

## Effects of agni karma in the management of gridhrasi – a clinical study

### Research Article

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### Abstract

Due to alteration in people's life style, the disease *Gridhrasi* (Sciatica) is frequently seen in the society, as a prominent problem. In this disease, patient becomes incapable to do their daily routine work because of severe pain from *Kati-pradesh* (lumber region) to *Gulfa-sandhi* (ankle-joint). Where the treatment of sciatica is concern, only symptomatic management and a very few surgical procedures are only available in conventional medical science. All these are having their complications and side effects. On the other hand these management tools are not always affordable for the underprivileged section of people in countries like India. In this regard few Ayurvedic para-surgical procedures, which are very effective, simple, safe and cheap in nature can became handy for Ayurvedicians. *Agnikarma* is one of such procedures. Sushrutacharya mentioned *Agnikarma chikitsa* in the management of *Sira*, (Vain), *Snayu* (Nerve), *Sandhi* (Joints), and *Gridhrasi* (Sciatica).

Charakacharya mentioned *Agnikarma chikitsa* in the management of *Gridhrasi* (Sciatica) at the site of *Antara-Kandara-Gulpha pradesha*.

Moreover in Ayurveda various other types of management regarding *Gridhrasi* (Sciatica) like *Snehana*, *Swedana*, and *Shamana yoga* etc. are also indicated. In the study 18 patients were treated in two groups, one group by *Agnikarma* therapy and another by *Snehan-swedana* and *shaman yoga* for a duration of one month. Comparative efficacy was assessed by statistical analysis.

Maximum result was noticed in the group treated with *Agnikarma* therapy by showing 100% relief in most of the cardinal features of the disease, and 85% improvement SLR test.

**Key words:** *Gridhrasi*, Sciatica, *Agnikarma*, *Snehan*, *Swedan*, *Shaman yoga*.

### Introduction :

Ayurveda is a complete science of life. Its principles are universally applicable to each individual for daily existence. Ayurveda treasures almost all and every elements and facts of human life offering guidance that have been tested and refined over many centuries to all

those who deserve greater harmony, peace and longevity. The disease *Gridhrasi* (Sciatica) is commonly seen in society as a prominent problem; in this condition patient become incapable to do his daily routine work because of severe pain from *Kati -pradesha* (lumbar area) to *Padanguli* (foot)<sup>1</sup>. As per the treatment of Sciatica is concern, in the conventional medical practice only the symptomatic management and a few surgical procedures are done. All these are having their own complications and adverse reactions. In Ayurvedic texts, there are various method used as a line of treatment, some of which

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are effective, simple, safe and cheap for the patient e.g. *Siravedha* (Venesection), *Agnikarma* (kind of cautery), *Basti chikitsa* (Enema), *Snehana*, *Swedana* and oral medication. Charakacharya mentioned *Agnikarma-chikitsa* in the management of *Gridhrasi* at the site of *Antara-Kandara-Gulpha pradasha*<sup>2</sup>. Sushrutacharya mentioned *Agnikarma-chikitsa* in the management of *Sira*, *Snayu* or *Sandhi* or *Asthi samprapti*<sup>3</sup> and *Gridhrasi* which may origin involving these structures. Now-a-days, Ayurvedic para-surgical procedures like *Shastrakarma*, *Ksharakarma*, *Raktamokshana* procedures are gaining popularity in forthright and conscious society. Many research works have been carried out regarding efficacy of these procedures. *Agnikarma chikitsa* have yet to gain popularity in society and many Ayurvedicians are far away from scientific approach towards of it, as because very few works have been carried out and there is no pinpoint description about *Agnikarma chikitsa* elsewhere. That's why keeping view the importance of the disease as well the treatment and above all points, it was decided to carry out *Agnikarma chikitsa*. Again, as the disease comes under *vatic* disorder the well-known *vatasamak yoga* *Troyodashanga Guggulu* was considered for comparative study.

