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AN OPEN CLINICAL STUDY TO EVALUATE THE EFFECT OF VAITARANA BASTI IN GRIDHRASI

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ABSTRACT

Vatavyadhi is one of the most prevailing health problems in the clinical practice and Gridhrasi is one among them. Kandara or else termed as gridhrasi snayu is affected in gridhrasi causing ruja (pain) as the dominant feature. Snigdha sweda, virechana karma, niruha basti, anuvasana basti, agnikarma, siravyadha, shamana medications and rasayana form the complete treatment of gridhrasi in both the varieties with little difference. Vaitarana basti is a tikshna niruha basti and has special indication in gridhrasi shoola. The drugs used in this basti are minimal in number, cheap and effective. Selected patients were administered with 3 sittings of *Vaitarana Basti* during morning in empty stomach for 3 days in a dose of 335 ml. Results showed that *Vaitarana basti* is effective in the remission of the symptoms of *Gridhrasi* as evidenced by statistically significant reduction in the symptom score of various subjective and objective parameters.

KEYWORDS: *Gridhrasi, Niruha Vasti, Vaitarana Basti, Sciatica.*

INTRODUCTION

Over the past century, the field of medicine has noticed a change in the environment, changing life style, massive diagnostic and therapeutic advances, and upcoming researches. These factors have contributed to the improvement in the health of the society but not completely. The field of research expects the evidence-based practice in the medical science. The facts established in the literature are subjected to research and are re-established by

observation, intervention, experiments, and documentation supported by the proof are considered to be facts and valid in clinical practice of today. The knowledge from literature is thus re-established in terms of modern methods of clinical research. This clinical work is indented to establish the clinical efficacy of Vaitarana Basti in Gridhrasi.

Vatavyadhi is one of the most prevailing health problems in the clinical practice and Gridhrasi is one among them. Kandara or else termed as gridhrasi snayu is affected in gridhrasi causing ruja (pain) as the dominant feature Vataja gridhrasi is characterized by stambha (stiffness), ruk (pain), toda (pin prick sensation) and grahana (movement restriction) initially felt at the region of the buttock and then progressing sequentially into the posterior aspect of the pelvis, thigh, knee, calf, leg and foot. The appearance of symptoms and signs suggesting morbidity of kapha dosha associating the symptoms of vataja gridhrasi is typical of vata kaphaja gridhrasi. Thus the patient exhibit symptoms like tandra (drowsiness), gaurava (subjective feeling of the heaviness in the affected leg) and arochaka (tastelessness in the mouth). The typical diagnostic method mentioned for the sciatica, straight leg raising test (SLR), is explained as sakthi utkshepa nigraha in the classics. The line of management depends upon the dosha and dushya involved in the pathogenesis of the ailment which in turn depends upon the nidana. Snigdha sweda, virechana karma, niruha basti, anuvasana basti, agnikarma, siravyadha, shamana medications and rasayana form the complete treatment of gridhrasi in both the varieties with little difference.

Gridhrasi is one among the 80 vataja nanatmaja vyadhi enumerated in the classics and the treatment for vataja nanatmaja vyadhi should be specific, definite and immediate. Various treatment modalities have been explained in the literature specifically for the management of gridhrasi but relapse of the symptoms have been observed clinically after a short period of remission. As a solution to this Basti Chikitsa which is minimally explored in case of Vatavyadhi are opted here in the present study.

Basti is described as the best line of treatment to cure the imbalances of vata dosha. It is also true that this procedure is equally effective in rectifying abnormal accumulation of pitta as well as kapha dosha. Hence basti procedure is given much importance than any other shodhana therapy. Vaitarana basti is a tikshna niruha basti and has special indication in gridhrasi shoola. The drugs used in this basti are minimal in number, cheap and effective. In whole the treatment adopted does the samprapti vighatana and hence mitigate the morbid vata dosha curing Gridhrasi.

Objectives

To evaluate the therapeutic efficacy of *Vaitarana Basti* in the remission of the symptoms of *Gridhrasi*/Sciatica.

MATERIALS AND METHODS

STUDY DESIGN: Open randomized comparative clinical study with pre-test and post-test design.

SOURCE OF DATA: 20 patients diagnosed as Gridhrasi/ Sciatica fulfilling the diagnostic/ inclusion and exclusion criteria were taken for study from OPD and IPD of MVR Ayurveda college and Hospital, Parassinikkadavu, Kannur.

