Extracorporeal shock wave therapy for chronic painful heel syndrome: a prospective, double blind, randomized trial assessing the efficacy of a new electromagnetic shock wave device.

Abstract:

Published data describing the efficacy of extracorporeal shock wave therapy for the treatment of plantar heel pain provide conflicting results, and optimal treatment guidelines are yet to be determined. To assess the efficacy and safety of extracorporeal shockwave therapy compared with placebo in the treatment of chronic painful heel syndrome with a new electromagnetic device, we undertook a prospective, double-blind, randomized, placebo-controlled trial conducted among 40 participants who were randomly allocated to either active, focused extracorporeal shockwave therapy (0.25 mJ/mm²) or sham shockwave therapy. Both groups received 3 applications of 2000 shockwave impulses, each session 1 week apart. The primary outcome was the change in composite heel pain (morning pain, pain with activities of daily living, and pain upon application of pressure with a focal force meter) as quantified using a visual analog pain scale at 12 weeks after completion of the interventions compared with baseline. Secondary endpoints included changes in morning pain, pain with activities of daily living, and pain upon application of pressure with a focal force meter, as measured on a visual analogpain scale, as well as the change in the Roles and Maudsley score, at 12 weeks after the baseline measurement. Active extracorporeal shockwave therapy resulted in a
73.2% reduction in composite heel pain, and this was a 32.7% greater reduction than that achieved with placebo. The difference was not statistically significant (1-tailed Wilcoxon Mann-Whitney U test, P = .0302), but reached clinical relevance (Mann-Whitney effect size = 0.6737). In regard to the secondary outcomes, active extracorporeal shockwave therapy displayed relative superiority in comparison with the sham intervention. No relevant adverse events occurred in either intervention group. The results of the present study support the use of electromagnetically generated extracorporeal shockwave therapy for the treatment of refractory plantar heel pain.