

A CLINICAL EVALUATION OF THE ROLE OF 'SHIVA GUGGULU' WITH 'DASHMOOL TAIL KATI BASTI' IN THE MANAGEMENT OF GRIDHRASI W.S.R. TO SCIATICA

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ABSTRACT

Gridhrasi is one of the most common *Vatavyadhi*. The main symptoms of *Gridhrasi* are *Ruka, Toda, Stambha, Muhuspandana* in *Sphika, Kati, Prishtha, Uru, Janu, Jangha* and *Pada*. *Gridhrasi* is correlated with Sciatica in modern medical science which is characterized by pain and discomfort associated with sciatic nerve. It is prevalent all over the world. *Gridhrasi* is also pain dominant lifestyle disorder, in which the pain starts from *Sphik Pradesh* (low back) and radiates towards the foot. The management of sciatica in modern science includes analgesics, epidural steroid injections and surgical treatment at the cost of their own limitations and complication and having a lot of side effects. In *Ayurveda* there are therapies like *Snehana, Swedana, Kati*

basti, Siravedha, Agnikarma and *Basti karma* along with *Bheshaj* where are simple, safe and cost effective.

KEYWORDS: *Gridhrasi, Sciatica, Vataja, Vatakaphaja.*

INTRODUCTION

Medical Science's goal is to provide every human being with a better health. Different medical science with different principle and foundation are trying their best for one common goal i.e., to have a good tomorrow. Everybody expects miracle treatments for illness in this

space age. Yet these miracle remedies come to the cost impacting the other part of the body and thus viscous circle continues to cure one part and afflict another. To break this, one needs wisdom and guide. Our *Acharayas* have supported various therapeutic modalities in the management of each and every disease, but their efficacy needs to be restored through extensive and rigorous study. In *Charaka Samhita*, *Vata Vyadhis* are divided into *Samanyaja* and *Nanatmaja* group. *Gridhrasi* falls under 80 types of *Nanatmaja Vata Vyadhi*^[1] from and often there is *Kaphanubandha*.

“Sciatica syndrome”- a disorder mentioned in modern medicine resemble with *Gridhrasi*. In sciatica there is pain in the distribution of sciatic nerve which begins from the back into buttock and radiates downwards to the posterior or lateral aspect of thigh, calf and to the outer border of foot and most commonly caused by herniation or degenerative changes in intervertebral disc.

Sciatica nerve is the largest nerve in human body. Previously this disease was mentioned as “Cotugno disease”. Tumour of Cauda equina, Protrusion of intervertebral disc, Pott’s disease, Spondylosis, Osteomyelites, Fracture of Lumber Vertebra, Neurofibroma, Tuberculosis, Gluteal Bursitis, Neoplasm of Sacrum and Pelvic bones and penetrating injury to Sciatic nerve are known as chief causes of Sciatica. The management of sciatica in modern science includes analgesics, epidural steroid injections and surgical treatment at the cost of their own limitations and complication and having a lot of side effects. The symptoms of sciatica can be correlated to the disease called *Gridhrasi*, having symptoms like *Ruka* (pain), *Toda* (piercing pain), *Stambha* (stiffness), *Spandana* (twitching), *Suptata* (numbness) and pain radiating from *Kati- Pradesha* (lumbosacral region) to *pada* (foot).

Modern Science is unable to provide a cure to Sciatica, except giving temporary relief through Analgesics, epidural steroid injection and surgical treatment. But *Ayurvedic* therapies like *Snehana*, *Svedana*, *Kati basti*, *Siravedha*, *Agnikarma* and *Basti Karma* along with *Bheshaj* which are simple, safe and cost effective. As per *Ayurvedic* text, *Kati Basti*, *Siravedha* and *Agnikarma* are described as main therapeutic tools for *Gridhrasi*. According to *Acharya Charaka*, *Gridhrasi* is caused predominantly due to the vitiation of *Vata* and *Basti* is the best treatment for *Vata Vyadhi*. Also stated by *Acharya Sushruta*, that the diseases in which *Snehana*, *Swedana* and *Lepadi Kriya* are not successful, *Siravedha* can good relief. *Vaitarana Basti* is also described by *Acharya Vangasena* in the management of *Gridhrasi*.

