



## A COMPARATIVE STUDY OF BHUJANGASANA WITH KATIBASTI OVER ONLY KATIBASTI IN GRUDHRASI (SCIATICA)

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**KEYWORDS:** Sciatica, Grudhrasi, Bhujangasana, Katibasti, SLR test.

### ABSTRACT

**Background:** Grudhrasi (Sciatica) is one of the eighty *Vatavyadhi* mentioned in *Ayurvedic Samhitas*, which is caused by aggravated *Vatadosha*. This is characterized by *Ruja* (pain) in the waist, back, thigh, knee and calf regions along the course of Sciatic nerve. There are many treatment modalities available in *Ayurveda* and Modern medical science. They have some or the other shortcomings and drawbacks.

**Objectives:** To evaluate the efficacy of *Bhujangasana* with *Katibasti* over only *Katibasti*.

**Materials and Methods:** It is a randomized open interventional parallel efficacy drug trial. A total number of 40 patients were selected from OPD. All the patients were having classical presentation of *Grudhrasi* and SLR test positive between 30<sup>0</sup> and 70<sup>0</sup>. The selected were randomly divided in to two groups, namely, Group A (study group n = 20) and Group B (control group n = 20). Group A was given *Bhujangasana* with *Katibasti* and Group B was given *Katibasti* only. The data were collected and observations were made before the treatment, on 8<sup>th</sup> day, 15<sup>th</sup> day and on 22<sup>nd</sup> day of the treatment. The data obtained from the result were subjected for statistical analysis and conclusions were drawn.

**Results:** In Group A, 85% patients were totally relieved of pain and 15% patients were reported to have moderate pain. In Group B, 55% patients reported total relief from pain and 25% had mild pain. In 90% cases SLR became negative in Group A, whereas in Group B 75% patients reported negative result in SLR test.

**Conclusion:** Analysis of overall effect of treatment in the present study reveals that *Bhujangasana* with *Katibasti* was statistically significant compared to that of *Katibasti*.

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### INTRODUCTION

Sciatica is defined as the pain in the distribution of the sciatic nerve due to pathology of the nerve itself<sup>1</sup> According to this definition, sciatic neuralgia is a form of radicular pain and is described as a disease of the peripheral nervous system.<sup>1</sup> Sciatica is relatively common condition with a lifetime incidence varying from 13% to 40%. The annual incidence of an episode of sciatica ranges from 1% to 5%<sup>2-3</sup> Chronic low back pain is the most common reason for a large number of lost work days and disability claims.<sup>4</sup> Chronic low back pain (CLBP) is a global problem with almost 80% of the population of the world suffering from it.<sup>5</sup> Functional disability<sup>6</sup>, Medication abuse<sup>7</sup>, Sleep disturbances, fatigue are observed in people, suffering from this disorder. Nearly 8 out of 10 people are affected with backache at some stage of their life.<sup>8</sup> At a Dutch Hospital a study was carried out on 283 patients to examine if there is faster recovery after early surgery for sciatica caused due to lumbar disc herniation compared with prolonged conservative care. It was observed that early surgery provided faster recovery compared with prolonged

conservative care.<sup>9</sup> In another study it has been observed that, 40% of back surgeries fail and even in successful surgeries, pain and subsequent disability have returned after a period of 6 months to 20 years.<sup>10</sup> According to many studies, sedentary life-style is the main culprit for CLBP, which includes; prolonged wrong postures which leads to wasting and weakness of postural muscles and chronic muscle spasm due to psychological stress. Increased paraspinal EMG activity can be observed in patients suffering from CLBP, which may be the result of both voluntary and non-voluntary changes in motor control in response to perceived stress.<sup>11</sup> Many people develop backache and sciatica because of the wrong posture. It is believed that 4 out of 5 people in a given urban society suffer from backache some time in their lifespan.<sup>12</sup> *Grudhrasi* is described as one of the *Vatavyadhi* by many Ayurvedic scholars. It is described as a disease in which pain radiates from hip and gradually comes down to waist, back, thigh, knee, shank and foot.

These parts are affected with stiffness, distress, piercing pain and with frequent quivering.<sup>13</sup> As per the

modern science, *Grudhrasi* can be compared with sciatica due to its similarity in symptoms. In sciatica, the pain radiates along the course of the back, buttock, posterior aspect of the thigh, leg and foot.<sup>5</sup> In Ayurvedic classical literature, references are given regarding the treatment modalities for *Grudhrasi*. *Acharya Sushrut* advises *Raktamokshana* (Bloodletting) along with *Vatavyadhichikitsa* (general treatment module) in *Grudhrasi*.<sup>14</sup> For the study, one of the most effective *Panchakrma* therapies for *Grudhrasi*, *Katibasti* is chosen. In *Yoga*, there are many *Asanas* (Postures and stretches) that are found to be very useful in sciatica. There has been a lot of research work done in this field. Many of the trials found that *Yoga* is very beneficial for Low Backache.<sup>15-17</sup> *Yoga* includes physical movements, but it is a complex intervention involving other components such as specialized use of the breath and relaxation. In the present study *Bhujangasana* (cobra pose) is selected as the *Yogasana* to evaluate its efficacy in *Grudhrasi* (sciatica).

