ACHILLES PARATENDONITIS: AN EVALUATION OF STEROID INJECTION

D. J. DaCRUZ*, M. GEESON**, M. J. ALLENT† and I. PHAIR††

*Senior Registrar in Accident and Emergency Medicine, **Senior Physiotherapist (Orthopaedics), †Consultant in Accident and Emergency Medicine, ‡Registrar in Accident and Emergency Medicine, The Leicester Royal Infirmary

ABSTRACT

A prospective, randomised, double-blind study of 28 patients presenting with Achilles paratendonitis was undertaken in order to evaluate the role of peri-tendonous injection of methyl prednisolone acetate (Depo Medrone)†. At presentation patients were either administered peri-tendonous injection of 40 mgs of methyl prednisolone acetate suspended in 1 ml of 0.25% marcaine or 2 ml of 0.25% marcaine alone. Response was gauged by resolution of pain, tenderness and return to normal activity. Patients who failed to respond to initial treatment were crossed over to the other group at 12 weeks. All patients received standardised physiotherapy.

Results indicate that peri-tendonous injection of methyl prednisolone acetate is of no value in Achilles paratendonitis.

Key words: Achilles paratendonitis, Methyl prednisolone acetate

METHOD

Patient Selection

All patients presenting to the Accident and Emergency Department, Leicester Royal Infirmary between February 1985 and December 1986 were admitted to the study if they had pain and tenderness in the Achilles tendon, gradual in its onset and not accompanied by signs of a complete or partial tear of the tendon. Patients with pain at the musculo-tendinous junction and those with pain at the point of insertion of the Achilles tendon were excluded. None of the patients studied were on systemic steroid therapy and none had received previous treatment for their condition.

Clinical Assessment

All patients were assessed at presentation, 3 weeks and 6 weeks and subsequently at 6-week intervals by a single physician. At each visit patients graded their pain using a 10 cm linear analogue scale in response to the question “How bad is your pain when it is at its worst?”. Patients were unaware of any previous pain scores when replying. Swelling was assessed by measuring the thinnest diameter of the tendon with calipers and comparing it with the other side if symptoms were unilateral. Activity was gauged using an ‘activity level score’. The scores available were 25%, 50% and 75% of normal activity including training. Tenderness was graded by the patient’s response to pinching gently the affected Achilles tendon between the finger and thumb. If a patient winced and withdrew he was classified as grade 3, grade 2 comprised wincing without withdrawal and grade 1 tenderness involved neither wincing nor withdrawing. Flexion of the ankle was measured using a goniometer.

All patients had both ankles X-rayed at presentation — the presence of calcaneal spurs, calcification in the tendon and calcification of soft tissues around the tendon were sought.

†Upjohn Ltd., UK

Address for correspondence:
D. J. DaCruz, FRCS
Senior Registrar in Accident and Emergency Medicine
The Leicester Royal Infirmary
Leicester
LE1 5WW

RESULTS

A total of 36 patients were enrolled but six of these failed to attend for physiotherapy and two more refused further injection when they came to cross-over. Of the 28 patients studied, six had bilateral problems. There were 18 males and ten females with an average age of 28 (22-46). Twenty patients were keen sports-persons who ran more than three miles per day. Four played racquet sport on a regular basis and the remaining four did no sport. The commonest precipitating factor was a sudden increase in training (Table I). At presentation, patients in the two treatment groups were comparable for age, sex, pain, tenderness and activity levels (Table II). None of the patients were found to...
Rupture of the Achilles tendon did not occur in this series.

**DISCUSSION**

Whilst the pathology of Achilles paratendonitis remains obscure, there is little doubt that it is due to excess stress on the tendon (Clement et al, 1984). Stress may be acute in its application or chronically repetitive. Over pronators are thought to be at risk (Clement et al, 1984). Such stresses may cause microruptures of tendon fibres, which in turn will set up an intense inflammatory response (Brubaker et al, 1974).

The role of locally administered prednisolone acetate has not been evaluated prospectively in the past, though it is used extensively. Welsh et al (1980) recommend a maximum of two peri-tendinous injections, whereas Clancy et al (1976) feel steroids have no role to play. Certainly, if locally-acting steroids are to be administered, they must not be deposited within the substance of the tendon as this predisposes to tendon rupture (Unverfirth et al, 1973). In this study only eleven out of 35 tendons studied (33%) responded to treatment. As six of these patients had received a steroid and five had not, it appears that locally-acting steroids have no role to play. Patients who did respond to treatment had only minimal signs and symptoms when they presented and recovered within six weeks. The four patients who did not do any sport all fell within this category. Radiography was found to be an unhelpful investigation in this series.

Drawing on the experience of other authors, it appears that patients who do not respond to rest and physiotherapy but wish to continue an active lifestyle ought to be operated on sooner rather than later (Kivist, H. and Kvist, M., 1980, Clancy et al, 1986). There were eleven patients in this study who were subjected to surgery, where the thickened paratenon was stripped, who obtained an excellent end result. These patients have returned to normal activity and are asymptomatic.

**References**


