

## A COMPARATIVE STUDY OF *RASANADI GUGGUL* AND *KATIBASTI* IN THE PAIN MANAGEMENT OF *GRIDHRASI* W.S.R. TO SCIATICA

Gupta Poonam<sup>1</sup>, Mahajan Nitin<sup>2</sup>

<sup>1</sup>Lecturer, GCAMS, India

<sup>2</sup>Assitant Professor, PG. Dept. of Kayachikitsa, J.I.A.R, Jammu

Email: [drpoonamgupta03@gmail.com](mailto:drpoonamgupta03@gmail.com)

### ABSTRACT

The *Gridhrasi* is equated with the Sciatica due to similarity in etiology, pathology, symptoms and prognosis but different in the treatment. In the present study we planned to get effective and safe treatment for “*Gridhrasi*” with the help of clinical principles of *Ayurveda*. In the present study, 30 patients having *Gridhrasi* were selected from O.P.D. & I.P.D. of Jammu Institute of Ayurveda & Research College and Hospital, Jammu. These patients were subjected to two therapeutic groups namely Group-A & Group-B. Group-A patients were given *Rasanadi Guggul* while Group-B patients were given *Kati-basti* with *Til tail*. The assessment of therapy on signs and symptoms was done by adopting suitable scoring methods and repeating laboratory investigations and critically analyzed. The results thus obtained finally were subjected for statistical analysis for the therapy. The end results thus obtained were interpreted and graded as complete remission, marked improvement, moderate improvement and mild improvement and presented in details.

**Keywords:** *Gridhrasi, Rasanadi Guggul, Kati-basti, Til tail.*

### INTRODUCTION

The health is supreme foundation for the achievement of happy life. *Ayurveda* is ‘the science of life’ had a golden time some centuries back. It was in oblivion till it was brought to the present era as a revival. The disorders affecting the loco-motor system are increasingly seen in present era. These conditions considerably reduce the human activity in terms of social and

professional life. Among such disorders *Ayurvedic* classics have described a severe debilitating disease in the name of *Gridhrasi*<sup>1</sup>. The name itself indicates the way of gait shown by the patient due to extreme pain just like a *Ghradhra* (Vulture<sup>2</sup>). In modern parlance the above condition is described in which pain is experienced along the course and in the distribution

of sciatic nerve<sup>3</sup>. It is now become well known even among the laymen, as sciatica. As the advancement of busy professional and social life, improper sitting postures in offices, factories etc. created undue pressure to the spinal cord<sup>4</sup>. Continuous and over exertion, jerking movements during traveling and sports are also playing their part in producing neuralgic pain. In this way this disease is now becoming a significant threat to working population<sup>5</sup>. Likewise, progressive disorders affecting the pelvis and nearer structures are also precipitating this condition. In an overall assessment major number of patients presented to the hospital has some symptoms related with pain on low back and legs. The cardinal sign and symptoms of *Gridhrasi* are *Ruka* (Pain), *Toda* (Pricking sensation), *Stambha* (Stiffness) and *Muhurspandan* in the *Sphika*, *Kati*, *Uruh*, *Janu*, *Jangha* and *Pada* in order and restricted lifting of the legs. In *Kaphanubandha*, *Tandra*, *Gaurav*, *Arochaka* are present<sup>6</sup>. The symptoms seen in *Gridhrasi* can be well correlated with “Sciatica” in modern terminology. Sciatica is a very painful condition in which pain begins in lumbar region and radiates along the postero-lateral aspect of thigh and leg. Hence, movement of the affected leg is restricted and patient is not able to walk properly<sup>7</sup>.

As the line of treatment in classics sequential administration of the *Vatashamaka* oral medicine, *Snehana*, *Swedan*, *Basti*, *Siravyadha* and *Agnikarma* are lines of treatment of *Gridhrasi*<sup>8</sup>. Out of them the line of treatment that can be given at O.P.D. level and administration is very easy and also effective was given.

- To see the effect of *Rasanadi Guggul*.
- To see the effect of *Kati Basti*.
- Management of the patients at O.P.D. level with a cheap and effective medication.

## MATERIALS AND METHODS

It is a comparative study wherein 30 patients of *Gridhrasi* with the classical symptomatology were randomly selected from I.P.D and O.P.D. of JIAR and allied hospital in the vicinity of Jammu. These patients were divided into two groups viz Group A and Group B. For this study only uncomplicated patients (Patients having Radiological deformities, congenital deformity and *Gridhrasi* developed due to any post-surgical complication) were selected.

### PLAN OF THE STUDY: -

A detailed clinical Proforma was prepared, to study the patient and disease.

