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A Case Study of Management of *Vatakantaka* (Plantar Fasciitis)

Katarmal Durga Harishbhai

PhD Scholar, PG Dept of Shalya Tantra, National institute of Ayurveda, Jaipur, Rajasthan, INDIA.

ABSTRACT

Plantar fasciitis commonly known as heel pain is one of the commonest entity diagnosed in orthopaedic OPD. On the basis of clinical features which includes first step pain and stiffness, it can be correlated with *Vatakantaka*. Contemporary science offers conservative management in the form of NSAIDs, steroids and some procedures such as injection of steroidal injection at local site, iontophoresis. All these measures provide temporary relief and are associated with proven side effects. Ayurveda management in such cases can give complete cure. A 34 year old male patient came to outpatient department with chief complaints pain in left heel and foot sole since 1 month. According to him, pain was severe during first few step after waking up from bed. He was given *Agnikarma* (4 seating's at interval of 7 days) at local site and *Simhanad Guggulu* 500 mg twice daily for 30 days. The condition was completely cured without recurrence. As this was a single case study, validation with large sample size is needed before concluding that plantar fasciitis can be cured completely without recurrence through Ayurveda management.

Key words: *Plantar fasciitis, Vatakantaka, Iontophoresis, Agnikarma.*

INTRODUCTION

Plantar fasciitis is a commonly encountered disorder in orthopedic OPD's. It is an enthesopathy causing pain at medial plantar heel pain. Earlier it was believed that this is due to inflammation of plantar fascia.^[1] But recent updates have proven that this is due to chronic degenerative changes^[2] occurring due to repetitive stress. The entity can be correlated with *Vatakantaka* mentioned in ancient classics.^[3]

Incidence

The current literature is inconsistent regarding the

association between sex and plantar fasciitis, with some studies showing an increased prevalence in men,^[4,5] while others show an increased prevalence in women.^[6,7] It is estimated that 1 in 10 people will develop Plantar fasciitis during their lifetime.^[8]

Etiology

Atishrama (exertion)^[9] and walking on uneven surfaces^[10] are mentioned as causative factors for development of *Vatakantaka*. Applying this to current context, few factors^[11] are enlisted below:

- Running activities
- Obesity
- Prolonged standing
- Foot biomechanics
 - Forefoot pronation
 - Excessive or limited ankle dorsiflexion
 - Cavus arch posture
 - Varus knee alignment
 - Decreased straight leg elevation and contractures of hamstrings

Address for correspondence:

Dr. Katarmal Durga Harishbhai

PhD Scholar, PG Dept of Shalya Tantra, National institute of Ayurveda, Jaipur, Rajasthan, INDIA.

E-mail: bhanushalidurga256@gmail.com

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- Increased heel pad thickness
- History of tendinopathy or fracture
- Increased plantar fascia thickness

Considering above etiological factors, overuse or repetitive micro trauma of the tissue^[12] leading to degenerative changes is most accepted theory for occurrence of plantar fasciitis.

CASE REPORT

A 34 year old male patient came with chief complaints pain in left heel and foot sole since 1 month. According to him, pain was severe during first few steps after waking up from bed.

History of present illness

The patient was alright before 1 month. After that, the patient started feeling pain and stiffness in left heel. He visited a general practitioner and was prescribed NSAIDS which he took for 1 week but got only temporary relief and symptoms gradually increased leading to trouble in day to day routine activities. Hence he came to OPD of Shalya Tantra Department, National institute of Ayurveda, Jaipur.

Past history

- No history of tuberculosis, diabetes mellitus, hypertension, hypothyroidism, any surgery or chronic illness.

Personal history

- Occupation - General manager in a bank
- Addiction - non alcoholic, non smoker

Family history

- No evidence of this type of disease in the family.

Physical examination

- General condition - Good
- Body temperature - 98.6 F
- Blood pressure - 124/80 mmHg
- Pulse - 82/min
- Respiratory rate - 18/min

- Local examination

Thorough examination was bilateral limb was done.

