



Research Article

A COMPARATIVE CLINICAL STUDY ON PATRA PINDA SWEDA AND NADI SWEDA IN THE PAIN MANAGEMENT OF GRIDHRASI W.S.R. TO SCIATICA

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ABSTRACT

Gridhrasi as mentioned in Ayurveda explains a disorder where in pain starts from *Sphik pradasha* and radiates downwards to *Kati, Prusta, Uru, Janu, Jangha* and *Pada*. Due to this, the patient is unable to walk properly. *Gridhrasi* can be compared with Sciatica. Sciatica is a relatively common condition with a life time incidence varying from 13% to 40%. The corresponding annual incidence of an episode of Sciatica ranges from 1 to 5%. The incidence of Sciatica is related to age. It is rarely seen before the age of 20. Incidence peaks in fifth decade declines thereafter.

Snehana and *Swedana* are considered as a general line of treatment for *Vata Vyadhi* which can be taken as a line of treatment for *Gridhrasi* also. *Patra pinda Sweda (Vatashamak)* and *Nadi sweda (Vata Kapha shamak)* is one such treatment modality comes under *Snehana* and *Swedana* is known for relieving the symptoms. *Murchita Tila Taila* due to its *Vata Shamaka* has been taken for the *Sthanik abhyanga*.

30 patients of *Gridhrasi* were randomly selected and divided into 2 groups. Group A: 15 patients received *Patra pinda sweda* and Group B: 15 patients received *Nadi sweda* up to *Samyak Swinna lakshana*. Overall assessment of both groups, out of 30 patients, 2 (6.67%) got complete remission, 13 (43.34%) patients got marked response, 6 (20%) patients got moderate response and 9 patients got mild response.

KEYWORDS: *Gridhrasi, Sciatica, Patra Pinda Sweda, Nadi Sweda.*

INTRODUCTION

Sciatica is now becoming a significant threat to the working population especially in youngsters and has a significant role in hampering their quality of life. Clinically low back pain is the most common presentation second to common cold.

Gridhrasi is described in Charaka Samhita^[1] under the headlines of *Nanatmaja Vatavyadhi* characterized by radiating pain from *Prishta, Kati, Uru, Janu, Jangha* and *Pada* associated with *Ruk, Toda* and *Spandana*. With these clinical features *Gridhrasi* may be correlated with sciatica.

“Sciatic Syndrome”- resembles with *Gridhrasi*. In this sciatica there will be pain in the distribution of sciatic nerve which begins from buttock and radiates downwards to the posterior aspect of thigh, calf and to the outer boarder of foot. Herniation or degenerative changes in inter-vertebral disc is the most common cause. There is often history of trauma locally, as twisting of the spine, lifting heavy objects or exposure to cold.

The prevalence of sciatica ranges from 11% to 40%.

The local *Sthanasanshraya Vyadhi Samprapti* is having quiet major importance in the management of *Gridhrasi* disease.

In contemporary science, both conservative treatment and surgical treatment are followed. If it is not treated in time, it may lead to serious complications like alteration in bowel and bladder function, loss of sensation in lower limbs etc.^[2]

So in this condition easy and effective treatment is required. Ayurveda treatment comprises of two major parts, *Samshodhana chikitsa* and *Samshamana chikitsa*.^[3] *Snehana* and *Swedana* are considered as a general line of treatment for *Vata Vyadhi* which can be taken as a line of treatment for *Gridhrasi* also.^[4]

Patra pinda Sweda (Vatashamak) and *Nadi sweda (Vata Kapha shamak)* is one such treatment modality comes under *Snehana* and *Swedana* is known for relieving the symptoms.^[5] *Murchita Tila Taila* due to its *Vata Shamaka* has been taken for the *Sthanik abhyanga*.^[6]

MATERIALS AND METHODS**Preparation of Murchita Tila Taila****Table 1: Drugs used for preparation of Murchana of Tila taila**

