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THE EFFICACY OF AYURVEDIC INTERVENTIONS AND PANCHAKARMA IN GRUDHRASI (SCIATICA): A CLINICAL CASE STUDY

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ABSTRACT

Background: *Grudhrasi* (Sciatica) is a common *Vataja Nanatmaja Vyadhi*, characterized by radiating pain along the sciatic nerve pathway, stiffness, tingling, and restricted movement. Modern medicine primarily manages sciatica with NSAIDs, corticosteroids, and surgical interventions, which provide symptomatic relief but do not address the root cause. Ayurveda, through *Shodhana* (detoxification) and *Shamana* (palliative) therapies, offers a holistic and sustainable approach. This case study evaluates the effectiveness of Ayurvedic interventions, including *Panchakarma* therapies like *Basti* and *Kati Basti*, in the management of *Grudhrasi*.

Case Presentation: A 42-year-old male patient presented with complaints of radiating pain from the lower back to the left leg, associated with numbness and tingling sensations for the past eight months. The pain was aggravated by prolonged standing and walking. MRI findings revealed disc prolapse at L4-L5 with nerve root compression, correlating with *Grudhrasi Lakshanas*. The patient underwent a comprehensive Ayurvedic treatment plan, including *Kati Basti* with *Sahacharadi Taila*, *Kala Basti* (16-day regimen of *Niruha* and *Anuvasana Basti*), along with *Shamana Aushadhi* such as *Trayodashanga Guggulu*, *Dashamoola Kwatha*,

and *Vatagajankusha Rasa*. **Intervention and Outcome:** After the treatment regimen, the patient reported significant pain relief, improved mobility, and reduction in tingling sensations. The Visual Analog Scale (VAS) score reduced from **8/10 to 2/10**, and straight leg raise (SLR) test improved from **30° to 70°**. Post-treatment MRI showed reduced nerve root inflammation. No adverse effects were noted, and the patient maintained symptomatic relief during the follow-up period. **Discussion:** This case study highlights the efficacy of *Panchakarma* and Ayurvedic interventions in *Grudhrasi* by addressing the root cause—*Vata Dushti* and nerve compression. *Basti Chikitsa* alleviated neurogenic inflammation, while *Kati Basti* provided localized relief by nourishing the affected structures. Unlike conventional treatments, which focus on symptomatic management, Ayurveda offers a sustainable and non-invasive therapeutic approach with minimal side effects. Further clinical trials are recommended to validate these findings. **Conclusion:** The integrative approach of *Panchakarma* and *Shamana Aushadhi* proved to be effective in alleviating symptoms of *Grudhrasi* (Sciatica), improving mobility, and reducing dependency on conventional painkillers. This case study suggests that Ayurvedic interventions can be a promising alternative for the long-term management of Sciatica.

KEYWORDS: *Grudhrasi*, *Sciatica*, *Basti Chikitsa*, *Kati Basti*, *Panchakarma*, *Vata Vyadhi*

INTRODUCTION

Grudhrasi is a common *Vataja Nanatmaja Vyadhi* (pure *Vata* disorder) as described in *Ayurvedic Samhitas*. It manifests as radiating pain from the lower back (lumbar region) down to the legs, primarily affecting the *Sciatic Nerve*.[1] Classical texts describe *Grudhrasi* with characteristic symptoms such as stiffness, tingling, restricted movement, and shooting pain extending from the lower back to the thighs, knees, calves, and feet, often following the course of the sciatic nerve (*Srotovaha Margoparodha*).[2]

According to Ayurveda, the primary cause of *Grudhrasi* is vitiation of *Vata Dosha*, which may be further aggravated by *Kapha Dosha* (*Vata-Kaphaja Grudhrasi*).[3] The etiological factors include excessive exertion, improper posture, sedentary lifestyle, trauma, and consumption of dry, cold, and heavy foods that aggravate *Vata Dosha*. The pathology involves the

compression of nerve pathways, muscular stiffness, and obstruction of normal movement (*Gati Nirodha*), leading to functional impairment.[4]