**Group A – Rasanadi Guggul Group:** The patients of this group were given *Rasanadi Guggul* 500mg (2 tablets) twice a day for 45 days.

**Group B – Kati Basti (KB) Group:** In this group, KB was performed with *Til tail* once a day for 7days.

### INCLUSION CRITERIA

1. Patients between age group of 20-60 years irrespective of sex.
2. Patients clinically diagnosed with sciatica.
3. Classical signs and symptoms of *Gridhrasi* like *Ruk*, *Toda*, *Sthambha*, *muhuspandanam*, starts from *Sphik pradesa* and radiating towards foot were included.
4. Normal L. S. spine - X-ray.

### EXCLUSION CRITERIA

1. Patients less than 20 years of age and more than 60 years of age.
2. Pregnant women and Lactating mothers.
3. Patients having Radiological deformities, congenital deformity.
4. *Gridhrasi* developed due to any post-surgical complication.

### **CRITERIA FOR ASSESSMENT:**

The improvement in the patients was assessed mainly on the basis of relief in the cardinal symptoms of the disease. To assess the effect of therapy objectively, all the sign and symptoms were given scoring pattern depending upon their severity as below:

#### ***Ruka (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 minutes - 1
- Daily for 10 – 30 minutes - 2
- Daily for 30 – 60 minutes - 3
- Daily more than 1 hour - 4

#### ***Spandana (Twitching)***

- No Twitching - 0
- Sometimes for 5-10 minutes - 1
- Daily for 10-30 minutes - 2
- Daily for 30-60 minutes - 3
- Daily more than 1 hour - 4

#### ***Aruchi (Anorexia)***

- No anorexia - 0
- Mild anorexia - 1
- Moderate anorexia - 2
- Severe anorexia - 3

#### ***Tandra (Drowsiness)***

- No *Tandra* - 0
- Mild *Tandra* - 1
- Moderate *Tandra* - 2
- Severe *Tandra* - 3

#### ***Gaurava (Heaviness)***

- No heaviness - 0
- Mild heaviness - 1
- Moderate heaviness - 2
- Severe heaviness - 3

#### **S.L.R. Test**

- More than 90° - 0
- 71° – 90° - 1
- 51° – 70° - 2
- 31° – 50° - 3
- Up to 30° - 4

**Walking time** – For this purpose patient was asked to walk 25 feet distance in a straight way in full speed and time taken was recorded by the help of a stopwatch in seconds. The walking time was noted before and after the treatment.

#### **STATISTICAL ANALYSIS**

Mean, percentage, S.D, S.E, 't' and 'P' value was calculated. Paired 't' test was used for calculating the 't' value.

#### **CRITERIA FOR ASSESSING THE TOTAL EFFECT**

Considering the overall improvement had shown by the patient in sign and symptoms, the total effect of the therapy has been assessed as below.

- **Cured** 100% relief in sign and symptoms
- **Marked Relief** More than 75% relief in sign and symptoms.
- **Moderate Relief** 50% - 75% relief in sign and symptoms.
- **Mild Relief** 25% - 50% relief in signs and symptoms.
- **Unchanged** Up to 25% relief in sign and symptoms.

## RESULTS

### Effect of the therapy

**Table1:** Effect of *Rasanadi Guggul* (Group A):

Signs and symptoms	Mean Score		x	% Relief	S.D (+/-)	S.E (+/-)	t	p
	BT	AT						
<i>Ruk</i>	2.00	0.44	1.56	77.00	1.13	0.37	4.05	<0.01
<i>Stambha</i>	2.50	0.80	1.70	68.00	0.82	0.26	6.50	<0.01
<i>Toda</i>	2.80	0.70	2.10	75.00	0.73	0.23	9.00	<0.001
<i>Muhuspandanam</i>	2.44	0.66	1.78	72.85	0.97	0.32	5.48	<0.001
<i>Tandra</i>	1.75	0.62	1.13	64.57	0.83	0.29	3.82	<0.01
<i>Gaurav</i>	2.10	0.60	1.50	71.42	0.97	0.30	4.50	<0.01
<i>Aruchi</i>	0.25	0.12	0.13	52.00	0.35	0.12	1.00	>0.05
<b>SLR Test</b>	2.62	0.75	1.87	71.37	0.64	0.22	8.25	<0.001
<b>Walking Time</b>	35.25	26.35	8.90	24.5	4.16	1.31	6.87	<0.001

Effect on cardinal signs and symptoms of *Gridhrasi*

**Ruka:** The mean score of *Ruka* was 2.00 before treatment which reduced upto 0.44 after treatment with 77% relief, which is statistically significant (P<0.01).

