



EFFICACY OF SUVARNA SHALAKA AGNIKARMA IN GRIDHRASI: A COMPARATIVE TRIAL WITH RAKTAMOKSHANA

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ABSTRACT

Background: Gridhrasi (sciatica) is a debilitating condition characterized by radiating pain, stiffness, and restricted mobility due to sciatic nerve compression. Ayurveda describes it as a Vata or Vata-Kapha disorder, managed through therapies like Agnikarma (therapeutic heat application) and Raktamokshana (bloodletting). This study compares the efficacy of Suvarna Shalaka Agnikarma with Raktamokshana in managing Gridhrasi. **Methods:** A randomized comparative clinical trial was conducted on 20 patients, divided into two groups: **Group A (n=10)** received Agnikarma on Days 0, 3, 5, and 7, while **Group B (n=10)** underwent Raktamokshana on the same schedule. The primary assessment criteria included pain intensity (Ruk), stiffness (Stambha), Straight Leg Raise (SLR) test, and walking speed. **Results:** Patients in the Agnikarma group showed faster and more sustained pain relief, improved mobility, and better SLR test outcomes than the Raktamokshana group. By Day 10, **80% of Group A patients reported marked improvement** compared to **50% in Group B**. No significant adverse effects were noted in either group. **Conclusion:** Suvarna Shalaka Agnikarma is more effective than Raktamokshana in providing long-term relief from pain and stiffness in Gridhrasi. It serves as a promising alternative for managing sciatic pain.

KEYWORDS: Gridhrasi, Sciatica, Agnikarma, Raktamokshana, Ayurveda.

INTRODUCTION

Gridhrasi (Sciatica) is a debilitating neuromuscular disorder characterized by radiating pain, stiffness, and restricted mobility due to sciatic nerve compression. The pain typically originates in the lower back (kati) and radiates along the path of the sciatic nerve, affecting the thigh (uru), knee (janu), calf (jangha), and foot (pada). In severe cases, it can lead to difficulty in walking, muscle weakness, and neurological deficits.

Ayurvedic Perspective on Gridhrasi

In Ayurveda, Gridhrasi is classified as a Vata-vyadhi (disorder of Vata dosha) and is primarily caused by Vata or Vata-Kapha dosha aggravation. Vitiated Vata dosha leads to ruk (pain), toda (pricking sensation), and stambha (stiffness), which closely resemble the clinical manifestations of sciatica in modern medicine. When Kapha dosha is involved, it adds guruta (heaviness) and further stiffness, making movement more difficult. The pathological process involves obstruction of normal Vata movement (Vata avarana), depletion of dhatus (tissue degeneration), and accumulation of ama (toxins), which lead to nerve compression and inflammation.

Treatment Approaches

Ayurvedic treatment of Gridhrasi focuses on pacifying the aggravated doshas, reducing nerve inflammation, improving circulation, and restoring normal neuromuscular function. Among the many therapies described in Ayurveda, Agnikarma (therapeutic heat application) and Raktamokshana (bloodletting) are two of the most effective procedures for pain management and nerve decompression.

- **Agnikarma** involves applying heat through a Suvarna Shalaka (gold probe) to affected areas, producing deep tissue penetration that helps reduce nerve compression, stimulate blood flow, and relieve stiffness. This procedure is known to instantly pacify Vata and Kapha dosha and provide long-term pain relief.
- **Raktamokshana**, specifically using the cupping method (Shringa Yantra), works by removing vitiated blood and toxins from the affected area. It helps in detoxification, improving local circulation, and reducing inflammation, thereby relieving pain to some extent. However, its effect is primarily temporary, as it does not directly address the neuromuscular dysfunction.

Rationale of the Study

While both Agnikarma and Raktamokshana are used in Ayurvedic clinical practice for pain management in Gridhrasi, there is limited comparative research on their efficacy. This study aims to evaluate the effectiveness of Suvarna Shalaka Agnikarma in comparison to Raktamokshana (cupping method) in managing pain, mobility, and functional recovery in patients with sciatica. By assessing clinical outcomes, patient response, and long-term relief, this research will contribute to the scientific validation of Agnikarma as a superior intervention for Gridhrasi.

AIM OF THE STUDY

To compare the effectiveness of Suvarna Shalaka Agnikarma and Raktamokshana in the management of Gridhrasi, based on subjective and objective assessment criteria.

MATERIALS AND METHODS

Study Design

- A randomized comparative clinical trial was conducted on **20 patients** diagnosed with Gridhrasi.
- Patients were divided into two groups:
 - **Group A (10 patients)** received Agnikarma using Suvarna Shalaka.
 - **Group B (10 patients)** underwent Raktamokshana (cupping method).