DIAGNOSTIC CRITERIA

1. Presence of symptoms of Gridhrasi that include stiffness, pain, pricking sensation, twitching in waist, buttocks & then radiating to back of the thigh, leg, ankle, foot suggestive of Vataja Gridhrasi. The additional symptoms like heaviness in the legs, drowsiness and tastelessness may be present.
2. Presence of radicular pain of Sciatica that includes sudden/gradual onset of low back ache radiating to buttock, thigh, calf and foot.

Inclusion Criteria

1. Patients of Gridhrasi/Sciatica between the age of 16 to 70 years.
2. Patients with/without radiological evidence of Lumbar Spondylosis.
3. Patients of with/without radiological evidence of Disc Prolapse.

Exclusion Criteria

1. Sciatica with Congenital deformities of spine
2. Neoplastic conditions of the spine with radicular pain.
3. Infections of the spine with Sciatica.
4. Patients with evidence of severe unstable renal, hepatic, hemopoitic and cardiac disorder as revealed by history and/or investigations which would decline the general condition of the patient and interfere with the present clinical trial.
5. Those with history of having received any investigational drug in the previous one month.
6. Patients taking antipyretics, analgesics, tranquilizers, hypnotics, excessive alcohol or any other drug which would interfere with the pain perception.

7. Patients unfit for basti karma

Ssessment Crite Primary outcome measure

1. Change from baseline in Visual analogue scale for back pain intensity (nitambasula) [range 0 (better) -10 (worse); Time Frame: baseline, 10 days]
2. Change from baseline in Visual analogue scale for leg pain intensity (sakthishula) [range 0 (better) -10 (worse); Time Frame: baseline, 10 days]
3. Change from baseline in Visual analogue scale for leg stiffness intensity (stambha) [range 0 (better) -10 (worse); Time Frame: baseline, 10 days]
4. Change from baseline in the average angle of restriction while testing straight leg raising (saktiutkshep nigraha) [if unilateral the actual degree of restriction is noted, if bilateral average degree of restriction is considered; Time Frame: baseline, 10 days]
5. Change from baseline in Greenough & Fraser Scoring method [The lower the score the greater the severity of the back pain; Time Frame: baseline, 10 days]

Secondary outcome measure

1. Change from baseline in Oswestry Disability Index [minimum score 0 %, maximum 100%; 0% equals no disability, and 100% is the maximum disability possible; Time Frame: baseline, 10 days]
2. Change from baseline in Neurological Deficit as per Herron & Turners Rating [Time Frame: baseline, 10 days]
3. Change from baseline in Sugar baker & Barofsky Clinical Mobility Scale [Time Frame: baseline, 10 days]
4. Change from baseline in Oswestry Disability Assessment Questionnaire [Time Frame: baseline, 10 days]

Intervention: 20 patients were treated with 3 sittings of Vaitarana Basti during morning in empty stomach for 3 days. For this purpose after the evacuation of the bowel and bladder and after daily routines the patient was treated 30 minutes with Abhyanga and Svedana on the buttocks and lower abdomen. Tila taila was used for the Abhyanga and Dashamula Kvatha was used for the Nadi Sveda. This Snigdha Sveda was followed by administration of Vaitarana Basti by using an enema can in a dose of 335 ml^2. All the necessary after measures of Basti Karma were carried out and the patient was observed for the effect of Basti Karma. Patient was advised to follow the restriction of Parihara Kala for 6 days.

