

Clinical Research

Effect of *Vatari Guggulu* in the management of *Gridhrasi* (sciatica)Geeta V. Sathavane, Darshana H. Pandya¹, Madhav Singh Baghel²

Department of Roga Nidana, Shri K.R. Pandav Ayurved College, Nagpur, Maharashtra, ¹Department of Rog Nidana Evam Vikruti Vijnana, Institute for Post Graduate Teaching and Research in Ayurveda, Gujarat Ayurved University, Jamnagar, Gujarat, India, ²Ayurveda Chair, Department of Pharmacology and Phytotherapy, Medical School, University of Debrecen, Debrecen, Hungary

Access this article online

Website: www.ayujournal.org

DOI: 10.4103/0974-8520.169019

Quick Response Code:



Abstract

Introduction: Low back pain is one of the common conditions of loco motor system disorder, affects people during their productive life. About 40% cases of low back pain are of radicular in origin and considered under the umbrella of sciatic syndrome. It is a pain dominant disease and reduces human activity considerably in terms of personal as well as social and professional life. The condition resembles disease *Gridhrasi* mentioned in Ayurveda under the umbrella of *Vatavyadhi*, and here piercing type of pain which restricts the movement of the affected leg, make his walking pattern-like bird vulture and put him in disgraceful condition. **Aim:** To assess the effect of *Vatari Guggulu* on the management of *Gridhrasi*. **Materials and Methods:** A total of 40 patients of *Gridhrasi* were registered and *Vatari Guggulu* 3 tablet (500 mg each) twice a day was administered before meal with lukewarm water for 30 days. **Results and Conclusions:** About 32.35% of the patient improved moderately while mild improvement was observed in 47.09% of the patients. The drug has shown better effect on patients of *Vata Kaphaja* type of *Gridhrasi* in comparison of *Vataja* type of *Gridhrasi*.

Key words: *Gridhrasi*, sciatica, *Vatari Guggulu*

Introduction

At present, the lifestyle is gradually shifting away from healthy living, and therefore people fall victim of various diseases. Sedentary lifestyle, stress, improper posture, continuous jerky movements, long traveling, etc., put maximum pressure on the spine and lower portion of the pelvis. About 80–90% of people get affected by low back pain and 5% of those become victims of sciatica.^[1]

Sciatica is a crippling disease cause pain in hip and to the whole path of sciatic nerve; it referred down back of the leg and sometimes to the foot. Trauma on lumbosacral spine (*Abhighata*), postural defects (*Vishamachesta*), overloading (*Bharavahana*), abrupt unbalanced movements (*Atichesta*), continuous jerky movements, sedentary lifestyle as well as psychological factors (*Chinta*, *Shoka*, etc.,) are considered as causative factors of the disease.^[2]

The disease affects daily, routine activity of victim's life as it restricts the leg movement. Shooting pain occurs from buttock and goes down up to a foot. Victim is having pricking pain (*Toda*), twitching or trembling sensation (*Spandana*) due to stretching of sciatic nerve and paresthesia (*Supti*). Diagnosis is based on history taking with straight leg raising (SLR) test (*Sakthikshepa Nigraha*). Almost all signs and symptoms of sciatica resemble with disease *Gridhrasi* described in Ayurveda. The disease name itself is suggestive of the typical gait of the patient, which resemble with bird vulture that is legs become tense and slightly curved. The disease is listed under the heading where disease develops due to vitiation of *Vata* only, i.e. *Nanatmaja Vatavyadhi*.^[3] Still, while enumerating the diseases, the disease

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

Address for correspondence: Dr. Darshana H. Pandya, Asst. Prof., Dept. of Rog Nidana Evam Vikruti Vijnana, IPGT and RA, Gujarat Ayurved University, Jamnagar - 361 008, Gujarat, India.
E-mail: darshnapandya@rediffmail.com

How to cite this article: Sathavane GV, Pandya DH, Baghel MS. Effect of *Vatari Guggulu* in the management of *Gridhrasi* (sciatica). *Ayu* 2015;36:41-5.