Drug	Composition
Haritaki	1/16 th part
Manjistha	1/64 th part
Vibhitaki	1/16 th part
Amalaki	1/16 th part
Mustha	1/16 th part
Haridra	1/16 th part
Lodra	1/16 th part
Vatankura	1/16 th part
Harivera	1/16 th part
Nalika	1/16 th part
Ketaki pushpa	1/16 th part
Tila taila	1 part
Jala	8 parts

Composition of Trial Drug**Table 2: Patra Pinda sweda and Nadi sweda**

S No.	Drug name	Botanical name
1	Eranda patra	<i>Ricinus communis</i> Linn
2	Arka patra	<i>Calotropis procera</i>
3	Dhattura patra	<i>Datura metel</i>
4	Karanja patra	<i>Pongamia pinnata</i> pierre
5	Nimba patra	<i>Azadirachta indica</i>
6	Nirgundi patra	<i>Vitex negundo</i> Linn
7	Sigru patra	<i>Moringa oleifera</i> Lam
8	Nimbuka	<i>Citrus medica</i>
9	Chincha	<i>Tamarindus indica</i> Linn
10	Saindhav lavana	1 part

Clinical Study**Study Design**

It is a comparative clinical study.

Sample size and grouping

30 patients of *Gridhrasi* will be randomly selected and equally divided into 2 groups.

Group A: 15 patients will receive *Patra pinda sweda* up to *Samyak Swinna lakshana*.

Group B: 15 patients will receive *Nadi sweda* up to *Samyak Swinna lakshana*.

Inclusion Criteria

- Age between 30 to 60 years of either sex
- Presenting features of *Gridhrasi*
- Fit for *Swedana Karma*
- Positive SLR test

Exclusion Criteria

- Systemic illness like DM.
- Pregnant and lactating women.
- Traumatic condition of spine.
- Tuberculosis of spine, CA spine etc.

Criteria of Diagnosis

Signs and symptoms of *Gridhrasi* which are explained in the texts of Ayurveda and Contemporary texts will be the criteria of diagnosis.

Table 3: Posology / Procedure

	Group A	Group B
For <i>Poorva karma</i>	<i>Sthanika abhyanga with Murchita Tila taila</i>	
For <i>Pradhana karma</i>	<i>Patra pinda sweda up to Samyak Swinna Lakshana for 7 days</i>	<i>Nadi sweda up to Samyak Swinna Lakshana for 7 days</i>
For <i>Paschat karma</i>	<i>Pathya Paripalana</i>	

Study Duration: 14 days, including follow-up.

- *Patra pinda sweda* for 7 days.
- *Nadi sweda* for 7 days.

Follow Up: 7 days

After 15 days patients were advised to follow regular diet prescribed in *Paschata Karma*.

Materials

Assessment of Result

Objective parameters were include improvement in pain and restricted movements of spine such as flexion, extension, left lateral movement, right lateral movement, rotating movement and walking time. For assessing the above said symptoms, tools like visual analogue scale, Goniometer and measuring tape were used.

Subjective Parameters

- *Ruk*
- *Toda*
- *Stambha*

Objective Parameters

- SLR test.
- Walking distance.
- Movement of lumbar spine

All these parameters were assessed B.T, A.T. & A.F then analysed using 'un-paired t' test. And the overall responses to the treatment by the parameters also were assessed.

