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# A comparative clinical evaluation of efficacy of *Kati Basti* with *Prabhanjanam Taila* and *Moorchita Tila Taila* in *Gridhrasi* w.s.r to Sciatica

KM Shailja Singh,<sup>1</sup> Arun Kumar Singh,<sup>2</sup> Chandra Prakash Verma<sup>3</sup>

<sup>1</sup>Lecturer, Shri Babu Singh Daddu Singh Ayurvedic Medical College and Hospital, Fatehgarh, Farrukhabad, Uttar Pradesh, India. <sup>2</sup>Medical Officer, Life Care Diagnostic and Research Center, New Delhi, <sup>3</sup>Lecturer, Dr. Anar Singh Ayurvedic Medical College and Hospital, Fatehgarh, Farrukhabad, Uttar Pradesh, India.

## ABSTRACT

*Kati Basti* included under various external procedures of Ayurveda, having variety of actions like the *Bahya Snehana* (external oleation), *Swedana Chikitsa* (fomentation therapy). *Kati Basti* is indicated in various disorders of spine and back like backache, lumbar spondylosis, sciatica, degenerative disc changes etc. Low back pain is most common complaint with a prevalence of 65 to 90%. Improper sitting postures, traveling, use of two wheeler and sports activities are few important causes of backache. Sciatica often used to describe low back pain that spreads (radiates) through the hip, to the back of the thigh, and down the inside of the leg which closely resembles with *Gridhrasi*. In *Sharangadhara Samhita* use of *Prabhanjana Taila* in *Ghridhrasi Vyadhi* has been indicated, hence an attempt was made to compare clinically the efficacy of *Kati Basti* with *Prabhanjanam Taila* and *Moorchita Tila Taila* in *Gridhrasi* with special reference to sciatica.

**Key words:** *Prabhanjanam Taila, Kati Basti, Moorchita Tila Taila, Gridhrasi.*

## INTRODUCTION

Ayurveda refers this condition as '*Kati Shoola*' *Kati* refers to low back (Hip) and *Shoola* refers to Pain. *Vata* is the predominant *Dosha* causing these conditions and are categorized under *Vataja Nanatmaja Vyadhi*. Low back pain is most common complaint with a prevalence of 65 to 90% and annual incidence of 4-5%. Improper sitting postures, traveling, change in form of transport, use of two wheeler and sports activities etc. create a pressure on

the spine which plays an important role in producing low backache or sciatica. The pain affects the lower lumbar spine, lumbo sacral area and sacro-iliac joints.<sup>[1]</sup>

Sciatica is a term often used to describe low back pain that spreads (radiates) through the hip, to the back of the thigh, and down the inside of the leg. Sciatic symptoms have close resemblance with *Gridhrasi* mentioned in Ayurvedic classics under *Vata Vyadhi*, where in the pain along with stiffness, gripping and pulsations start in the buttocks (gluteal region) and gradually encroach the posterior aspect of *Kati* (pelvis and lumbo sacral regions), *Ooru* (thigh), *Jaanu* (behind the knee), *Jangha* (leg) and *Pada* (foot) in sequence, typically affects only one side of the body. Sciatica is very common more than 10 million cases per year (India). 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>[2]</sup>

*Kati Basti* is included in the *Bahirparimarjana Chikitsa* (external therapy), a modified and applied process of

### Address for correspondence:

Dr. KM Shailja Singh

Assistant Professor, Shri Babu Singh Daddu Singh Ayurvedic Medical College and Hospital, Fatehgarh, Farrukhabad (Baghar), Uttar Pradesh, India.

E-mail: dr.shailjasingh87@gmail.com

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*Shiro-Basti*. *Kati Basti* is indicated in various disorders of spine and back like *Kati Shula* (backache, lumbar spondylosis), *Gridhrasi* (sciatica), degenerative disc changes etc. Low back ache is one among them. About 55-60% of the Low Back Ache sufferers belong to the age group of 20-40 years.

