

**Analysis of Extracorporeal Shock Wave Treatment For Chronic Resistant Plantar Fasciitis**Kalyan Kumar H<sup>1</sup>, Harikrishna Koya<sup>2</sup>, Supraja Movva<sup>3</sup>, G. Siva Srikar<sup>4</sup>, Satya Kumar Koduru<sup>5\*</sup><sup>1</sup>*Asst. Professor Department of Orthopaedics, NRI Academy of Sciences, Chinakakani, Guntur (DT), Andhra Pradesh, India*<sup>2</sup>*Prof., Department of Orthopaedics, NRI Academy of Sciences, Chinakakani, Guntur (DT), Andhra Pradesh, India*<sup>3</sup>*Consultant, Ob & Gy, Rainbow Hospitals, Vijayawada, India*<sup>4</sup>*Junior Resident, Department of Orthopaedics, NRI Academy of Sciences, Chinakakani, Guntur (DT), Andhra Pradesh, India*<sup>5</sup>*Prof & Head, Department of Orthopaedics, NRI academy of Sciences, Chinakakani, Guntur(DT), Andhra Pradesh, India***Received: 26-10-2020 / Revised: 18-11-2020 / Accepted: 16-12-2020****Abstract**

**Background:** The application of extracorporeal shockwave therapy (ESWT) in musculoskeletal disorders has been around for more than a decade and is primarily used in the treatment of sports related over-use tendinopathies such as proximal plantar fasciitis of the heel, lateral epicondylitis of the elbow, calcific or non-calcific tendonitis of the shoulder and patellar tendinopathy etc.,. **Aim & objective of the present study** is to analyze the outcome of extracorporeal shock wave treatment (ESWT) in chronic resistant plantar fasciitis. **Methods:** In the present study, Variations in symptoms were evaluated by visual analogue scale (VAS) **Results:** Results revealed that mild decrease of VAS was seen just after the end of the treatment, but a significant reduction was seen after one month. **Conclusion:** ESWT, thus shockwave therapy seems a safe alternative for management of chronic plantar fasciitis.

**Keywords:** ESWT, VAS, Plantar fasciitis, Epicondylitis.

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**Introduction**

Painful heel is a common syndrome characterised by severe pain in the inferior or posterior aspect of the heel, which is aggravated by weight bearing, becoming progressively worse and often incapacitating, with evidence of a spur in about 50% of cases.[1] Until now the cause of the condition has been obscure, but numerous factors have been claimed to produce painful heel with a bony spur: functional overuse, degenerative diseases, inflammatory diseases, and metabolic diseases.[2]

The conservative methods of treatment usually adopted have included insole supports, injections of local anaesthesia and corticosteroids, and treatment with antiphlogistic drugs.[3 4]

Extracorporeal shock wave treatment (ESWT) is based on the use of shock waves—that is, microsecond pressure impulses, which, depending on the energy used, can reduce painful symptoms and fragmentation of calcific deposits.[1, 5-7]

Our study aimed at evaluating the effects of ESWT on pain levels and morphological variations in enthesophytosis and in enthesitis.

**Materials and Methods****Inclusion criteria**

Was pain over the radiologically examined heel spur and unsuccessful conservative treatment (insole supports, injections of local anaesthetics and corticosteroids, treatment with analgesics and non-steroidal anti-inflammatory drugs) during the six months before referral to our hospital. All patients had used analgesic and non-steroidal anti-inflammatory drugs, 25 patients from group 1 (treatment group) and 28 patients from group 2 (control group) used insole supports, 15 patients from group 1 and 19 patients from

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group 2 had received injections of local anaesthetics and corticosteroids.

### Exclusion criteria

Were arthritis (rheumatoid arthritis, spondylarthritis, crystal induced arthropathies), neurological abnormalities, nerve entrapment syndrome, pregnancy, age under 18 years, infectious or tumorous diseases, skin ulcerations, and bursitis.

All patients were informed of, and consented to, the treatment methods. No other treatment or drug was used during the four weeks before the trials began or during the study period. During the periods of treatment and follow up only the use of insole supports was permitted.

### Methodology

We evaluated 18 patients (24 ); 10 patients were male and 08 female with age varying from 36 to 62 y; 12 present the problem on the left side, 06 on the right ones and 6 cases bilateral; the symptomatology varied from 6 to 24 months, These patients were submitted to 3 ESWT sessions per week for 2-3 weeks. Few cases went up to 10 sessions for relief of pain. we applied American Orthopaedic Foot and Ankle Society

(AOFAS) scale for ankle and hind foot, and Roles & Maudsley scales in pre ESWT, after one, three and six months after treatment

### Results and Discussion

18 out of 24 heels had more than 85% relief of morning pain & rest pain.

4 heels had low satisfaction in the means of pain while doing daily activities.

1 case with bilateral involvement had no relief.

Although plantar fasciitis is considered to be self-limiting, chronic cases are recalcitrant and do not respond to routine conservative treatment [7, 8]. Some previous studies have reported that corticosteroid injections have similar or better efficacy than other treatments in treating chronic plantar fasciitis.[9] Similarly, the efficacy of ESWT in the treatment of chronic plantar fasciitis has also been investigated recently and is usually recommended.[10] The optimal treatment, however, is still remains to be determined. Results revealed that mild decrease of VAS was seen just after the end of the treatment, but a significant reduction was seen after one month.



Fig 1. ESWT



Fig 2. Procedure of ESWT

**Conclusion**

The ESWT can be considered an important treatment in the primary or adjuvant treatment of the chronic resistant plantar fasciitis. This is A safe, non-invasive modality and provides return to regular activities as soon as possible i.e 2-3 weeks. Since this technique is non invasive it is recommended in any age group who are fed up with conventional methods of treatment. ESWT is safe and improves the symptoms of most patients with a painful heel; it can also structurally modify enthesophytosis, and reduce inflammatory oedema.

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