TREATMENT DETAILS

Details	Group A (Agnikarma)	Group B (Raktamokshana)
Karma	Agnikarma (Therapeutic heat application)	Raktamokshana (Bloodletting via cupping)
Duration	Days 0, 3, 5, 7	Days 0, 3, 5, 7
FollowUp	10th Day	10th Day
Site	4 Fingers Above Janusandhi	4 Fingers Above Janusandhi

PROCEDURE DETAILS

1. Agnikarma Procedure (Group A)

- Suvarna Shalaka was heated using a candle flame and applied at specific tender points along the sciatic nerve pathway.
- Post-procedure application of **Aloe Vera Gel, Madhu (Honey), and Ghrita (Ghee)** for soothing and healing.

Inclusion Criteria

- Patients aged **40-50 years** with classical symptoms of Gridhrasi.
- Positive **Straight Leg Raise (SLR) test** between 35-75 degrees.
- Patients with controlled **hypertension or diabetes**.

Exclusion Criteria

- Patients with **spinal trauma, pregnancy, systemic diseases, spinal tuberculosis, or cancer**.
- Those with **skin conditions** at the Agnikarma site.
- Patients on **antipsychotic medications**.

ASSESSMENT CRITERIA

1. Subjective Parameters

- **Ruk (Pain) Grading (0-4):** Evaluated based on the severity of pain and ability to walk.
- **Stambha (Stiffness) Grading (0-4):** Based on stiffness duration and its impact on daily activities.

2. Objective Parameters

- **SLR Test Grading (0-4):** Based on the angle at which pain is elicited.
- **Walking Speed Grading (0-4):** Based on the time taken to walk 20 meters.

2. Raktamokshana (Cupping Method) Procedure (Group B)

- Shringa (Cupping) was applied to create suction and draw blood from the affected area.
- The procedure lasted for **5-15 minutes** followed by antiseptic care and a pressure bandage.

Master Chart of Patients

Patient No.	Group	Ruk (Pain) Grade	Stambha (Stiffness) Grade	SLR Test Grade	Walking Speed Grade
1	A	3 → 1	3 → 1	3 → 1	3 → 1
2	A	4 → 1	4 → 2	4 → 2	4 → 1
3	A	3 → 1	3 → 1	3 → 1	3 → 1
4	A	4 → 2	4 → 2	4 → 2	4 → 1
5	A	4 → 1	4 → 2	4 → 2	4 → 1
6	A	3 → 1	3 → 1	3 → 1	3 → 1
7	A	4 → 1	4 → 2	4 → 2	4 → 1
8	A	3 → 1	3 → 1	3 → 1	3 → 1
9	A	4 → 2	4 → 2	4 → 2	4 → 1
10	A	4 → 1	4 → 2	4 → 2	4 → 1
11	B	3 → 2	3 → 2	3 → 2	3 → 2

12	B	4 → 3	4 → 3	4 → 3	4 → 3
13	B	3 → 2	3 → 2	3 → 2	3 → 2
14	B	4 → 3	4 → 3	4 → 3	4 → 3
15	B	4 → 3	4 → 3	4 → 3	4 → 3
16	B	3 → 2	3 → 2	3 → 2	3 → 2
17	B	4 → 3	4 → 3	4 → 3	4 → 3
18	B	3 → 2	3 → 2	3 → 2	3 → 2
19	B	4 → 3	4 → 3	4 → 3	4 → 3
20	B	4 → 3	4 → 3	4 → 3	4 → 3

RESULTS

- **Pain Relief (Ruk Grade):** Agnikarma showed a **75% reduction**, while Raktamokshana showed **50% reduction**.
- **Stiffness Improvement (Stambha Grade):** Agnikarma led to **greater reduction** in stiffness compared to Raktamokshana.
- **SLR Test Improvement:** Agnikarma improved **SLR by 2-3 grades**, whereas Raktamokshana improved by only **1 grade**.
- **Walking Speed:** Agnikarma-treated patients had **faster recovery** in walking speed than Raktamokshana.

OBSERVATIONS

1. Mode of Action of Agnikarma

Ayurvedic Perspective

- **Vata and Kapha Dosha Pacification**
 - Gridhrasi is primarily a Vata-predominant disorder, sometimes associated with Kapha.
 - Agnikarma (thermal cauterization) has Ushna (hot), Tikshna (sharp), and Sukshma (penetrative) properties, which effectively counteract Vata and Kapha dosha accumulation in the affected area.
 - The deep heating effect helps in Srotoshodhana (clearing the microchannels), improving local circulation and relieving stiffness.
- **Srotoshuddhi (Microchannel Cleansing) and Pain Relief**
 - By stimulating Dhamani Santarpana (vascular nourishment), Agnikarma reduces Ama (toxins) and promotes proper nutrient supply to the affected nerve and muscle tissues, reducing pain and inflammation.
- **Vedana Sthapana (Analgesic Effect)**
 - The controlled heat application directly desensitizes pain receptors (Vedana Vaha Srotas), leading to a sustained analgesic effect.

Modern Science Perspective

- **Neuromodulation and Nerve Decompression**
 - The heat applied through Agnikarma denatures local pain-mediating proteins and desensitizes nociceptors (pain receptors), thereby blocking pain signals at the nerve endings.
 - It helps in reducing nerve compression by relaxing paraspinal and piriformis muscles, which commonly contribute to sciatic nerve entrapment.

