



# Comparative Clinical Evaluation Of *Shiva Guggulu* And *Jalauka Avcharana* In *Gridhrasi* (Sciatica)

Dr. Ajay Pratap Singh<sup>1\*</sup>, Dr. Devesh Shukla<sup>2</sup>, Dr. Sunil Gupta<sup>3</sup>, Dr. Udai Narayan Pandey<sup>4</sup>, Dr. Pankaj Sharma<sup>5</sup>, Dr. Rajeev Kumar<sup>6</sup>

1- MS Scholar, PG Deptt. of Shalya Tantra, UAU Gurukul Campus Haridwar Uttarakhand

2 -Associate Professor, PG Deptt. of Shalya Tantra, UAU Gurukul Campus Haridwar Uttarakhand.

3-Professor, PG Deptt of Shalya Tantra, UAU Gurukul Campus Haridwar Uttarakhand.

4-Associate Professor, PG Deptt. of Shalya Tantra, UAU Gurukul Campus Haridwar Uttarakhand

5-Professor & (HOD) PG Deptt of Shalya Tantra, UAU Gurukul Campus Haridwar Uttarakhand.

6- Assistant Professor, PG Deptt of Shalya Tantra, UAU Gurukul Campus Haridwar Uttarakhand.

## ABSTRACT

*Gridhrasi* is one of the eighty *Nanatmaja Vatavyadhi* mentioned in various *Ayurvedic* texts, caused by the vitiation of *Vata Dosha*. One of the most common symptoms of *Gridhrasi* is *Ruka* (low back pain of radiating type) and its incidence has increased over time as a result of changing lifestyle of human being's. On the basis of its symptoms, it can be compared with sciatica in modern science and its treatments mainly aims at relieving pain, using analgesics, muscle relaxants or physiotherapy, and even surgery in certain cases and all these carry some side effects. So, it is the need of the time to search good (safe and cost-effective) treatment modality. In *Ayurveda*, many procedures like *Snehana*, *Swedana*, *Raktamokshana*, *Agni Karma* etc. along with various formulations have been described by our ancient *Acharyas*, which carry no or minimal side effects and are very easy to use.

The present study entitled “**Comparative Clinical Evaluation of *Shiva Guggulu* and *Jalauka Avcharana* in *Gridhrasi* (Sciatica)**” was chosen by me because to its high prevalence.

**Aim & Objective:** To evaluate and compare the efficacy of both *Shiva Guggulu* and *Jalaukavchran* in the treatment of two different groups of patients of *Gridhrasi*.

**Methods:** Over 30 patients of *Gridhrasi* selected from OPD and IPD of Shalya Tantra department, U.A.U Gurukul Campus, Haridwar on the basis of inclusion and exclusion criteria after initial screening.

*Raktamokshana (Jalaukavchra)* and *shiva Guggulu* were selected for this study. The patients were divided into two groups of 15 patients each according to simple randomization. In Group A, *Shiva Guggulu Vati* (500mg each) was given (4 *Vati* twice a day, after the meal with lukewarm water). In Group B, *Raktamokshana* using *Jalauka* was done.

**Results:** The results were concluded by applying appropriate statistical test. The trial drug and therapy showed significant result on patients with *Gridhrasi*. The results obtained by application of statistical tools were significant and showed that the effect of *Raktamokshana (Jalaukavchra)* was more than the effect of *Shiva Guggulu*. Overall assessment was done for subjective parameters based on significance of the statistical test. In Group-A, **66.67%** patients showed **moderate improvement**, 26.67% patients showed mild improvement and 6.67% patients got marked improvement in signs and symptoms. In Group-B, **53.33%** patients showed **marked improvement**, 46.67% patients showed moderate improvement.

**Discussion:** Group A- In accordance with these *Rasa, Guna, Veerya,* and *Vipaka,* the *Shiva guggulu* can function in *Gridhrasi samprapti Vighatana* as *Vata kapha Shamaka, Shoolahara, Sothahara, Vatanulomaka, Agnideepana, balya,* and *Rasayana.* *Shiva Guggulu's* contents are said to provide analgesic, spasmolytic, and anti-inflammatory effects by current standards. As a result, its anti-inflammatory and analgesic qualities will aid in the reduction of pain, and its spasmolytic qualities will ease stiffness. Group B- *Ruja Pradhan Vyadhi,* or *Gridhrasi,* is mostly caused by the vitiation of *Vata Dosha.* Thus, by eliminating *Margavrodha* brought on by the buildup of vitiated *Dosha,* *Raktamokshana* employing *Jalauka* would induce *Anuloma Gati* of vitiated *Vata Dosha,* which will alleviate pain. Furthermore, *Jalauka's Snughda, Shlakshna guna,* and *Madhura rasa* qualities aid in calming the vitiated *Vata Dosha.*

**Conclusion:** Noside effect of both the interventional modalities were observed during and after the study, suggesting that both are safe to use and can be good alternative options to treatment used in modern science which carry side effects.