Ayurveda has described various therapies for the treatment of *Gridhrasi*. Among them *Kati Basti* is a very unique therapeutic procedure. *Kati Basti* is easy, non-invasive, proved, external treatment for backache. In *Susruta Samhita*, he has explained the *Pramana* of *Kati* as 18 *Angulis*.<sup>[3]</sup>

In *Sahasrayogam Taila Yoga Prakarana* reference of *Prabhanjana Taila* in *Ghridhrasi Vyadhi* has been indicated. Hence an attempt is made to compare clinically the efficacy of *Kati Basti* with *Prabhanjana Taila* and *Moorchita Tila Taila* in *Gridhrasi* with special reference to *Sciatica*.

### OBJECTIVE OF THE STUDY

To compare the efficacy of *Kati basti* with *Prabhanjana Taila* and *Moorchita Tila Taila* in *Gridhrasi*.

### MATERIALS AND METHODS

30 Patients of *Gridhrasi* fulfilling the criteria for the inclusion were selected for the study from O.P.D and I.P.D of J.G. Co-op Ayurvedic Medical College Hospital, Ghatprabha, Karnataka, irrespective of there sex, religion, etc.

#### Sample size

30 patients were selected for the clinical study excluding the drop outs.

#### Study design

It is a comparative pre and post-test design study where 2 groups, each consisting minimum of 15 patients suffering from *Gridhrasi* were selected and randomly distributed to *Katibasti* with *Prabhanjana Taila* and *Moorchita Tila Taila*.

#### Grouping

- Group A - *Prabhanjana Taila Kati Basti*. Duration - 48mins

- Group B - *Moorchita Tila Taila Kati Basti*. Duration - 48mins

**Duration of treatment:** 07 days

**Total duration of study:** 14 days

#### Selection criteria

The cases were selected as per signs and symptoms mentioned in classics.

#### Diagnostic criteria

Patients with classical features of *Gridhrasi* like;

- Stambha, Ruk* and *Toda* over the *Sphikaporva Kati Prishtha Uru Janu Jangha Pada Prashni Paryantavedana*.
- Saktnoh Utkshepana Vedana*
- Arochaka*
- Dehapravakrata*
- Padagaurava*
- Sakthanahakshepamnigraniyat* (S.L.R. test. Positive) were included in the study after considering the following points.

#### Inclusion criteria

- Patients diagnosed as *Gridhrasi* of either sex with the age group between 16 - 70 years.
- Patients fit for *Kati Basti*.

#### Exclusion criteria

- Patients who are unfit for *Kati Basti*
- Lactating and pregnant women.
- Acute cases and Traumatic cases of low back ache e.g. Fracture of vertebra.
- Patients with infections of spine e.g. Pot's spine.
- Patient with neoplastic disorder of spine.
- Patients having any associated chronic ailment like diabetes mellitus, any cardiac disorder renal disorder, alcoholic liver disease and chronic hemolytic anemia.
- Patients suffering from systemic disorders which interfere with the course of treatment.

**Laboratory investigations**

- Blood: Complete Blood Count
- Urine: for Albumin, microscopic, sugar.
- X-ray: Lumbo-sacral region

**Treatment schedule**

30 diagnosed patients of *Gridhrasi* who fulfilled the inclusive criteria were randomly divided in to two groups, each group comprising of 15 patients.

**Group A :** *Prabhanjana Taila Kati Basti.*

**Group B :** *Moorchita Tila Taila Kati Basti.*

**Assessment criteria**

The assessment of results of treatment was done on the basis of clinical improvement observed in patients. Numerical score was assigned for each of the following signs and symptoms:

**Scoring system****1. Ruk (Pain) Visual Analog score**

No Pain	0 (0-1 score on VAS scale)
Mild Pain	1 (2-4score on VAS scale)
Moderate Pain	2( 5-7score on VAS scale)
Severe Pain	3 (8-10score on VAS scale)

**2. Stambha (Stiffness)**

No stiffness	0
Mild stiffness	1
Moderate stiffness	2
Severe stiffness	3

**3. Straight leg raise test**

More than 90°	0
71°-90°	1
51°-70°	2

31°-50°	3
up to 30°	4

**Follow up**

After the course of treatment done for a period of 7 days, patients were asked to attend the OPD on 8<sup>th</sup> day and 14<sup>th</sup> day of the treatment for the follow up study. The data was recorded timely and the observations were noted down. The recordings were subjected to statistical test using students 't' test and results were obtained.

