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Research Article

A COMPARATIVE CLINICAL STUDY ON THE EFFECTIVENESS OF *RASONA TAILA* AND *GANDHARVAHASTADI ERANDA TAILA* IN *GRIDHRASI* (SCIATICA)

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ABSTRACT

Gridhrasi is a *Vyadhi* characterized by *Stambha* (stiffness), *Ruk* (pain), *Toda* (pricking pain), *Spandana* (twitching) etc. Though it is of two types – *Vataja* and *Vatakaphaja*, *Vata* being the prime cause for this condition has to be tackled to gain relief. *Gridhrasi*, according to its signs and symptoms can be compared to sciatica in modern medical science which is a painful condition in which pain commences from the buttock and radiates into the lower extremity along its posterior or lateral aspect, more or less comprising of the area of distribution of the sciatic nerve. Thus, this study was taken up to evaluate the efficacy of *Rasona taila* and *Gandharvahastadi eranda taila* in the management of *Gridhrasi* (Sciatica). **Methods:** In the present study, 60 subjects diagnosed with *Gridhrasi* were randomly selected and assigned into two equal groups Group A and Group B comprising 30 subjects each. Subjects of Group A received *Rasona taila* 10ml orally in morning before food and subjects of Group B received *Gandharvahastadi eranda taila* 10 ml orally in morning before food, both for duration of 21 days. The data obtained in both the groups were recorded, tabulated and statistically analyzed using appropriate statistical methods. Results: After obtaining all the necessary data, the results were formulated by applying suitable statistical tests. Group A showed better results statistically when compared to Group B. **Conclusion:** *Rasona taila* has better effects than *Gandharvahastadi eranda taila* both clinically and statistically in reducing the signs and symptoms of *Gridhrasi*.

KEYWORDS: *Gridhrasi*, Sciatica, *Rasona taila*, *Gandharvahastadi eranda taila*.

INTRODUCTION

21st century is the era of lifestyle disorders. In this world of modernization, human beings are neglecting their health for achieving various goals and worldly pleasures. Over exertion, improper standing and sitting postures in work place, jerky movements while traveling etc. invariably affects the spinal column leading to low back ache and its related problems like sciatica. Authoritative Ayurvedic texts describe one such disease in the name *Gridhrasi*, a clinical condition characterized by severe pain starting from the low back region and radiating down towards the foot[1].

Lifetime incidence of low back pain is 50 – 70% with incidence of sciatica more than 40%. The prevalence of sciatic symptoms reported in the literature varies considerably ranging from 1.6% in the general population to 43% in a selected working population. This disease not only inflicts pain, but also causes difficulty in walking. It disturbs daily routine and overall life of the patients because of continuous and stretching type of pain[2].

Despite recent progress in modern neurology, an effective cure for sciatica is still not found, except for giving temporary relief through analgesics, or surgical interventions. Keeping this fact in mind, this study has been proposed to bring out a treatment modality which is non–invasive and gives long lasting relief with no adverse effects and with added advantage of cost-effectiveness.

In *Gridhrasi*, mainly *Apana* and *Vyana Vayu* vitiation are observed, but most of the times, *Kapha* remains as associated *Dosha*. So, for treatment of *Gridhrasi*, drug of choice should have *Vatashamaka, Kaphashamaka,* and *Deepana-pachana* and *Shoola prashamana* properties.[3]

Rasona taila is a yoga described in Chakradatta for all *Vatavyadhis*[4]. *Rasona* (*Allium sativum*) is considered as one of the best among *Vataharadravyas* and is used in the treatment of *Vata avaranas*[5]. It is also having *Rasayana* action[6]. *Gandharvahastadi eranda taila* is a well-known formulation having its action on different *Vata rogas*

and also on other *Doshas*[7]. It is a proven *Vatanulomaka* and *Vrishya yoga* and has *Rasayana* action. Hence *Gandharvahastadi eranda taila* has been taken as the control drug for comparative study with *Rasona taila* in the management of *Gridhrasi*.