Epidemiology of sciatica

The prevalence of sciatica varies considerably ranging from 1.6% in the general population to 43% in selected working population. Sciatica not only inflicts pain, but also causes difficulty in walking. It negatively impacts quality of life of patient and disturbs daily routine.^[2] Low back pain is second most frequent symptom related reason for hospital visit. Most adult during their lifetime will experience at least one episode of low back pain. Low back pain is encountered more frequently in younger patient below 40 years of age but, in contrast it is more severe on older age group. It is found that up to 84% of adult experience LBP at some point of time during their life but approximately 2% to 8% of these individuals will develop chronic disabling. The incidence rate of this disease is significant as more than three quarters of the world's population experience at some or other time during their life time, out of which 40% of persons have radicular pain and it comes under the umbrella of sciatica syndrome. The commonest mode of presentation is low back pain with radiation to lower limbs. Disc degenerative disease is found to be commonest cause of low backache, being present in 72% of the cases.^[3] Over 90% of lumbar disc herniation occurs at the L4-L5 or L5-S1 levels.^[4] The life time prevalence of true sciatica is between 2 and 4%. The incidence of sciatic symptoms reported in the literature ranges considerably from 1.6% in the general population to 43% in a selected workforce⁵. Risk factors include male gender, age, heavy weight lifting or twisting, stressful occupation, height, walking, jogging, lower income and cigarette smoking.

Need of the study

In Sciatica there is pain in the distribution of the Sciatica Nerve which ends at the outer border of foot. The most common disorder which affects the movement of leg particularly in most productive period of life is low backache. It is a fact that despite recent progress of Modern Neurology, Modern Science, is unable to provide a cure to Sciatica, expect giving temporary relief through Analgesics.

Samprapti denotes the course of the appearance of disease right from *Nidana Sevanto Vyadhi Utpatti*. The study of *Nidana* and *Samprapti* helps in the comprehension of specific feature of disease like *Dosha, Dushya, Srotodushti, Ama* and *Agni* etc.

An effort is made here to study the aetiopathogenesis of *Gridhrasi* and *Samprapti vighatana* of *Gridhrasi* through *Shiva Guggulu* and *Dashmool Tail Kati Basti*. It can be major relief to the patient.

AIMS AND OBJECTIVES OF STUDY

The present study has been designed with following aims and objectives.

- Conceptual and clinical study on *Gridhrasi* (Sciatica).
- To study aetiopathogenesis, symptomatology and progress of '*Gridhrasi*' with special reference to 'Sciatica'.
- To assess the efficacy of both *Shodhan* and *Shaman Chikitsa* in the management of *Gridhrasi*.
- To compare the effects of *Shiva Guggul* and *Kati Basti* Clinically.

Literary review

According to *Acharya Charak* *Gridhrasi* is that condition is said to be Sciatica, where first the hip and then back, thigh, knee, and calf are gradually affected with stiffness(*stambh*), pain (*ruk*)and pricking sensation(*toda*) and associated with frequent twitching(*spandana*) due to *vata*.^[6]

According to *Acharya Sushruta* *vata*dosha (aggravated) and invading the *kandaras* (ligaments/tendons) of the ankles and toes, produces *ksepa* (pain and inability to extend) in the thighs, this disease known as *Gridhrasi*.^[7]

Sampraptighataka of gridhrasi

- *Nidana-Vataprakopakanidana*
- *Dosha-Vata* –*Apana* and *vyanavayu*, *kapha*
- *Dushya- Rasa, Rakta, Mansa, Meda, Asthi, Majja, Sira, Kandara, Snayu*
- *Agni* - *Jatharagni* and *Dhatvagni*
- *Ama* -*Jatharagnimanya, Dhatvagnumandya*
- *Udbhavasthana* –*Pakwashaya*
- *Adhithana* –*Kandaras of parshni, Pratyanguli and sphik, kati, Uru, Janu, Jangha, Pada*
- *Srotas*– *Rasa, Rakta, Mamsa, Meda, Asthi, Majja*
- *Srotodushhti* –*Sanga and Margavarodha*
- *Rogamarga*–*Madhyam*
- *Vyakti* –*Sphika, Kati, Prishtha, Uru, Janu, Jangha, Pada*
- *Bheda-Vataj* and *Vatakaphaj*
- *Swabhav* –*Chirkari*

