Evaluation of the Efficacy of *Sahachara* oil *Kati Vasti* and *Sinhasya Danthi Kashaya* in the Management of *Gridhrasi*; A Case Series

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ABSTRACT

Gridhrasi is a pain predominant most prevailing health problem which has categorized under *Vata Vyadhi* in Ayurvedic literature. The *Gridhrasi* suggests an abnormal gait in the patient, similar to that of a vulture, due to the effect of the *Gridhrasi Nadi*. Signs and symptoms of *Gridhrasi* closely enumerated with the symptoms of Sciatica which is described in modern medicine. In the present era the incidence rate of lower back pain is quite significant, affecting more than 75% of the world population. Most of the conventional systems of medicines have short term pain relief treatments or the surgical interventions which may lead to postoperative complications or adverse effects. In Ayurveda, it has various treatment modalities for the *Gridhrasi* disease based on the holistic approach. Among them V*ata shamana* treatment has focused to reduce the pain and abnormal gait of the patient. The present study was conducted to evaluate the efficacy of *Sinhasya Danthi* decoction along with *Sahachara* oil *Kati Vasti* for two weeks including before treatments, after day 7, and at the end of the treatment. The Straight Leg Raising Test (SLRT), lumbar sacral range of motion and Visual Analog Scale (VAS) served as assesment critaria, with lumbar sacal x-ray used for diagnosis. At the end of the treatment, patients showed increased SLRT, reduced VAS score and improved quality of life achieving approximately 85% pain relief and 90% improvement in restricted movements**.** The findings suggest potential benefits for future treatment strategies.

Key words: *Gridhrasi*, *Sahachara* oil*,* Sciatica*, Sinhasya Danthi* decoction, *Vata Shamana*

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Introduction

Gridhrasi is a pain-predominant disease categorized under *Vata Vyadhi*, which is among the most prevalent neurological disorders encountered in day-to-day clinical practice. *Gridhrasi* is described under the eighty types of *Nanathmaja Vatavyadhi* (Sharma RK, Dash B, 2014) in Ayurveda classics. The term *Gridhrasi* denotes the abnormal gait of the patient due to painful movement, resembling the walk of a vulture. It is characterized by the onset of *Ruja* (pain), *Toda* (pricking sensation), and *Stambha* (stiffness)**,** initially arising in the *Sphik* (gluteal region) and radiating distally to *Kati-Prishtha* (lower back), *Uru* (thigh), *Janu* (knee), *Jangha* (calf), and *Pada* (foot) (Sharma RK, Dash B,2015).

Patients with *Gridhrasi* typically present with severe pain and restricted movement in one or both lower limbs, leading to significant impairment in daily activities and reduced quality of life. Clinically, its signs and symptoms closely resemble Sciatica in modern medicine. Sciatica is characterized by radicular pain that originates in the lumbar region and radiates through the gluteal region along the posterolateral aspect of the thigh and leg, often extending to the dorsum of the foot. In severe cases, it may be associated with numbness, muscle weakness, and gait disturbances due to difficulty in limb movement (Haslett et al., 2002).

In Ayurvedic classics, *Gridhrasi* is described under *Vata Vyadhi*, and no specific Nidana is separately mentioned; therefore, general causative factors of *Vata Vyadhi* are considered applicable. These are broadly classified into *Aharaja Nidana* and *Viharaja Nidana*. *Aharaja Nidana* includes intake of *Ruksha* (dry), *Sheeta* (cold), and *Katu-Tikta-Kashaya* (pungent, bitter, astringent) dominant foods, along with *Adhyashana* (overeating), *Vishamashana* (irregular eating habits), and *Asatmya Ahara* (incompatible diet). *Viharaja Nidana* comprises Atyadhika Vyavaya (excessive sexual activity), *Ratrijagarana* (night awakening), *Divaswapna* (day sleep), Upavasa (fasting), *Abhighata* (trauma), *Atibhara Vahana* (heavy lifting), psychological factors such as *Chinta, Shoka*, and *Bhaya* (anxiety, grief, fear), *Atimarga Gamana* (excessive walking), and the use of *Mridu Shayya* and *Asana* (soft bedding and seating) (Sharma RK, Dash B, 2014).

Sciatica is broadly classified in modern medicine into true sciatic neuritis and mechanical causes such as compression of nerve roots or referred pain. It may result from conditions including intervertebral disc herniation, spinal stenosis, piriformis syndrome, endometriosis, pregnancy, malignancy, inflammatory disorders, and infections. Risk factors include modifiable factors such as smoking, obesity, and occupational strain, as well as non-modifiable factors like advancing age, male gender, and a previous history of low back pain (Singh et al., 2013).