MATERIALS AND METHODS

Source of Data

Literary source

All the Ayurvedic classics, contemporary Ayurvedic literatures, modern texts and internet sources mentioning about the condition, medicine and administration were reviewed and documented for the intended study.

Sample source

Diagnosed cases of *Gridhrasi* were selected from OPD and IPD of Karnataka Ayurveda Medical College Hospital and also from referral sources and special medical camps conducted for the purpose.

Pharmaceutical source

Rasona taila was selected as the trial drug for study. This was prepared at the teaching pharmacy attached to Karnataka Ayurveda Medical College, Mangalore.

Gandharvahastadi eranda taila was selected as the drug for comparison. This was purchased from Arya Vaidya Sala, Kottakkal.

Raw drugs for preparation were procured from authentic sources in and around Mangalore.

Method of collection of data

Sample size

A minimum of 60 patients fulfilling the diagnostic and inclusion criteria of either gender were selected for the clinical study. They were randomly assigned into two groups A and B with 30 patients each.

Diagnostic criteria

Patient presenting with signs and symptoms of *Gridhrasi*, both *Vataja* and *Vatakaphaja*,

- *Ruk* (Pain) on *Sphik*, *Kati*, *Prishta*, *Uru*, *Janu*, *Jangha* and *Pada.*

Associated with one or multiplicity of these:

- *Toda* (Pricking pain)
- *Stambha* (Stiffness)
- *Spandana* (Twitching)
- *Gaurava* (Feeling of heaviness)
- *Aruchi* (Tastelessness)
- *Tandra* (Stupor)

Inclusion criteria

- Patients of age limit between 20-70 years, irrespective of gender and socio-economic status
- Radiating pain, starting from the gluteal region towards the foot
- Tenderness of the sciatic nerve course
- Positive Straight leg raising sign (<60°)

Exclusion criteria

- Patients with systemic diseases like Diabetes mellitus, hyperlipidaemia, Tuberculosis
- Traumatic lesion in lumbo-sacral region
- Infective, Neoplastic conditions of spine
- Pregnancy and lactation

Investigations

For diagnosis and exclusion criteria:

- Blood Routine Examination (Complete Blood Count)
- Radiological examination of the lumbosacral spine in antero-posterior and lateral position if required
- Urine routine examination. (Albumin, sugar, Microscopic)
- MRI if necessary.

Procedure and design of the study

Included patients were treated as follows:

Group A: Oral administration of 10ml of *Rasona taila* once a day (morning) before food for 21 days with 60 ml of cow's milk.

Group B: Oral administration of 10ml of *Gandharvahastadi eranda taila* once a day (morning) before food for 21 days with 60 ml of cow's milk.

Study duration

Treatment duration: 21 days

Observation period: Before treatment (0th day), after treatment (21st day), and on day of follow up (28th day)

Total study duration: 28 days

Assessment criteria

The improvements in patients are assessed on the basis of subjective and clinical objective parameters.

Subjective Parameters

- *Ruk* (pain)
- *Stambha* (stiffness)
- *Toda* (pricking pain)
- *Spandana* (twitching)
- *Tandra* (stupor)
- *Gaurava* (feeling of heaviness)
- *Aruchi* (tastelessness)

Objective parameters

- Straight Leg Raising Test
- Lasegue's sign
- Lumbosacral spine movements: Flexion, extension, right lateral flexion, left lateral flexion, rotatory movements.

