

### Role of *Matra Basti* with *AhacharadiTail* in the Management of *Gridharasi* (Sciatica)

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#### Abstract

A change in lifestyle of human beings has created several disharmonies in his biological system. With the advancement of busy, professional and social life, improper sitting postures in offices and factories, jerking movements during travelling and sports; all these factors create undue pressure on the spinal cord and play an important role in producing low backache and sciatica. According to *Charaka Samhita*, *Gridhrasi* comes under 80 types of *Nanatmaja Vatavyadhi* which is characterized by its distinct pain emerging from buttock and going towards the heel of afflicted side. On the basis of symptoms it can be well co-related with “Sciatica” in modern terminology. In spite of the different types of treatment modalities mentioned in ancient and modern medical sciences, they have some or the other shortcomings and drawbacks. Considering all these, the present study was taken up with the objective of evaluating the role of *Matra basti* in the management of *Gridhrasi*. Due to promising results of *Rasna Guggulu* practically proven in *Gridhrasi*, it was chosen as control group. Total 24 patients of *Gridhrasi* were randomly divided into two groups. The patients of Group-A (13 patients) were given *Matra basti* with *Sahacharadi Tail* for 14 days and the patients of Group-B (11patients) were given only *Rasna Guggulu*. All the patients responded favorably to the treatment in both the groups, but with *Marta Basti*, the therapy has shown better relief in most of the cardinal and associated signs and symptoms of the disease.

**Keywords** *Rasna Guggulu, Matra-Basti, Gridhrasi, Sciatica, Sahcharaadi tail*



**Greentree Group**

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## INTRODUCTION

Changing of life style of modern human being has created several disharmonies in his biological system. In modern and over busy lifestyle of human being due to improper sitting posture in offices and factories, jerking movements during traveling and Sports - all these factors create undue pressure to the spinal cord and play an important role in producing low backache and sciatica. In this way, this disease is now becoming a significant threat to the working population. About 50% of working adults experience a back injury every year<sup>1</sup>. *Gridhrasi* comes under 80 types of *Nanatmaja Vatavyadhi*<sup>2</sup>. The name itself indicates the way of gait shown by the patients due to extreme pain just like a *Gridhra* (vulture)<sup>3</sup> it is clear that this disease not only inflicts pain but also causes difficulty in walking, which is very much frustrating and embarrassing to the patient. Though, the disease originates in leg, it disturbs the daily routine and overall life of the patient. The cardinal signs and symptoms of *Gridhrasi* (Sciatica) are *Ruka* (pain), *Toda* (pricking sensation), *Stambha* (stiffness) and *Muhuspandana* (twitching) in the *Sphika*, *Kati*, *Uru*, *Janu*, *Jangha* and *Pada* in order and *SakthikshepaNigraha* i.e.,

restricted lifting of the leg. In *Kaphanubandha*, *Tandra*, *Gaurva*, *Arochaka* are present. “Sciatic Syndrome” a condition described in modern medicine resembles with *Gridhrasi*. In sciatica there is pain in the distribution of sciatic nerve which begins from buttock and radiates downwards to the posterior aspect of thigh, calf and to the outer border of foot. In Ayurvedic classics our *Acharyas* have given so many special therapeutic procedures for specific disease along with thousands of medicaments. *Panchakarma* is a very unique therapeutic procedure because of its preventive, promotive, prophylactic and rejuvenative properties as well as providing a radical cure. Among these *Panchakarmas*; *Basti Karma* is such a *Chikitsa* that is applicable in all the *Vatavyadhis*. According to *Sushruta*, it can also be used in *Kaphaja* and *Pittaja* disorders by using different ingredients.

