



Review article

Role of Marma therapy and Agnikarma in the management of Vatakantaka (plantar fasciitis)

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ABSTRACT

Vatakantaka, known as plantar fasciitis in modern medicine, is a common condition characterized by pain in the heel and bottom of the foot. It most commonly affects individuals between the ages of 40 and 60 years. The vitiation of Kapha and Vata doshas leads to pain in the *Pada* (foot), *Parshini* (heel), *Gulpha* (ankle), and *Jangha* (calf). The intensity of the pain may vary. Treatment involves both external and internal therapies, including *Stahnika Snehana*, *Upanaha*, *Agnikarma*, *Raktav-sechana*, *Bandhana*, *Viddhakarma*, and *Abhyantara Snehapana*. Additionally, Marma therapy helps to open channels and enhance bodily circulation. This review article aims to bridge traditional Ayurvedic wisdom with modern clinical practices, offering insights into the potential of Marma therapy and Agnikarma in effectively managing plantar fasciitis. The therapeutic mechanisms, clinical evidence, and practical applications of these Ayurvedic treatments are discussed to provide a comprehensive understanding of their efficacy in relieving plantar fasciitis symptoms.

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INTRODUCTION

In Ayurvedic texts, bone and joint diseases are categorized under the heading of *Vata-Vyadhi*. As the name suggests, vitiated *Vata Dosha* is the root cause of these conditions. *Vatavyadhi* is mentioned in the "Ashtamahagadas" of all classical texts due to its unique nature and difficulty in management.

Among all *Vatavyadhis*, *Vatakantaka* is one of the key conditions. Acharya Sushruta was the pioneer in establishing this concept and described *Vatakantaka* in the *Nidansthana*, specifically in the *Vatavyadhi Nidanadhyaya* (Sushruta, 2008). According to Sushruta, *Vatakantaka* primarily occurs due to walking on uneven surfaces and excessive exertion (*Shrama*), which causes vitiated Vata dosha to accumulate (*Sthanasamshraya*) in the heel region (*Khudakashritha*), resulting in severe pain. Acharya Vagbhata described the disease similarly, noting that the term "*Vatakantaka*" refers to a Vata-related disorder in which the patient experiences pain in the heel, resembling the sensation of being pricked by a thorn (*Kantaka*). One of the main signs of *Vatakantaka* is pain in the *Gulpha Sandhi*.

The clinical presentation of *Vatakantaka* is analogous to Plantar Fasciitis. In plantar fasciitis, there is inflammation of the plantar fascia, with or without fibroblast formation, leading to similar symptoms. Plantar fasciitis is a common cause of heel pain that affects many individuals worldwide. This condition involves inflammation of the plantar fascia, causing significant

discomfort, especially with the first steps after periods of rest.

The incidence of *Vatakantaka* (Plantar Fasciitis) has been increasing steadily, and its high prevalence in the general population is often linked to wearing uncomfortable footwear that prioritizes aesthetics over comfort. Additionally, walking long distances, engaging in strenuous movements, and standing for extended periods contribute to the aggravation of *Vatakantaka*.

Conventional treatments include physical therapy, medication, and orthotics, but persistent cases often require alternative approaches. Ayurveda, with its holistic and natural treatment modalities, offers promising solutions, such as Marma therapy and Agni karma.

UNDERSTANDING VATAKANTAKA

Aetiology

Although the aetiology of plantar fasciitis is not fully understood, several risk factors have been proposed:

1. Excessive weight load on the foot due to obesity or pregnancy (Frey and Zamora, 2007).
2. Inflammatory arthritis, such as rheumatoid arthritis (RA) and spondyloarthropathy.
3. Conditions like diabetes mellitus (Gallego et al., 2008), hypothyroidism (Cakir et al., 2003), and osteoarthritis (Rao et al., 2011).

4. Tight Achilles tendons, which prolong foot flexion and shorten the plantar fascia, leading to pain upon standing (Chen and Greisberg, 2009).
5. Mechanical imbalances in the foot, especially when walking in shoes with inadequate arch support, such as flip-flops (Krivickas, 1997).
6. Long-distance running, particularly on rough or downhill surfaces (Chen and Greisberg, 2009).

