

Eccentric loading versus shock wave treatment for chronic insertional Achilles tendinopathy

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Device and producing company:

Swiss Dolorclast, EMS

Introduction:

Nonoperative management of chronic tendinopathy of the Achilles tendon insertion is poorly studied. With demonstrated effectiveness of eccentric loading and of repetitive low-energy shock wave therapy in patients with midsubstance Achilles tendinopathy recently, this randomized controlled trial aimed at verifying effectiveness of both procedures exclusively in patients with insertional Achilles tendinopathy.

Methods:

Fifty patients with chronic recalcitrant (> 6 months) insertional Achilles tendinopathy were enrolled in a randomized controlled study. All patients had been treated unsuccessfully for at least 3 months, including local injections and non-steroidal anti-inflammatory drugs and physiotherapy. A computerized random-number generator was used to draw up an allocation schedule. Twenty-five patients were allocated to Group 1 (eccentric loading), 25 patients were allocated to Group 2 (repetitive low-energy shock wave therapy).

Analysis was on an intention-to-treat basis. Primary follow-up was at 4 months, afterwards patients were allowed to cross over. The last follow-up was at one year after completion of the initial treatment. The patients were assessed for pain, function and activity using a validated questionnaire (the VISA-A).

Results:

At 4 months from baseline, the VISA-A score had increased in both groups, from 53 to 62 points in Group 1, and from 53 to 80 points in Group 2. The pain rating decreased in both groups, from 7 to 5 points in Group 1, and from 7 to 3 points in Group 2.

Seven patients (28%) in Group 1, and sixteen patients (64%) in Group 2 reported that were "completely recovered" or "much improved". For all outcome measures, Group 1 and 2 differed significantly in favour of shock wave therapy. At 4 months, 18 of 25 patients from Group 1 opted to cross over, as did 9 of 25 patients from Group 2. The favorable results after shock wave therapy at 4 months were stable at 1-year follow-up.

Discussion:

Eccentric loading as applied showed inferior results to low-energy shock wave therapy as applied in patients with chronic recalcitrant tendinopathy of the insertion of the Achilles tendon at 4 months of follow-up.

Conclusion:

Further research is warranted to better define the indication of this treatment modality.