The management provided by the modern medicine for this condition is either conservative or surgical<sup>4</sup>. But due to fear, high cost or complications of surgical treatment, patients avoid surgeries and continue with analgesics for timely pain relief, which produce gastrointestinal side effects. In Ayurveda, various modalities of

treatment are explained for the management of *Gridhrasi*. *Gridhrasi* is a disease having its origin in *Pakvashaya* and seat in *Sphika* and *Kati* (lumbar spine). Hence, *Basti* is the best mode of administration of the drug. Out of different types of *Basti* given in classics – the simplest type of *Basti -Matra basti*, which can be used in O.P.D. patients also and is harmless, was taken for the study. Due to promising results of *Rasna Guggulu* practically proven in *Gridhrasi*, it was chosen as control group<sup>5</sup>. For the purpose of *Matra basti*, *Sahacharadi Taila*, which is indicated in the management of *Vata Vyadhi* by *Acharya Vagbhata*<sup>6</sup> was selected. All the drugs included in *Sahacharadi Taila* were having *Vata-kapha shamaka*, *Shulahara* and *Vedanasthapana* properties. Considering all these, the present study was taken up with the objective of evaluating the role of *Matra basti* in the management of *Gridhrasi*.

#### AIMS AND OBJECTIVES

- To assess the efficacy of *Rasna Guggulu* and *Matra basti* in the management of *Gridhrasi*.
- To evaluate the mode of action of *Matra basti* in the management of *Gridhrasi*.

- To find a simple, effective, and cheap therapy that can be used for outpatient treatment of *Gridhrasi*.

#### MATERIALS AND METHODS

Total 24 patients of *Gridhrasi* were selected for study from among the outpatients and inpatients of *Kayachikitsa* and *Panchakarma* Department, Institute of Post Graduate Teaching and Research in Ayurveda (IPGT & RA), Jamnagar.

#### Inclusion criteria

- Presence of *Ruka*, *Toda*, *Stambha*, and *Spandana* in the *Sphik*, *Kati*, *Uru*, and *Pada*
- Tenderness along the course of the sciatic nerve
- Patients in the age-group of 20–70 years
- SLR test in affected leg as objective measure for diagnosis and assessment of improvement in treatment
- Popliteal compression test, knee jerk, and ankle jerk
- Foot Flexion test

#### Exclusion criteria

- Carcinoma of the spine or tuberculosis of the vertebral column
- Uncontrolled diabetes mellitus, cardiovascular disease, and pregnancy

## Investigations

Routine Hematological, Urine and Bio-Chemical investigation were carried out to exclude the possibility of any other disease as well as to know the present condition of the patient. X-Ray of LS spine AP and lateral view were carried out in all the patients before and after treatment.

## Plan of Study

After diagnosis, total 24 patients of *Gridhrasi* were randomly divided into two groups:

**Group A:** *Matra basti (MB) Group:* The patients of this group were given *Matra basti with Sahacharadi Tail* in the dose of 60-70 ml. once a day for 14 days. along with *Rasna Guggulu*.

**Group B:** *Rasna Guggulu (RG) Group:* The patients of this group were given *Rasna Guggulu* 500mg of 2 tablets twice a day for 30 days.

Follow-up: 15 days

## Criteria for assessment

The improvement in the patients was assessed mainly on the basis of relief in the cardinal symptoms of the disease. The result of therapy was evaluated on the basis of improvement in subjective parameters on various rating scales. For statistical analysis, we calculated means, standard deviations

and standard errors, and percentages. Student's paired 't' test was used for assessing the differences between groups. The obtained results were interpreted as: nonsignificant:  $P > .05$ , significant:  $P < .01$ , and highly significant  $P < .001$ . The chi-square test was used for subjective parameters<sup>7</sup>.

The total effect of therapy was assessed taking into consideration the overall improvement in signs and symptoms and was calculated by the formula

$\frac{\text{Total BT} - \text{Total AT} \times 100}{\text{Total BT}}$ , The obtained results were classified as:

Complete remission: >75% relief in signs and symptoms

Marked improvement: 51%–75% relief

Moderate improvement: 25%–50% relief

Unchanged: <25% relief

## OBSERVATION

Total 24 patients were registered for the study among them 13 patients were registered in Group A and 11 patients were registered in Group B out of which 18 patients have completed the treatment ( 10 patient in Group A and 8 patients in Group B). 3 patient in each group discontinued the treatment.

