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Uloga Suttigai (Metal Cauterization) and *Pattikattal* (Bandaging) with *Kunthriga Thailam* in the Management of *Kuthikaal Vatham* (Haglund's disease) – A Case Report

Research Article

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Abstract

Haglund's disease is the term used to describe posterosuperior calcaneal prominence linked with pain in the retrocalcaneal region. Most of the patients suffering from this condition do not profit from conservative treatment and consequently undergo surgical treatment which results in long recovery period and vary in results. In Siddha system of medicine, Haglund's disease is referred to as *Kuthikaal Vatham*. *Suttigai* is a Para surgical procedure used in treating chronic conditions and various *thailam* (medicated oil) are used in the management of *Vatha Noigal* (disease caused due to vitiated *vatha* humour). As *Uloga Suttigai* (Metal Cauterization) and *Pattikattal* (Bandaging) provides significant relief in this condition and not been subjected to scientific evaluation yet, this study reports the effectiveness of *Uloga Suttigai* and *Pattikattal* with *Kunthriga Thailam* in the management of *Kuthikaal Vatham* in a 58-year-old male patient who reported with complaints of swelling and progressive pain behind the right heel, aggravating on walking after rest and more during ambulation for the past 2 years. He was diagnosed with *Kuthikaal Vatham* and treated with this treatment modalities. The American Orthopaedic Foot and Ankle Society (AOFAS) Ankle-Hindfoot Scale was used before and after treatment to evaluate its effectiveness. Following treatment, AOFAS Ankle-Hindfoot Score improved from 18% to 95%. The pain, tenderness and restriction of movements reduced as a result. These results shows that *Kuthikaal Vatham* can be successfully managed through *Uloga Suttigai* and *Pattikattal* with *Kunthriga thailam*.

Keywords: *Uloga Suttigai, Pattikattal, Kuthikaal Vatham,* Haglund's disease*, Siddha system,* Bandaging.

Introduction

First reported by Patrick Haglund in 1927, Haglund's deformity is an abnormal bone growth in the posterosuperior portion of the calcaneum. Haglund's disease is the term used to describe posterosuperior calcaneal prominence linked with pain in the retrocalcaneal region. Although the condition is primarily idiopathic, there are a few potential contributing variables that may be involved, such as excessive running practise, shoes that are too tight or too small, or changes in the biomechanics of the foot joints due to the misaligned subtalar joint or overuse and repetitive strains that causes inflammation of the Achilles tendon and the calcaneus, which can lead to tendinitis and bursitis. For continuity, the pre-insertional segment of the Achilles tendon may also be impacted by the inflammation (1,2). In this condition, Ankle lateral radiograph reveals calcaneal bursal swelling, increased density in pre-Achilles bursae, and a bony prominence at the posterosuperior portion of the calcaneal tuberosity (Haglund's lesion). These results could be linked to heterotopic bone formation at the Achilles tendons insertion site as well as within the tendon. Haglund's syndrome is typically diagnosed based on clinical findings and history, radiographic changes may provide additional information (3). Most of the time, the initial course of treatment for Haglund's disease is conservative and involves rest, stretching of the gastrocnemius-soleus complex, application of heat or ice, ultrasound treatment, systemic and topical medication use such as NSAIDs and use of orthotics (1). About 15–50% of the patients suffering from chronic (more than 3 months) retrocalcaneal bursitis do not profit from conservative treatment and consequently undergo surgical treatment, such as calcaneal osteotomy or ostectomy and retrocalcaneal decompression (4,5). These come with a long recovery period and vary in results. Recurrence of symptoms may result from insufficient bone resection, and additional postsurgical complications may include nerve entrapment scar formation, Achilles tendon rupture or weakening, and non-union of the calcaneal osteotomy (6). Due to the fear of surgical treatments, long recovery time and varied results, patients are marching towards the traditional system for management.

According to Siddha system of medicine, this condition is identical with *Kuthikaal Vatham*, a type of

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Vatha disease. The text *Yugi Vaithiya Kaviyam* illustrates the characteristics of *Kuthikaal Vatham* as a condition caused due to vitiated *Vatha* humour in the region below the calf muscles with severe throbbing pain in the heels and difficulty in walking (7).

