SPONTANEOUS RUPTURES OF THE FLEXOR CARPI RADIALIS TENDON SECONDARY TO STT OSTEOARTHRITIS

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Two cases of closed ruptures of the flexor carpi radialis which resulted from attrition of the tendon caused by bony spurs secondary to Scapho Trapezo Trapezoidal (STT) osteoarthritis are described. Treatment is conservative.

Keywords : spontaneous rupture ; flexor carpi radialis tendon ; STT joint ; osteoarthritis.
Mots-clés : rupture spontanée ; tendon du grand palmaire ; arthrose ; articulation STT.

INTRODUCTION

Closed ruptures of the long flexor of the finger are well described. They are associated with different etiological factors in rheumatoid hands and in nonrheumatoid hands (1, 3, 4, 5, 6, 7).

Closed spontaneous ruptures of the flexor carpi radialis (FCR) are rare. In English literature only 8 cases have been reported (1, 2, 7, 8). We describe 2 cases, one a complete rupture and one a partial rupture of the FCR.

CASE REPORTS

Case 1

A 48-year-old right-handed man complained for one year of pain in his right wrist, without a history of past trauma.

There was tenderness over the course of the FCR and the tubercle of the scaphoid. X rays showed an irregularity at the distal end of the scaphoid, near the STT joint. Technetium-scintigraphy showed hyperactivity of the scaphoid region.

Surgical exploration revealed a partial rupture of the FCR tendon with a tenosynoveal reaction (fig. 1). In the bed of the tendon sheath, a bony spur arose from the STT-joint. During extension, this osteophyte irritated the tendon and led to attrition. The spur was excised, and the tendon was reinforced. Three months after the operation the patient was free of pain, and he had almost completely regained the power in his wrist.

Case 2

A 50-year-old right-handed women complained for 3 months of intermittent pain on the radiopalmar side of her right wrist. Local infiltration was performed. Six weeks later, she experienced acute pain and swelling in her right wrist after lifting a heavy object.

On physical examination the contour of the tendon of the FCR was lacking (fig. 2). The proximal end of the tendon was palpable and tender, while the STT joint was not tender. The grip strength was decreased by 20% compared with the left side.

X rays showed osteoarthritis of the STT joint (fig. 3). Due to the absence of complaints and impairment, no operative treatment was undertaken.

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Fig. 1. — Partial rupture of the FCR tendon at surgical exploration.

Fig. 2. — Absence of the FCR tendon at clinical examination.

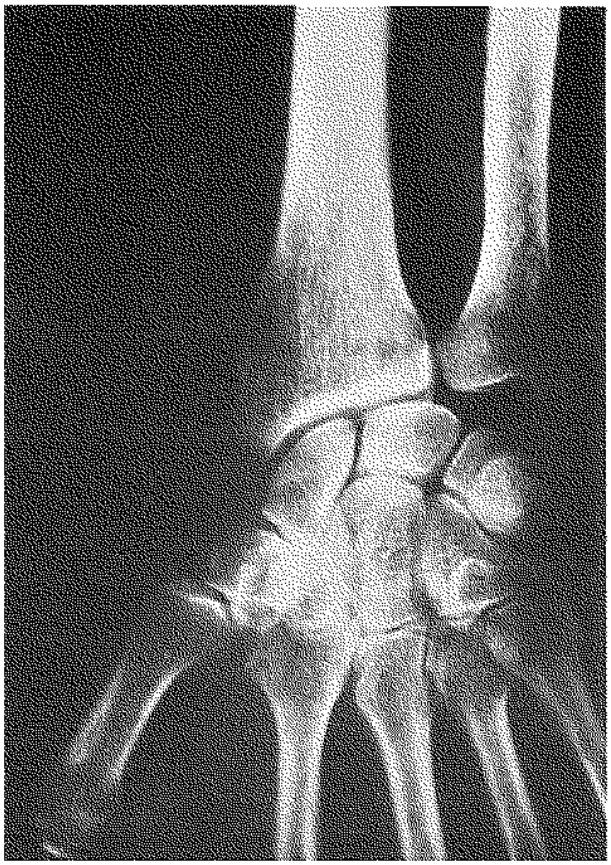

Fig. 3. — Marked STT osteoarthritis on x ray.

DISCUSSION

In English literature 8 cases of closed spontaneous ruptures of the FCR tendon are described. In 3 cases a rupture was associated with a severe rheumatoid collapse (1, 7). These were treated by debridement and synovectomy. No repair was performed. In 3 cases osteoarthritis of the STT joint was the underlying cause (8). One case was treated by removal of the osteophytes and debridement of the reactive synovitis from the tendon ends. No tendon repair was done. The other two cases were treated conservatively with a cast due to the minimal functional impairment. However there was a decrease of wrist motion and grip strength by 20%. Bowe *et al.* described one case of bilateral partial rupture secondary to trapezial arthritis (2), both successfully treated with cast immobilization.

Different causes of spontaneous tendon ruptures have been described by Mannerfeld (5) and Folmar (4). Tendon ruptures may arise from bony erosions in the carpal tunnel adjacent to the scaphoid. In nonrheumatoid hands the most common cause is attrition of the tendon by bony spurs. The tendon sheath of the FCR tendon lies in close contact with the STT joint in its course to the base of the second metacarpal.

Hypertrophic osteophytes of the STT joint may penetrate into the tendon sheath and irritate the FCR tendon, and with wrist extension, attrition and even rupture of the tendon is possible.

The resulting tenosynovitis may contribute to rupture, while local steroid injections can accelerate this process (2, 5). Tonkin *et al.* stated that changes in the excursion and tension of the FCR tendon secondary to carpal settling after carpal tunnel release could also play a role in attrition ruptures (8). This was not confirmed in our cases.

In most of the cases rupture is a clinical diagnosis. The patient complains of pain at the ruptured ends of the tendon or at the tubercle of the scaphoid from STT osteoarthritis. There is a palpable gap over the course of the FCR tendon. X rays or CT scan (8) of the carpal tunnel can show bony spurs and STT osteoarthritis.

The treatment is mainly conservative. Complete rupture of the FCR tendon causes only minor functional deficit, and repair or reconstruction is not necessary. The tendon has been safely used in reconstructive procedures, such as resection arthroplasty of the trapezium. In partial ruptures, the pain can be treated successfully with cast immobilization (2).

When complaints persist, a release with debridement of the tendon can be performed. The underlying osteophytes which penetrate into the FCR tendon sheath should be resected. If necessary, a debridement or arthrodesis of the STT joint can be done.

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SAMENVATTING

K. VERELLEN, D. DAUWE, M. DEMUYNCK, P. KESTELIJN en L. VANDEN BERGHE. Spontane rupturen van de flexor carpi radialis secundair aan SST arthrosis.

Twee gevallen van spontane gesloten ruptuur van de flexor carpi radialis, een partiële en een volledige, secundair aan scapho-trapezo-trapezoïdale osteoarthritis. Hiervan werden er in de Engelstalige literatuur 8 gevallen beschreven. De behandeling is principieel conservatief.

RÉSUMÉ

K. VERELLEN, D. DAUWE, M. DEMUYNCK, P. KESTELIJN et L. VANDEN BERGHE. Rupture atraumatique du grand palmaire secondaire à une arthrose de l'articulation scapho-trapézo-trapézoïdienne.

Deux cas de rupture atraumatique du grand palmaire, secondaire à une arthrose de l'articulation scapho-trapézo-trapézoïdienne sont présentés. Dans la littérature anglo-saxonne 8 cas ont été publiés. Le traitement est conservateur.