Important features were as follows: 25% patients were from the age-group of 41–50 years, male and females patients have equal ratio (50% each), 75% patients hindu, 95.83% were married, 41.67% were housewives, 66.67% were from urban areas, 70.83% patients were having *Vataja* type of *Gridhrasi* while 29.17% patients were having *Vata\_kaphaja* type of *Gridhrasi*, 41.67% had *Vata-Pitta Prakriti*, and 33.33% had *Vata-Kapha Prakriti* 87.50% patients were having *Madhyama Koshtha* and 58.33% patients were having *Mandagni*. Among *Nidana*, 70.83% had *Dhatukshayakara Ahara*, 62.50% had *Katu Rasa Sevana*, 58.33% had *Bharaharana*, 41.66% had *Abhigata*, 29.17% had *Visam Chestha* and *Chinta*, Cardinal symptoms of *Ruk*, and positive SLR test were found in all the patients (100%). *Toda* was present in 87.50% *Stambha* was present in 83.33%, *Aruchi* was seen in 45.83% *Spandana* in 41.66%, *Gaurava* in 29.17% *Dehasyapi Pravakrata* (functional scoliosis) in 12.50%. Among neurological finding Diminished Knee Jerk and Ankle Jerk were found in 29.17 % while all patients (100%) were having positive popliteal compression test and presence of tenderness at root of Sciatica nerve.

## RESULTS

Both groups showed improvement, but Group A showed better results in the chief complaints and also in the neurological findings. The effect of therapy in Group A showed that this therapy provided highly significant relief in the symptoms of *Ruk* (87.50%), *Stambha* (85%), and SLR test (82.14%). The therapy also provided significant relief in the symptom of *Toda* (87.50%) whereas *Aruchi* and *Tandra* were relieved by 100%. While Group B. provided highly significant relief in the symptoms of *Ruk* (71.37%), *Toda* (66.84%), *Spandana* (80%) and SLR test (64.62%), significant relief was noted in case of *Stambha* (73.33%) and *Aruchi* (75%). In assessing overall effect of therapy it was seen that in Group A 10% of patients got complete remission, maximum 90% got markedly improvement. While in Group B, complete remission was found in 25. % patients & maximum 75% got markedly improvement.

## DISCUSSION

In this study highest incidence of *Gridhrasi* was reported in the age-group of 41–50

years (25%).that is the 4<sup>th</sup> decade of life which is *Vata Prakopaka Kaal*. and according to modern science, there is progressive decrease in the degree of hydration of the intervertebral disc with age, leading to the cycle of degeneration resulting in disc problems and causing *Gridhrasi*. Hence, the prevalence of sciatica is high in middle-aged people. This theory is supported by the present study. Most of the patient's (66.67%) were from urban areas; this is because of fast lifestyles and hazards associated with industrialization. A large proportion of the patients (41.67%) were housewives as household work involves working in abnormal posture for long periods and so there is much wear and tear and higher loads on their spine. Laborers too show relatively high prevalence (16.67%) because of the heavy work they do.

Maximum no. of patients (70.83%) had *Vataja type of Gridhrasi* while 29.17% had *Vatta-Kaphaja type of Gridhrasi*, Maximum no. of patients that is 41.67% were having *Vata-Pittaja Prakriti* and 33.33% patients had *Vata-Kaphaja Prakriti* this suggests that *Vata* plays a major role in the manifestation

of *Gridhrasi*. In *Nidan* 70.83% had *Dhatukshayakara Ahara*, 62.50% had *Katu Rasa Sevana*, 58.33% had *Bharaharana*, 41.66% had *Abhigata*, 29.17% had *Visam Cheshta* and *Chinta*, all such factors that lead to *Dhatu Kshaya* and *Vata Prakopa*<sup>8</sup>. *Vishama Cheshta* in 29.17% may be precipitating factors of *Gridhrasi* as they cause strain on the spine. History of *Abhigata* was found in 41.66%, which indicates that the presence of a prior *Kha-Vaigunya* increases the incidence of *Gridhrasi*. 29.17% of patients had *Mansik* factors such as *Atichinta*, which reflects the role of tension in *Vata Prakopa*.