Siddha system has classified the external treatment modalities into three types such as *Aruvai* (Surgical procedure), *Agni* (thermal procedures) and *Kaaram* (Caustic procedures). *Suttigai* (Heat Cauterization) is one of the *Agni* procedures, which is described as the process of treating illnesses by destroying tissue with a heated tool or applying heat on the area to be treated. *Sittikai* and *Ratchasa sikichai* are other names for *Suttigai*. There are five of *Suttigai* therapy namely, *Kanthi Suttigai* (Sunbath), *Kaal Suttigai* (Hot air therapy), *Mann Suttigai* (Earthenware Cautery) and *Uloga Suttigai* (Metal cauterization). *Uloga Suttigai* (Metal cauterization) is the apex treatment modality among the 5 types of S*uttigai* which is suggested in chronic cases (8). *Pattikattal* is the bandaging technique to restrict the movement and to enhance the duration of contact of the medicine to the particular site (9). There are various *thailam* indicated for treating *Vatha Noigal* (disease caused due to vitiated *Vatha* Humour), *Kunthriga thailam* being one among these, is an effective topical application used in the treatment of *Vathavali* (pain caused due to vitiated *Vatham*) and *Vekkam* (swelling) (10). Hence considering the above facts, this study was conducted to evaluate the effectiveness of *Uloga Suttigai* (Metal Cauterization) and *Pattikattal* (Bandaging) with *Kunthriga thailam* in the management of *Kuthikaal Vatham* (Haglund's disease).

Patient Information

A 58-year-old man, belonging to the middle class, who is an hotel server by profession visited the *Pura Maruthuvam* Outpatient Department of Ayothidoss Pandithar Hospital, National Institute of Siddha (APH-NIS), with complaints of swelling and progressive pain behind the right heel, aggravating on walking after rest and more during ambulation for the past 2 years on 02.01.2023. His personal history revealed that he was non-smoker and non-alcoholic. Past history revealed that, he had no co morbidities such as diabetes, hypertension and rheumatology conditions such as gout, rheumatoid arthritis, and seronegative spondyloarthropathies, he had been on conservative care for the previous two years which included usage of soft sole foot wares, physiotherapy, analgesic and anti-inflammatory medications. Pain, limping and restriction of movements improved slightly with conservative care, but symptoms reappeared after a week. Due to unsatisfactory results with the conservative care, he was referred to the Orthopaedic surgeon where he was advised for surgical treatment options. As the patient was not willing for surgical procedures, he reported to the *Pura Maruthuvam* OPD of APH-NIS for management through traditional medical system. No relevant family history and no past surgical history was reported.

Clinical Findings

On examination, inspection revealed, that the patient was unable to walk without limping and the presence of pump hump in the posterior aspect of right heels. On palpation, tenderness was elicited at the posterosuperior border of the calcaneum, pain, restriction of movements in the right foot (Dorsiflexion, plantar flexion, inversion and eversion) was also present and Squeeze test was positive. In this test the patient was positioned in prone position with the knee flexed, followed by applying pressure to the heel's fat pad. The presence of pain during compression indicates a positive sign for retrocalcaneal bursitis. The Siddha parameters of examination based on *Envagai thervu* (Siddha Eight-Fold System of Clinical Assessment) 1. *Nadi* (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) and 8. *Moothiram* (urine examination) were assessed. *Nadi* (Pulse) was examined by palpitating the radial artery pulse with the index finger, middle and ring finger of the physician to find out vitiated humours. In *Sparisam* (Palpation), tenderness, change in the temperature and texture of the skin over the affected area were examined. In examination of tongue (*Naa*), the colour changes, coating, fissure, ulcers, deviations and taste perceptions were assessed. In *Niram* (colour of the body) examination, the affected area was checked for any changes in skin colour. In *Mozhi* (Speech) examination, the quality of speech was assessed. In *Vizhi* (Eyes) examination, any change in the colour of the eye, any changes in lacrimation and condition of eyelashes were examined. In the examination of *Malam* (Stools), its nature such as solid, semisolid or liquid, colour, odour and presence of substances such as mucous, occult blood and indigested matter were examined. In *Moothiram* (urine) examination, the colour and odour were examined. The comprehensive explanation of the examination of these parameters is beyond the scope of this article. However, the examination procedures have been extensively studied by researchers such as Raveendran and Rakulini (11). The results of these examinations are listed in Table No 1. Routine blood investigations are listed in Table No 2. The X ray of Right ankle in lateral weight bearing position (Figure No 1) revealed the presence of bony prominence of posterosuperior part of calcaneal tuberosity (Haglund's lesion), with hazy density in the retrocalcaneal bursa and ill-defined convexity of Achilles tendon at its insertion and surrounding soft tissues. The vital signs were normal.

