

## A COMPARATIVE STUDY ON EFFECT OF CHINCHALAVANA PINDASWEDA AND PATRA PINDASWEDA IN GRIDHRASI (SCIATICA)

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### ABSTRACT

Low back pain is a common problem affecting maximum population of working age affecting socially and financially. It affects men a little more than women and is most frequent in the working population, with the highest incidence seen in between 30- 60 years. In *Ayurveda*, *Gridhrasi* is one among 80 types of *Vatananatmaja Vyadhi*, known from *Samhita Kala* itself. *Gridhrasi* is showing better improvement with *Sthanika Swedana*. So, here it's an attempt to manage *Gridhrasi* with *Chinchalavana Pindasweda (CLPS)* and compare its efficacy with *Patra Pindasweda (PPS)*. Availability of fresh leaves is a major problem today and therefore attempt is made to replenish it with *Chincha* fruit, because of its availability, easy storage and cost effectiveness. The main objective of this study is to evaluate the effect of *Chinchalavana Pindasweda* in *Gridhrasi*. After study, both the groups showed equal efficacy in reducing signs and symptoms of *Gridhrasi*. *PPS* was at par with *CLPS* on all assessment parameters, but in *Ruk*, *Toda* and *Stambha* by considering mean rank *CLPS* group showed better results.

**Keywords:** *Gridhrasi*, *Chinchalavana Pindasweda*, *Patra Pindasweda*.

### INTRODUCTION

*Ayurveda*, is a science that is widely acknowledged to be the world's oldest system of health. It's not only health care system, but considered as science of healing that enhances longevity. *Panchakarma* is unique speciality of *Ayurveda* which deals with purification and detoxification (*Shodhana Karma*) of the body. In *Panchakarma*, *Snehana* and *Swedana* are used as *Poorvakarma* as well as *Pradhanakarma* for treating different diseases. *Swedana* is one of the *Upakrama*, which can be adopted for the management of *Vata Vikara*<sup>1</sup>. It is a specific treatment for *Vata-Kapha Pradhana* disorders<sup>2</sup> and can be performed by

using various methods. *Gridhrasi* is one of the *Shoola Pradhana Vatavyadhi* where altered function of *vata* affects *Gridhrasinadi* (sciatica nerve). The cardinal sign and symptoms of *Gridhrasi* are *Ruk* (Pain), *Toda* (Pricking sensation), *Stambha* (Stiffness) and *Muhurspandana* (Involuntary Movements) in the *Sphik*, *Kati*, *Uru*, *Janu*, *Jangha* and *Pada*<sup>3</sup> in an order and *Sakthi utkshepa-nigraha*<sup>4</sup> i.e. restricted lifting of the legs.

*Patra Pindasweda* is a well-known treatment for many *Vatavikaras*. The fresh drugs required for *Patra Pindasweda* are not easily available throughout the

year. *Chinchaphala* in external use is *Shoolahara*, *Stabdahara*, *Shothahara*<sup>5</sup> and available all over and can be stored easily. *Saindhava* pacifies all three *Doshas* and does not cause burning sensation. Hence, this study aims to test the efficacy of *Chinchalavana Pindasweda* in *Gridhrasi* with the established treatment protocol of *Patra Pindasweda* as an easy and alternative treatment approach.

Thus considering the factors like cost effectiveness, availability of the drug and its storage and to provide a better modality of treatment for *Vata-kaphaja* disorders, there is a need to evaluate the efficacy of *Chinchalavana Pindasweda* compared with *Patra Pindasweda*, thus giving one standard line of treatment for such cases.

### Materials and methods:

#### Source of data:

□ 79 patients who attended the OPD and IPD of Sri Dharmasthala Manjunatheswara College of Ayurveda and Hospital, Hassan, having the complaints of Low backache radiating to leg were screened.

□ 43 patients who fulfilled the inclusion criteria of *Gridhrasi* from OPD and IPD of Sri Dharmasthala Manjunatheswara College of Ayurveda and Hospital, Hassan were selected.

#### Criteria for diagnosis:

Diagnosis was made on the basis of

- Patients having signs and symptoms of *Gridhrasi* like *Stambha*, *Ruk*, *Toda* and *Spandana* starting from *Sphik* and extend through *Kati*, *Prishta*, *Uru*, *Janu*, *Jangha*, *Pada* in an order.

Positive Straight Leg Raising test

#### Inclusion criteria:

- Positive Straight Leg Raising test (30 to 70°)

- Patients, who are fit for *Swedana*
- In between the age group of 20-50 years
- Patients having signs and symptoms of *Gridhrasi* like *Stambha*, *Ruk*, *Toda* and *Spandana* starting from *Sphik* and extend through *Kati*, *Prishta*, *Uru*, *Janu*, *Jangha*, *Pada* in an order.
- Patients who are willing to participate and sign the informed consent form.