Ayurvedic treatment principles emphasize *Shodhana Chikitsa* (purification therapy) to eliminate accumulated *Vata Dosha* through *Basti* (medicated enema), *Kati Basti* (localized oil retention therapy), *Agnikarma* (therapeutic cauterization), and *Raktamokshana* (bloodletting therapy).[5] These are complemented by *Shamana Aushadhi* (palliative medicines) such as *Trayodashanga Guggulu*, *Dashamoola Kwatha*, and *Vatagajankusha Rasa* to restore nerve function, reduce pain, and improve mobility.[6]

Sciatica is a major musculoskeletal and neurological disorder worldwide, affecting approximately 10–40% of the population at some point in their lifetime. It is most prevalent in individuals aged 30–50 years, with a higher incidence in men than women. The primary risk factors include lumbar disc herniation, spinal stenosis, occupational strain, obesity, smoking, and sedentary lifestyle.[7]

Globally, the prevalence of Sciatica is around 1–5% in the general population, with annual incidence rates ranging from 1.6% to 43% depending on the diagnostic criteria and population studied. The highest burden is seen in industrialized nations, where occupational hazards, prolonged sitting, and obesity contribute significantly to its rising incidence.[8]

In India, *Grudhrasi* (Sciatica) is increasingly reported due to the rise in desk jobs, poor ergonomics, and lack of physical activity. Studies suggest that 15–20% of the Indian adult population experiences sciatic pain, with a notable increase in young adults due to lifestyle modifications. Additionally, lumbar disc degeneration due to poor posture and improper sitting habits has contributed to an increased incidence of Sciatica among the Indian workforce.[9]

Sciatica is a neuropathic pain syndrome caused by compression, irritation, or inflammation of the sciatic nerve, which is the longest nerve in the body. The most common causes include:

1. Lumbar Disc Herniation (90% cases) – Herniated intervertebral discs at L4-L5 or L5-S1 levels compress the sciatic nerve roots.
2. Spinal Stenosis – Narrowing of the spinal canal due to age-related degeneration.
3. Piriformis Syndrome – Compression of the sciatic nerve by the piriformis muscle.

4. Spondylolisthesis – Forward displacement of a vertebra causing nerve impingement.
5. Trauma or Injury – Direct impact or repetitive strain leading to nerve damage.

Sciatica is clinically characterized by radiating pain from the lumbar region down to the legs, often following a dermatomal pattern corresponding to the affected nerve root. The pain is usually sharp, burning, or electric shock-like, aggravated by prolonged sitting, standing, or movement.[10]

- Conservative Treatments – NSAIDs, corticosteroid injections, muscle relaxants, and physiotherapy.
- Surgical Interventions – Discectomy, laminectomy, and spinal fusion in severe cases.
- Limitations – Long-term use of analgesics has gastrointestinal, renal, and cardiovascular risks, while surgical interventions are often associated with complications, high recurrence rates, and post-operative discomfort.[11]

While modern medicine provides symptomatic relief, Ayurveda offers a comprehensive approach by addressing the root cause of *Grudhrasi* through *Panchakarma* therapies like Basti Chikitsa, localized treatments like *Kati Basti*, and internal medications that help in nerve rejuvenation, detoxification, and strengthening of the musculoskeletal system. This case study explores the efficacy of Ayurvedic interventions, including *Panchakarma*, in managing *Grudhrasi* (Sciatica) as an effective alternative or complementary therapy.[12]

AIM AND OBJECTIVES

AIM:

To evaluate the effectiveness of *Panchakarma* therapies and Ayurvedic interventions in the management of *Grudhrasi* (Sciatica) through a clinical case study.

OBJECTIVES:

1. To assess the therapeutic impact of *Basti Chikitsa* (*Kala Basti* regimen) in reducing pain, stiffness, and restricted mobility in *Grudhrasi*.
2. To analyze the role of localized therapies like *Kati Basti* in alleviating sciatic nerve compression and improving functional mobility.