**Stambha:** The mean score of *Stambha* was 2.50 before treatment which reduced upto 0.80 after treatment with 68% relief, which was statistically significant (P<0.01).

**Toda:** Initially the mean score of *Toda* was 2.80 before treatment which reduced upto 0.70 after treatment with 75% relief, which was statistically highly significant (P<0.001).

**Muhuspandanam:** It was reported that initial mean score of *Spandana* in this group was 2.44 and after treatment it reduced upto 0.66. This 72.85% relief was statistically highly insignificant (P<0.001).

**Tandra:** It was observed that the mean score of *Tandra* was 1.75 before treatment and after treatment it was reduced upto 0.62. This reduc-

tion of 64.57% was statistically significant (P<0.01).

**Gaurava:** The mean score of *Gaurava* before treatment was 2.10 which was reduced to 0.60 after treatment with 71.42% relief which was statistically significant (P<0.01)

**Aruchi:** It was found that the mean score of *Aruchi* was 0.25 before treatment and after the completion of the course it was reduced upto 0.12. This 52% relief was statistically insignificant (P>0.05)

**S.L.R Test:** Before treatment mean score of S.L.R. test was 2.62 which was reduced upto 0.75 after treatment, this way treatment provided 71.37% relief, which was statistically highly significant (P<0.001).

**Walking time:** The initial mean walking time was 35.25 sec. which was reduced to 26.35 sec with 24.5% in the walking with highly significant result i.e. (p<0.001).

**Table-2:** Effect of *KatiBasti* (Group B):

Signs and symptoms	Mean Score		x	% Relief	S.D (+/-)	S.E (+/-)	t	P
	BT	AT						
<i>Ruk</i>	2.75	0.87	1.87	68.36	0.83	0.29	6.38	<0.001
<i>Stambha</i>	2.40	0.90	1.50	62.50	0.70	0.22	6.81	<0.001
<i>Toda</i>	2.30	0.88	1.42	61.90	0.88	0.29	4.96	<0.01
<i>Muhuspananam</i>	0.50	0.25	0.25	50.00	0.46	0.16	1.52	> 0.05
<i>Tandra</i>	1.50	0.80	0.70	45.00	0.75	0.20	3.45	<.01
<i>Gaurav</i>	3.66	1.86	1.80	49.18	0.88	0.22	8.02	<0.001
<i>Aruchi</i>	2.46	1.20	1.26	46.90	0.80	0.22	8.22	<0.001
SLR Test	2.12	0.75	1.37	64.62	0.74	0.26	5.22	<0.01
Walking Time	31.86	25.93	5.93	18.61	3.10	0.80	7.41	<0.001

**Ruka:** The mean score of *Ruka* was 2.75 before treatment which reduced upto 0.87 after treatment with 68.36% relief, which is statistically highly significant (P<0.001).

**Stambha:** The mean score of *Stambha* was 2.40 before treatment which reduced upto 0.90 after treatment with 62.50% relief, which was statistically highly significant (P<0.001).

**Toda:** Initially the mean score of *Toda* was 2.30 before treatment which reduced upto 0.88 after treatment with 61.90% relief, which was statistically significant (P<0.01).

**Spandana:** It was reported that initial mean score of *Spandana* in this group was 0.50 and after treatment it reduced upto 0.25. This 50% relief was statistically insignificant (P>0.05).

**Tandra:** It was observed that the mean score of *Tandra* was 1.50 before treatment and after treatment it was reduced to 0.80. This reduction of 45% was statistically significant (P<0.01).

**Gaurava:** The mean score of *Gaurava* before treatment was 3.66 which were reduced to 1.86 after treatment with 49.18% relief. It was statistically highly insignificant (P<0.001).

**Aruchi:** It was found that the mean score of *Aruchi* was 2.46 before treatment and after the completion of the course it was reduced upto 1.20. This 46.90% relief was statistically highly significant (P<0.001).

**S.L.R Test:** Before treatment mean score of S.L.R. test was 2.12 which was reduced upto 0.75 after treatment, this way treatment provided 64.62% relief, which was statistically highly significant (P<0.01).

**Walking time:** The initial score of walking time was 31.86 that was reduced to 25.93 with the ability of 18.61% and has also showed highly significant result (P<0.001).

