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CASE REPORT

RECURRENT RUPTURE OF THE ACHILLES TENDON INDUCED BY CORTICOSTEROID INJECTION

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INTRODUCTION

Achilles tenovaginitis is a common sport injury (Kvist and Kvist, 1980). It is usually treated successfully by anti-inflammatory drugs and rest. Sometimes local injection of corticosteroids and local anaesthetics are used. However, inadequate and excessive use of those injections may result in rupture of the Achilles tendon (Genety and Brunet-Gadej, 1976).

The purpose of this paper is to present a case of steroid induced recurrent rupture of the Achilles tendon. The mechanism, treatment and prevention of this severe injury are discussed.

CASE HISTORY

A 26 year old professional soccer player suffered from recurrent severe effort-induced pain of his left ankle. Paratendinitis of the Achilles tendon was diagnosed. He was treated by others at a different hospital with three repeated local injections of novocaine 1% and methyl prednisolone acetate. Ten days following the commencement of that treatment, during a soccer

game, spontaneous rupture of the Achilles tendon occurred. The patient was operated upon the same day. An irregular tear of the Achilles tendon was found five centimetres proximal to its insertion. It was repaired by end to end suture with gastrocnemius fascia rotation flap reinforcement, as described in 1954 by Bosworth. Following six weeks of plaster immobilisation and an additional six weeks of physiotherapy, full sports activity was gradually resumed.

The patient was asymptomatic for one year when the pain in his left Achilles tendon recurred. Local injection of novocaine and methyl prednisolone acetate dramatically relieved his symptoms. One week later, during exercise, a recurrent spontaneous open rupture of the Achilles tendon occurred. This time, avulsion of the tendon from the calcaneum was found. The distal two centimetres of the tendon were degenerated with multiple longitudinal tears. The area of the previous repair was completely healed, but adherent to the skin. Attempted reconstruction of the Achilles tendon failed. The patient lost his professional sport capacity and retired.

DISCUSSION

Chronic paratendinitis of the Achilles tendon is an inflammation of the paratenon and may be associated with degenerative changes in the tendon itself (Burry, 1971). Conventional treatment by anti-inflammatory drugs and rest, usually result in fast recovery of sport

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capacity. However, some of the patients do not respond and are commonly treated with local injection of steroids and local anaesthetics.

Immediate short-acting pain relief results from the local anaesthesia, which is enhanced by the strong anti-inflammatory effect of the steroids. However, steroids may cause death of the fibrocytes at the injection site. Their inadvertent injection into the tendon results in mechanical separation of the tendon fibres, these two factors decreasing the tensile strength of the tendon, already damaged by the inflammation, up to

60% after a single injection (Noyes et al, 1975). Furthermore, the enthusiastic sportsman and team members misjudge the pain relief, and sport activity is resumed too early. The weakened tendon is exposed to excessive stress and spontaneous tear results.

One should note the high risk of local corticosteroid injection in treatment of Achilles tendonitis. Corticosteroid injections should be limited to those patients who do not respond to other conservative treatment methods. Resumption of sport activity should be gradual and under close medical supervision.

REFERENCES

- Bosworth, D. M., 1954 "Repair of defect in the tendo-Achilles". *J.Bone Joint Surg.* 38A: 111-114.
- Burry, H. C., 1971 "The pathology of the painful heel". *Br.J.Sports Med.* 6: 9-12.
- Genety, J., Brunet-Gudej, E., 1976 "La Tendinite Achilleenne du Sportif". EMC First Edition. Appareil Locomoteur, 151, C 10, 101-102.
- Kvist, H., Kvist, M., 1980 "The operative treatment of chronic calcaneal paratenonitis". *J.Bone Joint Surg.* 63B: 353-357.
- Noyes, F. R., Nussbaum, N. S., Torvis, P. J. and Cooper, S., 1975 "Biomechanical and ultrastructural changes in ligaments and tendons after local corticosteroid injections". *J.Bone Joint Surg.* 57A: 876.

BOOK REVIEW

Title: THE 1981 YEAR BOOK OF ORTHOPAEDICS
Editor: Mark Coventry, MD, Professor of Orthopaedic Surgery, Mayo Clinic
Publisher: C. V. Mosby (Year Book Med. Publ. London for UK)
Price: £27 456 pages Index

This book contains well selected reviews of some of the important papers published in the past 3 years. All aspects of the subject are touched upon. The reader is attacked at the outset by a quiz to highlight his ignorance. The first chapter is labelled "Miscellaneous" and contains a hotch potch of interesting summaries including forestry injuries in New Zealand, frostbite in Saskatoon, "Skin and Bone" — this is a good review of muscle and muscle and skin flaps to surface traumatic limb defects, low velocity gun shot wounds to the extremities — the treatment is assessed and surprisingly with debridement and the wounds left open, the average hospital stay was less than one week. Reports on foot and digital replantations bring this chapter to an end.

The chapter on research was, apart from one or two sections, the poorest selection from what has been a productive period for original and imaginative work.

Paediatrics, tumours and infections completed the disease sections. Chapters on Regional Surveys follow — the spine, hip, knee, foot and ankle, hand and wrist, shoulder and elbow are succeeded by joint replacement and fractures. The book ends with a chapter on sports injuries. Ski, wrestling and karate injuries are described, also pack palsy in hikers due to nerve compression and iliotibial friction syndrome in runners. Breaststroker's knee is a good paper with an excellent motion analysis and analysis of the stress involved with modifications necessary to relieve the specific problems. There is a good index, and all chapters are well illustrated.

This is an Orthopaedists book — full of interest — a book to browse through at leisure.

B. Helal