Gridhrasi has been mentioned of two types, (1) *Vata* dominant and (2) *Vata-Kapha* dominant. The common symptoms of *Gridhrasi* are—pain starts from *Sphik* (buttock) and then radiates to *Kati*, *Prushta* (back), *Uru* (thigh), *Janu* (knee), *Jangha* (calf), and *Pada* (foot) along with *Stambha* (stiffness), *Toda* (pricking pain), *Spandana* (twitching)^[4] and causes the *Sakthiutkshepa Nigraha*^[5] (restricted movement of lifting of the leg). Whereas in *Vata Kaphaja* type of *Gridhrasi*, *Arochaka* (aversion to food), *Tandra* (feeling of drowsiness), and *Gaurava* (feeling of heaviness) are found additionally.

As far as treatment of the disease sciatica is concerned, use of analgesics and physiotherapy will help to certain extent but are not the ultimate cure.^[6] Surgeries are moreover expensive, and again there are chances of recurrence as well.^[7] Ayurveda offers ample of better options in the management of this painful disorder. In this disease, mainly *Apana* and *Vyana Vayu* vitiation are observed, but most of the times *Kapha* remains as associated *Dosha*. So for, treatment of *Gridhrasi*, drug of choice should have *Vatashamaka*, *Kaphashamaka*, *Vatanulomaka*, *Dipana-Pachana* (digestive-carminative), and *Shulaprasamana* properties.

Vatari Guggulu is mentioned in *Bhaishajya Ratnavali Amavatachikitsa Prakarana* wherein disease *Gridhrasi* has also been listed as one of the indications of this formulation^[8] and having all above properties along with *Rasayana* properties. These properties may easily reverse the pathogenesis of *Gridhrasi*. Therefore, to evaluate the efficacy of *Vatari Guggulu* in the management of *Gridhrasi* was planned in the present study.

Materials and Methods

Patients of both sex, and age between 20 and 60 years, having signs and symptoms of disease *Gridhrasi*, and fulfilling inclusion criteria were selected and registered for the study. The study was conducted at IPGT and RA Hospital, Jamnagar, after getting ethical clearance from Institutional Ethics Committee (PGT/7-A/Ethics/2011–12/2087 Dt. 05.09.201), and also the trial registered in Clinical Trial Registry of India (CTRI) wide No - CTRI/2012/11/003142 on 23/11/2012. Everything regarding the treatment was explained to the patients, and written consent was obtained prior to starting the treatment.

Inclusion criteria

- Age group 20–60 years
- Patient having *Pratyatmalakshana* of *Gridhrasi*
- Patients having positive SLR test on examination.

Exclusion criteria

- Age: <20 years or >60 years
- Spinal deformity, spinal tumors, severe traumatic injury
- Carcinoma of the spine.

Criteria for diagnosis

- Positive SLR test in the affected leg
- Patients having cardinal features of the disease such as presence of dull or piercing pain, twitching and stiffness in back, lumbar region, buttock, thigh, back of knee, calf, feet area in successive order.

Laboratory investigation

- X-ray: Lumbosacral region—anteroposterior and lateral view
- Routine hematological examination such as hemoglobin, total leukocyte count, differential leukocyte count, and erythrocyte sedimentation rate; biochemical examinations such as blood sugar (fasting), serum cholesterol, calcium, protein, and alkaline phosphate
- Urine for routine and microscopic examination to rule out any other pathological conditions.

Posology

Three tablets (each 500 mg) of *Vatari Guggulu*^[9] was administered orally, twice a day, before meal with lukewarm water for 30 days. Follow-up was taken after 1 month. The test drug is procured from Pharmacy, Gujarat Ayurved University, Jamnagar.

Criteria for assessment

The patients were examined for their subjective, as well as objective improvement, before and after treatment. The improvement was assessed mainly on the basis of relief in the cardinal and associated symptoms of the disease. Special scoring pattern was prepared to assess subjective symptoms. Goniometer instrument was used to assess the degree of improvement in the movement, before starting and at the end of therapy.

