

A Clinical Study to Assess the Role of Rasnadi Guggulu and Kati Basti in the Management of Gridhrasi (Sciatica)

Sujeet Kumar Jaiswal*, Rekha Rani**, U.S. Singh***

Abstract

Pain around lumbosacral region is the most common problem in these days. It may be due adaptation of western life style. A majority of population are suffering from this common ailment. Pain starting from gluteal region and spreading down the back of the lower limb and radiating up to the foot, is the main symptom of Gridhrasi. Sakthiutkshepanigraha is mentioned as a cardinal sign by acharya Sushruta & Maharshi Vagbhata. Gridhrasi is described under Nanatmaja Vyadhi in Ayurveda texts.

The entire study was conducted in three groups of 45 patients. Group-A patients were treated with Rasnadi Guggulu as a Shamana Chikitsa, group-B patients were treated with Katibasti as a Panchakarma Chikitsa while Group-C patients were treated with both therapy i.e. Rasnadi Guggulu as a Shamana Chikitsa and Kati-Basti as a Panchakarma Chikitsa for a period of 21 days. The trial groups have clearly shown the effectiveness in symptomatic & radiological findings of the disease. The sign & symptoms of Gridhrasi can be compared with Sciatica in modern medical science. In this era, Auyurvedic authors correlate Gridhrasi with Sciatica.

Keywords: Gridhrasi; Sciatica; Rasnadi Guggulu; Dashmool taila Katibasti; Panchakarma.

Introduction

The Indian medicine system in the refers to Ayurveda which is not only a medicine but also a science of life useful to human being. The word Gridhrasi itself suggest the gait of the patients is similar to Gridha (Vulture) due to pain. All the ayurvedic classics have described the aetiopathogenesis & symptomatology of Gridhrasi in concise form. The description narrated in these classics exactly coincides to the description of Sciatica including important diagnostic test SLR which is described as Sakthinkshepanigrha by acharya Sushruta.

Ayurveda is the science of life based on the fundament of Tridosha. In Gridhrasi, the main

vitiated dosa is Vata. Hence it is included in nanatmaja vatavyadhi. In Ashtang Hridaya & Sushruta Samhita, the descriptions are similar but acharya Caraka also considered Kapha dosa, as a cause of Gridhrasi and described two type of Gridhrasi i. e. Vataja & Vatakaphaja.

Sciatica (sciatic neuritis) is a set of symptoms including pain that may be caused by general compression and/or irritation of one of five spinal nerve roots that give rise to each sciatic nerve or by compression or irritation of the left or right or both sciatic nerves. Modern science describes typical pain radiation, caused due to irritation of the 4th & 5th lumbar and 1st sacral roots from the sciatic nerve extending mainly down the posterior aspect of the thigh and posterior & lateral aspects of the leg is termed as sciatica. Tingling, parasthesia and numbness or sensory impairment of the skin, soreness of the skin and tenderness along the nerve also accompanies the classical sciatic pain and on physical examination reflex loss, weakness, atrophy, fascicular twitching and occasionally

Author's Affiliation: *Lecturer, Dept. of Panchakarma, Gurunanak Ayurvedic College, Gopalpur, Ludhiana, **Medical Officer, Rajkiya Ayurveda Chikitsalaya, Achchai-Raeberelly (U.P.), ***Ex. R.O. I/C- CRI (Ayurveda), Lucknow (U.P.).

Reprint's request: Dr. Sujeet Kumar Jaiswal, 1/304, Viram Khand, Gomti Nagar, Lucknow. 226010, Mobile No.- 8960093145.

E mail: jaiswalsujeet@rediffmail.com.

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stasis edema may occur, if the motor fibers of the anterior root are involved.

