

## EVALUATION OF RELATIVE EFFICACY OF KARMA BASTI IN TWO FORMATS IN MANAGEMENT OF GRIDHRASI W.S.R. TO SCIATICA

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**Abstract:** *Introduction:* Gridhrasi (Sciatica) is the degenerative changes affecting lumbar region. The management of Sciatica in conventional medicine is temporary and many cases require surgical treatment. The Non-Steroidal Anti-Inflammatory Drugs (NSAID's) and analgesics are the main drug; however they have serious adverse effects and have limitations for a long term use. *Objectives:* The study was designed to evaluate the relative efficacy of Karma Basti in two formats in the management of Gridhrasi (sciatica). *Material and Methods:* This was a simple-randomized, comparative clinical study conducted in two groups of 60 clinically diagnosed registered patients of Gridhrasi from the OPD and IPD. In 1<sup>st</sup> group i.e. A, Karma Basti was planned in 30 patients with Vrishadi-Niruha Basti and Vajigandhadi Anuvasana Basti for 30 days and in 2<sup>nd</sup> group i.e. B, Karma Basti was planned in 30 patients with Vrishadi-Niruha Basti and Vajigandhadi Anuvasana Basti for 18 days. *Observations and Results:* Symptomatically and statistically significant (p<0.001) improvement was observed in all clinical parameters in majority of the cases. Overall effects of therapy on the basis of subjective criteria's Group A shows 71.71% improvement and Group B shows 79.86% improvement. Overall effects of therapy on the basis of Objective criteria's Group A shows 65.66% improvement and Group B shows 70.73% improvement. *Conclusion:* On comparing the overall effect of the therapy, Group B was more effective than Group A.

**Keywords:** Anuvasana Basti, Gridhrasi, Karma Basti, Niruha Basti, Sciatica,

### INTRODUCTION

Sciatica refers to pain, weakness, numbness, or tingling in the leg. Sciatica is a symptom of another medical problem, not a medical age.<sup>[1]</sup> Many synonyms for sciatica appear in the literature, such as lumbosacral radicular syndrome, ischias, nerve root pain, and nerve root entrapment.<sup>[2,3]</sup>

The prevalence of sciatic symptoms reported in the literature varies considerably ranging from 1.6% in the general population to 43% in a selected working population.<sup>[4]</sup> Although the prognosis is good in most patients,<sup>[5]</sup> a substantial proportion (up to 30%) continues to have pain for 1 year or longer.<sup>[6,7]</sup> In approximately 90% of the cases, sciatica is caused by a herniated disc involving nerve root compression. However, lumbar canal stenosis or foraminal stenosis and (less often) tumours or cysts are other possible causes.<sup>[8]</sup>

The most important symptom of sciatica is lumbosacral radicular leg pain that follows a dermatomic pattern radiating below the knee and into the foot and toe.<sup>[8,9]</sup>

Such presentation was, also, common in ancient era and Ayurveda named it as Gridhrasi. It is considered under *Shoola Pradhana Vata Vyadhi*.<sup>[10]</sup> Gridhrasi indicates the typical gait that resembles of a bird "Gridha" i.e. vulture,<sup>[11]</sup> which is often seen in patients of Gridhrasi.

The cardinal clinical features of Gridhrasi are.<sup>[10]</sup>

(a) *Ruka* (Pain) - *Toda* (Pricking Sensation) - *Stambha* (Stiffness) - *MuhurSpandana* (Twitching) in the *Sphika - Kati - Uru - Janu - Jangha - Pada* in order.

(b) In *Kaphanubandhi Tandra*, *Arocaka* and *Gaurava* are also present.

(c) *Sakthini-kshepam-Nigraha* i.e. restricted lifting of lower limb<sup>[12]</sup>.

Now-a-days patients have no more time for their treatment due to their hectic work schedules and industrialization. Due to these problems, patients want less time for their treatment with maximum recovery. Thus it was decided that time schedule for Karma Basti should be reduced for patients convenient.

## MATERIALS AND METHODS

Following materials and methods will be employed for conducting the present study:-

### A. Selection of Patients

The Study was conducted on the 60 clinically and radiologically diagnosed patients of *Gridhrasi* (Sciatica). They were registered in the OPD/ IPD of hospital irrespective of religion, sex, occupation and caste etc. after obtaining due consent.