Table 1: Grading for subjective criteria

Subjective criteria	Parameters	Score
Ruk (Pain)	None	0
	Mild	1-3
	Moderate	4-6
	Severe	7-10
Toda (Pricking pain)	Absent	0
	Occasionally pricking sensation	1
	Mild pricking sensation	2
	Moderate pricking sensation	3
	Severe pricking sensation	4
Stambha (Stiffness)	Absent	0
	Mild, occasionally, lasting for <1hr, not interfering with daily routines	1
	Moderate, occasionally, lasting for >1hr, interfering with daily routines	2
	Moderate, oftenly, lasting for >2 hr, interfering with daily routines	3
	Severe, oftenly, lasting for >3 hr, interfering with daily routines	4
Spandana (Twitching)	No twitching	0
	Mild, occasional, found in either group of muscles (buttock, back of thigh, back of leg)	1
	Moderate, occasional, found in any two groups of muscles	2
	Severe, often, present in all 3 groups of muscles	3
Aruchi (tastelessness)	Willing towards all *Bhojana padartha*	0
	Unwilling towards some specific *Ahara*, but less than normal	1
	Unwilling towards some specific *Rasas* (i.e., *Katu*/*amla*/*madhura*)	2
	Unwilling for food, but could take the meal	3
	Totally unwilling for meal	4
Tandra (Stupor)	Absent	0
	Lasting for >2 hr, not interfering with ADL	1
	Lasting for 2-4 hr, interfering with ADL	2
	Lasting for 4-6 hr, interfering with ADL	3
	Lasting for >6 hr, interfering with ADL	4
Gaurava (Heaviness)	Absent	0
	Occasionally feeling of heaviness	1
	Feeling of heaviness, but not affecting ADL	2
	Feeling of heaviness, interfering with ADL	3
	Feeling of heaviness for longer duration	4

Table 2: Grading for objective criteria

Objective criteria	Parameters	Score
SLR Test	More than 90°	0
	71° - 90°	1
	51° - 70°	2
	31° - 50°	3
	Up to 30°	4
Lasegue's sign	Absent	0
	Mildly positive	1
	Moderately positive	2
	Severely positive	3
Lumbosacral Flexion	More than 90º	0
	71º - 90º	1
	51º - 70º	2
	31º - 50º	3
	Up to 30º	4
Lumbosacral Extension	More than 30º	0
	21º - 30º	1
	11º - 20º	2
	Up to 10º	3
Lumbosacral Lateral flexion	More than 30º	0
	21º - 30º	1
	11º - 20º	2
	Upto 10º	3
Lumbosacral Rotation	More than 45º	0
	31º - 45º	1
	16º - 30º	2
	Upto 15º	3

Statistical Analysis

The statistical analysis was done using SPSS software version 20. The data was analyzed statistically as follows:

a) Assessment of subjective parameters within the group– Wilcoxon sign rank test

b) Assessment of subjective parameters between the groups – Mann-Whitney U test

c) Assessment of objective parameters within the group– Paired t test

d) Assessment of objective parameters between the groups – Independent sample t test

e) Assessment of overall improvement in both the groups – Chi square test

OBSERVATIONS AND RESULTS

Higher incidence of *Gridhrasi* was reported in age group of 40-49 years. Out of 60 patients enrolled for the study, 60% are females and 40% are males. 83.3% of patients enrolled for the study belonged to Hindu community. Christians and Muslims comprised only 8.33% each. 40% of the members included for the study were graduates and 36.6% had high school (metric) education. 15% were post graduates and 8.33% had primary education. Majority of patients (51.66%) belonged to middle class family followed by lower middle class (26.66%). 85% of the patients were married as most of them were of middle-aged group.15% were unmarried. Maximum patients were housewives (16.66%). Amongst them history of heavy weight lifting and long standing was common. Majority of the subjects considered for study follow moderate type of work pattern (70%). Remaining 20% does heavy work and 10% have sedentary nature of work. Left lower limb was affected in

51.66% and right lower limb was affected in 48.33%. The chronicity of occurrence of symptoms of *Gridhrasi* in majority (48.33%) were in between 1 to 2 years. 30% had chronicity less than 1 year and 21.66% had chronicity more than 2 years. Total 70% of the total subjects had gradual onset of symptoms of the disease and remaining 30% had sudden onset of symptoms of the disease. 68.33% followed mixed diet and 31.66% were vegetarians. 53.33% of subjects fall under normal index of BMI and 38.33% are overweight. All the patients included in this study were having *Dwandwaja prakruti*. 46.66% patients were having *Vata - Kapha prakr1uti* and 35% had *Vata – pitta prakruti*, whereas 18.33% were of *Pitta – Kapha prakruti*. Out of 60 patients, majority (46.66%) complained of disturbed sleep and 13.33% complained of delayed sleep. 40% had sound sleep. In total, 75% have *Vata Kaphaja* type of *Gridhrasi* and remaining 25% have *Vataja* type of *Gridhrasi*.

