

EFFECT OF *VAITARANA VASTI* IN COMPARISON WITH *VRISHADI VASTI* IN *GRIDHRASI*: A RESEARCH STUDY

M. Sanjay

Asst. Professor - Department of Panchakarma, Kala Ashram Ayurved Medical College, Udaipur, Rajasthan, India

Email: drsanjayjayaraj@gmail.com

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ABSTRACT

Background: Walking without any difficulties is a major requirement in human life. In *Gridhrasi* the subject's walking style simulates to that of *gridhra* due to nature of pain. *Snehana*, *Swedana*, *Virechana*, *Vasti*, *Siravyadha* and *Agni karma* are lines of treatment of *Gridhrasi* as expounded in the *Ayurvedic literature*. The *Vyaktasthana* of *Gridhrasi* is *Adhakaya* starting from *Kati* and *Uru*, *Janu*, *Jangha* and *Pada* which is also the *sthana of Vayu*, so *Vasti* can be adopted as the best treatment option. **Materials & Methods:** 30 subjects suffering from *Gridhrasi* fulfilling the inclusion criteria belonging to either sex was selected for the study. They were randomly categorized into two groups, Group A (*Vaitarana Vasti*) and Group B (*Vrishadi Vasti*) consisting of 15 subjects in each group. **Result:** The Therapy under Group A provided relief ranging from 66.67% to 91.30%, with an average of 80.38%. The Therapy under Group B provided relief ranging from 72.41% to 90.48%, with an average of 81.45%. **Conclusion:** The comparative efficacy of Group A with Group B was not significant showing both groups provided good relief in various parameters of *Gridhrasi*.

Keywords: *Gridhrasi*, *Vasti*, *Vaitarana Vasti*, *Vrishadi Vasti*

INTRODUCTION

As with the advancement of busy, professional and social life, improper sitting posture in offices, factories, continuous and overexertion, jerking movements during travelling and sports – all these factors create undue pressure to the spinal cord and play an important role in producing low backache and sciatica. Many of the Clinical features of *Gridhrasi* resemble to that of Sciatica.

Gridhrasi^{1,2} is a *Rujapradhana Nanatmaja Vatavyadhi*. The Cardinal signs and symptoms of *Gridhrasi* are *Sthambha*, *Ruk*, *Toda* and *Spandana* starting first in *Sphik* and radiating to *Kati*, *Prishta of Uru*, *Janu*, *Jangha*, and *Pada* and *Sakthi Utkshepa Nigraha*. In *Kaphanubandha Gridhrasi Tandra*, *Gaurava* and *Arochaka* are also present.

Vrishadi Vasti Yoga and *Vaitarana Vasti Yoga* were selected for the study. In *Niroohakrama Chikitsitam*

Adhyaya of *Susruta Samhita Vrishadi Vasti Yoga* is indicated in *Gridhrasi*, while in *Vastikarmadhikara* of *Vangasena Samhita Vaitarana Vasti* is indicated in *Gridhrasi*. In the *Samprapti* of *Gridhrasi Rasa, Rakta, Mamsa, Medas, Asthi and Majja (Rasayani, Sira, Snayu, Kandara) dhatu* are affected. To manage the vitiated *doshas* that are situated in *Asthi & Majja dhatu*, *acharyas* have advocated giving nine to ten *AnuvasanaVasti*. Hence *Kala Vasti* schedule were selected for the study. In this study an attempt has been made to evaluate and ascertain the efficacy of both *Vasti* in *Gridhrasi*.

Aim & Objectives

To compare and ascertain the efficacy of *Vaitarana Basti* and *Vrishadi Basti* in *Gridhrasi* w.s.r to *Sciatica*.

Materials and Methods

Materials used

The materials used were *Trikatu Choorna* for *Amapachana* till *nirama lakshanas* are obtained and *Murchita TilaTaila* for *Anuvasana Vasti* (75ml) in both groups. *Vaitarana* and *Vrishadi vasti yogas* were made as per their classical references.