Follow up Period: 21 days

Duration of study: 30 days

OBSERVATION

- **Age:** Among the 20 patients taken for the study 47.5 % of the patients belonged to the age group of 31-40 years. This is followed by 15 % of the patients each in 41-50 and 51-60 years of age group. The susceptibility of the productive population is proven by the statistics.
- **Gender:** Out of 20 patients, 57.5% patients were males and 42.5% were females. This may be due to the fact that men are exposed to most of the mechanical stress as they are the economic pillars of the family.
- **Educational status:** Majority of patients comprising 32.5 % in this study had completed their Higher Secondary School education followed by Junior College education contributing 30.3 %. This reflects the overall educational status of the society.
- **Socio economic status:** Majority of the patient belonged to upper middle class i.e. 47.5%, 22.5% were from lower middle class, 20% from upper middle class and 7.5 % of patients hailed from poor socio-economic status. The maximum patients were from upper middle class and this may be due to the mechanical stress and life style adopted.
- **Occupation:** In this study, maximum numbers of patients were housewives i.e., 45 %, 25 % of patients were manual laborers, 15% were employees, 12.5% were businessmen and another 2.5 % were students. This depicts the reduced incidence of working population in women and the continuous mechanical stress resulting in the Sciatica.
- **Diet:** In this study, out of 20 patients, only 37.5 % of the patients were restricted to vegetarian diet, and the remaining 62.5 % of the patients had the dietary habit of taking mixed diet. This may be due to the area selected for the study is coastal belt.
- **Dietic Habit:** 82.5 % patients among the 20 patients diagnosed as Gridhrasi followed Vishamasana, 10% patients followed Samashana, and 7.5 % patients followed Adhyasana. This denotes that following Vishamasana can precipitate Vatavyadhi as it can cause morbidity of vata dosha.
- **Nature of Sleep:** Out of the 20 patients, maximum of 80 % of the patients had disturbed sleep. Remaining 20 % of the patients complained of disturbed sleep. This indicates the severity of the illness the study population is experiencing.
- **Treatment History:** Enquiry about the previous treatment revealed that among 20 patients, 57.5 % had the history of oral NSAID intake before the commencement of the study, 7.5 % of the patients had underwent Laminectomy and 32. 5 % patients did not

give any history of treatment done. This shows the lack of appropriate treatment maneuvers in the bio medicine.

- **Body Weight:** Maximum number of patients i.e. 35 % had their body weight between 51 to 60 kg. 30 % of the patients had their body weight between 71 to 80 kg. It may be inferred that the incidence of Sciatica may be directly proportional to the body weight of the individual along with other predisposing factors.
- **BMI:** 35 % had BMI between 30.0 – 34.99 which add to the fact that overweight can predispose to the low back ache and Sciatica.
- **Vaitarana basti:** Out of 20 patients taken up for the study in Vaitarana Basti Group, 50 % of patients were able to retain the Basti for 5 to 15 minutes, 30 % were able to retain for a period less than 5 minutes and rest 20 % were able to retain for 15 to 30 minutes on day 1 of Basti. On second day 50 % were able to retain it for a period of 5 to 15 minutes, 30 % retained it for 15 to 30 minutes and 25 % for a period less than 5 minutes. 55 % of patients were able to retain the Basti for a period of 5 to 15 minutes and 20 % of patients were able to retain for a period of less than 5 minutes and 15 to 30 minutes each on day 3. The average retention time is 10.23 min. 65 % of patients had evacuation of bowel once, 25 % of patients had evacuation of bowels twice and 10 % had 3 times on day 1 of Basti. On day 2, 55 % of patient evacuated bowel once, 35 % evacuated twice, 10 % of patient had thrice. On the last day of Basti 55 % of patient had evacuation of bowel once, 45 % of patients evacuated bowel twice. 100% of patients had Purisha, Mutra and Vayu Pravrutti on all the 3 days. Increase in Ruchi was appreciated by 15%, 50%, and 80 % of patients on Day 1, Day 2 and Day 3 respectively, 20 %, 80 % and 80 % of patients had Agnivrudhi experienced on all the three days; Day 1, Day 2 and Day 3 respectively. Ashayalaghava was seen in 60 % of patients on day1 and in 85 % of patients on day 2 and day 3 each, Rogopashamana was seen in 10 %, 20 % and 70 % of patients on day 1, day 2 and day 3 respectively. Bala was noted only in 10 % of patients on day 3.

EFFECT OF THERAPY

Statistically significant remission in the cardinal symptoms was observed regards to assessment of Pain, Neurological deficits, Functional ability and Functional disability. Scoring Parameters on tests of sciatica like SLR active, SLR passive, Lasegue's test, Schober's test; individual functional abilities walking for 30 feet, 10 sit ups, climbing 10 steps, hand floor distance was also recorded and assessed which gave statistically significant results.

Effect in Lakshana In Vaitarana Basti: It is analysed in the study that the in the symptom Stambha, an improvement of 58.93 % was observed after the treatment, toda got relieved by 51.79 percent, spandana got relieved by 40.00 percent, Aruchi and tandra was improved 100 percent, and the symptom gaurava improved by 50 percent; hence proving the efficacy of Vaitarana Basti on the symptoms of gridhrasi.

Effect on Various Scoring Parameters in Vaitarana Basti

Effect on Pain: The statistical analysis revealed that the mean score of Greenough & Fraser Low Back Outcome Scale was 13.650 before the treatment and it improved to 33.250 after the treatment, thus recording a remission by 143.59 percent.

