

An 8-year retrospective study of the treatment outcome and safety of focal Extracorporeal Shockwave Therapy

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Introduction

Focal extracorporeal shockwave therapy (fESWT) has been increasing used to relief pain and promote tissue healing in sports and chronic pain syndromes with introduction of the modality for new indications in clinical practice. Over the past 8 years, fESWT has consistently been shown to be effective on fasciopathy, calcific and non-calcific tendinopathy, healing of small fractures (non-healing and delayed healing) and impingement syndromes (shoulder, knee and ankle). Despite conventional approved indications, there is a need to evaluate the effect of fESWT in other common sports injuries and musculoskeletal pain syndromes. For the past 8 years, fESWT has been used to relief pain and facilitate rehabilitation in conditions like AC joint osteoarthritis, lateral epicondylopathy with intrasubstance tears, plantar fasciopathy with intrasubstance tears and knee Hoffa fat pad impingement syndromes and focal cartilage lesions in the knee and ankles. The aim of this study is to determine the effect of fESWT on sports related injuries and musculoskeletal pain syndromes amongst athletes and non-athletes.

Material & Method (please include the kind of device you are using)

A retrospective analysis of fESWT treatment at the Aspetar Orthopaedic and Sports Medicine Hospital from 2015 to 2022. An Orthogold 100 device was utilised with 3 separate applicators for various tissue type and indications i.e. OE50 (bone, joint and tendon), OE35 (tendon, fascia), OP155 (tendon, fascia, fat pad, tissue inflammation). Pain and pain change was assessed using VAS (1-10), patient perceived outcome (5-point likert scale) and Farrar score for change (7-point likert scale).

Results

In this study, 910 patients (496 females) had 1793 treatment visits (66% non-athletes, 34% athletes). Around 40.0% of the treatment were for foot, followed by ankle (18.4%), knee (14.6%) and shoulder (11.6%). 88.6% needed only one or two treatments. The tissue types treated were fascia (38.1%), tendon (36.8%), joint (16.1%), bone (10.9%) and others (9.2%). Immediately post-treatment, most patients (89.9%) reported minimum, much improved or very much improved, whereas 10.2% were unchanged or worse. The average pre- and post-treatment VAS was 5.05 ± 2.2 and 2.432 ± 2.1 respectively with an average VAS reduction of 2.6 ± 1.7 , $p < 0.0001$. They were 7 incidences of erythema, 5 temporary increased pain, two swelling and one bruising.

Discussion

fESWT is a useful alternative treatment for sports injuries and musculoskeletal pain syndromes and has been found to be useful help expedite return to sports in athletes and non-athletes. The treatment provides good short-term effect and is safe even in newer indications. However, more studies are needed to determine the long term effect of fESWT in these conditions.

Technology: Focused Shockwave

Device and Company: Orthogold 100, MTS

COI: No conflict of interest