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**IJAPC**

e ISSN 2350 0204

**VOLUME 12 ISSUE 1 2020**

GREENTREE GROUP PUBLISHERS (GGP)



## A Comparative Clinical Study on the Effect of *Kativasti* and *Rasnadi Gutika* in *Gridhrasi* w.s.r. to Sciatica Syndrome

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### ABSTRACT

Low back pain is a symptom which is present in 40% of patients of which 10% cases experience pain which is radicular in origin and convert into Sciatica syndrome. *Gridhrasi* is a disease in which the pain starts from buttocks and radiates towards the legs thus cripples the life of an individual. The present study was conducted at Institute of Post Graduate Ayurvedic Education & Research, Shyamadas Vaidya Shastra Pith Hospital on 60 patients of *Gridhrasi* which was divided into three groups. Group A: 20 patients treated with oral intake of *RasnadiGutika* in the dose of 1g twice daily after meal for 30 days. Group B: 20 patients treated with *Kativasti* and *PatraPindaSwedana* for 30 days and Group – C: 20 patients treated with oral administration of *RasnadiGutika* in the dose of 1g twice daily after meal along with *Kativasti* and *PatraPindaSwedana* with *Erandataila* for 30 days. The result was found to be highly significant in group C. Drugs like *Rasna* and *Guggulu* plays an important role in subsiding the symptoms of this disease as they possess *sothahara*, *vedananasaka* property and *Kativasti* and *PatraPindaSwedana* is the key for overcoming from this type of diseases.

### KEYWORDS

*Gridhrasi*, *Kativasti*, *PatraPindaSwedana*, *RasnadiGutika*, *Radicular*



**Greentree Group Publishers**

Received 21/1/18 Accepted 28/12/19 Published 10/01/2020



## INTRODUCTION

All these factors leads to low back pain which is a common complain of an individual now-a-days.

*Gridhrasi*, a type of *vatavyadhi* is one of the most common problem not only in India but also all over the world.

It is caused due to aggravated *vayu* and pain starts from the *Sphikapradesha* and radiates towards the legs in chronological order thereby hampering the daily activities of an individual.

The symptoms of *Gridhrasi* mentioned in Ayurvedic texts are *Ruka* (Pain radiating from *Kati pradesha* to *pada anguli*), *Stambha* (Stiffness of the affected joints), *Toda* (Pricking sensation of the affected site), *Muhuspandana*<sup>1</sup> (Occasional twitching sensation in the legs) etc. According to *Charaka*, it is one of the eighty types of *vatavyadhi*. In *Astanga Hridayaa* symptom “*Sakthiutkshepa Nigrahanti*”<sup>2</sup> is described which is similar to Straight Leg Rising Test (SLR). The symptoms of *gridhrasi* can be simulated with Sciatica Syndrome, a physical complain in which people cannot stand, walk or sit properly due to continuous radicular pain in the affected limbs. The prevalence of this disease ranges from 11% - 40%. In Western system of medicine, the management of sciatica includes

administration of analgesics, Epidural steroid injections, periradicular infiltration and surgical interventions<sup>3</sup> at higher costs. While Ayurveda mentioned *Snehana*, *Swedana*, *Siravedhana*<sup>4</sup>, *Agnikarma*, *Vasti Karma* and *bhesaja prayoga* for this disease which are simple, safe and effective remedies.

Although the disease is not life threatening, it cripples the life of an individual. Chances of recurrence of this disease are high even after surgery but special attention has been advocated in Ayurveda. The development of new harmless drug of plant origin which is cheap and easily available for the treatment of this disease is essential.

## AIMS & OBJECTIVES

The current research work was carried out with the following aims and objectives:

- To assess the efficacy of *Kativasti* and *Patra Pinda Swedana* and *shaman chikitsa* in the management of *gridhrasi*.
- To compare the effect of all the therapies clinically.
- To bring out quick, safe and effective remedy for the concerned disease.

