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Effects of Extracorporeal Shockwave Therapy on Modification of Pain Intensity, Walking Speed, Balance and Functional Ability in Patients with Plantar Fasciitis

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Introduction

Plantar fasciitis (PF) represents the most common cause of heel pain and is believed to result primarily from repetitive micro-trauma and excessive strain. Although several remedies exist for plantar fasciitis, however, the results of the treatment were conflicting. Recently, there is increasing evidence that extracorporeal shockwave therapy (ESWT) is effective in the treatment of PF that has previously been resistant to conservative treatment.

Objectives

This study aimed to evaluate the modification of pain intensity, walking speed, balance and functional ability in patients with PF using ESWT.

Methodology

Patients with more than 3 months of heel pain were recruited into the program. The program included a structured exercise program with intervention of ESWT. The program included home advices and exercises (stretching / strengthening exercises and balance training). In addition, the subjects received 6 sessions of ESWT at weekly intervals with 2000 shocks per session after assessment accordingly. Pain intensity, walking speed, balance and functional ability were recorded before and after the program.

Result

20 patients (6 males and 14 females with age between 35 to 74) participated in the study. Numeric Global Rating Changes Scale (NGRCS) improved for approximately 76% after the program. Significant improvement was also shown in pain intensity (decreased from 7.6 to 2.1) as measured by numeric pain rating scale (NPRS). The walking speed as measured by 10 meter test (improved from 11.4s to 7.2s) and unilateral stance as tested by balance master (1.7 to 1.3 with eyes open and 3.3 to 2.6 with eyes closed respectively) were also improved. Improvement of functional ability was also reflected in the foot function index score (improved from 59.0 to 21.2). Analysis of the data showed the positive responses towards ESWT and structured exercise program as displayed in respective outcome measures for pain intensity,

walking speed, balance and functional ability particularly for those patients who failed other conservative treatment.