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Use of *Abhyanga* and *Kumbi Sweda* with modified *Mṛttikādi* bricks in the management of *Vātakantaka* (calcaneal spurs): An observational case study

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Abstract

Vātakantaka, categorized under *Nānātmaja Vāta Vyādhi* in Ayurveda is clinically correlated with calcaneal spurs. It is characterized by sharp heel pain caused by *Vāta* vitiation affecting the *Snāyu* (tendons), *Asthi* (bones), and *Sandhi* (joints) of the heel particularly during weight-bearing activities. This condition affects individuals aged 20–70 years. The present study evaluated the therapeutic effect of *Guduchyādi Taila Abhyanga* (Ayurvedic therapeutic oil massage) combined with *Kumbhi Sweda* (a traditional Ayurvedic sudation treatment) using modified *Mṛttikādi* bricks in the management of *Vātakantaka*. An observational case study was conducted at the National Ayurveda Teaching Hospital, Borella, Sri Lanka, on one patient clinically and radiologically diagnosed with calcaneal spur and presenting with heel pain. After obtaining informed consent, the patient received daily *Guduchyādi Taila Abhyanga* over the affected heel, followed by *Kumbhi Sweda* using heated modified *Mṛttikādi* bricks (7 cm × 5 cm × 3 cm) prepared from *Mṛttikā* (clay), *Spatika* powder (quartz), cow dung, and water. The treatment was administered for 14 consecutive days, followed by a 14-day follow-up period. Pain intensity was assessed using the visual analogue scale (VAS) at baseline, post-treatment and at the end of the follow-up. Clinical findings were systematically documented. The patient reported complete pain relief (100%) and demonstrated full mobility by the fourth week. However, radiological evaluation revealed no significant regression of the calcaneal spur. The combined *Abhyanga* and *Swedana* treatment, as *Bahirparimarjana Cikitsā*, effectively alleviated *Vāta Vyādhi*-related symptoms. *Guduchyādi Taila* and *Mṛttikādi* bricks exhibited *Vāta-hara*, anti-inflammatory and analgesic effects while steam application facilitated the reduction of stiffness. These preliminary findings support the clinical use of *Guduchyādi Taila Abhyanga* and *Kumbhi Sweda* with modified *Mṛttikādi* bricks for calcaneal spurs. However, larger controlled studies are needed to rule out the placebo effect and validate their efficacy and long-term outcomes.

Keywords: Guduchyādi Taila, Kumbhi Sweda, modified Mṛttikādi bricks, Vātakantaka

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Introduction

Ayurveda is one of the world's oldest healing sciences, with a history spanning over five thousand years. It emphasizes natural methods of healing through medicinal herbs and therapeutic procedures. Its core aim is to restore balance within the body while avoiding harmful side effects. Time-tested remedies preserved in classical texts and ancient Ola leaf manuscripts continue to guide this tradition. The present work focuses on a condition known as *Vātakantaka* and its management through Ayurvedic therapeutic procedures. According to authentic Ayurvedic texts, this disease comes under *Nānātmaja Vāta Vyādhi*. It is characterized by severe aching pain in the heel when *Vāta doṣa* (One of the three foundational energies in Ayurveda) becomes aggravated due to improper foot posture or excessive strain caused by overuse.

This painful condition affecting the heel and foot is termed *Vātakantaka* (Kumarasinghe, 1996; Sharma, 2013; Vagbhata, 1964). In severe cases, the pain becomes unbearable and significantly interferes with daily activities. In Allopathic medicine, *Vātakantaka* is correlated with calcaneal spur, which is defined as a bony projection arising from the inferior aspect of the calcaneal tuberosity. In recent years, the prevalence of *Vātakantaka* has increased considerably. Individuals between the ages of 20 to 70 years are commonly affected (Tanksali & Patil, 2021). Contributing factors include the regular use of high-heeled footwear, obesity, and walking barefoot on hard surfaces (Rao & MS, 2013). Therefore, identifying the underlying causes and addressing them effectively is essential for achieving long-term relief. In Allopathic medicine, treatment options include shockwave therapy, dry needling, physiotherapy, anti-inflammatory drugs, corticosteroid injections, analgesics, and surgical intervention in severe cases (Velagala, 2022). In contrast, Ayurveda offers cost-effective, non-invasive treatment modalities that aim to correct the root cause of the disorder.