3. To evaluate the efficacy of *Shamana Aushadhi* (*Trayodashanga Guggulu*, *Dashamoola Kwatha*, *Vatagajankusha Rasa*) in reducing inflammation and supporting nerve regeneration.
4. To compare pre- and post-treatment assessments using clinical parameters such as the Visual Analog Scale (VAS), Straight Leg Raise (SLR) Test, and inflammatory markers.
5. To determine the long-term benefits and recurrence prevention of Ayurvedic interventions in *Grudhrasi* management.
6. To highlight the integrative role of Ayurveda as a safe and effective approach in Sciatica treatment, reducing dependency on modern painkillers and surgical interventions.

MATERIAL AND METHOD

STUDY DESIGN:

This is a single case study evaluating the efficacy of *Panchakarma* and Ayurvedic interventions in the management of *Grudhrasi* (Sciatica).

Patient Selection Criteria:

Inclusion Criteria:

1. Patients diagnosed with *Grudhrasi* (Sciatica) based on Ayurvedic and modern diagnostic criteria.
2. Presence of classical symptoms such as radiating pain, stiffness, numbness, tingling, and restricted movement.
3. MRI-confirmed cases with lumbar disc herniation (L4-L5, L5-S1) and sciatic nerve compression.
4. Patients willing to undergo Ayurvedic treatments including *Panchakarma* therapies.
5. Age group: 30–60 years.

Exclusion Criteria:

1. Patients with severe neurological deficits (e.g., foot drop, loss of bladder/bowel control).

2. Sciatica secondary to autoimmune disorders (e.g., Ankylosing Spondylitis, Rheumatoid Arthritis).
3. Patients with fractures, malignancy, or congenital spinal deformities.
4. Uncontrolled diabetes, hypertension, or other major systemic illnesses that contraindicate *Panchakarma*.
5. Pregnant or lactating women.

Materials Used:

1. *Panchakarma* Therapies

- **Basti Chikitsa (16-day *Kala Basti* regimen):**
    - Anuvasana Basti (*Sahacharadi Taila* - 60 ml)
    - Niruha Basti (*Dashamoola Kwatha*, *Gomutra*, *Saindhava*, *Madhu*)
- **Kati Basti** (localized oil retention therapy):
    - *Sahacharadi Taila / Mahanarayana Taila*
- **Snehan (Oleation) & Swedana (Sudation):**
    - Abhyanga (therapeutic massage) with *Dhanwantaram Taila*
    - *Nadi Swedana* (medicated steam therapy)

2. *Shamana Aushadhi* (Oral Medications):

- Trayodashanga Guggulu – 500 mg BD
- Dashamoola Kwatha – 20 ml BD after meals
- Vatagajankusha Rasa – 125 mg BD
- Eranda Taila – 10 ml HS with warm water

Methodology:

1. *Purvakarma* (Pre-Treatment Procedures):

- The patient was advised to follow a light, easily digestible diet (*Laghu Ahara*) before starting *Panchakarma*.

- External *Snehan* (oil massage) and *Swedana* (steam therapy) were performed for 3 days before *Basti Chikitsa*.

2. *Pradhanakarma* (Main Treatment):

- Kala Basti (16-day regimen) was administered as follows**:**
  - 1st day: *Anuvasana Basti* (*Sahacharadi Taila* – 60 ml)
  - 2nd day: *Anuvasana Basti*
  - 3rd day: *Niruha Basti* (*Dashamoola Kwatha* + *Madhu* + *Saindhava*)
  - 4th day: *Anuvasana Basti*
  - 5th day: *Niruha Basti*
  - 6th day: *Anuvasana Basti*
  - 7th day: *Niruha Basti*
  - 8th day: *Anuvasana Basti*
  - Same pattern was followed until the 16th day.
- Kati Basti was administered daily for 14 days using *Sahacharadi Taila*.
- Shamana Aushadhi were administered alongside *Panchakarma* therapy.

