

## CASE STUDY

# Agnikarma in the Management of Calcaneal Spur: A Case Study

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### ABSTRACT

Calcaneal spurs are bony projections that form around the calcaneal bone, the strongest and most significant bone in the posterior part of the feet. The classic symptom of a calcaneal spur is talalgia, commonly known as heel pain. Ayurveda defines “*Vatkantaka*” as a condition brought on by vitiated Vata at the *Gulfa* Sandhi (ankle joint). *Agnikarma*, one of the *Anushastras*, holds significant importance in managing various diseases. It is particularly noted that diseases treated with *Agnikarma* are less likely to recur. This case study presents a 40-year-old female patient suffering from a calcaneal spur who was successfully treated with four sessions of *Agnikarma*, without any oral medication. Pain relief was observed partially after the first session and completely after the fourth session. This study aims to evaluate the efficacy of *Agnikarma* in managing calcaneal spurs.

## 1. INTRODUCTION

Calcaneal spurs are a common cause of heel pain, typically occurring at the insertion of the plantar fascia along the calcaneal tuberosity. These spurs are made up of calcium deposits that build up gradually over months or years and are usually detected through radiological examination (X-ray). Patients often report pain in the morning when they first stand or walk.<sup>[1]</sup>

In Ayurveda, calcaneal spur can be correlated with *Vatkantaka*, a common Vata disorder. This condition is caused by vitiated Vata due to the factors such as excessive walking, walking on irregular surfaces, or exerting excessive pressure on the ankle region, leading to accumulated Vata in the ankle and causing heel pain.

*Agnikarma* is a non-invasive method of treating various surgical and Vata-related conditions. Sushruta, in his writings, has mentioned that diseases not curable by medication, surgery, or *Kshar Karma* can be effectively treated by *Agnikarma*, with minimal recurrence and rare complications.<sup>[2]</sup>

### 1.1. Aim

Patient diagnosed with a calcaneal spur, successfully managed through Ayurveda.

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### 1.2. Objective

The objective of this study is to study the effect of *Agnikarma* on Calcaneal Spur.

### 1.3. Case History

#### 1.3.1. History of present illness

A 30-year-old female, a teacher by profession, presented with complaints of pain in the left heel region, difficulty in walking, and tenderness over the left heel for 6 months. The patient developed pain in the left heel after walking in the morning, which aggravated after prolonged standing or excessive walking. She had been taking analgesics for 4 months from a private hospital without complete relief, prompting her visit to the Shalya Tantra OPD of our hospital.

#### 1.3.2. History of past illness

No significant past medical history (NAD).

#### 1.3.3. Family history

Not significant.

#### 1.3.4. Chief complaint and its duration

Left heel pain, difficulty in walking, and tenderness over the left heel for 6 months.

#### 1.3.5. General examination of the patient

- Blood pressure: 110/80 mm Hg
- Pulse (P): 76/min

- Sleep: Normal
- Bowel and bladder habits: Normal.

### 1.3.5.1. Systemic examination

1. Cardiovascular System: S1, S2 normal
2. Central Nervous System: Conscious and oriented
3. Respiratory System: AEBE, clear
4. Per Abdomen: Soft, non-tender, and no organomegaly.

### 1.3.6. Investigations

- Random blood sugar: 96 mg/dL
- X-Ray of Left Foot:- before treatment

### 1.4. Assessment Criteria<sup>[3]</sup>

Assessment Criteria are mentioned in tables 2 and table 3.

## 2. MATERIALS AND METHODS

- Betadine and Spirit
- Panchloha dhatu Shalaka
- *Aloe vera* for local application
- Match box
- Candle
- Trifala Churna for after Agnikarma (after application)
- Cotton Bandage.

The diagnosis was confirmed as a calcaneal spur based on the signs and symptoms and the X- ray findings of the left foot. The patient was treated with *Agnikarma* using *the Panch Dhatu Shalaka by the Bindu* method without any oral medication. Five sessions of *Agnikarma* were administered, once a week, on the maximum tender point of the left heel. The patient's follow- up was conducted 5 weeks after treatment.

### 2.1. Procedure of *Agnikarma*<sup>[4,5]</sup>

#### 2.1.1. *Purvakarma*

- Patient's consent for the *Agnikarma* procedure was obtained.
- TT (Tetanus Toxoid) injection was administered to the patient.
- The maximum tenderness point on the left heel was selected.
- The selected site was cleaned with povidone-iodine solution.
- The *Panch Dhatu Shalaka* was heated.

#### 2.1.2. *Pradhankarma*

- *Agnikarma* was performed using the heated *Panch Dhatu Shalaka* on the maximum tenderness point of the left heel.

#### 2.1.3. *Paschatkarma*

- After *Agnikarma*, *Aloe vera* was applied to reduce the burning sensation.
- The patient's vitals were checked before and after the procedure.
- *Shatdhot Ghritha* was given to the patient to apply on the *Dagdha Vrana*.