#### (a) Inclusion criteria

1. Patients in the age group of 25-60 years suffered from Sciatica (*Gridhrasi*).
2. Patients with *Pratyatma lakshana* of *Gridhrasi*.<sup>[10]</sup>
3. Patients had positive physical signs/ special tests of Sciatica (*Gridhrasi*).<sup>[13]</sup>
4. Sciatica due to Intervertebral Disc prolapsed (L4-5 and L5-S1), Lumbar Spondylosis and Disc herniation.
5. Both acute and chronic (< 5 years) cases of sciatica (*Gridhrasi*) included.

#### (b) Exclusion criteria

1. Bilateral sciatica
2. Patient suffered from Tuberculosis (spine), Tumours / neoplasm of spinal cord, Pyogenic osteomyelitis or any infective conditions of spine.
3. Pain due to Spinal deformity, Fracture of hip bone, Sacro-iliac Arthritis.
4. Patients with Rheumatoid arthritis, Gout, arthritis, etc.
5. Sciatica with uncontrolled Diabetes and uncontrolled Hypertension.

### B. Time, Drugs and Doses

*Anuvasana Basti* was given in evening time. According to *Cakrapani*, *Anuvasana Basti* should be given at end of day time (7:30 pm - 8:30 pm) just after meal in *Sharada, Grishma and Varsha ritu*.<sup>[14]</sup>

#### Drugs for Basti karma

Drugs for both groups were taken from *Sushtuta Samhita* for *Vrishadi-Niruha Basti*<sup>[15]</sup> and from *yoga ratnakar* for *Vajigandhadi Anuvasana Basti*.<sup>[16]</sup>

#### Dose of Basti dravya

In this study, the amounts of *Niruha Basti* administered in patients were 750 ml-1000ml and amount of *Anuvasana Basti* administered were 100 ml-150ml as according to patients.<sup>[17]</sup>

### C. Management and Treatment Schedule

The patients were divided into two equal groups of 30 each.

**Group A - Karma Basti**<sup>[18]</sup> were given with *Vrishadi-Niruha Basti* and *Vajigandhadi Anuvasana Basti* for 30 days in the morning. In this, 30 *Basti* were administered, after the *purva Karma* (i.e. *Abhyanga* with *Dashmula Tail* and *Swedana* with *Dashmula kwatha vashpa*) in following manner -

- 1<sup>st</sup> day – 01 *Vajigandhadi Anuvasana Basti* after meal  
 2<sup>nd</sup>-24<sup>th</sup> day – 12 *Vajigandhadi Anuvasana Basti* after meal on alternate day  
 3<sup>rd</sup>-25<sup>th</sup> day – 12 *Vrishadi-Niruha* before meal<sup>[19]</sup> on alternate day  
 26<sup>th</sup>-30<sup>th</sup> day – 05 *Vajigandhadi Anuvasana Basti* after meal  
 Total Duration – 30 days

**Group B - 30 Basti** were administered, after the *purva karma* (i.e. *Abhyanga* with *Dashmula Tail* and *Swedana* with *Dashmula kwatha vashpa*) in following manner -

- 1<sup>st</sup> day – 01 *Vajigandhadi Anuvasana Basti* in evening after meal  
 2<sup>nd</sup>-13<sup>th</sup> day – 12 *Vrishadi-Niruha* in morning before meal  
 2<sup>nd</sup>-13<sup>th</sup> day – 12 *Vajigandhadi Anuvasana Basti* in evening after meal  
 14<sup>th</sup>-18<sup>th</sup> day – 05 *Vajigandhadi Anuvasana Basti* in evening after meal  
 Total Duration – 18 days

### D. Criteria for Assessment

<sup>[20]</sup>

Both subjective and objective variables were employed for assessment of impact of the treatment. Clinical assessment of symptoms and severity was done in terms of gradation of symptoms. For this purpose main sign and symptoms were given suitable score. The relative extent of all these criteria was recorded according to the rating scale in each patient before and after the treatment. For further assessment, patients were evaluated for severity of pain before and after the intervention, on the basis of Visual Analogue Scale (VAS).

**Follow up** –30 days and on every fortnight.

### E. Laboratory parameters

1. Routine hematological investigations to rule out any infectious conditions.
2. Radiological examination (X-Ray) of the lumbo sacral spine in antero-posterior and lateral position was taken.

