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Efficacy of Early Controlled Motion of the Ankle Compared with No Motion in Non-Operative Treatment of Patients with an Acute Achilles Tendon Rupture: An Assessor Blinded Randomized Controlled Trial

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Summary:
The study investigated in an RCT if early controlled ankle motion (ECM) was superior to immobilization (IM) in the non-operative treatment of acute Achilles tendon rupture. ECM revealed no benefit to IM in any of the investigated outcomes. A re-rupture rate of 10% was seen and both groups had significant functional deficits in the injured limb.

Abstract:

Background

Early controlled ankle motion (ECM) is widely used in the non-operative treatment of acute Achilles tendon rupture although its safety and efficacy has never been investigated in a randomized setup.

Purpose/aim of the study
To investigate if ECM of the ankle was superior to immobilization (IM) in the treatment of acute Achilles tendon rupture.

Materials And Methods

The study was performed as an assessor blinded randomized controlled trial with patients allocated in a 1:1 ratio to one of two parallel groups. Patients aged 18 to 70 years were eligible for inclusion. The ECM group performed movements of the ankle 5 times a day from week 3 to 8 after rupture. The control group was immobilized (IM). The primary outcome was the Achilles tendon Total Rupture Score (ATRS) evaluated at 1 year post-injury. Secondary outcomes were: heel-rise-work test, Achilles tendon elongation and rate of re-rupture. Analysis was conducted as intention-to-treat with imputation of missing data. The full trial protocol was published in Trials Journal in 2016. ClinicalTrials.gov, identifier: NCT02015364.

Findings

Results

189 patients were assessed for eligibility from February 2014 to December 2016. 130 were randomized and 122 available for 1 year follow up; 64 ECM and 58 IM. There was no statistically significant differences ($p>0.3$) between the ECM and the IM groups at 1 year; Mean (SD) ATRS was 74 (18) and 75 (18), respectively, the Heel-rise-work-test

Paper #121

showed a total work performed of the injured limb (percent of uninjured) of 60% (21) and 60% (21), respectively, elongation was 18mm (13) and 16mm (11), respectively. Correspondingly, there were 6 and 7 re-ruptures.

Conclusions

ECM revealed no benefit to IM in any of the investigated outcomes. A re-rupture rate of 10% was seen and both groups had significant functional deficits in the injured limb.