#### Exclusion criteria:

- Uncontrolled Diabetes Mellitus & Hypertension
- Systemic disorders like Chronic Heart Disease, Chronic Renal Failure and Chronic Liver Disease
- Signs of systemic infections
- History of HIV, HbSAg, Carcinoma and Tuberculosis
- Pregnant women and lactating mother
- History of major trauma causing fractures of pelvis and femur
- Deformities and complications of spine

#### Study Design:

It is a comparative study with pre & post test design where minimum of 40 patients, suffering from *Gridhrasi* were selected & randomly distributed to *Chinchalavana Pindasweda* and *Patra Pindasweda*.

Duration of treatment: 07 days

Total duration of study: 07 days

#### Intervention:

Such selected patients were treated in two groups (22 and 21 in each, among this 3 drop outs) with *Chinchalavana Pindasweda* or *Patra Pindasweda* respectively and details of which are as below.

**Table 1:** Showing Ingredients of *Chinchalavana Pindasweda*

Drug	Quantity
1. <i>Chincha Phala (Tamarindus indica)</i>	500 gm
2. <i>Saindhava lavana</i>	50 gm
3. <i>Kottamchukadi taila</i>	50 ml
4. <i>Dhanyamla</i>	1 litre
5. Kora cloth	2 (45 x 45) cm
6. Tag	2

**Method of preparation of Chinchalavana Pinda Pottali:**

- ▶ 500 gm of cleaned *Chinchaphala*, 50 gm of *Saindhava lavana* and 50 ml of *Kottamchukkadi Taila* are taken in frying pan
- ▶ It should be cooked in *Dhanyamla*, till it became soft in consistency.
- ▶ Then divided in to two equal parts and made in to 2 *Pottalis* using kora cloth.

**Table 2:** Showing ingredients of *Patra Pinda Pottali*:

Drug	Latin Name	Part/form Used	Quantity
<i>Nirgundi</i>	<i>Vitex negundo</i>	<i>Patra</i>	100gm
<i>Eranda</i>	<i>Ricinus communis</i>	<i>Patra</i>	100gm
<i>Chincha</i>	<i>Tamarindus indica</i>	<i>Patra</i>	100gm
<i>Shigru</i>	<i>Moringa oleifera</i>	<i>Patra</i>	25gm
<i>Datura</i>	<i>Datura metal</i>	<i>Patra</i>	25gm
<i>Arka</i>	<i>Calotropis procera</i>	<i>Patra</i>	25gm
Grated Coconut	<i>Cocos nucifera</i>	<i>Phala</i>	150gm
Lemon	<i>Citrus limon</i>	<i>Phala</i>	4 number
<i>Rasna</i>	<i>Pluchea lanceolata</i>	<i>Moola churna</i>	10gm
<i>Shatapushpa</i>	<i>Anethum sowa</i>	<i>Beeja churna</i>	10gm
<i>Devadaru</i>	<i>Cedrus deodara</i>	<i>Churna</i>	10gm
<i>Kushta</i>	<i>Saussurea lappa</i>	<i>Churna</i>	10gm
<i>Saindhava</i>			10gm
<i>Kottamchukkadi taila</i>			50ml
Cotton cloth (45X45 cm)			2 pieces
Tags			2

**Method of preparation of Patrapinda Pottali:**

- ▶ Fresh leaves should be cleaned and chopped.
- ▶ First add 50ml of *Kottamchukkadi taila* into frying pan, to this add grated coconut and sliced lemon and fry till it turns to light tinged brown.
- ▶ Add chopped leaves one by one. Then mix thoroughly and fry together by adding *Churna* and *Saindhava* to this mixture, till coconut scrapings attain a brown colour. Then it should be divided into two equal parts and made into 2 *Pottalis*.

**Standard Operative Procedure**

**Purva-karma:** Patient should lie in comfortable prone position exposing the affected area. *Kottamchukkadi taila* will be warmed (42-45<sup>0</sup> C) over hot water bath and *abhyanga* is done over the area.

**Pradhana-karma:**

1. *Chinchalavana Pindasweda*- Prepared *pottali* will be dipped in 500 ml of warm *Dhanyamla* and *swedana* is done over the area.

2. *Patra Pindasweda*- Prepared *Pottali* will be heated with *Kottamchukkadi taila* in a hot iron pan upto 42-45° C. Then it should be applied over the area with mild pressure.

**Paschat-karma:** After completion of treatment body should be wiped with clean towel and advised to take rest for half an hour.

**Follow Up:**

After completion of 7 days of *Pindasweda* course, the effect of therapy was assessed as follows.