Pathophysiology

Vatakantaka results from the aggravation of *Vata dosha*, particularly *Apana Vata* in the lower extremities. Contributing factors include excessive strain on the feet, prolonged standing, improper footwear, and trauma.

Symptoms

The primary clinical manifestation of *Vatakantaka* is pain. There is some disagreement among Ayurvedic scholars regarding the exact location of the pain. While Acharya Vagbhata mentions pain at the *Gulpha Sandhi* (ankle joint), Acharya Sushruta locates the pain at the *Khudaka Pradesha* (heel region). In plantar fasciitis, the pain typically occurs at the medial tubercle of the calcaneum. Key symptoms of plantar fasciitis include:

1. First-step pain (post-static dyskinesia), experienced after a period of non-weight bearing, such as rising from bed in the morning, standing for several hours, or driving the car for a prolonged period (Landorf, 2015).
2. Severe pain in the morning, which eases after a few minutes as the foot warms up.
3. Pain upon pressing the inside of the heel and sometimes the arch.
4. Pain when stretching the plantar fascia.
5. Sometimes, pain may radiate to the outside edge of the heel, especially in individuals with high-arched feet.

Investigations

1. X-rays are used to rule out other causes of heel pain, such as calcaneal stress fractures (Irving et al., 2006).
2. MRI is performed to identify other possible diagnoses, including calcaneal stress fractures, calcium deposits, or soft tissue tumors (Recht and Donley, 2001).

Upasaya

Specific *Upashaya* (therapeutic measures) are not mentioned, but *Ushna Upachara* (hot therapy) may provide relief for *Vatavyadhi* and *Shrama*, while *Vishrama* (rest) may alleviate pain after considering the underlying cause.

Samprapti

Due to the *Nidanas*, *Vata* gets vitiated and lodges in *Gulphasandhi* and produces *Padaruk* (*Khuddakaashrit*) in heel. The *Nidanas* like *Vishama pada* and *Shrama* may

leads to *Vataprakopa*. Because of *Abhighata* due to placing the *pada* in uneven surfaces, the *Vata Swarupa Rakta Dushti* happens. i.e. *Marga* of *Vata* gets blocked by *Prakupita Rakta*, *Vata* gets *Aavrata* by *Rakta*, in this way *Aavrata Vayu* does *Dhushana* of *Rakta* of complete *Shareera*.

Samprapti Ghataka of Vatakantaka

Dosha - Vata

Doosha - Mamsa, Rakta

Srotas - Raktavah Asthivaha

Srotodusti - Sanga, Vimargaman

Agni - Rakta, Mamsa, Rakta Dhatvagnianya

Roga - Marga Madhyama

Udbhavasthana - Pakvashaya

Vyaktasthana - Gulphasandhi, Padatala Adhishtana

Chikitsa

Charaka has advised *Dravyas* with *Madhura, Amla, Lavana, Snigdha* and *Ushna* properties and *Upakramas* like *Snehana, Swedana, Asthapana* and *Anuvasana Basti, Nasya, Abhyanga*, etc. *Rakthamokshana, Pana* of *Erandathaila* and *Daha* with *Soochi* as line of treatment of *Vatakantaka*. *Siraveda* is considered as a treatment of *Vatakantaka* by Acharya Sushruta and Vagbhata.

TREATMENT APPROACHES FOR PLANTAR FASCIITIS

Conventional treatments

1. Conservative care, including patient education, orthotics, soft tissue massage, ice and heat therapy, and strengthening exercises.
2. Extra-corporeal Shock Wave Therapy.
3. Non-steroidal anti-inflammatory drugs (NSAIDs) to reduce pain and swelling.
4. Corticosteroid injections.
5. Partial plantar fasciotomy (open, percutaneous, or endoscopic).
6. Supplements such as Vitamin C, Zinc, Omega-3 fatty acids, and Glucosamine to ease pain.

Ayurvedic treatments

Marma therapy

Marma points are vital energy points in the body where *Prana* (life energy) resides. Stimulating these points can help balance the doshas and improve overall health. Marma therapy can relieve pain, improve circulation, and promote healing. Pressure is applied to specific points on the upper and lower extremities, improving lymphatic drainage and blood circulation, while easing muscle tension and restoring *Prana* flow.

