

Focused Extracorporeal Shock Wave Therapy in Calcifying Tendinitis of the Shoulder: A Meta-Analysis

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Abstract

Background: The objective of this study is to assess the effectiveness of extracorporeal shock wave therapy in the management of calcifying tendinitis of the shoulder. Furthermore, a dose–response relationship was sought as a secondary confirmation of effectiveness.

Hypothesis: Focused extracorporeal shock wave therapy has a high, dose–responsive effectiveness in the management of calcifying tendinitis of the shoulder.

Study Design: Meta–analysis.

Methods: Studies were identified from online databases (MEDLINE, EMBASE, and Cochrane Controlled Trials Register), manual searches, and personal communication with experts in the field. After assessment of heterogeneity, a random effects model was generated. The primary end points were identified as pain and function by using the visual analog scale and the Constant–Murley Score, respectively. These end points were pooled and the weighted mean differences and 95% confidence intervals were estimated. Odds ratios of the secondary end point deposit resorption were pooled.

Results: In 14 studies, shock wave therapy led to a significantly higher reduction of pain (weighted mean difference, –2.8 points; 95% confidence interval, –4.2 to –1.5 points) and improvement of function (weighted mean difference, 19.8 points; 95% confidence interval, 13.4–26.3 points), compared to other treatments and placebo. High–energy treatment produced significantly better results than low–energy treatment for pain reduction (weighted mean difference, 1.7 points; 95% confidence interval, 0.7–2.6 points) and improvement of function (weighted mean difference, 10.7 points; 95% confidence interval, 7.2–14.1 points). These results are consistent with a dose–response relationship supporting the effectiveness of shock wave therapy.

Conclusion: Shock wave therapy for calcifying tendinitis of the shoulder is effective in pain relief, function restoration, and deposit resorption; however, these conclusions are susceptible to bias arising from the limitations of the included studies.