According to sign and symptoms the *Gridhrasi* can be compared with Sciatica in modern medical science. Most of the sign and symptoms of *Gridhrasi* are found in the sciatica. Sciatica is defined as pain that radiates along the track of the sciatic nerve, felt in the buttocks and down the back of the leg to the foot. Sciatica is caused by pressure on the Sciatic nerve. Symptoms of sciatica are dividing into two groups.^[8,9,10]

(1). Spinal symptoms

- A reduction of the normal lordosis in the region of the lumbar spine or even a lumbar kyphosis. Sometimes there may be even appearance of a lumbar scoliosis.
- Diminished mobility of the lumbar spine. The patient may be asked to bend backward and forward without flexion at the knee joints.
- Pain may particularly localize over the region of the displaced disc, with tenderness on percussion.
- Muscle spasm and rigidity.

(2). Redicular symptoms

- Presence of straight leg rising and other signs during sciatic nerve stretch.
- Tenderness over the course of the sciatic nerve after it exit from the pelvis.
- Sciatic pain aggravated but coughing, sneezing, straining or pressure on the jugular vein, sometime by movements of the head, trunk or leg.
- Paraesthesia in the region of the distribution of the affected dermatomes.
- Sensory loss in the region of the distribution of the nerve roots pressed upon.
- Weakness of dorsiflexion of the foot on the affected side in the case of displacement of L4, L5 disc and weakness of planter flexion, when the disc between L5 & S1 is herniated.
- Loss of deep reflexes, in case of L3, L4 displacement, there is absence or depression of knee jerk, whereas the herniation of L4, L5 OR L5, S1 tends to diminish the ankle jerk or to abolish it entirely.

Modern Science is unable to provide a cure to Sciatica, expect giving temporary relief through Analgesics, epidural steroid injection and surgical treatment. All these modalities have complications like permanent damage the spinal cord/ nerve, loss of working capabilities so there is a need to find out safe, cost effective, long lasting and non- invasive treatment.

Therefore, *Ayurveda* has got a responsibility and has too played an important role in the management of this type of condition. *Chikitsa Siddhanta* of *Vatavyadhi* w.s.r.to *Gridhrasi*. The first and the foremost principle to be adopted in the treatment of each and every disease is to avoid the *Nidna* of the disease i.e. *Nidana Parivarjana*. Secondary the intensity of the *Doshaprakopa* should be considered before deciding the line of treatment.

Gridhrasi being a *Vatavyadhi*, the general treatment of *Vatavyadhi* is applicable to *Gridhrasi* also and it is as:-

1. *Nidanaparivarjana*
2. *Samshamana*
3. *Samshodhana*

Gridhrasi being a *Vata Vyadhi*, the general line of treatment for *Vata Vyadhi* is indicated for *Gridhrasi* also. *Upakramas* such as *Snehana*, *Swedana*, *Utsadana*, *Parisheka*, *Asthapana* and *Anuvasana Basti* are indicated. *Basti* is described as one of the best line of treatment for *VataDosha*.^[11]

MATERIAL AND METHODS

Following material and method will be adopted for conducting the present research

- 1) **Selection of cases:-** Well diagnosed and confirmed 40 patients of Sciatica will be selected randomly from OPD & IPD of P.G. Deptt. of Kayachikitsa, Hospital of University college of *Ayurved*, Jodhpur
- 2) **Study Design:-** It was open label and randomized clinical trial
- 3) **Selection criteria**
 - **Inclusion criteria**
 - 1) Well diagnosed & confirmed patient of Sciatica on the basis of Modern texts.
 - 2) Patients with presence of *Ruk*, *Toda*, *Stambha* and *Spandana* in the *Sphik*, *Kati*, *Uru*, *Janu*, *Jangha* and *Pada*
 - 3) Patient with tenderness along the course of Sciatic nerve.
 - 4) S.L.R. test in affected leg as objective measure for diagnosis as well as for improvement of the treatment.
 - 5) Popliteal Compression Test.
 - 6) Foot Flexion Test.
 - 7) Knee-Jerks and Ankle-Jerks.
 - 8) Patients between age group of 20 to 60 years will be included.

