Role of *Gomutra ark* (Distillate of Cow urine) with *Erand sneha* (Ricinus communis oil) in the Management of *Gridhrasi* (Sciatica)

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Abstract

Background: The incidence rate of *Gridhrasi*(sciatica) is really remarkable, given that over 75% of individuals globally suffer from the disease. Its defining points are that it originates in the gluteal area (*Sphika*) and extends to encompass the knee (*Janu*), thigh (*Jangha*), low back (*Kati-Prishtha*), and foot (*Pada*). The restricted range of motion brought on by hurting limbs makes it difficult for *Gridhrasi* sufferers to carry out regular duties.**Aim:** To evaluate the effectiveness of *Gomutra Ark* (distillate of cow urine) and *Erand Sneha* (Ricinus communis oil) in patients with *Gridhrasi* (sciatica).**Materials & Methods:** Fifteen patients aged between 20 to 50 years who had come to an *Ayurvedic* hospital for treatment of *Gridhrasi* were included in the study. For 28 days, *Gomutra ark* with *Erand Sneha* was administered orally as a therapy. *Shool, Stambh, Tod, Muhuspandan, Aruchi,* and *Tandra* are the evaluation's subjective standards. Greenough and Fraser scoring method &Oswestry low back scale was also included as subjective criterias. SLR, Bowstring test, walking time, Schober's test was used as objective criterias. Software used for statistical analysis was Graph Pad Prism vesion 10. **Result:** Patients demonstrated a statistically significant decrease in the severity of mean scores for Ruja, Toda, Stambha, and Spandana after utilizing Gomutra ark with Erand sneha.**Conclusion:** Reducing *Ruka, Toda, Stambha*, and *Spandana* in Gridhrasi can be achieved simply and effectively (as an adjuvant to other treatments) with *Gomutra Ark* with *Erand Sneha* under *Shaman chikitsa*.

Keywords: Gomutra ark, Erand Sneha, Gridhrasi, SLR, Sciatica.

Introduction:

People with *Gridhrasi* are unable to sit or stand correctly since their painful limbs are constantly attracting their attention. It throws off the patient's physical and mental state. The primary symptom of *Vatavyadhis* is pain. One such *Ruja pradhanavyadhi* is *Gridhrasi*. Intense pain in *Gridhrasi* travels from the gluteal region, or *Sphika*, to the foot, or *Pada*. [1,2] Gridhrasi is comparable to sciatica or sciatic syndrome based on its symptoms. It is caused by irritation of the spinal nerve and is characterized by pain in the distribution of the sciatic nerve. The two most common causes of morbidity globally are low back pain and radiating pain from lumbar disc protrusion. Sciatica has a lifetime incidence of approximately 40%, compared to low back pain, which has a lifetime prevalence of between 50 and 70%. Although only 4-6% of people have sciatica as a result of lumbar disc prolapsed,[3] This poses a serious risk to the working population. The patients' daily routines and general quality of life are disrupted due to the persistent and excruciating pain. Modern science has few therapy options for this disease with

lower success rates. NSAIDs, steroids, physical therapy, and surgery round out the modern medical treatment regimen.[4] *Ayurveda* has a big potential to help with *Gridhrasi* management. Literature mentions *Shaman* and *Shodhan chikitsa* in general. *Bheshaj, Snehana, Swedana, Siravedha, Agnikarma,* and *Basti* are among them. [5] Here, we will investigate the effectiveness of *Erand Sneha* (Ricinus communis oil) and *Gomutra Ark* (distillate of cow urine) under *Bheshaj Chikitsa* in the treatment of *Gridhrasi* pain.

Materials & Methods:

The study's participants were patients who sought therapy for *Gridhrasi* (Sciatica) in the *Ayurvedic* hospital's outpatient and inpatient departments. The study's participant pool consisted of individuals presenting classical signs and symptoms between the ages of 20 and 50, regardless of gender identification. The study participants gave written informed consent in their original language after receiving thorough information about the trial. The potential results and adverse effects of the interventional medication were also disclosed to the chosen patients.

Study design: Single arm open labeled interventional pilot study.

A. Inclusion Criteria [6]

a. Individuals in the 20–50 age range.
b. Individuals exhibiting *Gridhrasi* clinical signs and symptoms.
c. Patients taking Gridhrasi shouldn't take any other drugs.
d. Patients who are prepared to sign the release form.

B. Exclusion Criteria [6]

A. People suffering from systemic diseases such uncontrolled diabetes, heart disease, kidney disease, cancer, TB, and other grave medical conditions
b. Expectant or nursing mothers.
c. Patients with the aforementioned illnesses will not be allowed to participate in the trial.
d. Sacral ligament fibrositis e. Cauda equina tumor
f. Patients with pittaprakruti
g. People who have really bad gastritis.