Grades of Parameters

Subjective Parameters

Ruk

Grade - 0	No pain
Grade - 1	Mild- painful walk without limping
Grade - 2	Moderate- painful walk with limping but without support
Grade - 3	Severe- painful walk only with support
Grade - 4	Very severe pain-Unable to walk

Toda

Grade - 0	Absent
Grade - 1	Mild, occasionally in a day
Grade - 2	Moderate not persistent
Grade - 3	Moderate and persistent
Grade - 4	Severe and persistent

Stambha

Grade - 0	No stiffness
Grade - 1	Mild stiffness (1-10 min) - up to 25% impairment. Pt can perform daily work
Grade - 2	Moderate stiffness (11-20 min) - 25%-50%impairment. Pt has moderate difficulty
Grade - 3	Severe stiffness (21-30 min) - 50%-75% impairment. Pt has severe difficulty
Grade - 4	Very severe stiffness (more than 30 min) >75% impairment. Pt has very severe difficulty

Objective Parameters

SLR test: test assessed as +ve at 0^o-90^o with pain, -ve at 0^o-90^o without pain.

Grade 0	90 ^o without pain
Grade 1	71 ^o - 90 ^o with pain
Grade 2	51 ^o - 70 ^o with pain
Grade 3	31 ^o - 50 ^o with pain
Grade 4	up to 30 ^o cannot be raised

Walking time

Time taken to cover 21 meter:

Grade - 0	Upto 20 sec
Grade - 1	21-30 sec
Grade - 2	31-40 sec
Grade - 3	41-50 sec
Grade - 4	51-60 sec

Range of movement of lumbar spine

Forward flexion	
Touch the tip of finger on ground	0
10 cm from above ground	1
20 cm from above ground	2
Intolerable pain during movement	3
No movement	4

Left Lateral flexion	
40 ^o from medial line	0
20 ^o from medial line	1
Tolerable pain during movement	2
Intolerable pain during movement	3
No movement	4

Right Lateral Flexion	
40 ^o from medial line	0
20 ^o from medial line	1
Tolerable pain during movement	2
Intolerable pain during movement	3
No movement	4

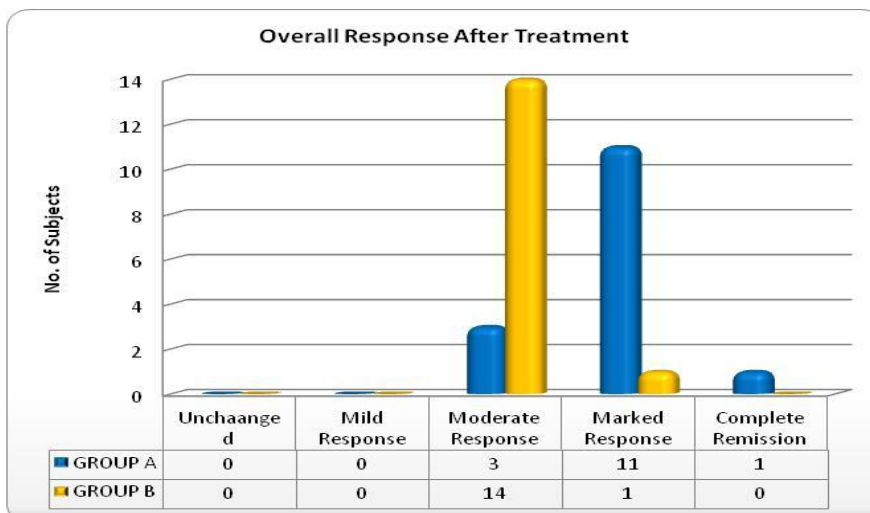
Backward extension	
20 ^o from medial line	0
10 ^o from medial line	1
Tolerable pain during movement	2
Intolerable pain during movement	3
No movement	4