**Assessment criteria:**

The progress was noted on the basis of assessment parameters (both subjective and objective) before and after treatment in a specially prepared case sheet.

**Primary Outcome Measures:****Pratyatmalakshana of Gridhrasi:**

- *Sphik/ Kati /Prishta /Uru/ Jangha/ Pada – Toda, Ruk*
- *Stambha*
- *Spandana*

- *Gaurava*
- *Suptata*
- *Aruchi*
- *Tandra*

#### Secondary Outcome Measures:

- Straight Leg Raise test
- Visual analogue scale for pain (*Toda, Ruk*)

#### Observation:

The following observations were made before and after the treatment. In the present study, 43 subjects fulfilling the inclusion criteria of *Gridhrasi* were studied in two Groups, group *CLPS* & group *PPS* consisting of 22 and 21 subjects respectively (3 drop

outs in study). So here includes observations of 43 subjects and results of 40 subjects.

The age limit of the subjects in the study was 20 to 50 years. The incidence was highest in the age group 41-50 years (41.9%), male (53.5%), married (88.4%), lower middle class (48.8%), agriculture (34.9%), *Vatapittaja Prakruti* (62.8%), *Vyayamashakti – Madhyama* (72%), disturbed sleep (93%) and chronicity of disease less than 1 year (81.3%)

All 43 subjects (100%) had *Ruk*, 74.4% (32) had *Toda*, 88.3% (38) had *Stambha*, 79% (34) had *Spandana*, 21% (9) had *Tandra*, 95.3% (41) had *Gourava* and 76.7% (33) had *Arochka*.

#### Results:

Variable	CLPS Group (MR)	PPS Group (MR)	Interpretation	Remark
<i>Ruk</i>	19.18	21.83	NS	<i>CLPS</i> group is as effective as <i>PPS</i> group with no significant difference between mean ranks.
<i>Toda</i>	19.00	22.00	NS	<i>CLPS</i> group is as effective as <i>PPS</i> group with no significant difference between mean ranks.
<i>Stambha</i>	18.50	22.50	NS	<i>CLPS</i> group is as effective as <i>PPS</i> group with no significant difference between mean ranks.
<i>Spandana</i>	22.50	18.50	NS	<i>CLPS</i> group is as effective as <i>PPS</i> group with no significant difference between mean ranks.
<i>Gourava</i>	20.00	21.00	NS	<i>CLPS</i> group is as effective as <i>PPS</i> group with no significant difference between mean ranks.
<i>Arochaka</i>	19.85	20.50	NS	<i>CLPS</i> group is as effective as <i>PPS</i> group with no significant difference between mean ranks.
Visual Analogue Scale.	20.00	21.00	NS	<i>CLPS</i> group is as effective as <i>PPS</i> group with no significant difference between mean ranks.
SLR Test (Right)	22.03	18.98	NS	<i>CLPS</i> group is as effective as <i>PPS</i> group with no significant difference between mean ranks.
SLR Test (Left)	20.85	20.15	NS	<i>CLPS</i> group is as effective as <i>PPS</i> group with no significant difference between mean ranks.

Both groups have shown effect in *Ruk, Toda, Stambha, Spandana, Gourava, Arochaka, Visual Analogue Scale* and *SLR* test. Overall, it may be concluded that *CLPS* group has shown result and improvement equivalent to *PPS* group. But in *Ruk, Toda* and *Stambha* by considering mean rank *CLPS* group shows better results.

## DISCUSSION

### On Effect of Treatment:

The assessment of results were made by signs and symptoms of *Gridhrasi* which includes subjective and objective parameters like *Ruk, Toda, Stambha, Gourava* etc lakshanas, *Samyak Swedana Lakshana* and *SLR*.

**Effect on Ruk:**

*Ruk* is due to *Vatavridhi*. There will be derangement in *Vatadosha* leading to *Vataprakopa*. Once vata vitiation is corrected *Ruk* will be reduced. *Chincha* is having *Ushnavirya*, *Vatakaphahara*, *Vedanasthapaka*, *Sothahara* property<sup>6</sup>. On external application *Chincha* is having *Sothahara* and *Vedanasthapana* property. *Kottamchukkadi taila*<sup>7</sup> and *Dhanyamla*<sup>8</sup> is also having *Shoolahara* and *Sothahara* property. By the actions of these drugs *Ruk* may reduce. Also *Swedana*, by increasing temperature locally to the muscle, improves blood circulation and helps to reduce pain.

**Effect on Toda:**

*Swedana* mainly, and the drugs used in general relieve muscle spasm and thus relieves pressure on the nerves. Once pressure is relieved then blood supply to the nerves is improved and thus relieves pain.