### Metarials & Methods:

The clinical study had been carried out exclusively in total 18 patients of *Gridhrasi*(Sciatica), dividing in two groups – viz.

**Group A:** Agni Karma 9 patients.

**Group B:** *Troyodashanga Guggulu* (orally) + *Snehana* with *Nadisweda* - 9 patients. The study was designed as a comparative study to assess the efficacy of two procedures in the management of *Gridhrasi*.

The study was exclusively based on clinical trials. A detailed Performa was prepared to study the patients as well as the disease. The patients attending the

O.P.D. and I.P.D. of Govt. Ayurvedic College and Hospital, Guwahati were selected irrespective of their age, sex, cast etc.

### Criteria for Selection of patient

Patients were diagnosed mainly on the basis of signs and symptoms available in Ayurveda and modern medicine.

- ❖ *Ruka, Toda, Stambha, Spandana*,<sup>4</sup>
- ❖ *Sakthanakshepananigrahaniyat*<sup>5</sup> - S.L.R. test, Laseuge sign, sitting test in affected leg for diagnosis as well as prognosis of the treatment.
- ❖ Local tenderness in lumber region and affected lower limb.
- ❖ Knee and ankle jerk.
- ❖ Planter flexion test.
- ❖ Popliteal compression test.
- ❖ Impairment of perception in different dermatome.
- ❖ X-ray (A/P view, lateral view of lumbar spine) and routine hematological and other useful test were done to exclude other pathogenesis.

### Criteria for Exclusion of patient

The patient with –

- ❖ Pregnancy
- ❖ Tuberculosis, Carcinoma of lumbo-sacral plexus
- ❖ Carcinoma of caudaequina
- ❖ Uncontrolled Diabetes mellitus etc. were excluded from the present study.

### Grouping

After diagnosis the patients were randomly categorized into two groups as given below.

**Group A (*Agnikarma*) :** *Agnikarma* in different sittings was done In this group. 1st sitting *Bindu* type *Dahana vishesha* at *Antara Kandara Gulpha Madhya* i.e. from mid of medial aspect to the mid of lateral aspect of lower leg, covering the dorsal surface at a height of four angulas from the

medial malleolus and lateral malleolus till the *samyak dagdha lakshana*<sup>6</sup> occurred.

2nd sitting after 15 days at the same site. Continued by 3<sup>rd</sup> and 4<sup>th</sup> similar sittings if necessary.

**Group B (Troyodashanga Guggulu + Snehan with Mahavisagarva Oil + Nadi Sweda) :** In this group, Troyodashanga Guggulu was given 3 gm/day with lukewarm water for 30 days. *Snehana* with *Mahabisagarva* oil + *Nadisweda* with *vatanashak* drugs up to 14 days were recommended

**Agnikarma Chikitsa Vidhi (Procedure):**

The entire procedure consists three parts.

- ❖ *Purva karma* (Pre-operative procedure)
- ❖ *Pradhana karma* (Operative procedure)
- ❖ *Paschat karma* (Post-operative procedure)

**Purva Karma (Pre-operative Procedure):**

The *shalya karma mandir* (Operation theater) was readily arranged. Preparation of the patient's local parts i.e. removing of hair (shaving), preparation of *Shalya Chikitsaka* (Surgeon) and *Paricharika* (Nurses) were observed. The *Shalaka*, *Prota* (gauze), *Pichu* (cotton), Gas stove, *Triphala Kashaya*, Swab holding forceps, *Kumari Swarasa*, *Yashtimadhu churna* were kept ready for use. Patients were advised for *Snigdha* and *Picchila* light diet before *Agnikarma chikitsa*. Written consent of were taken from the each patients.

The *Shalaka* was heated to red hot on fire. The patients were put on the *Shalya karma Mandir Shayya* and the diseased parts were cleaned with *Triphala*

*kashaya*. Use of spirit was strictly avoided because it can catch fire.