**Keywords:** *Gridhrasi, Jalaukavchra, Raktamokshana, Sciatica, Shiva Guggulu.*

## INTRODUCTION

*Ayurveda* literally means "science of life". It's among the world's oldest methods of holistic care. The *Ashtanga* (eight branches) of *Ayurveda* that is becoming more and more well-liked by the general public is the *Shalya Tantra.* *Ayurveda* states that all disorders arise from an imbalance in the normal state of *Tridosha,* which includes *Pitta, Kapha,* and *Vata.* *Vata* is deemed the most important *Dosha* because it governs all bodily movements, including those of *Dhatu, Mala,* and other *Doshas* (Tripathi, 2016a, p. 42).<sup>1</sup> *Vata Dosha* is dominant in *Gridhrasi* as well, which is why lower back discomfort is one of its key presenting symptoms. The primary presenting complaint in sciatica i.e., low backache, is becoming more common these days due to a busy work and social life, poor posture when performing daily tasks in factories and offices, constant overexertion, and jerky movements when travelling or playing sports. All of these elements put excessive strain on the spinal cord and are significant contributors to low back pain and discomfort that travels down the leg. According to Shetty et al. (2022), a significant portion of the population is affected by LBP, which

is more common in India than in other ethnic and global populations. This is especially the case for women, people living in rural areas, and elementary school teachers who are constantly exposed to improper body postures.<sup>2</sup> The World Health Organisation (2023) estimates that 619 million individuals worldwide suffer with LBP, and that figure is expected to rise to 843 million cases by 2050. As a result, this illness is now seriously endangering the working population.<sup>3</sup>

In Ayurveda clinical presentation of *Gridhrasi* is similar to sciatica.

In modern science, the primary objective of treatment is symptomatic, or the relief of pain, and this is achieved with the use of analgesics, muscle relaxants, physiotherapy and in some situations, surgery. Each of them has a unique set of drawbacks and adverse consequences. Modern medicine provides symptomatic relief but does not check the recurrence as well as chronicity of the disease. Thus, there isn't a sciatica therapy that is both safe and affordable. On the other hand, Ayurveda offers a variety of safe, easy-to-use, and side-effect-free therapy techniques for *Gridhrasi* (Sciatica).

So, we suggested a safe and effective remedy including *Shiva Guggulu*, and *Jalauka Avcharna* which not only relieve the symptoms but also increase wellbeing.

## MATERIALS AND METHODS

Total 30 patients of *Gridhrasi* were selected from the O.P.D./ I.P.D. of P.G. Department of *Shalya Tantra*, Uttarakhand Ayurveda University, Gurukul Campus, Haridwar. The study was conducted on randomly divided 2 groups that means 15 patients in each group on the basis of criteria of inclusion and exclusion with detailed clinical history and physical examination and other necessary investigations.

The study is carried out as per the guidelines of the IEC (Institutional Ethical Committee). IEC number is UAU/GC/IEC/2023/11. CTRI Registration number is CTRI/2023/06/053886.

## Study Design

The present study entitled "**Comparative Clinical Evaluation of *Shiva Guggulu* and *Jalauka Avcharana* in *Gridhrasi* (Sciatica)**" had been designed with the following Aims:

- To evaluate the efficacy of *Shiva Guggulu* in *Gridhrasi*
- To evaluate the efficacy of *Jalauka Avcharana*
- To compare the efficacy of both *Shiva Guggulu* and *Jalauka Avcharana* in the treatment of two different groups of patients of *Gridhrasi*.
- To evaluate and compare the efficacy of both *Shiva Guggulu* and *Jalauka Avchana* on graded subjective and objective parameters of *Gridhrasi*.

**Selection of patients:** A total of 30 patients were selected

Patients were divided into following two groups, both groups have 15 patients each:

- **Group A** - Patients (15) of this group were treated with *Shiva Guggulu* (orally)
- **Group B** - Patients (15) of this group were treated with *Raktamokshana* using *Jalauka Avcharana*.

**Duration of study:** 28 days

**Type of Study:** Open-label and Randomized Comparative Clinical Trial, 2 groups,

**Group A:**

**Selected drug:** *Shiva Guggulu* in the form of Vati.

**Form of medicine-1.** *Guggulu (Vati)*

**Dose of drug:** 1 gm twice a Day (500 mg 2 Tab BD) with lukewarm water after meal.

**ANUPAAN-** lukewarm water

**DURATION** – 28 days

**Composition of medicine:** The *Vati/ Guggulu* includes *Guggulu, Haritaki, Vibhitaki, Amlaki, Eranda tail, Gandhak, Rasna, Vay vidang, Marich, Pippali, Danti moola, Jatamansi, Shunthi* and *Devdaru*.

**Group B:**

- **Selected Treatment- 2.** *Jalauka Avcharana* (Leech therapy)
- **Jalauka Avcharana**

**MATERIALS required-**

<i>Jalauka</i>	Three kidney trays
Three water bowl	<i>Raktasthambhaka yoga</i>
Cotton	Turmeric
Bandage	Fresh water
Paper tap	Gloves

**METHOD- SITE:** In the present study, *Jalaukavchran* was done along the course of 4 *Angul* below of knee joint.

**NO OF SITTINGS-** 5

**DURATION-** 28 day

**ROUTE** – Local Application

**Poorva karma** – Purification of leech by pouring the leech into water mixed with turmeric powder.

**Pradhana karma** – First of all given *Inj.T. T* and then Prick the skin with a sharp, sterile needle to release a drop of blood, then apply the leech through its mouth end and cover it with wet cotton.

