

## EFFECT OF PUNARNAVADI CHURNA WITH KATI BASTI IN GRIDHRASI WSR TO SCIATICA- A CLINICAL STUDY

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### ABSTRACT

*Gridhrasi* is a *Shula Pradhana Vata Nanatmaja Vyadhi* with *Ruk* (Pain), *Toda* (Pricking sensation), *Stambha* (Stiffness) and *Sakthi Kshepa Nigrahana* (Inability to extend the thighs) as the cardinal features which relates *Gridhrasi* to *Sciatica*. The prevalence of the disease is influenced by life style and occupation. *Punarnavadi Churna* containing *Punarnava*, *Amruta*, *Shunti*, *Shatahva* etc., drugs indicated in *Gridhrasi* was taken to evaluate its efficacy along with *Kati Basti* using *Ksheerabala Taila*. **Aims and Objectives:** To evaluate the efficacy of *Punarnavadi Churna* with *Kati Basti* in *Gridhrasi* w.s.r. to *Sciatica*. **Methodology:** A total of 20 patients who fulfilled the inclusion criteria were selected. *Kati Basti* with *Ksheerabala taila* for 30 minutes once daily for a period of 7 days and *Punarnavadi Churna* 6 gm twice daily after food with warm water was administered for 15 days. The *Lakshanas* of *Gridhrasi* were observed, recorded and assessed. **Results:** The statistical analysis was done using paired 't' test and Chi-square test which after intervention showed statistically highly significant results ( $p < 0.001$ ) Before Treatment to After Treatment and at Follow Up on all the parameters. **Interpretations and Conclusion:** *Punarnavadi Churna* with *Kati Basti* showed statistically significant results on all the parameters.

**Keywords:** *Gridhrasi*; *Sciatica*; *Punarnavdi Churna*; *Kati Basti*

### INTRODUCTION

Life began from a single organism and became more complex during the process of evolution. Living beings got divided in to vertebrates and invertebrates. The vertebrates stood apart from other group of living beings by having a complex axial skeletal system. Changing of life style of modern human being has created several disharmonies in his biological

system. As the advancement of busy professional and social life, improper sitting posture in offices, factories, continuous and overexertion, jerky movements during travelling and sports – all these factors create undue pressure to the spinal cord and play an important cause for producing low back ache and pain radiating down the leg. Low back pain is the

major cause of morbidity throughout the world affecting mainly the young adults. Life time incidence of low back pain is said to be 50-70% with the incidence of Sciatica more than 40%. The most common disorder, which affects the movement of legs, particularly in the most productive period of life i.e. 30-50 years, is backache problems. Likewise, progressive disorders affecting the pelvis and nearer structures such as Ankylosing Spondylitis, Sacralisation of L5 etc. are also precipitating this condition. In this way, this disease is now becoming a significant threat to the working population.

Ayurveda had identified this problem long back and named it as “*Gridhrasi Vyadhi*”. *Gridhrasi* is a *Rujapradhana Vata Nanatmaja Vyadhi*<sup>1</sup> (Pain predominant disease caused by *Vata*) intervening with the functional ability of low back & lower limbs. It is particularly seen in most active period of life, involving working class people causing hindrance in routine life. Life time incidence of low back pain is said to be 50-70% with the incidence of Sciatica more than 40%.

“*Gridhrasi*”- as the term meaning goes indicates the typical gait that resembles a “*Gridhra*” or “*Vulture*”, which is often seen in *Gridhrasi Vyadhi*. The cardinal signs and symptoms of *Gridhrasi Vyadhi* are *Ruk* (Pain), *Toda* (Pricking sensation), *Stambha* (Stiffness) and *Muhurspandana* (Pulsating sensation) in the *Prushta bhaga* of *Sphik*, *Kati*, *Uru*, *Janu*, *Jangha* and *Pada* in order and *Sakthiskhepana-Nigraha*<sup>2</sup> i.e. restriction in lifting leg. In *Kaphanubandha Lakshanas* like *Tandra*, *Gaurava*, *Arochaka* are present<sup>3</sup>. The similar presentation is identified and explained as Sciatica by contemporary Science.

The term Sciatica means pain in the distribution of the Sciatic nerve. The pain may be dull or sharp in the buttock, spreading down the posterior or lateral aspects of the thigh and leg to the dorsum or lateral aspect of the foot<sup>4</sup>.

In Ayurveda, administration of the *Vatashamaka* oral medicines, *Snehana*, *Swedana*, *Basti*, *Siravyadha* and *Agnikarma* are lines of treatment of

*Gridhrasi*<sup>5</sup>. Out of them, the line of treatment that can be given at O.P.D. level, which is easy for administration and effective, was given.

