



A Comparativeclinical Study to Evaluate the Efficacy of *Panchmoolikwath* and *Agnikarmain*The Management Of*Gridhrasi* W.S.R To Sciatica.

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INTRODUCTION :

The disease *Gridhrasi* is commonly seen in society as prominent problem ; in this condition patient becomes incapable to do his daily routine work because of severe pain from *Kati pradasha* (lumbar region) to *Padanguli* (foot).^[1] As per data available 80% population in modern industrial society experience back pain at sometime during their life , fortunately in some of these its subsides within a month. But unfortunately as many as 70% of these pain reccurs , out of these many of them converts into *Gridhrasi* patients as time passes.The disease , *Gridhrasi* classified into two categories viz. *Samanyaja* (*general*)and *Nanatmaja* (*specific*) disease are those who are resulting to the vitiation of onedosha only. Charakacharya quoted *Gridhrasi* in *Vataja* ,*NanatmajaVyadhi* and also enumerated under*Mahagada*(dreadful disorders with bad prognosis)that indicates difficulty to cure it. It is characterised by its distinct pain emerging from *Sphikpradesha*(gluteal region)and goes towards *ParshaniPratyangulina*(ankle joint and foot) of the affected side.^[2]And Charak and Madhava mentioned the symptoms of *Gridhrasi* like *Bhaktadvesha* (*aversion to food*) , *Gaurava*(*heaviness*) , *Tandra*(*drowsiness*) , *Aruchi*(*anorexia*) , *Mukhapraseka* (*salivation*) in *Vata – Kaphaja* type *Gridhrasi*.^[3] So indirectly *Kaphaprakopanidana* and *Agnimandyahetu* are to be considered.As per the modern medical science , *Gridhrasi* can be correlated with Sciatica due to its similarity in the symptoms of pain radiating along the course of sciatic nerve and is felt in the back , buttock, posterior aspect of thigh , leg and foot.^[4] The commonest symtopms of the lumber disc prolapse are backache and Sciatica. When conservative treatment fails , surgery such as Microscopic lumbar discectomy or Fenestration or micordisectomy , Hemilaminectomy or full Laminectomy is done with due risk.^[5]

In Ayurvedictexts , there are various method used as line of treatment , some of which are effective , simple , cheap and safe for the patient e.g*Siravedha* , *Agnikarma* , *Bastichikitsa* , *Snehana* , *Swedana* and oral medications. Charakacharya mentioned *Agnikarmachikitsa* in management of *Gridhrasi*at the site of *Antara-Kandara-Gulphapradesha*(popliteal fossa and at the level of sciatic notch).^[6]Sushrutacharya mentioned

Agnikarmachikitsa in the management of *Sira*, *Snayu* or *Sandhi* or *Asthisamprapti* and *Gridhrasi* form all these involved structures.^[7]

Keeping this point in mind as per Sushrutacharya's principles, the study was designed as a comparative study to assess the efficacy of therapeutical procedure alone and comparatively.

Agnikarmachikitsa is found superior in *Gridhrasi* management than any *Abhyantara* management (oral medication). The *Shamana yoga Panchmoolikwath* quoted by Chakradutta in *Gridhrasirogadhikar*, which has property of *Shoolprashamana*, *Aruchi*, *Gaurava* etc symptoms of present disease. The comparison between these two therapies and also combine application of *Agnikarmachikitsa* and *Panchmoolikwath* proved very effective and helpful to carry out truthful conclusion regarding these therapies.

AIMS OF STUDY :

To study the effects of *Agnikarma* and *Panchmoolikwath* (separately and comparatively) in management of *Gridhrasi*.

Type of Study : Open comparative clinical study.

Source of data : 60 patients of *Gridhrasi* were selected randomly from Shalyatantra outpatient department of D.Y. Patil Ayurvedic hospital, Mumbai.

MATERIALS & METHODS :

A) MATERIALS :

A study was taken up on the management of *Gridhrasi*. The sample size was 60 in total. The Patients were collected from inpatient & outpatient department of hospital & clinics by simple random sampling procedure, according to the selection criteria. All the patients were divided into three equal groups 20 in each.