Vaitarana Basti:³ *Vaitarana Basti* was prepared with *Guda* (24gm), *SaindhavaLavana* (12gm), *Amleeka* (48gm), *Taila* (50 ml) and *Surabhi Paya* (192-200 ml)

Vrishadi Basti:⁴ The ingredients of *Vrishadibasti* are *Makshika, Lavana, Tilataila* for *sneha, Madana, Yashtyahava, Shadgrantha (Vacha), Amara (Devadaru), Sarshapa, Pippalimoola, Saindhava, Yavani, Misi & Vatsaka* (for making *Kalka*) & *Vrisha (Vasa), Ashmabheda, Varshabu, Dhanyaka, Gandharvahasta*, drugs of *Dashamoola, bala, Moorva, Yava, kola, Nishachadha (sati), Kulatha, Bilwa, Bhunimba* (for making *Kashaya*) and finally *Gomutra*, all mixed in proper way and administered as *basti*. Even though *Goksheera, Gomutra, Ikshurasa* and *Mamsa rasa* are mentioned in the *yoga* as *Avapa, Gomutra* alone was selected for the study. After ascertaining the *balabala* of patient a total of 700- 900 ml of *bastidravaya* was administered.

Source of data

Patients attending the O.P.D and I.P.D of Department of Post-Graduate studies in *Panchakarma, Ayurveda Mahavidyalaya* and Hospital, Hubli.

Sample Size: 30 subjects who were suffering with *Gridhrasi* and who fulfilling the diagnostic and inclusion were selected for the clinical study.

They were randomly categorized into two groups A (*VaitaranaVasti*) & B (*VrishadiVasti*) consisting of 15 subjects in each group.

Diagnostic Criteria

A special proforma incorporating all points of History taking and Physical examinations mentioned in *Ayurveda* as well as *Modern Science* was prepared

- Pain over *Sphik & Kati* region, radiating to *Prishtha of Uru, Janu, Jangha and Pada*.
- Positive Straight Leg Raising Test and Positive Laseague's test.
- Positive Bragard's sign.

Inclusion Criteria:

- Subjects who fulfilled the diagnostic criteria.
- Subjects in the age group of 20 - 60 years.
- Subjects irrespective of Gender.
- Subjects who are fit for *Basti* procedure.

Exclusion Criteria:

- Congenital deformities of the spine.
- Traumatic, Infective and Neoplastic conditions of the spine
- Subjects who were contraindicated for *Basti*.
- Subjects who had uncontrolled systemic disorders which interfered with the course of the treatment.
- Pregnant Women and Lactating Mother.
- Subjects with HIV & HBsAg positive.

Assessments were made on subjective parameters like *Ruk, Sthamba, Toda, Spandana, Tandra, Gaurava, Aruchi* and on Objective parameters like SLR test (30 to 60 was assessed as positive under various gradings), Positive Lasegues sign and Bragards' test, Numerical Pain rating scale, Oswestry Disability Index (ODI) scoring⁵, Walking time (for 21 metres), movements of lumbar spine. The data, which are obtained by the clinical trial, were statistically analyzed by applying Student's 't' test.

Interventions

Vaitarana Basti (Group-A)/Vrishadi Basti (Group- B) in Kala Basti Schedule

- Amapachana
 - Trikatu Choorna for Ama Pachana till the appearance of Nirama Lakshana.
 - Dose – 5gm twice a day with ushnodakaanupana before food.
- Administration of Anuvasana Basti – 75ml
- Administration of Vaitarana Basti (A) / Vrishadi Basti (B)

Duration: -16 days

Pariharakala: -32 days

Follow up: -48 days

Statistical Tests:

The analysis of the effects of therapy was based on “t-test” applications. The efficacy of Vaitarana Basti & Vrishadi Basti were compared. The significance was discussed based on Mean Scores, Percentages, SD, SE, ‘t’ and ‘p’-values.

Level of significance:

- $p > 0.05$ is statically insignificant
- $p = < 0.05$ and $p = < 0.01$ is statistically significant
- $p = < 0.001$ is statically highly significant.