Scoring pattern for subjective criteria

Ruk (pain)

- No pain: 0
- Occasional pain: 1
- Mild pain but no difficulty in walking: 2
- Moderate pain and slight difficulty in walking: 3
- Severe pain with severe difficulty in walking: 4.

Toda (pricking sensation)

- No pricking sensation: 0
- Occasional pricking sensation: 1
- Mild pricking sensation: 2
- Moderate pricking sensation: 3
- Severe pricking sensation: 4.

Stambha (stiffness)

- No stiffness: 0
- Sometimes for 5–10 min: 1
- Daily for 10–30 min: 2
- Daily for 30–60 min: 3
- Daily more than 60 min: 4.

Spandana (twitching)

- No twitching: 0
- Sometimes for 5–10 min: 1
- Daily for 10–30 min: 2
- Daily for 30–60 min: 3
- Daily more than 1 h: 4.

Aruchi (aversion to food), *Tandra* (drowsiness), and *Gaurava* (feeling of heaviness) were scored in 0–3 scale as absence, mild, moderate, and severe.

Assessment of overall effect of therapy

The total effect of therapy was assessed considering overall improvement in sign and symptoms as below given criteria:

- Cure: 100% relief in signs and symptoms
- Marked improvement: >75–<99% relief
- Moderate improvement: >50–<74% relief
- Mild improvement: >25–<49% relief
- Unchanged: <25% relief in signs and symptoms of *Gridhrasi*.

Statistical analysis

The obtained results were analyzed and calculated with the help of Wilcoxon's signed rank test for subjective parameters and Paired *t*-test for objective parameters.

Observations

A total of 40 patients of *Gridhrasi* were registered, and out of those, 34 were completed the treatment. Maximum, that is, 82.5% of the patients were female, 42.5% belongs to age group 41–50 years, and 62.5% were homemaker, followed by 27.5% labors. In *Prakruti* wise distribution of patients, maximum, that is, 55% were of *Vata-Kapha*, followed by 32.5% were of *Vata-Pitta* dominant *Prakruti*. BMI showed that 32.5% of patients were obese, and 17.5% were overweight.

Gradual onset of disease was found in 87.5% patients while sudden onset was seen only in 12.5% patients. Maximum that is, 38.24% patients had the chronicity of more than 3 years, followed by 29.41% patients had more than 1 year.

Katu (spicy) *Rasa* dominant food intake was noted by 65% of the patients, irregular timing for food noted in 57.5%, intake of heavy and sticky diet in 35%, and incompatible food intake noted in 22.5% of the patients, etc., were observed as dietary habits. Day sleep was noted in 60%, excess physical exertion in 42.5%, suppression of natural urges in 32.5%, night awakening in 15%, improper sitting posture and weight lifting in 10% patients were observed. Stress noted in 62.5%, anger in 22.5%, and grief in 12.5% as causative factors at the psychological level. History of spinal anesthesia or other minute injury on the spinal cord were reported by 35% of the patients. More than 50% of patients were having symptoms of *Apana Dushti* in the form of altered bowel habit or problems related to menstruation.

Pain was observed in all 100% of patients, followed by stiffness in 90%, pricking sensation in 67.5%, and twitching in 65% as chief complaints.

In associated complaints, feeling of heaviness in the body was found in maximum 75% patients, followed by drowsiness in 67.5%, aversion to food in 57.5%, vertigo in 40%, and numbness

in 37.5% of the patients. *Vatakaphja* type of *Gridhrasi* was diagnosed in 77.5% of the patients, and *Vataja* type was found in 22.5% patients.

Prolonged walking noted in 70%, prolonged standing in 60%, lifting of heavy weights in 55%, sitting in squatting position in 30%, and winter season in 15% as aggravating factors for the disease. Whereas resting in lying down position as relieving factors is observed in 82.5% patient. *Asthivaha* and *Majjavaha Strotodushti* were observed in all patients (100%), whereas involvement of other *Srotas* such as *Rasavaha* (70%), *Purishavaha* (47.5%), *Annavaha* (37.5%), and *Mutravaha* (15%) *Srotas* were also observed.

