

## MANAGEMENT OF VATAKANTAKA W.S.R TO PLANTAR FASCIITIS BY KSHAUDRA AGNIKARMA - A CASE REPORT

Pooja Kalburgi<sup>1</sup>, Aneesur Rehman Madni<sup>2</sup>, Prasadshakti Gannur<sup>3</sup>, Parameshwari<sup>4</sup>

<sup>1</sup>PG Scholar, <sup>2</sup>Associate professor, <sup>3</sup>HOD, <sup>4</sup>Assistant professor (Department of Shalya Tantra)  
BLDEA's AVS Ayurveda Mahavidyalaya Vijayapura, Karnataka, India

Corresponding Author: [poojakalburgi32@gmail.com](mailto:poojakalburgi32@gmail.com)

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## ABSTRACT

*Vatakantaka* is caused by the aggravation of *vata dosha*, which, when combined with *kapha dosha*, results in *ruja* and *stambha* in the heel. The clinical features of plantar fasciitis are similar to that of *Vatakantaka*. Plantar fasciitis is one of the most common musculoskeletal complaints of the foot, accounting for about 80% of cases of heel pain. In this case study, *Agnikarma* as a pain management procedure was utilised due to the obstacles faced by other modern treatment methods and to assess its efficacy in relieving pain. *Agnikarma* can be done with less economic expenditure and minimal hospitalisation. A 31-year-old male complaining of pain in the heel region of both feet and mild tenderness for 3 months, which increases during the early morning few steps and on standing, was treated with six sittings of *kshaudra Agni karma*. After treatment, the patient was relieved with complete remission of 100% with no recurrence.

**Keywords:** *Vatakantaka*, Plantar fasciitis, *Agnikarma*, *Kshaudra Agnikarma*

## INTRODUCTION

*Vatakantaka* is a disease explained by *Acharya Sushruta* under *vata vyadhi*. The condition in which local *vayu* get aggravated by faulty walking on irregular surfaces, lodges in the *khudaka* (ankle joint) region, producing pain is known as *Vatakantaka*<sup>[1]</sup>. Except

*Charaka Acharya*, all *Bhruhatrayis* and *Laghutrayis* accepted *vatakantaka* as *vata nanatmaja vyadhi*. The *lakshanas* of *vatakantaka* resembles that of Plantar fasciitis. Plantar fasciitis is a common cause of heel pain in the outpatient. It occurs due to friction or tears

of the ossified posterior insertion of the plantar fascia. In some cases, a heel spur may be found<sup>[2]</sup>. The exact incidence and prevalence of plantar fasciitis by age are unknown, but estimates show that approximately 1 million patients visit yearly due to plantar fasciitis. This condition accounts for 10% of runner-related injuries. It is thought to occur in about 10% of the general population as well, with 83% of these patients being active working adults between the ages of 25 and 65. It may present bilaterally in one-third of the cases<sup>[3]</sup>. It is more common in women than men. It tends to be more common in people whose occupations involve standing on hard surfaces for long periods and those carrying out sporting activities, such as long-distance running<sup>[4]</sup>. Common symptoms include variable pain and tenderness at the heel region. The pain increases on prolonged standing and walking<sup>[5]</sup>. Plantar fasciitis is not easy to treat, and patient dissatisfaction is common with most treatments. The majority of cases are managed non-surgically, but re-occurrences of pain are frustrating. Treatment includes rest, oral or topical NSAIDs, corticosteroid injections, shoe inserts or orthotics. Surgery is the last resort. However, the surgical release does not guarantee a successful outcome. Complications of surgery include nerve injury, plantar fascia rupture, and flattening of the longitudinal arch<sup>[6]</sup>. Corticosteroid injections include a number of complications like plantar fascial rupture, plantar fat pad atrophy, and lateral plantar nerve injury secondary to injections.<sup>[7]</sup> As an interdisciplinary approach, *Agnikarma* is used for pain relief in plantar fasciitis. Acharya Sushruta in *Agnikarmavidhi adhyaya* highlights *Agnikarma* by mentioning it as shrestha in karma than *Kshara*. Diseases incurable by using *Bheshaja*, *Shastra*, and *Kshara* will be cured by *Agni karma*<sup>[8]</sup>. *Agnikarma* with *snigdha dravyas* is considered to retain heat for a longer duration, resulting in deeper heat penetration through *Sukshma sira*<sup>[9]</sup>. Considering the impediment of different modalities of modern treatment, as pain management modality can be adopted with lesser complications and better success rate.

