

A Novel Outpatient Based Combination Therapy for Plantar Fasciitis

Shailesh Kumar K N¹, Kori Geetish²

¹Assistant Professor, Department of Orthopedics, Yenepoya Medical College, Mangalore, India
²Post Graduate Student, Department Of Orthopedics, Yenepoya Medical College, Mangalore, India

Abstract: ***Aim:** To study the novel combination therapy of heel stretching, Silicon heel cushions and Calcium supplementations. **Materials and methods:** The study was conducted on 120 patients by using a convenience sampling technique who presented with heel pain without history of trauma were evaluated clinically and routine blood investigations and x-rays as and when needed. They were given Silicon heel cushions, heel stretching exercises daily along with calcium supplementations for period of 3 months and improvement in pain was assessed using VAS(visual analog score) was used to assess the outcome of the above treatment regimen. By assessing VAS on 1st presentation and VAS at the end of 3 months. Data was analyzed using MS Excel. **Results:** There was a significant reduction in the pain of the patients who had followed the above treatment regimen as indicated by significant decrease in the VAS score from mean VAS score of 4.8 at 1st presentation to mean VAS score of 0.691 3 months after the treatment. 60 % (72) patients were males and 40%(48) patients were females. **Conclusion:** Our study showed that combination therapy with usage of silicon heel cushions, heel stretching exercises along with calcium supplementation for 3 months period is an effective conservative treatment modality for plantar fasciitis with considerable reduction in symptoms.*

Keywords: Plantar fasciitis, Heel pain, Silicon heel cushions, Heel stretching

1. Introduction

Plantar fasciitis is a common cause of heel pain in adults. It is estimated that more than 1 million patients seek treatment annually for this condition, with two-thirds going to their family physician. Plantar fasciitis is thought to be caused by biomechanical overuse from prolonged standing or running, thus creating micro tears at the calcaneal entheses. Some experts have deemed this condition “plantar fasciosis,” implying that its etiology is a more chronic degenerative process versus acute inflammation.¹ Plantar heel pain is one of the most commonly occurring foot complaints treated by healthcare professionals. Wood first described plantar fasciitis in 1812 and he attributed it to tuberculosis. Since then, plantar fasciitis is known by many pseudonyms, including; jogger’s heel, heel spur syndrome, plantar fascial insertitis, calcaneal enthesopathy, subcalcaneal bursitis, subcalcaneal pain, stone bruise, calcaneal periostitis, neuritis and calcaneodynia.²

The plantar fascia is a thickened fibrous sheet of connective tissue that originates from the medial tubercle on the undersurface of the calcaneus and fans out, attaching to the plantar plates of the metatarsophalangeal joints to form the medial longitudinal arch of the foot. It provides key functions during running and walking. In general, the purpose of the plantar fascia is twofold – to provide support of the longitudinal arch and to serve as a dynamic shock absorber for the foot and entire leg. As one walks, the heel makes contact with the ground. Just after this contact, the tibia turns inward and the foot pronates, stretching the plantar fascia and flattening the arch. This allows the foot to accommodate for irregularities in the walking surface and absorb shock. In the presence of aggravating factors, the repetitive movement of walking or running can cause micro-tears in the plantar fascia. The affected site is frequently near the origin of the plantar fascia at the medial tuberosity of the calcaneus.³ The exact

cause of this syndrome is unknown. However, several factors may be involved: inflammation of the plantar fascia due to traumatic events that involve traction or shearing forces, avulsion of the plantar fascia, stress fractures of the calcaneus, compressive neuropathy of the plantar nerves, plantar spurs of the calcaneus and senile atrophy of the plantar fatty pads.⁴

2. Objective of the study

To study the novel combination therapy of heel stretching, heel cushions and Calcium supplementations.

3. Material and methods

A study conducted at Yenepoya Medical College Hospital, Mangalore, Karnataka, over a period of one year (October 2016- October 2017). A convenience sampling technique was used in this study with sample size of 120 patients. In this study, the patients who presented with heel pain were evaluated clinically and routine blood investigations along with serum uric acid were done. The patients whose blood investigations were normal were considered in a study. X-ray of foot was taken only in the patients who had past history of trauma. All the 120 patients included in the study were given Silicon heel cushions of same brand, heel stretching exercises as and when daily along with calcium supplementations 500mg once in a day was given. This regimen was followed for period of 3 months and improvement in pain was assessed using VAS (visual analog score) was used to assess the outcome of the above treatment regimen. By assessing VAS on 1st presentation and VAS at the end of 3 months of treatment of all the 120 patients and if any difference is there it was noted.