In radiological findings, degenerative changes (35%) reduced disc space in L4-L5, L5-S1 (30%), loss of lumbar lordosis (12.5%), spondylolisthesis of L5 (10.1%), spondylosis (7.5%), and kyphosis (2.5%) were reported in patients.

Results

In effect of therapy on cardinal symptoms, 42.11% relief was observed in pain, 44.81% in pricking sensation, 47.87% in stiffness, and 40.91% in twitching. The improvement remained statistically highly significant. Improvement observed in associated symptoms such as *Aruchi* (58.82%), *Gaurava* (44.08%), and *Tandra* (53.48%) were also remained statistically highly significant. [Table 1].

Improvement observed in SLR test (34.37%) also remained highly significant statistically [Table 2].

In patients of *Vataja Gridhrasi*, significant improvement ($P < 0.001$) was observed in pain (34.78%) while 33.33% improvement found in pricking sensation, 46.16% in stiffness, and 49.99% in twitching; results observed were found statistically insignificant [Table 3].

Highly significant improvement was observed in *Vata Kaphaja* type of *Gridhrasi*, in all the symptoms, that is *Ruk* (43.95%), *Toda* (46.15%), *Stambha* (48.28%), *Spandana* (38.89%), *Aruchi* (58.83%), *Gaurava* (44.08%), and *Tandra* (53.48%) [Table 4].

Table 2: Effect of *Vatari Guggulu* on SLR test

Test	Mean		Percentage	SD	SE	P
	BT	AT				
SLR	48.72	65.47	34.37 ↓	10.229	1.560	<0.0001

BT: Before treatment, AT: After treatment, ↓: Decreased, SD: Standard deviation, SE: Standard error, SLR: Straight leg raising

Table 1: Effect of *Vatari Guggulu* on cardinal and associated symptoms of *Gridhrasi*

Symptoms	n	Mean		Percentage	SD	SE	P
		BT	AT				
<i>Ruk</i>	34	3.353	1.941	42.11 ↓	0.6089	0.104	<0.0001
<i>Toda</i>	24	2.417	1.333	44.81 ↓	0.7755	0.158	<0.0001
<i>Stambha</i>	30	2.367	1.233	47.87 ↓	0.5713	0.104	<0.0001
<i>Spandana</i>	23	1.913	1.130	40.91 ↓	0.5184	0.108	<0.0001
<i>Aruchi</i>	21	1.000	0.411	58.82 ↓	0.6568	0.113	<0.0001
<i>Gaurava</i>	27	2.185	1.222	44.08 ↓	0.1925	0.037	<0.0001
<i>Tandra</i>	23	1.265	0.588	53.48 ↓	0.5888	0.101	<0.0001

BT: Before treatment, AT: After treatment, ↓: Decreased, SD: Standard deviation, SE: Standard error

Table 3: Effect of *Vatari Guggulu* on patients of *Vataja* type of *Gridhrasi*

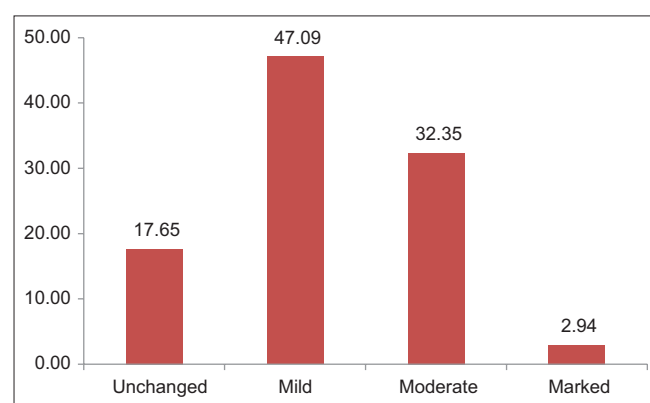
Symptoms	n	Mean		Diff.	Percentage	SD	SE	P
		BT	AT					
<i>Ruk</i>	7	3.286	2.143	1.143	34.78 ↓	0.690	0.261	>0.01
<i>Toda</i>	3	0.857	0.571	0.286	33.33 ↓	0.488	0.184	>0.05
<i>Stambha</i>	6	1.857	1.000	0.857	46.16 ↓	0.690	0.261	>0.05
<i>Spandana</i>	5	1.143	0.571	0.571	49.99 ↓	0.535	0.202	>0.05