***Paschata karma***

- Leech removal: After 45 minutes, the leech usually left the site itself. If it didn't remove itself, then turmeric powder was applied to the leech's mouth.
- Care of wound: After the leech was detached, the mouth of the leech left a triangular wound. The use of *Jatyadi Ghrita* with a tight bandage was used to stop the bleeding from the wound.
- *Jalauka's Vamana*: *Vamana* was performed on the leech used on the affected site so that it could be used on the same patient again. Turmeric powder was put to the leech's mouth for *Vamana*. After proper *Vamana*, the leeches were placed in fresh water where they swam quickly, and were then placed in a clean container filled with water having multiple pores on the top for proper aeration.

**(PROCEDURE FOR LEECH APPLICATION)****POORVA  
KARMA**

- Collection of leeches
- Preservation of leeches
- Examination of patients
- Shodhana of leech
- Part Preparation of patient

**PRADHAN  
KARMA**

- Application of leech
- Inference of sucking
- Removal of leech

**PASCHAT  
KARMA**

- Vomitting of leech
- Dressing of Bite Wound
- Preservation of leech





Fig. 1- *Jalauka Avcharana*

### ASSESSMENT CRITERIA

Both group A and B assessed at 0-day, 7<sup>th</sup>, 14<sup>th</sup>, 21<sup>st</sup>, 28<sup>th</sup> day respectively.

### Criteria For Selection of Patients

#### Inclusion Criteria-

- The patients suffering from the salient features of *Gridhrasi* attending the O.P.D. and I.P.D. of Uttarakhand Ayurved University, Gurukul Campus, Haridwar were selected randomly irrespective of their sex, religion, caste, occupation etc.
- 2. Patients were diagnosed on the basis of signs and symptoms as per especially prepared proforma based on Ayurvedic as well as modern texts.
- 3. Patients from the age group of 16 – 60 years were selected.
- 4. Patients belonging to the age group of 16-60 years
- 5. Diagnosed cases of *Gridhrasi* (Sciatica)
- 6. Patients having classical symptomatology of *Gridhrasi*
- 7. Patients having Positive SLR test
- 8. Patients having Positive Lasegue's sign

### **Exclusion Criteria-**

- Patients below 16 years or above 60 years
- 2. Patients not willing to be registered for the trial Known cases of-
- 3. Uncontrolled Diabetes Mellitus
- 4. T.B. of spine and hip joint
- 5. Malignancy of spine or other organs
- 6. History with spine fracture (trauma)
- 7. Uncontrolled Hypertension
- 8. Cardiac diseases
- 9. Anaemic patients having Hb < 8 gm/dl
- 10. Pregnancy

### **Consent of the patient**

Patients were registered in the trial, after careful examination. They were informed in detail about the study/trial and the effects of trial drugs in a simple understandable manner. A written consent in Hindi and English language from the patient was taken before administration.

**ASSESSMENT CRITERIA** The assessment was done especially on the basis of relief in the signs and symptoms of the disease. To assess the effect of therapeutical intervention all the signs and symptoms had been given number for scoring depending upon their severity. The following two parameters were assessed. The assessment was done on the basis of following parameters:

1. Subjective parameters

2. Objective parameters.

1. Subjective parameters-

- i. Pain
- ii. Stambha (stiffness)
- iii. Aruchi
- iv. Spandana (Twitching)
- v. Gaurav (Heaviness)

2. Objective parameters

i. S.L.R Test

ii. Lasegue sign Test.

## INVESTIGATIONS

- Routine blood examination- Hb%, T.L.C., D.L.C., E.S.R.
- Urine examination- Routine and microscopic examination.
- Biochemical blood investigations for- Blood sugar, serum uric acid, serum calcium

HIV, VDRL, HBsAg, RA factor, CRP, HCV, CT.BT

## OBSERVATIONS AND RESULTS

In this study, a total of 30 (15 in each group) patients were registered and among them, all the registered patients completed their trial. The observations are presented in pie-charts, bar (in %) and tabular form. The result obtained based on observation is stated in the result.

**Sex Wise Distribution:** A maximum of **50%** patients belonged to the age group of **31-45 years** followed by 43.33% patients belonging to 46-60 years of age and only 6.67% patients fell under the age group of 16-30 years.

**SEX WISE DISTRIBUTION:** Table reveals that maximum number of patients i.e., **63.33%** were of female sex whereas 36.67% patients were males. None of the patients was Transgender.

**RELIGION WISE DISTRIBUTION:** In the present study, maximum number of patients i.e., **93.33%** were from **Hindu** Community, whereas 6.67% were from Muslim community and there was no patient from any other community.

**OCCUPATION WISE DISTRIBUTION:** Out of 30 patients, a maximum of **43.33%** were housewives, followed by 26.67% of other kind of employment, 16.67% were working in Fields, 10% were doing Deskwork, 3.33% were students and not a single patient was retired.

**EDUCATIONAL QUALIFICATION:** According to the above table, a maximum of **26.67%** of patients were **Graduates**, followed by 23.33% of **uneducated** patients, 20% were having higher secondary education, patients with Metric education and Post graduates were 13.33% each and 3.33% were educated to Metric level.