**OVERALL EFFECT OF THERAPY:**

**Table-3:** Overall Effect of *Rasanadi Guggul*

Treatment Effect	No of Patient	% Relief
Cured	3	20%
Marked Improvement	6	40%
Moderate Improvement	3	20%
Mild Improvement	2	13.33%
No Improvement	1	6.67%

**Table 4:** Overall Effect of *KatiBasti*

Treatment Effect	No of Patients	% Relief
Cured	1	6.67%
Marked Improvement	3	20%
Moderate Improvement	6	40%
Mild Improvement	3	20%
No Improvement	2	13.33%

The table 1 shows, in group A i.e. *Rasanadi Guggul* group 3 patients i.e. 20% patients were cured, marked improvement was found in maximum 6 patients i.e. 20% patients and moderate improvement was found maximum in 6 patients i.e. 40%, mild improvement was found in 3 patients i.e. 20% patients and no improvement was found in only 1 patient i.e. 6.67% patients.

The table 2 shows, in group B i.e. *KatiBasti* group only 1 patient i.e. 6.67% patient was cured, marked improvement was found in 3 patients i.e. 20% patients and moderate improvement was found in 6 patients i.e. 40% mild improvement was found in 3 patients i.e. 20% patients and no improvement was found in 2 patients i.e. 13.33% patients.

## DISCUSSION

### EFFECT OF THERAPY ON CARDINAL SIGN AND SYMPTOMS

The effect of therapy was assessed on each sign and symptom of the disease. These sign and symptoms were given scoring pattern before treatment and after treatment and were assessed statistically to see the significance. The effect of therapy in both the groups in each sign and symptom is below:

**Ruka:** In group A, initial mean score of *Ruka* was 2.00 before treatment which reduced up to 0.44 after treatment; with 77% relief which was statistically significant ( $P < 0.01$ ). In group B the means score of *Ruka* was 2.75 before treatment

which reduced to 0.87 after treatment with 68.36% relief which was statistically highly significant ( $P < 0.001$ ).

This is clear from the above discussion that both the therapies have reduced the pain in the patients of *Gridhrasi*, but it was more in group A. Pain is produced mainly by *Vata Prakopa* and *Rasanadi Guggul* is the medicine known to alleviate *vata* containing *uttam vatahar* characteristics by both of its components i.e. *Rasana* and *Guggul*. So this may be one of the reasons that the better relief has been found in group A.

**Toda:** The mean score of *Toda* before treatment was 2.80 which was reduce to 0.70 with 75% relief. It was statistically highly significant ( $P < 0.001$ ) in Group A. Group B provided 61.90% relief which was statistically significant ( $P < 0.01$ ). *Toda* is also one of the important symptoms produced by vitiation of *Vata*. Both groups have shown highly significant improvement in this symptom because of *Ushna* property of *Rasanadi Guggul* and *Kati Basti*. But from the percentage point of view the better relief was in group A.

**Stambha:** In group A, It was found that the mean score of *Stambha* before the treatment was 2.50 and reduced up to 0.80 after the completion of the course. This 68% improvement was observed statistically significant ( $P < 0.01$ ), whereas in group B, the mean gradation was 2.40 before treatment and reduced to 0.90 after the full

course with showing 62.50% relief which was also statistically highly significant ( $P < 0.001$ ).

*Stambha* is mainly attributed to *ama*. *Rasanadi Guggul* contains *Aampachan* properties (*Rasana aampaachani*) and *agnideepan* properties by, thus digestion of *ama* might have been occurred providing relief in *stambha* symptom. Both *Rasna* and *Guggul* are *usna virya* and their *amahara* effect is well predicted and here also due to these properties, they might have shown *stambhahara* action in the patients of *Gridhrasi*.

Both groups have shown highly significant improvement in this symptom because *Rasanadi Guggul* in Group A contains Quercetin and Isorhamentin whose primary action is acetylcholine like action and smooth muscle relaxant spasmolytic action and this is *Ushna virya* also. *Kati Basti* with its *Abhyanga* and *Swedana* remove *Stambha* because of its *Mardava Guna* but better relief was found in Group A.

**Spandana:** Initial mean score of *Spandana* in group A was 2.44 which was reduced to 0.66 with 72.85% relief and it was statistically highly significant ( $P < 0.001$ ), whereas in group B it was reduced to 0.25 from the initial score 0.50 with 50.00% relief and it was statistically insignificant ( $P > 0.05$ ). Obviously relief provided by group A was better than group B.

**Aruchi:** In Group A, the initial mean score of *Aruchi* was 0.25 which was reduced to 0.12 with 52% relief, which was statistically insignificant ( $P > 0.05$ ), While in Group B, the initial mean score of *Aruchi* was 2.46 which was reduced to 1.2 with 46.90% relief, which was statistically highly significant ( $P < 0.001$ ).