**MATERIALS AND METHODS**

**Study design**

It is a randomized control study. For this study total 40 patients were selected from the OPD of *Dhanvantari Ayurved Mahavidyalaya* and Hospital, *Udgir, Latur*. The selected 40 patients were randomly divided into two groups; viz; Group A and Group B using a computer generated random number table. Group A (n = 20) was advised to undergo *Bhujangasana* and *Katibasti*. Group B (n = 20) was given only *Katibasti*. The data was collected and observations were recorded before the treatment, on 8<sup>th</sup> day, 15<sup>th</sup> day and on 22<sup>nd</sup> day of the treatment. As this was an interventional study involving therapeutic procedures, there was no possibility of blinding. All the observations obtained were analysed statistically and the inference was drawn according to the Mean, Median, SD, SEM and P value of the parameters.

**Inclusion Criteria**

Patients with classical symptoms of *Grudhrasi*, like, pain over *Sphik* (waist), *Kati* (Back), *Prushtha* (Thigh), *Uru* (Hip), *Janu* (Knee), *Jangha* (calf region) extending upto *Pada* (Foot) and with no features of *Stambha* (stiffness), *Toda* (pricking pain), *Tandra* (drowsiness), *Gaurava* (heaviness) and *Arochaka* (anorexia) were included.

- Patients with straight leg raising (SLR) test positive between 30<sup>0</sup> to 70<sup>0</sup> were selected.

**Criteria of Assessment**

**Subjective parameter**

Pain (Numeric rating Scale)<sup>18</sup>

0	1	2	3	4	5	6	7	8	9	10
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**Scale**

0 = No pain, which is denoted as "0"  
 1 - 3 = Mild pain, which is denoted as "I"

- Patients with Lumbar disc prolapse, reduction in intervertebral disc space, loss of lordosis, Lumbar scoliosis were selected.
- Patients with the chronicity of 1 year and more were selected.

**Exclusion Criteria**

- Patients suffering from spondylolisthesis, Sacroiliac joint arthritis were not selected for the study.
- Patients having affliction of the nerve root by Herpes Simplex, Tuberculoma causing cord compression, Lymphomas, pelvic malignancy, incurred thickened ligamentum flavum, cysts of the sacral nerve root, Neurofibromas were not considered for the present study.
- Patients with systemic diseases were not selected.
- Patients with SLR test positive less than 30<sup>0</sup> and more than 70<sup>0</sup> were not selected.
- Patients with fracture of the vertebra, destruction of vertebral bodies were excluded from the study.

**GROUP A (Study group)**

From randomly selected 40 subjects; 20 randomly selected patients were in this group. Patients were instructed to do *Bhujangasana*. The asana was well demonstrated to the patients with explanation of every single step. All the patients were advised to do *Bhujangasana* daily in the morning, for 22 days. Patients were advised to do five repetitions of the *Bhujangasana*. It was followed by a session of *Katibasti*. They were given *Katibasti* with *Ksheerabalataila* (classical Ayurvedic oil) along with *Bhujangasana*. *Katibasti* (retaining oil on the back of hip) was done once daily for 22 days. 250 ml of warm *Ksheerabalataila* was slowly poured inside the circular ring of *Katibasti* using cotton swab and replaced with lukewarm oil again when the temperature of the oil decreased. This was done for 30 minutes. Later the oil was completely removed by cotton swab. The *Katibasti* procedure was followed by mild massage over lumbosacral region. The oil used on the first day of procedure was reused for next 3 days; and then from 4<sup>th</sup> day, it was replaced by fresh *Ksheerabala Taila* till 7<sup>th</sup> day. Same module was opted for second and third *Katibasti* course.

**GROUP B (control group)**

This group comprised of 20 randomly selected patients. All the subjects were advised to undergo *Katibasti* for 22 days. The procedure of *Katibasti* was similar to that of Group A. *Katibasti* was done once a day in the morning for 22 days.

4 - 6 = Moderate pain. Which is denoted as "II"  
 7 - 10 = sever pain, which is denoted as "III"

**Objective Parameters**SLR test (between 30° and 70° is positive)<sup>19</sup>**Scale**

Positive, Which is denoted as "P".

Negative, which is denoted as "N".

