EFFECTIVENESS OF SHOCK WAVE THERAPY Vs ULTRA SOUND THERAPY IN PATIENTS WITH PLANTAR FASCIITIS – A REVIEW STUDY

AUTHER NAMES :

1. Ms TALLAM PREETHI (BPT 4TH YEAR)
2. Dr DEEPAK JAIN (MPT , PT) , LECTURER
3. Dr RAJENDRA KACHUWAHA (PT , PhD) PRINCIPAL

NARAYANA HRUDAYALAYA INSTITUTE OF PHYSIOTHERAPY ,

#258/A , BOMMASANDRA INDUSTRIAL AREA ,

BANGALORE – 560083 .

ABSTRACT

EFFECTIVENESS OF SHOCK WAVE THERAPY Vs ULTRASOUND THERAPY IN PATIENTS WITH PLANTAR FASCIITIS – A REVIEW STUDY .

Objective :

To compare the outcomes of Extracorporeal Shockwave Therapy (ESWT) versus Ultrasound Therapy (UST) in plantar fasciitis.

Methods : A systematic review study was done . An electronic search identifying studies comparing ESWT and UST for plantar fasciitis was conducted. Primary outcomes were morning and activity pain, functional impairment and the American Orthopedic Foot and Ankle Society (AOFAS) scale score. Secondary outcomes included fascial thickness, primary efficacy success rate, activity limitations, pain intensity and satisfaction.

Research Method : Research was performed in google scholar , online journal and pub med. A review of 20 articles of different types including randomized control trial was done to see effectiveness of SWT in treating plantar fasciitis .

Results : Collected 20 article related to SWT & UT for the review study . No significant difference was found between ESWT and UST for functional impairment (Mean Difference [MD]= -2.90, P= 0.22), AOFAS scale score (MD= 35, P= 0.20) and pain in the first steps in the morning (MD= -4.72, P= 0.39). However, there was a significant improvement in pain during activity for the ESWT group (MD= -1.36, P= 0.005). For secondary outcomes, ESWT had improved results in terms of primary efficacy success rate, activity limitations and patient satisfaction. Reduction of planter fascia thickness showed no significant difference. Pain intensity after treatment had varied results amongst included studies.

Conclusion : Extracorporeal shock wave therapy is superior to Ultra sound therapy for plantar fasciitis as it improves pain activity and intensity, primary efficacy success rate and activity limitations.

INTRODUCTION:

Plantar fasciitis is a disorder of the connective tissue which supports the arch of the foot . It results in pain in the heel and bottom of the foot that is usually most sever with the first steps of the day or following a period of rest . Pain is also frequently brought on by *Behind the foot and toes up towards the shin* . The pain typically comes on gradually , and it affects both in about one-third of cases.

The cause of plantar fasciitis is not entirely clear. Risk factors include overuse, such as from long periods of standing, an increase in exercise, and obesity. It is also associated with inward rolling of the foot, a tight Achilles tendon, and a sedentary lifestyle. It is unclear if heel spurs have a role in causing plantar fasciitis even though they are commonly present in people who have the condition. Plantar fasciitis is a disorder of the insertion site of the ligament on the bone characterized by micro tears, breakdown of collagen, and scarring. Since inflammation plays either a lesser or no role, a review proposed it be renamed plantar fasciosis. The presentation of the symptoms is generally the basis for diagnosis; with ultrasound sometimes being useful if there is uncertainty. Other conditions with similar symptoms include osteoarthritis, ankylosing spondylitis, heel pad syndrome, and reactive arthritis.

Most cases of plantar fasciitis resolve with time and conservative methods of treatment. For the first few weeks, those affected are usually advised to rest, change their activities, take pain medications, and stretch. If this is not sufficient, physiotherapy, orthotics, splinting, or steroid injections may be options. If these measures are not effective, additional measures may include extracorporeal shockwave therapy or surgery.

AIMS & OBJECTIVE :

A review to compare the effectiveness of shock wave therapy vs ultrasound in treatment of plantar fasciitis .