- **Exclusion criteria**– The patients suffering from following conditions will be excluded from the study.

- 1) Cancer of spine
- 2) Tumour of Cauda Equina and Lumbosacral Plexus
- 3) Uncontrolled Diabetes Mellitus
- 4) Cardiovascular Disease
- 5) Pregnancy
- 6) Tuberculosis of Vertebral Column

4) Methodology

Group A: 20 Patients of Sciatica will be administered *Shiva Guggulu* in the dose of 1 gm (2 tab of 500 mg each) twice a day with lukewarm water for 2 months.

Group B: 20 Patients of Sciatica will be administered *Shiva Guggulu* in the dose of 1 gm (2 tab of 500 mg each) twice a day with lukewarm water for 2 months along with *Dashmool Tail Kati Basti* for 15 days.

5) Study Duration & Follow up

1. Total duration of clinical trial was 60 days for both groups which include 15 days of *Panchakarma* procedure.
2. Patients will be followed up on, every 15 days.
3. Improvement and other effect will be noted.
4. Laboratorial investigations repeated for the assesment.

6) Criteria for withdrawal

During the course of trial, If any serious condition or any serious adverse effects which require urgent treatment of patient himself/herself want to withdrawn from trial.

7) Assesment criteria

The patients were observed weekly. Changes in symptoms as well as general condition of patients were noted before and after treatment following point's retaken in to consideration for the assesment of the results. Both subjective and objective parameters were employed for assesment of the impact of the treatment.

- I. Clinical features such as *Stambha, Ruk, Toda, Spandana* etc before and after treatment.
- II. Improvement in range of motion of lumbar spine measured by S.L.R. test.

- **Subjective improvement**

All the patients registered for the present trial will be looked for any improvement in the symptoms mentioned in *Ayurveda* and Modern texts and changes in their growing feelings of wellbeing will be assessed with grading of symptoms.

Table no. Grading of Subjective parameters

1. *Stambha* (Stiffness)

1.	No stiffness	0
2.	Some time for less then 30 min.	1
3.	Daily for 30 min. to 1 hour	2
4.	Daily for 1-2 hour	3
5.	Whole the day	4

2. *Ruka* (Pain)

1.	No pain	0
2.	Occasional pain	1
3.	Mild pain	2
4.	Moderate pain	3
5.	Severe pain	4

3. *Toda* (Pricking Sensation)

1.	No pricking sensation	0
2.	Occasional pricking sensation	1
3.	Mild pricking sensation	2
4.	Moderate pricking sensation	3
5.	Severe pricking sensation	4

4. *Spandana* (Twitching)

1.	No twitching	0
2.	Some times for less then 30 min.	1
3.	Daily for 30 min. -1 Hour	2
4.	Daily for 1-2 Hour	3
5.	Whole the day	4

5. *Aruchi* (Anorexia)

1.	No anorexia	0
2.	Mild anorexia	1
3.	Moderate anorexia	2
4.	Severe anorexia	3

6. Tandra (Torpor)

1.	No Tandra	0
2.	Mild Tandra	1
3.	Moderate Tandra	2
4.	Severe Tandra	3

7. Gaurava (Heaviness)

1.	No heaviness	0
2.	Mild heaviness	1
3.	Moderate heaviness	2
4.	Severe heaviness	3

- **Objective improvement**

Following functional aspect and investigations will be assessed for any improvement after the course of therapy.

1) Functional assessment- Straight leg raise [S.L.R.] test.

1.	More than 90°	0
2.	71°-90°	1
3.	51°-70°	2
4.	31°-50°	3
5.	up to 30°	4

2) Laboratory investigations- As per requirement.