Overall relief of clinical features of Gridhrasi before and after treatment, were statistically analyzed and the result will be categorized as-

- ❖ Marked Improvement-Above 75% Improvement
- ❖ Moderate Improvement-51%-75% Improvement
- ❖ Mild Improvement -25%-50% Improvement
- ❖ Unchanged -Below 25% Improvement

RESULTS

Comparative efficacy of therapies on Subjective Parameters in Group A and Group B using unpaired Student’s ‘t’ test:

The mean score of the Subjective Parameter ‘Ruk’ in Group A was 2.20, S.D is 0.77 and S.E is 0.19. In Group B, the mean score of ‘Ruk’ was 2.33, S.D is 0.80 and S.E is 0.20. The Comparative Efficacy of Group A with Group B was statistically not Significant ($p > 0.05$) with ‘t’ value of 0.46.

The mean score of the Subjective Parameter ‘Toda’ in Group A was 0.93, S.D is 0.96 and S.E is 0.25. In

Group B, the mean score of ‘Toda’ was 1.46, S.D is 1.19 and S.E is 0.31. The Comparative Efficacy of Group A with Group B was statistically not Significant ($p > 0.05$) with ‘t’ value of 1.36.

Comparative efficacy of therapies on Objective Parameters in Group A and Group B using unpaired Student’s ‘t’ test:

The mean score of the Objective Parameter Straight Leg Raise Test’ in Group A was 2.07, S.D is 0.44 and S.E is 0.11. In Group B, the mean score of Straight Leg Raise Test was 2.13, S.D is 0.51 and S.E is 0.13. The Comparative Efficacy of Group A with Group B was statistically not Significant ($p > 0.05$) with ‘t’ value of 0.25.

The mean score of the Objective Parameter Laseague’s Test in Group A was 0.93, S.D is 0.24 and S.E is 0.06. In Group B, the mean score of Laseague’s Test was 0.87, S.D is 0.34 and S.E is 0.08. The Comparative Efficacy of Group A with Group B was statistically not Significant ($p > 0.05$) with ‘t’ value of 0.60.

The mean score of the Objective Parameter ‘Numerical Pain Rating Scale’ in Group A was 2.20, S.D is 0.77 and S.E is 0.19. In Group B, the mean score of ‘Numerical Pain Rating Scale’ was 2.33, S.D is 0.80 and S.E is 0.020. The Comparative Efficacy of Group A with Group B was statistically not Significant ($p > 0.05$) with ‘t’ value of 0.46.

The mean score of the Objective Parameter ‘Walking Time’ in Group A was 3.00, S.D is 0.53 and S.E is 0.13. In Group B, the mean score of ‘Walking Time’ was 2.66, S.D is 0.71 and S.E is 0.18. The Comparative Efficacy of Group A with Group B was statistically not Significant ($p > 0.05$) with ‘t’ value of 1.50.

The mean score of the Objective Parameter ‘Oswestry Disability Index Scoring’ in Group A was 2.66, S.D is 0.72 and S.E is 0.18. In Group B, the mean score of ‘Oswestry Disability Index Scoring’ was 2.87, S.D is 0.83 and S.E is 0.21. The Comparative Efficacy of Group A with Group B was statistically not Significant ($p > 0.05$) with ‘t’ value of 0.67.

The mean score of the Objective Parameter ‘Forward Flexion’ in Group A was 1.86, S.D is 0.83 and S.E is 0.21. In Group B, the mean score of ‘Forward Flexion’ was 1.47, S.D is 0.98 and S.E is 0.25. The Com-

parative Efficacy of Group A with Group B was statistically not Significant ($p>0.05$) with 't' value of 1.21. The mean score of the Objective Parameter 'Right Lateral Flexion' in Group A was 1.13, S.D is 1.06 and S.E is 0.27. In Group B, the mean score of 'Right Lateral Flexion' was 1.40, S.D is 1.12 and S.E is 0.29. The Comparative Efficacy of Group A with Group B was statistically not Significant ($p>0.05$) with 't' value of 0.69.

