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Original Research Article

Efficacy of an ayurvedic therapeutic protocol in the management of gridhrasi/sciatica: a prospective open-label clinical study

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ABSTRACT

Background: Sciatica is a common neuromusculoskeletal disorder characterized by radiating pain along the sciatic nerve, often accompanied by functional disability and impairment of quality of life. Sciatica has been described in Ayurveda under a similar condition known as gridhrasi, which is classified as a severe vatavyadhi and mahagada. The widespread conventional analgesic use has suboptimal long-term results, and hence, there is a need to find complementary therapeutic interventions. This study was done to evaluate the clinical efficacy of an Ayurvedic treatment, namely vatanashini vati, kati basti with vishnu taila, and patra pinda sweda, in patients diagnosed with gridhrasi (sciatica).

Methods: This open-label, prospective clinical study enlisted 30 patients diagnosed with gridhrasi (sciatica), recruited from the Government Ayurvedic hospital. Patients were administered oral medication vatanashini vati and external therapies for two months. Outcome measures included subjective symptoms like pain, pricking sensation, stiffness, tingling, and functional parameters, such as the Straight Leg Raising test and gait. The Wilcoxon signed-rank test was used for statistical analysis.

Results: All the assessed parameters showed a statistically significant posttreatment improvement, $p<0.001$. Pain intensity, stiffness, and paresthesia were considerably reduced, and functional mobility improved in the majority of treated patients. No serious adverse events were reported.

Conclusions: The studied Ayurvedic protocol has shown promising symptomatic and functional improvement in patients with gridhrasi (sciatica). These results indicate a role of Ayurveda-based interventions as possibly safe and effective complementary intervention strategies in sciatica management. Larger trials are needed.

Keywords: Ayurveda, Gridhrasi, Integrative medicine, Kati basti, Sciatica, Vatanashini vati

INTRODUCTION

Sciatica is a prevalent neuromuscular disorder characterized by radiating pain along the distribution of the Sciatic nerve, often accompanied by sensory disturbances and functional disability. It affects approximately 10-40% of individuals at some point during their lifetime and represents a major cause of work absenteeism and reduced quality of life.[1] Disc herniation, degenerative spinal changes, and nerve root compression are considered the most common etiological factors.[2]

Conventional management includes non-steroidal anti-inflammatory drugs, muscle relaxants, physiotherapy, epidural steroid injections, and surgical interventions in refractory cases.[3] However, recurrence rates remain high and long-term pharmacological therapy is frequently associated with gastrointestinal, renal, and cardiovascular adverse effects.[4] Several clinical and epidemiological

studies have emphasized the need for safer and sustainable long-term management approaches.

In Ayurveda, a condition analogous to Sciatica is described as gridhrasi under the broad category of vatavyadhi. Classical texts describe cardinal features such as radiating pain from the sphik (gluteal region) to the pada (foot), stambha (stiffness), toda (pricking sensation), and altered gait.[6] Gridhrasi is considered a vata-predominant disorder with kapha association.[7] The management principles include vata-kapha shamana, snehana, swedana, and internal medications possessing ushna and snigdha properties.[8]

Clinically reported Ayurvedic studies have demonstrated promising outcomes in the management of gridhrasi through panchakarma procedures and herbal formulations.[9-11] However, structured clinical investigations evaluating combined shamana and bahya therapies in a standardized protocol remain limited.[12] Therefore, the present clinical study was designed to evaluate the therapeutic efficacy of vatanashini vati along with kati basti and patra pinda sweda in patients diagnosed with gridhrasi (sciatica).

METHODS

Study Design

It was an open-label, single-arm, prospective, clinical study.

Study setting

The study took place at department of kayachikitsa, Shri Narayan Prasad Awasthi Government Ayurvedic College and Hospital, Raipur, Chhattisgarh, India.

Participants

30 patients clinically diagnosed with gridhrasi (sciatica) were enrolled.

Inclusion criteria

Patients aged between 18 and 60 years. Presenting classic symptoms of gridhrasi (sciatica) with radiating pain and a positive straight leg raising test (SLR) with chronicity less than 2 years.

Exclusion criteria

Patients with severe neurological deficits or cauda equina syndrome, traumatic, infective, or malignant spinal pathology, pregnancy, or severe systemic illness.

Ethical clearance

Ethical approval for the study was received from the institutional ethics committee. Written informed consent was obtained from all subjects before enrolment. The study was conducted in accordance with the Declaration of Helsinki.

Intervention

Following a 7-day washout period, patients received vatanashini vati 250 mg twice daily with warm water for two months. External therapies included kati basti with vishnu taila administered in three sittings of 15 days each, separated by 7-day intervals. Patra pinda sweda was administered daily for two months.

Outcome measures

Outcome measures are shown in Table 1.

Table 1: Subjective criteria.