- I. Hematological analysis –
- II. Routine and microscopic examination of urine
- III. X-ray of Lumbosacral region (Anterior Posterior & Lateral View)
- IV. Bio-chemical examinations- Blood sugar, (F.B.S. & P.P.B.S.)
- V. MRI (Magnetic Resonance Imaging).

Criteria for assessing the total effect

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

No improvement	–	0-25%
Mild improvement	–	25-50%
Moderate improvement	–	50-75%
Considerable improvement	–	75-100%
Cured	-	100%

Selectio of drugs

1. *Shiva guggulu*
2. *Dashamool tail* (For *Kati Basti*)

1. *Shiva guggulu*^[12]**Contents of *shiva guggulu***

S. No.	Drug name	Latin name	Part used	Quantity
1.	<i>Haritaki</i>	<i>Terminalia chebula</i>	<i>Phala</i>	6 part
2.	<i>Vibhitaki</i>	<i>Terminalia bellirica</i>	<i>Phala</i>	6 part
3.	<i>Amlaki</i>	<i>Emblica officinalis</i>	<i>Phala</i>	6 part
4.	<i>Erand</i>	<i>Ricinus communis</i>	<i>Tail</i>	3 part
5.	<i>Guggulu</i>	<i>Commiphora mukul</i>	<i>Niryas</i>	3 part
6.	<i>Gandhak</i>	<i>Sulphar</i>		1 part
7.	<i>Rasana</i>	<i>Pluchea lanceolata</i>	<i>Mula</i>	1/5 part
8.	<i>Vidang</i>	<i>Embelia ribes</i>	<i>Mula</i>	1/5 part
9.	<i>Pippali</i>	<i>Piper longum</i>	<i>Phala</i>	1/5 part
10.	<i>Marich</i>	<i>Piper nigrum</i>	<i>Phala</i>	1/5 part
11.	<i>Nagar</i>	<i>Zingiber officinale</i>	<i>Kand</i>	1/5 part
12.	<i>Devadaru</i>	<i>Cedrus deodara</i>	<i>Twak</i>	1/5 part
13.	<i>Danti</i>	<i>Baliospermum montanum</i>	<i>Mula</i>	1/5 part
14.	<i>Jatamansi</i>	<i>Nardostachys jatamansi</i>	<i>Mula</i>	1/5 part

2. *Dashmool tail*^[13]**Contents of *dashamool tail***

S. no.	Drug name	Latine name	Part used	Quantity
1.	<i>Bilwa</i>	<i>Aegle mormelos</i>	Root	1 Part
2.	<i>Agnimantha</i>	<i>Premna mucronata</i>	Root	1 Part
3.	<i>Shyonak</i>	<i>Oroxylum indicum</i>	Root	1 Part
4.	<i>Patala</i>	<i>Stereospermum suaveolance</i>	Root	1 Part
5.	<i>Gambhari</i>	<i>Gmelina arborea</i>	Root	1 Part
6.	<i>Shalaparni</i>	<i>Desmodium gangeticum</i>	Root	1 Part
7.	<i>Prishniparni</i>	<i>Uraria picta</i>	Root	1 Part
8.	<i>Brihati</i>	<i>Solanum indicum</i>	Root	1 Part
9.	<i>Kantakari</i>	<i>Solanum surattense</i>	Root	1 Part
10.	<i>Gokshura</i>	<i>Tribulus terrestris</i>	Root	1 Part
11.	<i>Nirgundi</i>	<i>Vitex nigundo</i>	Leaf	1 Part
12.	<i>Sarshap</i>	<i>Brassica comprestis</i>	Seed's oil	As per requirement

Method of preparation of *shiva guguulu*

Above mentioned contents of *shiva guggulu* will be taken in above ratio as per requirement. First of all decoction of *yavkuta* powder of *triphala* will be made by 5 times of water. Then *shuddha Gandhank*, *shudhha Guggulu* and *Erand tail* will be mixed in the decoction and

condensed on the medium flame. Then fine powder of rest of drugs will be mixed in it. After complete mixing of all the material pills (Vati) of 500mg each will be prepared and stored.

Dose of *shiva guggulu*:- 2 Vati (each Vati 500mg.) twice in a day with lukewarm water.

