Aggressive early mobilization and weight-bearing in non-operative treatment of acute Achilles tendon rupture may increase the risk of rerupture – a cohort study

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Background

The best treatment of acute Achilles tendon rupture remains unclear. Even within non-operative treatment regimes, it remains uncertain when mobilization and weight bearing can be instituted without increased risk of rerupture.

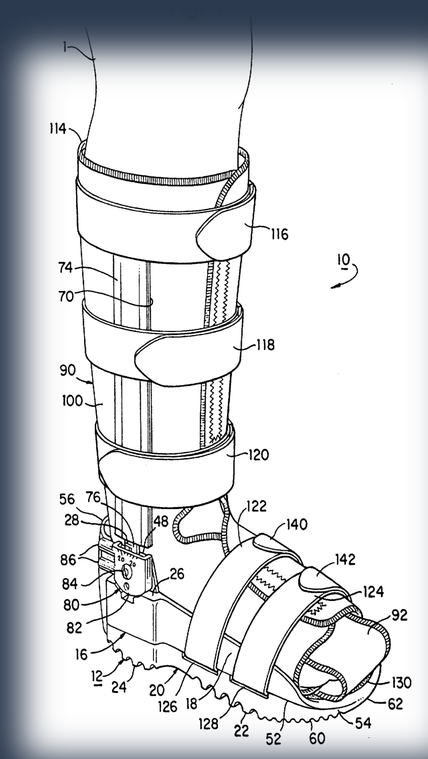
Purpose / Aim of study

In the present retrospective cohort study, two non-operative treatment regimens were compared in terms of rerupture risk and non-union.

Materials and Methods

Between 2008 and 2014 the standard treatment protocol at Horsens Regional Hospital in Denmark for an acute Achilles tendon rupture was nonoperative. February 1st 2012, this protocol was changed from Treatment A (non-weight-bearing equinus ***cast*** for the first *three* of 8 weeks) to Treatment B (non-weight-bearing equinus *boot* for the first *two* of 8 weeks). The treatment protocols were otherwise mainly alike. From the diagnostic coding of Achilles tendon rupture and surgical coding in the digital patient records, the patients with an acute Achilles tendon rupture/rerupture and their treatment were identified. Based on the time of diagnosis, the Relative Risk for rerupture was calculated for the two different treatment protocols A and B.

A vs B



Findings / Results

Between 2008 and 2014, 389 patients were registered with an acute Achilles tendon rupture at Horsens Regional Hospital. Treatment A was given to 183 patients from 2008-2012. Treatment B was given to 179 patients from 2012-2014. Twenty-seven patients opted for primary surgery (Treatment C). Treatment A had 1 rerupture and 1 tendon nonunion versus Treatment B with 8 reruptures and 2 tendon non-unions (RR=4,9, p=0,039), most of which were treated with secondary surgical reconstruction. Treatment group C had 0 reruptures and 0 tendon non-union.

Discussion

Immobilization in a fragile cast is personnel-demanding, takes longer time and may therefore give the impression of a more serious regimen; thereby increasing patient awareness to non weight bearing compliance.

Immobilization in a Walker Boot fitted with a rocker bottom sole may signal that weightbearing is OK, although the patient is instructed otherwise.
Plantarflexion seems to occur as much in the midfoot as in the ankle.

Table

	n	re-ruptures	non-unions
A (cast)	183	1	1
B (boot)	179	8	2

RR = 4,9 (p=0,039)

Conclusion

Aggressive early mobilization and weight bearing in non-operative treatment of acute Achilles tendon rupture may increase the risk of Achilles tendon rerupture.

Disclosures: None

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