Research Article

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A COMPARATIVE CLINICAL STUDY ON THE EFFECT OF NIRGUNDI TAILA AND NIRGUNDI KASHAYA KATI BASTI IN GRIDHRASI (LUMBAR DISC LESION)

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ABSTRACT

Disc lesion is the most common cause in the complaint of low back ache. Bad postures, sudden jerky movement, lifting heavy weights are the common causes of the disc lesion. The presentation may range from acute low back pain with radiation to the limb to that of weakness, numbness, loss of bladder control. The severity of the pain and other symptoms demand the attention for energetic treatment. Swedana with vata/kapha shamaka and shoola hara drug like Nirgundi in the form of taila and kashaya was selected for the study. This was because of vata/Kapha prakopa prominently presented with soola, stambha and gauravata in Gridhrasi. Present study was a single blind comparative clinical study where in kati basti with Nirgundi taila and Nirgundi kashaya was advised for 7 days in 62 patients (2 dropouts) of Gridhrasi. The signs and symptoms were assessed before and after the treatment based on the grading. Results obtained were analyzed for the statistical significance using appropriate test. The statistical analysis within the group revealed that there is statistically significant improvement in all the parameters except in neurological deficit ($P = 1.000$) and arochaka ($P = 0.172$) in group I whereas in Group II significant improvement observed in all the assessment parameters except in neurological deficit ($P = 1.000$), Gaurava ($P = 0.347$) and Arochaka ($P = 0.356$). The statistical analysis in between the group revealed that there is statistically insignificant difference between the groups in all the parameters except in stambha ($P = 0.039$).

Keywords: Disc lesion, Gridhrasi, Kati basti, Nirgundi taila, Nirgundi Kashaya

INTRODUCTION

Lumbar discs in normal physiology functions as shock absorbers and helps in the mobility of the spine. When they are injured, become the common cause for the restricted mobility. Disc bulge/protrusion, disc prolapsed, extrusion and disc sequestration are the different forms of disc lesion.¹ 95 % of the disc prolapsed takes place through the L₄-L₅ region compressing the L₅ nerve root. L₅-S₁ and L₃-L₄ are affected respectively in rest of the cases.² Low back ache with radiculopathy (Sciatica) is the important outcome of disc lesion. The prevalence of Sciatica caused by disc herniation is about 1 % - 3 %. The highest prevalence of disc herniation is found in the age group of 30-50 years and its prevalence is high in males than females with the male female ratio of 2:1.³ This occurs in the most productive age of human life and is the common threat for the working population. So there is a need for the proper intervention and care. All the above mentioned conditions may be manifested either in vataja or in Vata kaphaja Gridhrasi. There is stambha, Gaurava and shoola which are best relieved by the Swedana chikitsa⁴. As there is vata with or without kapha prakopa, Shamana sweda was selected. The pathogenesis is a local one, so the Ekanga sweda was opted here. This procedure was done at Kati pradesha in the form of Kati basti. Some researches were carried out in Gridhrasi using different tailas for katibasti like Vajigandhadi taila where there was statistically significant improvement in different parameters of Vataja Gridhrasi with $P = < 0.001$.⁵ There was statistically significant improvement with tila taila, in different parameters of Gridhrasi ($P = < 0.001$) except in Aruchi ($P = 1.000$)⁶ In another comparative study, there was statistically significant improvement ($P = < 0.001$) in both the groups using Eranda taila and kashaya in

different parameters of Gridhrasi except in Aruchi ($n = 3$).⁷ In the present study, the drug possessing Vata kapha hara and Shoolahara effect like Nirgundi, *Vitex negundo* (Lin) is selected.⁸ As there is Vata and Vata kapha, the effect of Nirgundi in snigdha (taila) and asnigdha (kashaya) form was compared in this study.