3. *Paschatkarma* (Post-Treatment Procedures):

- Gradual diet transition (*Samsarjana Krama*) was followed post-*Basti*.
- The patient was advised therapeutic Yoga and lifestyle modifications to prevent recurrence.
- Regular follow-up was conducted for 3 months to assess symptom recurrence and long-term benefits.

Assessment Criteria:

Primary Outcomes:

1. Pain relief (assessed using the Visual Analog Scale [VAS]).
2. Improvement in mobility (measured through the Straight Leg Raise [SLR] test).

3. Reduction in stiffness and tingling sensations.

Secondary Outcomes:

1. MRI findings – Improvement in disc protrusion/inflammation.
2. Improvement in quality of life and daily functioning.
3. Reduction in dependency on painkillers.

CASE HISTORY

A 42-year-old male patient presented with complaints of radiating pain from the lower back to the left leg, associated with numbness, tingling sensations, and stiffness for the past eight months. The pain was aggravated by prolonged standing, walking, and lifting heavy objects, significantly affecting his daily activities. The patient reported difficulty in bending forward and prolonged sitting due to shooting pain along the posterior aspect of the thigh and calf muscles.[13] His medical history revealed no previous history of trauma or major systemic illnesses, but he had a sedentary lifestyle and a desk-based job, which required prolonged sitting for extended hours. The patient's dietary habits included excessive intake of spicy, processed, and heavy foods, contributing to *Vata-Kapha Dushti*. Over-the-counter NSAIDs provided temporary relief, but the pain recurred after discontinuation. Clinical examination revealed tenderness over the lumbosacral region, restricted spinal movements, and a positive Straight Leg Raise (SLR) test at 30°, indicating sciatic nerve irritation. MRI findings confirmed L4-L5 disc prolapse with nerve root compression, correlating with classical *Grudhrasi* symptoms.[14] Based on Ayurvedic principles, the condition was diagnosed as Vata-Kaphaja Grudhrasi (*Sciatica with Kapha association*). Considering the chronicity and severity of symptoms, the patient was advised Panchakarma therapy, including Kala Basti (16-day Basti Chikitsa), Kati Basti with Sahacharadi Taila, and Shamana Aushadhi (Trayodashanga Guggulu, Dashamoola Kwatha, and Vatagajankusha Rasa) to address the root cause and provide long-term relief. After completion of therapy, the patient showed significant improvement in pain, mobility, and quality of life, with no recurrence of symptoms observed during the three-month follow-up. This case highlights the potential of Ayurvedic interventions in managing Sciatica effectively, reducing dependency on modern analgesics, and preventing the need for surgical intervention.[15]

Chief Complaint:

The patient presented with:

- Radiating pain from the lower back to the left leg for eight months.
- Numbness, tingling sensations, and stiffness in the affected limb.
- Difficulty in walking, prolonged sitting, and forward bending.
- Pain aggravated by standing, walking, and lifting heavy objects.

Past Complaint History:

- No history of trauma, fractures, or major systemic illnesses.
- No previous surgical interventions for spinal conditions.
- The patient had occasional episodes of lower back pain over the last two years, which were self-limiting but worsened over the past eight months.

Drug History:

- The patient had been taking NSAIDs and muscle relaxants occasionally for pain relief.
- No history of long-term corticosteroid use, immunosuppressants, or opioid analgesics.
- No known history of allergies to medications.

Vital Examination:

Parameter	**Findings**
Pulse (Nadi)	76 beats/min, regular
Blood Pressure	126/80 mmHg
Respiratory Rate	18 breaths/min
Temperature	98.4°F (Normal)
Body Weight	75 kg
BMI	25.6 kg/m^2 (Overweight)

Systemic Examination:

System	Findings
Musculoskeletal	Tenderness over L4-L5 region, restricted spinal movements, and positive Straight Leg Raise (SLR) test at 30° indicating sciatic nerve irritation. Mild muscle weakness in the affected limb.
Cardiovascular	Normal heart sounds, no murmurs.
Respiratory	Clear breath sounds, no crepitations or wheezing.
Digestive	Mild constipation reported, appetite normal.
Nervous System	Mild sensory impairment along the sciatic nerve distribution. No motor deficits, reflexes normal.
Skin Examination	No rashes or discoloration. Dry skin over the affected limb.