BT: Before treatment, AT: After treatment, ↓: Decreased, SD: Standard deviation, SE: Standard error

Table 4: Effect of *Vatari Guggulu* on patients of *Vatakapha* type of *Gridhrasi*

Symptoms	n	Mean		Difference	Percentage	SD	SE	P
		BT	AT					
<i>Ruk</i>	27	3.37	1.89	1.48 ↓	43.95	0.580	0.112	<0.001
<i>Toda</i>	21	1.93	1.04	0.89 ↓	46.15	0.847	0.163	<0.001
<i>Stambha</i>	24	2.15	1.11	1.04 ↓	48.28	0.649	0.125	<0.001
<i>Spandana</i>	18	1.33	0.81	0.52 ↓	38.89	0.580	0.112	<0.002
<i>Aruchi</i>	21	1.26	0.52	0.74 ↓	58.83	0.656	0.126	<0.001
<i>Gaurava</i>	27	2.19	1.22	0.96 ↓	44.08	0.193	0.037	<0.001
<i>Tandra</i>	23	1.59	0.74	0.85 ↓	53.48	0.534	0.103	<0.001

BT: Before treatment, AT: After treatment, ↓: Decreased, SD: Standard deviation, SE: Standard error

**Figure 1: Overall effect of therapy**

Looking to the overall effect of treatment, moderate improvement was observed in 32.35% of patients, 47.09% of patients got mild improvement, followed by 2.94% patients showed marked improvement. About 17.65% of patients remained unchanged, at the end of the therapy [Figure 1].

Discussion

Ingredients of *Vatari Guggulu* are collectively having *Vatashamaka*, *Kaphashamaka*, *Aamapachana*, *Dipana*, *Vedana* *Sthapana* and *Rasayana* properties. Due to *Ushana* *Virya* and *Vatanulomana* properties, it normalizes the movement of *Apana* *Vaayu* and *Vyana* *Vaayu* which in turn helps to relieve pain. Furthermore, the *Kaphashamaka* properties of *Eranda* and *Guggulu* by its *Laghu* (lightness), *Ushna* (hot), *Sukshma*, *Strotoshudhikara* properties; it checks blockage of path occurred due to *Kapha* and so helps to relieve *Stambha* and *Shotha* (edema). Again by *Aamapachana* and *Dipana* properties, it corrects *Agni* and relieves generalized symptoms such as *Aruchi*, *Tandra*, and *Gaurava* too. Generally, the ingredients are more useful in *Upastambhita* *Vayu*, and this can be the reason that the patients of *Vatakaphaja*

type of *Gridhrasi* have shown better symptomatic improvement than *Vataja* type of *Gridhrasi* patients. *Triphala* and *Guggulu* are having *Rasayana* (rejuvenative) properties, but it needs long-term treatment to achieve it. The drug action may be enhanced by *Yogavahi* property of *Gandhaka*. *Vatari Guggulu* has anti-inflammatory and peripheral analgesic activity^[10] which reduces the pressure on the sciatic nerve and improves the degree of movement, i.e. *Sakthiutkshepa* *Nigraha*. In this way, *Vatari Guggulu* works very well in *Vata Kaphaja* type of *Gridhrasi* than *Vataja* type and shows highly significant relief in symptoms such as *Ruk*, *Toda*, *Spandana*, *Gaurava*, *Tandra*, and *Aruchi*.