- Inspection : No evidence of skin discolouration or swelling on bilateral ankle and foot sole region.
- Palpation : No evidence of tenderness in right ankle and foot sole.
- Evidence of moderate tenderness in left ankle and foot sole.
- Windlass test^[13] was positive in left lower extremity.

Diagnosis

On the basis of clinical features ,diagnosis of Plantar fasciitis was made.^[14]

MATERIALS AND METHODS

Selection of Ayurveda treatment

As per available literature, *Vatakantaka* occurs due to vitiation of *Vata Dosha* reflecting as pain and stiffness clinically in this case. So, treatment was aimed at pacification of *Vata Dosha* at systemic as well as local level. *Agnikarma*^[15] at local site along with administration of *Simhanad Guggulu* as internal medication was selected to treat the case in present study.

There is no direct reference of *Simhanad Guggulu* in the management of *Vatakantaka* but there is indication of internal administration of Castor oil in *Vatakantaka*. There always arise issue of palatability in case of plain oil consumption as internal medication so formulation containing castor oil as main ingredient was selected for the present study. *Guggulu* which is also present in *Simhanad Guggulu* in equal amount of Castor oil has anti inflammatory and analgesic action. Patient was advice to wear soft padded shoes during day to day life.

Agnikarma (Therapeutic heat burns)

Materials

- *Panchdhatu Shalaka* (Tool for therapeutic heat burn)
- Aloe vera pulp

- Haridra Churna (Turmeric powder)
- Distilled water



Photo 1: Materials required for *Agnikarma*

Diet

Patient was advised to take *Mudga Yusha* (green gram soup) in diet 2 times in a day for three days.

Pre-operative

- Sterilisation of all equipments was done.
- Informed written consent of patient was taken prior to procedure.
- Demarcation of points of maximum tenderness was done on left heel. The gap of 1 cm was kept between the points.
- *Panchdhatu Shalaka* was heated to red hot.

Operative procedure

- Position- supine
- Cleaning of local site was done with distilled water.
- *Agnikarma* was done on 7 demarcated points with the help of *Panchdhatu Shalaka*.
- Application of Aloe vera pulp was done.

Post operative

- Dusting of *Haridra Churna* was done at site of *Agnikarma*.
- Same procedure was repeated after every 7 days.

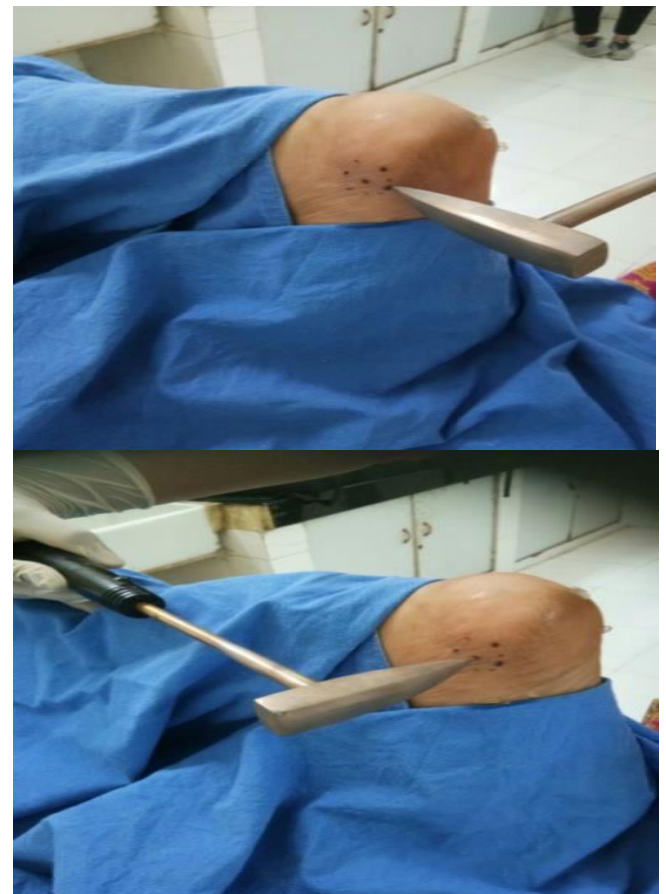


Photo 2, 3: Illustration of *Agnikarma* on 7 demarcated points by *Panchadhatu Shalaka*



Photo 4: Dusting of *Haridra churna* at site after *Agnikarma*

Active treatment period - 30 days

Patient was advised to visit at the interval of 7 days for initial 21 days as *Agnikarma* was done on 0,7,14 and 21 day.

