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PLANTAR FASCIITIS AND ITS MANAGEMENT WITH *AGNIKARMA* – A CASE REPORT

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ABSTRACT

Plantar fasciitis is the pain caused by degenerative irritation (with or without inflammation) at the insertion of plantar fascia (i.e., a thick band of tissue that connects the heel bone to the toes) on the medial process of calcaneal tuberosity. It is the most common cause of heel pain. This disease can be correlated with *Vatakantaka* as described by *Acharya Sushruta. Agnikarma* is an ancient *Ayurvedic* technique for pain management. Analgesic drugs are commonly used by allopathic doctors in such cases; however, chronic use can damage liver and kidneys. An alternative approach is needed, which is safer and cost-effective. In this case study, a 30-year-old female patient suffering from *Vatakantaka* (Plantar fasciitis) presented with chronic heel pain and was treated with *Agnikarma* for a period of 1 month. Four sittings were given at 7-day intervals. The patient was followed up at 15-day intervals and observed for recurrence for 3 months. *Agnikarma* was found to be highly effective in managing pain and restoring the patient's quality of life.

KEYWORDS: Plantar fasciitis, *Agnikarma*, *Vatakantaka*, Heel pain.

INTRODUCTION

Efficient pain management has always been a difficult task without analgesic drugs. *Agnikarma* is an ancient *Ayurvedic* parasurgical tool for pain management documented in classical texts about 3000 years ago. Among its counterparts [*Kshar* (Alkali) and *Jaloka*

(Leech)], *Agnikarma* is said to be most efficient.[1] It is a thermal, minimally invasive parasurgical procedure for pain of different origins. *Agnikarma* is simple, safe, cost-effective, drugless, and can be performed as a daycare procedure.

Plantar fasciitis is a condition caused by inflammation of the aponeurosis at its origin on the calcaneus.[2] The plantar fascia is a thick connective tissue (aponeurosis) supporting the arch of the foot. It runs from the medial calcaneal tuberosity forward to the heads of the metatarsal bones and ends at the proximal phalanges of the toes. The fascia consists of superficial and deep layers. The superficial fascia is fibrous and dense, connecting the skin to the deep fascia. The deep fascia forms plantar aponeurosis in the sole and deep transverse metatarsal ligaments between metatarsophalangeal joints.

Deep fascia covering the center of the sole is thick and is known as plantar aponeurosis.[3] It represents the distal part of the plantaris which has become separated during evolution due to heel enlargement. It is triangular in shape, apex being proximal, and divided into five processes near the heads of metatarsal bones. Each process splits into a superficial and a deep slip, with the superficial slip going to the skin and the deep slip further dividing.

Plantar fasciitis usually affects the posteromedial heel and occurs equally in men and women. Risk factors include obesity, weight-bearing activities, runners/athletes, flat feet, or high arches.[2]

AIM: To evaluate the effect of *Agnikarma* in plantar fasciitis management.

OBJECTIVES: To evaluate the effect of *Bindu*-type *Agnikarma* using brass *Shalaka* heated by butane gas flame in pain management.

Need of Study

Allopathic management often includes NSAIDs, splinting, stretching therapy, bed rest, supportive footwear, and leg casts. Analgesics can cause nausea, constipation, dizziness, fatigue, liver and kidney damage, and immune suppression. Operative management includes gastrocnemius recession and plantar fasciotomy[4], yet outcomes are often unsatisfactory. Therefore, an alternative measure is needed. *Ayurveda* with *Agnikarma* provides a potential permanent solution.

Pathophysiology[5-7]

- Chronic overuse leads to trauma and microtears in the plantar fascia.
- Repetitive trauma causes inflammatory or non-inflammatory degeneration of plantar fascia fibers.
- Repair response results in thickening, collagen necrosis, and calcification.
- Adjacent muscles sharing the origin (e.g., abductor hallucis, flexor digitorum) may also be inflamed.

Symptoms[7]

- Sharp heel pain, often worst during the first steps after inactivity.
- Pain relieved by unloading the foot; worsened by walking barefoot on hard surfaces or stairs.
- Athletes may experience pain while sprinting.
- Difficulty in prolonged standing and walking.

In *Ayurveda*, plantar fasciitis corresponds to Vatakantaka, caused by Kapha-Vata vitiation from standing and walking on uneven surfaces, leading to heel pain.[8-13] *Vatakantaka* is *Snayu-Asthi-Sandhi-Ashrit* (ligament, bone, joint) and can be treated with oleation, poultice, *Agnikarma*, and *Abhyanga* (oil massage).

Investigations[14]

- X-ray: often normal.
- Bone scan: useful to rule out stress fracture.