OBSERVATIONS AND RESULTS

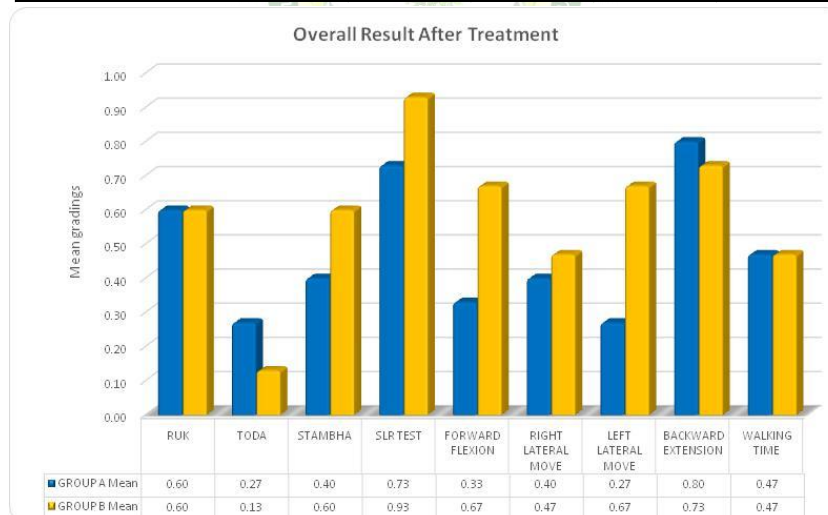
The following observations were made during this study. The observations were made before treatment, during the study, after the treatment and after the follow up. In this study 30 patients were included after fulfilling the pre -set inclusion criteria.

15 patients were taken for *Patra pinda Sweda* and other 15 patients *Nadi Sweda* who were diagnosed as *Gridhrasi*.

Overall results in after treatment



Mean of Parameters	GROUP A		GROUP B	
	Mean	SD	Mean	SD
RUK	0.60	0.737	0.60	0.737
TODA	0.27	0.594	0.13	0.352
STAMBHA	0.40	0.632	0.60	0.632
SLR TEST	0.73	0.594	0.93	0.704
FORWARD FLEXION	0.33	0.488	0.67	0.724
RIGHT LATERAL MOVE	0.40	0.507	0.47	0.743
LEFT LATERAL MOVE	0.27	0.458	0.67	0.900
BACKWARD EXTENSION	0.80	0.414	0.73	0.799
WALKING TIME	0.47	0.743	0.47	0.640



Overall Effect of Therapy in Both Groups (After Treatment)

Overall result in after treatment

Overall Response After Treatment				
Overall Response	GROUP A	%	GROUP B	%
Unchanged	0	0%	0	0%
Mild Response	0	0%	0	0%
Moderate Response	3	20%	14	93%
Marked Response	11	73%	1	7%
Complete Remission	1	7%	0	0%
Total	15	100%	15	100%

In Group A -

3 patients (20%) were moderate response, 11 patients (73%) showed marked response and 1 patient (7%) were complete remission.

In Group B -

14 patients (93%) showed moderate response, 1 patients (7%) were showed marked response.

Overall Effect Of Therapy In Both Groups (After Follow Up)

Overall result in after follow up

Overall Response After Follow Up				
Overall Response	GROUP A	%	GROUP B	%
Unchanged	0	0%	0	0%
Mild Response	0	0%	9	60%
Moderate Response	0	0%	6	40%
Marked Response	13	87%	0	0%
Complete Remission	2	13%	0	0%
Total	15	100%	15	100%

In Group A -

13 patients (87%) were marked response, 2 patients (13%) showed complete remission.