Simhanada Guggulu was administered for 30 days in the dosage of 500mg twice daily.

Assessment criteria

During follow up visits patient was assessed on the basis of designed assessment parameters.

Table 1: Scoring of signs and symptoms.

S N	Symptom	Score			
		0	1	2	3
1.	Heel Pain	No pain	Mild discomfort	Distressing pain	Severe excruciating pain
2.	Stiffness	No stiffness	Mild stiffness	Moderate stiffness	Severe stiffness
3.	Tenderness	No tenderness	Mild tenderness	Moderate tenderness	Severe tenderness

OBSERVATIONS AND RESULTS

After initial 30 days of active treatment period, patient was assessed via telephonic conversation for recurrence of symptoms. Patient got complete relief from symptoms and there was no recurrence of symptoms in 6 months of follow up period.

Table 2: Assessment scores during Agnikarma procedure.

SN	Assessment criteria	Day 0	Day 7	Day 14	Day 21
1.	Heel pain	2	1	1	0
2.	Stiffness	2	1	1	0
3.	Tenderness	2	1	1	0

Table 3: Assessment scores before treatment and after treatment.

SN	Symptoms	BT	AT
1.	Heel pain	2	0
2.	Stiffness	2	0
3.	Tenderness	2	0

DISCUSSION

Plantar fasciitis is a musculoskeletal disorder primarily affecting fascial enthesis. It is now called as plantar fasciosis^[16] due to recent concept of degenerative change being root pathology responsible for the disorder. Diagnosis is almost always on basis of clinical features. On the basis of clinical features, entity can be correlated with *Vatakantaka*. Etiological factors mentioned in Ayurveda classics correctly coincide with present day causative factors. Histological analysis demonstrates marked thickening and fibrosis of the plantar fascia along with collagen necrosis.^[17,18] In contemporary science, condition is dealt by prescribing NSAIDs, administration of corticosteroid injections, iontophoresis. But long term outcomes of these treatment options are not satisfactory.^[19-21]

Discussion on Agnikarma

Agnikarma is indicated as one of the best treatment of pain^[22] in diseases of *Asthi* (bones), *Snayu* (tendons) and *Sandhi* (joints). It cures diseases with no recurrence.^[23] *Ushna* (hot) *Guna* (property) of *Agnikarma* acts on *Sheeta* (cold) *Guna* of *Vata Dosh* helping in relieving in pain and stiffness. *Agnikarma* improves blood circulation at local site. There occurs softening of tissue and relaxation of muscles due to heat application relieving stiffness. Therapeutic heat stimulates the lateral spinothalamic tract, leading to stimulation of descending pain inhibitory fibers, causing release of endogenous opioid peptide, which blocks the transmission of pain.^[24]

Discussion on Simhanad Guggulu^[25]

Ushna property of *Simhanad Guggulu* leads to *Vatashaman* as well as act on *Srotorodhjanya Samprapti* (obstructive pathophysiology) and removes obstruction hence relieving both pain and stiffness. Contents such as castor oil and *Guggulu* have *Vatashamak* action. *Triphala* contents which are *Haritaki*, *Bibhitaki* and *Amalaki* have *Rasayana* property by virtue of which there occurs rejuvenating effect at systemic and then at tissue level.

- Usage of soft padded shoes prevents further micro trauma of tissue.

CONCLUSION

As this is a single case study, validation with large sample size is needed before concluding that plantar fasciosis can be completely cured completely without recurrence through Ayurveda management.

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