

A preliminary clinical evaluation of external snehan and asanas in the patients of sciatica

Akhilesh K Singh, Om P Singh

Department of Kayachikitsa, Faculty of Ayurveda, Institute of Medical Sciences, BHU, Varanasi, Uttar Pradesh, India

Address for correspondence: Dr. Akhilesh Kumar Singh,

S ¼-5, Raj Rajeshwari Nagar, Gilat Bazar, Varanasi – 221 002, Uttar Pradesh, India.

E-mail: singh_drakhilesh@yahoo.com

ABSTRACT

Lower back pain radiating to either on one leg or both legs along the course of sciatic nerve is a common ailment in the clinical practice, this type of peculiar symptomatology is termed as “Sciatica” in modern medicine. The medical treatment is unsatisfactory for both the patient and the neurosurgeons, as the surgical treatment has its own hazards and the cost of the surgical procedure and medical treatment is prohibitory to most of the Indian patients. Hence, most of the patients present themselves to the practitioners of Indian medicines like Ayurveda and yoga. This study was designed to evaluate the preliminary clinical effects of Bahya Snehan and Asanas in the patients of sciatica. This was a prospective randomized active control trial. A total of 60 participants showing classical symptoms of Sciatica between 18 and 65 years of age were randomly assigned to receive Ayurvedic or Yogic measure. One group received Snehan (external) with Bhujang and Shalabh Asana while another group received Bhujang and Salabh Asana only. Both groups practiced supervised intervention for 4 weeks. The signs and symptoms like Katishool (pain), tenderness, Stambha (rigidity), difficulty in walking, pain on bending forward were graded and interpreted at the end of the trail Significant improvement was observed in both groups before and after external Snehan with Bhujang and Shalabh Asana and in another group Bhujang and Salabh Asana only. Conclusions: Both groups, one with Snehan with asanas and the second with asanas only showed significant improvement in the patients of sciatica (Gridhrasi).

Key words: Asanas; gridhrasi; janu; kati; pada; prushtha; sciatics; sphika; stambha.

INTRODUCTION

Gridhrasi is a clinical entity which produces intense pain and hampers day to day activities, affecting valuable hours. The clinical symptomatology of Gridhrasi is migrating pain from Sphika (hip), Kati (waist), Prushtha (back), Uru (groin), Janu (knee) and Jangha(thigh) to Pada (foot). Classical pain of Gridhrasi is accompanied by Stambha (rigidity), Ruk (pain), Tod (pricking pain) and patient feels recurrent throbs along the affected leg.^[1,2] This reveals that the disease is basically produced by vitiated Vata Dosha, which is an originator of every kind of movement in the body. Vata has been described as “Tantra Yantra Dhara” which means it keeps and maintains the human body machinery and parts in a state of good health.^[3]

The diseases pertaining to extremities, bowels and vital parts of the body are affected by vitiated Vata. Vitiating of Vayu takes place due to either qualitative loss of Dhatus or obstruction in their passage.^[1,3] The emptied place in the body is filled with vitiated Vayu and various diseases originate depending on the affected site. Due to peculiarity of causes and site of vitiated Vayu peculiar disorders are produced.^[4]

The rapid industrialization in today’s world is causing rapid urbanization and a high degree of environmental pollution, coupled with sedentary life style and stress has given rise to number of health problems. Improper postural compulsions like sitting on computers, increased requirement of travel and excessive physical works lead to many painful diseases. Altered habits of food consumption are also responsible for increasing incidence of these diseases along with altered Vihara (life style). This leads to vitiating of Vayu which produces different Vata Vyadhis as described by Acharya *Charaka*. As Vata is a moving force and it has Chala (moving) property, Vayu is moving all over the body through the different channels (strotas). These channels are occupied by or made up of Dhatus and

Access this article online

Website:
www.ijoy.org.in

DOI:
10.4103/0973-6131.105950

Quick Response Code



Malas along with Tridosha. When there is any obstruction to these movements of Vayu, it gets vitiated. This is one of the two major causes of its vitiation. The other causes being the emptiness of these channels are due to reduction in the quantity and quality of their occupants. In short, if the Dhatus, Malas, Kapha and Pitta reduce in the quantity or quality that emptied space in the body is filled by Vayu, causing increase in Vayu and its vitiation.^[5]

Gridhrasi is one the Nanatmaja Vata Vyadhi caused by vitiation of Vayu. The name Gridhrasi is derived from the word "Grudhra" that literally means a "Vulture". The patient suffering from this disease walks like a vulture (Grudhra) due to severe, persistent and migrating pain, so the name of this disease or Vyadhi is "Gridhrasi". If the patient's right leg is affected by Gridhrasi Vyadhi, patient bears all his weight on his left leg and vice versa. This typical gait looks like that of Grudhra's (Vulture's) walk hence this name.^[6]

These symptoms are similar to the symptoms of "sciatica" described in modern medical science.^[4] The Pratyatma Lakshana of Gridhrasi is migrating pain from Sphika (hip), Kati (waist), Prushtha (back), Uru (groin), Janu (knee) and Jangha(thigh) to Pada (foot). Classical pain of Gridhrasi is accompanied by Stambha (rigidity), Ruk (pain), Tod (pricking pain) and the patient feels recurrent throb along the affected leg.^[5]

AIMS

1. To access the clinical efficacy of external Snehan along with Asanas in patients of Sciatica (Gridhrasi).
2. To access the clinical efficacy of only few Asanas in the patients of Sciatica (Gridhrasi).