The raw material like *Panchmool-Agnimanth* (*Premnamucronata Linn.*), *shyonak* (*Oroxylum indicum Vent.*), *patla* (*Stereospermum suaveolens DC*), *bilva* (*Aegle marmelos Corr.*), *kashmarya* (*Gmelina arborea Linn.*) were collected from the local market. Its identification & authentication was done from *Dravyaguna* department. The drug were prepared according to textual reference in *Rasa Shastra Bhaishajya Kalpana* Department of D.Y. Patil school of Ayurveda & prepared *Panchmoolikwath* standardization was done from Anchrom Lab., Mulund (east), Mumbai.

Ethical Clearance for the study was taken from Institutional Ethical Committee DYP AYU/PG/132030007/2013-2014

Drug Profile :

Group – A :-

Patients were provided with *Panchmoolikwath*.

Dose: - 40 ml OD daily orally for 1 month

Group – B:-

Patient was subjected to administration of *Agnikarma* with *Lauhashalaka* four *angula* above the *Gulpha* at the interval of 15 days (2 sittings).

Group – C:-

Group A	Combined	Group A & Group B	Agnikarma 5 dots (bindu type) at 4 angula above gulpha at affected side. No. of sittings = 2 (at interval of 15 days) Panchmoolikwath 40 ml OD with warm water empty stomach for 1 month.
Group B			

INVESTIGATIONS:-

Blood – ESR, Sugar.

Urine - Sugar

X-Ray of A/P view , lateral view of lumbar region.

SELECTION CRITERIA:-

INCLUSIVE CRITERIA: -

Patient presenting signs and symptoms of *Gridhrasi* was selected.

Patient of either sex with age group 20 -70 yrs was selected.

Patients not enrolled in any other clinical trials.

EXCLUSIVE CRITERIA: -

Patient suffering from following disease was excluded from the study-

Traumatic paraplegia, Neoplastic origin, viral infection like Polio myelitis,

Transverse myelitis, GB syndrome, Bacterial infection like TB spine, Demyelinating disease, Diabetes mellitus.

STUDY DESIGN:

The type of study done is open clinical study.

A total of 20 patients of *Gridhrasi* after considering the above mentioned criteria were included for the study.

The 20 patients were treated by *Agnikarma*.

In this group *bindudahanavishesha* (Intermittant heat burn by dot method) was made at the interval of 15 days.

The 20 patients were treated with *Agnikarma*(at interval of 15 days 2 sittings) alongwith *PanchmooliKwath* (1month daily).

B)METHODOLOGY:

1.*Agnikarma*

Agnikarmashalaka.(probe made of *Lauha*– iron).

Spirit lamp as heat source.

Yashtimadhughrita for post burn dressing.

PROCEDURE:

Procedure(Intentional Heat burn therapy) was explained to the patient in detail before the treatment and Consent was obtained for the treatment.

Lauhashalaka was heated over the spirit lamp until it became red hot.

Samyagdaghavrana(5 dots) in *bindudahanavisheshaw* was made four *angula* above *Gulpha* with the red hot *lauhashalaka*.

Immediately after *Agnikarma*, *Yashtimadhughrit* was applied over the site of *Agnikarma* to relieve burning sensation. Sterile bandage was applied to avoid outside exposure. The patient was advised to rest for half an hour and was sent home in case of outpatient and to the ward if the case was in patient. The patient was advised to remove the bandage after 3 hours.

The patient was advised that burnt area should be avoided by contact with water for 24 hours.

The Periodic observations were made on two sittings of *Agnikarma* at the interval of 15 days.

Duration of 60 days was fixed to observe the possibilities of recurrence in cases where there was complete relief from the complaints with the treatment.

The observations made regarding the changes with the above procedure were recorded in the proforma of case sheet prepared for the study.