## MATERIALS & METHODS

Ethical Committee Approval  
Number SVP/2177/2016



For this study a series of 60 patients were selected from the OPD and IPD of Institute of Post Graduate Ayurvedic Education & Research at Shyamadas Vaidya Shastra Pith Hospital, 294/3/1 A.P.C Road, Kolkata-700009. The patients were questioned, examined and investigated thoroughly by following the inclusion and exclusion criteria.

The patients were divided into three groups with 20 patients in each group.

#### **Inclusion Criteria**

1. Presence of *Ruka* (Pain), *Toda* (Pin pricking sensation), *Stambha* (Stiffness) of legs.
2. Origin of pain from the hip region.
3. Pain radiating from the hip to thigh, knee, leg and foot posteriorly.
4. Tenderness of sciatic nerve.
5. Extension of legs upto 45<sup>0</sup> in S.L.R test.
6. Patients of both sexes between the age group of 40 – 60 years of age.

#### **Exclusion Criteria**

1. Patients below 40 years and above 60 years of age.
2. Patients suffering from Hypertension, Uncontrolled Diabetes Mellitus, Ischaemic Heart Disease and other systemic disorders.
3. Patients suffering from CA of Lumbar Spine.
4. Patients suffering from tuberculosis of lumbar spine.

5. Patients having the history of Pregnancy and lactation.

6. Patients suffering from other contagious diseases.

#### **Informed Consent**

In a specified Research format, the consent of patient with signature and date was taken in three languages viz. Hindi, English, Bengali. The content of the consent form was explained to the patient in their own language in details.

#### **Diagnostic Criteria**

##### **a) Subjective:**

From clinical signs and symptoms.

Positive Straight Leg Rising Test from 45<sup>0</sup> – 90<sup>0</sup>.

**b) Objective:** From haematological, biochemical, serological and radiological investigations.

#### **Preparation of Medicine**

All the components of the trial drugs were collected. *Guggulu* was undertaken for *sodhana* in *triphala kwatha* [Fig: 2]



**Figure 2** Guggulu Sodhana with Triphala Kwatha



for overnight. The next day it was dried under direct sunlight. It was made into powder form. *Rasna Panchanga* was also made in powder form. In *khalvayantra* the powder of both drugs were mixed and processing was given with *goghrita*. Then it was made in the form of pill in the dose of 1 *masa* (1 gram). The pills were kept under direct sunlight for seven days. After that the pills were kept in a polythene packet and given to individual patient.

**Dosage** : 1 gram (2 pills) twice daily after meal.

**Vehicle** : Lukewarm water.

### **Grouping of Patients**

60 patients of *Gridhrasi* (sciatica syndrome) were divided into three groups i.e Group – A, Group – B and Group – C.

Group – A : 20 patients were given *Rasnadi Gutika* [Fig – 1] in the dose of 1g orally after meal with lukewarm water for 30 days .



**Figure 1** Rasnadi Gutika

Group – B : 20 patients were treated with *Kativasti* [Fig : 3] and *Patra Pinda Swedana* [Fig :4] with *Eranda taila* for 30 days.



**Figure 3** Patient Duing Kativasti



**Figure 4** Pottali for Patra Pinda Swedana

Group – C : 20 patients were treated with oral administration of *Rasnadi Gutika* [Fig:1] along with *Kativasti* [Fig : 3] and *Patra Pinda Swedana* [Fig : 4] with *Eranda taila* for 30 days.

### **Assessment Criteria**

The patients were assessed on the basis of relief of signs and symptoms. To assess the effect of therapy, all the signs and symptoms were aligned a scoring pattern following Visual Analog Scale depending upon their severity.



<b>Ruka(Pain)</b>	* No Pain	: 00
	* Occasional Pain	: 01
	* Mild Pain	: 02
	* Moderate Pain	: 03
	* Severe Pain	: 04
<b>Stambha(Stiffness)</b>	*No Stiffness	: 00
	* Stiffness for 5 – 10 minutes	: 01
	* Stiffness for 10 – 30 minutes	: 02
	* Stiffness for 30 – 60 minutes	: 03
	* Stiffness more than 60 minutes	: 04
<b>Toda (Pricking Sensation)</b>	* No Pricking Sensation	: 00
	* Occasional Pricking Sensation	: 01
	* Mild Pricking Sensation	: 02
	* Moderate Pricking Sensation	: 03
	* Severe Pricking Sensation	: 04
<b>S.L.R Test</b>	* Extension of legs upto 90°	: 00
	* Extension of legs between 80° – 90°	: 01
	* Extension of legs between 60° – 80°	: 02
	* Extension of legs between 45° – 60°	: 03
	* Extension of legs below 45°	: 04



