



Extracorporeal Shockwave Therapy in the Treatment of Chronic Plantar Fasciitis

Magdy Husseiny, Ahmad Mansour

Rheumatology & Rehabilitation Department Faculty of Medicine, Zagazig University, Source: Zagazig University Medical Journal, 2009; 15(1) 73-82

EGYPT

Pain reduction by **more than 60%**

TITLE: EXTRACORPOREAL SHOCKWAVE THERAPY IN THE TREATMENT OF CHRONIC PLANTAR FASCIITIS

Authors: Magdy Husseiny Ahmad Mansour
Affiliation: Rheumatology & Rehabilitation Department Faculty of Medicine, Zagazig University
Source: Zagazig University Medical Journal, 2009; 15(1) 73-82

Abstract:

Patients with plantar fasciitis (PF) typically describe their pain after getting out of bed in the morning or after a period of inactivity. They state that the pain decreases after walking on the foot for a while. Most patients tolerate the condition before seeking medical help. Present conservative treatments for plantar fasciitis include rest, physical therapy, heel cushion, non steroidal anti-inflammatory drugs, corticosteroid injections, taping, orthotics, shoe modifications, night splinting, and cast. A fairly new method of treatment is extracorporeal shock wave therapy (ESWT). Despite numerous publications and clinical trials, one orthopedic application of extracorporeal shockwave therapy (ESWT), which still remains highly equivocal, is the treatment of chronic plantar fasciitis. The aim of this work was to determine the role of the extracorporeal shockwave therapy in the treatment of recalcitrant chronic plantar fasciitis. This study was carried out on 50 patients suffering from chronic plantar fasciitis resistant to conservative therapies for at least 6 months. They were collected from outpatient clinic of Physical Medicine & Rehabilitation department, King Saad Hospital, Quesna, Matruh region, North Sinai (SCG). All patients were assessed according to the inclusion and exclusion criteria in the study protocol. Absence of cuboidal fracture, bony abnormality and other pathology was confirmed with lateral radiograph prior to treatment. Subjects were divided into two groups. Active group included 50 patients (20 males and 30 females) with a mean age of 52.8 (± 5) years and the control group comprised 50 patients (22 males and 28 females) with a mean age of 47.7 (± 8) years. Active group received Low Energy Shock Wave Therapy that was applied in four sessions at weekly interval using 2000 impulses (pressure 2.1-2.5 bar, frequency 10-15 Hz) with an average energy flux density of 0.02 to 0.33 mJ/cm². No anesthesia was used. The control group received placebo treatment of only 20 shocks with a negligible energy density of 0.02 mJ/cm². An assessment of pain by means of visual analogue scale (VAS) ranging from zero (no pain) to ten (maximal pain) was established at 4 weeks, 8 weeks, and three months after treatment. BT₁-5000 ESWT device with was used for ESWT (pressure 1.5 bar, frequency 10 Hz). All treatments were performed according to instructions in operating manual. With respect to the outcome measure, a statistically significant difference was found in the change from baseline to 3 months in the VAS scores of the treated versus placebo group (p<0.005). In the Active group, the mean pain score decreased from 7.8 to 3.6 at 3 months (p<0.005), resulting in a mean percentage improvement 49.2%. In the placebo group, the mean pain score decreased from 7.8 to 5.4 at 3 months (p<0.005), a mean percentage improvement 32.2%. In the Active group, 49.2% (29 of 60) of the subjects achieved greater than 40% improvement in pain, and in the Placebo group only 29.2% (12 of 50) met the same criteria. ESWT is a non-invasive, safe and effective treatment for recalcitrant plantar fasciitis.

ESWT is a non-invasive, safe and effective treatment for recalcitrant plantar fasciitis.

Abstract:

Patients with plantar fasciitis (PF) typically describe their pain after getting out of bed in the morning or after a period of inactivity. They state that the pain decreases after walking on the foot for a while. Most patients tolerate the condition before seeking medical help. Present conservative treatments for

plantar fasciitis include rest, physical therapy, heel cushion, non steroidal anti-inflammatory drugs, corticosteroid injections, taping, orthotics, shoe modifications, night splinting, and cast. A fairly new method of treatment is extracorporeal shock wave therapy (ESWT).

Despite numerous publications and clinical trials, one orthopedic application of extracorporeal shockwave therapy (ESWT), which still remains highly equivocal, is the treatment of chronic plantar fasciitis. The aim of this work was to determine the role of the extracorporeal shockwave therapy in the treatment of recalcitrant chronic plantar fasciitis.

[Menu](#)[International, English](#)

Physical Medicine & Rehabilitation department, King Saud Hospital, Onaizah, AlQassim region, Saudi Arabia (KSA). All subjects were assessed according to the inclusion and exclusion criteria in the study protocol. Absence of calcaneal fracture, bony abnormality and other pathology was confirmed with lateral radiograph prior to treatment. Subjects were divided into two groups.



Active group included 60 patients (20 males and 40 females) with a mean age of 52.1 ± 8.5 years and the control group comprised 30 patients (12 males and 18 females) with a mean age of 47.7 ± 7.8 years. Active group received Low Energy Shock Wave Thereby that was applied in four sessions as weekly interval using 2000 impulses (pressure 2.5-3.5 bar, frequency 10-15 Hz) with an average energy flux density of 0.02 to 0.33 mJ/mm². No anesthesia was used.

The control group received placebo treatment of only 20 shocks with a negligible energy density of 0.02 mJ/mm². An assessment of pain by means of visual analogue scale (VAS) ranging from zero (no pain) to ten (maximal pain) was established at 4 weeks, 8 weeks, and three months after treatment. BTL-5000 SWT basic unit was used for ESWT (pressure 1-5 bar, frequency 1-15Hz). All treatments were performed according to instructions in operating manual.



With regard to the outcome measure, a statistically significant difference was found in the change from baseline to 3 months in the VAS scores of the treated versus placebo group ($p < 0.01$). In the Active group, the mean pain score decreased from 7.8 to 3.8 at 3 months ($p < 0.001$), resulting in a mean percentage improvement 49.7%. In the placebo group, the mean pain score decreased from 7.8 to 5.4 at 3 months ($p < 0.001$), a mean percentage improvement 32.1%. In the Active group, 48.3% (29 of 60) of the subjects achieved greater than 60% improvement in pain, and in the Placebo group only 23.3% (12 of 30) met the same criteria. ESWT is a non-invasive, safe and effective treatment for recalcitrant plantar fasciitis.

[More professional studies](#)[HOME](#)[SHOCKWAVE
THERAPY](#)[SCIENTIFIC
SUPPORT](#)[REFERENCES &
TESTIMONIALS](#)[NEWS &
EVENTS](#)[ABOUT
US](#)[CONTACT
US](#)

© 2019, BTL. All rights reserved.
| [Privacy Statement](#) | [GDPR](#)