2. Panchmoolikwath :

Crude *Agnimanth*(*Premnamucronata Linn.*)(5 gms)

shyonak(*Oroxylum indicum Vent.*) (5 gms)

patla(*Stereospermum Suaveolens DC*)(5 gms)

bilva(*Aegle marmelos Corr.*)(5 gms)

kashmarya(*Gmelina arborea Linn.*) (5 gms)

was taken in *sukshmachurna* form and then it was soaked overnight in 400 ml of water and then boiled to reduced to one fourth of it and 40 ml of *Panchmoolikwath* was given orally to the patient.[Chakradatta chapter 22 , pg. no 136]

Gradations of Parameters:

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

Table no. 2: Showing the gradations of parameters

Sr. no	Parameters	Gradation
1	<i>Ruka</i> (pain)	Grade
	No pain	0
	Mild pain	1
	Moderate pain	2
	Severe pain	3
	Worst	4
	We have used VAS scale for pain gradations (0 = 0) ; (1-3 =1); (4-6 = 2);(7-9 = 3) ; (10 = 4)	

2	<i>Toda</i> (Pricking sensation)	Grade
	No pricking sensation	0
	Occasional pricking sensation	1
	Mild pricking sensation	2
	Moderate pricking sensation	3
	Severe pricking sensation	4
3	<i>Stambha</i> (stiffness)	Grade
	No stiffness	0
	Sometimes for 5 – 10 minutes	1
	Sometimes for 10 –30 minutes	2
	Sometimes for 30 - 60 minutes	3
	Sometimes for 1 hour	4
4	<i>Tandra</i>	Grade
	No <i>tandra</i>	0
	Mild <i>tandra</i>	1
	Moderate <i>tandra</i>	2
	Severe <i>tandra</i>	3
5	<i>Gaurava</i> (Heaviness)	Grade
	No heaviness	0
	Mild heaviness	1
	Moderate heaviness	2
	Severe heaviness	3
6	SLRT (Straight leg raise test)	Grade
	More than 90 degree	0
	71 – 90 degree	1
	51 – 70 degree	2
	31 – 50 degree	3
	Upto 30 degree	4

Assessment criteria :

Cured : 100% subsidence of the complaints of the patient.

Marked improvement : 50 – 75% relief in the complaints of the patient.

Mild improvement : 25 – 50% relief in the complaints of the patient.

Unchanged : below 25% relief in the complaints of the patient.

OBSERVATION &RESULT :

On observation it has been found that , as the P value <0.001. The study groups have statistically highly significant efficacy for the symptom *Ruka* (pain), *toda* (pricking sensation),*stambha* (stiffness),*tandra* ,*gaurava* (heaviness) ,straight leg raise test (SLRT). Wilcoxon Signed Rank test was done for analyzing the significance of parameters within the group and Anova test was done for analyzing the significance of parameters between the three groups.

Table no. 3: Showing results obtained in Subjective and Objective parameters.

Symptoms	Total patients	No. of pts relieved						% of relief
		Group A	p value	Group B	p value	Group C	p value	
<i>Ruka</i>	60	14	0.0045	15	0.0020	20	0.0010	81.6%
<i>Toda</i>	60	13	0.0007	14	0.0001	20	0.0010	78.3%
<i>Stambha</i>	60	15	0.0019	15	0.0020	20	0.0014	83.3%
<i>Tandra</i>	29	5	0.0078	7	0.0020	7	0.0010	65.5%
<i>Gaurava</i>	29	5	0.0078	7	0.0020	7	0.0010	65.5%
SLRT	60	13	0.0001	16	0.0019	17	0.0004	76.6%

DISCUSSION :

In classics, *Vatavyadhi* is quoted as *Mahagada* and is group of disease. It can only result due to vitiation of *Vata*; sometimes other *Doshas* may also be involved as *Anubandha*. *Gridhrasi* is described as *Nanatmaja* disorder. In classics it is characterised by distinct type of pain emerging in the back from *Kati* and radiating to *Sphika*, *Uru*, *Janu*, *Jangha* and *Pada*. The *lakshanasofruka*, *toda*, *stambha* are indicative of pain and these symptoms are of *Vata*, but the disorder is caused by *Vata* and *Kapha*, it is associated with *tandra* and *gaurava*. Sushruta while describing *Gridhrasi* has given more emphasis on the involvement of the ligament of heel and toes afflicted with *vata* which obstructs the movements of leg. Sushrutacharya mentioned *Agnikarmachikitsa* in the management of *Sira*, *SnayuorSandhi* or *Asthisamprapti* and *Gridhrasi* form all these involved structures. The *Shamana yoga Panchmoolikwath* quoted by Chakradutta in *Gridhrasirogadhikar*, which has property of *Shoolprashamana*, *Aruchi*, *Gaurava* etc symptoms of present disease.