Causes

Sciatica is generally caused by the compression of lumbar nerves L4 or L5 or sacral nerves S1, S2, or S3, or by compression of the sciatic nerve itself. When sciatica is caused by compression of a dorsal nerve root (radix) it is considered a lumbar radiculopathy (or radiculitis when accompanied with an inflammatory response). This can occur as a result of a spinal disk bulge or spinal disc herniation (a herniated intervertebral disc), or from roughening, enlarging, and/or misalignment (*spondylolisthesis*) of the vertebrae, or as a result of degenerated discs that can reduce the diameter of the lateral foramen through which nerve roots exit the spine. The intervertebral discs consist of an annulus fibrosus, which forms a ring surrounding the inner nucleus pulposus. When there is a tear in the annulus fibrosus, the nucleus pulposus (pulp) may extrude through the tear and press against spinal nerves within the spinal cord, cauda equina, or exiting nerve roots, causing inflammation, numbness or excruciating pain. Sciatica due to compression of a nerve root is one of the most common forms of radiculopathy.

Pseudosciatica or non-discogenic sciatica, which causes symptoms similar to spinal nerve root compression, is most often referred pain from damage to facet joints in the lower back and is felt as pain in the lower back and posterior upper legs. Pseudosciatic pain can also be caused by compression of peripheral sections of the nerve, usually from soft tissue tension in the piriformis or related muscles.

Aims & objectives

- To assess the efficacy of Rasnadi guggulu and Katibasti in etiopathogenesis of Gridhrasi.

- To compare the effect of both therapies clinically.

Materials and methods

Total 45 patients were selected from the O.P.D. of Gurunanak Ayurvedic College & Hospital; Ludhiana, fulfilling the clinical criteria of sciatica based on detailed history taking according to both Ayurvedic & modern parameters.

Inclusion criteria

- Age between 18-60 years of either sex.
- Duration of the disease not more than 10 years.

Exclusion criteria

- Age below 18 and above 60 years of either sex.
- Suffering from uncontrolled diabetes, psoriatic arthritis, gouty arthritis, rheumatoid arthritis, bone Tuberculosis, accidental cases.

Grouping of Patients

For the present trial, selected 30 patients were categorized in three groups of 15 patients each.

- Group-A: Rasnadi Guggulu orally for 21 days.
- Groups-B: Dashmool Taila Katibasti for 21 days.
- Group-C: Rasnadi Guggulu & Dashmool Taila Katibasti for 21 days.

Rasnadi Guggulu

It is described in the chapter of vata-vyadhi chikitsa of Yoga-Ratnakar and is specially given in the case of Gridhrasi. Its main components are Rasna (leaf of *Pluchea lanceolata*) & Guggulu (resin of *Commiphora mukul*). Rasna is best vatahara dravya,

vedanasthapak & it is used in vataja- kaphaja vyadhi while Guggulu is vedanasthapaka, vatashamaka & most commonly used in Vatik disorders. Both are mixed together with the help of Go-grita & pills are made. 500 mg twice a day orally for 21 days.

Dashmool Taila Katibati

It contains dashmool dravyas, Nirgundi. All are vedanashamak, vedanasthapaka and shothahara. It has good effect on pain around the lumbosacral resion. About 300 ml Dashmool oil used in Katibasti daily for 21 days.

Criteria for diagnosis

Patients were diagnosed on the basis of classical signs and symptoms of the disease. According to modern science necessary tests such as SLR, etc were done along with neurological examination. The most applied

Radiological assessment of the lumbar spine was done in patients where necessary to ascertain the diagnosis as well as for differential diagnosis. Diagnosis of sciatica through imaging can be achieved either with computerized tomography or with magnetic resonance imaging.

Criteria for Assessment

Assessment of the result done on the basis of following criteria:

- **Markedly response-** >75% relief in clinical symptomatology and pathological feature.
- **Moderate response-** 75% to 51% relief in clinical symptomatology and pathological feature.
- **Mild response-** 26% to 50% relief in clinical symptomatology and pathological feature.
- **No response-** Below 26% relief in clinical symptomatology and pathological feature.

Table 1: On the basis of severity score of each symptoms were given in 0,1,2& 3 grade

Symptoms	Score			
	0	1	2	3
Pain	No pain	Mild	Moderate	Severe
Stiffness	No	5 min. to 1 hour	1 hour to 2 hour	>2 hour
Tenderness	No	Subjective experience	Pace on pressure	-
SLR	> 90°	71°- 90°	51°-70°	Up to 50°
Numbness	No	mild	Moderate	Severe
Burning Sensation	No	mild	Moderate	Severe
Walking Distance	Up to 1 km	Up to 500 meter	Pain on Walking	Pain on standing

diagnostic test is the straight leg rising test(SLR), or Lasègue’s sign, which is considered positive if pain in the sciatic nerve is reproduced with between 30 and 70 degrees passive flexion of the straight leg (Ref. Speed, C. (2004). "Low back pain". BMJ 328 (7448): 1119-1121.