Effect on Neurological Deficits: The statistical analysis revealed that the mean score of Neurological deficit using Herron & Turners Rating which was 22.500 before the treatment was reduced to 10.500 after the treatment thus recording the remission by 53.334 percent.

Effect on Functional Ability: The statistical analysis revealed that the mean score of Functional Ability using Sugar baker & Barofsky Clinical Mobility Scale which was 15.600 before the treatment was improved to 19.400 after the treatment thus recording the remission by 24.359 percent.

Effect on Functional Disability: The mean score of Functional Disability using Oswestry Disability Assessment Questionnaire before treatment which was 32.550 was reduced to 18.150 after the treatment, with a difference of mean of 14.400, thus recording the remission by 44.240 percent.

Effect of Therapy on Various Tests for Sciatica

Effect on SLR Active: The statistical analysis revealed that the mean SLR test (active) positive level was 37.500 degree before the treatment was improved to 69.500 degree after the treatment with a difference of mean of 32.000, thus recording the remission by 85.33 percent.

Effect on SLR Passive: The statistical analysis revealed that the mean SLR test (passive) positive level was 43.500 degree before the treatment was improved to 76.000 degree after the treatment with a difference of mean of 32.500, thus recording the remission by 74.71 percent.

Effect on Lasegue's test: The statistical analysis revealed that the mean Lasegue's test positive level was 37.500 degree before the treatment which improved to 69.500 degree after the treatment with a difference of mean of 32.000, thus recording the remission by 85.33 percent.

Effect on Schober's test: The statistical analysis revealed that the mean of Schober's test in centimeters which was 5.400 before the treatment improved to 7.900 centimeters after the treatment with a difference of mean of 2.500, thus recording the remission by 46.29 percent.

Effect of Therapy on Individual Functional Abilities

Effect on Time Taken for Walking for 30 feet: The statistical analysis revealed that the mean time taken for walking 30 feet was 38.500 seconds before the treatment was improved to 24.000 seconds after the treatment with a difference of mean of 14.500, thus recording the remission by 37.66 percent.

Effect on time taken for 10 sit up's: The statistical analysis revealed that the mean value of time taken for 10 Sit Ups in seconds which was 170.500 before the treatment was improved to 115.000 seconds after the treatment with a difference of mean of 55.500, thus recording the remission by 32.55 percent.

Effect on time taken for climbing 10 steps: The statistical analysis revealed that the mean of time taken for climbing 10 Steps was 19.900 seconds before the treatment improved to 14.050 seconds after the treatment with a difference of mean of 5.850, thus recording the remission by 29.397 percent.

Effect on Distance between Finger and Floor: The statistical analysis revealed that the mean score of Distance between Finger and Floor on maximum forward flexion was 24.250 centimeters before the treatment and improved to 18.250 centimeters after the treatment with a difference of mean of 6.000, thus recording the remission by 24.742 percent.

OVERALL EFFECT OF THE TREATMENT

After the treatment patients were analyzed for the same which revealed that 10 % of patients had major improvement, 60 % had moderate improvement, 25 % had mild improvement and 5 % of the patients had the symptoms unchanged.

Table No 01: Effect of Treatment.

	Mean		BT-AT	% Relief	Paired 't' test			
	BT (±SD)	AT (±SD)			SD	SEM	t	P
Pain	13.650 (±1.508)	33.250 (±1.156)	19.60	143.6	4.235	0.947	20.697	<0.001
Neurological Deficit	22.500 (±1.721)	10.500 (±1.950)	12.000	53.33	4.104	0.918	13.077	<0.001
Functional Ability	15.600 (±0.387)	19.400 (±0.387)	3.800	24.359	0.768	0.172	22.134	<0.001
Functional Disability	32.550 (±1.175)	18.150 (±0.779)	14.40	44.24	3.952	0.884	16.294	<0.001
SLR Test Active	37.500 (±2.251)	69.500 (±2.562)	32.00	85.33	14.46	3.232	9.900	<0.001
SLR Test Passive	43.500 (±2.409)	76.000 (±2.847)	32.50	74.71	11.75	2.628	12.365	<0.001
Lasegue's test	37.500 (±2.251)	69.500 (±2.562)	32.00	85.33	14.455	3.232	9.900	<0.001
Schober's test	5.400 (±0.598)	7.900 (±0.626)	2.500	46.290	1.191	0.266	15.208	<0.001
Time taken for Walking for 30 Feet	38.500 (±2.087)	24.000 (±1.871)	14.500	37.66	4.261	0.953	15.218	<0.001
Duration of 10 Sit Up	170.500 (±10.72)	115.000 (±8.095)	55.500	32.55	27.237	6.090	9.113	<0.001
Climbing 10 Steps	19.900 (±1.923)	14.050 (±1.387)	5.850	29.39	3.675	0.822	7.12	<0.001
Distance between Finger and Floor on Forward Flexion	24.250 (±1.551)	18.250 (±1.554)	6.000	24.742	3.728	0.834	7.198	<0.001

