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A COMPARATIVE STUDY OF *RASNA GUGGULU* AND *SHAMAN YOGA* IN THE MANAGEMENT OF *GRIDHRASI* W.S.R. TO SCIATICA

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ABSTRACT

Title of the Dissertation -"A Comparative Study of *Rasna Guggulu* and *Shaman Yoga* in the Management of *Gridhrasi* w.s.r. to Sciatica". **Background:** Lower back pain specifically sciatic pain is the most common presentation of locomotor system in present era. Approximately 50% of overall populations suffer from low back pain out of which nearly 20% are of sciatic origin. The disorders pertaining to locomotor system are observed in an increasing pattern as a result of various factors such as faulty posture during work in offices, long standing and jerky movements during travel and sports. All these factors either alone or in conjunction may lead to low backache and sciatica due to undue pressure on spine. In parlance with sciatica, a severe debilitating disease named *Gridhrasi* has been mentioned in *Ayurvedic* classics. Whereas contemporary conservative management may provide temporary symptomatic relief, however use of *Vata Shamak Dravya* is supposed to provide better relief since *Gridhrasi* is a *Vata* predominant disease. Hence the present clinical study is designed with the ultimate aim of finding out an optimum treatment regimen with the help of *Rasna Guggulu* and *Shaman Yoga* which could be safe, effective, economically affordable and free from any untoward effects. **Objectives:** 1. To evaluate the efficacy of *Rasna Guggulu* in the management of *Gridhrasi*. 2. To evaluate the efficacy of *Shaman Yoga* in the management of *Gridhrasi*. 3. To compare the efficacy of *Rasna Guggulu* and Shaman Yoga in the management of *Gridhrasi*. **Methods:** The clinical study was done on 60 subjects of both sex, between the age group of 21- 60 years who were

randomly assigned into 3 group (20 patients in each group) namely Group A, Group B and Group C. In Group A given Placebo, in Group B given *Rasna Guggulu* and in Group C given *Shaman Yoga*. Duration of the treatment was 30 days. Assessment was done before and after treatment based on objective and subjective parameters using standard scoring methods. For statistical analysis subjective and objective parameters were assessed by Wilcoxon Rank Sum Test and Mann-Whitney test. **Observations and Results:** In this study most of the patients of *Gridhrasi* is age group between 40-50 years and most of the patients are hard physical worker and house wives. Result was assessed with the help of required assessment criteria, which shows following results, out of 60 patients, in group A all 20 (100%) patients have no improvement, in Group B 5 (25%) patients have marked improvement followed by 14 (70%) patients got Moderate improvement and 1 (5%) patient have mild improvement and in Group C 2 (10%) patients have marked improvement followed by 13 (65%) patients got Moderate improvement and 5 (25%) patient have mild improvement. **Discussion:** In the present clinical study maximum numbers of patients registered are under the age group of 41 to 50 years and most of patients are labour and hard working. Both the groups (Group B and Group C) are having similar effect on reducing the symptoms statistically. Among the subjective and objective parameters Group B showed slightly better result than Group C. **Conclusion:** On intra group comparison both trial groups B and C show extremely significant results statistically. However on inter group comparison the result was not significant. The percentage of relief observed on subjective parameters in Group B was 86.08% whereas in Group C it was 81.8%. On the basis of above result it could be concluded that both the trial groups were effective in the management of *Gridhrasi*. However Group B showed better efficacy in the management of symptoms of *Gridhrasi* as compared to Group C.

KEYWORDS: *Gridhrasi*, Sciatica, *Rasna Guggulu, Shaman Yoga.*

INTRODUCTION

In present era the disorders pertaining to locomotor system are observed in an increasing pattern as a result of various factors such as faulty posture during work in offices, long standing and jerky movements during travel and sports. All these factors either alone or in conjunction may lead to low backache and sciatica due to undue pressure on spine.

Low back pain (LBP) is defined as chronic after 3 months because most normal connective tissues heal within 6-12 weeks, unless patho-anatomic instability persists. A slower rate of

tissue repair in the relatively avascular intervertebral disk may impair the resolution of some persistent painful cases of chronic LBP.