Ruk (pain)	Toda (pricking pain)	Stambha (stiffness)	Spandana (tingling)	Grading
No Pain	No pricking sensation	No stiffness	No twitching	0
Slight pain only on hard work	Occasionally pricking sensation	Sometimes for 5-10 minutes	Sometimes for 5-10 minutes	I
Pain on movement, but without disturbing routine work	Mild pricking sensation, once a day	Daily for 10-30 minutes	Daily for 10-30 minutes	II
Pain on movement, disturbing routine work	Moderate pricking sensation, frequently in a day	Daily for 30-60 minutes	Daily for 30-60 minutes	III
Severe pain is compelling patients to lie in bed	Severe and persistent pricking sensation	Daily more than one hour	Daily more than 1 hour	IV

Functional parameters

Functional parameter is given in Table 2.

Assessments were performed before and after treatment.

Table 2: Straight leg raise (SLR) test.

SLR test	Grading
More than 900	0
710-900	1
510-700	2
310-500	3
Up to 300	4

Statistical analysis

Data were analyzed using the Wilcoxon signed-rank test. The results of the data obtained were considered statistically significant at $p<0.05$. This analysis was performed using standard statistical software.

RESULTS

All 30 patients completed the study.

Significant improvement was observed in pain, stiffness, pricking sensation, and tingling ($p<0.001$). SLR angle improved and gait was observed in the majority of patients. Radiological findings showed no structural reversal, indicating functional rather than anatomical improvement. No adverse drug reactions or complications were reported.

Table 3: Symptomatic improvement.

Parameter	% Relief	Z-value	P value
Ruk	73.47	4.21	<0.001
Toda	66.67	3.98	<0.001
Stambha	75	4.32	<0.001
Spandana	73.68	3.87	<0.001
SLR Test	79.49	4.56	<0.001
Gait	65.5	4.09	<0.001

Table 4: Overall clinical response (n=30).

Response	Patients	Percentage
Marked improvement	13	43.3
Moderate improvement	14	46.7
Mild improvement	3	10
No improvement	0	0

DISCUSSION

The present clinical study demonstrated statistically significant improvement in both subjective and objective parameters following administration of the Ayurvedic therapeutic protocol. The reduction ruk (pain), toda (pricking sensation), stambha (stiffness), and spandana (tingling sensation) suggests effective modulation of vata-dominant symptomatology.

From an Ayurvedic perspective, gridhrasi is primarily a vatavyadhi wherein vitiated vata affects the kandara and snayu leading to radiating pain and functional restriction.[6] The ushna and snigdha properties of vatanashini vati likely contributed to the pacification of aggravated vata and kapha dosha.[7,8] Ingredients possessing deepana-pachana and shothahara properties may have assisted in reducing *Ama* and local inflammation, thereby restoring normal neuromuscular function.

Kati basti provides localized snehana combined with sustained mild thermotherapy. This may enhance microcirculation, improve tissue elasticity, and reduce muscle spasm. Local oleation can facilitate transdermal absorption of lipid-soluble phytoconstituents, potentially contributing to analgesic and anti-inflammatory effects. Patra pinda sweda further augments peripheral vasodilation, promotes muscle relaxation, and may reduce nerve root irritation through thermal and pharmacological actions.

From a biomedical standpoint, improvement in the straight leg raising angle and gait suggests a reduction in nerve root tension and improved neuromuscular coordination. Although radiological findings did not show structural reversal, functional improvement indicates symptomatic relief likely mediated through anti-inflammatory and neuromodulatory mechanisms.[13-15]

Comparatively, earlier Ayurvedic clinical studies evaluating basti, swedana, and herbal formulations in gridhrasi have reported significant symptomatic relief.[9-11]

The current study supports these findings and provides additional evidence for the combined use of internal medication and localized panchakarma therapy in a standardized manner.

Importantly, no adverse events were observed during the study period, indicating favorable tolerability. Considering the chronic and recurrent nature of sciatica, a safe and integrative therapeutic option holds substantial clinical value.

Nevertheless, the absence of a comparator arm limits causal inference. Placebo-controlled or active-controlled randomized trials would provide stronger evidence. Long-term follow-up is also necessary to assess the sustainability of therapeutic benefits.

The present study has certain limitations, including a relatively small sample size, the absence of a control or comparison group, short follow-up duration, and the absence of advanced imaging-based outcome measures. These factors may limit the generalizability of the findings.

Future scope

Future research should include longer follow-up periods, randomized controlled trials with larger sample sizes, integration of imaging modalities, electrophysiological assessments, and comparative studies with standard conventional therapies.

CONCLUSION

This prospective open-label clinical study suggests that the studied Ayurvedic therapeutic protocol is beneficial in reducing pain and improving functional mobility in patients with gridhrasi (sciatica). This approach appears safe and may serve as a complementary option in integrative pain management. Further high-quality clinical trials are required to substantiate these findings.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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