**Pradhana Karma (Operative Procedure):**

The affected leg of the patient was seen and at the site of 4 *Angula* (finger) above of *Gulpha sandhi* (Ankle joint) on posterior side of affected leg, 5 – 30 *bindu* size (*bindu dahana vishesha*), *Samyaka dagdha vrana* were produced in the form of *Vilekha* by red hot *Loha dhatu Shalaka*. The proper space between two *Samyaka dagdha vrana* was kept.

**Paschat Karma (Post Operative Procedure):**

After producing *Samyaka Dagdha Vrana*, the *Kumari Swarasa* was applied on *samyaka dagdha vrana* to get relief from burning sensation and after wiping of *Kumari Swarasa*, *Avachurnan* (dusting) of *Yashtimadhu churna* was done on *Samyaka Dagdha Vrana* and from next day patients were advised for local application of an ointment made of *Haridra* powder mixed with coconut oil. *Pathya-pathya* advised as per *Sushrutacharya's Vrana Rogadhikara* until healing of *Samyaka Dagdha Vrana*.

**Criteria for Assessment:**

The improvement in each patient was assessed mainly on the basis of relief in the cardinal signs and symptoms of the disease. To assess the effect of therapy objectively, all the signs and symptoms were given scoring depending upon their severity as below.

**1. Stambha (Stiffness)**

- i. No stiffness - 0
- ii. Some time for 5-10 min. - 1
- iii. Daily for 10-30 min. - 2
- iv. Daily for 30-60 min. - 3
- v. Daily more than 1 hour – 4

**2. Ruka (Pain)**

- i. No pain - 0
- ii. Occasional pain - 1
- iii. Mild pain - 2
- iv. Moderate pain - 3
- v. Severe pain - 4

**3. Toda (Pricking Sensation)**

- i. No pricking sensation - 0
- ii. Occasional pricking sensation - 1
- iii. Mild pricking sensation - 2
- iv. Moderate pricking sensation - 3
- v. Severe pricking sensation - 4

**4. Spandana (Twitching)**

- i. No twitching - 0
- ii. Some times for 5-10 min. - 1
- iii. Daily for 10-30 min. - 2
- iv. Daily for 30-60 min. - 3
- v. Daily more than 1 hour - 4

**5. Aruchi (Anorexia)**

- i. No anorexia - 0
- ii. Mild anorexia - 1
- iii. Moderate anorexia - 2
- iv. Severe anorexia - 3

**6. Tandra (Torpor)**

- i. No tandra - 0
- ii. Mild tandra - 1
- iii. Moderate tandra - 2
- iv. Severe tandra - 3

**7. Gourava (Heaviness)**

- i. No heaviness - 0
- ii. Mild heaviness - 1
- iii. Moderate heaviness - 2
- iv. Severe heaviness - 3

**8. Straight leg raise test**

- i. More than 90 - 0
- ii. 710-900 - 1
- iii. 510-700 - 2
- iv. 310-500 - 3
- v. up to 300 - 4

**Statistical analysis:**

Mean, percentage,  $\pm$ S.D.,  $\pm$ S.E. 't', and 'p' value were calculated. Paired 't' test was used for calculating the 't' value.

**Criteria for assessing the total effect:**

Considering the overall improvement shown by the patients in sign and symptoms. The total effect of the therapy has been assessed as below -

1. Cured - 100% relief in sign and symptoms
2. Markedly Improved - More than 50% relief in signs and symptoms
3. Improved - 25-50% relief in signs and symptoms
4. Unchanged - below 25% relief in signs and symptoms