**SOCIO- ECONOMIC STATUS:** Out of 30 patients, maximum of **60%** patients were from **Middle and Upper middle class**, 26.67% patients were from lower middle class, 10% were Poorer and 3.33% patients were Rich.

**MARITAL STATUS:** In the present study, maximum number of patients i.e., **96.67%** were **married**, whereas 3.33% were unmarried and there was no patient from Divorced or Widow category.

**DISTRIBUTION OF ADDICTION:** 76.67% of patients were having **no addiction** and addiction of Tea/Coffee contributed to 13.33%. Alcohol drinking, Smoking and Tobacco chewing contributed to 3.33% each.

**DIETARY HABIT WISE DISTRIBUTION:** In the present study, **53.33%** patients were having Mixed dietary habits, whilst 46.67% patients were **Vegetarian**.

**SLEEP WISE DISTRIBUTION:** The aforementioned table depicts that **60%** of patients were sleeping **Sound** followed by 40% patients with disturbed sleep. No patient was found to have Insomnia.

**HABITAT WISE DISTRIBUTION:** The above table reveals that there were **56.67%** patients belonging to **urban area** and 43.33% patients belonging to rural area.

**FAMILY HISTORY:** As per the table, no patient was having any family history in this trial.

**CHRONICITY OF ILLNESS:** Out of 30 patients, maximum of **53.33%** patients were suffering from **Gridhrasi for 0-3 months** followed by 20% of patients having chronicity for 6-12 months, patients having chronicity for 3-6 months and chronicity for >1 year accounted for 13.33% each.

**SIDE OF LOWER LIMB AFFECTED:** According to the above table, Right and Left side were equally affected in 46.67% patients and 6.67% patients had Bilateral side affected.

**INCIDENCE OF SUBJECTIVE SYMPTOMS IN 30 PATIENTS OF GRIDHRASI:**

INCIDENCE OF SUBJECTIVE SYMPTOMS	Group A	Group B	Total	Percentage
<b>Pain</b>	15	15	30	100.00%
<b>Stambha</b>	15	15	30	100.00%
<b>Aruchi</b>	0	0	0	0.00%
<b>Spandana</b>	14	14	28	93.33%
<b>Gaurava</b>	15	15	30	100.00%

The table above shows that out of 30 patients, **Pain**, **Stambha** and **Gaurava** were present in **100%** of the population under inquiry, followed by **Spandana** as a symptom in **93.33%** of patients. **Aruchi** was not a symptom in any of the patients.

**EFFECT OF SHIVA GUGGULU IN THE SUBJECTIVE PARAMETERS OF GROUP -A:**

Group A (Subjective)	Mean		Mean Diff	Median		SD		Wilcoxon W	P-Value	% Effect	Result
	BT	AT		BT	AT	BT	AT				
Pain	7.67	2.33	5.33	8.00	2.00	1.18	0.72	-3.443 <sup>b</sup>	0.00058 ( <b>&lt;0.001</b> )	69.57%	HS
Stambha	1.73	0.53	1.20	2.00	1.00	0.80	0.52	-3.448 <sup>b</sup>	0.00057 ( <b>&lt;0.001</b> )	69.23%	HS
Aruchi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.000 <sup>c</sup>	1.00000 ( <b>&gt;0.05</b> )	0.00%	NS
Spandana	1.67	0.73	0.93	1.00	1.00	1.05	0.70	-2.913 <sup>b</sup>	0.00358 ( <b>&lt;0.01</b> )	56.00%	VS
Gaurava	1.87	0.47	1.40	2.00	0.00	0.83	0.64	-3.535 <sup>b</sup>	0.00041 ( <b>&lt;0.001</b> )	75.00%	HS

Since Observations are on Ordinal Scale (gradations), we have used **Wilcoxon Signed Rank Test** to test efficacy. On assessment of 15 patients, it was found that the effect of *Shiva Guggulu* on the **3 symptoms (Pain, Stambha, Gaurava)** was statistically **highly significant** ( $p < 0.001$ ). The result was Statistically **very significant** for *Spandana* ( $p < 0.01$ ) and not statistically significant for *Aruchi* ( $p > 0.05$ ).

**EFFECT OF JALAUKA VCHARANA IN THE SUBJECTIVE PARAMETERS OF GROUP -B:**

Group B (Subjective)	Mean		Mean Diff	Median		SD		Wilcoxon W	P-Value	% Effect	Result
	BT	AT		BT	AT	BT	AT				
Pain	8.13	0.67	7.47	8.00	0.00	0.74	0.90	-3.447 <sup>b</sup>	0.00057 ( <b>&lt;0.001</b> )	91.80%	HS
Stambha	2.20	0.73	1.47	2.00	1.00	0.56	0.46	-3.508 <sup>b</sup>	0.00045 ( <b>&lt;0.001</b> )	66.67%	HS
Aruchi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.000 <sup>c</sup>	1.00000 ( <b>&gt;0.05</b> )	0.00%	NS
Spandana	2.27	0.80	1.47	2.00	1.00	0.59	0.41	-3.376 <sup>b</sup>	0.00074 ( <b>&lt;0.001</b> )	64.71%	HS

<b>Gaurava</b>	1.93	0.13	1.80	2.00	0.00	0.80	0.35	-3.491 <sup>b</sup>	0.00048 ( <b>&lt;0.001</b> )	93.10%	<b>HS</b>
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Since Observations are on Ordinal Scale (gradations), we have used **Wilcoxon Signed Rank Test** to test efficacy.

