



Radial shockwave Therapy in Chronic Rotator Cuff Tendonitis of the Shoulder

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Introduction.

Extracorporeal shock wave therapy (ESWT) is a new treatment modality in chronic tenoperiosteal inflammatory disease. Most devices produce focused shock waves, necessitating imaging of calcification or localised tendonitis.

In literature, several clinical effect studies have been published, suggesting therapeutic effect. Especially, in plantar fasciitis, ESWT has proven to be useful.

In tendonitis calcarea of the shoulder ESWT has shown effect on the existing calcification, i.e. desintegration of calculi and consequently reduction of symptoms. In chronic tendonitis without calcification the effectiveness of ESWT is not clear. Despite positive results described in several studies, scientific based evidence is lacking. A recent study showed no effect of focused ESWT in this group of patients (Schmitt, JBJS 83-B, 873-876, 2001).

In the Netherlands ESWT is not an accepted treatment option yet, due to poor scientific clinical evidence of its therapeutical effect.

In preparation for a prospective, randomised study, we performed a pilot study, to evaluate the results of treatment of chronic rotator cuff tendonitis with radial ESWT (Swiss Dolorclast R). This device produces a radial shock wave, which emerge radial in the inflamed tissue. Imaging procedures to localise calcifications during treatment sessions are therefore not obligatory.

Patients/ method.

We treated 38 patients with chronic rotator cuff tendonitis (14 women, 24 men, mean age 40.6 yrs). All patients had signs of supraspinatus tendonitis (painful abduction, positive empty can test). A considerable amount of patients (29%) also had signs of impingment. One patient had small rotator cuff rupture. He was a high level volleyball player and was treated symptomatically. There were 15 patients with radiographic proved calcifications in the rotator cuff.

Patients were treated with the Swiss Dolorclast, generating radial shock waves. The region of the supraspinatus was treated in a horseshoe fashion around the acromion. Patients were treated in one or more treatment sessions (1 – 5 / mean 3.3). Per session 2000 impulses / 2 Bar (0.06 mJ/mm²) were applicated without use of local anesthesia. Ice application was given after each treatment session. Follow-up was at least three months after the last treatment session.

Results.

About half of the patients (55%) were free of complaints and had a normal range of motion after treatment (21 patients). In 24 % (9 patients) a considerable reduction of complaints was found (75-80% improvement according VAS-registration of pain and function). In 8 patients (21%) no improvement was found. Three of them are scheduled now for operative treatment. In 8 patients (21%) complications occurred (haematoma 2, acute bursitis 2, fainting 2, unbearable pain 2).

Conclusion.

ESWT is a new treatment modality in chronic tendonitis of the rotator cuff, which shows clinical effect. Although preliminary results seems promising, solid scientific evidence is still lacking. In our study we found positive effects of ESWT- treatment in 79% of the patients, however follow-up is relatively short. These results encouraged us to further evaluation the effect of ESWT in patients with chronic rotator cuff tendonitis. Recently a multicentre, prospective, randomised, double blinded and placebo-controlled study has started to investigate the clinical importance of ESWT in these patients.

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