- **Improved Blood Circulation and Healing**

- Heat increases vasodilation, promoting better oxygen and nutrient supply to the affected area, leading to faster tissue repair and muscle relaxation.

- **Reduction in Inflammatory Markers**

- Agnikarma is known to reduce pro-inflammatory cytokines, which helps in decreasing localized inflammation, preventing chronic nerve irritation in sciatic pain.

2. Mode of Action of Raktamokshana

Ayurvedic Perspective

- **Vitiated Rakta and Vata-Kapha Dosha Removal**

- Raktamokshana is one of the Shodhana (purification) therapies in Ayurveda, which removes vitiated Rakta (impure blood) that could be causing obstruction in the sciatic nerve pathway.
- By removing congested blood, it helps in reducing toxins and inflammatory mediators, leading to pain relief.

- **Reduction of Shotha (Inflammation)**

- Cupping therapy creates a vacuum, which stimulates lymphatic drainage, thereby reducing localized inflammation and stiffness.

- **Vata-Kapha Shamana (Balancing Doshas)**

- Sciatica is often aggravated by Kapha dosha accumulation, leading to Sanga (obstruction) in the Srotas (channels).
- Raktamokshana helps in removing Kapha-related stagnation, thereby reducing stiffness and improving nerve function.

Modern Science Perspective

- **Detoxification and Improved Microcirculation**

- The suction effect of cupping increases blood perfusion, helping to flush out metabolic waste and inflammatory mediators from the affected area.
- This improves local oxygenation and nutrient delivery, aiding in tissue healing.

- **Pain Modulation via Endorphin Release**

- Cupping triggers the release of endorphins and enkephalins, which have natural analgesic effects, providing temporary pain relief.

- **Myofascial Decompression and Reduced Muscle Spasm**
 - The vacuum pressure in cupping loosens tight fascia and muscle fibers, reducing the pressure on the sciatic nerve.
 - This relieves muscular spasms that often accompany sciatic pain.

Comparative Mode of Action

Parameter		Agnikarma (Thermal Cauterization)	Raktamokshana (Cupping Method)
Primary Action	•	Deep heating effect to relieve pain and stiffness	• Removal of stagnated blood and toxins
Dosha Action	•	Balances Vata-Kapha, removes Srotorodha (blockage)	• Pacifies vitiated Rakta and Kapha, improves circulation
Effect on Nerves	•	Desensitizes pain receptors, improves nerve conduction	• Reduces nerve irritation by removing toxins
Effect on Muscles	•	Relaxes deep muscles, relieves stiffness	• Releases superficial muscle tension and spasms
Inflammation Reduction	•	Reduces pro-inflammatory cytokines, increases circulation	• Drains toxins and inflammatory mediators from the site
Long-term Effectiveness	•	More effective, provides sustained relief	• Moderate, with chances of recurrence
Onset of Pain Relief	•	Immediate and sustained	• Gradual but less sustained

DISCUSSION

The study findings indicate that Agnikarma was more effective than Raktamokshana in the management of Gridhrasi (sciatica). Patients in the Agnikarma group (Group A) experienced faster and sustained pain relief, with significant reduction in pain as early as the first session, whereas Raktamokshana (Group B) showed a gradual but less intense pain reduction. By Day 10, 80% of patients in Group A reported marked pain relief, whereas only 50% of patients in Group B achieved a similar outcome.

Improvement in mobility and sciatic nerve function was also more pronounced in Group A. The Straight Leg Raise (SLR) test showed better improvement in Group A, suggesting enhanced sciatic nerve decompression and flexibility. Additionally, walking speed improved faster and more consistently in the Agnikarma group, further indicating better neuromuscular recovery.

Another key finding was the longer-lasting effects of Agnikarma. Patients treated with Agnikarma maintained pain relief even after follow-up, whereas some Raktamokshana patients experienced mild pain recurrence. This suggests that Agnikarma acts at a deeper level, providing a more sustained therapeutic effect.

Furthermore, muscle relaxation and reduction in stiffness were achieved sooner in Group A than in Group B. By Day 5, patients undergoing Agnikarma reported reduced stiffness and improved mobility, whereas Group B patients needed repeated sessions to achieve comparable results. This indicates that Agnikarma may have a direct role in neuromuscular relaxation, while Raktamokshana primarily aids in detoxification without significantly altering neuromuscular tension.

Both Agnikarma and Raktamokshana were well tolerated, with no significant side effects observed in either group. However, Agnikarma showed better patient compliance, as it provided faster recovery and long-term symptom relief. The findings suggest that Agnikarma is a more effective treatment modality for chronic sciatic nerve compression and muscle stiffness, making it a preferable therapeutic option over Raktamokshana in the management of Gridhrasi.

CONCLUSION

Suvarna Shalaka Agnikarma proved more effective than Raktamokshana in managing Gridhrasi. It provided faster pain relief, reduced stiffness, and improved mobility with minimal side effects. This study supports Agnikarma as a preferred Ayurvedic intervention for Gridhrasi treatment.

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