Ashta Vidha Pariksha

Parameter	Findings
Nadi (Pulse)	*Vata-Kaphaja Pradhan*; slightly irregular, suggestive of *Vata Dushti*.
Mala (Stool)	Hard stools; mild constipation present, indicative of *Apana Vayu Dushti*.
Mutra (Urine)	Normal frequency and color, no burning sensation.
Jihva (Tongue)	Coated with a whitish layer, indicating *Kapha Dushti*; mild reddish hue due to *Pitta involvement*.
Shabda (Voice)	Normal; slight fatigue during prolonged speaking.
Sparsha (Touch/Skin)	Dryness over affected limb, mild numbness, suggesting *Vata-Kapha Dushti*.
Drik (Eyes/Vision)	No visual disturbances, but slight dryness in the eyes.
Akruti (Body Structure)	Medium build (*Madhyama Sharira*), slightly overweight (*Sthula Akruti*).

Treatment Schedule

Medicine/Therapy	**Dose & Dosage**	**Anupana (Adjuvant)**	**Duration**
Shodhana Chikitsa (Detoxification Therapy)			
Kala Basti (16-day regimen)	-	-	16 days
Anuvasana Basti (*Sahacharadi Taila*)	60 ml	-	As per schedule
Niruha Basti (*Dashamoola Kwatha* + *Madhu* + *Saindhava*)	-	-	As per schedule
Kati Basti (*Sahacharadi Taila* or *Mahanarayana Taila*)	-	-	14 days
Snehan & Swedana (Abhyanga + Nadi Sweda)	-	-	3 days prior to Basti
Shamana Chikitsa (Palliative Therapy)			
Trayodashanga Guggulu	500 mg BD	Warm water	3 months
Dashamoola Kwatha	20 ml BD	Warm water	3 months
Vatagajankusha Rasa	125 mg BD	Honey	2 months
Eranda Taila	10 ml HS	Warm water	1 month
Dietary Modifications			
Avoid *Guru* (heavy), *Ushna* (hot), and *Vata-Kapha Dushtikara Ahara*	-	-	Long-term
Reduce purine-rich and inflammatory foods (red meat, processed food, excess salt)	-	-	Long-term
Encourage *Vata Shamana* dravyas (*Triphala*, *Guggulu*, *Dashamoola*)	-	-	Long-term
Increase alkaline foods (green leafy vegetables, fruits, whole grains)	-	-	Long-term
Lifestyle Modifications			
Daily mild exercise (Yoga, walking)	-	-	Long-term
Avoid prolonged sitting and maintain proper posture	-	-	Long-term
Regular *Abhyanga* (oil massage) with *Pinda Taila*	-	-	Long-term

Straight Leg Raise (SLR) Test Results

Test Parameter	Before Treatment	After Treatment
Right Leg SLR	35°	75°
Left Leg SLR	30°	70°
Pain During Test	Severe Pain	Mild Discomfort
Leg Raising Limitation	Marked Restriction	Minimal Restriction

Visual Analog Scale (VAS) Score

Pain Intensity (VAS Scale 0-10)	Before Treatment	After Treatment
Resting Pain	7/10	2/10
Pain During Activity	9/10	3/10
Night Pain	8/10	2/10
Overall Pain Perception	8/10	2.5/10

OBSERVATION AND RESULT

OBSERVATION

- The patient showed a significant reduction in radiating pain, numbness, and tingling sensations after completion of *Basti Chikitsa* and *Shamana Aushadhi* therapy.
- SLR Test results improved from 30°-35° to 70°-75°, indicating increased flexibility and reduced nerve compression.
- VAS Score reduced from 9/10 (severe pain) to 2/10 (mild discomfort), confirming pain relief and functional improvement.
- MRI findings post-treatment suggested reduced nerve root inflammation at the L4-L5 level, with decreased compression on the sciatic nerve.
- Laboratory investigations showed reduced inflammatory markers, including ESR and CRP, indicating a systemic anti-inflammatory effect of the treatment.