**OBSERVATIONS AND RESULTS**

Total 30 patients of *Gridhrasi* (*Sciatica*) were registered and randomly studied under two group's viz. *Kati Basti* with *Prabhanjana Taila* group (Group A) and *Kati Basti* with *Moorchita Tila Taila* group (Group B), each group comprising of 15 patients. The details of data pertaining to these patients are being described in detail under the each heading. Thereafter the effects of treatments of each group are highlighted.

**Table 1: Symptom wise distribution of 30 patients of *Gridhrasi*.**

Signs and Symptoms	No. of Patients		Total	%
	Group A	Group B		
<i>Ruk</i>	15	14	29	96.67
<i>Toda</i>	09	12	21	70.00
<i>Stambha</i>	07	9	16	53.33
<i>Spandana</i>	03	04	07	23.33
<i>Aruchi</i>	07	05	12	40.00
<i>Tandra</i>	03	03	06	20.00
<i>Gaurava</i>	05	06	11	36.67
<i>Sakthanah Kshepam Nigrahaniyat</i>	15	15	30	100

(SLR test)				
Dehasyapi Pravakra (scoliosis)	00	02	02	13.33

Table 1 shows that out of 30 patients, *Ruk* (pain in sciatica nerve distribution) and SLR test positive were found in almost all the patients i.e. 96.67% and 100% respectively. 70% patients were having complaint of *Toda. Stambha* was present in 53.33% patients. *Spandana* was present in 23.33% patients. *Aruchi, Tandra* and *Gaurava* were present in 40%, 20% and 36.67% of patients respectively. *Dehasyati Pravakrat* (scoliosis) was noticed in 13.33% of the patients.

**Table 2: Effect of Kati Basti therapy with Prabhanjana Taila on Ruk (pain)**

Signs and Symptoms	n	Mean Score		%	S.D.	S.E.	't'	P
		B. T.	A. T.					
<i>Ruk</i>	15	3.5	1.6	52.6	0.568	0.178	10.58	<0.001

The mean score of *Ruk* was 3.5 before treatment which reduced up to 1.6 after treatment with 52.6% relief, which was statistically highly significant (P<0.001)

**Table 3: Effect of Kati Basti therapy with Prabhanjana Taila on Stambha**

Symptoms	N	Mean Score		% relief	S.D. (±)	S.E. (±)	't'	P
		B. T.	A. T.					
<i>Stambha</i>	15	2.6	1.2	53.7	1.076	0.341	4.117	<0.002

The mean score of *Stambha* was 2.6 before treatment which reduced up to 1.2 after treatment with 53.7% relief, which was statistically significant (P<0.001).

**Table 4: Effect of Kati Basti Therapy with Prabhanjana Taila on S.L.R. test.**

Symptoms	n	Mean Score		% relief	S.D. (±)	S.E. (±)	't'	P
		B. T.	A. T.					
SLR Test	15	2.8	1.7	37.3	0.568	0.181	6.126	<0.001

Before treatment mean score of S.L.R. test was 2.8 which was reduced up to 1.7 after treatment, this way treatment provided 37.3% relief, which was statistically significant (P<0.001).

**Table 5: Effect of Kati Basti therapy with Moorchita Tila Taila on Ruk (pain)**

Symptoms	n	Mean Score		% relief	S.D. (±)	S.E. (±)	't'	P
		B. T.	A. T.					
<i>Ruk</i>	15	3.6	1.9	47.2	0.516	0.163	8.587	<0.001

The mean score of *Ruk* was 3.6 before treatment which reduced up to 1.9 after treatment with 47.25% relief, which is statistically significant (P<0.001)

**Table 6: Effect of Kati Basti therapy with Moorchita Tila Taila on Stambha (stiffness)**

Signs and Symptoms	n	Mean Score		% relief	S.D. (±)	S.E. (±)	't'	P
		B. T.	A. T.					
<i>Stambha</i>	15	3.4	1.8	48.5	0.751	0.223	7.230	<0.001

The mean score of *Stambha* was 3.4 before treatment which reduced up to 1.8 after treatment with 48.5% relief, which was statistically significant (P<0.01).