In this case study, two therapeutic modalities were employed: *Taila Abhyanga* (therapeutic oil application) using *Gudūchyādi Taila* and *Kumbī Sweda* (A traditional Ayurvedic sudation therapy where patient receives steam treatment from hot medicinal liquids placed inside a large pitcher buried underground) with modified *Mṛttikādi* bricks. *Gudūchyādi Taila* is known for its anti-inflammatory and analgesic properties, as well as its ability to balance all three *doṣas*, making it particularly beneficial for managing this condition. Among the various forms of fomentation described in Ayurveda, *Kumbī Sweda* is classified as one of the thirteen types of *Sāgni Sweda Karma* (Fomentation therapy induced with the help of fire) mentioned in the *Caraka Saṃhitā* (Sharma, 2014). Moreover, modified *Mṛttikādi* bricks possess *Vātahara* (Pacify *Vāta Dosha*) properties. Therefore, this study aimed to observe the effect of a combined treatment protocol, *Abhyanga* with *Gudūchyādi Taila* and *Kumbī Sweda* using modified *Mṛttikādi* bricks in the effective management of *Vātakantaka* (calcaneal spur).

Gudūchyādi Taila consists of *Guduchi* (*Tinospora cordifolia*), Sesame oil, and cow's milk, while the Modified *Mṛttikādi* Bricks are composed of *Mṛttikā* (clay), *Spatika* powder (Quartz), and cow dung (Department of Ayurveda, 1992). Table 1 lists the pharmacodynamic properties of ingredients. According to Ayurveda texts and Deshiya Chikitsa textbooks mentioned, giving Sweda by heated *Spatika* are used to treat *Vātakantaka* (Kolombage, 1998) (Department of Ayurveda, n.d.) (Ranasinghe, 2002).

Table 1: Pharmacodynamic properties of ingredients used in the treatment

Ingredients	Pharmacodynamic properties	
<i>Guduchi</i> (<i>Tinospora cordifolia</i>)	<i>Rasa</i> - Kashaya, Thikta <i>Guna</i> - Snigdha, Guru <i>Veerya</i> - Ushna <i>Vipaka</i> - Madhura (Department of Ayurveda, 1967) (Jayaweera, 2006)	<i>Tridosha Shāmaka</i> , <i>Vedana Sthapaka</i> (Analgesic) <i>Raktha Shodhaka</i> Anti-inflammatory (Upadhyay et al., 2010) Antioxidant (Upadhyay et al., 2010)
Cow's milk	<i>Rasa</i> - Madhura <i>Guna</i> - Soft, Unctuous, Dense, Glossy, Viscid, Slow, Clear. <i>Veerya</i> - Sheeta <i>Vipaka</i> - Madhura	<i>Vata pita Shāmaka</i> , <i>Rasāyana</i> (Rejuvenation) (Bajaj et al., 2022)
Sesame oil (<i>Sesamum indicum</i>)	<i>Rasa</i> - Katu, Thikta, Kashaya, Madhura <i>Guna</i> - Snigdha, Guru <i>Veerya</i> - Ushna <i>Vipaka</i> - Katu (Department of Ayurveda, 1967)	<i>Vātaghna</i> , <i>Vedana Sthapaka</i> (Analgesic) <i>Kapha Pitta Nāshaka</i> (Department of Ayurveda, 1967)
<i>Kānji</i> (Vinegar)	<i>Rasa</i> - Amla <i>Guna</i> - Ushana, Lagu <i>Virya</i> - Ushna <i>Vipaka</i> - Amla (Mookerjei, 1938)	<i>Kapha Vāta Shāmaka</i> , Anti-inflammatory (Mookerjei, 1938) Laxative. (Mookerjei, 1938)
<i>Mṛttikā</i>	<i>Rasa</i> - Madhura <i>Guna</i> - Guru, Snigdha, Sheeta <i>Veerya</i> - Sheeta <i>Vipaka</i> - Madhura (Tewari et al., 2025)	<i>Vishagna</i> , <i>Vātaghna</i> (Tewari et al., 2025)
Cowdung	Anti-oxidant property (Raja et al., 2021)	<i>Vishagna</i> (Bajaj et al., 2022)