MATERIALS AND METHODS

In this study 60 patients showing classical symptoms of Gridhrasi were studied. These pre-diagnosed patients were taken for the treatment alternatively self-selected in two groups.

- Group A - Comprises of Snehan (Bahya) with Bhujang and Shalabh asanas – 30 patients
- Group B - Comprises of Bhujang and Salabh asanas only – 30 patients

In Group A, Snehan (Bahya) of the patients were done by Mahanarayan Tail. Patients were included alternately to the two groups as they come for the treatment. Patients were diagnosed on the classical signs and symptoms as described in Ayurvedic texts. These pre-diagnosed patients were taken for the treatment alternatively

self-selected in Group A and B. On approval of the program by the Institutional Review Board of this University, informed written consent was taken before starting the treatment.

Inclusion criteria

1. Age: Patients between 18 and 65 years.
2. Sex: Cases of both sexes were included.
3. Symptoms and signs: Patients having classical symptoms of Gridhrasi as described in the Ayurvedic literature were included like Shool (pain), Stambha (stiffness), Peedana Sahatva (tenderness), difficulty in walking were included. Signs: Patients showing positive S.L.R.T. (straight leg rising test) were included.

Exclusion criteria

1. Patients below the age of 18 and above the age of 65 were excluded.
2. Patients suffering from malignancy, pulmonary and other forms of tuberculosis and other disorders of the spine were excluded.
3. Presence of other major generalized diseases like C.C.F., I.H.D., diabetes, renal disorder and immune-compromised patients were excluded.
4. Pregnant, menstruating females and breast feeding mothers were excluded.

Clinical examination

1. An exhaustive clinical proforma (C.R.F.) was specially prepared which includes all the possible signs and symptoms and clinical forms of Gridhrasi as described in Ayurvedic Classical texts.
2. Relevant clinical history was recorded.
3. The signs and symptoms were graded on a four-point scale i.e., 0 to 3, every sign and symptom was recorded in the C.R.F.
4. Every patient was followed weekly for 4 weeks clinically.
5. At every follow up, assessments of graded signs and symptoms were recorded weekly in the C.R.F.
6. S.L.R. test was performed at every follow up.

Investigation

Investigations like hemogram, urine examination (routine and microscopic), stool examination (routine and microscopic), blood sugar (fasting and postprandial), X-rays of lumbosacral region in AP and lateral views were done before and on conclusion of the trial had been suggested.

INTERVENTION

Components of intervention

External Snehan has been done strictly according to the principals stated by Ayurvedic texts and adopted therapeutically-oriented style of yoga that emphasized safety, minimized risk of injury and discomfort, easy to learn and had rigorous teacher training standards, as the basis of our intervention.

Protocol for snehan and yoga

External Snehan has been performed with Mahanarayan Tail in four postures - Lying on back, lying on left lateral, lying on right lateral and lying on front for the total duration of 20 minutes. Snehan has been done only in the direction of hair follicles, 5 minutes in each posture.

Yoga intervention included two yoga posture sequences created using the principles of Patanjali Yoga and designed for people with sciatica who have no previous experience with yoga. Participants had been asked to practice every day for 20 minutes to maximize the benefit of the intervention. The two postures had not been held for prolonged periods but had been repeated 4 times sequentially mediated by a guided deep breathing and relaxation.

Duration of Treatment: 4 weeks.

Type of study: Controlled open study.

Place of study: Outdoor and Indoor Department of Kayachikitsa, Faculty of Ayurveda, Institute of Medical Sciences, BHU, Varanasi.

Pathyapathya (dietary regimen)

Pathya

No particular dietary changes were suggested. Patients were asked to have their usual diet. They were asked to take complete rest on a hard bed during the trial period.

Apathya

Patients were advised to avoid forward bending and lifting heavy weight and avoid strenuous activity. They were also advised to abstain from any addiction like alcohol, smoking, etc.

Parameters of assessment

The signs and symptoms were graded and interpreted at the end of the trail.

Gradation of signs and symptoms were as follows:

Katishool (pain)

Grade	Score	Description
0	0	No pain
I	1	Dull aching pain, which is tolerable
II	2	Moderate pain, which requires analgesics or fomentation
III	3	Severe pain not relieved with analgesics and fomentation

Tenderness

Tenderness was tested by digital pressure over the interspinous ligaments and along the course of the sciatic nerve.