### Statistical Evaluation of the Results

The data obtained from this study were analyzed statistically. The value were expressed as mean  $\pm$  SEM (Standard

Error of Mean).The data were analyzed by paired ‘t’ test. Highly significant level ( $p < 0.001$ ) was considered and interpreted statistically

## RESULT

**Table 1** Demographic Profile of patients of Gridhrasi

Parameter	Demographic Profile	Number of Patients	Percentage
Age	40 – 50 years	41	68.34%
Sex	Male	38	63.34%
Religion	Muslim	38	63.34%
Occupation	Housewives	22	36.67%
Socio – economic Status	Middle Income	41	68.34%
Habitat	Urban	40	66.67%
SharirPrakriti	Vata – Kapha	39	65%
ManasPrakriti	Raja – Tama	30	50%
Agni	Mandagni	22	36.67%
Bowel	Constipated	33	55%

**TABLE 2** Effect of Rasnadi Gutika on Group A patients of Gridhrasi

Sl. No.	Symptom of Patients (n = 20)	Mean Score		% of Relief	SD	SE	‘t’ Test	P value
		BT	AT					
1	Ruka	3.67	3.11	15.26%	1.04	0.24	2.28	< 0.05
2	Stambha	3.67	3.00	18.25%	1.13	0.26	2.51	< 0.05
3	Toda	3.56	2.88	19.10%	1.18	0.27	2.48	< 0.05
4	SLR Test	3.67	2.83	22.88%	1.42	0.33	2.48	< 0.05

n= Number of patients, SD = Standard Deviation, SE = Standard Error, BT = Before Treatment, AT = After Treatment, ‘t’ = Paired ‘t’ test, P = Level of significance.

**TABLE 3** Effect of Kativasti and Patra Pinda Sweda on Group B patients of Gridhrasi

Sl. No	Symptom Of Patients (n = 20)	Mean Score		% of Relief	SD	SE	‘t’ Test	P value
		BT	AT					
1	Ruka	3.67	2.78	24.25%	1.17	0.27	3.26	< 0.01
2	Stambha	3.61	2.83	21.61%	1.31	0.31	2.53	< 0.05
3	Toda	3.67	2.7	24.65%	1.45	0.34	2.58	< 0.02
4	SLR Test	3.72	2.17	41.67%	0.98	0.23	6.71	< 0.001

n= Number of patients, SD = Standard Deviation, SE = Standard Error, BT = Before Treatment, AT = After Treatment, ‘t’ = Paired ‘t’ test, P = Level of significance.



**TABLE 4** Effect of Rasnadi Gutika with Kativasti and Patra Pinda Sweda on Group C patients of Gridhrasi

Sl. No	Symptom of Patients (n = 19)	Mean Score		% of Relief	SD	SE	't' Test	P value
		BT	AT					
1	<i>Ruka</i>	3.68	1.05	71.46%	0.76	0.17	15.11	< 0.001
2	<i>Stambha</i>	3.78	1.16	69.31%	1.01	0.23	11.43	< 0.001
3	<i>Toda</i>	3.68	0.95	74.18%	0.80	0.18	14.89	< 0.001
4	SLR Test	3.74	0.79	78.87%	0.70	0.16	18.30	< 0.001

n = Number of patients, SD = Standard Deviation, SE = Standard Error, BT = Before Treatment, AT = After Treatment, 't' = Paired 't' test, P = Level of significance.