The global burden of Sciatica is significant, with low back pain affecting more than 75% of the population worldwide and contributing substantially to disability. The lifetime prevalence of low back pain is estimated at 50–70%, while clinically relevant Sciatica occurs in over 40% of affected individuals. It accounts for approximately 7% of general practice consultations and leads to considerable loss of working days. Additionally, more than 30% of patients continue to experience persistent symptoms one year after onset (Babu, 2006).

Ayurveda describes many treatment modalities for *Gridhrasi*, including *Siravyadhana, Agnikarma, Vasti Karma, Snehana, Swedana,* and oral medications*.* Among these, *Vata Shamana* therapies are extensively described in *Charaka Samhita* (Sharma & Dash, 2014) , *Sushruta Samhita* (Sharma, 2010), *Ashtanga Hridaya* (Sharma, 2010) and *Bhela Samhita* (Krishnamurthy, 2005). These therapies help relieve pain while correcting aggravated *Vata Dosha*. *Kati Vasti* is widely practiced throughout the country as a *Bahya Upakrama* with both *Snehana* and *Swedana* effects (Lavekar, 2010). However, there is limited research evaluating the efficacy of *Kati Vasti* with *Sahachara* oil (Sharma & Dash, 2014) along with *Sinhasya Danthi Kashaya* in the management of *Gridhrasi*. *Sahachara* oil possesses *Vata Shamaka* properties, while *Sinhasya Dantee Kashaya* supports *Vata Shamana* through *Mridu Sanshodana Karma*. Therefore, the present case series was conducted to evaluate the efficacy of *Sahachara* oil *Kati Vasti* and *Sinhasya Dantee Kashaya* in the management of *Gridhrasi*.

Materials and methods

This case series presents five representative patients selected from a larger MD research project. The parent study was designed randomized clinical trial

compromising 60 patients divided into two treatment groups. The present manuscript reports five case from Group A**,** who received *Sahachara* oil *Kati Vasti* together with *Sinhansya Dantee Kashaya*, with the aim of documenting clinical outcomes in detail. The study was carried out at the National Ayurveda Teaching Hospital (NATH), Borella, Sri Lanka**,** including patients attending the Outpatient Department (OPD).

Patients diagnosed with *Gridhrasi* irrespective of religion, sex, occupation, or socio- economic status, and age between 20–75 years were screened for enrolment in the study. Patients were presenting with unilateral or bilateral lower limb radiating pain with persistent symptoms of *Gridhrasi,* having no associated anatomical deformities and demonstrating a limitation in the SLRT due to pain, included.

Patients with history of spinal surgery or vertebral fractures were excluded, as were those with uncontrolled diabetes mellitus or hypertension, cardiac diseases, tuberculosis, mental illness, tumors, or carcinoma. Patients with sensitive skin conditions or use of cardiac pacemakers, and those presenting with motor weakness such as paralysis or diabetic neuropathy were also excluded from the study. Additionally, patients with back pain due to non-spinal illnesses such as UTI, kidney disease, GIT disorders, or genital system diseases and pregnant women were excluded.

All enrolled patients were administered combined Ayurveda treatments protocol for a duration of 14 consecutive days, comprising both internal and external therapies.

Internal Medications: patients were administered *Sinhasya Dantee Kashaya* orally, 120ml 6 am and 6 pm before meals.
External Therapy: *Kati Vasti* was performed using 120ml of *Sahachara* Oil for 30min daily for 14 days.

Assessment Criteria

Diagnosis can be confirmed by the clinical examinations such as Straight Leg Raising Test, Lasegue's sign, and also with the investigations as X-rays and MRI scans(Haslett et al., 2002).

- *Ruk*, *Toda* (Pain): assessed using Visual Analog Scale (VAS) (Scott & Huskisson, 1976)
- Range of Movement: assessed using Straight Leg

Raising Test (SLRT) (Willhuber & Piuzzi, 2023).

Table 01. Grading Criteria for Visual Analog Scale (VAS) (Scott & Huskisson, 1976)

Parameter	Findings	Grading
Pain (Visual analog scale- VAS)	No pain	0
	Mild pain	1
	Moderate pain	2
	Severe pain	3
	Extremely severe pain	4

Table 02. Grading Criteria for Straight Leg Raising Test (SLRT) (Willhuber & Piuzzi, 2023).