MATERIALS AND METHODS

Case Description

A 30-year-old female with 1-year history of heel pain and tenderness had unsatisfactory response to allopathic and physiotherapy treatments. . X-rays were normal. Diagnosis: plantar fasciitis or *Vatakantaka*.

METHODOLOGY

- The procedure was performed in three stages as mentioned by *Acharya Sushruta*:

1. *Purva Karma* (Pre-treatment)
2. *Pradhana Karma* (Main treatment)
3. *Paschat Karma* (Post-treatment)

- Written informed consent was obtained from the patient prior to the procedure.
- Tetanus prophylaxis was administered before performing *Agnikarma*.
- A Brass *Shalaka* (probe) was used for the procedure.
- *Bindu* (dot) type of Agnikarma was selected.
- The source of Agni was a *butane gas flame*.

***Purva Karma* (Pre-treatment)**

- Patient was given Rice and Curd (*Snigdha* and *Picchila Anna-Pana* – oily and slimy food) before the procedure.
- The site of *Agnikarma* was cleaned with *Triphalakwath* (decoction).
- The area was wiped with a dry sterile swab and covered with a cut sheet.
- The *Shalaka* was heated until red-hot (approximately 5–7 minutes).
- *Ghritakumari* (Aloe vera) pulp was kept ready for immediate application after the procedure.

***Pradhana Karma* (Main Treatment)**

- The patient was placed in supine position.
- Agnikarma was performed with 8 *Bindu* (dot) applications over the maximum tender points of the heel.
- Performing *Bindu (dot) type Agnikarma* on heel using Brass *Shalaka* (Original Image).
- After Agnikarma, fresh Aloe vera pulp was applied over the *Dagdha (burnt)* sites to relieve burning and discomfort.

Paschat Karma (Post-treatment)

- After removing Aloe vera, a mixture of Honey and Ghee was applied to the burnt site.
- The patient was observed for 30 minutes after the procedure.
- Post-procedure advice:
  - Avoid contact with water for at least 24 hours.
  - Follow dos and don’ts strictly until complete healing of the burnt sites.

Assessment Criteria

- Pain assessment:
  - Evaluated using the Numeric Rating Scale (NRS) ranging from 0 to 10,
    - 0: No pain
    - 10: Worst possible pain

- Other signs and symptoms were assessed before and after treatment using graded parameters (refer Table 1 and Table 2).
- The grades were recorded both before and after the intervention.

Table 1: Grades for tenderness on heel.

Tenderness	Grading
No tenderness	0
Tenderness with wince	1
Tenderness with withdrawal	2
Patient does not allow touch	3

Table 2: Grades for difficulty in walking (10 min walk).

Distance (feet)	Grading
90	0
60	1
30	2
<30	3

OBSERVATION / RESULTS

After 7 days (1st visit), significant relief noted. By 2nd–3rd visits, absolute relief. 4th visit: normal walking, morning pain improved [Table 3]. No adverse effects; burn lesions healed in 3–5 days.

Table 3: Examination Results.

Examination	Before Treatment	After Treatment
Heel Pain	3	1
Tenderness on heel	3	0
Difficulty in walking	3	1

DISCUSSION

In allopathic practice, pain killers and anti-inflammatory drugs are mostly used in Plantar Fasciitis with no proven results. The cardinal symptom is pain at heel and the basic humor responsible for pain is Vata. While doing Agnikarma, ushna property of Agni is used which is exactly opposite to sheetaguna of Vayu. In this case study, a butane gas flame was used to heat the brass *Shalaka*. The butane gas flame is intense and heats the Shalaka within 1 minute. In Agnikarma the temperature at the applied site is increased which reduces nerve reflexes resulting in relaxation of muscle, then causing relief in pain. It is also found that strong superficial heat is effective in relieving pain maybe due to counter-irritation effect. Another hypothesis is that superficial heating may increase the flow of blood in the particular

region which removes the accumulated waste products (ama) in the tissues that was responsible for the generation of pain.[15]

CONCLUSION

With no well-established/effective treatment, Plantar Fasciitis is often challenging for the physicians. The debility leads patient and doctor to be dependent on pain killers. With this study, we have tried to explore the safe, cost effective, easy to practice and quick relief treatment modality in the form of Agnikarma. This can save the patients from side effects due to chronic use of pain killers without harming the immune system. For this study, brass *Shalaka* was used. Butane gas flame was used which heats up the *Shalaka* within one minute hence saving time. *Shalaka* made up of other metals can be used to explore the effectiveness or difference in effectiveness. Further studies on this topic can establish Agnikarma as the first-line treatment for Plantar Fasciitis.

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