It seems due to *Deepana*, *Anulomana Prabhava* and *VataKaphahar* properties of *Rasanadi Guggul* that Group A showed better result in *Aruchi*.

**Tandra:** In group A, Initial score of *Tandra* was 1.75 which was reduced to 0.62 treatment provided 64.57% relief. It was statistically significant ( $P < 0.01$ ). In group B, Initial score of *Tandra* was 1.50 which were reduced to 0.80 treatment provided 45% relief and it was statistically significant. So, here group A showed better result because of *Vata kaphahar* effects of *Rasanadi Guggul*.

**Gaurava:** In group A, the initial score of *Gaurava* was 2.10 which was reduced to 0.60 with 71.42% relief and it was statistically significant ( $P < 0.01$ ), while in Group B the initial score of *Gaurava* was 3.66 which was reduced to 1.86 with 49.18% relief and it was statistically highly significant ( $P < 0.001$ ). Percentage of relief was better in group A than Group B. This reflects that the potency and *Vata-Kapha Shamaka* properties of *Rasanadi Guggul* provided better relief in *Gaurav* as this symptom occurs mainly due to *Kapha* vitiation.

**SLR test:** *Sushruta* has mentioned that in this condition lifting of leg is restricted. Nowadays, *Sakthi-kshepanigraha* is measured by Straight Leg Raising Test. In group A, the initial mean score of this test was 2.62 which was reduced to 0.75 with providing 71.37% relief, whereas in group B mean score was reduced to 0.75 from the initial score 2.12 with 64.62% relief. It was statistically highly significant ( $P < 0.001$ ) in Group A while it was statistically significant in Group B.

Better results were obtained in Group A due to *Vedanasthapana* and *Shothaghna* properties of *Rasanadi Guggul*.

**Walking time** –The initial mean walking time was 35.25 sec. in group A and was reduced to 26.35 sec with 24.5% decrease in the walking time with highly significant result ( $p < 0.001$ ) where as in *shamana* group the initial score of

walking time was 31.86 sec that was reduced to 25.93 sec. with the ability of 18.61% and has also showed highly significant result.

It is clear from the above discussion that after the treatment, the patients were able to walk significantly more quickly in both the groups.

Further comparison showed that the effect of *Rasanadi Guggul* on walking was better in comparison to *Kati Basti*.

### SUMMARY

In the present study, need of *Ayurvedic* management in *Gridhrasi (Sciatica)* is mentioned. It includes plan of study and it is mainly the protocol of the present research work. The clinical study contains a detailed description of the selection of the patients and methods adopted for the research work. Thereafter, the results obtained with statistical analysis in this study have been presented in the form of tables along with brief descriptions of the same. Scoring pattern was given to all the cardinal symptoms. The discussion describes the logical interpretation of the results obtained in the clinical study, based on the *Ayurvedic* Principles.

### CONCLUSION

Finally, it can be concluded that,

- Present study reveals that the selected management has potential effect on *Gridhrasi* with the added advantage of being free from side effects.
- The present study was a humble try in search of a cure of this disorder and it is fulfilled up to some extent. The results of present study were really fruitful. In the present study both the therapies were effective in combating the disease.  
Major improvement was observed on all signs and symptoms as well as on SLR in both the groups.

- On comparing the overall effect of the therapies, *Rasanadi Guggul* proved to be more effective than *Kati-Basti*. This once again proves the importance of *Abhyantar Chikitsa* i.e. *Vatahar chikitsa* with *Rasanadi Guggul* containing *Rasana* which is *Shreshtha Vatahar* and *Guggul* which again possesses *Shreshtha Vatahar Guna*.
- The results were assessed according to the type of *Gridhrasi*. *Rasanadi Guggul* showed equally good results on both the types of *Gridhrasi* while *Kati Basti* proved to be more effective on *vataj Gridhrasi* than *vatakaphaj Gridhrasi*. So we can say that *Rasanadi Guggul* is more effective on *margavaranjanya samprapti* than *dhatukshayajanya samprapti*. A reason behind this might be the short duration of the therapy which is not sufficient for replenishing the *dhatu* in *kshaya avastha*. It is observed that *vatakaphaj Gridhrasi* is more easily curable than only *vataj Gridhrasi*.
- Another reason behind the effectiveness of the therapy might be that the *Rasana* in *Rasanadi Guggul* effectively conquers *vata* and *Guggul* conquers both *Vata* and *kapha dosha*. It clears the *srotasas* by removing *mala* and *avarana*. They conquer the *rukshata* of *vayu* with *snigdha guna* and also normalize *apana vayu* which is the main culprit.

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