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A Clinical Study to Evaluate the Efficacy of *Erandamula Niruha Basti* and *Erandamula Kashaya Nadi Sweda* in the Management of *Gridhrasi*

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ABSTRACT

Shoola and karmahani are the symptoms which make the patient to compromise his/ her physical, psychological, social efficiencies. Among them, Gridhrasi is most common condition where the involvement of vata and/or vata kapha is evident by the symptoms like shoola, stambha, toda, karmahanai, gaurava, arochaka. The line of management adopted should be vata/ vata kaphahara, and able to relieve the acute, severe symptoms as early as possible. Text highlights the use of basti, snehana and swedana in the management of gridhrasi. Based on the reference of vataghna basti, erandamula kashaya niruha basti was selected which has vata/vata kaphahara and rasayana effect. As there is association of shoola, stambha, gaurava, swedana as Erandamula kashaya nadi sweda has been selected.

Present study was a single blind clinical study with pre and post test design wherein 20 patients were treated with 6 prasruta erandamula niruha basti prepared in vataghna basti dosage and administered in a yoga basti course. Along with that, erandamula kashaya nadi sweda was given for 30 min daily for 8 days. Patients were assessed before and after the treatment and after 16 days of follow up based on the standard parameters. Wilcoxon Signed Rank Test was used for analysis of data. The study showed statistically significant improvement in all the parameters selected for the study. Hence, Erandamula Niruha basti with Erandamula kashaya Nadi sweda can be effectively advised in the management of gridhrasi..

KEYWORDS

Gridhrasi, vataghna niruhabasti, Erandamula, Snigdha sweda, Nadi sweda



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INTRODUCTION

Pain prevents the human being from living a normal daily life. Among many pain dominant diseases, Gridhrasi is one explained under vataja nanatmaja vyadhi¹. The severity of pain is depicted in the name itself as the person affected will have gait similar to that of vulture due to pain. The severe pain makes the patient disable and dependent. Similar presentation is seen in Sciatica wherein there will be low back pain radiating to one or both legs. Based on the underlying pathology and its severity, the presenting symptom may range from mild to severe acute pain, neurological deficit and functional disability. 2% to 40% of people have sciatica at somepoint². The life time incidence of low back pain ranges from 50-70%, whereas incidence of sciatica ranges from 30-40%³. The disease is now becoming a significant threat to the working populations.

Snehana, Swedana, Basti karma, Siravyadha, Agnikarma are the various treatment procedures mentioned for the management of Gridhrasi⁴. Based on the severity of symptoms, involved dosha and dhatu, upadhatu, saamaniraamavastha, specific line of treatments can be adopted in the clinical practice. Among these, Basti chikitsa is accepted as a line of treatment. Even though there is reference for different basti formulations, Acharyas have given the

liberty to formulate specific basti as per the dominance of dosha. Vataghna basti is one such basti which is indicated in vata pradhana conditions like Gridhrasi⁵. There may be association of kapha too. Hence, the drug which possess vatakaphahara property which is indicated in the management of gridhrasi as Erandamula was selected for the study. The drugs for kalka are Shatapushpa and Ashwagandha which has the similar effect^{6,7}. Even though dwadasha prasruta is the parama pramana⁸ of niruha basti, we have to alter the quantity by considering the fitness of the patient. Based on the bala, 6 prasruta is selected for the study. With this idea, in the present study, 6 prasruta, Erandamula vatagna niruha basti is administered.

There are symptoms like severe shoola, stambha, gaurava, which can be best managed by the swedana chikitsa⁹. The vata and vatakaphaja conditions are the best indications for swedana chikitsa. Since ekanga is afflicted in gridhrasi, ekanga sweda in the form of Nadi sweda is selected. The Erandamula is indicated in the management of gridhrasi which is having vatakaphahara, shulahara property is selected for the study¹⁰.