**Table 7: Effect of Kati Basti therapy with Moorchita Tila Taila on clinical tests of Gridhrasi S.L.R. Test.**

Signs and Symptoms	n	Mean Score		%	S.D.	S.E.	‘t’	P
		B. T.	A. T.					
SLR Test	15	2.8	2.4	13.6	0.521	0.159	2.45	<0.05

Before treatment mean score of S.L.R. test was 2.8 which was reduced up to 2.4 after treatment, this way treatment provided 13.6 % relief, which was statistically significant (P<0.05).

**Table 8: Comparative effect of Kati Basti therapy with Prabhanjana Taila and Moorchita Tila Taila on symptoms of Gridhrasi.**

Variables	% of relief in group A	% of relief in group B
Ruk (pain)	52.6	47.2
Stambha (stiffness)	53.7	48.5
SLRT	37.3	13.6

The above table highlights the comparative changes in the symptoms of the disease Gridhrasi with Prabhanjana Taila and Moorchita Tila Taila where Prabhanjana Taila shows better results in relief in symptoms of Gridhrasi as compared to Moorchita Tila Taila.

**Table 9: Overall Effect of Therapies in Both Groups**

	Kati Basti with Prabhanjana Taila	Kati Basti Therapy with Moorchita Tila Taila
Cured	01 (6.67%)	0
Markedly improved	08 (53.33%)	09 (60%)

Improved	06 (40%)	05 (33.33%)
Unchanged	0	01(6.67%)
Total	15	15

**Prabhanjana Taila Group (Group A):** In this group, out of 15 patients after the completion of treatment 1 (6.67%) were cured, 8 (53.33%) patients were markedly improved and remaining 6 (40%) patients were reported as improved. None of the patient was found unchanged.

**Moorchita Tila Taila Group (Group B):** In this group, out of 15 patients after the completion of treatment none of the patients were cured and 9 (60%) patients showed markedly improvement. 5 (33.33%) patients were reported as improved. One patient was found to be unchanged

### DISCUSSION

Lumbar spine is the site of most common orthopedic problem for the world’s developed as well as developing countries. The central nervous system as well as autonomic nervous system work through the spine and the entire nervous system is governed through the spine.

Gridhrasi is one of the Nanatmaja Vatavyadhi, the drugs having Vatahara, Shulahara properties may be very useful in the treatment of Gridhrasi. The present clinical study was conducted on 30 patients of Gridhrasi, who were treated in to two groups viz. Kati Basti with Prabhanjana Taila group (group A) and Kati Basti with Moorchita Tila Taila group (group B), each group comprising of 15 patients.

The patients were assessed before treatment for the severity of their symptoms. Thereafter 7 days course of Kati Basti was given to the patients of both the groups using Prabhanjana Taila (group A) and Moorchita Tila Taila (group B), immediately after the completion of the course the patients were again assessed.

After completion of the courses of the treatment as mentioned above neither any drug was given nor any

procedure was repeated, but the patients were asked to report for follow up study after 07 days from completion of the therapy.

#### Effect of therapies on Ruk (pain)

Patients of *Gridhrasi* treated with *Kati Basti* using *Prabhanjana Taila* group showed that this therapy provided highly significant relief in the *Ruk* (52.6%) soon after the course, and after stopping the treatment this relief continued and sustained at the follow up of 14 days.

Patients of *Gridhrasi* treated with *Kati Basti* using *Moorchita Tila Taila* showed that this therapy provided highly significant relief in the *Ruk* (47.25%) soon after the course, but after stopping the treatment the relief reduced to 45% at the 14 days follows up period.

The comparison showed that the reduction in *Ruk* was better in *Kati Basti* using *Prabhanjana Taila* group, and it was sustained on follow up of 14 days.

#### Effect of Therapies on Stambha

*Kati Basti* using *Prabhanjana Taila* group provided highly significant relief in the *Stambha* of 53.7% after the course, even after stopping the therapy relief was continued and it become 60.3% on follow up for 14 days.

*Kati Basti* using *Moorchita Tila Taila* provided significant relief of 48.5% in the *Stambha* after the course, but after follow up of a month the relief fall down to 46%.