Overall results of the Therapies

The overall effect of each therapy was assessed at the end of completion of 21 days of therapy. In Group-A (Rasnadi Guggulu); mild response (47%) was found. In Group-B & Group-C; moderate response (55.2% & 70%) were found.

Observation and result

Table 2: Showing the age & sex wise distribution

S.No.	Age groups	Male	Female	Total	%age
1.	18-31	5	3	8	17.78%
2.	32-45	7	9	16	35.56%
3.	46-60	9	12	21	46.66%
Total		21	24	45	100%

Table 3: Chronicity wise distribution

S. No.	Chronicity	No. of Patients	%age
1.	Up to 1Year	9	20%
2.	1- 5 year	27	60%
3.	5- 10 year	9	20%
Total		45	100

Table 4: Clinical features wise distribution

S.No.	Clinical features	No. of cases				%age
		Group-A	Group-B	Group-C	Total	
1.	Pain	15	15	15	45	100%
2.	Stiffness	15	15	15	45	100%
3.	Numbness	10	7	12	29	64.44%
4.	Burning sensations	9	5	6	20	44.44%
5.	Walking distance	13	15	12	40	88.89%
6.	Tenderness	15	15	15	45	100%
7.	SLR	15	15	15	45	100%

Table 5: Radiological findings wise distribution

S. No.	Radiological findings	No. of cases				%age
		Group -A	Group -B	Group -C	Total	
1.	Osteophytic changes	3	4	2	9	20%
2.	Lumber canal stenosis	2	5	4	11	24.44%
3.	Herniation of disk	1	3	5	9	20%
4.	Prolaps of IVD	2	2	4	8	17.78%
5.	Normal	3	1	3	7	15.56%

Table 6: Showing relief in the severity of symptoms in group-A

S. No.	Clinical Features	Mean BT	Mean A.T.	Mean Relief	%age Relief
1.	Pain	2.2	1.267	0.93	42.42%
2.	Stiffness	2.2	1.2	1	45.45%
3.	Numbness	1.13	0.533	0.6	52.3%
4.	Burning sensations	1	0.4	0.53	53.3%
5.	Walking distance	1.6	0.867	0.733	45.8%
6.	Tenderness	1.6	0.867	0.73	45.8%
7.	SLR	1.867	0.867	1	53.57%

Table 7: Showing relief in the severity of symptoms in group-B

S. No.	Clinical Features	Mean BT	Mean A.T.	Mean Relief	%age Relief
1.	Pain	2.26	1.06	1.2	52.94%
2.	Stiffness	2.2	0.867	1.33	60.6%
3.	Numbness	1.4	0.6	0.8	57.14%
4.	Burning sensations	1.06	0.467	0.6	56.25%
5.	Walking distance	1.8	0.867	0.93	51.85%
6.	Tenderness	1.53	0.73	0.8	52%
7.	SLR	1.93	0.867	1.067	55.17%

Table 8: Showing relief in the severity of symptoms in group-C

S. No.	Clinical Features	Mean BT	Mean A.T.	Mean Relief	%age Relief
1.	Pain	2.4	0.67	1.73	72%
2.	Stiffness	2.3	0.67	1.67	71%
3.	Numbness	1.467	0.33	1.13	77%
4.	Burning sensations	1.533	0.533	1	65%
5.	Walking distance	2	0.73	1.2667	63%
6.	Tenderness	1.467	0.4	1.06	72.72%
7.	SLR	2.13	0.667	1.467	68.75%

Table 9: Showing relief in the severity of symptoms in different groups

S. No.	Groups	Mean BT	Mean A.T.	Mean Relief	%age Relief
1.	Group -A	1.656	0.857	0.789	47.6%
2.	Group -B	1.74	0.779	0.961	55.2%
3.	Group -C	1.899	0.571	1.332	70%

Table 10: Showing relief in the severity of symptoms in terms of the response of the therapy in different groups