Grade	Score	Description
0	0	Nil
I	1	Mild tenderness, causing patient to wince on digital pressure
II	2	Moderate tenderness, causing patient to wince and withdraw on digital pressure
III	3	Severe tenderness; patient does not allow to touch

Difficulty in walking

Grade	Score	Description
0	0	Nil
I	1	Mild limping due to pain
II	2	Moderate pain causing the patient to tilt laterally
III	3	Severe pain-patient tries to avoid walking

S.L.R. test

Angle at which pain appears is noted by straight leg rising test.

Statistical analysis

The data thus collected was subjected to statistical analysis and appropriate test of significance was applied wherever feasible.

RESULTS

Katishoola (pain)

Katishoola was observed in all the 60 patients registered for the study and was graded on 4-point scale. In Group A initial mean gradation was 2.2. The readings show that the gradation improved during the treatment period progressively and the progress in the improvement continued [Table 1].

In Group B, the initial mean gradation was 2. There was improvement and these value remains constant even at the end of 4th week as seen in Table 1.

Tenderness

This sign was also observed in all 60 patients registered

Table 1: Statistical data for results of katischool, tenderness, difficulty in walking and S.L.R.T in groups A and B

			Mean diff.	SD	SE	't'	P
Kati shool	Group A	Before	0.6	0.49	0.09	6.67	P<0.001
		After	1.13	0.57	0.10	11.3	
	Group B	Before	0.33	0.47	0.08	4.13	
		After	0.73	0.52	0.09	8.11	
Tenderness	Group A	Before	0.43	0.50	0.09	4.77	P<0.001
		After	1.1	0.60	0.11	10.00	
	Group B	Before	0.23	0.43	0.07	6.67	
		After	0.73	0.52	0.09	8.11	
Difficulty in walking	Group A	Before	0.6	0.49	0.09	6.67	P<0.001
		After	1.17	0.53	0.09	4.13	
	Group B	Before	0.33	0.47	0.08	4.13	
		After	0.77	0.50	0.09	8.56	
S.L.R.T	Group A	Before	9.17	5.36	1.0	9.17	P<0.001
		After	13.0	5.80	1.16	11.21	
	Group B	Before	8.33	5.58	1	8.50	
		After	9.83	6.38	1	9.83	

for the study. In Group A, the initial mean gradation was 1.87. In Group B, the initial mean gradation was 1.87 also. Improvements are seen as given in the Table 1.

Difficulty in walking

All the patients registered in the study were complaining about difficulty in walking. The initial mean gradation of Group A was 2.2. The improvements were seen as shown in Table 1.

S.L.R.T.

This is a most important diagnostic sign in the patients of Gridhrasi. All 60 patients selected for the study showed this sign positive at various angles on S.L.R.T. In Group A patients mean angle where the patient experienced pain on lifting the affected leg straight on supine position was 40°, on 1st follow up i.e., 1st week after the therapeutic measure angles on S.L.R.T. changed and the mean of the angle where patient gets pain was 49.17° and this trend continued further and in 4th follow up mean difference was 13 ± 5.80, t = 11.21 and P < 0.001 which is highly significant [Table 1].

In Group B patients initial mean angle where the patient starts experiencing pain on S.L.R.T. was 40.5° and this changed to 49.33° on first follow up, and 3rd and 4th follow ups showed upward trend in the improvement.

DISCUSSIONS

External snehan (Abyangha) is a form of Ayurvedic therapy that involves massage of the body with warm oil. Peer-reviewed medical researches have shown that the benefits of massage include pain relief, reduced trait

anxiety and depression, and temporarily reduced blood pressure, heart rate, and state of anxiety.^[7,8] Theories behind what massage might do include blocking nociception (gate control theory), activating the parasympathetic nervous system, which may stimulate the release of endorphins and serotonin, preventing fibrosis or scar tissue, increasing the flow of lymph, and improving sleep,^[9] but such effects are yet to be supported by well-designed clinical studies.

From various researches, it is clear that transcriptional co-activator PGC1-alpha is liberated from muscles in exercises such as yoga, and suppresses a broad array of inflammatory responses.^[10] Yoga improves functional disability, pain intensity, and depression.^[11]

External snehan (Abhyang) is beneficial for patients with subacute and chronic sciatic pain, stiffness and function. The effects of external snehan are improved if combined with exercise and education. Few improvements can be suggested. Factorial design can be used to assess the effectiveness of treatments alone or in combination. Because most outcomes in sciatica are subjective measures, the ideal control group is one that ensures that treatments are equally credible and acceptable to patients to minimize placebo effects and high dropout rates. There are numerous techniques of massage therapy and its effects are difficult to measure because of various confounding variables, including the size of the massage area, amount of pressure, different types of manoeuvres, duration and number of treatment sessions, experience of therapist, level of stress, and heterogeneity of participants.

CONCLUSION

Hence, we may conclude that external Snehan and Asanas play a statistically significant role in improving signs and symptoms of sciatica.

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How to cite this article: Singh AK, Singh OP. A preliminary clinical evaluation of external snehan and asanas in the patients of sciatica. *Int J Yoga* 2013;6:71-5.

Source of Support: Nil, **Conflict of Interest:** None declared

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