C. Diagnostic criteria [7]

a. Modern and Ayurvedic texts, as well as the suggestions that follow.
b. The presence of stiffness, prickling pain, anorexia, numbness, and tiredness.
c. Tenderness along the course of the sciatic nerve.
d. The diagnosis criteria will be based on the signs and symptoms found in the e. S.L.R. test in the affected limb as an objective way to measure the diagnosis and enhance the course of treatment.
f. walking time.
f. The Schober test
h. The Bowstring Exam

Prior to starting treatment, a thorough Performa containing each patient's complete medical history, symptoms, *Dashavidhapariksha, Ashtavidhapariksha, Nidan Panchak,* etc. will be prepared and filled out. Vital signs such as temperature, respiration rate, blood pressure, pulse, and so forth will also be monitored in order to determine the patient's overall health. In order to rule out the potential of any other disease and to determine the patients' current state, routine haematological urine and biochemical examinations will be performed. In order to determine the diagnosis and differential diagnosis, patients will have radiological assessment, X-ray, L.S. spine, AP, and lateral view as needed.

D. Study drug standardization

Table 1: Details about Gomutra ark (Distillate of cow urine)

Sr. No.	Contents	Botanical name	Part Used	Proportion	Properties
1	*Gomutraark* (Distillate of cow urine)	Bos indicus	Cow urine	25ml	*Charak–Madhur Sushruta - Ushna, Tikshna, Laghu, Kshariya.*

Table 2: Details about Erand sneha (Ricinus communis oil)

Sr. No.	Contents	Botanical name	Part Used	Proportion	*Rasa*	*Guna*	*Veerya*	*Vipaka*
1	*Erand sneha*	Ricinus communis	oil	6 gm	*Madhura*	*Guru*	*Ushna*	*Madhur*

E. Preparation of Drug

Gomutra ark [8] (Distillate of cow urine) of 25 ml quantity is mixed with 6 gm of *Erand sneha* [9](Ricinus communis) at the time of dosing (at sleep time 30 min after meal) as mentioned in *Bhaishajya Ratnavali vatavyadhiprakaran*. [10]

F. Treatment protocol

Table 3: Treatment protocol						
No.of Patients	**Age**	**Sex**	**Intervention**	**Dose**	**Duration**	**Followup**
15	20yrs to 50yrs	Male, Female& Transgenders	*Gomutraark* (Distillate of cow urine) and Erandsneha (Ricinus communis) orally	25 ml *Gomutra*and 6gm *Erand sneha (Ricinus communis) 30 min after meal at bedtime(HS)*	28 days	0^{th}, 7^{th}, 14^{th} 21^{th}, 28^{th}day.

G. Assessment Criteria [11]

The patients' overall progress will be evaluated by looking at how much relief they receive from the disease's symptoms and indicators. The following will be the subjective and objective parameters:

a. Objective parameters are SLR test, Bowstring sign, Walking time, Schober's scale.

b. Subjective parameters are *Ruk* (severity of pain), *Stambh* (stiffness), *Toda* (pricking pain), *Muhuspandan* (numbness), *Aruchi* (anorexia), *Tandra* (drowsiness), Greenough and Fraser scoring method & Oswestry low back scale.

Table 4: Assessment Criteria			
Assessment criteria		Findings	Gradations
Objective criteria	**SLR**	More than 90^0	0
		71^0– 90^0	1
		51^0– 70^0	2
		31^0- - 50^0	3
		Up to 30^0	4
	Walking time - to cover 21 meters	Up to 20 sec	0
		Up to 21-30 sec	1
		Up to 31-40 sec	2
		Up to 41-50 sec	3
		Up to 51-60 sec	4
	Schober's Test	> 5cm	0
		< 5 cm	1

	Bowstring test	positive	0
		negative	1
Subjective criteria	**Ruja (Severity of pain)**	No pain	0
		Mild pain (VAS score 0-2)	1
		Moderate pain (VAS score 3-5)	2
		Severe pain(VAS sccore 6-8)	3
		Very severe pain(VAS score 9-10)	4
	Stambha (Stiffness)	No stiffness	0
		30 min - 1 hr	1
		More than 1 hr - 2 hr	2
		More than 2 hr - 3 hr	3
		More than 3 hr	4
	Toda (pricking pain)	Absent	0
		Mild ocassional	1
		After movements	2
		Frequent but not persistent	3
		Severe and persistent	4
	Muhuspandana (numbness)	Absent	0
		Occasional	1
		After movements	2
		Moderate without movements	3
		Severe	4
	Aruchi (anorexia)	No anorexia	0
		1-2 times weekly complaints of no desire to eat anything	1
		3-4 times weekly times weekly complaints of no desire to eat anything	2
		Maximum time no desire to eat anything at all	3
		No desire at all	4
	Tandra (drowsiness)	No drowsiness	0
		Mild drowsiness not affecting routine work	1
		Moderate drowsiness affecting routine work	2
		Severe drowsiness with no work at all	3
		Drowsiness all the time	4
	Greenough and Fraser scoring method	Poor (0-29)	0
		Fair (30-49)	1
		Good (50-64)	2
		Excellent (65 & above)	3
	Oswestry scale	0 - 4 No disability	0