Method of administration of *kati basti*

A boundary was made, with flour paste of *Urada*, in the lumbar region catering the site of pain and then lukewarm *dashmool tail* was poured and retained there for 45 minutes daily for 15 days. The oil was changed frequently so as to maintain the temperature of the oil to a particular level. The oil for “*Kati basti*” has been replaced with fresh one on every 5th day.

OBSERVATION

- In demographic profile we found that maximum no. of patients 13 (32.5%) were observed in 41-50 age group, male gender (55% patients), Hindu religion (95% patients), Married (92.5% patients), Graduate (30% patients), House wives (40% patients), Lower middle class (45% patients), Vegetarian society (65% patients).
- In constitutional profile we found that maximum no. Of patients were having *Kroora Koshtha* (40%), *Samaagni* (32.5% patients), *Vata-pittaj deha prakriti* (45% patients), *Taamasika prakriti* (47.5% patients), *Meda sara* (37.5% patients), *Madhyama samhanana* (40% patients), *Avara satva* (40% patients), *Madhyama Jarana shakti* (45% patients), *Alpa nidra* (42.5% patients).
- In clinical profile we found maximum no of found 52.5% had gradual onset, left leg affected (37.5% patients), *Kriya Atiyoga as nidana* was maximum in 82.5% patients.
- In study of clinical feature wise distribution we got that all the patients were suffering with *Stambha* (97.5% patients), *Ruk* was found in (100% patients), *Toda* was found in (95% patients), *Spandana* was found in (87.5% patients), *Aruchi* was found in (80% patients), *Tandra* was found in (77.5% patients), *Gaurava* was found in (90% patients), S.L.R. was positive in (100% patients).

RESULT

Intra-group study was done on Subjective Parameters and Objective Parameters.

Effect of therapeutic trial on Subjective Parameters (clinical symptomatology) in 40 patients of *Gridhrasi* (Sciatica) using Wilcoxon matched pairs signed rank test.

Variable	Gr	Mean		Mean Diff.	% Relief	S.D.±	S.E.±	P-value	S
		BT	AT						
<i>Stambha</i> (Stiffness)	A	2.400	1.100	1.300	54.16	0.6569	0.1469	<0.0001	ES
	B	2.200	0.9000	1.300	59.09	0.4702	0.1051	<0.0001	ES
<i>Ruka</i> (Pain)	A	1.950	1.000	0.9500	48.71	0.5104	0.1141	<0.0001	ES
	B	2.350	0.9500	1.400	59.57	0.6806	0.1522	<0.0001	ES
<i>Toda</i> (Pricking sensation)	A	1.750	0.8000	0.9500	54.28	0.5104	0.1141	<0.0001	ES
	B	2.650	1.3000	1.350	50.94	0.4894	0.1094	0.0001	ES
<i>Spandana</i> (Twitching)	A	1.500	0.9000	0.6000	40	0.5026	0.1124	0.0002	ES
	B	2.450	1.050	1.400	57.14	0.7539	0.1686	<0.0001	ES
<i>Aruchi</i> (Anorexia)	A	1.500	0.6500	0.8500	56.66	0.5871	0.1313	<0.0001	ES
	B	2.000	0.8000	1.200	60	0.6959	0.1556	<0.0001	ES
<i>Tandra</i> (Torpor)	A	1.650	0.7500	0.9000	54.54	0.7182	0.1606	<0.0001	ES
	B	1.600	0.5000	1.1000	68.75	0.9679	0.2164	<0.0001	ES
<i>Gaurava</i> (Heaviness)	A	1.550	0.7500	0.8000	51.61	0.5231	0.1170	<0.0001	ES
	B	2.050	0.8500	1.200	58.53	0.6156	0.1376	<0.0001	ES
S.L.R.	A	1.900	0.8000	1.100	57.89	0.4472	0.1000	<0.0001	ES
	B	2.100	0.5000	1.600	76.19	0.5026	0.1124	<0.0001	ES

Effect of therapeutic trial on objective parameters in 40 patients of *gridhrasi* (Sciatica) using Paired 't' test.

