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## Effect of Suttigai Therapy for the Management of Kuthikaal Vatham - A Case Study



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### ABSTRACT

Plantar fasciitis is the most common cause of heel pain. Management of this usually involves pain relieving medications and patient need to take treatment for long duration. Suttigai (Thermal cauterization) is one of the external therapy in Siddha Medicine. This study aims to establish the effect of Suttigai Therapy in the management of Kuthikaal vatham .A 48 years old female patient was diagnosed Kuthikaal vatham and treated with Suttigai therapy. Foot Function Index score was used to evaluate the case. After the suttigai therapy, the scale rating improved from 37.39% to 7.8%. The effect of suttigai treatment for the management of Kuthikaal Vatham is successful and immediate relief.



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## 1 INTRODUCTION

Plantar fasciitis (Kuthikaal Vatham) is an aseptic inflammation of the plantar fascia at its origin at the calcaneum. It causes pain in the foot anterior to the attachment of the plantar fascia. The pathology is mainly related to chronic overuse leading to micro-tears at the site of origin of the plantar fascia, resulting in persistent inflammation and periostitis. The disease is mainly affecting middle-aged adult with complaints of pain in one or both heels. Typically, this pain is worse in the early morning and the patient is unable to bear weight on the foot on getting up from bed. The pain is more while walking and is relieved by rest.

83% of these patients are active working adults between the ages of 25 and 65 years old. The prevalence rates of plantar fasciitis among the population of runners are between 4% and 22%. Younger athletes had a lower prevalence of plantar fasciitis (2.5%) than older athletes (6.6%). Increased body weight and increased body mass index are significant risk factors for plantar fasciitis. Several studies have shown an association between work-related prolonged weight-bearing and plantar fasciitis. Despite many external medicines dealing with plantar fasciitis, it is still a major clinical challenge to the medical fraternity.

Suttigai is one of the external therapies in siddha system. Thermal cauterization is the process of treating diseases by destroying tissue with a hot instrument. Diseases related to Vatham and Kabam are treated with suttigai. Suttigai seems to be more effective in providing distinct and instant relief from persistent pain in plantar fasciitis condition. Hence, selected Uloga Suttigai-for the management of Kuthikaal vatham (Plantar fasciitis).

## 2. Patient Information

A 48 year old female belonging to the middle class visited our clinic with the complaints of pain in right heel region which is more in the morning and pain is gradually subsides after walking. The pain increases on prolonged standing, and walking for 6 months . But patient does not take any medication. Patient is non-diabetic and non-hypertensive and no other relevant history.

## 3. Clinical Findings

The patient complained of pain in right heel region, it increased in early morning and pain is gradually reduced after walking. Pain increases on prolonged standing and walking. The patient was Home maker and obese. Based on clinical findings, and Siddha assessment,

envagai thervu-Naadi (pulse) 2. Sparisam (palpation) 3. Naa (tongue examination) 4. Niram (colour of the body) 5. Mozhi (speech) 6. Vizhi (eye examination) 7. Malam (stool examination) 8. Moothiram (urine examination), she is diagnosed with Kuthikaal Vatham. The vital signs were normal.

#### **4. Therapeutic Intervention**

**External Therapy:** Suttigai procedure (Thermal cauterization)

**Type:** Uloga Suttigai

**Instrument used:** Copper probe

**Size of suttigai instrument:** 2 inches and wedge shape

**Site of suttigai therapy:** Tender points of heel

**Duration of Suttigai therapy:** 2-3 Seconds per sitting/ once in seven days

**The procedure of suttigai:** The copper probe will be heated up to red hot and touched at the tender points of affected heel.