The proper basti chikitsa and nadi sweda using Erandamula Kashaya has both vata kapha shamana property and reduces shoola, stambha gaurava which are the



major symptoms in gridhrasi. With this idea in back drop, to assess the synergistic effect of Erandamula Niruha basti with Erandamula Kashaya nadi sweda has been selected for the study.

MATERIALS AND METHODS

Ethical Committee Number

SDMCAU/ACA/-49/ECH23/17-18

Date 20/3/2018

Source of data:

Drug source: The ingredients for Erandamula niruha basti and Nadi sweda was obtained from SDM Ayurveda pharmacy, Kuthpady, Udupi.

Sample source: 20 patients diagnosed as Gridhrasi were selected for the study from OPD and IPD of Shri Dharmasthala Manjunatheshwara Ayurveda Hospital, Kuthpady, Udupi.

Method of collection of data:

Study design: This is an open label clinical study with pre-test and post-test design

A detailed proforma was prepared considering the points pertaining to history, signs, symptoms and examinations as mentioned in Ayurvedic classics and allied sciences to confirm the diagnosis

Sample size: 20 patients diagnosed as Gridhrasi were selected for the study

Diagnostic criteria

Symptoms of gridhrasi like: Stambha, Ruk, Toda, Gruhnati, Spandana in Sphik, kati, prishta, uru, janu, jangha, Paada. Tandra, Gaurava, Arochaka

Symptoms of Sciatica like

- Pain in the low back, radiating to the buttocks, downward into the leg.
- Burning and tingling sensations in leg.
- Increase of pain on Coughing, sneezing and other sudden movements.

Inclusion criteria

- Patients of either gender between 16-70 years
- Patients presenting with the diagnostic criteria
- Who are fit for niruha basti and swedana

Exclusion criteria

- Congenital deformities of lumbar spine
- Traumatic conditions of the lumbar spine
- Infective conditions of the lumbar spine
- Neoplastic conditions of the lumbar spine
- Post-surgical conditions of lumbar spine
- Pregnant women
- Any other systemic illness interfering the treatment

Duration of treatment: 8 days

Duration of follow up: 16 days

Total duration: 24 days

Investigations



Haematological tests like - Haemogram, ESR, RBS

X-Ray-LS Spine-AP/Lateral - if needed

INTERVENTION:

In the selected patients, Erandamula niruha basti with Erandamula Kashaya nadi sweda was advised for 8 days as follows:

Niruhabasti:

Purvakarma

Preparation of the medicine: Basti dravya is mixed in the order and quantity of

Makshika-75 ml

Lavana-5 gm

Mahamasha taila-150 ml

Shatapushpa and Ashwagandha kalka-50 (25 gm each)

Erandamula kwatha-325 ml

Preparation of the patient:

- Sthanika abhyanga with Mahamasha taila.
- Sthanika patasweda with ushna jala.
- Laghu ushna anabhishtyandi bhojana before Matra Basti.

Pradhana karma

In the selected patients, niruhabasti was administered in the dosage of 600ml in yoga basti course wherein three Niruha basti was administered on 2nd 4th and 6th day in the morning, empty stomach. Five Anuvasana basti with Mahamasha taila in the dose of 40ml was administered on 1st 3rd

5th 7th and 8th day in the afternoon, immediately after food.

Paschat karma

- Laghu ushna anabhishtyandi bhojana
- Advised to avoid Ashtamaha doshakara bhavas

Nadi sweda :

Nadi sweda was administered after sthanika abhyanga, at around 11 AM in the morning hours.

Purva karma

- 1 liter of Erandamula Kashaya was prepared (100gms of erandamula churna was boiled in 4 litre of water and reduced to 1 litre of Kashaya), it is then filtered and filled in a cooker.

- Patient is advised to be in laghukoshta.
- Mrudu abhyanga with sukshosha Mahamasha taila was done to low back and lower limb for 10-15mins

Pradhana karma

- The cooker filled with Kashaya is kept for boiling.
- Once the steam starts coming out from the tube, the temperature is checked. The steam is directed towards the required area with continuous movement and held in a safer distance to avoid scalds. The steam is advised over low back area and to both lower limbs. In between, the water vapours are removed from the pipe. The procedure



is continued in the same way for 30 minutes.