## DISCUSSION

*Gridhrasi* is a painful condition in which the person cannot sit or walk properly. It hampers the normal activities of an individual. All the signs and symptoms of *gridhrasi* resembles with Sciatica syndrome in western system of medicine. Clinically, it was observed that the *nidana* of *vatavyadhi* such as *abhighata*, *ruksha*, *alpaahara*, *dhatukshaya* seem to be the cause of *gridhrasi*. *Vata* is the main factor for producing the disease. The lakshana of *gridhrasi* described starts from *Sphika* (buttocks), *kati* (waist), *pristha* (back), *uru* (thigh), *janu* (knee), *jangha* (ankle), *pada* (legs) involved in a chronological order which resemble with the affected course of sciatic nerve. The irritation of pathology at the lumbo-sacral joint that underlines specifically the back of thigh, knee, legs which is the location of sciatic nerve and its branches.

The maximum cases were between 40 – 50 years of age group (total incidence were

68.34%) [Table – 1] which reveals that the highest incidence occurs in 4<sup>th</sup> – 5<sup>th</sup> decade of life which is the initial age of *vataprakopa*. Lack of nutrients and stress leads to *dhatukshaya* which causes progressive degenerative changes. The males i.e. 63.34% [Table – 1] were the maximum sufferer due to more strenuous life and heavy work. Maximum number of patients were Muslims i.e. 63.34%, [Table 1] which is due to consumption of high calorie protein diet which leads to bowel and bladder dysfunction, thus precipitating the pain. Highest incidence was observed in housewives i.e. 36.67% [Table – 1] due to prolonged working in abnormal posture for long periods which causes wear and tear of the spine and their pain is exacerbated by movements such as twisting, bending, extrusion<sup>6</sup> and sitting. Socio-economic distribution reveals that 68.33% patients [Table – 1] were from middle class population as they are involved in strenuous life, lack of health awareness, which leads to *dhatukshaya* and causes progressive degenerative change. Habitat distribution reveals that 66.67% patients [Table – 1]



were from urban area as the study was conducted in urban area and the individuals residing in these areas were involved in fast lifestyle and hazards associated with industrialization.

All the components of the trial drug formulation (*Rasnadi Gutika*) possess *Katu* and *Tikta rasa*, *Ushna virya*, *KatuVipaka*<sup>7</sup>. *Eranda taila* possess *Madhura Vipaka* and *Madhura*, *Tikta*, *Kashaya rasa*. Hence, mitigate *vata* and *kapha dosha* which is involved in *Gridhrasi roga*. The procedure i.e. *Kativasti* and *Patra Pinda Swedana* reduces the pain and stiffness by causing sweating and bringing lightness to the affected part i.e. lumbo-sacral region, thereby increasing the tone of the muscles within the body. Overall, the trial drug formulation and therapeutic procedure alleviate the *Ruka* (Pain), *Stambha* (Stiffness) and *Toda* (Pricking Sensation) of *gridhrasi*.

## CONCLUSION

Oral administration of *Rasnadi Gutika* along with *Kativasti* and *Patra Pinda Sweda* together acts significantly better [Table – 4] as compared to oral administration of *Rasnadi Gutika*, *Kativasti* and *Patra Pinda Sweda* alone. *Kativasti* and

*PatraPinda Sweda* has a definite role in the management of *gridhrasi*. *Kativasti* comes in direct contact with the painful area which mitigates pain. As the site of *samprapti* is *Kati pradasha*, thus local *snehana* and *swedana* gives quick relief by acting at the site of *samprapti*. *Kativasti* increases the temperature of the connective tissue such as skin, muscles, tendons, ligaments or articular capsule and increases the elasticity in that region. *Patra Pinda Sweda* relieves pain, stiffness and pacifies the morbidity of *vata*, *pitta* and *kapha* in the affected joints, muscles, soft tissues and causes sweating which brings lightness to the affected part and increases blood circulation to the affected area; gets rid of imbalance of *dosa*, strengthens the muscles in the area, helps release of toxins and reduces inflammation which increases the tone of the muscles and improves the working of tissues within the body. *Rasnadi Gutika* contains *Rasna* and *Guggulu* which alleviate *vata* and *kapha*. Due to *guru guna* and *ushna virya* *Rasna* pacifies *vata* and *kapha*. *Guggulu* also has *Kapha-vatashamaka* and anti-inflammatory property by its *ushnavirya* and is proved to be *vedanashamaka*.



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