RESULTS

Assessments of the conditions were done based on detailed case proforma adopting standard scoring methods of subjective and objective parameters. As the assessment parameters include both qualitative and quantitative data, the two groups were compared for pre and post values using following statistical analysis.

Table 3: Assessment of subjective criteria for *Gridhrasi* in Group A

Symptoms	Group A			
	Mean score		%of relief	p value
	BT	AT		
Ruk	6.37±1.098	3.50±1.253	45.05	0.00
Stambha	2.10±0.607	0.87±0.571	58.57	0.00
Toda	1.07±0.785	0.60±0.563	43.92	0.00
Spandana	0.87±0.819	0.50±0.572	42.52	0.001
Aruchi	1.17±1.117	0.77±0.858	34.18	0.010
Tandra	0.57±0.568	0.23±0.430	59.67	0.002
Gaurava	1.57±1.006	0.80±0.664	49.04	0.00

Table 4: Assessment of subjective criteria for *Gridhrasi* in Group B

Symptoms	Group B			
	Mean score		%of relief	P value
	BT	AT		
Ruk	6.63±0.850	4.37±0.964	34.08	0.00
Stambha	2.07±0.785	0.80±0.551	61.35	0.00
Toda	1.00±0.695	0.57±0.568	43	0.001
Spandana	0.63±0.490	0.50±0.507	20.63	0.046
Aruchi	1.10±0.995	0.80±0.847	27.27	0.003
Tandra	0.30±0.535	0.20±0.407	33.33	0.083
Gaurava	1.97±1.033	1.13±0.681	42.63	0.00

Table 5: Assessment of objective criteria for *Gridhrasi* in Group A

Symptoms	Group A			
	Mean score		% of relief	P value
	BT	AT		
SLR active (Right leg)	20.07±0.583	1.50±0.572	27.53	0.00
SLR active (Left leg)	2.33±0.711	1.47±0.507	36.90	0.00
SLR passive (Right leg)	1.73±0.691	1.17±0.461	32.36	0.00
SLR passive (Left leg)	1.77±0.679	1.37±0.669	22.59	0.00
Lasegue's (Right)	1.47±0.629	0.77±0.568	47.61	0.00

Lasegue's (Left)	1.63±0.556	0.73±0.521	55.21	0.00
Lumbosacral Flexion	2.43±0.504	1.67±0.479	31.27	0.00
Lumbosacral Extension	1.07±0.691	0.73±0.691	31.77	0.001
Lumbosacral Right lateral flexion	1.10±0.607	0.50±0.777	54.54	0.00
Lumbosacral Left lateral flexion	1.17±0.592	0.47±0.571	59.82	0.00
Lumbosacral Rotation (Right)	0.97±0.765	0.47±0.571	51.54	0.00
Lumbosacral Rotation (Left)	0.97±0.765	0.37±0.556	61.85	0.00

Table 6: Assessment of objective criteria for *Gridhrasi* in Group B

Symptoms	Group B			
	Mean score		% of relief	P value
	BT	AT		
SLR active (Right leg)	2.20±0.664	1.70±0.466	22.72	0.00
SLR active (Left leg)	2.10±0.607	1.30±0.466	38.09	0.00
SLR passive (Right leg)	2.07±0.785	1.20±0.664	42.02	0.00
SLR passive (Left leg)	1.67±0.711	1.17±0.592	29.94	0.00
Lasegue's (Right)	1.53±0.507	1.00±0.587	34.64	0.00
Lasegue's (Left)	1.30±0.466	0.83±0.461	36.15	0.00
Lumbosacral Flexion	2.27±0.521	1.53±0.507	32.59	0.00
Lumbosacral Extension	0.63±0.556	0.23±0.430	63.49	0.00
Lumbosacral Right lateral flexion	0.83±0.379	0.20±0.407	75.90	0.00
Lumbosacral Left lateral flexion	0.97±0.183	0.43±0.504	55.67	0.00
Lumbosacral Rotation (Right)	0.70±0.651	0.40±0.498	42.85	0.00
Lumbosacral Rotation (Left)	0.70±0.651	0.40±0.498	42.85	0.00