Lumber disc prolapse resulting in low backache is considered as one of the prime cause of musculo-skeletal morbidity worldwide. In present scenario the lifetime incidences of lower back pain is estimated to be 50-70% out of which more than 40% incidences are due to sciatica. As per contemporary literatures the prevalence of sciatic symptoms vary considerably ranging from 1.6% in the general population to 43% in the selected working population.[1]

In parlance with sciatica, a severe debilitating disease named *Gridhrasi* has been mentioned in *Ayurvedic* classics which has also been included in "80 types of *Nanatmaj Vatavyadhi"*[2] by *Acharya Charak* and is considered as *Shoola Pradhana Vatavyadhi. Vata* is responsible for every action or movement (*Cheshta*).[3] Any type of pain cannot occur without the presenance of *Vata. Vatavyadhi* is one of the most prevailing health problems in our day to day clinical practice and *Gridhrasi* is one among them. The term *Gridhrasi* gets its origin from Sanskrit word *Gridhra* meaning a bird Vulture, due to the typical gait of the patient suffering from the disease.[4]

The sign and symptomatology of *Gridhrasi* as mentioned in *Ayurvedic* classics include *Ruka* (pain), *Toda* (pricking sensation), *Stambha* (stiffness) and *Muhurspandana* (throbbing) in the *Sphika, Kati, Urah, Janu, Jangha* and *Pada* in order (whole leg from gluteal region to the foot) which resemble the classical symptoms of sciatica.[5] *Susruta Samhita* mentions *Sakthi Utkshepana Nigrahaniyata* (difficulty in raising leg straight) also.[6] In *Kaphanubandha Gridhrasi*, *Tandra* (drowsiness), *Gaurava* (heaviness), and *Aruchi* (anorexia) are present additionally.[7]

The Sciatic nerve is the longest nerve in our body, it originates from spinal nerves; root value from L_4, L_5 S_1, S_2 and S_3. The Sciatic nerve provides the connection to the nervous system for nearly the whole of the skin of the leg, the muscles of the back of the thigh, and those of the leg and foot. As per modern medicine sciatica is considered as a condition in which onset of pain is from lumber region with its radiation along the postero-lateral aspect of the thigh and legs (pain along the course/distribution of sciatica nerve) as a result of spinal nerve irritation. It not only creates severe pain but also difficulty in walking to the patient. Though, the disease is present in leg, it disturbs the daily routine and overall life of the patient.

A herniation or degenerative change in inter-vertebral disc is the most common cause. There is often history of trauma, as twisting of the spine; other changes may be osteophytes, secondary fibrosisand tumor, lifting heavy objects or exposure to cold. Improper sitting posture, jerking movement during travelling and sports may worsen the disease condition; hence, it becomes a significant threat to working population.

Lower back pain specifically sciatic pain is the most common presentation of locomotor system in present era. Approximately 50% of overall populations suffer from low back pain out of which nearly 20% are of sciatic origin.

As far as treatment regimen is concerned the management of Sciatica in modern medicine is usually through conservative management which includes use of analgesics and physiotherapy, epidural steroid injections and in extreme cases intervention of surgical procedures at the cost of their own limitations and complications. There are some side effects of anti inflammatory drugs like gastritis, hepatotoxicity, fluid retention etc and the complications of post surgery like continued pain, nerve trauma, spinal instability, incontinence of bladder and bowel etc.

In *Ayurveda* various treatment modalities such as *Shaman Chikitsa, Basti Karma, Siravedha* and *Agnikarma* have been advocated in the management of *Gridhrasi*.[8]

Whereas contemporary conservative management may provide temporary symptomatic relief, however use of *Vata Shamak Dravya* is supposed to provide better relief since *Gridhrasi* is a *Vata* predominant disease. Hence the present clinical study is designed with the ultimate aim of finding out an optimum treatment regimen with the help of Shaman Yoga which could be safe, effective, economically affordable and free from any untoward effects.

AIM AND OBJECTIVES

- To evaluate the efficacy of *Rasna Guggulu* in the management of *Gridhrasi*.
- To evaluate the efficacy of *Shaman Yoga* in the management of *Gridhrasi*.
- To compare the efficacy of *Rasna Guggulu* and *Shaman Yoga* in the management of *Gridhrasi*.

MATERIAL AND METHODS

Study design

This study was designed as a comparative clinical study with the pre and post-test performed and the patients were selected using simple random sampling technique. It is planned as a single blind randomized control clinical trial.