**Number of sittings:** 1 sitting

#### **5. Materials Required**

- Examination table
- Metal probe
- Gas stove and lighter
- Padikara neer for local sterilization
- Gloves
- Cotton role
- Gauze role
- Cut sheet
- Aloe Vera pulp
- Bandage cloth



**Figure 1: Uloga Suttigai**



**Figure 2: Anatomical site of Suttigai therapy**

## **6. Standard operating procedures of Uloga Suttigai**

### **Application of uloga suttigai**

The copper probe will be used for the procedure. The Suttigai procedure is categorized into

1. Pre- Suttigai procedure
2. Suttigai Procedure
3. Post- Suttigai procedure

### **Pre-Suttigai Procedure**

- Detailed Information will be given about the Uloga Suttigai therapy in their understandable language
- Obtaining informed consent

- Ask the patient to satisfy natural urges
- Vital signs will be recorded.

### **Suttigai Procedure**

- The patient should in a supine position, exposing the ankle joint and heel for therapy
- Sterilizing the site with Padikara Neer and wiping with dry sterilized gauze
- Encircle the site with marking (Tenderness point) for Suttigai therapy with a marker
- Heated Metal probe (up to red hot) will be prepared
- Then the physician will strongly touch the affected area within the circle mark.

### **Post Suttigai Procedure**

- Preserve the probe in safe place.
- Aloe Vera pulp will be applied over the Suttigai site and dressed with bandage.
- Patient will be observed for 30 min after the procedure.
- The suttigai site will not be allowed to exposure to water atleast for 24 hours to avoid any infection.

## **7. Results**

Clinical assessments were made from the Clinical features, Examination, Joint movements related Health Assessment Questionnaire and Foot Function Index (FFI). Before starting the treatment, the FFI score measured was 37.39% after a week of suttigai, it was 13.9 % then after a one-month follow up FFI score was 7.8 % and the patient reported the clinic with normal movements. There was overall noteworthy progress in symptoms of Kuthikaal vatham. There are no side effects during and after the treatment. The timeline of, clinical features, Examination, Health Assessment Questionnaire and Foot Function Index is portrayed in Tables 1,2, 3, 4,5 and 6 respectively.

**CLINICAL ASSESSMENT**

**Table 1: CLINICAL EXAMINATION OF RIGHT HEEL**

<b>Inspection</b>	<b>Before treatment</b>	<b>After a week</b>	<b>After a month of Follow up</b>
Swelling	+	-	-
Redness	-	-	-
Gait/deformity	-	-	-
<b>Palpation</b>			
Tenderness	+	-	-
Local heat	+	-	-
<b>Movements</b>			
Flexion	Mild restricted	Normal	Normal
Extension	Mild restricted	Normal	Normal

**Table 2: HEALTH ASSESSMENT QUESTIONNAIRE**

	<b>Before treatment</b>	<b>After a week</b>	<b>After a month of Follow up</b>
<b>PAIN</b>	Gradual	-	-
A. Onset: Sudden/Gradual			
B. Early morning Stiffness (Present/absent)	Present	Absent	-
C. Nature of pain (Mild/ Moderate/ Severe)	Severe	Mild	-
D. Aggravating factor movement (Yes/No)	Yes	No	No
E. Relieving factor –Rest (Yes/No)	Yes	Yes	Yes
G. Tenderness (Present/absent)	Present	Absent	Absent
<b>RESTRICTION OF MOVEMENT</b> (Fully/Partial/No)	Partial	No	No

**FOOT FUNCTION INDEX**

The Foot Function Index is a self-administered index questionnaire consisting of 23 questions divided into 3 subcategories: pain, disability, and activity limitation.

**Table 3: Pain subscale**

How severe in your foot pain?

(0-No pain; 10-Worst pain imaginable)

	Before treatment	After a week	After a month of Follow up
Foot pain at its worst?	6	3	1
Foot pain in the morning?	7	3	2
Pain walking barefoot?	4	2	0
Is pain standing barefoot?	4	2	1
Pain walking with shoes?	5	0	0
Pain standing with shoes?	4	1	1
Pain walking with orthotics?	4	2	1
Pain standing with orthotics?	4	2	1
Foot pain at end of day?	5	2	1
<b>TOTAL SCORE</b>	<b>43</b>	<b>17</b>	<b>8</b>

**Table 4: Disability Subscale**

How much difficulty did you have?