Methodology

Written informed consent was obtained from the 69 years old female patient for both the treatment and the publication of this case report, with the assurance that personal identity would not be disclosed after explaining the complete procedure of the intervention. Therefore, as the case study is based on clinical observations of a single patient's treatment and outcome, formal ethical clearance was not obtained. The report is based solely on treatment-related observations, and all data have been anonymized to ensure confidentiality.

Study design

This study was a clinical observational case study conducted at the Outpatient Department of the Department of *Kāyachikitsa*, Professorial Unit, National Ayurveda Teaching Hospital, Borella, Sri Lanka. A 69 years old female patient presenting with heel pain was recruited for the study (The date of recruitment was excluded from the case study report to ensure anonymity). Prior to

treatment, a thorough clinical examination was performed, and all relevant findings were systematically recorded in a predesigned pro forma.

The patient presented with heel pain and had not received any previous treatment for the same condition. Patient did not present with any wounds, ulcers, fractures, or dislocation of the ankle joint. Diagnostic evaluation was performed using a lateral radiograph of the foot, taken before and after treatment.

Preparation of Guduchyādi Thaila

Specimen samples of *Tinospora cordifolia* was authenticated by the Department of Ayurveda Pharmacology, Pharmaceutics, and Community Medicine, Faculty of Indigenous Medicine, University of Colombo (No: FIM/DV & SW/UG/2019-2020/016). *Guduchyādi Thaila* was prepared according to Ayurveda Pharmacopoeia and *Thaila Paribhasha* of *Shārāṅgadharā Samhithā Madhyama Khanda* (Nagodavitana, 2001).

Six hundred grams (600 g) of fresh stem of *Guduchi* (*T. cordifolia*) were collected from Sandalankawa, Kurunegala District. It was properly washed with running tap water and cut into small pieces. All the stems of *Guduchi* were placed in the pot, 1536 mL of water was added, and the mixture was heated over a low flame until it reduced to 384 mL of decoction. Twenty-four grams (24 g) of fine powder of *Guduchi* stem (*T. cordifolia*) was used to prepare *Kalka* by grinding with 96 mL of water until a non-sticky paste formed.

Then *Guduchi Kalka* was mixed with the decoction. *Tila Taila* (sesame oil) was heated on a low flame till the water evaporated, the foam disappeared and allowed to cool down. After that, *Kalka Dravya*, decoction, and cow's milk were added to the sesame oil and heated on a mild to moderate flame until the oil attained *Thaila Siddha Lakshana*. Then the vessel was removed from the heat, and the oil was filtered.

Preparation of modified *Mṛttikādi* bricks

Pure *Mṛttikā* (clay) and *Spatika* were collected from Sandalankawa, Kurunegala District. *Spatika* was ground into fine particles. To make a brick, *Mṛttikā*, *Spathika powder*, and cow dung were mixed in the ratio 4:2:1 with water until a semi-solid paste formed. The prepared mixture was then moulded into cuboidal bricks of dimensions 7 cm (length) × 5 cm (width) × 3 cm (height). The moulded bricks were dried in the sunlight and subsequently baked in a brick oven until they became red-hot.