**Observation & Results**

The following results were found after completion of the procedure. Majority of the patients belonged to the age group of 41-60 yrs (55.6%), were predominantly males (66.7%), Hindus (77.8%), belong to labour class & housewives (55.6%), married (100%), belong to lower middle class of society (83.3%), previously treated (66.7%) types of disease was vataja 72.2%, followed by 27.8% in vata-kaphaja, prakriti vata kaphaja 77.8%. In 88.9% patients, tenderness at sciatic root is present. 66.7% patients were having highly positive foot flexion test. Diminished ankle jerk was present in 33.3% patient and 20% diminished knee jerk was present in 27.8% patients. *Stambha*, *Ruka*, and *Toda* were present in 100% patients while *spandana* was present in 77.7% patients. *Gourava* was present in 44.4% patients. *Aruchi* was present in 38.9% patients while *Tandra* was present only in 11.1% patients. SLR test as positive was present in 10% of patients.

### Results of Therapy:

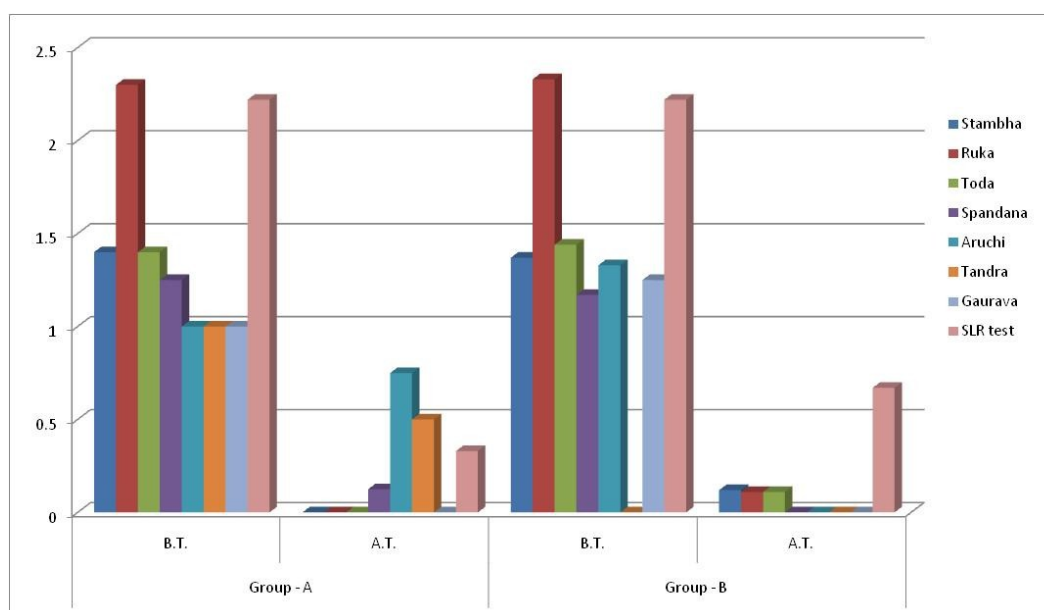
#### Effect of Therapy on Cardinal Symptoms of *Gridhrasi*

##### Group – A: Agni Karma

Sl. No.	Cardinal Symptoms	n	Mean Score		±SD	±SE	‘t’	p	%
			B.T.	A.T.					
1.	Stambha	9	1.4	0	0.53	0.17	8.235	<0.001	100%
2.	Ruka	9	2.3	0	0.87	0.29	7.931	<0.001	100%
3.	Toda	9	1.4	0	0.53	0.17	8.235	<0.001	100%
4.	Spandana	8	1.25	0.125	0.35	0.125	9.000	<0.001	90%
5.	Aruchi	4	1.0	0.75	0.50	0.25	1.000	>0.10	25%
6.	Tandra	2	1.0	0.50	0.70	0.50	1.000	-	50%
7.	Gaurava	4	1.0	0.00	0.00	0.00	E	-	100%
8.	SLR test	9	2.22	0.33	0.78	0.26	7.326	<0.001	85%