On assessment of 15 patients, it was found that the effect of *Jalaukavcharana* on the **all symptoms (Pain, Stambha, Spandana, Gaurava)** was statistically **highly significant** ( $p < 0.001$ ) except *Aruchi*. For *Aruchi*, the result was statistically not significant for *Aruchi* ( $p > 0.05$ ).

**COMPARISON BETWEEN GROUP- A (SHIVA GUGGULU) AND GROUP-B (JALAUKAVCHARANA) IN SUBJECTIVE PARAMETERS:**

VARIABLE	Group	N	Mean Rank	Sum of Ranks	Mann-Whitney U	P-Value	Result
<b>Pain</b>	Group A	15	9.20	138.00	18.000	0.000 ( <b>&lt;0.001</b> )	<b>HS</b>
	Group B	15	21.80	327.00			
	Total	30					
<b>Stambha</b>	Group A	15	14.07	211.00	91.000	0.293 ( <b>&gt;0.05</b> )	NS
	Group B	15	16.93	254.00			
	Total	30					
<b>Aruchi</b>	Group A	15	15.50	232.50	112.500	1.000 ( <b>&gt;0.05</b> )	NS
	Group B	15	15.50	232.50			
	Total	30					
<b>Spandana</b>	Group A	15	12.90	193.50	73.500	0.081 ( <b>&gt;0.05</b> )	NS
	Group B	15	18.10	271.50			
	Total	30					
<b>Gaurava</b>	Group A	15	12.57	188.50	68.500	0.043 ( <b>&lt;0.05</b> )	<b>Sig</b>
	Group B	15	18.43	276.50			
	Total	30					

**Mann Whitney U Test** is carried out for comparison between Group A and Group B. From above table, we can observe that, P-Value for *Stambha*, *Aruchi* and *Spandana* is  $> 0.05$ . Hence, we can conclude that, there is **no significant difference** between Group A and Group B for *Stambha*, *Aruchi* and *Spandana*.

For *Pain* and *Gaurava*, **Group B (Jalaukavcharana)** is better than **Group A (Shiva Guggulu)** as P-Value is  $< 0.001$  for *Pain* and is  $< 0.05$  for *Gaurava* and mean rank for Group B is greater than Group A.

**EFFECT OF SHIVA GUGGULU IN THE OBJECTIVE PARAMETERS OF GROUP-A:**

Group A (Objective)	Mean		Mean Diff	Median		SD		Wilcoxon W	P-Value	% Effect	Result
	BT	AT		BT	AT	BT	AT				
SLR Test	2.87	1.47	1.40	3.00	1.00	0.83	0.83	-3.384 <sup>b</sup>	0.00072 ( <b>&lt;0.001</b> )	48.84%	HS
Lasegue's Sign	2.87	1.53	1.33	3.00	1.00	0.83	0.74	-3.407 <sup>b</sup>	0.00066 ( <b>&lt;0.001</b> )	46.51%	HS

Since observations are on ordinal scale (gradations), we have used **Wilcoxon Signed Rank Test** to test efficacy. From above table, we can observe that, P-Value for all parameters is  $<0.001$ . Hence, we can conclude that, effect observed in Group A is **Highly Significant**.

**EFFECT OF JALAUKAVCHARANA IN THE OBJECTIVE PARAMETERS OF GROUP-B:**

Group B (Objective)	Mean		Mean Diff	Median		SD		Wilcoxon W	P-Value	% Effect	Result
	BT	AT		BT	AT	BT	AT				
SLR Test	3.00	1.53	1.47	3.00	2.00	0.76	0.52	-3.397 <sup>b</sup>	0.00068 ( <b>&lt;0.001</b> )	48.89%	HS
Lasegue's Sign	2.93	1.53	1.40	3.00	2.00	0.70	0.52	-3.391 <sup>b</sup>	0.00070 ( <b>&lt;0.001</b> )	47.73%	HS

Since observations are on ordinal scale (gradations), we have used **Wilcoxon Signed Rank Test** to test efficacy. From above table, we can observe that, P-Value for all parameters is  $<0.001$ . Hence, we can conclude that, effect observed in Group B is **Highly Significant**.

**COMPARISON BETWEEN GROUP-A (SHIVA GUGGULU) AND GROUP-B (JALAUKAVCHARANA) IN OBJECTIVE PARAMETERS:**

VARIABLE	Group	N	Mean Rank	Sum of Ranks	Mann-Whitney U	P-Value	Result
SLR Test	Group A	15	14.83	222.50	102.500	0.646 ( <b>&gt;0.05</b> )	NS
	Group B	15	16.17	242.50			
	Total	30					
Lasegue's Sign	Group A	15	14.80	222.00	102.000	0.626 ( <b>&gt;0.05</b> )	NS
	Group B	15	16.20	243.00			

	Total	30					
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**Mann Whitney U Test** is carried out for comparison between Group A and Group B. From above table, we can observe that, P-Value for **SLR** and **Lasegue's Sign** is  $>0.05$ . Hence, we can conclude that, there is **no significant difference** between Group A and Group B for SLR Test and Lasegue's Sign.