Aims and objectives

To evaluate and compare the effect of Kati basti using Nirgundi taila⁹ and Nirgundi kashaya in Gridhrasi (Lumbar disc lesion)

MATERIALS AND METHODS

Study design: Single blind comparative clinical study

Sample size: 30 patients in each group

Source: sample: Patient suffering from Gridhrasi due to Lumbar Disc lesion was selected from OPD and IPD of S.D.M. Ayurveda Hospital, Udupi, India.

Institutional ethical clearance number: SDMCAU/ACA15/EC27/09-10

Medicine

Nirgundi taila was prepared in S.D.M. Ayurveda pharmacy, Udupi, India.

Nirgundi kashaya was prepared with fresh leaves of Nirgundi collected from the herbal garden of the college.

Inclusion criteria

- Patients with pratyatma lakshana of Gridhrasi
- CT/MRI confirmation of lumbar disc lesion
- Patients between the age group of 16 -70 Years.
- Patients who are fit for Ekanga sweda.

Exclusion criteria

- Patients with the Gridhrasi due to reasons other than Lumbar Disc lesion.
- Patients with the infective, Neoplastic and traumatic conditions of the spine.

Investigations

- Routine hematological investigations like Hb %, TC, DC, ESR and RBS.
- Routine radiological examination of the spine in antero-posterior and lateral view.
- CT or MRI of lumbar spine

Duration of treatment: 7 days.

Duration of follow up: 14 days.

Total duration of study: 21 days

Intervention

The patients fulfilling the inclusion criteria were selected and based on the Permuted block randomization method, randomly patients were allotted to two groups

Group I- Nirgundi kashaya group

Group II- Nirgundi taila group

In all the selected patients, kati basti was done for 7 days.

Poorva karma

- Patient was advised to take laghu bhojana 2 hours before treatment.
- 250 ml of Kashaya/ Taila was made lukewarm by placing it in water bath.
- 200 g of wheat flour was mixed with required amount of water to prepare a soft dough and kept aside for 10 minutes. Then it was kneaded properly and a circular ring was prepared and kept ready. (Same dough was reused for 2 days. Wheat flour was mixed daily to get a required consistency. On the 3rd day fresh dough was used)

Pradhana karma: Group I:

Patient was advised to lie down in the prone posture. Low back area was exposed properly. The prepared circular ring was placed over the kati pradesha so that the most tender part would be the mid point/ covered within the circle. Then both the inner and outer side of the ring was fixed properly to the skin so that there should not be leakage during the procedure. After checking the temperature of the Kashaya, lukewarm Kashaya was filled inside the ring with the help of a spoon. Frequently Kashaya was rotated using finger. Once the temperature decreases, lukewarm kashaya was replaced with the same method. The procedure was continued for 30 minutes.

Group II: The same procedure was followed using Nirgundi taila.

Paschat karma

The taila/kashaya was removed completely with the help of spoon and cotton. Dough ring was removed. Mild abhyanga was done in kati pradesha. Patient was advised to take bath after 15 minutes of rest. The factors which were kept constant for both the groups are mentioned in Table 1.

Assessment Criteria

Each patient was assessed before the treatment, on 3rd day, on 7th day, after 7 days and after 14 days of follow-up on the basis of:-

- Greenough and Fraser scoring method.
- Herron and Turner's rating.
- Sugarbaker and Barofsky clinical mobility scale.
- Oswestry Disability assessment Questionnaire.

Subjective parameters

- Symptoms of Gridhrasi. (For each symptom, grading was given based on which, the assessment is made)
- Symptoms of Samyak swedana.

Objective parameters

Was assessed by maneuvers and signs like:

- Straight leg raising test
- Bowstrings sign (Lasegue's sign)
- Flip test
- Schobers test

OBSERVATION AND RESULTS

In this study, the effect of kati basti with Nirgundi taila and Nirgundi kashaya was assessed in 62 patients suffering from Gridhrasi (Lumbar disc lesion), fulfilling the inclusion criteria. Among 62 patients, drop outs were 2 and from II group. Other observations recorded in 60 patients are mentioned in Table 2, 3 and 4.