Preparation of *Kumbi Sweda* equipment

A wooden box was constructed with dimensions 45 cm (length) × 45 cm (width) × 25 cm (height). The box was then filled with soil up to a height of 10 cm from the base. Subsequently, a clay pot filled with vinegar was placed inside the box and buried in the soil to approximately one-third of its height.

Treatment protocol

Guduchyadi Thaila Abhayanga (oil application): *Guduchyadi Thaila* was applied on the heel region and massaged well for about 10 minutes continuously during the 1st and 2nd weeks. *Kumbi Sweda* (sudation therapy) (Figure 1): *Kumbi Sweda* was performed following *Guduchyadi Thaila Abhayanga*. Modified *Mrittikādi* bricks were heated until they turned red-hot. Then it was placed in a pot filled with vinegar. When the vapor arose from the vessel the patient was advised to keep the heel close to the mouth of the pot. This procedure was performed continuously for about 15 minutes during the 1st and 2nd weeks.



Figure 1. Fomentation during Kumbi Sweda

Follow-up observations

The patient was advised to use soft slippers/shoes and to minimize walking or standing for long periods. Follow-up sessions were conducted in the 3rd and 4th weeks of treatment to assess the effect of the treatment protocol.

Assessment of pain

A visual analogue scale (VAS) score of 0–10 was used to assess pain before, during and after treatment. The pain scale is as follows. A pain score of 0 was considered as no pain. A score of 1 to 3 was considered as mild, a score of 4–6 as moderate and a score of 7 to 9 was considered as severe pain and a score of 10 was considered as unbearable pain (Delgado et al., 2018)

Results

Therapeutic effect on pain symptoms

The effect of the treatment used in the present study on pain was assessed before, during, and after 4 weeks of treatment. The overall effect of the treatment regimen is given in Figure 2.