(0- No difficulty; 10- So difficulty unable)

	Before treatment	After a week	After a month of Follow up
Difficulty walking in the house?	4	1	1
Difficulty walking outside?	4	1	1
Difficulty walking 4 blocks?	4	1	1
Difficulty climbing stairs?	5	2	1
Difficulty descending stairs?	5	2	1
Difficulty standing tiptoe?	5	2	2
Difficulty getting up from a chair?	4	2	0
Difficulty climbing curbs?	5	2	2
Difficulty walking fast?	6	2	1
<b>TOTAL SCORE</b>	<b>42</b>	<b>15</b>	<b>10</b>

**Table 5: Activity Limitation Subscale**

How much of time do you?

(0- No Restriction; 10- No activity)

	Before treatment	After a week	After a month of Follow up
Stay inside all day because of feet?	0	0	0
Stay in bed because of feet?	0	0	0
Limit activities because of feet?	1	0	0
Use assistive device indoors?	0	0	0
Use assistive device outdoors?	0	0	0
<b>TOTAL SCORE</b>	<b>1</b>	<b>0</b>	<b>0</b>



**Table 6: Total Foot Function Index Score**

Foot Function Index	Before treatment	After a week	After a month of Follow up
	37.39%	13.9%	7.8 %

### 8. Discussion

Plantar fasciitis is the most common cause of heel pain. Management of this usually involves pain relieving medications and patient need to take treatment for long duration. Since Suttigai therapy is well known proven external therapy for Vatha related diseases. Many patients were depressed and not comfortable to take oral medications for lifelong. Suttigai is one among the heat applications indicated for vitiated Vatham and Kabam. Since Suttigai probe had a hot potency of fire, it reduces the cold potency of vaayu and hence reduces pain. Here are some of the facts which prove the significance of Suttigai in the management of Kuthikaal vatham.

The hot potency of Suttigai pacifies the cold potency of vaayu. It reduces the joint pain and improved flexion and extension of the knee joint. The hot potency of Suttigai improves thaathu agni and thus helps to remove toxins, this improves local nourishment of the tissue and thus reduces pain by decreasing local inflammation. Suttigai increases local tissue metabolism in the site and thus it leads to increased demand of oxygen and nutrient of the tissues. This enhances supply of nutrients and effective removal of waste product. During Suttigai, heat shock proteins called chaperones are produced in localized area and helps to reduce inflammation, subdues pain and stiffness in knee joints. The stimulation of peripheral nerve endings through suttigai causes reflex dilation of arterioles resulting in increased blood circulation. Suttigai stimulates the sensory nerves; it releases CGRP-Calcitonin gen-related peptide from the dorsal root ganglion. Hence thermal nociceptors are activated and hence reduce pain. Pain is one of the biggest troubling symptoms of Kuthikaal vatham, Suttigai (heat) may stimulate lateral spinothalamic tract which stimulates the descending pain inhibitory fibers. This in turn releases endogenous opioid peptide that binds with opioid receptors to inhibit the release of P-substance (Pre-synaptic inhibition) whereby blocks the transmission of pain.

Generally oral drug takes time to show relief in respect to pain and other symptoms of Kuthikaal vatham. But Suttigai is a simple an invasive procedure that gives immediate relief

from pain and tenderness from Sitting 1 itself. Suttigai may be preferred treatment for Kuthikaal Vatham patients to alleviate pain immediately.

## 9. Conclusion

Suttigai is a simple, cost effective, safe, para-surgical procedure. The patient responded positively after the suttigai therapy and majority of complaints relieved within a week. This study proves that Suttigai is one of the effective treatments in reducing the symptoms of Kuthikaal Vatham in a very short time. So it may be adopted effectively in the management of Kuthikaal Vatham. The number of sittings depends on the chronicity and severity of the disease. Scar disappears within 2-3 weeks of treatment. Hence this study concludes that Suttigai therapy gives hope to patients suffering from Kuthikaal Vatham by external treatment itself. It is a simple cost effective and minimally invasive external treatment in the reduction of signs and symptoms in Kuthikaal Vatham patients.

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