## CASE REPORT:

### HISTORY:

A 31yr male patient with occupation as a nursing staff presented with pain in both heels for 3 months, which was gradual in onset, progressive in nature, pricking type aggravates on standing walking, increased pain in early morning few steps and relieves on taking rest associated with often constipation came to Shalya tantra OPD of BLDEA's AVS AMV, Vijayapura on 27<sup>th</sup> September 2024 with no history of comorbidities and trauma. The patient took analgesics (NSAIDs) on his own but did not get relief. So, they came to our hospital for further management.

### EXAMINATION:

**Vitals:** BP-110/60 mmHg; Pulse-82 b/min; Temp-98.6°F; SpO2-98%.

#### Systemic examination:

CVS - S1S2+ heard

RS- No added sounds, B/L air entry equal

CNS- NAD

#### Local examination:

Inspection: Bilateral heel showed no swelling or redness.

Palpation: Tenderness (Grade 1) was present in the Right feet (Grade 2) was present in the Left feet, and the Range of Movement (ROM) of bilateral feet was appropriate.

**Diagnosis:** Based on symptoms, it was diagnosed as Plantar fasciitis

**TREATMENT PLAN:** *Kshaudra Agnikarma* was planned with six sittings on alternative days.

#### 1. *Purvakarma:*

- Patient was advised to take *snigdha pichhila ahara* before the procedure.
- Written informed consent was taken.
- The patient was made to lie in a comfortable position.
- The area was cleaned with regular tap water.
- Tender points over the affected feet were identified and marked. (Fig 1, Fig 2)
- *Kshaudra* of about 10 ml was taken into a vessel and heated over a fire; it was heated up to

120° C (temperature measured by digital thermometer) for tender points over the centre of the heel and heated up to 80° C for tender points at

the lateral aspect of the heel region. (Fig 3, Fig 4, Fig 5,6, 7)

			
<b>Fig 1:</b> Tender points marked over Right heel	<b>Fig 2:</b> Tender points marked over Left heel	<b>Fig 3:</b> 10 ml of <i>kshaudra</i> taken in a vessel	<b>Fig 4:</b> <i>Kshaudra</i> is heated till it reaches desired temperature
			
<b>Fig 5:</b> <i>Kshaudra</i> heated up to 120o C for tender points over centre of heel	<b>Fig 6:</b> <i>Kshaudra</i> heated up to 80o C for tender points over lateral region of heel	<b>Fig 7:</b> Pouring heated honey into cylindrical cups	<b>Fig 8:</b> Illustration of <i>Kshaudra Agnikarma</i> over tender points of Right heel
			
<b>Fig 9:</b> Illustration of <i>Kshaudra Agnikarma</i> over tender points of left heel	<b>Fig 10:</b> Illustration of <i>Kshaudra Agnikarma</i> over tender points of left heel	<b>Fig 12:</b> Heel region cleaned with wet gauze	<b>Fig 13:</b> Heel region cleaned with dry gauze

## 2. Pradhana karma:

- Heated *kshaudra* was poured into cylindrical cups with a diameter of about 3cm and height of 1 -2cm, and then they were gently placed and held over tender points. (Fig 8, 9,10,11)
- After *Kshaudra* is cooled, it is heated again, and the same procedure continues for about 15- 20 mins.

## 3. Paschat Karma:

- After 15- 20 mins of procedure, the heel region was cleaned with wet gauze and then dried with dry gauze pieces. (Fig 12, Fig 13)
- The same procedure was carried out for six sittings on alternate days.

**TREATMENT SCHEDULE:**

SITTINGS	DATE
1 <sup>st</sup> sitting	27/9/24
2 <sup>nd</sup> Sitting	29/9/24
3 <sup>rd</sup> sitting	1/10/24
4 <sup>th</sup> sitting	3/10/24
5 <sup>th</sup> sitting	5/10/24
6 <sup>th</sup> sitting	7/10/24

**OBSERVATIONS & RESULTS:**

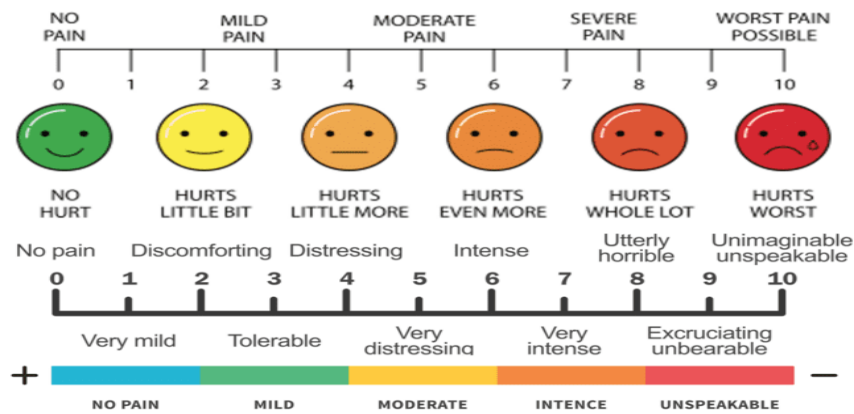
After six sittings of Kshaudra Agnikarma on alternate days, the patient got significant pain relief, with no pain while walking, standing, or taking the first few steps in the early morning.