Grade	SLRT Angle	Interpretation	Clinical Findings
0	> 90°	Normal	Straight leg can be raised above 90° without pain
1	71°–90°	Mild restriction	Straight leg can be raised between 71° and 90° with mild pain or restriction
2	31°–70°	Moderate restriction	Straight leg can be raised between 31° and 70° with moderate pain or restriction
3	0°–30°	Severe restriction	Straight leg can be raised only up to 30° due to severe pain or restriction

Table 03. Demographic data of patients presented with *Gridhrasi*

Demographic data	Patient 01	Patient 02	Patient 03	Patient 04	Patient 05
Age (Years)	53	48	37	54	45
Gender	Female	Female	Female	Male	Male
Nature of Occupation	Active	Active	Sedentary	Active	Sedentary

Affected Side	LB, B/L lower limbs	LB, Right lower limb	LB, B/L lower limbs	LB, B/L lower limbs	LB, Left lower limb
Duration	2 years	1½ months	1 year	8 months	10 months

A total of five patients diagnosed with *Gridhrasi* were enrolled in the study. The age of the patients ranges from 37 to 54 years. Among the participants three were female and two were male with regard to occupational status three patients were active occupation, while two led a sedentary lifestyle. Regarding the site of enrolments all five patients presented with low back pain associated with radiating pain. Among these, three patients had bilateral lower limb involvement, one patient had right sided lower limb involvement and one patient had left sided lower limb involvement. The duration of symptoms varied considerably among patients, ranging from 11/2 months to 2 years, suggesting that both acute and chronic presentations of *Gridhrasi* were represented in the study population.

Results

Table 04: Assessment of range of movements during treatment according to SLRT

Case No	Before tratments	After 7th days	After 14th days
Case 01	30°	80°	80°
Case 02	30°	55°	80°
Case 03	35°	65°	85°
Case 04	30°	70°	90°
Case 05	25°	40°	75°

Before the treatments SLRT ranged between 25° to 35° in all five cases, with the mean of 30°, indicting marked restriction in SLRT due to pain. Following 7 days of treatment a noticeable improvement in the SLRT was observed in all cases ranging from 40° to 80° with the mean value increasing to approximately 62°. By the 14th day of treatment, further improvement was noted, with SLRT ranging from

75° to 90° in all cases; and a mean value of approximately 82°.

Table 05 – Assessment of *Ruk*, *Toda* (Pain) using VAS

Case No	Before treatments	7th day of the treatments	14th day of the treatments
Case 01	8	5	2
Case 02	7	5	0
Case 03	8	4	0
Case 04	7	5	1
Case 05	7	5	0

Before treatments, all five patients, presented with severe pain, with VAS scores ranging from 7 to 8 (mean 7.4 ± 0.55). By the 7th day of treatments, a mark reduction in pain, intensity was observed in all cases, with VAS scores ranging from Patients (Case 2,3and 5) achieved complete relief from pain (VAS = 0), while the remain two patients 4 to 5 (mean 4.8 ± 0.45), indicating a moderate level of pain at this stage. By the 14 days of treatment, a further substantial reduction in pain was noted, with VAS scores ranging from 0 to 2 (mean 0.6 ± 0.89). Notably three out of five reported only mild residual pain (VAS = 1-2).