Symptoms like – Tandra, Spandana, Muscle waisting and Weakness, Parasthesia were not observed in any patients.

The effect of the Kati basti on different parameters of Gridhrasi (Lumbar disc lesion) was assessed based on the pre (BT), post treatment (AT-7) and follow up (AT-21) scorings. Paired t test was used to compare within groups and Unpaired t test was used to compare in between the groups.

Within the groups

After a course of the kati basti, the analysis of the patients revealed that- in group I- there was statistically significant improvement observed in all the parameters except in neurological deficit and Arochaka. In group II - there is a statistically significant improvement observed in all the parameters except in Neurological deficit, Gaurava and Arochaka. (Table 5)

In between the groups

The comparison of values in between the groups revealed that, there was statistically insignificant difference between the groups in all parameters except in stambha. The different values are mentioned in Table 6.

Table 1: Factors kept constant for both the groups

Factors	Standard used in the study
Preparation of the circle	Using the Godhuma choorna 200 g/ sitting
Circumference of the circle	15 cm
Height of the circle	7-8 cm
Amount of the liquid used for per sitting	250 ml
Range of temperature maintained	40- 45 degree centigrade
Duration of the treatment	30 minutes
Room temperature	30 -32 degree centigrade
Change of Circle	Once in 2 days
Change of Kashaya/Taila	Nirgundi kashaya - Daily Nirgundi taila (Once in 2 days)
Course of the treatment	7 days

Table 2: Observations noted in 60 patients

S. No.	Observation	Maximum	No. of patients	Percentage
1.	Age	Sampoorna stage	28	46
2.	Religion	Hindu	50	83
3.	Marital status	Married	52	86
4.	Occupation	Home maker	18	30
5.	Nidana	Lifting heavy weight	33	55
6.	Duration	> 1 month	21	35
7.	Radiation of pain to	Right lower limb	33	55
8.	Type of Gridhrasi	Vataja	43	71
9.	Mode of onset	Acute	48	80
10.	Course of pain	Intermittent	31	51

Table 3: Associated complaints

	Stambha	Ruk	Toda	Gruhnati	Gaurava	Arochaka
Group I	11	30	7	30	8	7
Group II	9	30	10	30	9	7

Table 4: Range of SLR

	25-30	30-35	35-40	40-45	45-50	50-55	55-60
Group I	1	5	15	6	3	0	0
Group II	1	6	13	8	2	0	0

Table 5: Different values observed within the group analysis

Symptom	Group and (n)	Mean		Diff in Mean	± SD	± SE	t	P
		BT	AT					
Stambha	I (n = 11)	2.091	1.000	1.091	0.302	0.0909	12.00	< 0.001
	II (n = 9)	2.111	1.333	0.778	0.441	0.147	5.292	< 0.001
Ruk	I (n = 30)	1.700	1.100	0.600	0.498	0.0910	6.595	< 0.001
	II (n = 30)	1.733	1.033	0.700	0.466	0.0851	8.226	< 0.001
Toda	I (n = 7)	1.571	0.714	0.857	0.378	0.143	6.000	< 0.001
	II (n = 10)	1.600	1.000	0.600	0.516	0.163	3.674	= 0.005
Gruhnati	I (n = 30)	3.033	2.633	0.400	0.498	0.0910	4.397	< 0.001
	II (n = 30)	2.967	2.667	0.300	0.466	0.0851	3.525	= 0.001
Gaurava	I (n = 8)	1.875	1.375	0.500	0.535	0.189	2.646	= 0.033
	II (n = 9)	1.889	1.778	0.111	0.333	0.111	1.000	= 0.347
Aruchi	I (n = 7)	1.857	1.571	0.286	0.488	0.184	1.549	= 0.172
	II (n = 7)	2.000	1.857	0.143	0.378	0.143	1.000	= 0.356
Magnitude of pain	I (n = 30)	22.933	32.500	-9.567	3.954	0.722	13.252	< 0.001
	II (n = 30)	22.600	31.100	-8.500	6.812	1.244	6.835	< 0.001
Neurological deficit	I (n = 30)	20.000	20.000	0.00	0.000	0.000	0.000	= 1.000
	II (n = 30)	20.000	20.000	0.00	0.000	0.000	0.000	= 1.000
Functional ability	I (n = 30)	16.467	20.033	-3.567	1.357	0.248	14.401	< 0.001
	II (n = 30)	16.633	20.200	-3.567	1.135	0.207	17.210	< 0.001
Functional disability	I (n = 30)	28.133	23.000	5.133	2.193	0.400	12.821	< 0.001
	II (n = 30)	28.233	23.100	5.133	0.973	0.178	28.891	< 0.001