After treatment any remarkable or significant changes were not reported in radiological parameters. This is because of the changes in *Gambhira* *Dhatu* are permanent and need very long treatment for reversal.

Conclusion

The drug *Vatari Guggulu* can be effective in *Gridhrasi*, especially *Vata Kaphaja* type of *Gridhrasi*, as its ingredients are having *Dipana*, *Pachana*, *Vatanulomana* properties along with *Vata Shamaka* property. For only *Vataja* type of *Gridhrasi*, *Rasayana* drug having *Snigdha*, *Madhura*, and *Vatashamaka* property may be added.

Financial support and sponsorship

IPGT and RA, Gujarat Ayurved University, Jamnagar.

Conflicts of interest

There are no conflicts of interest.

References

- Swierzewski SJ. Incidence and Prevalence of Sciatica. Available from: <http://www.healthcommunities.com/sciatica/sciatica-overview.html>. [Last accessed on 2012 Mar 15].

2. Acharya JT, editor. Charaka Samhita of Agnivesha, Chikitsasthana, Ch. 28, Ver. 15-18. 4th ed. Varanasi: Chaukhambha Surbharati Prakashana; 1994. p. 617.
3. Acharya JT, editor. Charaka Samhita of Agnivesha, Sutrasthana, Ch. 20, Ver. 11. 4th ed. Varanasi: Chaukhambha Surbharati Prakashana; 1994. p. 113.
4. Acharya JT, editor. Charaka Samhita of Agnivesha, Chikitsasthana, Ch. 28, Ver. 56-57. 4th ed. Varanasi: Chaukhambha Surbharati Prakashana; 1994. p. 619.
5. Acharya JT, editor. Sushruta Samhita of Sushruta, Nidansthana, Ch. 1, Ver. 74. 4th ed. Varanasi: Chaukhambha Prakashana; 1980. p. 268.
6. Pinto RZ, Maher CG, Ferreira ML, Ferreira PH, Hancock M, Oliveira VC, et al. Drugs for relief of pain in patients with sciatica: Systematic review and meta-analysis. BMJ 2012; 344:e497.
7. Valat JP, Genevay S, Marty M, Rozenberg S, Koes B. Sciatica. Best Pract Res Clin Rheumatol 2010;24:241-52.
8. Shastri RD, editor. Bhaisajyaratnavali of Govind Das Sen, Ch. 29, Ver. 152-154. 20th ed. Varanasi: Chukhambha Prakashan; 2010. p. 625.
9. Anonymous. The Ayurvedic Formulary of India (AFI), Vol. 1/A. 2nd ed. New Delhi: The Controller of Publications, Govt. of India; 2003. p. 220.
10. Panda PP. A Comparative Pharmacoclinical Study of Vatari Guggulu and Simhanada. Guggulu on Amavata. PG thesis Submitted to Gujarat Ayurved University, Jamnagar; 1998.

हिन्दी सारांश

गृध्रसी पर वातारी गुग्गुलु का प्रभावात्मक अध्ययन

गीता व्ही. साठवणे, दर्शना एच. पण्डया, माधवसिंह बघेल

गृध्रसी पुरुषों एवं महिलाओं में समानरूप से पाया जानेवाला एक विकार है। दुनिया में लगभग तीन चौथाई लोग कटीशूल से पिड़ित हैं। जिसका कारण गृध्रसी रोग को माना जाता है। इस अध्ययन में गृध्रसी से कुल ४० पीड़ित रोगियों को वातारि गुग्गुलु (३ वटी) का गरम जल के साथ दिन में दो बार ३० दिनों तक सेवन कराया गया। परिणामों का मुल्यांकन रोग के लक्षणों एवं स्ट्रेट लेग रेजिंग टेस्ट के आधार पर किया गया। जिससे प्राप्त परिणामों में वातकफज गृध्रसी में वातज गृध्रसी से उत्साहवर्धक परिणाम पाये गये।