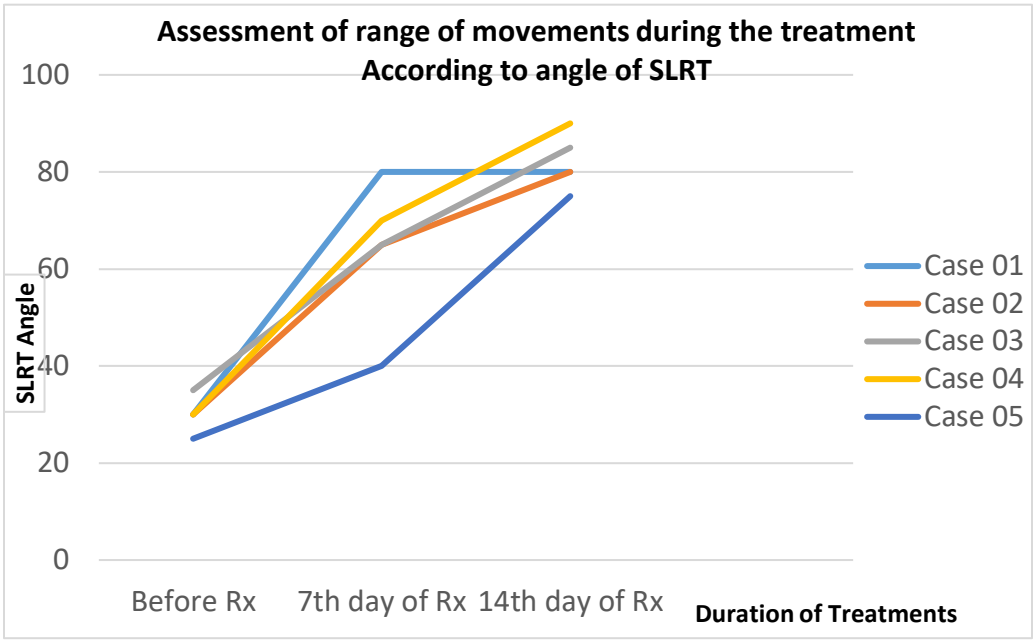

Figure 1. Assessment of SLRT Angle Progression

The final results demonstrate a consistence and progressive reduction in pain intensity throughout the 14 days treatments, reflecting the efficacy of the intervention in elevating *Ruk /Toda* associated with *Gridhrasi.*

The graph shows the progression of SLRT angles in five cases over a 14-day treatment period. All cases demonstrated a steady improvement in range of motion from baseline to the 14th day of treatment. Initial SLRT angles ranged from 25° to 35°, increasing to 65°–80° by the 7th day and 75°–90° by the 14th day. Case 04 achieved the highest improvement, reaching 90°, while all other cases also showed substantial gains, indicating the effectiveness of the treatment in enhancing lower limb mobility and flexibility.

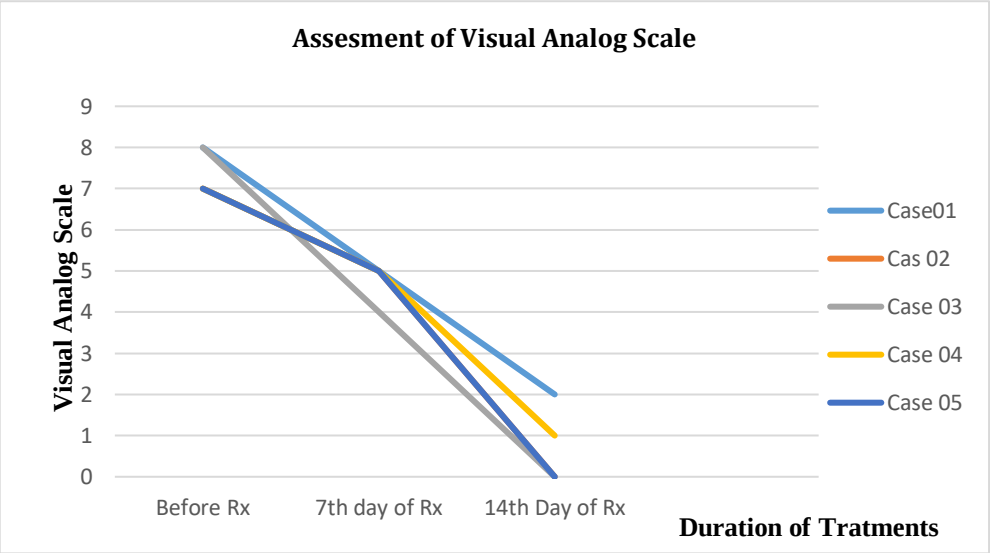

Figure 02: Graph of Pain assessment during the treatment according to Visual Analog Scale

The graph illustrates the changes in VAS scores for five cases over a 14-day treatment period. All cases showed a progressive reduction in pain intensity from baseline to the 14th day of treatment. Initial VAS scores ranged from 7 to 8, decreasing to 5 by the 7th day and further declining to 0–2 by the 14th day. Cases 02, 03, and 05 achieved complete pain relief (VAS = 0), while Case 01 and Case 04 showed substantial reductions, indicating the effectiveness of the treatment in alleviating pain.

Discussion

This case series demonstrates encouraging clinical improvement in patients with *Gridhrasi* treated with *Sahachara* oil *Kati Vasti* combined with *Sinhasya Dantee Kashaya*. The reduction in pain intensity observed in VAS scoring and improvement of SLRT angle suggest that the treatment protocol

was beneficial in reducing symptoms and improving functional movement. According to Ayurveda, *Gridhrasi* is predominantly a *Vata Vyadhi***,** and therefore treatment aimed at *Vata Shamana* is considered appropriate. Both internal and external therapies used in this study possess Vata-pacifying properties.

Sinhasya Dantee Kashaya

Sinhasya Dantee Kashaya is specifically indicated in Ayurvedic classics for *Gridhrasi*. Its ingredients mainly demonstrate *Vata-Kapha Shamaka Doshanuroopa Karma* and also exhibit *Mridu Virechana* action, which supports *Vata Anulomana*. This may help reduce pain, stiffness, and radiating symptoms.