Sample size: 60 patients (20 patients in each group)

Groups	Trial drug	Dose	Duration
Group A (Control group)	Placebo	2 capsule TDS	30 days
Group B	Rasna guggulu	2 Tablet TDS	30 days
Group C	Shaman yoga	2 Tablet TDS	30 days

Sample source

The Patients who attended the OPD and IPD of Pt. Khushilal Sharma Govt. (Auto.) Ayurveda College and Hospital Bhopal having the complaints of Low backache radiating to leg were screened. Among them, 60 patients fulfilling the inclusion criteria of the present study were taken. A detailed history taking and physical examinations were carried out in these patients. Relevant data along with the elaborate assessment was registered in the designed case proforma.

Literary Source

All the Ayurveda and contemporary texts including websites about disease and drugs was reviewed and documented for the study.

Drug source

The drug was procured and prepared in the department of Rashsastra and Bhaishajya Kalpna of Pt. Khushilal Sharma Govt. (Auto.) Ayurveda College Bhopal.

Method of Collection of Data

Criteria for selection of patients

As per diagnostic, inclusion and exclusion criteria participants were selected in this study.

Criteria for diagnosis

Subjective criteria	Objective criteria (CCRAS)
Ruka (pain)	Straight leg raising test
Toda (pricking sensation)	Ankle jerk
Stambha (stiffness)	Knee jerk
Muhur Spandan (throbbing)	Planter reflex

Inclusion criteria (CCRAS)	Exclusion criteria (CCRAS)
Age between 21-60 years	Age below 21 years and above 60 years
Sex- either sex	Duration of disease more than 2 years
Duration of illness- upto 2 years	Monoplegia
Radiating pain starting from the gluteal region towards the foot	Paraplegia
Tenderness over the sciatic nerve course	Hip joint arthritis
Severe pain on squatting	T.B. spine/ Hip
Sensory changes	Pelvic pathology
Non-involvement of urinary bladder and rectum	Traumatic lesion in lumbo-sacral region
Positive straight leg raising sign	

Grading of subjective and objective parameters as below

Grade	*Ruka* (pain)	*Stambha* (stiffness)	*Toda* (pricking sensation)	*Spandana* (throbbing)
0	No pain	No stiffness	No pricking sensation	No throbbing
1	Mild pain but no difficulty in walking	Sometimes for 5-10 minutes	Mild/occasional pricking sensation	Sometimes for 5-10 minutes
2	Moderate pain and slight difficulty in walking	Daily for 10-30 minutes	Moderate pricking sensation	Daily for 10-30 minutes
3	Severe pain with severe difficulty in walking	Daily for 30-60 minutes/ more than 1hr.	Severe pricking sensation	Daily for 30-60 minutes/ more than 1hr.

Grade	SLRT Angle	Ankle jerk	Knee jerk	Planter reflex
0	$>90^0$	Absent	Absent	Flexion
1	$71\text{-}90^0$	Diminished	Diminished	Extension
2	$51\text{-}70^0$	Normal	Normal	
3	$31\text{-}50^0$/ below$<30^0$	Hyperactive/ Brisk	Hyperactive/ Brisk	

DISCUSSION ON OBSERVATIONS AND RESULTS

Total 60 patients were registered for the clinical trial and categorized into 3 groups. All 60 patients had completed their treatment regimen.

Age: In the present study, out of 60 patients, 31.67% patients in the age group of 41-50 and 28.33% in the age group of 31-40 are under strong working pressure in today's modern life style which leads to irregular exercise, more travelling, abnormal posture and working for long time without rest. In this age, individuals are more exposed to strong biochemical force and heavy work in comparison to children and aged which may also create this condition. 41-50 years that is 4th decade of life. According to Acharya Sushrut this age group is Parihani Kala of Madhyam Avastha in which there starts gradual decline of Sharira Bala and Dhatus, which provokes Vata[9] and according to modern science there is a progressive degenerative

change of the intervertebral disc with age that leads to the cycle of degeneration, resulting in disc problems[10] and causing Gridhrasi. Hence, prevalence of sciatica is high in young and middle aged people, which is supported by the findings of the present study.