PROBABLE MODE OF ACTION

Gridhrasi is caused due to the morbid vata dosha afflicting the gridhrasi nadi or kandara i.e., entrapment phenomenon sciatic nerve. For different etiologies as the stress on the intervertebral disc increases, it's likely to be ruptured or gets displaced. The displaced disc material may impinge on the emerging spinal routes causing the radicular pain. Desiccation of the disc material is the major phenomenon that clears the impingement on the nerve route thereby clearing the signs and symptoms of the nerve entrapment.

Vaitarana Basti is considered as a tikshna niruha basti which has the action of shodhana. The ingredients of vaitarana basti are chincha (*Tamarindus indicus*), gomutra (cow's urine), guda (jaggery), saindhava lavana (*Sodium Chloride*) and tila taila (oil of seed of *Sesamum indicum*). Basti is one among the shodhana therapy primarily indicated for vata vyadhi. The action of basti is the rectification of vata chiefly and also reducing the morbidity of kapha and

pitta dosha. The ingredients of the vaitarana basti have the therapeutic action of alleviating the morbid vata dosha and also kapha. Gridhrasi being a vata vyadhi and also presence of association of morbid kapha dosha at times, vaitarana basti has its action over gridhrasi.

Vatavyadhi is elaborated in the literature and has its etiology as specific nidana, dhatukshaya as well as margavarana. The line of treatment explained in the literature is also specific in this regard, i.e., apatarpana for the margavaranajanya vatavyadhi and santarpana treatment procedures for dhatukshayaja vatavyadhi. In this regard, the shodhana and shamana methods of management explained is also quite opposite. To add, in the whole treatment protocol explained for vatavyadhi, lashuna rasayana stands as an exception. Lashuna rasayana is indicated in the margavaranaja and dhatukshayaja vatavyadhi specifying that it is targeted irrespective of the cause. Vata prakopa in gridhrasi is evidenced by the severe pain experienced by the patient along with the altered sensations over the affected limb and restricted movement of the limb causing inability to elevate the same. As these symptoms and signs are markedly reduced, it is clear that Vaitarana Basti is efficacious in reducing the morbidity of the vata dosha.

Snayu is considered as one of the important pratyanga of the body. It is responsible for the utkshepana, apakshepana and other movements. In case of gridhrasi, it is the ambulation which is affected and this in turn is pathognomic of gridhrasi shula and gridhrasi snayu being afflicted by morbid vata dosha. The improvement in the functional ability, reduction in the functional disability, improvement in time taken for sit ups and walking and climbing stairs denote that there in a definite improvement in the functionality of the snayu by the treatment.

Vaitarana Basti is regarded as a shodhana basti. It turns into a shodhana basti by the addition of gomutra. The addition of tikshna dravya like that of gomutra, saindhava lavana and chincha may lead to the atiyoga as a risk factor. And the risk is doubled if the prescription is without the alternating anuvasana basti. Though the risk factor was expressed by many, the study conducted revealed that the administration of the basti consecutively for a period of 3 days was safe. The amount of 335 ml is the safest dosage as there were neither the features of atiyoga of basti as mentioned in the literature nor the symptoms of colitis and hence considered as effective and safe.

CONCLUSION

Gridhrasi is one among the vataja nanatmaja vyadhi; vataja and vatakaphaja are the clinical variants. The clinical symptoms of Gridhrasi equate with Sciatica of the Biomedicine. Shodhana, Shamana and Rasayana form the sheet anchor of the treatment of Gridhrasi. From the present study it is evident that irrespective of the etiology and the pathology, all the patients has shown best response in remission of the functional disability and neurological deficits and other symptom parameters along with the improvement in the functional ability. This proves the efficacy of vaitarana basti beyond doubt in rectifying the etiopathogenesis of gridhrasi irrespective of its cause as Dhatukshaya or margavarana.

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