The mean score of the Objective Parameter 'Left Lateral Flexion' in Group A was 1.26, S.D is 1.16 and S.E is 0.29. In Group B, the mean score of 'Left Lateral Flexion' was 1.60, S.D is 1.06 and S.E is 0.27. The Comparative Efficacy of Group A with Group B was statistically not Significant ($p>0.05$) with 't' value of 0.85.

The mean score of the Objective Parameter 'Extension' in Group A was 1.06, S.D is 0.88 and S.E is 0.23. In Group B, the mean score of 'Extension' was 1.13, S.D is 0.74 and S.E is 0.19. The Comparative Efficacy of Group A with Group B was statistically not Significant ($p>0.05$) with 't' value of 0.36.

The mean score of the Objective Parameter 'Rotation' in Group A was 0.93, S.D is 0.88 and S.E is 0.22. In Group B, the mean score of 'Rotation' was 1.00, S.D is 0.76 and S.E is 0.19. The Comparative Efficacy of Group A with Group B was statistically not Significant ($p>0.05$) with 't' value of 0.24.

Effect of Therapy on Total Score of All the Parameters under Group A and Group B:

The Therapy under Group A provided relief ranging from 66.67% to 91.30%, with an average of 80.38%. The Therapy under Group B provided relief ranging from 72.41% to 90.48%, with an average of 81.45%.

Overall Effect of Study on 30 Subjects of Gridhrasi

The therapy under Group A provided Marked Improvement for 13 subjects and Moderate improvement for 02 subjects. The therapy under Group B provided Marked Improvement for 12 subjects and Moderate improvement for 03 subjects. Out of the 30 Subjects selected for the study 25 subjects got marked improvement while 05 subjects got moderate improvement.

DISCUSSION

Subjective Parameters:

Ruk: In *Gridhrasi* pain is one of the prime symptoms and is felt throughout the lower limbs which starts from *Sphik* region and radiates to *Pada*. Here continuous pain may be due to the *Sanga* in the *Rasa*, *Rakta* and *Majja dhatu* caused due to the *avarana* of *Vata*. Being a *Nanatmaja* type of *VataVyadhi* definite involvement of the *Vata dosha* in the *Samprapti* is characteristic of *Gridhrasi*.

Sakthnah Kshepam Nigrahaniyat is one of the cardinal symptoms found in *Gridhrasi* subjects. The *Kshepa*, *Utkshepa* etc. activities are being attributed to *Vyana Vayu*. By this it is evident that out of five types of *Vata*, vitiated *Vyana Vayu* is the primary cause of illness. However, the role of other *Vata* cannot be ruled out as this type of *Vata* are mostly interrelated in their physiological functioning. The *Apana* having its site as *Kati* and *Sakthi* which are most affected in *Gridhrasi*, though *Prana Vata* is situated in *Murdha* its function is extended to the whole body including lower extremities which is one of the *Karmendriya*. As *Gridhrasi* is a disease which hampers the movement and *Sakthi Utkshepa Grahana* even *UdanaVata* may involve in the pathogenesis as it is indicator for any work and *Prayatna*, *Urja*, *Bala* are its attributes. *Samana Vayu* may also be involved due to *Agnimandya*.

By the foregoing description it is evident that in *Gridhrasi* all the five *Vata* especially *Vyana Vayu* & *Sleshaka Kapha* are afflicted. Pain at *Kati* and *Prishta* are suggestive of involvement of *Asthi dhatu*. Pain in leg radiating from buttock to heel is suggestive of *Snayu Upadhatu*. Pain and stiffness are suggestive of affliction of *Snayu Upadhatu*. Pain and stiffness of legs, symptoms *Sankocha* and the inability related to walking all are suggestive of *Mamsa dhatu* affliction. Numbness and *Paraesthesia* are indicative if involvement of *Twak* and *Rakta dhatu*. Moreover, in *Vatakaphaja* type of *Gridhrasi*, the symptoms like *Arochaka*, *Staimitya*, *Gaurava* as well as *Agnimandya* point towards affliction of *Rasa dhatu*.