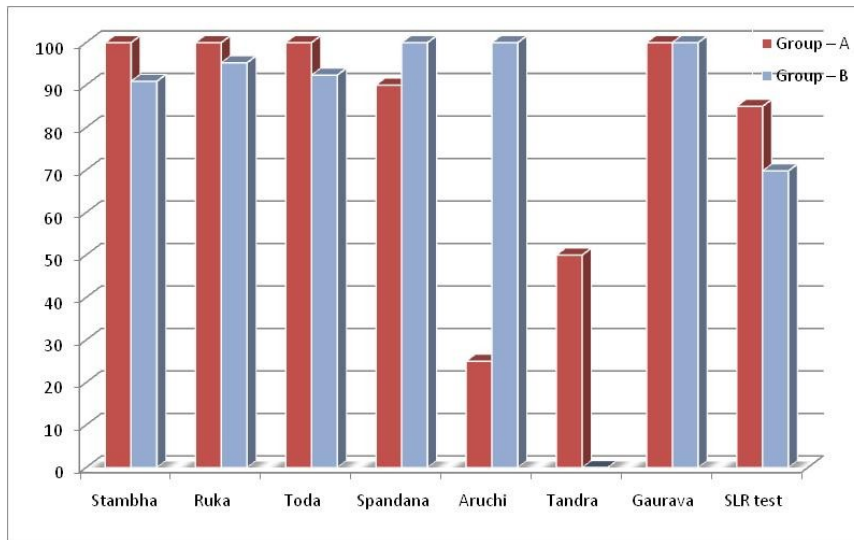
##### Group – B : *Trayodashanga Guggulu with Snehan with Mahavisargarva Oil + Nadi Sweda*

Sl. No.	Cardinal Symptoms	n	Mean Score		±SD	±SE	‘t’	p	%
			B.T.	A.T.					
1.	Stambha	8	1.37	0.12	0.46	0.16	7.812	<0.001	90.90%
2.	Ruka	9	2.33	0.11	0.67	0.22	10.09	<0.001	95.27%
3.	Toda	9	1.44	0.11	0.50	0.165	8.060	<0.001	92.36%
4.	Spandana	6	1.17	0.00	0.40	0.17	7.02	<0.001	100%
5.	Aruchi	3	1.33	0.00	0.58	0.33	3.99	>0.01	100%
6.	Tandra	0	0	0	0	0	0	0	0%
7.	Gaurava	4	1.25	0.00	0.50	0.25	5.00	>0.001	100%
8.	SLR test	9	2.22	0.67	0.89	0.29	5.325	<0.001	69.8%



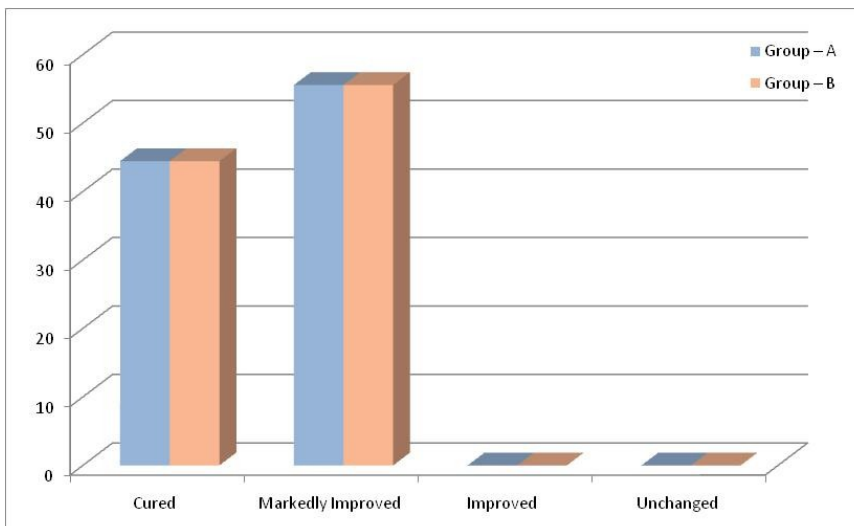
**Comparative study of Results in both groups**