## 3. OBSERVATIONS

Table 1 and Procedure Pictures Shows observations.

## 4. RESULTS

- A significant reduction in pain and improved functional ability were observed after five sessions of *Agnikarma*. A follow-up at 5 weeks showed sustained relief.

## 5. DISCUSSION

As per the Ayurvedic concepts, this condition may develop due to the vitiation of *Vata* with an association of *Kapha Dosha*. *Vata* and *Kapha Dosha* are considered significant factors in causing *Shotha* (inflammation) and *Shoola* (pain) in the heel. Calcaneal spur is *Asthinayugata Ashrita Vyadhi*; in these diseases, Sushruta suggested *Agnikarma*.<sup>[6]</sup> Heel pain is the primary sign of calcaneal spurs. According to Ayurveda, *Vata* is the primary humor that causes pain. The primary *guna* of the *Vata Dosha* is *sheeta*, which is the exact opposite of *Agni's Ushna Guna*. *Agni*, therefore, has the ability to relieve pain because of its *ushna guna*. *Agnikarma* works by raising the treated site's temperature, which lessens nerve responses and causes muscles to relax.<sup>[7]</sup> By speeding up metabolic processes, localized heat therapy (thermotherapy) can relieve pain and painful muscle spasms by lowering the concentration of pain chemicals, including toxic metabolites. An increase in local circulation does this.

### 5.1. Probable Mode of Action of *Agnikarma*

*Agni* possesses *Ushna, Tikshna, Sukshma, and Ashukari gunas*, which counteract *Vata* and *Kapha* properties. The physical heat from the red-hot *Shalaka* is transferred as therapeutic heat to the *Twak Dhatu* by producing *Samyak Dagdha Varna*. From *Twak Dhatu*, this therapeutic heat acts in three ways:<sup>[8,9]</sup>

1. Due to *Ushna, Tikshna, Sukshma, and Ashukari gunas*, it removes the *Srotavarodha*, pacifies the vitiated *Vata and Kapha Doshas* and maintains their equilibrium.
2. It increases *Rasa Rakta Samvahana* (blood circulation) to the affected site. The increased blood circulation flushes away pain-producing substances, providing relief from symptoms.
3. Therapeutic heat increases the *Dhatwagni*, improving the metabolism of *Dhatu*, digesting *Ama Dosha* from the affected site, and promoting proper nutrition from *Purva Dhatu*. As a result, the *Ashti and Majja Dhatu* become more stable, leading to relief from painful conditions.

In addition, the therapeutic heat penetrates deeper tissues such as *Mamsa Dhatu*, neutralizing the *Sheeta Guna of Vata and Kapha Doshas*, restoring *Doshas* to equilibrium, and alleviating symptoms.<sup>[10]</sup>

## 6. CONCLUSION

*Agnikarma* is a simple, easy, and economical para-surgical procedure that can be performed at the OPD level. It effectively alleviates *Vata*-related conditions, reducing heel pain, stiffness, and inflammation. This case of calcaneal spur was successfully treated with *Agnikarma*, with no recurrence of symptoms.

## 7. ACKNOWLEDGEMENT

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## 8. AUTHORS' CONTRIBUTIONS

All the authors contributed equally to the design and execution of the article.

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## 10. ETHICAL APPROVALS

The study not require ethical approval as it is a case study.

## 11. CONFLICTS OF INTEREST

Nil.

## 12. DATA AVAILABILITY

This is an original manuscript and all data are available for only review purposes from principal investigators.

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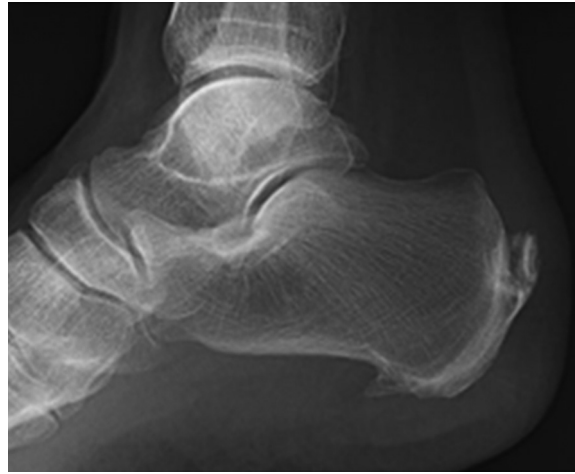
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**Procedure pictures**



**Table 1:** Observations

S. No.	Examination	Before treatment	After treatment
1	Pain in the heel region	3	0
2	Distance walked by patient in 10 minutes	3	0

**Table 2:** Pain in the heel region

S. No.	Nature of pain	Grading
1	No Pain	0
2	Mild Pain	1
3	Moderate Pain	2
4	Severe Pain	3

**Table 3:** Distance walked by the patient within 10 Min

S. No.	Distance (in feet)	Grading
1	90 feet	0
2	60 feet	1
3	30 feet	2
4	Less than 30 feet	3