon enlargement, of repair in partially or completely ruptured tendons and of reconstruction of a new tendon sheath from the regional fascial tissue were described. Following these procedures, all patients became asymptomatic and returned to their full-time work.

Peroneal tenography is generally recommended in cases without typical clinical findings. Gilula (5) and Reinus (8) advocated tenography of the tendons around the foot and ankle and demonstrated findings ranging from mild synovitis, represented by mild irregularity of the tendon sheath, to severe synovitis with marked synovial irregularity, enlargement, stenosis or nodularity of the sheath.

Diagnosing peroneal tendovaginitis with CT scanning, to our knowledge, has not been reported in the literature. In our case, peroneal tenography may have helped in making the diagnosis. With marked symptoms and objective findings on CT scan, however, surgical exploration of the tendon sheath was considered necessary in any case,and tenography would not have altered that decision.

We can only speculate on the cause of tendovaginitis in our patient. She was not active in sports, and there was no history of overuse. The peroneal tubercle of the calcaneus was not overly large. The patient had no evidence of rheumatoid disease.

Even though the lateral malleolus fracture had happened 26 years before, there may still be a possible link with the tendon pathology. Direct injury to the inferior peroneal retinaculum, or swelling and hematoma associated with the fracture, may have led to scarring and shortening of the retinaculum. Movement of the peroneal tendons during eversion and inversion of the foot may then have caused progressive thinning of the tendon within the retinaculum and bulging proximal to it. This case of peroneal tendovaginitis may thus be considered a late sequela of a malleolar fracture.

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SAMENVATTING

N. WUELKER en C. J. WIRTH. Een geval van fibulaire tenosynovitis stenosans.

In de literatuur werden weinig gevallen van fibulaire tenosynovitis gerapporteerd. De proximale en distale fibulaire reticanulae kunnen echter aanleiding geven tot tekenen van stenosis, zoals voor de andere pezen van de voet of van de hand. De auteurs rapporteren het geval van een 43-jarive vrouw met een posttraumatische fibulaire tenosynovitis, die een acute pijn veroorzaakte bij supinatie van de voet. De preoperatieve CT Scan toonde een nodulaire zwelling van de pezen aan. Na heelkundige behandeling, met name sectie van de fibulaire retinaculae, was patiënte klachtenvrij.

RÉSUMÉ

N. WUELKER et C. J. WIRTH. Un cas de ténosynovite sténosante des péronés.

Peu de cas de ténosynovite sténosante à la cheville ou au pied furent rapportés dans la littérature. Les ligaments péroniers supérieur et inférieur peuvent être à l'origine de cette symptomatologie, tout comme les autres tendons du pied et de la main. Les auteurs rapportent le cas d'une femme de quarante-trois ans, qui présentait une ténosynovite sténosante posttraumatique des péroniers, provoquant une douleur aiguë à la supination du pied. La tomodensitométrie préopératoire révéla un gonflement nodulaire du tendon. La résection du ligament péronier fit disparaître la symptomatologie.