- Duration: 30 minutes

Paschat karma

- Area is wiped cleanly after 15-20 minutes of rest.
- Hot water bath is advised.
- To avoid ashtamahadoshakara bhavas.

Assessment criteria

Each patient was assessed before, after the treatment and after the follow up period based on the subjective and objective parameters. The observations and assessment were recorded in specially prepared case proforma

Subjective parameters

Symptoms of Gridhrasi and Sciatica syndrome.

Subjective symptoms of Samyak, Ati and Heena niruha basti and Swedana

Objective parameters

- Straight Leg Raising Test

Table 1 Demographic observations

Parameters	Observations in each parameter	Maximum number of patients	Percentage
Age	50-60 yrs	6	30%
Gender	Males	11	55%
Occupation	Labour	6	30%

Table 2 Observations related to disease

Symptoms	Maximum observations	Number of patients	Percentage
Low backache	Present	20	100%
Radiation of pain	Present	20	100%
Radiation side	Right	8	40%
Duration of onset of illness	<6 months to >2 year	13	65%
Mode of onset	Gradual	20	100%

Other parameters used to assess are:

- Visual analogue scale
- Pain disability Questionnaire
- Greenough and Fraser scoring method
- Sugarbaker and Barofsky clinical mobility scale
- Oswestry Disability assessment Questionnaire

OBSERVATIONS

In the present study, 20 patients of Gridhrasi were treated with Erandamula niruha basti and erandamula kashaya nadi sweda for 8 days.

Total number of patients registered for the study: 20

Number of patients completed the study: 20

Dropouts: nil

Some of the observations are as follows (Table no1, 2, 3).



Associated symptoms	Stambha, ruk, Toda Gaurava	20 8 7	100% 40% 35%
Course of pain	Intermittent	13	65%
Nature of pain	Dragging	12	60%
SLR test	51 ⁰ -70 ⁰	8	40%
Type of Gridhrasi	Vataja	13	65%

Table 3 Mean Retention time of Basti

Day	1	2	3	4	5	6	7	8
Mean	5hrs	10.34min	7hrs	11.94min	8hrs	12.76	7hrs	6hrs
Retention time	13min		39min		10min		22min	27min

Observation related to Samyak niruha basti lakshana:

- Mean no. of vega: Niruha basti-1-9 Anuvasana basti-1-4
- Samyak lakshanas like prastrusta vit, mutra and sameerana was observed in all the patients from day 1 of niruha basti and daily. Other symptoms like Ruchi, Agnideepti, Rogopashanti are seen towards the end of the treatment course.
- No patients developed ati or heena nirudha lakshana

Observation related to Samyak swedana lakshana:

These symptoms were assessed after 30 minutes of treatment in all the patients daily.

- Symptoms like sweda pradurbhava, mardavata are observed daily in almost all the patients. Sheeta and shoola vyuparama were seen as reduced severity of symptoms daily in all the patients. Stambha and gaurava nigraha was observed in patients

having those symptoms and assesses as reduced severity of symptoms daily.

- No patients developed ati or heena nirudha lakshana

RESULTS

In this, Erandamula niruha basti and Nadi Sweda was done in 20 patients of Gridhrasi. The relevant data were collected before the treatment and patient were assessed on first day of treatment(BT), after the treatment(AT), and after follow up of 16days(AF). The collected data were analysed using Wilcoxon Signed Rank Test.

After a course of yoga basti using erandamula vataghna niruha basti with erandamula kashaya nadi sweda, the analysis of data showed statistically significant improvement in the parameters selected for the study. The different values are given in Table no 4 and 5.