Sl. No.	Cardinal Symptoms	Results in %	
		Group – A	Group – B
	Stambha	100.00	90.90
2	Ruka	100.00	95.27
3	Toda	100.00	92.36
4	Spandana	90.00	100.00
5	Aruchi	25.00	100.00
6	Tandra	50.00	0.00
7	Gaurava	100.00	100.00
8	SLR test	85.00	69.80



**Comparative study of overall effect of therapy in both groups**

Effect	Group – A	Group – B
Cured	44.44%	44.44%
Markedly Improved	55.56%	55.56%
Improved	0.00%	0.00%
Unchanged	0.00%	0.00%



**Follow Up:**

During the period of follow up (6 months) results were found at a standstill.

**Discussion:**

The pharmacodynamics of a therapy depends on its property like *Rasa*, *Guna*, etc. in term of Ayurveda. It is primarily the *Doshashamaka* activity, which is used to correct the vitiated *Dosha* to reinstate the Tri-*Doshik* equilibrium i.e. the main aim of therapy. Agni Karma is stated as the ultimate therapy for those disorders which are not curable with other measure.<sup>7</sup>

Analysis of general *Samprapti* of *Gridhrasi*(Sciatica) reveals that mainly *Vyana Vata* plays a major role in manifestation of disease and this is also supported by *Harita's* statement that *Gridhrasi* is result of vitiation of *Vyana Vata*. Here one thing is again noteworthy that *Acharya Charaka* and *Acharya Sushruta* have stated that when *Kapha* masks *Vyana Vata*, it gives rise to frequent restricted movement<sup>8</sup> (*Su. Ni. 1/39*), that's why *Kapha* plays a role as *Anubandha* in manifestation of disease *Gridhrasi*. *Kandara* of *Parsni* and *Pratyanguli* have been stated as *adhithana* of disease *Gridhrasi* (Sciatica).<sup>5</sup>

Hence, when *Agni Karma* is done at four *angula* above the *Gulpha* (ankle joint)<sup>2</sup> – (Ch. Chi. - 28) then by virtue of it's *Ushna*, *Tikshna*, *Sukshma guna* it breaks the *avarana* of *Vyana Vata* by *Kapha* and release the *Vata* to perform its normal functions, thus *Stambha*, *Ruka* and *Toda* like symptoms get subsided. Here, disease *Gridhrasi*(Sciatica) should be considered as a ***Prakriti Samvet Samanvaya Vyadhi*** that means clinical features as just similar to *Vyadhi Utapatikaraka Bhava* (causative factor of disease). Hence, to break that *Dosh-Dushya samurchhana*, *Agni Karma* is an ideal modality of treatment for *Gridhrasi* (Sciatica).

**Probable Mode of Action of Agnikarma Therapy:**

When a red heated *Agnikarma Shalaka* is applied over skin tissue for *Samyaka dagdha*, heat is transferred from *Shalaka* to skin tissue in the form of *Ushna*, *Tikshna*, *Sukshma* and *Laghu guna*. *Ushna guna* performs two functions. Firstly by stimulating i.e. *Utkleshana* of *Dhatvagni* removes *Ama* from the *dhatu* by the process of *Dhatupaka*. Secondly *Ushna guna* dilates the channels of *Srotas* and *Srotavarodha* is removed. Thus the symptom of the disease is relieved.

**Conclusion:**

- ❖ *Gridhrasi*(Sciatica) is commonly seen in society as a prominent problem.
- ❖ Number of sittings of *Agnikarma* depends upon the chronicity and severity of the disease.
- ❖ Overall, *Agnikarma* is simple modality of treatment, having no complication.
- ❖ *Gridhrasi* can be absolutely cured by *Agnikarma chikitsa*.

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