**Effect of therapy:** Improvement of pain was more in group A (87.50%) in comparison to group B (71.37%). Pain is produced mainly by *Vata Prakopa*, and *Basti* is the best treatment for *Vata*. *Usna Virya* of *SahacharadiTail* act to reduce pain and hence the better relief in group A. *Sahacharadi Tail* possesses analgesic and anti-inflammatory properties hence by relieving the inflammatory change in nerve, it might have reduced the nerve root compression symptoms (Table 1, 2,3).

**Table: 1 Effect of Therapy according to sign and symptoms in *Matra basti* Group**

Signs & Symptoms	n	Mean Score		X	%	S.D.	S.E.	“t”	p
		B.T.	A.T.						
<i>Ruka</i>	10	3.20	0.40	2.80	87.50	0.789	0.249	11.24	<0.001
<i>Toda</i>	7	1.60	0.20	1.40	87.50	1.174	0.371	3.773	<0.01
<i>Stambha</i>	9	2.00	0.30	1.70	85.00	1.059	0.335	5.075	<0.001
<i>Spandana</i>	1	0.10	0.10	0.00	00.00	0.000	0.000	0.000	-
<i>Aruchi</i>	3	0.40	0.00	0.40	100	0.699	0.221	1.809	>0.05
<i>Tandra</i>	1	0.10	0.00	0.10	100	0.316	0.100	1.000	>0.05
<i>Gaurava</i>	2	0.30	0.10	0.20	66.66	0.632	0.200	1.000	>0.05
SLR Test	10	2.80	0.50	2.30	82.14	0.675	0.214	10.75	<0.001
Scoliosis	3	0.50	0.20	0.30	60.00	0.483	0.153	1.961	>0.05

**Table: 2 Effect of Therapy according to sign and symptoms in *Rasna Guggulu* Group**

Signs & Symptoms	n	Mean Score		X	%	S.D.	S.E.	“t”	p
		B.T.	A.T.						
<i>Ruka</i>	8	2.62	0.75	1.87	71.37	0.835	0.295	6.356	<0.001
<i>Toda</i>	8	1.87	0.62	1.25	66.84	0.886	0.313	3.994	<0.001
<i>Stambha</i>	6	1.50	0.40	1.12	73.33	0.991	0.350	3.214	<0.02
<i>Spandana</i>	7	1.25	0.25	1.00	80.00	0.756	0.267	3.745	<0.01
<i>Aruchi</i>	5	1.00	0.25	0.75	75.00	0.707	0.249	3.012	<0.02
<i>Tandra</i>	1	0.12	0.00	0.13	100	0.354	0.125	1.000	>0.05
<i>Gaurava</i>	3	0.37	0.12	0.25	67.56	0.463	0.164	1.524	>0.05
SLR Test	8	2.12	0.75	1.38	64.62	0.744	0.263	5.228	<0.01
Scoliosis	0	0.00	0.00	0.00	-	-	-	-	-

**Table: 3 Overall effect of therapy in Both Groups**

	<i>Matra basti</i>	<i>Rasana guggulu</i>
Cured	1(10%)	2(25%)
Markedly Improved	9(90%)	6(75%)
Improved	0	0
Unchanged	0	0
Total	10	8

**Toda:** This shows that nearly half of the patients who have disturbed *Nidra* by *Toda* as night is *Vata Prakopaka Kala*, so *Toda* might be aggravated during this *Kala*, group (group A) showed better improvement in *Toda* (87.50%) than group B (66.84%). *Matra basti* acts as *Vata anulomana* and relaxes the spinal muscles controlling *Apana Vayu*. *Spandana* occurs due to *Vata* and is better relieved by *Matra basti*.