### **PERCENTAGE EFFECT OF INTERVENTIONAL THERAPIES ON SUBJECTIVE PARAMETERS IN BOTH GROUPS:**

PARAMETERS (SUBJECTIVE)	% Effect	
	Group A	Group B
<b>Pain</b>	<b>69.57%</b>	<b>91.80%</b>
<b>Stambha</b>	<b>69.23%</b>	66.67%
<b>Aruchi</b>	0.00%	0.00%
<b>Spandana</b>	56.00%	64.71%
<b>Gaurava</b>	<b>75.00%</b>	<b>93.10%</b>
<b>Average % Effect</b>	67.45%	79.07%

**Group-A (Shiva Guggulu)** As per the table, Average percentage effect on the **subjective parameters** was **67.45%**. Maximum effect was seen in **Gaurava** i.e., **75%** followed by Pain (69.57%) and **Stambha** (69.23%). Effect on **Spandana** was 56%.

#### **Group-B (Jalaukavacharana)**

As per the aforementioned table, Average percentage effect on the **subjective parameters** was **79.07%**. Maximum effect was seen in **Gaurav** i.e., **93.10%** followed by Pain (91.80%). Effect on **Stambha** was 66.67% and on **Spandana** was 64.71%.

### **PERCENTAGE EFFECT OF INTERVENTIONAL THERAPIES ON OBJECTIVE PARAMETERS IN BOTH GROUPS:**

#### **Group-A (Shiva Guggulu)**

As per the table, Average percentage effect on the **objective parameters** was **47.67%**. Maximum effect was seen in **SLR Test** i.e., **48.84%** followed by Lasegue's sign (69.57%).

#### **Group-B (Jalaukavacharana)**

As per the aforementioned table, Average percentage effect on the **objective parameters** was **48.31%**. Maximum effect was seen in **SLR Test** i.e., **48.89%** followed by Lasegue's Sign (91.80%).

## OVERALL EFFECT OF INTERVENTIONAL THERAPIES ON SUBJECTIVE PARAMETERS IN BOTH GROUPS:

OVERALL EFFECT	Group A		Group B	
	N	%	N	%
<b>Complete remission</b>	0	0.00%	0	0.00%
<b>Marked Improvement</b>	1	6.67%	8	<b>53.33%</b>
<b>Moderate Improvement</b>	10	<b>66.67%</b>	7	46.67%
<b>Mild Improvement</b>	4	26.67%	0	0.00%
<b>No Improvement</b>	0	0.00%	0	0.00%
<b>Total</b>	15	100.00%	15	100.00%

### Group-A (Shiva Guggulu):

In this group, out of all patients, **66.67%** patients showed **moderate improvement**, 26.67% patients showed mild improvement and **6.67%** patients got **marked** improvement in signs and symptoms. No patient remained unchanged after the completion of treatment.

### Group-B (Jalaukavcharana):

In this group, out of all patients after the completion of treatment, **53.33%** patients showed **marked improvement**, 46.67% patients showed moderate improvement. No patients remained unchanged after the completion of treatment.

## DISCUSSION ON MOA OF INTERVENTIONAL MODALITIES

### a. Discussion on Shiva Guggulu

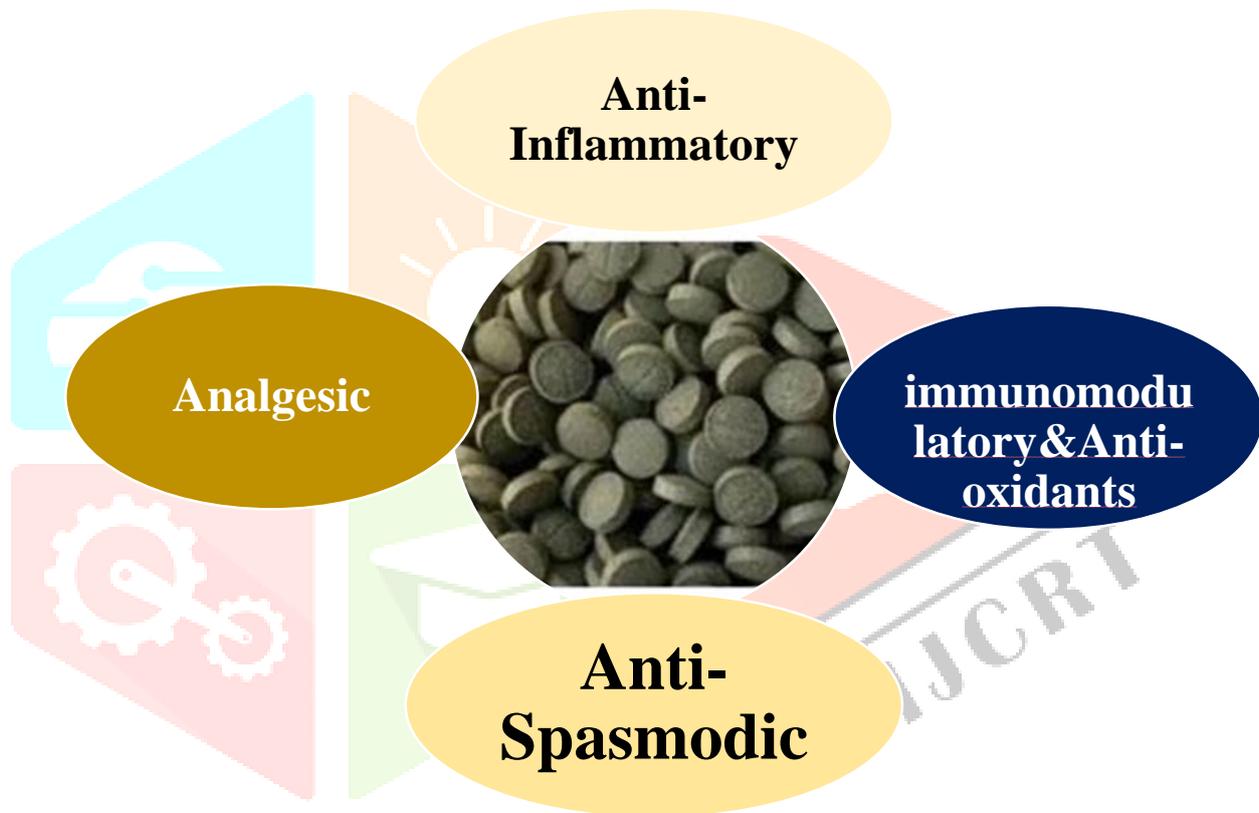
*Shiva Guggulu* is very effective in the treatment of *Gridhrasi*, as it has been described by our ancient *Acharyas (Aaptopdesh)* so its efficacy is undoubtful in the management of *Gridhrasi*. All the constituents of *Shiva Guggulu*, are better for the pacification of vitiated *Vata* and *Kapha Dosha*, as described by *Acharyas*.