## F. Analysis and Statistical Methods

Observation documented during study was analyzed and findings were evaluated by using statistical analysis to establish the efficacy. Mean, percentage,  $\pm$ S.D.,  $\pm$ S.E., 't' and p value were calculated. Non-parametric, Paired 't' test and one tailed p value were used for calculating the 't' value, carried out at the level of 0.05, 0.01, 0.001 and 0.0001 of p levels in both the groups.

## OBSERVATIONS AND RESULTS

In current study, maximum incidences were found in persons between 51-60 years age group (30%), Male Sex (83.33%), Hindu religion (88.33%), servicemen (28.33%), Graduate persons (45%), Married (91.67%), Urban area (70%), Middle class (71.67%) and Vegetarian dietary pattern (71.67%) of patients. Majority of the patients i.e. 41.67%

**Table 1.** Grading of *Vataja* Symptoms.\*

<i>Vataja</i> Symptoms	Severity/Duration	Score
<i>Ruka</i> (Pain)	No pain	0
	Occasional pain	1
	Mild pain -walking difficulty	2
	Moderate pain and slight difficulty in walking	3
	Severe pain with severe difficulty in walking	4
<i>Toda</i> (Pricking Sensation)	No pricking sensation	0
	Occasional pricking sensation	1
	Mild pricking sensation	2
	Moderate pricking sensation	3
	Severe pricking sensation	4
<i>Stambha</i> (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
<i>Spandana</i> 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

patients were having *Vata-Kapha dominant tridos aja Prakriti* and 40%% patients were having *Vata dominant tridos aja Prakriti*, 50% were having *Madhyama Koshtha* and 70% patients were having *Tea addiction*.

Maximum numbers of patients i.e. 55.00% were of *Vataja* type of *Gridhrasi*, 60.00% patients were having involvement of Right limbs, 43.33%

**Table 2.** Grading of *Kaphaja* Symptoms.\*

<i>Kaphaja</i> Symptoms	Severity/Duration	Score
<i>Aruchi</i> (Anorexia)	No anorexia	0
	Mild anorexia	1
	Moderate anorexia	2
	Severe anorexia	3
<i>Tandra</i> (Drowsiness)	No <i>Tandra</i>	0
	Mild <i>Tandra</i>	1
	Moderate <i>Tandra</i>	2
	Severe <i>Tandra</i>	3
<i>Gaurava</i> (Heaviness)	No <i>Gaurava</i>	0
	Mild <i>Gaurava</i>	1
	Moderate <i>Gaurava</i>	2
	Severe <i>Gaurava</i>	3

\*subjective variables

**Table 3.** Grading of objective variables

Tests	Severity/Duration	Score
S.L.R. Test <sup>[11]</sup> ( <i>Sakthini-kshepam-Nigraha</i> )	> 90	0
	71 – 90	1
	51 – 70	2
	31– 50	3
	Up to 30	4
Walking Distance	Pt. can-walk-upto 1Km without pain	0
	Pt. can walk upto 500 meter without pain	1
	Pt. can walk upto 250 meter without pain	2
	Patient feels pain on standing	3
	Patient cannot stand	4

patients were of 1-2 year chronicity, 65.00%% patients were having history of any type of trauma as associated symptoms and 36.67% patients were having habitual constipation. Diminished Knee jerk was present in 60.00% of the patients and diminished ankle jerk was present in 28.33% of the patients.

In present study, *Ruka* (pain in sciatica nerve distribution) and SLR test positive were found in all the patients i.e. 100%. 66.67% patients were having complaint of *Toda*. *Stambha* was present in 78.33% patients whereas *Spandana* was present in 48.33% patients. *Aruchi*, *Tandra*, and *Gaurava* were present in 51.67%, 26.67%, and 36.67% of patients respectively.

**Effect of therapy in Haematological and Biochemical parameters-** The aim of the study was also to assess and rule out the possibility of the management which interfering with normal

functioning and possibility of causing any undesirable effect. No abnormalities in the laboratory investigations were observed after treatment. No statistically significant changes in the pre and post values for Hb%, TLC, DLC, ESR were observed. Thus, analysis of the data obtained signifies that the treatments don't produce any undesirable effect.

In current study of **Group A**, marked significant result was found in all clinical feature of the disease. Extremely significant result was found in *Ruka, Toda, Stambha, Spandana, Aruci*, S.L.R.Test and Walking Distance. Highly Significant result was found in *Gaurava* and *Tandra*. While In Group B, extremely significant result was found in *Ruka, Toda, Stambha, Spandana, Aruci, Gaurava*, S.L.R.Test and Walking Distance. Highly Significant result was found in *Tandra*. On the basis of improvement in objective variables such as S.L.R.Test and Walking Distance both the groups shows extremely significant result.