**Relief in neurological findings (SLR test):** *Sakthikshepanigraha* was measured by the SLR test. In group A, *Matra basti* provided 82.14% relief, which was statistically highly significant ( $P < 0.001$ ). *Dehasya Pravakrata* Group A showed better (60%) relief than group B ( $p > 0.05$ ). With *Matra basti*, all the patients were able to lift the leg higher due to reduction in muscular spasm. It also helped in breaking the *Sanga* and *Margavrodh*. This shows better results in the chief complaint and the neurological findings, as *Matra basti* may be helping in controlling both *Vata* and *Kapha* and breaking the *Samprapti*. In assessing overall effect of therapy it was seen that - In Group A 10 patients were treated out of which, complete remission was found in 1 patient (10%), 9 patients (90%) got markedly improvement Group B, out of 8 patients,

complete remission was reported in two patients (25%) while 6 patients (75%) got marked improvement. None of the patient was found unchanged in both the groups. Statistically these results cannot be proved as results obtained in both the groups are approximately similar. But on the basis of percentage relief on sign and symptoms of the disease found in both the groups and after comparing them, it is obvious that overall effect of Group A was better on the patients of *Gridhrasi* in comparison to Group B.

**Probable mode of action of *Matra basti* :**

*Vagbhatta* says the *virya* of *basti* is conveyed to *apana* and then to *samana vata*, which may regulate the function of *agni*. It then goes to *Udana*, *Vyana* and *Prana*, thus providing its efficacy all over the body. At the same time *Basti* by pacifying *Vata*, Restores the disturbed *kapha* and *pitta* at their original seats and thus helps in breaking the pathogenesis. Thus according to Ayurveda, the *virya* (active principle) of the ingredients used in the *Basti* gets absorbed and then, through the general circulation, reaches at the site of the lesion and relieves the disease<sup>9</sup>. Pharmokinetic studies have also proved that drug administered via rectum can achieve higher



blood levels of the drug than oral route due to partial avoidance of hepatic first-pass metabolism. The rectum has a rich blood and lymph supply and drugs can cross the rectal mucosa as they can other lipid membranes. Thus, un-ionized and lipid-soluble substances are readily absorbed from the rectum. The portion absorbed from the upper rectal mucosa is carried by the superior hemorrhoidal vein into the portal circulation, whereas that absorbed from the lower rectum enters directly into the systemic circulation via the middle and inferior hemorrhoidal veins. Thus, administration of drugs in the Basti form has faster absorption and provides quicker results. The rectal wall contains neuroreceptors and pressure receptors which are stimulated by various *basti dravyas*. Stimulation results in increase in conduction of sodium ions. The inward rush of sodium ions through the membrane of the unmyelinated terminal is responsible for generating the action potential, influx of ion there by generating action potential. Generally the action potential is initiated by increase in permeability to sodium ions. *Saindhava lavana* present in *basti* probably generates the action potential and helps in diffusion and absorption of *basti dravyas*.

The drugs, immediately after entering into the *pakwashaya* (intestines), strike at the very root of *viciated vata*. By virtue of their permeability the drugs may increase the normal bacterial flora of the colon and there by modulate the rate of endogenous synthesis of vitamin B<sub>1</sub> and B<sub>12</sub> as well as vitamin K, which are normally manufactured by bacterial flora. Vitamin B<sub>12</sub> may have a role to play in the regeneration and maintenance of nerves cells. *Basti karma* also reverses the effects of degeneration by enhancing immunity<sup>10</sup>

## CONCLUSION

- *Shamana* therapy does not appear to be solely responsible for the end result. Therefore, *Matra basti* and *Shamana* drug both might be contributing together to different extents in the recovery of the patient.
- The procedures of *Matra basti* is very simple, economical and required no hospitalization and could be done at the OPD level.
- *Matra basti* had a significant effect in relieving the pain and SLR test in cases of *Gridhrasi*.
- *Matra basti* clears the *Srotas* by removing *Mala* and *Avarana*, conquers the

*Rukshta* of *Vayu* with *Snigdha Guna*, and also normalizes *Apan Vayu* which is the main culprit.

The selected treatment does not work only to relieve symptoms, but it works at the level of *Samprapti* and minimizes the chances of recurrence of the disease.

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