The drugs which comprise *Shiva Guggulu* can be categorized according to their *karma*, as follows.

### **Drug Property**

- 1) *Haritaki*-- *Shoolahara, Anulomaka, Agnivaradaka Tridosha Shamaka*
- 2) *Vibhitaki*-- *Sothahara, Tridosha Shamaka*
- 3) *Amlaki*--- *Tridosha Shamaka, Rasayana*
- 4) *Eranda Taila*---*Katishoola, Asthishoolahara, Anulomaka, Vatakaphahara*
- 5) *Gandhaka*-- *Dipana, Pachana, Sara, Balya, Yogavahi.*
- 6) *Guggulu*--*Sukshma, Rasayana, Bagnasandhanakara*

- 7) Rasna--Vata Kapha Shamaka, Shoolahara
- 8) Vidanga--- Vata Kapha Shamaka, Agnivardaka
- 9) Maricha--- Agnivardaka, Shoolahara, Vata Kapha Shamaka
- 10) Danti Moola—Shoolahara, Sothahara, Dipana, Pachana, Vatahara, Virechaka, Ashukari
- 11) Jatamansi-- Tridosha Shamaka
- 12) Nagara- -Agnivardaka, Shoolahara, Vata Kapha Shamaka
- 13) Devadaru-- Vatavikara, Vibhanda, Vata Kapha Shamaka
- 14) Pippali- Agnivardaka, Shoolahara, Vata Kapha Shamaka