Table 6: Different values observed - in between the group analysis

Symptom	Diff in Mean	t	P	Significance
Stambha	-0.333	-2.225	= 0.039	Significant
Ruk	0.0667	1.027	= 0.309	Insignificant
Toda	-0.286	-1.879	= 0.080	Insignificant
Gruhnati	-0.0333	-0.266	= 0.791	Insignificant
Gaurava	-0.403	-1.733	= 0.104	Insignificant
Arochaka	-0.286	-1.155	= 0.271	Insignificant
Pain	-0.167	-0.872	= 0.387	Insignificant
Neurological deficit	0.000	0.000	= 1.000	Insignificant
Functional ability	-0.167	-0.872	= 0.387	Insignificant
Functional disability	-0.100	-0.268	= 0.789	Insignificant

DISCUSSION

Kati basti

In this study, the variables (from the treatment point) like, temperature of the taila/kashaya, height of the dough, diameter of the circle, duration of the treatment were kept constant in all the patients. The frequency of changing the taila/kashaya to maintain the constant temperature was noted. This was depending on the temperature tolerance of the patients. As in pitta vata/ pitta kapha prakruti, the temperature tolerance was minimum (40⁰ C - 41⁰ C). In such patients, to maintain the specified temperature, the frequency of changing was more, and in kapha or vata pradhana prakruti, the temperature tolerance was comparatively more (44⁰ C - 45⁰C) so the frequency of changing taila/kashaya was less. The frequency of changing taila/kashaya was more in kashaya (7-10 times) than taila (6-9 times). The reason for this may be the influence of the room temperature which is more on kashaya than that of taila.

Samyak swinna lakshana

All the samyak swinna lakshanas are difficult to identify in the patients as kati basti is ekanga, snigdha, mrudu, shamana swedana procedure. However, in this study, duration of the treatment was kept constant as 30 minutes in all the patients. Within that time, some symptoms like Sheeta vyuparama was observed in all the patients. To some extent, Shoola vyuparama, Stambha nigrha, Gaurava nigrha is identified in some of the patients. Sweda pradurbhava was observed after removing the taila/Kashaya.

Clinical study

Swedana is best advised in Gridhrasi when symptoms like Stambha, ruk gaurava are present. As the disease is vata/ vata kapha pradhana, the swedana selected is to be snigdha/Ruksha with vata/vata kaphahara drugs. The drug is vata kapha shamaka; Vedana sthapaka like Nirgundi is selected. The study showed that, there is significant improvement in stambha, ruk, toda, Gruhnati, pain, functional ability and functional disability. This improvement is by the combined effect of the therapy. Here stambha is because of vata with sheeta guna in Vataja and kapha with sheeta guna in vata kaphaja Gridhrasi, where vata kapha shamaka, ushna guna is the treatment like swedana chikitsa¹⁰. The study revealed that, the improvement in Stambha is more in Nirgundi kashaya group than in taila group. As kashaya is asnigdha when compared to taila, we may say that, when stambha is with vata kaphaja Gridhrasi, kashaya kati basti may yield