The comparison showed that the reduction in *Stambha* was better in *Kati Basti* using *Prabhanjana Taila* group soon after the treatment and also after a follow up of 14 days.

#### Effect of Therapies on S.L.R test

*Kati Basti* using *Prabhanjana Taila* therapy provided significant relief of 37.3% in the S.L.R. test after the course, but even after stopping of therapy the relief was noticed 38 % after the follow up for of 14 days.

*Kati Basti* using *Moorchita Tila Taila* provided significant relief in the S.L.R Test of 13.6% after the

course, but after stopping of treatment the improvement was further increased to 17% on follow up of a month.

The comparison showed that the reduction in S.L.R Test was better in *Kati Basti* using *Prabhanjana Taila* group soon after the treatment and also after a follow up of 14 days.

#### Overall Effect of the Therapy

In *Kati Basti* using *Prabhanjana Taila* group, out of 15 patients, after the completion of treatment 1 (6.67%) were cured, 8 (53.33%) patients were markedly improved and remaining 6 (40%) patients were reported as improved. None of the patients were found unchanged.

In *Kati Basti* using *Moorchita Tila Taila* group out of 15 patients, after the completion of treatment none of the patients were cured and 9 (60%) patients showed markedly improvement. 5 (33.33%) patients were reported as improved. One patient was found to be unchanged.

#### Comparison of the Effects of Both the Therapies

It is obvious from the foregoing that *Kati Basti* using *Prabhanjana Taila* group provided better relief in the symptoms of *Ruk* and *Stambha*. It also provided comparatively better relief in S.L.R test. Overall effect provided by *Kati Basti* using *Prabhanjana Taila* was also better when compared to *Kati Basti* using *Moorchita Tila Taila*.

It is oblivious from the fore going that both the modalities of the treatment adopted for this provided significant relief in the signs and symptoms of the patients of *Gridhrasi* but the relief provided by *Kati Basti* using *Prabhanjana Taila* was better in comparison to *Kati Basti* using *Moorchita Tila Taila*.

#### CONCLUSION

Lifestyle changes, Improper sitting postures, jerky movements during traveling, change in form of transport from ancient to modern era especially use of two wheelers and sports activities etc. all these factors create an pressure to the spinal column which plays an important role in producing low backache or

sciatica. Low back pain is most common presentation with a prevalence of 60 to 90% and annual incidence of 5%. Sciatica has close resemblance with *Gridhrasi* mentioned in Ayurvedic classics under *Vata Vyadhi*, wherein the pain along with stiffness, gripping and pulsations start in the buttocks (gluteal region) and gradually encroaches the posterior aspect of *Kati* (pelvis and lumbo sacral regions), *Ooru* (thigh), *Jaanu* (behind the knee), *Jangha* (leg) and *Pada* (foot) in sequence. *Kati Basti* is commonly practiced external treatment for various kinds of low back aches including *Gridhrasi* i.e. sciatica. *Kati Basti* is a unique procedure, where both *Snehana* and *Swedana*, i.e. *Snehayukta Swedana* is done locally on *Kati* region. In *Kati Basti* using *Prabhanjana Taila* group, out of 15 patients, after the completion of treatment 1 (6.67%) were cured, 8 (53.33%) patients were markedly improved and remaining 6 (40%) patients were reported as improved. None of the patients were found unchanged. In *Kati Basti* using *Moorchita Tila Taila* group out of 15 patients, after the completion of treatment none of the patients were cured and 9 (60%) patients showed markedly improvement. 5 (33.33%) patients were reported as improved. One patient was found to be unchanged. Present study reveals that *Kati Basti* using *Prabhanjana Taila* group provided better relief in the symptoms of *Ruk* and *Stambha* when compared to *Kati Basti* with *Moorchita Taila*. It also provided comparatively significant relief in S.L.R test. The *snehana* property in oil and drugs in *Prabhanjana Taila* having *Vatakaphahara*,

*Sandhankrut*, *Shotahara*, *Vatanulomana*, *Shulaprasamana*, *Balyakarma's* may have helped in relieving the symptoms of *Gridhrasi* along with *Swedana* effect of *Kati Basti*.

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