#### **a. Discussion on Jalauka Avacharna –**

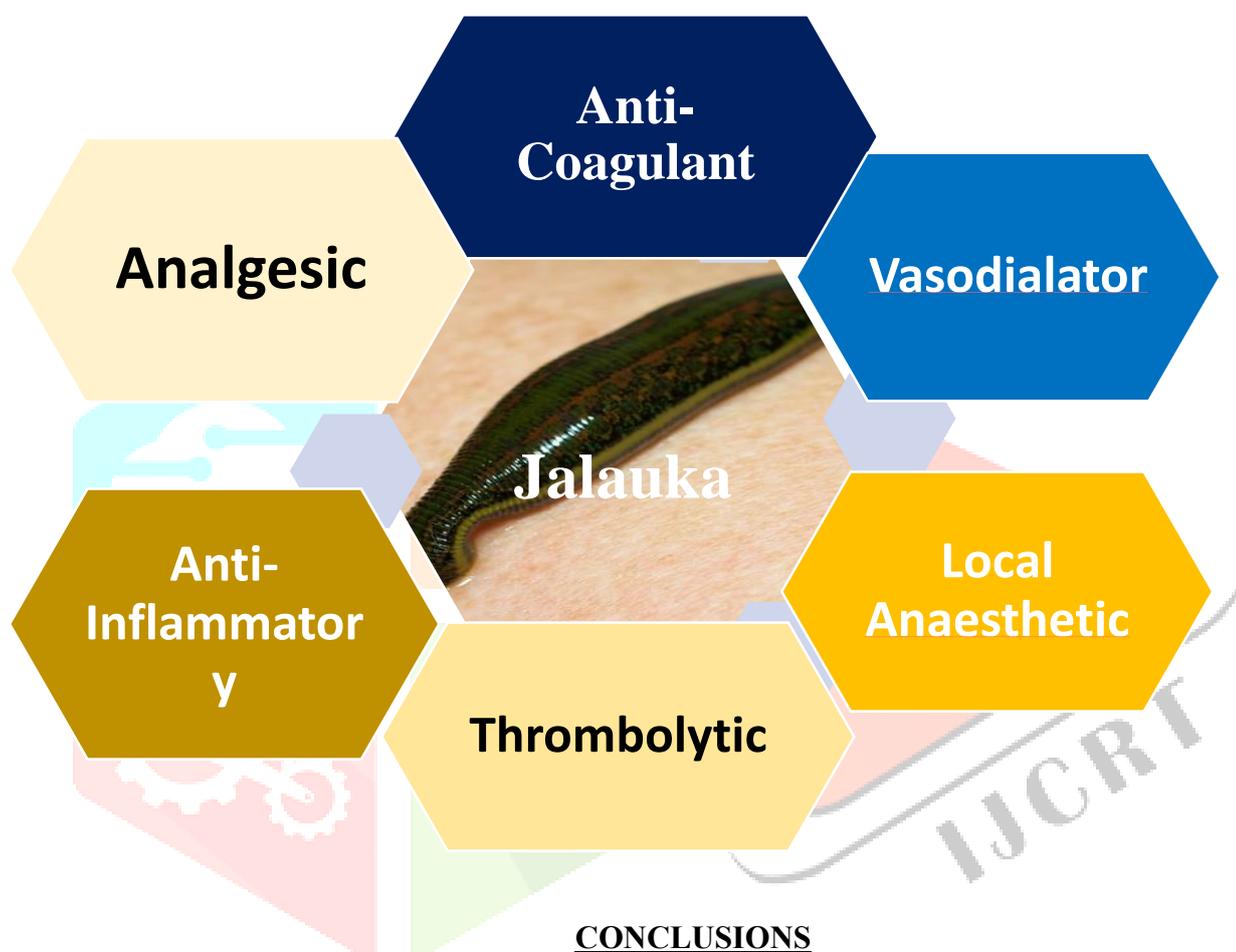
An ancient *Acharya* described a novel parasurgical technique called *Raktamokshana*, which is widely utilized to treat a variety of diseases brought on by *Rakta Dushiti*. *Rakta* is regarded by *Acharya Sushruta* as *Chaturtha Dosha*,<sup>134</sup> demonstrating its importance in the onset of numerous ailments. *Rakta* is the principal *Dushya* (*Aashrya Sthana*) in all ailments, according to *Acharya Vagbhat*.<sup>135</sup> *Raktamokshana* will therefore assist in eliminating *Dushita Rakta* and *Dosha*, thereby alleviating a number of the disease's symptoms.

Many techniques for *Raktamokshana*, such as *Shiravedhana*, *Prachhana*, *Jalauka Avacharna*, *Shringa Yantra*, etc., have been explained by *Acharyas*. Among these, *Jalauka* are utilized extensively nowadays, possibly as a result of their affordability and accessibility. *Jalauka*, according to *Acharya Sushrut*, can be utilized for any medical condition. *Jalauka Avcharana* was chosen for this disease as a therapeutic purpose.

As it was previously said, *Ruja Pradhan Vyadhi*, or *Gridhrasi*, is mostly caused by the vitiation of *Vata Dosha*. Thus, by eliminating *Margavrodha* brought on by the buildup of vitiated *Dosha*, *Raktamokshana* employing *Jalauka* would induce *Anuloma Gati* of vitiated *Vata Dosha*, which was alleviating pain. Furthermore, *Jalauka's* *Snigdha*, *Shlakshna guna*, and *Madhura rasa* qualities aid in calming the vitiated *Vata Dosha*.

Many important substances, including hementin, hyaluronidase, and hirudin, which have anticoagulant, anti-inflammatory, and local anesthetic properties, are produced by the leech.

The qualities of *Jalauka* therefore aided in the *Samprapti vighatana* of the disease



- According to Mann Whitney U, there is **no significant difference** between Group A and Group B for *Stambha*, *Aruchi* and *Spandana*.

For **Pain** and *Gaurava*, **Group B (*Jalaukavacharana*) is better than Group A (*Shiva Guggulu*)** as P-Value is <0.001 for Pain and is <0.05 for *Gaurava* and mean rank for Group B is greater than Group A.

- And, there is **no significant difference** between Group A and Group B for SLR Test and Lasegue's Sign.
- This suggests that Para surgical procedure of *Ayurveda* i.e. *Jalaukavchran* is quite effective, faster and beneficial in *Gridharsi*, patients are relived remarkably in a single sitting.

- The oral drug *Shiva Guggulu* is also effective similar to *jalaukavchran* except for pain and *Gaurav*. But more study is larger sample size is needed to make further analysis of the drug and its recovery speed.
- No of sittings in *jalaukavchran* can be increased in same patients depending on the severity of the disease.it has been found in my study that therapeutic intervention at OPD level with *jalaukavchran* brought immediate and long-lasting result
- If the no of sitting are increased in further trials, long lasting effects may turn into complete cure of the patients.
- A certain degree of trouble pain (Pricing pain) is how ever felt by the patient during *Jalaukavchran*. this pain is tempery and banishes as soon as the therapy is withdrawn.
- No ADR (Advace drug reaction) of the drug was reported during the enter the study.

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- 6 53. Su.su. 13/16
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- 11 58.Su. su 13/19
- 12 59. su su 13/21
- 13 60. Su su 13/20
- 14 62.Su. su 13/21
- 15 63.Su. su 13/22
- 16 64. Su. su 13/23