Table 4 Statistical analysis of observed results for subjective parameters

Wilcoxon Signed Rank Test							
Parameters	Negative ranks	Positive Ranks	Ties	Total	Z	P	Inference



	n	MR	SR	N	MR	SR		value	Value		
Stambha											
BT-AT	20	10.5	21	0	.00	.00	0	20	-4.008	.000	HS
AT-AF	1	1	1	0	.00	.00	19	20	-1.000	.317	NS
BT-AF	20	10.6	210	0	.00	.00	0	20	-4.008	.000	HS
Ruk											
BT-AT	20	10.5	210	0	.00	.00	0	20	-4.099	.000	HS
AT-AF	4	2.5	10	0	.00	.00	16	20	-2.000	.046	S
BT-AF	20	10.5	210	0	.00	.00	0	20	-4.038	.000	HS
Toda											
BT-AT	7	4	28	0	.00	.00	13	20	-2.530	.011	S
AT-AF	5	3	15	0	.00	.00	15	20	-2.236	.025	S
BT-AF	9	5	45	0	.00	.00	11	20	-2.739	.006	S
Gaurava											
BT-AT	14	7.5	105	0	.00	.00	6	20	-3.742	.000	HS
AT-AF	0	.00	.00	0	.00	.00	20	20	.000	1.000	NS
BT-AF	14	7.5	105	0	.00	.00	6	20	-3.742	.000	HS
Gruhnati											
BT-AT	12	6.5	78	0	.00	.00	8	20	-3.176	.001	HS
AT-AF	0	.00	.00	0	.00	.00	20	20	.000	1.000	NS
BT-AF	12	6.5	78	0	.00	.00	8	20	-3.176	.001	HS
Aruchi											
BT-AT	20	10.5	210	0	.00	.00	0	20	-4.072	.000	HS
AT-AF	0	.00	.00	0	.00	.00	20	20	.000	1.000	NS
BT-AF	20	10.5	210	0	.00	.00	0	20	-4.072	.000	HS

Table 5 Statistical analysis for observed results for objective parameters

Wilcoxon Signed Rank Test											
Parameters	Negative ranks			Positive Ranks			Ties	Total	Z value	P value	Inference
	n	MR	SR	n	MR	SR					
Pain Disability Questionnaire											
BT-AT	0	.00	.00	14	7.5	105	6	20	-3.638	.000	HS
AT-AF	0	.00	.00	20	10.5	210	0	20	-4.099	.000	HS
BT-AF	0	.00	.00	20	10.5	210	0	20	-4.029	.000	HS
Visual Analog Scale											
BT-AT	19	10	190	0	.00	.00	1	20	-3.963	.000	HS
AT-AF	17	9	153	0	.00	.00	3	20	-4.123	.000	HS
BT-AF	20	10.5	210	0	.00	.00	0	20	-4.130	.000	HS
Greenough And Fraser Scoring											
BT-AT	0	.00	.00	18	9.5	171	2	20	-4.146	.000	HS
AT-AF	0	.00	.00	18	9.5	171	2	20	-3.830	.000	HS
BT-AF	0	.00	.00	20	10.5	210	0	20	-4.006	.000	HS
Functional ability - SugarbakerBarofsky Clinical Mobility Scale											
BT-AT	0	.00	.00	7	4	28	13	20	-2.646	.008	S
AT-AF	0	.00	.00	20	10.5	210	0	20	-4.072	.000	HS
BT-AF	0	.00	.00	20	10.5	210	0	20	-4.472	.000	HS
Functional Disability-Oswestry Disability Assessment											
BT-AT	20	10.5	210	0	.00	.00	0	20	-3.993	.000	HS
AT-AF	9	5	45	0	.00	.00	11	20	-3.000	.003	S
BT-AF	20	10.5	210	0	.00	.00	0	20	-4.179	.000	HS

The overall effect of the therapy is given in Table no 6



Table 6 Overall benefits on completion of the study

Sl No	Improvement	No of patients	
1	Total cure	0	
2	Marked improvement (60-100%)	60-70%	3
		70-80%	8
		80-90%	7
		90-100%	
3	Moderate improvement (40%-60%)	2	
4	Mild improvement (<40%)	0	
5	Unchanged (0%)	0	
6	Deterioration	0	

DISCUSSION

Gridhrasi, a pain dominant disease with involvement of kandara, affected by vata or vata kapha dosha is best treated by basti chikitsa and swedana. The combined treatment may yield best result as observed in the present study.