Gender: In this study 53.33% patients were female and 46.67% were males. This indicates both the sex can suffer from this condition. Slightly high incidence was observed in females because they have to work in house as well as outside. In house, females are tend to do more physical work like lifting, bending, sitting and sustained non-neutral postures and household activities which may be the cause of sciatica. Similarly, in males who are at hard physical jobs and in particular frequent lifting and postural stress and if they are belong to rural area, they use to work hard in the field which is known to increase the risk of sciatica.

Occupation and nature of work: Present clinical study shows that people having labour work and hard working i.e. 38.33% are mostly affected. The jobs requiring heavy repetitive weight lifting, use of machine tools, operation on motor vehicles and improper postural habits.[11] House wives i.e. 21.67% showed high incidence due to their house hold stress, irregular posture of the body during working hours and diet pattern all these are the causes of Dhatu Kshaya in long run. The Ksheena Dhatu is susceptible for the Dosha Dooshya Sammorchana. Desk workers and students having sedentary works (i.e.30%) due to their bad postural habits along with no movement of spine leading to spasm of Para spinal muscles which is considered as an important causative factor for sciatica. Hence, from these findings it can be said that the continuous strains on the vertebrae may be the leading cause of sciatica.[12]

Diet: Maximum 86.67% patients had mixed dietary pattern. 13.33% were vegetarian. Since Mamsa is as such Guru, Snigdha and Brimhana by nature according to our texts. But the way people consume these days, either with excessive food supplements which are Tikshna Guna and facilitates in the Samprapti of Gridhrasi due to Dhatukshaya Janya Vataprakopa. Also Mamsa consumed at improper time or if it is Paryushita then it acquires Abhishyandi Guna, may produce Ama and contributes to the Margavrodhajanya Samprapti of Gridhrasi.

Addiction: 23.33% patients had addiction towards alcohol, 16.67% had addiction towards tobacco and 6.67% patients had habit of smoking. Cigarette smoking and tobacco consumption are considered as the risk factors for disc lesion. Smoking cigarettes or using other forms of tobacco releases nicotine and additional toxins into the body, which can keep

away the discs from getting the amount of oxygen and nutrients they need to stay healthy. This can result in the degenerative process occurring faster than normal and increasing the chances that a herniated disc can develop.[13]

Neurological findings: The data about neurological findings shows that SLR test were positive in 100% of patients. This is the test which confirms the root tension at specific level. Upto 30°, nerve is not put under stretch. Between 30-70°, nerve comes into contact with the prolapsed disc and the patient complains of pain. Beyond 70° if the patient complains of pain, it is usually not due to disc prolapsed but could be due to sacro-iliac joint involvement.[14]

- 33.33% patients were having diminished knee jerk.
- 36.67% patients were having diminished ankle-jerk.
- 28.33% patients were having extension planter reflex.
- These diminished tendon jerks suggest the involvement of 4th-5th lumber root, 5th- 1st sacral root and 1st sacral nerve root respectively.

Aggravating posture: Out of 60 patients, in 45% patient's severity of pain aggravated on walking. This may be because while walking stretching of sciatic nerve occurs resulting in pain along the lower limb. In 30% patients pain aggravate during lifting. The Kandara of leg is affected in Gridhrasi. Excessive walking and lifting heavy weight causes the movement of leg difficult and painful. According to modern science the reason of more aggravation of pain in bending forward while lifting weight can be understood due to anatomical consideration of the spine because forward flexion is chiefly the function of the lumbar spine. The most frequent type of disc prolapse is postero-central and postero-lateral. When patients bend forward, part of prolapsed disc comes more in contact with posterior longitudinal ligament that has rich sensory nerve supply. Pain on prolonged walking and lifting might be due to movement of spine and weight bearing on the spine.

DISCUSSION ON RESULTS

To evaluate the effect of treatment on individual parameters in Group B and Group C, Wilcoxon Rank Sum Test was applied and also to compare the efficacies between the groups Mann-Whitney Test was applied. The obtained results are discussed here.

Effect of treatment on Ruka (Pain)

- In Group B percentage of relief was 85% and in Group C it was 83.33%.