Variable	Gr	Mean		Mean Diff.	% Relief	S.D.±	S.E.±	P-value	t-value	S
		BT	AT							
Hb (gm/dL)	A	10.790	11.850	-1.060	9.82	0.6286	0.1406	<0.0001	7.541	ES
	B	11.600	12.670	-1.070	9.22	0.8945	0.2000	<0.0001	5.350	ES
TLC (/ mm ³)	A	6340	7570	-1230	19.40	1182	264.39	<0.0001	4.652	ES
	B	6330	6795	-465.0	7.3	560.33	125.29	0.0007	3.711	ES
ESR (mm/hr)	A	22.50	18.65	3.850	17.11	3.233	0.7228	<0.0001	5.326	ES
	B	21.40	18.55	2.850	13.31	2.560	0.5725	<0.0001	4.978	ES
FBS (mg/dL)	A	106.22	104.85	1.374	1.29	6.994	1.564	0.1953	0.8786	NS
	B	105.05	103.73	1.319	1.25	8.370	1.872	0.2447	0.7048	NS
RBS (mm/dL)	A	161.33	147.20	14.130	8.75	9.261	2.071	<0.0001	0.823	ES
	B	157.84	150.84	7.380	4.67	12.478	2.790	0.0080	2.645	VS

Inter-group study was also done on both subjective and objective parameters.

Effect of therapeutic trial on Subjective Parameters (clinical symptomatology) in 40 patients of *Gridhrasi* (Sciatica) using Mann-Whitney test.

S. no.	Variable	U (Mann-Whitney)	P-value	Significance
1.	Stambha	194.00	0.4314	NS
2.	Ruka	137.00	0.0156	S
3.	Toda	200.00	0.4929	NS
4.	Spandana	86.00	0.0004	ES
5.	Aruchi	144.50	0.0472	S
6.	Tandra	178.00	0.2691	NS
7.	Gaurava	134.00	0.0181	S
8.	S.L.R.	106.00	0.0016	VS

Effect of therapeutic trial on objective parameters in 40 patients of *gridhrasi* (Sciatica) using Unpaired 't' test.

S. no.	Variable	t-value	P-value	Significance
1.	Hb%	0.04091	0.4838	NS
2.	TLC	2.615	0.0064	VS
3.	ESR	1.084	0.1425	NS
4.	Fasting blood sugar	0.02255	0.4911	NS
5.	Random blood sugar	1.943	0.298	S

Percentage relief of clinical trial on subjective parameters (both groups)

S. no.	Subjective Parameters	% Relief	
		Group A	Group B
1.	<i>Stambha</i> (Stiffness)	54.16%	59.09%
2.	<i>Ruka</i> (Pain)	48.71%	59.57%
3.	<i>Toda</i> (Pricking sensation)	54.28%	50.94%
4.	<i>Spandana</i> (Twitching)	40%	57.14%
5.	<i>Aruchi</i> (Anorexia)	56.66%	60%
6.	<i>Tandra</i> (Torpor)	54.54%	68.75%
7.	<i>Gaurava</i> (Heaviness)	51.61%	58.53%
8.	<i>S.L.R.</i> (Straight leg raise)	57.89%	76.19%
Total		52.23%	61.27%

Percentage relief of clinical trial on objective parameters (both groups).

S. no.	Objective Parameters	% Relief	
		Group A	Group B
1.	Haemoglobin	9.82%	9.22%
2.	Total Leucocyte Count (TLC)	19.40%	7.30%
3.	Erythrocyte Sedimentation Rate (ESR)	17.11%	13.31%
4.	Fasting Blood Sugar	1.29%	1.25%
5.	Random Blood Sugar	8.75%	4.67%
Total		11.27%	7.15%

Probable mode of action of shiva guggulu:- *Shiva Guggulu* contains 14 drugs which are having properties of-