Stambha, ruk in gridhrasi is caused due to aggravated vata. The Kashaya and kalka used in this basti, like erandamula, satapushpa and ashwagandha are ushna virya in nature. These drugs possess snigdha guna, which further contributes in alleviating the vata. The vata shamana in its moola sthana controls the other vata whereby the symptoms are relived. The ushna guna of swedana helps to relieve the sheeta guna associated in the samprapti. Erandamula is said to be a swedopaga dravya. It is shulahara, shothahara and vedana sthapaka in nature. Swedana reduces stambha, ruk as highlighted in its definition and samyak lakshana. The ushna guna and snigdha guna of Erandamula relieves ruksha, khara and sheeta guna of

vata. Hence there was reduction in the intensity of pain in Gridhrasi. The drugs in Mahamasha taila are vatahara, vatakaphashamana, shulagna and shothahara in effect, whereby adding to the effect of Basti procedure. When the pain and stiffness is reduced, then naturally the range of movement increases. The same is observed in the increased range of SLR in the patients. The oedema around the nerve is relieved by the increased circulation by the swedana. This also attributes to the improvement. Gaurava is the associated symptom in vata kaphaja gridhrasi. Niruhabasti when administered in Yoga basti pattern, is useful in kapha samsrushta vata vyadhis. The ruchi and agnivrudhi as samyak lakshana in niruhabasti indicates its action on jataragni and helps to normalize the agni. When the agni is normalized, the rasa dhatu which is involved in development of gaurava is also normalized. Thus after the treatment, patient feels relief from gaurava which is depicted in the present study. The gaurava is due to sheeta,



guru guna of kaphadosha. Hence, ushmasweda which is mainly indicated in kapha samsrusta condition, is beneficial. The swedana also possess gaurava nigraha as highlighted in its definition. The aruchi also shows the involvement of jataragni. The vata in pakwashaya when normalized by the basti chikitsa, normalises the dependant samaana vata which has anna pachana function. The shamana sweda has the benefit of agni vrudhi. Thus after the treatment, there will be improvement in aruchi. When the pain, stiffness, gaurava reduces, naturally the functional ability of the patient increases as observed in the present study.

The heat applied in the form of Nadi sweda relieves pain by reducing the muscle spasm and oedema around the nerve. The oedema and the inflammatory mediators released, are the cause of pain. The treatment helps to relieve oedema around the nerve and increases the circulation. This helps in washing out of the inflammatory mediators from the site. Hence, the patient feels better after the treatment. The rasayana effect of erandamula and ashwagandha, does healing and nourishes the dhatus and upadhatu which are involved in gridhrasi. By this, the intensity of pain gradually reduces and patient may attain normalcy.

Overall effect of the therapy

In the present study, overall effect of the therapy, 18 showed marked improvement (60%-100%) and 2 patients showed moderate improvement (40%-60%). Erandamula is the main drug which was used for both Niruhabasti as well as Nadi sweda. Basti karma is vatahara, whereas swedana is said to relieve stambha, gaurava, shula, thereby improving the functional ability of the patient. The combined treatment yield marked improvement.

CONCLUSION

As per the result, Erandamula Niruha basti and Erandamula Kashaya Nadisweda can be effectively practiced in the management of Gridhrasi. Even though the swedana used was snigdha, there is no worsening of kapahaja symptoms. Erandamula used in the study is having shulahara, shothahara property. Mahamasha taila contains katu, tikshna aushadhas, which are vatahara and vatakapha shamana in nature. Hence added to the benefit of basti and swedana.

The overall effect of the therapy showed marked improvement in maximum number of patients. The improvement after the treatment, during the follow up was significant.



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