Hence it can be said that *Ruk* or Continuous pain in *Gridhrasi* may be due to aggravation of *Vata* caused

due to both either *Dhatukshaya* or *Margavarodha* at *Rasa, Rakta, Mamsa, Meda, Asthi, Majja, Sira, Snayu, Kandara dhatu / Upadhatu* level.

Both *Basti* under study had the action not only on *moola sthana* of *Vata* i.e. *Pakwashaya, Kati, Sakthi, Asthi, Sparshanendriya* but had the beneficial systemic action on said *Dhatu/Upadhatu* by their *Shoolahara, Shothahara, Balya, SrotoShodhana* and *VataNi-yamana* action. Hence the therapies under Group A and B have provided statistically highly significant result ($p < 0.001$) but percentage of relief with *Vrishadi Basti* was little more which is due to the pharmacological action of its ingredients.

Toda: Here the involvement of *Vatadosha & Rasa dhatu/ Twak* is present. *Vrishadi Basti* being *KaphaVata Shamaka* has more effect on this parameter.

Sthamba: Here *Prana* and *Vyana Vayu Karmatah Kshaya* and *Kapha Vriddhi* are present along with involvement of *Mamsa dhatu*. This result in the *Nishkriyatva* of *Adhakaya* (legs) thereby hindering its normal *gamana karma*. *Vrishadi Basti* being *KaphaVata Shamaka* pacifies the vitiated *doshas* and hence has more effective on this parameter.

Spandana: Here *Vyana Vayu KarmatahVriddhi* and involvement of *Rasa* and *Mamsa* is present. *Vaitarana Basti* being more *VataShamaka* pacifies the *Karmatah Vriddhi* of *Vyana Vayu*.

Tandra: *Susruta* explains *Tandraas* increased *Kapha* obstructs channels of *Manovaha* and *Rasavaha Srotas* leading to vitiation of *Vata*. Hence result was more in *Vrishadi Basti* group as it is pacifying vitiated *Kapha* and *Vata*.

Gaurava: *Susruta* explains *Gaurava* as *Kapha* gets obstructed at *RasavahaSrotas* by the vitiated *Vata* and *Gaurava* is produced. *Vrishadi Basti* clears this *Kaphoparodha* in *RasavahaSrotas* and pacifies the vitiated *Vata* and hence on this parameter *Vrishadi Basti* was found to be more effective.

Aruchi: Here the patient fails to appreciate the taste irrespective of state of appetite. *Vata* and *kaphadoshas* are involved because the seat of *bodhakakapha* is *jihwa*, the function of which is *rasabodhana*. Here also *Vrishadi Basti* is found to be more effective since it is *KaphaVata Shamaka* in nature.

Objective Parameters:

SLR Test/Lasegue's test / Bragads test: *Susruta* explained '*Sakthnah Kshepam Nigrahaniyat*' and *Arunadutta* told '*Urdhwa Prerana Avarundati*' as a *lakshana* of *Gridhrasi*. This can be correlated with SLRT. Here *Vata* gets obstructed by vitiated *Vata* in *Rasavaha* and *Mamsavaha Srotas* and vitiated *Vyana Vayu* in the *Sira, Snayu* and *Kandara* produces pain at the time of raising the leg straight. *Vaitarana Basti* pacifies this vitiated *Vata* and hence it more effective on these parameters.

Numerical Pain Rating scale (NPRS): The reason for Pain was the pressure on the Sciatic nerve root by protruding intervertebral disc. All kinds of pain are the result of vitiated *Vata*. Here *VatavahaNadi* is getting obstructed by the vitiated *Kapha* and *Dhatu*. So, the involvement of *Vata* and *Kaphadosha* along with *Rasa, Rakta* and *Majja dhatus* was present here. *Vrishadi Basti* being *KaphaVata Shamaka* has got more effect on this parameter.