**OBSERVATIONS AND RESULTS**

Both the groups were studied for the period of 22 days. The observations according to the assessment criteria were recorded before the treatment, on the 8<sup>th</sup> day, 15<sup>th</sup> day and 22<sup>nd</sup> day after the treatment.

**Table 1: Changes in pain during treatment**

Group	Pain rating Scale	Before Treatment	8 <sup>th</sup> day	15 <sup>th</sup> day	22 <sup>nd</sup> day
A	Severe Pain	18	5	2	0
	Moderate Pain	2	4	5	3
	Mild Pain	0	5	1	0
	No Pain	0	6	12	17
B	Sever Pain	13	6	3	0
	Moderate Pain	7	12	8	4
	Mild Pain	0	1	7	5
	No Pain	0	1	2	11

**Table 2: Changes in SLR Test during treatment**

Group	SLR test	No. of cases BT	8 <sup>th</sup> day	15 <sup>th</sup> day	22 <sup>nd</sup> day
A	Positive	20	9	7	2
	Negative	0	11	13	18
B	Positive	20	17	8	5
	Negative	0	3	12	15

**Table 3: Number / Percentage of patients showing improvement**

Group	No Pain		Negative SLR Test	
	No. of Cases	%	No. of Cases	%
A	17	85	18	90
B	11	55	15	75
P value	P < 0.01		P < 0.01	

Total 40 patients were randomly selected and studied for the present study. Group A (Study group) was given *Katibasti* with *Bhujangasana* and Group B (control group) was given *Katibasti* only. The data was collected and observations were made before the treatment and on 8<sup>th</sup> day, 15<sup>th</sup> day and on 22<sup>nd</sup> day of treatment. Obtained data were statistically analyzed using Willcoxon signed rank test, paired t - test and chi - square test. It was observed that, in Group A total relief from pain was observed in 17 patients (85%) and Negative SLR test was observed in 18 patients (90%). In Group B, 11 patients (55%) reported total relief from pain and 15 patients (75%) were observed to show negative SLR test. At the end of the study in Group A, 15% patients had moderate pain, whereas in Group B, 20% patients reported moderate pain and 25% patients had mild pain.

**DISCUSSION**

*Grudhrasi* is described as one of the eighty *Vatavyadhi* by *Acharya Charak*. It is a very painful disorder which affects the person's daily life. The affected person is subjected to pain during walking and while performing daily normal activities. In classical text books of *Ayurveda* there is no separate mention of its (*Nidana*) causative factors, *Samprapti* (Pathogenesis) or *Sadhyasadyata* (Prognosis). The vitiated *Vatadosha* is a prime culprit in the *Samprapti*. *Snehana* (oleation) and

*Swedana* (Sudation) are one of the primary treatment modalities for *Vatavyadhi*. *Katibasti* is one of the *Bahyasnehana* (External oleation) and *Swedana* (Fomentation/ sudation). There is no direct reference of *Katibasti* in classical texts and it may be considered as one of the *Upakarmas* (supportive treatment). Even though *Sneha* (Oil) is not introduced inside the body, it is still termed as *Basti* because the medicated oil is retained over the particular areas for a prescribed period. *Katibasti* benefits muscle spasms, rigidity of the lower spine and strengthens the bone tissue in that area.

*Bhujangasana* (Cobra pose) is particularly advised to strengthen the muscles around the hip and lower spinal region.

**Probable Action of *Katibasti* and *Bhujangasana***

For better understanding of the mode of action of *Katibasti* and *Bhujangasana*, briefly understand the anatomical correlation between sciatic nerve and muscles involved.

Sciatic Nerve is actually a network of spinal nerve roots which arises from spinal cord between the lower lumbar vertebrae and the sacrum. When sciatica develops, it is usually because these nerve roots have been compressed in some way. The main culprit is the piriformis muscle, since the fibres of the muscles more or less cushion part of the sciatic nerve. When there is tension in the muscle, it compresses the nerve, which

might lead to its characteristic sciatic nerve pain. *Bhujangasana* relieves sciatic nerve pain because it helps in strengthening the area surrounding the sciatic nerve without causing pain or little pain. It stretches the muscles of the lower back and piriformis while boosting the blood circulation within the lower back area.

*Katibasti*, through its medicinal oil and fomentation relieves the spasmed muscles and helps in initiating good blood circulation.

#### CONCLUSION

- No untoward effects were observed in any case, in both the Groups.
- The procedure of *Katibasti* is simple, economical and requires no hospital stay.
- *Bhujangasana* is a simple form of *Yogasana* and can be performed very well by patients with *Grudhrasi*.
- In the present study, it was observed that *Katibasti* along with *Bhujangasana* produces better results than performing *Katibasti* alone.

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