Inclusion criteria

✓Presenting with medial sided heel pain diagnosed clinically with plantar fasciitis

Volume 7 Issue 4, April 2018

www.ijsr.net

Licensed Under Creative Commons Attribution CC BY

✓ Age – 18 to 60 years

Exclusion criteria

- ✓ Patients aged below 18 years and above 60 years
- ✓ Those patients who had altered blood investigations.
- ✓ Patients with no history of trauma.

4. Results

Out of 120 patients (Figure 1), we have studied 60 % (72) patients were males and 40% (48) were females.

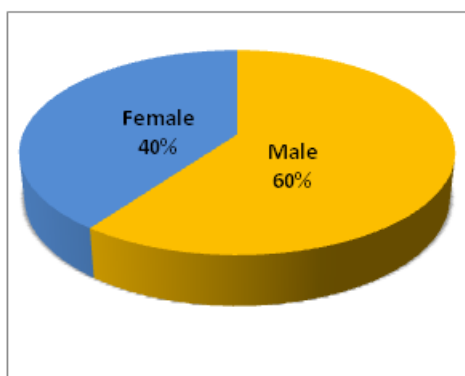


Figure 1: Shows gender distribution of the patients presented with heel pain.

Mean age of presentation was 43.2 years.

The mean VAS score at the time 1st presentation was 4.8. 12 patients had VAS of 12, 23 patients had VAS score of 4, 64 patients had VAS of 5 which was seen in 53% of patients included in the study, 18 had VAS of 6, and 3 patients had VAS of 7. least number of people were found to be with VAS of 7.

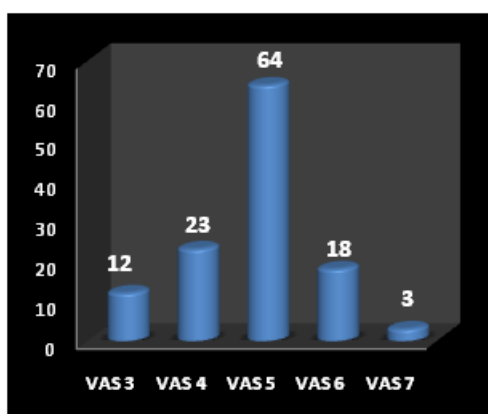


Figure 2: Showing VAS scores of patients at 1st presentation before treatment.

The mean VAS score of the patients after 3 months of treatment had reduced to 0.691. Which is a drastic improvement.

VAS score had reduced to 0 in almost 50 % (58) patients(Fig-2) Which was drastic improvement in the pain, 45(37.5%) patients had a VAS of 1, 12 patients had VAS score of 2, 3 patients had VAS of 3 and 2 patients

had VAS of 4. Out of 2 patients who had VAS of 4 had pretreatment VAS of 7.

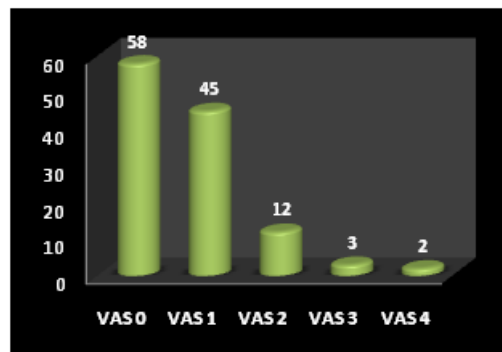


Figure 3: Showing VAS scores of patients after 3 months of treatment

5. Conclusion

Our study showed that combination therapy with usage of silicon heel cushions, heel stretching exercises along with calcium supplementation for 3 months period is an effective conservative treatment modality for plantar fasciitis with considerable reduction in symptoms.

References

- [1] James D. Goff, Do, Robert Crawford, Diagnosis and Treatment of Plantar Fasciitis, American Family Physician-September 15, 2011 Volume 84, pp 666-682.
- [2] Simon J. Bartold “Plantar heel pain syndrome: overview and management” Journal of Bodywork and Movement Therapies (2004) 8, 214–226
- [3] Singh D, Angel J, Bentley G, Trevino SG. Fortnightly review. Plantar fasciitis. BMJ 1997; 315:172-175.
- [4] Ricardo Cardenuto Ferreira “Talgia: plantar fasciitis” rev bras ortop. 2014; 49(3):213–217