- On inter group comparison reduction of pain in Group B *(Rasna Guggulu)* was slightly better than the Group C *(Shaman Yoga).*

Effect of treatment on Stambha (Stiffness)

- In Group B percentage of relief was 82.22% and in Group C it was 80.95%.
- On inter group comparison reduction of stiffness in Group B *(Rasna Guggulu)* was slightly better than the Group C *(Shaman Yoga).*

Effect of treatment on Toda (Pricking sensation)

- In Group B percentage of relief was 86.91% in Group C it was 80.77%.
- On inter group comparison reduction of pricking sensation in Group B *(Rasna Guggulu)* was slightly better than the Group C *(Shaman Yoga).*

Effect of treatment on Spandana (Throbbing)

- In Group B percentage of relief was 90%.and in Group C it was 82.14%.
- On inter group comparison reduction of throbbing in Group B *(Rasna Guggulu)* was slightly better than the Group C *(Shaman Yoga).*

Effect of treatment on SLRT

- In Group B percentage of improvement was 41.67% in Group C it was 35.83%.
- On inter group comparison improvement of SLRT in Group B (Rasna Guggulu) was slightly better than the Group C (Shaman Yoga).

Effect of treatment on Ankle jerk

- In Group B percentage of improvement was 12.5% and in Group it was 14.28%.
- On inter group comparison improvement of Ankle jerk in Group C (Shaman Yoga) was slightly better than the Group B (Rasna Guggulu).

Effect of treatment on Knee jerk

- In Group B percentage of improvement was 16.67% and in Group C it was 12.5%.
- On inter group comparison improvement of Knee jerk in Group B (Rasna Guggulu) was slightly better than the Group C (Shaman Yoga).

Effect of treatment on Planter reflex

- In Group B percentage of improvement was 16.67% and in Group C it was 16.67%.

- On inter group comparison improvement of Planter reflex in Group B (Rasna Guggulu) and Group C (Shaman Yoga) were equal.

Discussion on overall assessment

- After observing the above subjective and objective parameter, the effect of the treatment has been classified as marked improvement, moderate improvement, mild improvement and no improvement.
- In Group B out of 20 patients after completion of the treatment 25% patients showed marked improvement followed by 70% patients who got Moderate improvement and 5% patient have mild improvement.
- In Group C out of 20 patients after completion of the treatment 10% patients showed marked improvement followed by 65% patients who got Moderate improvement and 25% patient have mild improvement.

CONCLUSSION

- After the completion of the study, following conclusions could be drawn on the basis of observations made, results achieved and thorough discussions in the present context.
- Gridhrasi is a Nanatmaja Vatavyadhi and is characterized by pain primarily in the Sphik Pradesha which radiates upto the leg through the Prishta, Kati, Uru, Janu, Jangha and Pada. The symptoms present are Stambha, Ruka, Toda and Spandana in Vataja Gridhrasi. In association with the above symptoms additional features like Aruchi, Tandra and Gaurava are seen in Kaphanubandha Vataja Gridhrasi.
- This condition can be correlated to Sciatica in contemporary science the causes of which may be multifold.
- Involvement of Vyana Vata is invariable in the Samprapti of Gridhrasi irrespective of whether it is due to Dhatukshaya or Margavarana because functions of Vyana Vata are affected in this condition. Along with it involvement of Apana Vata should also be considered equally.
- In the present clinical study maximum numbers of patients registered are under the age group of 41-50 years. Demographic evaluation of occupation and nature of work reveals that the jobs requiring heavy weight lifting, use of machine tools, operation on motor vehicles and improper postural habits are most affected. It can be concluded that factors such as faulty posture during work, long standing and jerky movements all contribute to manifestation of disorders of locomotor system.

- The trial drugs Rasna Guggulu and Shaman Yoga used in the present study are having Vedanasthapana, Shothaghna, Rasayana, Brihana, Balya and Vatanulomana properties. All these properties are helpful in Samprapti Vighatana of Gridhrasi. Hence they are helpful in relieving the symptoms like Ruka, Toda, Stambha and Spandana which are considered to be the cardinal features of Gridhrasi.
- On intra group comparison both trial groups B and C showed extremely significant results statistically. However on intergroup comparison the result was not significant.
- The percentage of relief observed on subjective parameters in Group B was 86.08% whereas in Group C it was 81.8%.
- Overall effect of assessment reveals that 25% patients showed marked improvement and 70% moderate improvement in Group B while marked and moderate improvement observed in Group C was 10% and 65% respectively.
- On the basis of above result it could be concluded that both the trial groups were effective in the management of Gridhrasi. However Group B showed better efficacy in the management of symptoms of Gridhrasi as compared to Group C.
- No any adverse effects were reported during the course of the study.

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