*Punarnavadi Churna*<sup>6</sup> mentioned by *Bhaishajya Ratnavali* is indicated in *Gridhrasi*.

*Ksheerabala taila*<sup>7</sup> mentioned in *Ashtanga Hridaya Chikitsa Sthana* is one of the best drugs which can be used in *Vata Vyadhi*. It was opted for doing *Kati Basti* so that *Snehana* and *Swedana Guna* will help in reducing the *Lakshanas* of *Gridhrasi*.

## MATERIALS AND METHODS:

### 1) Source of data-

20 patients with *Gridhrasi* coming under the inclusion criteria approaching the OPD and IPD of Sri Kalabyraveswara Swamy Ayurvedic Medical College, Hospital and Research Centre, Bengaluru were selected for the study.

### 2) Diagnostic criteria:

- Patients presenting with the *Lakshanas* of *Gridhrasi*.
- Patients presenting with the signs and symptoms of Sciatica.
- Positive SLR test
- Positive Lasegue’s sign

### a) Inclusion criteria

- Patients with the *Lakshanas* of *Gridhrasi*.
- Patients with the signs and symptoms of Sciatica.
- Patients of either sex from 21-70 years.

### b) Exclusion criteria

- Pregnant women.
- Any other systemic disorder which will interfere the course of treatment.
- Patients with the history of spinal fractures.

### 4) Intervention:

The study was intervened for duration of 21 days which was divided into Before Treatment, After Treatment and Follow up study was done after 7 days.

*Kati Basti* with *Ksheera Bala Taila* for 30 minutes once daily for a period of 7 days and *Punarnavadi*

Churna 6 gm twice daily after food with warm water was given for 15 days.

#### Ingredients of Punarnavadi Churna:

1. *Punarnava* (Boerhavia diffusa)
2. *Amruta* (Tinospora cardifolia)
3. *Shunthi* (Zingibera officinale)
4. *Shatahva* (Anethum sowa Kurz)
5. *Vruddhadaaru* (Argyria speciose)
6. *Shati* (Hedychium spicatum)
7. *Mundi* (Sphaeranthus indicus)

#### 5) Assessment Criteria

*Ruk* (Pain):

Visual Analogue Scale – 0 to 10 where 0 is ‘No Pain’ and 10 is ‘Maximum Pain’

#### *Toda* (Pricking sensation):

No Pricking sensation	0
Mild Pricking sensation	1
Moderate Pricking sensation	2
Severe Pricking sensation	3
Extremely Pricking sensation	4

#### *Sthambha* (Stiffness):

No stiffness	0
Occasionally for 5-10 mts	1
Daily for 10-30 mts	2
Daily for 30-60 mts	3
Daily for more than 1 hr	4

#### *Spandana* (Twitching):

No Spandana	0
Occasionally for 5-10 mts	1
Daily for 10-30 mts	2
Daily for 30-60 mts	3
Daily for more than 1 hr	4

SLR Test:

#### RESULTS:

Symptoms	Phase	MD	SD	SE	t-Value	p-Value	Remarks
<i>Ruk</i>	BT-AT1	3.90	1.63	0.36	11.92	<0.001	HS
	BT-AT2	1.55	1.55	0.34	19.20	<0.001	HS
	BT-AF	0.70	1.60	0.35	21.02	<0.001	HS
<i>Toda</i>	BT-AT1	1.10	0.78	0.24	7.21	<0.001	HS
	BT-AT2	0.50	0.84	0.26	8.99	<0.001	HS

More than 90°	0
>40° <90°	1
<40°	2

#### *Aruchi* (Anorexia):

No Anorexia	0
Mild Anorexia	1
Moderate Anorexia	2
Severe Anorexia	3

#### *Tandra* (Lethargy):

No Tandra	0
Mild Tandra	1
Moderate Tandra	2
Severe Tandra	3

#### *Gaurava* (Heaviness):

No Heaviness	0
Mild Heaviness	1
Moderate Heaviness	2
Severe Heaviness	3

#### Statistical analysis

- To infer the clinical study and draw conclusion paired ‘t’ test was applied for within the group analysis and Chi-square test was applied for assessment of Lasegue’s Sign within the group.
- The corresponding p value was noted, and the obtained results were interpreted as-

Interpretation	p value
Insignificant	>0.05
Significant	<0.05
Highly significant	<0.01, <0.001

