

FLEXOR POLLICIS LONGUS RUPTURE WITH SCAPHOID NONUNION A CASE REPORT AND LITERATURE STUDY

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A case of flexor pollicis longus rupture which resulted from a pseudarthrosis of the scaphoid in a nonrheumatoid patient is described. Treatment consisted of an interphalangeal joint arthrodesis.

Keywords : flexor pollicis longus rupture ; scaphoid nonunion ; interphalangeal arthrodesis.

Mots-clés : rupture du long fléchisseur du pouce ; pseudarthrose du scaphoïde ; arthrodèse interphalangienne.

RÉSUMÉ

B. ZACHEE, L. DE SMET et G. FABRY. Rupture du long fléchisseur propre du pouce associée à une pseudarthrose du scaphoïde.

Un cas de rupture du long fléchisseur propre du pouce due à une pseudarthrose du scaphoïde est présenté. C'est le cinquième cas décrit. Le traitement consista en une arthrodèse interphalangienne du pouce.

SAMENVATTING

B. ZACHEE, L. DE SMET en G. FABRY. Een flexor pollicis longus ruptuur door een scaphoïd pseudarthrose.

Een geval van flexor pollicis longus ruptuur door scaphoïd pseudarthrose wordt beschreven. Dit is het vijfde geval in de literatuur. Als behandeling werd een interphalangeale arthrodese van de duim verricht.

INTRODUCTION

Tendon rupture after fractures of the wrist are well-known. Flexor tendon ruptures are less com-

mon (only 20% of cases as stated by Boyes *et al.* (1)).

The most frequent etiology of posttraumatic flexor tendon rupture is Colles fracture ; less frequent causes are hamate process fracture, lunate dislocation and scaphoid fracture.

The flexor pollicis longus ruptures after scaphoid nonunion are of the degenerative type, although one clear-cut rupture has been described by Cross (2).

CASE REPORT

A 59-year-old mine-worker came to the outpatient department with a major complaint of loss of strength on thumb flexion and instability in opposition of the thumb for 6 months.

The onset was sudden without previous pain or triggering in this nonrheumatoid patient.

No injury was reported in the past. On examination he had restricted wrist motion (extension 45°/flexion 40°). Passive thumb motion was excellent (hyperextension 20°/flexion 65° in the IP joint). There was no active flexion in the IP joint. Active flexion in the DIP joint of the index finger was normal. There was no pain on palpation along the flexor pollicis longus. Neurological examination was normal. Xrays showed a scaphoid nonunion (fig. 1) with arthrosis of the radiocarpal joint. On exploration, a degenerative rupture at the level of the scaphoid tubercle was found. An arthrodesis of the IP joint was performed.

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Fig. 1. Pseudarthrosis of the scaphoid with radiocarpal arthrosis.

DISCUSSION

Inability to flex the IP joint of the thumb arises from different causes: joint problems such as ankylosis or exostosis, neurological involvement such as an anterior interosseus nerve entrapment, a bad pulley mechanism as with triggering, and finally a tendon rupture.

Flexor tendon ruptures associated with wrist fractures are not common. They are most frequently seen after Colles fractures. Only four cases of flexor pollicis longus ruptures associated with a scaphoid nonunion have been reported. One was a clear-cut rupture (2) and three were degenerative (4, 6, 7). Folmar *et al.* (3) described a rupture of

the flexor pollicis longus associated with scaphoid nonunion, but exploration showed the rupture to result from a sharp edge on the radius rather than the scaphoid.

Mannerfelt and Norman, in 1969 (5), described the tuberculum of the scaphoid as the "critical corner" where degeneration occurs. Flexor tendon ruptures without trauma in the past are seen in rheumatoid arthritis, lunatomalacia, carpal tunnel syndrome (poor vascularization of the tendon in the carpal tunnel) and congenital carpal bone anomalies.

The different treatment modalities are primary suture when there is a fresh rupture, tendon transfer, IP tenodesis and IP fusion.

REFERENCES

1. BOYES J. H., WILSON J. N., SMITH J. W. Flexor tendon ruptures in the forearm and hand. *J. Bone Joint Surg.*, 1960, 42-A, 637-346.
2. CROSS A. Rupture of the flexor pollicis longus tendon resulting from the nonunion of a scaphoid fracture. *J. Hand Surg.*, 1988, 13-B, 80-82.
3. FOLMAR R. C., NELSON C. L., PHALEN G. S. Ruptures of the flexor tendon in hands of non-rheumatoid patients. *J. Bone Joint Surg.*, 1972, 54-A, 579-584.
4. MAHRING M., SEMPLE M., GRAY I. C. M. Attritional flexor tendon rupture due to a scaphoid non-union imitating an anterior interosseus nerve syndrome : a case report. *J. Hand Surg.*, 1985, 10-B, 62-64.
5. MANNERFELT L., NORMAN O. Attrition ruptures of flexor tendon in rheumatoid arthritis caused by bony spurs in the carpal tunnel. A clinical and radiological study. *J. Bone Joint Surg.*, 1969, 51-B, 270-277.
6. McLAIN R., STEYERS C. Tendon ruptures with scaphoid nonunion. A case report. *Clin. Orthop.*, 1990, 255, 117-120.
7. THOMSEN S., FALSTIE-JENSEN S. Rupture of the flexor pollicis longus tendon associated with an ununited fracture of the scaphoid. *J. Hand Surg.*, 1988, 13-A, 220-222.

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