RESEARCH METHOD AND METHODOLOGY:

METHOD :

Research was reviewed in google scholar , online journal and pub med. A review of 20 articles of different types including randomized control trial was done to see effectiveness of SWT Vs UT in treating **plantar fasciitis .**

STUDY DESIGN : SYSTEMIC REVIEW .

A REVIEW TO COMPARE THE EFFECTIVENESS OF SHOCK WAVE THERAPY Vs ULTRASOUND THERAPY IN PATIENTS WITH PLANTAR FASCIITIS.

A review study design was adopted for this study . The review study is done on the basis of the previous proved and published articles . I have collected 20 related articles for this study on patients with planter fasciitis .

STUDY SETTING :

Department Of Physiotherapy , Narayana Hrudayalaya foundation , Bangalore , Karnataka .

STUDY DURATION : One year .

RESULT AND DISCUSSION :

Among the 20 articles collected for review study , 16 of them describe the advantages of using Shock wave therapy vs Ultra sound therapy for treating the plantar fasciitis . according to the study there is more relief of plantar pain . this treatment of Shock wave therapy has proved in improving the quality of life of the person suffering with plantar fasciitis .

The pre and post test results of the primary outcome showed the remarkable differences . At the end of the session there for the Foot function index pain scale showed reduction in pain . It showed that the pain where the patient was suffering with first few steps after rest reduced . This made person live happy life without pain .

One of the article mentioned the uses and safety of Shock wave therapy .

TREATMENT FOR PLANTAR FASCIITIS :

Treatment modalities for plantar fasciitis can be either conservative or surgical. Conservative treatments include night splints, orthotic devices, cast immobilization for 4 to 6 weeks, oral non-steroid anti-inflammatory drugs (NSAIDs), corticosteroid injections, stretching exercises, or the use of physical therapy methods. Physical therapy modalities most commonly used for plantar fasciitis are laser therapy, ultrasound therapy, iontophoresis and extracorporeal shock wave therapy. Finally, surgery is recommended as a last resort after at least 12 months from the onset of the disease and when other conservative methods of treatment have failed .

Orthotic devices and specific taping techniques may reduce pronation of the foot and therefore reduce load on the plantar fascia resulting in pain improvement. The evidence to support the use of foot orthosis is mixed, with some suggesting short-term pain relief up to three months and others failing to confirm this benefit. The long-term effectiveness of custom orthotics for plantar fasciitis pain reduction requires additional study.

Another treatment technique known as plantar iontophoresis. This technique involves applying anti-inflammatory substances such as dexamethasone or acetic acid topically to the

foot and transmitting these substances through the skin with an electric current. Moderate evidence supports the use of night splints for 1–3 months to relieve plantar fasciitis pain that has persisted for six months .The night splints are designed to position and maintain the ankle in a neutral position, thereby passively stretching the calf and plantar fascia overnight during sleep.

Therapeutic ultrasound is a commonly used physiotherapeutic method for treating plantar fasciitis. It uses mechanical waves and its effect on tissues depends on the frequency, intensity, duration of action and the method of application used. Extracorporeal shockwave therapy (ESWT) has been widely used as an alternative method for the treatment of plantar fasciitis because it is non-invasive, its recovery time is fast and it is convenient for daily life of patients.

CONCLUSION :

In conclusion, the results of this study provide evidence that US treatment and r-ESWT treatment are effective methods to reduce pain and increase functionality in PF when combined with exercises. We determined that only a combination of r-ESWT and exercise therapy is effective in increasing the sense of ankle proprioception in PF, but a combination of US therapy with exercise and also only exercise therapy were inadequate in this regard. On the other hand, US therapy was found to be superior to r-ESWT treatment in reducing pain in PF. There was less improvement in the group receiving only exercise therapy when compared with the two other groups.

If the patient's complaints about pain are at the forefront, treatment could consist of a combination of US and exercise therapy. If there is a pain together with pathologies that disrupt the patient's biomechanical sequence, the combination of r-ESWT and exercise therapy could be preferred. Our results could be useful in the management of PF. However, mixed-gender studies on larger series comparing r-ESWT and US treatment with longer follow-up are needed.

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