Marma is defined by Acharya Sushruta as essential vital points that, if damaged, can result in excruciating pain, disability, loss of function, loss of sensation, or even death. *Mansa* (muscle), *Sira* (blood vessels), *Snayu* (ligaments and tendons), *Asthi* (bones), and *Sandhi* (joint) come together to form *Marma*. *Panchabhautika* (*Prithivi, Jala, Teja, Vayu, and Akash*) are the *Marmas*. It is

believed that the *Prana*, or life power, is located in 12 *Marmas*. 107 *Marma* was thoroughly divided and subdivided by *Acharya Sushruta*.

Concept

1. *Marma* points are vital energy points in the body, where *Prana* (life energy) resides.
2. Stimulating these points can balance the *Doshas* and improve overall health.

Application

For rendering *Marma* therapy, the pressure applied should be optimal with contact time of one cardiac cycle constituted by 0.8 seconds and it should be repeated for 12-20 times. From the centre to the periphery, begin applying pressure to the *Marma* at the upper and lower extremities. It improves lymphatic drainage and blood circulation, eases tense muscles and encourages recovery; restores *Prana* flow and balances *Vata Dosh*.

Mode of action

1. Pain Relief and Circulation: *Marma* therapy improves blood circulation to the affected area, especially the foot, which helps reduce inflammation and supports tissue repair.
2. Restoring Energy Flow: By stimulating *Marma* points around the feet, ankles, and legs, this therapy restores the flow of *prana* (life force energy), which can help alleviate stiffness and pain in the fascia.
3. Reduction of Inflammation: *Marma* therapy promotes lymphatic drainage, which aids in reducing swelling in the foot and relieving the pressure on the plantar fascia.
4. Muscle Relaxation: The gentle pressure applied to *Marma* points can help relax tight muscles, including the calf and foot muscles, which often contribute to plantar fasciitis pain.

Clinical evidence

Studies show significant pain reduction and improved mobility with *Marma* therapy. Case reports highlight its effectiveness in chronic plantar fasciitis cases.

Agnikarma

Agnikarma involves the therapeutic application of heat using metallic instruments or heated substances to treat chronic pain conditions. The heat helps pacify vitiated doshas, especially *Vata* and *Kapha*, and promotes healing. *Agnikarma* plays a significant role in relieving musculoskeletal pain, including conditions like plantar fasciitis (Uniyal et al., 2022).

The process is carried out by choosing the proper *Dahanopakarana* in accordance with the *Dhatu* level. In *Twakgata* condition, heated pippali is used; in *Mamsa* condition, *Panchaloha Shalaka*; and in *Sandhi* and *Asthi* condition, *Tapta Guda* (Heated Jaggery) *Agnikarma* is performed using a specifically made instrument.

Agnikarma of the *Bindu* kind is applied to all medical conditions.

Agni karma involves the therapeutic application of heat with the help of metallic instruments. It is used for chronic pain conditions and is known for its immediate and long-lasting effects. According to our *Ayurvedic* classics, *Agni's Ushna Guna* (hot property) pacifies the *Vata-Kapha Doshas* and raises *Dhatwagni* even more. In doing so, it breaks the pathology of the disease along with reduction in pain. *Agnikarma* plays a significant role in relieving pain in diseases with musculoskeletal origin like *Parshnishool* (calcaneal spur, plantar fasciitis), *Sandhigatavata*, *Avbahuka* (frozen shoulder) etc. This procedure is original idea of modern cauterization procedure.

Applications

Samyaga Dagdha Vrana Lakshana presented as *Anavgadha* (wound which is not deep), *Talpalvranata* (bluish blackish in colour), *Susamsthita Vrana* (without elevation or depression) and also includes preceding signs of *Twak, Mansa, Sira, Snayu, Asthi-Sandhi Dagdha*.