S. No.	Groups	Markedly response (>75%)	Moderate response (75-51%)	Mild response (50-26%)	No response (<25%)
1.	Group - A	0	3	4	0
2.	Group - B	0	7	0	0
3.	Group - C	0	7	0	0

Discussion

Probable mode of action of Katibasti

- It is a procedure in which both the properties of snehana & swedana are involved. The reason behind selection of Katibasti is, it come under direct contact with painful region. In this disease, samprapti is at kati-region and associated with structural deformity of lumbo-sacral region due to which lubrication function of Shleshaka kapha is affected and produce compression, inflammation of Sciatic nerve resulting in severe pain. Therefore local snehana & swedana is very effective and give quick response.
- Physiologically, uninjured skin can't absorb watery solution but oily substance can be freely absorbed through skin. Any hot or warm substances apply to the skin causes capillary dilatation, which may facilitate the absorption of the oily substances. Neurons are made of myelin sheath, 65% to 85% water, 16.5% grey matter & 30% white matter. The grey matter consists of nucleoproteins these proteins are fat-like substances and are more abundant in non-medullar region. If we correlate it, these substance having snigdha, guru, pichchila properties. Deficiency of these nucleoproteins may lead to demyelization. Such degenerative changes in sciatic nerve cause sciatica.
- Hence administration of snigdha dravyas like Dashmool oil may provide nourishment to nervous tissue, establish the equilibrium of nucleoproteins. So, snehana is helpful in breaking down the pathology of Gridhrasi in view of modern & Ayurvedic concept.
- Age wise distribution of the patient's show that maximum numbers of individuals were in 46-60year age group and female are more then male. According to modern science, there is progressive decrease in degree of hydration of the intervertebral disc with age that leads to the cycle of degeneration resulting in disc problem and causing Gridhrasi. Hence prevalence of the disease is high in middle and old age groups. Female are tend to more physical work like sitting, bending, lifting and sustained non neutral postures predispose to Gridhrasi. It is supported by the findings of the present study.
- The main culprit of the ailment is vata dosha while anubandhi dosha is kapha as described in Ayurvedic text. This is clinically proved because maximum no. of patients showed vatajprakopaka causes.
- Physical as well as mental stress was also observed as stimulating factors along trauma. The symptoms were dominant in winter and Rainy season.
- Majority of patients were found vatakapha & vatapitta prakriti, vishmagni and krura koshtha. All these finding proved the dominance of vata dosha.

- In this study all the therapies were effective in combating the ailment. Moderate improvement was observed on all the sign and symptoms as well as SLR in Group- B (Katibasti) & Group-C (Katibasti & Rasnadi Guggulu).
- Clinically after 3 days of starting the therapy the pain, Stiffness, Numbness, Burning sensations, Walking distance and Tenderness starting decreasing. As the treatment proceeds a moderate reduction in the severity of almost all of symptoms was found within a week.
- The percentage relief in the severity of the symptoms of group-C was comparatively quite high as compare to that of group-A (Oral therapy) & group-B (Katibasti).
- The mean relief in the severity of the symptoms in group-A (Rasnadi Guggulu), B (Katibasti), C (Katibasti & Rasnadi Guggulu) were 47.6%, 55.2% and 70% respectively.
- Response wise in group-A out of 7 symptoms, mild improvement was found in four symptoms and moderate response in 3 symptoms out of 15 patients while in group-B & C; moderate response was found in all the 7 symptoms out of 15 patients in each group.
- Slight improvement of Radiological finding was found after 21 days treatment. This is due to short period of treatment study.
- In case of systemic symptoms such as indigestion, insomnia, anorexia, etc, a clinical relief was found as a result of the therapy. It may be due to relief from the distressing pain.
- No major adverse /side effect were encountered during the treatment.
- Preventive aspect and patient's education play an important role in the management of Gridhrasi. Correct guidelines about posture etc along with exercises are helpful for effective management.

Conclusion

In the last it can be concluded that, the oral medicine- Rasnadi- Guggulu is an effective medicine in Sciatica, but when accompanied with authentic Panchakarma Therapies specially Katibasti with Dashmool oil, gives better results with least expenditure and no complication, as seen practically in this clinical trial.

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