

Chronic Achilles tendon pain: paratendon microcirculation and clinical study using colour and power Doppler sonography and extracorporeal shock wave therapy (ESWT).

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Introduction

This study was designed to demonstrate the increase in the microvascularity of peritenon of the Achilles tendon in patients with chronic achilles tendonopathy and the efficacy of extracorporeal shock wave therapy (ESWT) for the treatment of this condition.

Methods

12 athletes runners (5000/10.000 metres) with chronic tendinopathy were compared with 12 control subjects, all of whom were of a similar age, sex, and weight. Each group received the same treatment protocol with ESWT. Clinical evaluation was under taken prior to treatment and at one and six months after treatment was terminated. The microvascularity of all 24 subjects was evaluated with Color and Power Doppler echography both prior to treatment with ESWT and at one and six months following treatment.

Results

We observed an increase in the microvascularity of all 12 subjects with tendinopathy, and none of the control group participants. This hypervascularity was noted to be decreased when patients were evaluated one month after the initiation of ESWT. Clinically, 80% of patients experienced absence of pain and were able to return to sports activity beginning at one month after termination of ESWT. No significant clinically adverse effects were noted in normal patients who received ESWT.

Discussion

Treatment of Achilles tendinopathy has included many types of treatment. But none has demonstrated to be effective in the treatment in some cases complications have occurred. Injection of steroids may reduce pain in microvascularity but are associated with rupture of the tendon. Some studies have evaluated the effect of eccentric exercise on the pain and neovascularity of the Achilles tendon and have shown successful results in 83 % in patient symptoms and alteration and microvascularity in 17 % of patients. In our study we observed a significant (P less than 0,0001 – Student T test) decrease in paratendon microvascularity in group A subjects within one month of treatment with ESWT. This was associated with a significant (P less than 0,0001 Student T test) decrease in discomfort at rest and with ambulation (mean VAS 2.7 at rest and 3.1 during ambulation), and allowed a majority of athletes to return to sports activity. No significant difference in pain was noted in group B subjects.

References

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