In current study, **Group A** shows result on the basis of VAS in which maximum patents i.e.

53.33% moderate Improvement were found while 3.33% patients had mild Improvement and 33.33% patients got marked improvement.

**In Group B**, result on the basis of VAS, maximum patents i.e. 40% patients got marked improvement, 36.67% moderate improvement were found while 6.67% patients show mild Improvement

Overall effects of therapy on the basis of subjective criteria's Group A shows 71.71% improvement and Group B shows 79.86% improvement. Overall effects of therapy on the basis of Objective criteria's Group A shows 65.66% improvement and Group B shows 70.73% improvement.

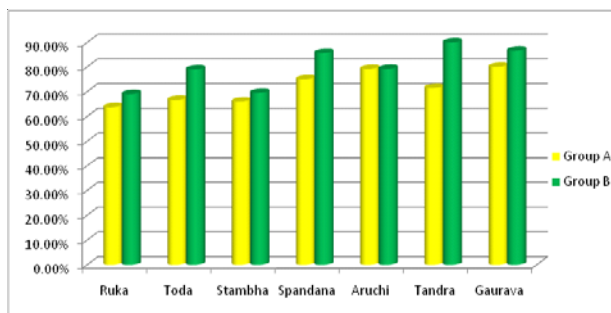
Recurrences were also found in some patents after 1 month from completion of therapy. It was found more in Group A i.e. 7 patients (11.67%) while in Group B only 08.33% recurrence were found in patients. Overall 20% of patients were shows recurrence of disease while 80% patients show no recurrence.

**Table 4.** Showing the Effect of Therapy in Subjective variables of Group A

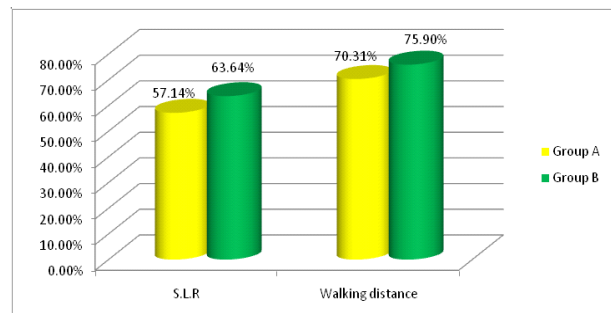
Observations				Statistical Analysis						
Symptoms	N	BT Mean	AT Mean	Diff.	% improvement	SD	SE±	t value	p value	* Significance
<i>Ruka</i>	30	3.033	1.10	1.933	63.736	0.640	0.117	16.55	<0.0001	E.S
<i>Toda</i>	20	1.50	0.50	1.00	66.67	0.324	0.073	13.78	<0.0001	E.S
<i>Stambha</i>	24	2.083	0.708	1.375	66.00	0.576	0.118	11.70	<0.0001	E.S
<i>Spandana</i>	13	1.23	0.308	0.922	75.00	0.277	0.077	12.00	0.0002	E.S
<i>Aruchi</i>	14	1.714	0.357	1.357	79.16	0.497	0.133	10.21	<0.0001	E.S
<i>Tandra</i>	08	1.75	0.50	1.25	71.43	0.707	0.25	5.00	0.002	H.S
<i>Gaurava</i>	10	1.50	0.30	1.20	80.00	0.632	0.20	6.00	0.002	H.S

**Table 5.** Showing the Effect of Therapy in Objective variables of Group A

Observations				Statistical Analysis						
Symptoms	N	BT Mean	AT Mean	Diff.	% improvement	SD	SE±	t value	p value	* Significance
S.L.R.	30	2.80	1.20	1.60	57.14	0.621	0.113	14.10	<0.0001	E.S
Walking distance	30	2.13	0.63	1.50	70.31	0.572	0.104	14.35	<0.0001	E.S



**Fig. 1.** Showing effect of therapy in subjective criteria in both Groups



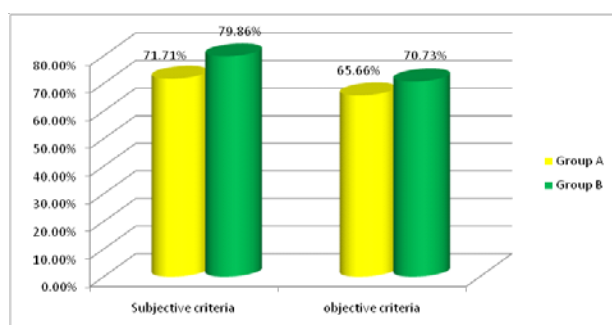
**Fig. 2.** Showing effect of therapy in objective criteria in both Groups