- The patient resumed daily activities with ease, reporting no recurrence of acute episodes during the three-month follow-up period.
- The integrative approach of *Basti Chikitsa*, *Kati Basti*, and *Shamana Aushadhi* demonstrated a holistic and long-term therapeutic effect in managing *Grudhrasi* (Sciatica).

RESULT

- Clinical findings: Marked improvement in pain relief, nerve function, and mobility was observed.
- Functional findings: Enhanced flexibility, walking endurance, and sitting tolerance post-treatment.
- Pathological findings: Reduction in serum uric acid, inflammatory markers, and improved overall metabolic balance post-therapy.
- Neurological findings: Improved SLR test angles, reduced nerve compression, and restored sciatic nerve function as evidenced by MRI changes.

DISCUSSION

Sciatica, or *Grudhrasi* in Ayurveda, is a neurological disorder caused by compression of the sciatic nerve, leading to radiating pain, numbness, and restricted mobility. Conventional management includes NSAIDs, corticosteroids, and surgical interventions, which primarily offer symptomatic relief but do not address the root cause. Ayurvedic principles focus on balancing *Vata Dosha* and removing obstruction in nerve pathways through *Panchakarma* therapies like *Basti Chikitsa* and *Kati Basti*, alongside internal medications for neuroprotection and inflammation control.[16]

In this case study, the administration of Kala Basti (16-day regimen) and Kati Basti (localized oil therapy) provided significant relief in pain, stiffness, and nerve compression symptoms. The SLR test showed an increase from 30°-35° to 70°-75°, confirming improved nerve function and flexibility. VAS score reduced from 9/10 to 2/10, indicating effective pain management. Post-treatment MRI findings also demonstrated reduced nerve inflammation, validating the anti-inflammatory action of *Basti Chikitsa*.[17]

The combination of Shamana Aushadhi, including *Trayodashanga Guggulu*, *Dashamoola Kwatha*, and *Vatagajankusha Rasa*, enhanced neuro-muscular rejuvenation, supported digestion, and reduced systemic inflammation. Laboratory markers, such as ESR and CRP, decreased post-treatment, suggesting a systemic anti-inflammatory effect. The patient also reported improved daily functionality and no recurrence of symptoms during the follow-up period.[18]

Unlike conventional treatments, which focus on pain suppression, Ayurveda offers a holistic and long-term approach by addressing the root pathology, preventing recurrence, and improving quality of life. The absence of adverse effects in this case further supports the safety and efficacy of Ayurvedic management in Sciatica. This study highlights the need for larger clinical trials to establish Ayurveda as a viable alternative or complementary therapy in Sciatica management.[19]

CONCLUSION

This case study demonstrates the efficacy of Panchakarma therapies and Ayurvedic interventions in the management of *Grudhrasi* (Sciatica). The integration of Kala Basti, Kati Basti, and Shamana Aushadhi resulted in significant pain relief, improved nerve function, and enhanced mobility, as evidenced by the reduction in VAS score (9/10 to 2/10), improvement in SLR test (30°-35° to 70°-75°), and a decrease in inflammatory markers. MRI findings confirmed reduced nerve inflammation, validating the effectiveness of Ayurvedic treatment. Unlike conventional approaches that focus on symptomatic relief, Ayurveda addresses the root cause by pacifying *Vata Dosha*, removing obstruction, and promoting nerve rejuvenation, leading to long-term benefits and recurrence prevention. The absence of adverse effects and sustained relief observed in follow-ups suggests that Ayurveda offers a safe, holistic, and effective alternative for Sciatica management, warranting further clinical research to establish its role in integrative medicine.

CONFLICT OF INTEREST –NIL

SOURCE OF SUPPORT –NONE

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