Table 7: Comparison of subjective parameters after treatment

Symptom	Group	Mean rank	p value
Ruk	A	23.87	0.002
	B	37.13	
Stambha	A	31.33	0.656
	B	29.67	
Toda	A	30.98	0.807
	B	30.02	
Spandana	A	30.25	0.899
	B	30.75	
Aruchi	A	30.13	0.860
	B	30.87	
Tandra	A	31.00	0.756
	B	30.00	
Gaurava	A	26.67	0.061
	B	34.33	

Group A shows significant improvement in *Ruk* than group B which is statistically significant with p value 0.002. Group A also shows better improvement in *Spandana, Aruchi* and *Gaurava* than group B whereas in *Stambha, Toda* and *Tandra*, group B shows better improvement, though not statistically significant with p value >0.05.

Table 8: Comparison of objective parameters after treatment

Symptoms	Mean		P value
	Group A	Group B	
SLR active (Right leg)	1.50±0.572	1.70±0.466	0.21
SLR active (Left leg)	1.47±0.507	1.30±0.466	0.028
SLR passive (Right leg)	1.17±0.461	1.20±0.664	0.031
SLR passive (Left leg)	1.37±0.669	1.17±0.592	0.101
Lasegue's (Right)	0.77±0.568	1.00±0.587	0.235
Lasegue's (Left)	0.73±0.521	0.83±0.461	0.160
Lumbosacral Flexion	1.67±0.479	1.53±0.507	0.079
Lumbosacral Extension	0.73±0.691	0.23±0.430	0.004
Lumbosacral Right lateral flexion	0.50±0.777	0.20±0.407	0.000
Lumbosacral Left lateral flexion	0.47±0.571	0.43±0.504	0.314
Lumbosacral Rotation (Right)	0.47±0.571	0.40±0.498	0.222
Lumbosacral Rotation (Left)	0.37±0.556	0.40±0.498	0.857

Group A showed better improvement in SLR test in comparison with group B for both active and passive Straight leg raising. For Lasegue's test (both right leg and left leg), Group A showed better results than group B. Group B showed better results in all lumbosacral spine movements than group A (except for rotation to left).

Table 9: Overall effect of treatment in both groups

Group	N	Mean	S. D	SEM	P value	Mean difference
A	30	39.119	7.7621	1.4172	0.007	5.7662
B	30	33.353	8.2217	1.5011		

Comparative analysis of the overall effect of the treatments in both the groups was done statistically using independent sample t test. The test shows that the treatment is highly significant in Group A when compared to Group B with p value 0.007.

DISCUSSION

Rasona taila has *Rasona kalka* as *kalka dravya*, *Rasona kashaya* as *Drava dravya* and *Moorchita Tila taila* as *Taila* base. *Rasona* possess *Snigdha*, *Teekshna*, *Guru* and *Sara gunas*. Its *Veerya* is *Ushna* and *Vipaka* is *Katu*. The *Doshaghnata* is *Vata Kaphahara*. *Tilataila* also possess *Snigdha*, *Guru* and *Sara gunas*. It is of *Ushnaveerya* and *Madhuravipaka*. It is *Vatahara* in *Karma* and does not aggravate *Kaphadosha.*

In *Gridhrasi*, the onward movement of *Apana Vayu* is carried out by dissolution of *Kapha* by its *Kashaya rasa* (pungent taste), *Ushna*, *Teekshna* and *Sookshma gunas* and later on, *Apana vayu* is pacified by *Ushna* and *Sookshma gunas*.