	BT-AF	0.30	0.84	0.26	9.74	<0.001	HS
Stambha	BT-AT1	1.40	0.66	0.21	9.48	<0.001	HS
	BT-AT2	0.90	0.52	0.16	14.98	<0.001	HS
	BT-AF	0.50	0.73	0.23	12.41	<0.001	HS
Spandana	BT-AT1	1.50	0.97	0.30	4.87	<0.001	HS
	BT-AT2	0.60	1.26	0.40	5.99	<0.001	HS
	BT-AF	0.40	1.17	0.37	6.99	<0.001	HS
Tandra	BT-AT1	0.66	0.51	0.21	6.28	<0.001	HS
	BT-AT2	0.33	0.51	0.21	9.45	<0.001	HS
	BT-AF	0.16	0.40	0.16	11.95	<0.001	HS
Gourava	BT-AT1	1.42	0.89	0.34	3.34	<0.001	HS
	BT-AT2	1.00	0.53	0.20	8.44	<0.001	HS
	BT-AF	0.42	0.89	0.34	6.27	<0.001	HS
SLR Test	BT-AT1	0.65	0.67	0.15	5.66	<0.001	HS
	BT-AT2	0.05	0.51	0.11	12.69	<0.001	HS
	BT-AF	0.10	0.50	0.11	13.33	<0.001	HS

### Lasegue's Sign:

Before Treatment – After Treatment 1					
Phase	Present	Absent	$\chi^2$ Value	P - Value	Remarks
BT	20	0	7.04	<0.01	HS
AT1	14	6			
Before Treatment – After Treatment 2					
Phase	Present	Absent	$\chi^2$ Value	P - Value	Remarks
BT	20	0	26.66	<0.001	HS
AT2	4	16			
Before Treatment – After Follow Up					
Phase	Present	Absent	$\chi^2$ Value	P - Value	Remarks
BT	20	0	36.18	<0.001	HS
AF	1	19			

## DISCUSSION

### Probable mode of action of Punarnavadi Churna:

**On Ruk:** Gridhrasi is a Shoola Pradhana Vataja Nanatmaja Vyadhi. When it is purely Vatika it is severe and continuous but when associated with Kapha it may be less severe. Punarnavadi Churna showed good improvement in Ruk probably due to the Amapachaka, Agnivardhaka & Shoolahara properties.

**On Toda:** Toda is seen in both Vataja and Vata-Kaphaja Gridhrasi. Toda explains the nature of pain. It means pricking sensation and is caused by the vitiation of Vata Dosha. Punarnavadi Churna

having Vata-Kaphahara Guna relieves Amashaya Sthita Vata & thereby relieves Toda.

**On Stambha:** Stambha is mainly caused due to Kupita Kapha and Vata. Stambha manifests due to the impairment of the Sheeta Guna and is found in both Vataja and Vata-Kaphaja Gridhrasi. Punarnavadi Churna contains drugs like Shunthi, Guduchi, Shati and Munditika has Katu Rasa and Ushna Guna helps to relieve Stambha.

**On Spandana:** In Gridhrasi, Kandaras which are the Upadhatu of Rakta are afflicted by Vata Dosha which results in Spandana. Impairment in the Chala, Laghu and Sukshma Guna of Vata will lead to the

manifestation of this symptom. *Bhavamishra* uses the word *Sphurana* for *Spandana*. *Punarnavadi Churna* contains *Shunthi*, *Guduchi* has *Guru*, *Snigdha Guna* and *Madhura Vipaka* helps to reduce the *Chala*, *Laghu* and *Sukshma Guna* of *Vata* thereby reducing *Spandana*.

**On Tandra:** *Tandra* is the *Lakshana* of *Vata-Kaphaja Gridhrasi* with *Indriyarthasamarthata*. The inability of the sense organs to grasp their subject happens when a person suffers from severe pain. In *Gridhrasi* due to *Shula* the patient presents with *Tandra*. *Punarnavadi Churna* contains drugs like *Shunthi*, *Guduchi*, *Shati* and *Munditika* having *Katu Rasa* and *Ushna Guna* acts as *Vata-Kaphahara* and helps to relieve *Tandra*. However, the drugs *Shunthi*, *Guduchi*, *Shati* and *Munditika* were more beneficial in relieving *Tandra*.

**On Gourava:** *Gourava* is seen because of the impairment of the *Guru*, *Snigdha*, *Sheeta* and *Manda Gunas* of *Kapha*. Patient feels heaviness all over the body especially in the legs. This further makes the movement of the legs difficult. *Punarnavadi Churna* containing *Punarnava*, *Amruta*, *Shatapushpa* and *Vruddhadaaru* possess *Laghu* and *Ushna gunas* which reduce *Kapha Dosha* and helps to relieve *Gourava*.