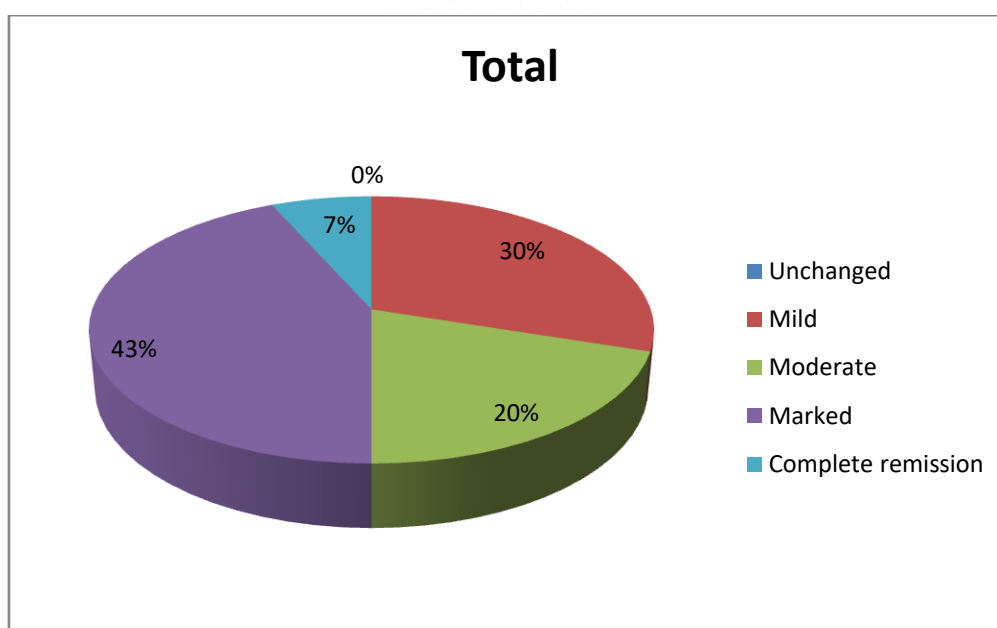
In Group B -

9 patients (60%) showed mild response, 6 patients (40%) were showed moderate response.

Overall assessment

Overall result in after follow up

Response	Total	Percentage
Unchanged	0	0%
Mild	9	30%
Moderate	6	20%
Marked	13	43.33%
Complete remission	2	6.67%



Among 30 patients, 2 (6.67%) patients were showed complete remission, 13 (43%) were showed marked response, 6 (20%) patients were showing moderate response and 9 (30%) patients were having mild response.

DISCUSSION

Gridhrasi vis-à-vis Sciatic Syndrome

Here the disease is produced due to the degeneration of the disc and it leads to compression of the nerve. In this condition vitiation of *Vata* would have taken place. In between the inter-vertebral disc the *Shleshaka Kapha* reduces which leads to friction between two vertebrae. So it leads to compression on the nerve. So here *Abhyanga* gives strength to the nerve and it relieves the *Stambha*, *Toda* etc by stimulating the nerve endings.

The Chikitsa Sutra of *Gridhrasi* is *Snehana* and *Swedana*. *Patra Pinda Sweda* is a form of *Sankara sweda* where *Vatahara Patra* are taken and being practiced widely owing to its easy procedure and excellent fast action in relieving the symptoms. It is very easy to perform and very effective in the case of *Gridhrasi*.

Drugs used in clinical study

Drugs mentioned in *Swedopaga Gana* of Charaka Samhita were used for *Patra Pinda Sweda* and *Nadi Sweda* drugs i.e., *Sigru*, *Eranda*, *Arka*, *Dhattura*, *Nimba*, *Chincha*, *Nimbuka*, *Karanja*, and *Nirgundi*, and *Tila Taila* for *Sthanika Abhyanga* were used.

Quantity of *Taila*: For frying the leaves- 50ml, for heating *Pottali*-50ml and for *Sthanika Abhyanga*-50-80ml per day.

Quantity of *Patra*: Each *Patra* 60 grams and total 550 grams for 2 *Pottali*

Average weight of one *Pottali*: 250grms grams.

Temperature: one should confirm the heat in the bolus by touching the bolus on the dorsum of the hand. Then heat is applied on the part to be treated or fomented. In present study, the patients who are having *Vata Kapha* predominance showed tolerance to temperature more than people of other *Prakruti*.

Duration: In the present study the duration of procedure is fixed to 30 minute or *Samyak Swinna Lakshana*.

The probable Mode of Action: can be explained under following headings

1. Thermal effect
2. Procedural effect
3. Drug effect

Thermal Effect

Those are as follows

Due to heat, vasodilatation occurs particularly in superficial tissues where the heating is greatest. Stimulation of superficial nerve endings can also cause a reflex dilatation of arterioles. By this necessary Oxygen and nutritive materials supplied.