Gandharvahastadi Eranda taila has *Gandharvahastadi kashaya* as *Drava dravya*, ingredients of *Gandharvahastadi kashaya* as *Kalka dravya* and *Erandataila* as the *Taila* base. *Eranda* is a preferred drug to treat *Vata* because the *Gunas* of *Eranda* are opposite to that of *Vata*. Therefore, *Eranda* does *Vatashamana* by its *Ushna*, *Snigdha*, *guru* and *Anulomanaguna*. *Eranda* is the chief ingredient of *Gandharvahastadi Eranda taila*. The preparation contains seven more ingredients of which most of them possess *Ushnaveerya*, *Madhurarasa* and *Madhuravipaka*, with which it becomes more potent for pacifying *Vatadosha*. Most of the drugs in this *Taila* are *Vata Kaphahara* in action. In brief the *Dosha karma* of this *Taila* can be concluded as *Vata Kaphahara* and *Vatanulomana*, *Deepana* as *Agnikarma*, *Mala shodhana* as *Malakarma*, *Sookshma Srotogami* as *Srotokarma*, *Shoolaprashamana* and *Ruchyam* as *Lakshanika-karma*.

Rasona taila is found to have better pain-relieving effect compared to *Gandharvahastadi Eranda taila.* Both *Rasona* and *Tilataila* have got *Vata Kaphahara* action and are indicated in different types of shoolas. Moreover, there is no *Shoola* without *Vata* involvement and *Taila* is the best to pacify *Vata*. Therefore, *Rasona taila* has good result in *Ruk*.

All the objective parameters like SLR test, Lasegue's test, lumbosacral flexion, extension, lateral flexion and rotation are primarily based on the range of movements involving the lumbosacral spine. *Vyana vayu* is responsible for the range of movements. In *Gridhrasi*, there is vitiation of *Vyana vayu*. *Rasona taila* helps to pacify this *Vayu* by its *Snigdha, Ushna* and *Teekshna gunas*. *Gandharva-hastadi eranda taila* by its *Ushna, Snigdha, Anulomana* and *Vatahara* property reduces *Shoola* and makes lifting of leg easier and eases the joint movements involving lumbosacral spine.

CONCLUSION

Two *Taila yogas*– *Rasona taila* and *Gandharvahastadi eranda taila* were taken as the trial drug and control drug respectively. Effect of therapy on each and every sign and symptom were considered and critically analyzed. The results thus obtained were subjected to analytical statistical techniques to compare both types of treatments.

Both *Rasona taila* and *Gandharvahastadi eranda taila* showed good results in reduction of signs and symptoms of *Gridhrasi*. *Rasona taila* gave better results in comparison with *Gandharvahastadi eranda taila* clinically. The statistical analysis also supported this by concluding that the improvement after treatment is highly significant in Group A (*Rasona Taila*) when compared to Group B (*Gandharvahastadi taila*).

REFERENCES

1. Agnivesha, Charaka Samhita, with Ayurveda Dipika Commentary of Chakrapanidatta. In, Acharya YT (ed). Reprint edition. Varanasi: Chaukhambha Krishnadas Academy; 2015.p.619
2. Meucci RD, Fassa AG, Faria NM. Prevalence of chronic low back pain: systematic review. Rev saude Publica 2015; 49.
3. Geeta V. Sathavane, Darshana H. Pandya, Madhav Singh Baghel. Effect of Vatari guggulu in the management of Gridhrasi (Sciatica). Ayu. 2015 Jan-Mar; 36(1):41-45.
4. Sharma PV. Cakradatta. 3rd edi. Varanasi: Chaukhambha Publishers; 2002. p.199.
5. Vagbhata, Ashtangahrdayam with Sarvanga sundara and Ayurveda rasayana commentaries. Reprint 10th edition, Varanasi: Choukhamba Orientalia; 2011. p.932.
6. Vagbhata, Ashtangahrdayam with Sarvanga sundara and Ayurveda rasayana commentaries. Reprint 10th edition, Varanasi: Choukhamba Orientalia; 2011. p.933.
7. Vrddhavagbhata, Ashtangasamgraha with Sasilekha Sanskrit commentary. 3rd edition. Varanasi: Choukhambha Sanskrit series; 2012.p.521.

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