better result. Here Shoola is because of vata. The improvement may be because of combined effect of swedana which is vata shamaka, shoola nigrha treatment and the drug selected is once again vata shamaka, proved vedana sthapaka and Acharya charaka specifically advised Nirgundi taila in Anila arti. Here the taila group showed better result as the snigdha and taila would have added more benefit. Gruhnati/ sakti kshepa nigrha is due to shoola and stambha and may be by vata or with kapha. This showed improvement more in Kashaya group. This may be because ushna guna with vata kapha hara, vedana sthapaka dravya and ruksha kashaya helps to relieve vata kapha better. Gaurava which is by kapha is associated in vata kaphaja Gridhrasi. So the swedana as vata kaphahara, added with the drug which is again sleshmaanila hara gives benefit. Here the kashaya group showed significant improvement whereas it is insignificant in taila group. This may be because, along with procedure and drugs, the absence of snigdha guna made the kashaya asnigdha which is required when the kapha is involved. In taila group also improvement is noted because of drug and procedural effect in kevala vataja gridhrasi. In arochaka and neurological deficit, no significant improvement was observed as the treatment given is ekanga and mrudu sweda. So the action at the jataragni level and neurological level is difficult to expect.

In between the groups

There is no statistically significant difference in improvement in between two groups in all the parameters except in stambha. The improvements observed in all parameters in both the groups were almost equal. This might be due to the fact that both the procedure and the drug used were vata kapha shamaka and vedana sthapaka. There is statistically significant difference in between groups in stambha, however it was not possible to understand which among these two groups has shown more improvement in the relief of Stambha.

CONCLUSION

Based on the statistical analysis done within the groups, both the groups showed significant improvement in different parameters of Gridhrasi. But based on the 't' value of Gaurava parameter, it may be concluded that kati basti with Nirgundi kashaya may yield better result than Nirgundi taila when kapha is associated. It can be assumed that, Nirgundi taila kati basti may yield a better improvement in kevala vataja Gridhrasi. However it is difficult to give a possible explanation to decide the

responses in specific group possibly due to the less sample size in some parameters.

REFERENCES

1. John Ebnezar. Text book of Orthopaedics, Jaypee brothers medical publishers (P) Ltd. New Delhi; 2006.
2. John Ebnezar. Text book of Orthopaedics, Jaypee brothers medical publishers (P) Ltd. New Delhi; 2006.
3. Antonio Delfini editor, Franco Potacchini, Lumbar disc herniation, Thomas press (India) Ltd, New Delhi; 1999.
4. Charaka, Charaka samhita, commentary by Chakrapani edited by vaidya Jadavaji Trikamaji, Choukambha publication Varanasi, ed; 2009. p. 738:120.
5. R Ramachandra. A critical study of katibasti in Gridhrasi, Department of Kayachikitsa, SDM college of Ayurveda, RGUHS, Bangalore; 2003-04.
6. KT Ramprakash. A clinical study in the management of Gridhrasi with kati basti, Department of Panchakarma, SDM college of Ayurveda, RGUHS, Bangalore; 2007-08.
7. G Greeshma. Comparative study of Katibasti with Erandamoola kashaya and Eranda taila in Gridhrasi, Department of Panchakarma, SDM college of Ayurveda, RGUHS, Bangalore; 2010-11.
8. Dhanwantari Nighantu, commentary by Vd VK Kamath and Dr SD Kamath, Choukambha Sanskrit Pratishthan, Delhi, ed; 2002. p. 858:319.
9. Charaka, Charaka samhita, commentary by Chakrapani edited by vaidya Jadavaji Trikamaji, Choukambha publication Varanasi, ed; 2009. p. 738:622.
10. Charaka, Charaka samhita, commentary by Chakrapani edited by vaidya Jadavaji Trikamaji, Choukambha publication Varanasi, ed; 2009. p. 738:87.

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