**Effect on Stambha:**

*Stambha* is the result of *Kapha* or *Ama* and *Rukshasweda* gives results here. Here in this study drugs used are having *Ushna*, *Tikshna* and *Sukshma Gunas* which helps to reduce *Kapha* and *Ama*. Moreover, *Swedana*, by increasing temperature locally to the muscle, improves blood circulation, helps to relax and eliminates toxins from the muscles thus bringing *Laghuta*.

**Effect on Spandana:**

*Spandana* or pulsating pain occurs as a result of *Vataprakopa*. Due to *Snehana* and *Swedana*, *Vataprakopa* is reduced by *Snigdha* and *Ushna Guna* of *Dravyas* used, leading to reduction in *Spandana*.

**Effect on Gourava:**

*Gourava* is due to *Apya* and *Prithvi Mahabhoota*. During *Swedana*, *Apya Mahabhoota* is coming out as perspiration leading to reduction in *Gourava* and brings *Laghuta* in the body.

**Effect on Arochaka:**

*Swedana* increases body temperature, increases sympathetic activities releasing hormones like epinephrine, nor-epinephrine, cortisol and thyroid hormones. It accelerates metabolic rate and stimulates process of lipolysis, thereby increasing demand of oxygen and increased output of wastes i.e. digestion of *Ama* leading to *Agni Deepti*<sup>9</sup>.

**Overall Effect on Pain:**

While comparing in visual analogue scale, in *CLPS* group, before treatment pain severity was 36% (8) hurts even more, 59% (13) hurts whole lot and 5% (1) was hurts worst. After treatment, condition of subjects improved to 68% (15) hurts little bit and 22% (5) hurts little more.

In *PPS* group, before treatment pain severity was 43% (9) hurts even more, 52% (11) hurts whole lot and 5% (1) was hurts worst. After treatment, condition of subjects improved to 43% (9) hurts little bit and 53% (11) hurts little more.

**Effect of procedure:**

*Chinchalavana Pindasweda* is a type of *Sankarasweda*. *Snehana* and *Swedana* are the treatments mentioned for *Snayugatavata*. As *Gridhrasi* is a *Snayugatavata*, repeated *Snehana* and *Swedana* is needed. Also *Twak* is the *Vatasthana* and by giving treatment to *Twak*, it helps to reduce *Vataprakopa*. *Dravyas* used here having *Vata-kaphahara* property, also helps to relieve symptoms. So the repeated *Snehana* and *Swedana* done on *Kati* and *Sakthi Pradesha* helps to reduce symptoms.

**Discussion on Pindasweda Dravya:**

The *dravyas* used in *Chinchalavana Pindasweda* are *Shoolahara*, *Shothahara* and *Vatakaphahara*. These act by its *Ushna Virya* and *Laghu Ruksha Guna*. *Dhanyamla* is having *Amla Rasa*, *Laghu*, *Snigdha*, *Teekshna*, *Sheetasparsa Guna*, *Amla Vipaka* and *UshnaVeerya* and *Deepana*, *Pachana*, *Angasadahara*, *Daha Jwarahara* and *Klamahara Karma*<sup>10</sup>. Drugs used in *Patra Pindasweda* are having *Vata-kaphahara* property.

**Economic Impact of the Study:**

Comparing both groups *PPS* group is more costly than *CLPS* group. For seven days of treatment in *CLPS*, we need *Chinchaphala* 1 kg, *Dhanyamla* 2 litres, *Kottamchukkadi Taila* 400 ml (including *Taila* for *Abhyanga*) and *Saindhava* 100gms. In *PPS* we need *Patra*, coconut 2, 14 lemons, *Churnas* and *Kottamchukkadi Taila*-1100ml (including *Taila* for *Abhyanga*). Total cost of drugs used for 7 days in *CLPS* is approximately Rs.650 and in *PPS* it is Rs.1000.

## CONCLUSION

*Gridhrasi* is one among the 80 *Vata-nanatmaja Vikaras* which can be effectively treated with *Snehana* and *Swedana*. *Chinchalavana Pindasweda* and *Patra Pindasweda* are *Sagni, Ekanga, Madhyama, Samshamaneeya* type of *Sweda*. Comparatively both the groups have almost same significance in the parameters. *Patra Pindasweda* was at par with *Chinchalavana Pindasweda* on all assessment parameters, but in *Ruk, Toda* and *Stambha* by considering mean rank *Chinchalavana Pindasweda* group showed better results.

Overall it may be concluded that *Chinchalavana Pindasweda* has shown result and improvement equivalent to *Patra Pindasweda* in the management of *Gridhrasi* in all the parameters. So it can be used for *Swedana* in *Vata-kaphaja* condition.

*Chinchalavana Pindasweda* improved the quality of life without adverse reactions and is cost effective.

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