PROBABLE MODE OF ACTION OF AGNIKARMA:-

In *AgnikarmaChikitsa*, *shalaka* plays an important role. *Vata* and *kapha* possess *SheetaGuna*, for this to neutralize the *vata* and *kaphadosha*, require opposite *guna* treatment that is *ushnachikitsa*. *UshnaGuna* and *Agni* having *Anyonyasritabhava*, hence *Agnikarma* by virtue of its *Ushna*, *Tikshna*, *Sukshma* and *Laghu* property breaks *Srotovaradha*, which was produced by *vata* and *kaphadosha*. Thus *niramakapha* and *vatadosha* are neutralized.

Agnikarma also acts like a *DoshaDushyaVighatanakaraka* because *UshnaGuna* performs two functions. Firstly by stimulating i.e. *Utkleshana* of *dhatvagni* and due to this action *samadhatu* (localized *Ama*) is digested and secondly *Ushnaguna* dilates the channels of *srotas*. Hence *srotovarodha* is removed (cleaning the respective *srota* channel). It is hypothetically stated that *BindupadaAgnikarma* which practically used, is probably capable to break down various cycles of painful adhesions.

Agnikarma may stimulates the sensory receptor lying in the muscle, sends message to the brain which stimulates the pituitary gland to release endorphin which in turn binds with opiate receptors in the pain cells

to block the pain stimuli. Endorphin is a naturally occurring neuro peptide and like morphine and other opiates it has a marked propensity for binding on to the “opiate receptors” of the pain cell in the brain.

Raising the temperature of damaged tissue through red hot *shalaka* may speed up the metabolic process, improves circulation by vasodilatation, reduce oedema, accelerate repair, which can reduce painful swelling in *Gridhrasi*. Thus *Agnikarma* may help in reducing the pain and swelling in *Gridhrasi*.

The pain receptors in the skin and other tissues are all having free nerve endings. The red hot *shalaka*, which causes destruction of the free nerve endings, tend to close the “gate” and prevent the sensory transmission of pain.

Mode of action of Panchmoolikwath –

In *Panchmoolikwath* , the content are *Agnimanth* , *Patla* ,*Bilva* , *Shyonak* and *Kashmarya* all of having properties of *Deepan* , *Pachana* , *Shothhara* , *Vedanasthapana* , *Ushnaguna*. *Panchmoolikwath* works in *Amapachana* and after it *Agnivardhaka* as *vayu* gets normal *gati*. *epratilomagati* and *shoolaprashamana* occurs. In *Gridhrasi* *Amas* is formed due to *Agnimandya* which creates obstruction and due to obstruction *Ruka* is the cardinal symptom , which is major disturbing cause of discomfort.

Conclusion :

In the present study total 60 patients were selected , which is satisfactory sample size in a short term Research work. Majority of the patients were in the age group of 20 – 40 years (55%) with maximum male patient having mixed diet.

It is very clear from the results that shows significant improvement ($p < 0.01$) in all the cardinal signs & symptoms.

Panchmoolikwath was effective in reducing the symptoms i.e. *eruk* , *tod* , *stambha* , *tandra* and *gaurava*.

Agnikarma was effective in reducing symptoms i.e. *ruk* (pain) , *tod* (pricking sensation) , *stambha* (stiffness) , *tandra* (drowsiness) , *gaurava* (heaviness) in *Gridhrasi*.

Panchmoolikwath and *Agnikarma* together was effective in reducing symptoms i.e. *eruk* (pain) , *tod* (pricking sensation) , *stambha* (stiffness) , *tandra* (drowsiness) , *gaurava* (heaviness) No untoward effects were observed in any of the cases.

Agnikarma and *Panchmoolikwath* together showed more significant results than as a single treatment in reducing *Gridhrasi* symptoms i.e. *ruk* (pain) , *tod* (pricking sensation) , *stambha* (stiffness) , *tandra* (drowsiness) , *gaurava* (heaviness). *Agnikarma* procedure and *Panchmoolikwath* is simple , cheap and could be done at OPD level.

Limitation of study and future scope –

However the future study can be done with more number of cases and with more number of sittings of *Agnikarma*.

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