

Radial shockwave therapy (RSWT) for the treatment of achilles tendonitis

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Introduction:

The term Achilles tendonitis means a combination of paratendinosis and tendinosis of the achilles tendon (Puddu et al. 1976). The sport induced degenerative process is located 2-7 cm proximal to the calcaneal Achilles tendon insertion. In general treatment is conservative and can lead to excellent results in 67 % (Clement 1967).

In orthopedics extracorporeal shock wave therapy is introduced for a variety of insertional tendonitis as plantar fasciitis and tennis elbow.

Results of extracorporeal shock wave therapy for the treatment of non insertional degenerative tendon diseases have not been published so far. This paper therefore presents a prospective pilot study of Radial shock wave therapy (RSWT) in athletes Achilles tendonitis.

Material and methods:

32 athletes, suffering from achilles tendonitis (AT) were included. These patients did not respond to at least two different conservative treatment approaches during three months preceding RSWT. Thus RSWT was applied instead of surgery.

Patients were treated in five sessions with 2,000 impulses each using the Swiss DolorClast® (EMS, Konstanz, Germany). The pain center was localized by biofeedback. Follow up was done at 1, 4, 12, 26 and 52 weeks.

Evaluation was performed using a new developed, semiobjective pressure device (DolorMeter) and visual analogue scale (VAS) as well. Pain intensity while performing sport activities, pain intensity resulting from a standardized pressure of 30 N and the time interval until running induced pain were registered.

Results:

Pretreatment value for pain induced by 30 N local pressure (DolorMeter) was $6,7 \pm 3,1$ cm VAS. One week and one year follow up were $2,3 \pm 3,3$ cm VAS and $0,7 \pm 2,2$ cm VAS (both $p < 0,05$) respectively. Pain intensity while performing sport activities was $7,5 \pm 1,6$ cm VAS before treatment and $1,8 \pm 2,2$ cm VAS (one week follow up) and $0,6 \pm 1,2$ cm VAS (one year follow up, both $p < 0,05$). Untreated athletes could run $14 \pm 18,5$ min without Achilles tendon pain. After RSWT running induced pain started after 63 ± 37 min (one week follow up) and after $104 \pm 34,3$ min (one year follow up).

Discussion:

Controlled studies, using a prospective and randomized design are not available for any conservative and operative treatment modalities in athletes Achilles tendonitis treatment. The encouraging results of this prospective pilot study on RSWT effects in non insertional Achilles tendonitis should lead to further research using a controlled and randomized design.