Heat has been applied as a counter irritant, which is the thermal stimulus, may affect the pain sensation (Theory of Melzack & Wall).

Increase in temperature muscle relaxation, increased muscle action efficiency.

Increased activity of Sweat glands reflex stimulation of sweat glands resulting from effect of heat on the sensory nerve endings.

Results on Subjective parameters

Effect of therapies on *Ruk*: Patients of *Gridhrasi* treated with *Patra Pinda Sweda* (group A) got 76% relief in *Ruk* while Patients treated with *Nadi sweda* (group B) got 46% relief in *Ruk*. Statistical analysis of patients Group A showed significant results ($p < 0.01$) in *Ruk*.

Ruk is produced as result of *Vata Prakopa* and *Abhyanga* and *Swedana* are among the treatment modalities in case of *Vata prakopa* so *Patra Pinda Sweda* as a being a *Snigdha sweda prayoga* resulted in reduction of *Ruk*.

Effect of therapies on *Stambha*: Patients of Group A showed 85% relief in *Stambha* while patients of Group B showed 33% relief in *Stambha*. Statistical analysis of patient of group A showed significant results ($p < 0.01$) and group B showed moderately significant results ($p < 0.05$).

The comparison showed that, the relief in *Stambha*, Group A is better than group B.

Effect of therapies on *Toda*: Patients of Group A showed 84% relief in *Toda* while patients of Group B showed 44% relief in *Toda*. Statistical analysis of patient of group A showed significant results ($p < 0.01$) and group B showed moderately significant results ($p < 0.05$).

The comparison showed that, the relief in *Toda*, Group A is better than group B. *Toda* is removed by the *Ushna guna* property of the constituent drugs and *Swedana* process.

Results on Objective parameters

Effect of therapies on SLR test: Patients of Group A showed 77% reduction while patients of Group B showed 48% reduction in SLR test. Statistical analysis of patients of both groups showed highly significant results ($p < 0.001$).

The *Swedana* procedure and properties of the constituent drugs gave strength to the *Mamsa snayu* and *Asthi* and removes *Kharatva* and *Swedana* removes *Sthambana* which reduces pain and relaxes muscles thereby relief in the symptom.

Discussion on Overall Effect of Drug on Each Group

In group A, 2 patients (13%) were complete remission and 13 patients (87%) showed marked response. In Group B 6 patients (40%) showed moderate response and 9 patients (60%) were showed mild response.

Discussion on Overall Assessment of Both Groups

Among 30 patients, 2 (6.67%) were complete remission, 13 (43.34%) patients were marked response, 6 (20%) patients were moderate response and 9 patients were mild response.

CONCLUSION

- Allopathic management is just temporary and seems like a delusion. Ayurvedic management eradicates the root cause and brings about substantial relief.
- Majority of patients had *Dwandwaja Prakruti* i.e., *Vata Pitta* or *Vata Kapha*. Also Majority of patients had *Vishmagni* and *Samagni* and *Madhyama* and *Krura Kostha*. All these finding support the dominance of *Vata Dosh*.
- *Snehana* and *Swedana* is the best line of treatment in *Vata Vikaras*, seems very effective on *Gridhrasi*.
- On comparing the overall effect of the therapies Group A (*Patra Pinda Sweda*) is better than Group B (*Nadi Sweda*).
- Statistically, *Ruk* is highly significant at the level of $p < 0.001$. In group B on comparison to *Patra Pinda Sweda*.
- The parameters *Toda* and movements of lumbar spine shows good improvement after the follow

up period but less as compared to other parameters.

- Comparatively both the groups have almost same significance in the parameters. But both the Groups shows more net mean effect and results lasted throughout follow-up period.
- But both are simple, easy and cost effective procedure so it can be applied practically in the OPD levels and clinics.

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