**RIGHT HEEL:**

Assessment criteria	Before treatment	3 <sup>rd</sup> day	5 <sup>th</sup> day	7 <sup>th</sup> day	9 <sup>th</sup> day	11 <sup>th</sup> day	13 <sup>th</sup> day	After treatment
Pain (VAS score)	3	3	2	2	1	1	0	0
Stiffness	Grade 0	Grade 0	Grade 0	Grade 0	Grade 0	Grade 0	Grade 0	Grade 0
Tenderness	Grade 1	Grade 1	Grade 0	Grade 0	Grade 0	Grade 0	Grade 0	Grade 0

**LEFT HEEL:**

Assessment criteria	Before treatment	3 <sup>rd</sup> day	5 <sup>th</sup> day	7 <sup>th</sup> day	9 <sup>th</sup> day	11 <sup>th</sup> day	13 <sup>th</sup> day	After treatment
Pain (VAS score)	5	4	4	4	3	1	1	0
Stiffness	Grade 0	Grade 0	Grade 0	Grade 0	Grade 0	Grade 0	Grade 0	Grade 0
Tenderness	Grade 1	Grade 1	Grade 0	Grade 0	Grade 0	Grade 0	Grade 0	Grade 0



**PAIN GRADING:**

Score 0	No pain
Score 1-3	Mild pain
Score 4-6	Moderate pain
Score 7-9	Severe pain
Score 10	Worst pain

**TENDERNESS GRADING SCALE:**

Grade 0	No tenderness
Grade 1	Tenderness to palpation with grimace
Grade 2	Tenderness with grimace or flinch on palpation
Grade 3	Tenderness with withdrawal

Grade 4	Jump sign with non-noxious stimuli
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### STIFFNESS GRADING:

Grade 0	No stiffness
Grade 1	Mild stiffness
Grade 2	Moderate stiffness
Grade 3	Severe stiffness

The patient was assessed on an alternative day for improved signs and symptoms. All complaints were utterly relieved, with no pain or tenderness after the 6<sup>th</sup> sitting of *Kshaudra Agnikarma*. On a follow-up observation of 4 months, the patient had no pain and had a complete remission of 100%.

### DISCUSSION

The physiological effects of heat therapy include pain relief, increased blood flow and metabolism, and increased elasticity of connective tissue. Neural transduction of heat is mediated by TRP vanilloid 1 (TRPV1) receptors, ion channels activated by noxious heat. The TRPV1 receptors are present in primary afferent neurons, the spinal cord, and throughout the brain. Activation of TRPV1 receptors within the brain may modulate antinociceptive descending pathways. A nonselective channel may activate a wide variety of exogenous and endogenous physical and chemical stimuli. The best-known activators of TRPV1 are temperatures greater than 43 °C (109 °F), acidic conditions, capsaicin (the irritating compound in hot chilli peppers). Here, in *Kshaudra Agnikarma* with temperature of honey of about 120 °C is used for Agnikarma to activate TRPV1 receptors, which modulate antinociceptive descending pathways. Increasing tissue temperature stimulates vasodilation and blood flow, which promotes healing by increasing the supply of nutrients and oxygen to the injury site. The rate of local tissue metabolism is also increased by warming, which may further promote healing. Thus, it aids in the healing of tears in plantar fascia. Heat-induced changes in the viscoelastic properties of collagenous tissues may underlie the demonstrated efficacy of heat therapy for improving range of movement.<sup>[10]</sup> *Snigdha dravya*, owing to its higher Latent heat (heat retention capacity of sticky liquids is high), can affect a more significant fluctuation in the tissue surface's temperature and that of the subsequent layers.<sup>[11]</sup> *Agnikarma* with *Snigdha dravyas* is considered to retain heat for longer, resulting in deeper heat penetration through Sukshma sira.<sup>[9]</sup>

Therapeutic *Agnikarma* with *Kshaudra* helps relieve pain and stiffness seen in Plantar fasciitis.

### CONCLUSION

This case demonstrates the clinical improvement in the patient of Plantar fasciitis with *Kshaudra Agnikarma*, which is safe in comparison with analgesics and steroids, which can be received by patients without fear and is an effective and straightforward therapeutic intervention in the management of Plantar fasciitis. There is a need for further study on more populations with Plantar fasciitis to validate the efficacy of this intervention.

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