Table 1: Siddha parameters of examination based on *Envagai thervu* (Siddha Eight-Fold System of Clinical Assessment) at the time of reporting to OPD

Parameters	Observation
Naadi (pulse)	*Vatha Pitham*
Sparisam (palpation)	Severe tenderness in the posterior
Naa (tongue	Coated with no fissures and normal
Niram (colour of the	Normal

Vizhi (eye	Normal
Mozhi (speech)	Normal Pitched
Malam (stool	Normal
Moothiram (urine	Normal

Table 2: Routine blood investigations report

Haematology	
Hb mg/dl	14.2
Total WBC cells/cu.mm	4100
Difference Count	
Neutrophiles	58
Lymphocytes	36
Eosinophiles	4
Monocytes	2
PCV/HCT %	40.3
MCV fl	83.8
MCH pg	29.5
MCHC g/dl	35.2
Platelet 10^3/uL	2.1
Bleeding Time	2'15"
Clotting Time	4'
Biochemistry	
Fasting Blood Sugar(mg/dl)	103
Fasting Post prandial Sugar (mg/dl)	124
HbA1C (%)	5.3
Serology	
HbsAg	Non-Reactive
VDRL	Non-Reactive
HIV I&II Antibodies	Non-Reactive

Diagnosing Assessment

The American Orthopaedic Foot and Ankle Society (AOFAS) Ankle-Hindfoot Scale is a clinical rating system that was created by Kitaoka et al (12). It combines objective scores derived from the surgeon's physical examination of the patient (to assess sagittal motion, hindfoot motion, ankle–hindfoot stability, and alignment of the ankle–hindfoot) with subjective patient-provided scores of pain and function components. This scale has nine components which are categorised into three subscales such as pain, function, and alignment. Pain has a maximum score of 40 points, which denotes no discomfort. Seven things make up the function, and a maximum score of 50 points indicates full function. One alignment-related item has a maximum score of 10 points, which denotes strong alignment. A score of 100 points is the maximum, meaning there is no disability. Clinical features, including pain, tenderness, and restriction of movement, were subjectively assessed by the physician and graded on a four-point scale such as severe, moderate, mild, and absent. Assessment of clinical features and AOFAS ankle–hindfoot scale was done before treatment, after treatment modalities (after every sitting of *Suttigai* and *Pattikkattal*) and after 6 months of follow-up. Based on clinical findings, radiological findings and Siddha assessment of *Envagai Thervu*, the patient was diagnosed with *Kuthikaal Vatham* (Haglund's disease) caused due to vitiated *Vatham* and *Kabam* humour. *Uloga Suttigai* (Metal cauterization) and *Pattikattal* (Bandaging) with *Kunthriga thailam* was chosen as the treatment modality.

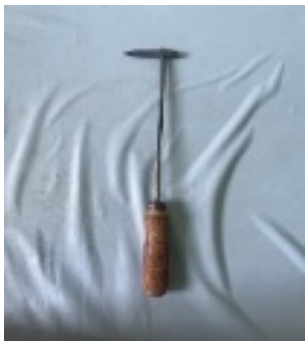
Therapeutic intervention

***Uloga Suttigai* (Metal cauterization)**

Type of Instrument: Copper Probe (Figure 2)

Figure 1: X Ray of Right ankle in lateral weight bearing position

Figure 2. Copper Probe



Site of Treatment: Posterior aspect of Right Heel.

Number of Sittings: Two sittings of *Uloga Suttigai* were done at an interval of 7 days.

Standard operating procedure

The SOP of *Uloga suttigai* is categorised into screening and enrolment, pretreatment procedure, treatment procedure and post treatment procedure.

Screening and Enrolment:

All vital blood tests, including the complete blood count, the bleeding and clotting times, blood sugar levels during fasting and post prandial, HBsAg, VDRL, and HIV I and II, were performed. As the results were in normal ranges, the patient was admitted to *Pura Maruthuvam's Suttigai* Unit for *Suttigai* therapy.

Pretreatment procedure

The patient was informed about the procedure, informed consent was obtained. The patient was instructed to surge natural urges and was positioned comfortably in the prone position to clearly expose the site of treatment. Then the site was cleaned with *Padigara Neer* and wiped off with dry gauze piece. The tender area at the site of treatment were marked with marker and the vitals were checked before treatment.

Treatment Procedure

The copper probe was heated to red hot and gently placed on the marked points for fraction of seconds and withdrawn. The site of *Suttigai* is shown in Figure No 3. The treatment site was immediately

rubbed with the pulp of aloe vera following cauterisation as shown in Figure 4.