**Table 6.** Showing the Effect of Therapy in Subjective variables of Group B

Observations				Statistical Analysis						
Symptoms	N	BT Mean	AT Mean	Diff.	% improvement	SD	SE±	t value	p value	* Significance
<i>Ruka</i>	30	3.33	1.03	2.30	69.00	0.596	0.109	21.14	<0.0001	E.S
<i>Toda</i>	20	1.90	0.40	1.50	78.95	0.688	0.154	9.75	<0.0001	E.S
Stambha	23	2.57	0.78	1.79	69.49	0.736	0.153	11.62	<0.0001	E.S
<i>Spandana</i>	16	1.31	0.19	1.12	85.71	0.342	0.085	13.17	0.0002	E.S
<i>Aruchi</i>	17	1.41	0.29	1.12	79.17	0.332	0.081	13.88	<0.0001	E.S
<i>Tandra</i>	08	1.25	0.125	1.125	90.00	0.354	0.125	9.00	0.002	H.S
<i>Gaurava</i>	12	1.25	0.167	1.083	86.67	0.289	0.083	12.00	0.0002	E.S

**Table 7.** Showing the Effect of Therapy in Objective variables of Group B

Observations				Statistical Analysis						
Symptoms	N	BT Mean	AT Mean	Diff.	% improvement	SD	SE±	t value	p value	* Significance
S.L.R.	30	3.30	1.20	2.10	63.64	0.662	0.121	17.38	<0.0001	E.S
Walking distance	30	2.77	0.67	2.10	75.90	0.803	0.147	14.32	<0.0001	E.S

**Fig. 3.** showing results of therapy in subjective and objective criteria in both Groups

## DISCUSSION

Basti is thought to be an ultimate solution for eradication of *Vata Dosha* and *Vata* vitiation is the main cause of *Gridhrasi*. Moreover, it also has action on the vitiated *Pitta*, *Kapha* and *Rakta*.<sup>[22]</sup> Basti not only have localized action, but the active principles (*virya*) of Basti drugs are absorbed and through channels of the body it reaches at the site of lesion and bring about systemic action and relieves the disease.<sup>[23]</sup>

As a whole the effect of Basti can be summarized as encolic (action on tissue of colon), endocolonic (action inside colon), and diacolic (for systemic action). Thus Basti Dravya after reaching to large and small intestine get absorbed from intestine, now due to *Guna* of the Basti Dravya, it breaks the obstructions and expels out the morbid material from all over the body (*Srotoshodhana*), thus help in breaking down the pathogenesis of

disease. Here *Anuvasana Basti* is used so as to avoid the vitiation of *Vata* due to continuous use of *Vrishadi Niruha Basti*. It is very effective in those conditions where *Vata* aggravated in *shakha* /extremities.

It is assumed that the prescribed line of treatment have contributed for reducing the inflammation and for giving strength to the nerves and muscles of the affected area which may be the reason for relief of symptoms. It is known that the prolapse occurred by the rupture of annulus fibroses in intervertebral disc prolapse can be corrected by shrinkage and fibrosis of the extended disc material and not by its reposition within the disc.<sup>[24]</sup>

In the present study *Vrishadi Niruha Basti* has provided better relief in cardinal symptom, associated symptoms and general symptoms of the disease. Here Basti is given in the format of *Karma Basti*. It was used in alternation with *Vajigandhadi Taila Anuvasana Basti*. In the current study, *Karma Basti* was effective in combating the disease. Major improvement was observed on all signs and symptoms as well as on S.L.R test in both the groups. On comparing the overall effect of the therapy, Group B i.e. *Karma Basti* in 18 days proved to be more effective than Group A i.e. *Karma Basti* in 30 days. According to *Karma Basti* schedule total number of Basti are mentioned not the days. Therefore in group B *Anuvasana and Nirhu Basti* is given on same day, According to *Cakrapani*, *Anuvasana Basti* should be given at end of day

time (7:30 pm - 8:30 pm) just after meal in *Sharada, Grishma and Varsha ritu*.<sup>[25]</sup>

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