- **Haritaki:-** It has *Kashaya, Madhura, Amla, Katu, Tikta Rasa, Ushna Virya, And Tridoshashamaka*, especially *Vatashamaka*.
- **Bibhitaki:-** It has *Pancharasa, Kasaya pradhana, Ushna Virya, Tridoshashamaka*, especially *Kaphashamaka*. Fruits are anti-inflammatory properties.
- **Amalaki:-** It has *Amla, Madhura, Kashaya, Tikta, Katu Rasa, Tridoshashamaka*, and anti-inflammatory properties.
- **Erandmoola:-** It has *Snigdha, Teekshna, Sukshma Guna, Kapha Vatahara* and anti-inflammatory, analgesic properties.
- **Guggulu:-** It has *Laghu, Ruksha, Tikshna, Vishada, Sukshma, Sara Guna, Tridoshhara* and Anti-artritic, anti-inflammatory & anti rheumatic properties.
- **Gandhaka:-** It has *Sara, Snigdha Guna, Kaphavatashamak Agni pradipaka, Amadosha nashaka* properties.
- **Rasana:-** It has *Tikta Rasa, Kapha-Vata hara* and Anti-inflammatory, Anti-oedema, Spasmolytic & Analgesic properties.
- **Vidanga:-** It has *Laghu, Ruksha, Tikshna Guna, Kapha-Vata Shamaka* and anti-inflammatory properties.
- **Trikatu:-** It has *Tikta, Katu Rasa, Vatakapha shamak, Deepana* and Anti-inflammatory Antinarcotic, Analgesic properties.
- **Devdaru:-** It has *Laghu, Snigdha Guna, Vata-Kapha Shamaka* and anti-inflammatory analgesic, Spasmolytic properties.
- **Danti:-** It has *Tikshana Guna, Vatakaphanasak* and Purgative properties.
- **Jatamansi:-** It has *Laghu, Snigdha Guna, Tridoshaghna* and Analgesic, Antispasmodic properties.

Probable mode of action of kati basti

Ayurvedic Kati Basti therapy offers a very effective approach using a topical oil retention dam for alleviating disorders associated with the lower back and lower abdomen, also known as *Swadhisthana*, the sacral chakra. Sciatica, lower back pain, hip pain, can be remedied by using this ancient oil technique called *Kati Basti*. It is an important therapy utilized in *Ayurveda* to apply diffused medicated herbal oils, herbs, ghee, milk, water or essential oils directly on the area of the body treated. This practice allows the herbs to deeply immerse into

the tissues for a therapeutic effect. A Dough Dam is placed on the body, which is used to contain the oil for the treatment, allowing the recipient to receive the worm oils for deeper nourishment. Oil is lipophilic, which means it can dissolve oil-like toxins that are stored in certain tissues in the body that are plagued with pain. Pain is always associated with toxins, so this therapy is a form of detoxification in order to remove pain in specific area of the body. Learn about the essential oil and specific herbs which have an affinity to the *Swadhisthana*-sacral *chakra* energy center and how they are used to impart nourishment and clearing. This is a tried and true, authentic and extremely effective technique for even the toughest sciatica cases.

CONCLUSION

- *Gridhrasi Roga* is one of the *Nanatamaja Vatavyadhi* and on the basis of their clinical manifestation it can be compared with Sciatica or Sciatica Syndrome in Modern medical science.
- **Shiva guggulu:-** All the drugs chosen for the study are having *Ushna Virya*, *Deepana-Pachana* and *Kapha-Vata Shamaka* properties. So they help in dissolving the *Samprapti* of *Gridhrasi* and all drugs have properties like anti inflammatory, analgesic, *Rasayana* so it can help in relieving the pain and inflammation of nerve.
- **Kati basti:-** *Kati Basti* being the preferentially best line of treatment in *Vata Vikaras*, seems very effective on *Gridhrasi*. Results of the entire study shows that *Kati Basti* provides better result in *Vataja lakshana* whereas oral medication provides better result in *Vatakaphaja lakshana*.
- If we compare the percentage of relief in both groups, we reach on conclusion that Group B (*Shiva Guggulu* with *Dashmool tail Kati basti*) showed better results as compare to Group A (*Shiva Guggulu*).
- Therefore it can be concluded that administration of '*Shiva Guggulu*' and *Kati Basti* with '*Dashmool Tail*' is a safe and effective *Ayurvedic* treatment for the management of '*Gridhrasi Roga*' (Sciatica).

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