Figure 3: Site of *Uloga Suttigai* (Metal Cauterization)	**Figure 4: The treatment site rubbed with the pulp of aloe vera following cauterization**	**Figure 5: *Pattikattal* (Bandaging) with *Kunthriga thailam***
		

Post Treatment Procedure

Few minutes after the treatment procedure, patient was monitored for an hour after the treatment and send back.

Every sitting was scheduled once in seven days, ensuring complete healing of the treatment site. Same procedure was adopted during each sitting.

Pattikattal* (Bandaging) with *Kunthriga thailam

After 2 sittings of *Suttigai* therapy, *Kunthriga thailam* dipped in a gauze pad, was placed over the posterior aspect of heel and bandaged with gauze roll (Figure No 5), 3 days once for the next 2 weeks. Patient was advised to pour sufficient quantity of *Kunthriga thailam* into the bandage at regular intervals (3 hours once). The details of *Kunthriga Thailam* are listed in Table No 3.

Table 3: Ingredients and Preparation of *Kunthriga Thailam*

S. No	Tamil Name	Botanical Name	Quantity
1	*Poonaikann Kunthrigam*	Hard resin of *Pistacia lentiscus*	100 grams
2	*Nalennai*	Sesamum indicum	1000 grams
The oil is heated, mixed with powdered *Poonaikann Kunthrigam*, stirred till it dissolves completely in the oil, cooled and stored.			

Outcome

Clinical assessments were made from the *Envagai Thervu* (Siddha Eight-Fold System of Clinical Assessment), clinical features, and scoring of AOFAS Ankle-Hindfoot Scale. At initial assessment before the *Suttigai* therapy AOFAS Ankle-Hindfoot Score was 18%, after first sitting the AOFAS Ankle-Hindfoot Score improved to 45% after second sitting the score improved to 75%, after *Pattikattal* (bandaging) score improved to 95% and the score was the same after 6 months of follow up. There was remarkable improvement in the clinical features and AOFAS Ankle-Hindfoot Score. The timeline of clinical findings, AOFAS Ankle-Hindfoot Score outcomes and *Envagai Thervu* are listed in Table 4.

Table 4: Assessment done based on Clinical features, AOFAS Ankle-Hindfoot Scale and *Envagai Thervu* Siddha Eight-Fold System of Clinical Assessment

Assessments	Initial Assessment (2.1.2023)	After 1st Sitting (9.1.2023)	After 2nd sitting (16.1.2013)	After *Pattikattal* (Bandaging) (30.1.2023)	After 6 months of Follow up (30.7.2023)
Clinical Features					
Pain	Severe	Moderate	Mild	No Pain	No Pain
Tenderness	Severe	Moderate	Mild	Absent	Absent
Restriction of movements (Flexion, Extension, Inversion	Severe	Moderate	Mild	Absent	Absent
Squeeze Test	Positive	Positive	Positive	Negative	Negative
AOFAS Ankle Hind foot Scale					
Pain Score	0/40	20/40	30/40	40/40	40/40
Functional Score	0/50	20/50	40/50	50/50	50/50
Alignment Score	5/10	5/10	5/10	5/10	5/10
Total AOFAS Ankle foot Scale	18/100	45/100	75/100	95/100	95/100
Siddha Eight-Fold System of Clinical Assessment (*Envagai Thervu*)					
Naadi (pulse)	*Vatha Pitham*	*Vatha Pitham*	*Vatha Pitham*	*Vatha Pitham*	*Vatha Pitham*
Sparisam (palpation)	Severe tenderness in the posterior heel	Moderate tenderness in the posterior	Mild tenderness in the posterior heel	No tenderness	No tenderness
Naa (tongue examination)	Coated with no fissures and normal taste	Coated with no fissures and normal taste	Coated with no fissures and normal taste	Coated with no fissures and normal taste perception	Coated with no fissures and normal taste
Niram (colour of the body)	Normal	Normal	Normal	Normal	Normal
Vizhi (eye examination)	Normal	Normal	Normal	Normal	Normal
Mozhi (speech)	Normal Pitched	Normal Pitched	Normal Pitched	Normal Pitched	Normal Pitched
Malam (stool examination)	Normal	Normal	Normal	Normal	Normal
Moothiram (urine examination)	Normal	Normal	Normal	Normal	Normal

Discussion

Haglund's disease is a retro calcaneus related painful syndrome characterised by inflammation of the retrocalcaneal bursa and bone enlargement on the back of the heel, often leading to limitations in mobility and daily activities (1). While conservative treatments, including physiotherapy, anti-inflammatory medications, and orthotic support, have shown limited efficacy, surgical interventions come with their own challenges, such as a lengthy recovery period and variable success rates (13). As a result, patients are increasingly seeking traditional treatment modalities.