		5 - 14 Mild disability	1
		15 - 24 Moderate disability	2
		25 - 34 Severe disability	3
		35 - 50 Completely disabled	4

H. Statistical analysis

The statistical analysis was done by applying paired *t*- test using Graph pad Prism version 10 software

Result

Table 5 : Effect of *Gomutra ark* (Distillate of Cow urine) with *Erand sneha* (Ricinus communis oil) in the Management of *Gridhrasi* (Sciatica)

Signs & Symptoms	Mean Score		SD (±)	SE (±)	*t*	*P*
	BT	AT				
SLR	2.857	2.071	0.633	0.169	3.798	P < 0.05
Schober's Test	0.428	0.071	0.425	0.113	6.904	P < 0.05
Bowstring test	1.071	0.714	0.497	0.132	2.687	P < 0.05
***Ruja* (Severity of pain)**	3.214	0.928	0.351	0.090	23.48	P < 0.0001
***Stambha* (stiffness)**	2.071	0.428	0.639	0.165	9.280	P < 0.0001
***Toda* (pricking pain)**	2.500	0.928	0.990	0.255	5.996	P < 0.0001
***Muhuspandana* (numbness)**	2.357	0.857	0.736	0.190	7.359	P < 0.0001
***Aruchi* (anorexia)**	0.928	0.142	0.593	0.153	4.785	P < 0.05
***Tandra* (drowsiness)**	0.928	0.214	0.488	0.126	5.292	P < 0.0001
Greenough and Fraser scoring method	1.142	0.214	0.516	0.133	6.500	P < 0.0001
Oswestry scale	3.642	2.071	0.639	0.165	9.280	P < 0.0001

Regarding the *Ruja* symptom, it was noted that during a 28-day course of treatment with *Gomutra Ark* and *erand Sneha*, two patients out of 15 (13%) experienced 100% alleviation, with an intensity drop from score 3 to 0, while the remaining patients experienced 50–90% reduction in pain. Prior to therapy, the average score was 3.21; following treatment, the average score

decreased to 0.92, a difference that was statistically significant ($p < 0.001$). In the instance of *Stambh*, the score decreased from 3 to 0 (100% in 6 out of 15 patients; in the remaining cases, the drop was between 70 and 90 percent). With a p-value of less than 0.001, the mean score before and after treatment were determined to be 2.07 and 0.42, respectively. These results were highly statistically significant. Similar to this, the mean score before and after using *Gomutra Ark* and *Erand Sneha* for the symptoms of *Toda, Muhuspandana, Aruchi*, and *Tandra* was found to be 2.50 and 0.93, 2.85 and 0.86, 0.93 and 0.22, respectively. This was significant for *Aruchi* with $p < 0.05$ and highly significant for *Muhuspandana* and *Tandra*. Additionally, the Greenough and Fraser grading method was used. Eight patients out of fifteen (60%) have significantly improved. The pre-treatment mean score was 1.42, and the post-treatment mean score was 0.21, both of which were extremely significant ($p < 0.001$). The Oswestry pain scale was also used, and the results indicated in Table 5 were extremely significant with $p < 0.001$.

SLR, Bowstring and Schober's test were performed under objective parameters. All three tests were significant with mean score before and after treatment was 2.85 and 2.07, 1.07 and 0.71, 0.42 and 0.07 respectively ($p < 0.05$) mentioned in table 5.

Discussion

According to the prior study's reference [12], the primary symptoms to be taken into account were *Ruja, Stambh, Muhuspandana,* and *Toda*. In addition to the symptoms listed in the *Ayurvedic* book, the reference study also took into account the Oswestry pain assessment scale, SLR, Bowstring, Schober's test, Greenough & Frazer scoring technique, and Schober's test results. With the assistance of *Gomutra Ark* and *Erand Sneha*, a notable improvement is shown in the reduction of these symptoms. *Bhaishjya Ratnavali* made reference to this *kalp* [9] .The anti-inflammatory and analgesic properties of *Erand Sneha* and *Gomutra Ark* have previously been demonstrated and validated by science. [13, 14, 15] Therefore, these effects were assessed in this study in relation to *Gridhrasi* therapy.

Conclusion

Following a 28-day usage of *Gomutra Ark* and *Erand Sneha, Gridhrasi* patients reported notable improvements in *Ruja, Stambha, Toda, Muhuspandan, Aruchi*, and *Tandra*. Significant progress is also seen in the SLR, Bowstring test, and Schober's test. The questionnaires utilized in this study were the Oswestry pain magnitude scale and the Greenough and Frazer scoring menthos. Both of these measures indicate a notable improvement in the patients' symptoms who were part of this research. Therefore, we can draw the conclusion that Gridhrasi (Sciatica) can be managed by using the *Gomutra ark* with *Erand Sneha* under *Shaman chikitsa (Bheshaj).*

Fianacial support

Nil

Conflict of Interest

Nil

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