Mechanism of action

1. Pain Reduction: The application of heat triggers the body's natural analgesic responses, relieving chronic pain associated with plantar fasciitis.
2. Inflammation Control: *Agnikarma* helps in reducing swelling and redness, particularly in conditions like plantar fasciitis, by promoting circulation and improving the flow of vital energy to the affected area.
3. Tissue Repair and Regeneration: The heat promotes collagen formation and tissue regeneration, aiding in the healing of the fascia and surrounding structures.
4. Relaxation of Muscle and Fascia: *Agnikarma* helps to break down scar tissue and reduce muscle tension, which can prevent the fascia from becoming stiff and inflamed.

Importance of Agnikarma

There are two ways to apply *Agnikarma*: for the *Roga Unmulana*, which cures illness, and for the treatment of pain. Among *Dahan Kriyas*, *Agnikarma* has been ranked higher than *Ksharakarma* by both *Acharya Sushruta* and *Vagbhatta*. It aids in haemostasis by clotting bleeding vessels and causing coagulation. It is regarded as a superior procedure since it stops diseases from recurring by eliminating them at their source. It affects both the *Vata* and *Kapha Doshas* in a *Shamaka* way.

Clinical evidence

1. Research indicates substantial pain relief and functional improvement in patients undergoing *Agni Karma*.
2. Anecdotal evidence from *Ayurvedic* practitioners supports its efficacy in stubborn plantar fasciitis cases.

Treatment Protocol

1. Initial assessment to identify the predominant *Dosha* and specific *Marma* points.
2. Sequential application of *Marma* therapy followed by *Agnikarma* for optimal results.
3. Regular follow-up and supportive *Ayurvedic* treatments (herbal formulations, dietary recommendations) to maintain benefits.

SYNERGISTIC BENEFITS OF MARMA THERAPY AND AGNIKARMA IN PLANTAR FASCIITIS

Marma therapy in plantar fasciitis

Marma therapy involves the stimulation of specific energy points (*Marma* points) on the body, which correspond to vital organs and tissues. These points are used to release blockages, restore balance, and promote healing.

Marma points for plantar fasciitis

1. *Kshipra*: Located on the top of the foot, this point helps improve blood flow and relieves pain.
2. *Talahridaya*: Found in the centre of the foot's arch, this point is key in relieving foot pain and treating issues related to the plantar fascia.
3. *Gulpha*: Located on the ankle, it can help relax the calf muscles and relieve tension in the lower leg.

Agnikarma in plantar fasciitis

Agnikarma is typically applied over the heel or arch of the foot using a heated metallic probe or herbal paste. The heat application stimulates the healing of the fascia and soft tissues.

Combining Marma therapy and Agnikarma

Marma therapy and *Agnikarma* can provide compounded benefits when used together, for those suffering from plantar fasciitis. Here's how they work synergistically:

1. Enhanced Pain Relief: While *Agnikarma* provides immediate pain relief through heat, *Marma* therapy helps to sustain the relief by improving circulation and energy flow in the foot.
2. Faster Healing: *Marma* therapy supports the recovery process by promoting circulation and reducing toxins in the body, while *Agnikarma* accelerates tissue repair through the stimulation of heat.
3. Comprehensive Approach: *Marma* therapy focuses on restoring the body's energy balance and relieving chronic pain, whereas *Agnikarma* addresses inflammation and scar tissue, which are key issues in plantar fasciitis.
4. Deep Tissue Relaxation: *Marma* therapy works on energy points that release muscle tension, while *Agnikarma* works directly on the fascia and surrounding tissues, leading to a comprehensive relaxation effect.

Holistic healing

Both therapies are grounded in the principles of *Ayurveda*, which focus on balancing the body's *Tri-doshas*. By balancing energy through *Marma* therapy and using *Agnikarma* to target inflammation and pain, these therapies provide a holistic approach to treating plantar fasciitis, aiming at both the symptoms and the underlying imbalances in the foot.

CONCLUSION

The combination of *Marma* therapy and *Agnikarma* can provide significant benefits for managing plantar fasciitis. These treatments offer pain relief, reduce inflammation, improve circulation, and support tissue healing. By integrating these *Ayurvedic* modalities with conventional care, patients can achieve a more holistic and effective approach to managing plantar fasciitis.

CONFLICTS OF INTEREST

The author(s) declare(s) no conflicts of interest.

DECLARATION

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