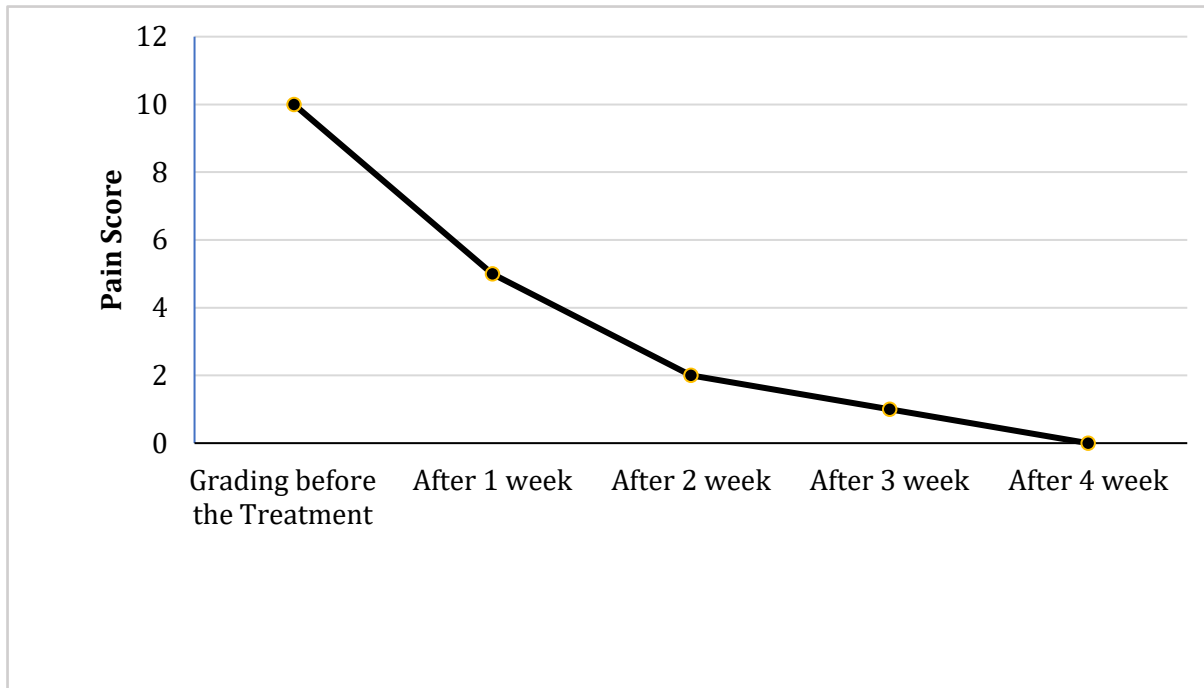


Figure 2. Overall effect of the treatment protocol on perceived pain during the treatment regimen

The patient's pain was reduced to a score of 5 during the first week of treatment. By the end of the second week, the pain had further decreased to a score of 2. It continued to decline to a score of 1 by the third week. At the end of the fourth week, the patient reported a pain score of 0, indicating complete relief.

Radiological findings

Before and after the intervention, a lateral radiograph of ankle joint was taken, and the size of spurs in the calcaneal bone was assessed.



Figure 3. Lateral radiograph of the foot before the treatment showing a prominent bony projection (calcaneal spur) arising from the base of the calcaneus in B/L heel (arrow).



Figure 4. Lateral radiograph of the foot after the treatment showing a bony projection (calcaneal spur) at the base of the calcaneus in B/L heel (arrow).

Although no prominent reduction in the heel spur was observed on post-treatment radiographs, the patient's pain was completely relieved.

Discussion

In Ayurveda, *Vātakantaka* is a condition that arises due to vitiation of *Vāta Dosha*, predominantly manifesting in the heel region with severe pain. The treatment principle for *Vāta* disorders focuses on balancing *Vāta* through *Snehana* (oleation) and *Swedana* (sudation/therapeutic sweating) therapies. In this case study, a notable therapeutic effect was observed in reducing calcaneal spur-associated pain and improving mobility. The most significant reduction in pain was observed during the first two weeks of treatment. *Guduchyādi Taila* has been reported to have anti-inflammatory and analgesic properties. It is reported to balance all three *doshas* due to the ingredients of *Guduchi* (*T. cordifolia*), sesame oil, and cow's milk. The modified *Mṛttikādi* bricks have *vāta hara* effect due to their ingredients, particularly *Mṛttikā* (clay), which possesses *Snigdha* (unctuous), *Guru* (heavy), and *Pichchila* (slimy) properties. Additionally, *Spatika* (a type of stone) is used in traditional medicine and may have beneficial effects in the management of *Vātakantaka*. *Sweda Karma* using vinegar steam is believed to reduce *Ama* due to its *Theekshna* (sharp) and *Ushna* (hot) properties, which purify the *Srotas* (channels), enhance tissue penetration, and improve drug absorption. Vinegar's acidic nature is also believed to support microbial cleansing (Rama, 2014). Therefore, the combined treatment use of *Guduchyādi Thaila* for oil application and *Kumbi Sweda* with modified *Mṛttikādi* bricks for sudation therapy effectively pacifies *Vāta*, reduces heel pain, and restores mobility, offering a holistic, non-invasive, and Ayurvedic treatment pathway.

Conclusion

This case study showed that *Abhyanga* with *Guduchyādi Thaila* and *Kumbi Sweda* with modified *Mṛttikādi* bricks was effective in reducing heel pain. It is a beneficial Ayurvedic treatment for management of heel pain. However, further research with a larger sample size is needed to rule out the placebo effect and validate the efficacy of this combined treatment and long-term outcomes.

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Conflict of interest statement

The author declares that there is no conflict of interest.

Data availability statement

All the relevant data supporting the conclusions of this article are included within the manuscript.

Author Contribution

Conceptualization and study design: W.D.S.; execution and data collection: W.D.S.; analysis and interpretation: W.D.S., E.D.T.P.; manuscript writing-original draft: W.D.S.; supervision: E.D.T.P.

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