**On SLR Test:** *Sakti Utkshepa Nigrahana* is the *Lakshana* of *Gridhrasi* as explained by *Acharya Vagbhata* and *Sushruta*. The *Sleshaka Kapha* in between *Kasheruka* undergoes *Kshaya* and *Karshnyata* due to *Vata Prakopa*. *Sakthnaha Kshepam Nigrahanyat*, *Utkshepana*. i.e., lifting of the legs is affected in *Gridhrasi* which can be correlated with SLR Test. It is caused due to the affliction of *Kandaras* by the vitiated *Vata Dosha*. Impairment in the *Chala*, *Laghu* and *Sukshma Gunas* of *Vata* will lead to the manifestation of this symptom. *Punarnavadi Churna* containing *Shunthi*, *Guduchi* having *Guru*, *Snigdha Guna* and *Madhura Vipaka* helped in reducing *Chala*, *Laghu* and *Sukshma Guna* of *Vata* when used for a longer duration of 15 days thereby improving SLR Test.

**On Lasegue's Sign:** The stretch on the Sciatic nerve is increased when the foot is dorsiflexed in Straight Leg Raise (SLR), this is an indication of underlying herniated disc. Improvement in Lasegue's Sign indicates the possible reduction in the compression of herniated disc over the Sciatic nerve. *Punarnavadi Churna* having *Vata-Kaphahara Guna* relieves *Amashaya Sthita Vata* & thereby relieves *Shoola*. Once *Shoola* was reduced, there was an improvement noticed in Lasegue's sign.

#### **Probable mode of action of Kati Basti:**

The *Swedana* property of the *Kati Basti* has the function of *Shulahara*, *Sheetahara*, *Stambhahara*, *Gourava Nigraha Gunas*. In *Gridhrasi*, *Shula* and *Stambha* are the main *Lakshanas*. The *Stambha* of the *Sandhi* is due to the *Sheeta Guna* of *Vata*, this will be neutralized by the *Ushna Guna*.

As *Ksheera Bala Taila* is used as *Sneha Dravya*, it acts as a media in case of *Kati Basti* it further facilitates in pacifying *Vata* thereby reducing the *Lakshanas* of *Gridhrasi*.

The application of *Swedana* by Luke warm oil promotes the local circulation and metabolic activities and opens the pores of the skin to permit the transfer of the medicaments and nutrients towards the needed sites and elimination of the vitiated *Doshas*. There will be *Kapha Kshaya* in the *Sandhi* due to *Agantuja Vata*. Though the *Sneha Dravya* possesses similar *Gunas* of *Kapha*, it neutralizes *Vata Dosha* on one hand and on the other hand nourishes the *Sthanika Kapha Dosha* and thus helps in the *Samprapti Vighatana*.

Application of heat through *Sneha* causes improvement in blood supply and activates the metabolic process thereby causing relaxation of the muscles and tendons in the lumbar region. By the specific position that is given to the patient during the treatment i.e. Supine position with a support to the low back region there will be relaxation of the surrounding muscles and the normal spine curvature is maintained which results in the increase of the disc space and reduce disc bulge thereby reducing the pain in

the Sciatica. Later the condition can be maintained by the regular practice of exercises.

## CONCLUSION

The present study was conducted on *Gridhrasi* to know the efficacy of *Punarnavadi Churna* with *Ksheerabala Taila* for *Kati Basti*. *Gridhrasi* is a *Shoola Pradhana Vataja Nanatmaja Vyadhi* which is classified into *Vataja* and *Vata-Kaphaja Gridhrasi* and is correlated to Sciatica based on the Etiopathogenesis and Symptomatology. In the present study, occupation and improper posture played a key role in the manifestation of this disease. *Snehana* and *Swedana* are the general line of management of *Vata Vyadhi*, *Kati Basti* having both *Snehana* and *Swedana* effect acts as *Vatahara* and *Shoolahara*. *Punarnavadi Churna* with its *Amapachaka*, *Agnivardhaka*, *Shoolahara*, *Vata-Kaphahara* and other properties has showed better improvement in the condition of the patients especially on *Sthambha*, *Tandra* and SLR Test. No adverse effects were observed during the study. To draw specific conclusion further studies can be taken along with the administration of *Vaitarana Basti* with *Punarnavadi Churna*.

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