Walking Time (WT): Pain is the main reason for increase in Walking Time in patients. All kinds of pain are the result of vitiated *Vata*. It is known that *Gatiis* the *Karma* of *Vyana Vayu*. Here *Vyana Vayu Karmatah Kshaya* is present thereby increasing the Walking Time. *Vaitarana Basti* pacifies the vitiated *Vata* and hence more relief on this parameter.

Oswestry Disability Index Scoring: The comparative efficacy of Group A with Group B was statistically not significant. Even though the comparative efficacy of therapies was Statistically Not Significant, the Percentage Relief was more in Group A.

Spinal Movements: *Aakunchana, Prasarana, Vyavarthana, Utkshepa* and *Apakshepa* are the functions of *Vyana Vayu*. Here *Vayu* gets obstructed at *Rasa, Mamsa* and *Majja dhatus* thereby restricting the movements. After administration of *Basti, Basti dravya* by virtue of their *Rasa, Guna* and *Veerya* clears the obstruction in these *dhatus* thereby facilitating the normal movement of *Vata*.

CONCLUSION

The comparative efficacy of Group A with Group B was not significant. This shows both groups provided good relief in various parameters of *Gridhrasi*. Even though the comparative efficacy of therapies in both groups provided statistically not significant results, the percentage of relief was observed more in Group B (*Vrishadi Basti*). Out of the 30 Subjects selected for the study 25 subjects got marked improvement while 05 subjects got moderate improvement. The study concludes that *Vaitarana and Vrishadi Basti* proves to be an effective therapy in treating *Gridhrasi*.

Limitation of Study and Future Scope

It is recommended that further study should be carried out in large number of subjects to evaluate and analyze the results.

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Tables:

Comparative efficacy of therapies on Subjective Parameters in Group A and Group B using unpaired Student's 't' test:

Assessment Parameters	GROUP- A			GROUP- B			't'	P	Remark
	Mean	S.D	S.E	Mean	S.D	S.E.			
Ruk	2.20	0.77	0.19	2.33	0.80	0.20	0.46	>0.05	N.S
Toda	0.93	0.96	0.25	1.46	1.19	0.31	1.36	>0.05	N.S

Comparative efficacy of therapies on Objective Parameters in Group A and Group B using unpaired Student's 't' test:

Assessment Parameters	Group- A			Group- B			'T'	P	Remark
	Mean	S.D	S.E	Mean	S.D	S.E.			
SLRT	2.07	0.44	0.11	2.13	0.51	0.13	0.25	>0.05	N.S
Laseague's Test	0.93	0.24	0.06	0.87	0.34	0.08	0.60	>0.05	N.S
NPRS	2.20	0.77	0.19	2.33	0.80	0.20	0.46	>0.05	N.S
Walking Time	3.00	0.53	0.13	2.66	0.71	0.18	1.50	>0.05	N.S
ODI Scoring	2.66	0.72	0.18	2.87	0.83	0.21	0.67	>0.05	N.S
Forward Flexion	1.86	0.83	0.21	1.47	0.98	0.25	1.21	>0.05	N.S
Rt. Lateral Flexion	1.13	1.06	0.27	1.40	1.12	0.29	0.69	>0.05	N.S
Lt. Lateral Flexion	1.26	1.16	0.29	1.60	1.06	0.27	0.85	>0.05	N.S
Extension	1.06	0.88	0.23	1.13	0.74	0.19	0.36	>0.05	N.S
Rotation	0.93	0.88	0.22	1.00	0.76	0.19	0.24	>0.05	N.S

Overall Effect of Study on 30 Subjects of *Gridhrasi*

Remarks on Improvement	Group A		Group B	
	No.	%	No.	%
Marked (Above 75%)	13	86.67	12	80.00
Moderate (51% to 75%)	02	13.33	03	20.00
Mild (25% to 50%)	-	-	-	-
Unchanged (Below 25%)	-	-	-	-

Source of Support: Nil

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