Table 06. The pharmacological properties of individual ingredients of *Sinhasya dantee* decoction (*Bṛhatnighaṇṭuratnākara*, 1923/1924, p. 454), (Department of Ayurveda, 1985; 1994)

Name of the ingredient	Scientific Name	*Rasa*	*Guna*	*Veerya*	*Vipaka*	*Doshanuropa karma*
Adathoda	*Adhatoda Vasica* Nees	*Tikta, Kasaya*	*Lagu, Ruksha*	*Sheeta*	*Katu*	*Kapha-Pitta samana*
Detta	*Baliospermum Montanum* Muell Arg.	*Katu*	*Guru, Rooksha, Theekshna*	*Ushna*	*Katu*	*Kapha-Pitta samana*
Ehela	*Cassia Fistula* Linn	*Madhura, Tikta*	*Guru, Mrudu, Snigdha*	*Sheeta*	*Madhura*	*Vata-Pitta samana*
Erandu	*Ricinus Communis Linn*	*Madhura ,Katu, Thiktha(Kashaya)*	*Guru,Snigdha,Theeksh na, Sukshma*	*Ushna*	*Madhura*	*Kapha-Vata samana*

The table presents the Ayurvedic pharmacological properties of the ingredients used in the formulation, including their *Rasa* (taste), *Guna* (qualities), *Veerya* (potency), *Vipaka* (post-digestive effect), and

Doshanuropa Karma (action on *Doshas*). The ingredients predominantly possess *Kapha–Pitta* pacifying and *Vata–Pitta* pacifying properties, with varied tastes and qualities that contribute to their therapeutic effects in balancing the *Doshas* and promoting healing.

Among the four ingredients analyzed, 50% exhibited *Kapha–Pitta Samana* activity, while 25% showed *Vata–Pitta Samana* activity and 25% demonstrated *Kapha–Vata Samana* activity. The predominance of *Kapha–Pitta* pacifying properties indicates the formulation's potential role in balancing *Kapha* and *Pitta Doshas*.

Sahachar*a Oil *Kati Vasti

Table 07– The pharmacological properties of individual ingredients of Sahachara oil (Sharma & Dash, 2014), (Department of Ayurveda, 1985; 1994)

Ingredient	Scientific Name	*Rasa*	*Guna*	*Veerya*	*Vipaka*	*Doshanuropa Karma*
Katukarandu	*Barleria Prionitis Linn*	*Kashaya, Tikta*	*Laghu, Ruksha*	*Ushna*	*Katu*	*Kapha-Vata Samana*
Rabu	*Raphanus Sativus Linn*	*Katu, Tikta*	*Laghu*	*Ushna*	*Katu*	*Tridosha Shamana*
Thala Thel	*Sesamum indicum Linn*	*Madhura*	*Guru, Snigdha*	*Ushna*	*Madhura*	*Vata Samana*
Ela Kiri	*Zoological name-Bos taurus*	*Madhura*	*Sheeta, Mrudu, Snigdha*	*Sheeta*	*Madhura*	*Vata-Pitta Samana*
Seeni	*Saccharum officinarum*	*Madhura*	*Vrishya, Snehana*	*Sheeta*	*Madhura*	*Pitta Samana*

Sahachara oil is traditionally indicated in *Vata* disorders. In *Kati Vasti*, retention of lukewarm medicated oil over the lumbosacral region provides combined *Snehana* and *Swedana* effects.

The *Snigdha Guna* helps reduce *Rukshata*, while *Ushna Guna* helps counteract *Sheeta Guna* of aggravated *Vata*. This may contribute to reduction of pain, muscle stiffness, and restriction of movement.

The observed improvement may also be explained from a modern scientific perspective, including local heat therapy–induced enhancement of blood circulation, relaxation of muscle fibers,

reduction of lumbosacral stiffness, and a possible decrease in nerve root irritation. These physiological effects may collectively contribute to pain relief and improved functional mobility.

Conclusion

This case series suggests that *Sahachara* oil *Kati Vasti* combined with *Sinhasya Dantee Kashaya* may be effective in reducing pain and improving restricted movements in patients with *Gridhrasi.*

Patients showed notable symptomatic relief and improvement in daily activities following 14 days of treatment. Clinical improvement was more pronounced in acute presentations compared with chronic cases. Although these findings are promising, larger controlled clinical studies with adequate sample size, longer follow-up, and statistical evaluation are recommended to establish stronger scientific evidence for this treatment protocol in the management of *Gridhrasi*.

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