This case report presents the successful management of *Kuthikaal Vatham* (Haglund's disease) using *Uloga Suttigai* (Metal Cauterization) and *Pattikattal* (Bandaging) with *Kunthriga Thailam*. The patient's condition improved significantly, as evidenced by the remarkable increase in the American Orthopaedic Foot and Ankle Society (AOFAS) Ankle-Hindfoot Scale score from 18% to 95%, and the alleviation of symptoms such as pain, tenderness, and restricted movement.

The effectiveness of this treatment is likely due to the pharmacological properties of both the interventions. Although the precise mechanism of action of *Suttigai* remains unexplored, theories such as the pro-inflammation theory, thermodynamics applied to biological systems, gate control theory, and contact inhibition theory have been proposed to explain the therapeutic action of *Suttigai* therapy in reducing pain and inflammation (14). *Kunthriga thailam* is a medicated oil composed of *Poonai kann Kunthrigam* (Hard resin of *Pistacia lentiscus*) and *Nalennai* (Seed oil of *Sesamum indicum*). Previous studies have reported anti-inflammatory, anti-arthritic, analgesic and anti-nociceptive properties of *Nalennai* (Seed oil of *Sesamum indicum*) (15). Anti-inflammatory and antipruritic properties of topical application of *Poonaikann Kunthrigam* (Hard resin of *Pistacia lentiscus*) were also elaborated in previous studies (16). Application of *Kunthriga Thailam* in the form of *Pattikattal* serves to immobilize the affected area, prolonging the contact time of the medicinal oil and promoting the healing process (9).

In Siddha perspectives, *Suttigai* therapy pacifies *Vatham* and removes *Kabam*. *KumbaVatham*, is caused due to vitiated *Vatha* humour and owing to its chronic condition, *Kabam* humour also gets vitiated. Hence, *Suttigai* therapy helps in pacifying this condition. *Poonaikann Kunthrigam* (Hard resin of *Pistacia lentiscus L., Anacardiaceae*) has *Thuvarppu suvai* (Bitter taste), *Veppa Veeriyam* (Hot potency) and has stimulant action (*Veppamundaki*). *Nalennai* (Seed oil of *Sesamum indicum L. Pedaliaceae)* has *Enippu suvai* (Sweet taste), *Veppa Veeriyam* (Hot potency) and demulcent action (*Ulazhalattri*) (17). These organoleptic character and pharmacological actions of *Kunthriga thailam* and *Suttigai* therapy attribute to the potent therapeutic effectiveness of this treatment modality in this case.

Prior studies have demonstrated the efficacy of *Suttigai* therapy in treating conditions like *Azhal Keel Vayu* (Osteoarthritis of the knee joint), *MugaVatham* (Bell's palsy), and *KumbaVatham* (frozen shoulder) (14,18). Additionally, metal cauterization has been shown to be effective in managing heel pain caused due to plantar fasciitis and calcaneal spur in Ayurvedic medicine (19-21). The findings from Ron Clijen et al. also indicated that local heat applications can lead to immediate improvements in pain, physical function, and disability (22). This similarity suggests that the mechanism behind *Suttigai* therapy may align with the broader understanding of heat therapy in managing chronic pain and inflammation. The results of this study shows that the use of *Pattikattal* in conjunction with *Suttigai* is a novel therapeutic combination for managing musculoskeletal conditions which has not been studied previously.

This novel therapeutic approach is not only clinically effective, but is also cost-effective, easily admissible in OPD set up and non-invasive. Despite these advantages, these results are limited from a single case report, hence further large-scale researches are needed to validate these findings.

Conclusion

Haglund's disease is considered as *Kuthikaal Vatham* and *Suttigai* therapy followed by *Pattikattal* with *Kunthriga thailam* was done to balance the vitiated humours. As the patient reported positively, majority of the complaints were reduced and AOFAS Ankle Hind foot scale scores improved following treatment, this study proves the therapeutic effectiveness of this treatment modality is in the management of *Kuthikaal Vatham* and can be done at the OPD level. However randomised controlled trials are needed to substantiate the results.

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