

## A COMPARATIVE STUDY OF EKANGAVEERA RASA & BATAGAJANKUSH RASA IN THE MANAGEMENT OF GRUDHRASI

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### ABSTRACT

Grudhrasi is a painful condition chiefly affecting the lower back area which radiates downwards to one leg or both the legs. Ekangaveera Rasa and Batagajankush Rasa both are potent orally administrable pharmaceutical drugs commonly used in the treatment of various vata vyadhi's. The main objective of the study was to assess the comparative efficacy of both the trial drug in the management of Grudhrasi. The sample size of the study was 50. Results of 25 patients in both the groups i.e. TG-A managed by Ekangaveera Rasa and TG-B managed by Batagajankush Rasa in study groups were analyzed. The results were statistically analyzed before & after treatment and follow up with help of student 't' test. In all the symptoms the paired 't' test had denoted that the treatment is highly significant ( $p < 0.001$ ), which implies that both the drugs are effective in the treatment of Grudhrasi.

**KEYWORDS:** Grudhrasi; Ekangaveera Rasa; Batagajankush Rasa; Sciatica.

### INTRODUCTION

Ayurveda described sciatica as *Grudhrasi*. most of the common *Vata-vyadhi* observed in majority of people. *Grudhrasi* word itself describes the disease i.e. "*Grudhra*" (Eagle) like walking. The disease is caused by vitiation of *vata*, sometimes even *Kapha* vitiation along with *vata* also cause Sciatica.

'*Grudhrasi*' is a *Ruja pradhana Nanatmaja Vata Vyadhi*, intervening with the functional ability of low back & lower limbs. *Grudhrasi* cripple the life of patient by causing radiating pain (*Sphik-kati-prushtha-uru-janu jangha-pad kramgat vedana*) in leg while walking or rest as well.

The symptoms seen in *Grudhrasi* can be well correlated with "*Sciatica*" in modern terminology. *Sciatica* is a very painful condition in which pain begins in lumbar region and radiates along the postero-lateral aspect of thigh and leg. Hence, movement of the affected leg is restricted and patient is not able to walk properly. It is particularly seen in most active period of life, involving working class people causing hindrance in routine life.

Cardinal symptoms of this disease are *Stambhana* (stiffness), *Ruk* (pain), *Spandanam*, *Gruhnam* and *Todam* (pricking pain), which starts from *Sphik* (buttocks), *Spreads* towards *Kati* (waist), *Prushtha* (back), *Uru*

(thighs), *Janu* (knee), *Jangha* (ankle), *Padam* (foot) and patient is unable to lift his affected limb straight while lying in supine position.

Now-a-days, numbers of cases are increasing as the days progresses irrespective of age and sex, due to *mithyavarivihara* (improper food and life style), affecting the rich to poorer classes. Being disease is *marnasandhigata* (related to vital points and joints), very difficult to treat. But there are some medicinal combination explained in Ayurveda which can relieve this suffering. Ekangaveera Rasa and Batajankush Rasa are two herbo-mineral formulations used commonly for the management of *vataja rogas* like *grudhrasi* (sciatica), *Kati graha* (back pain) etc. Both formulations are standardized with qualitative, quantitative analysis along with HPTLC fingerprints. The Trial drugs Ekangaveera Rasa and Batajankush Rasa are explained in *Rasendra Sara Sangraha* and *Brigat Nighantu Ratnakar* are orally administrable pharmaceutical drug combinations. The main objective of the study was to compare the efficacy of both drugs in the management of Grudhrasi.

### DRUGS REVIEW

Both the trial Drugs are Herbo-mineral formulations prepared in the Pharmacy attached to P.G. Dept of Rasa Shastra & Bhaishajya Kalpana, Gopabandhu Ayurveda

Mahavidyalaya, Puri, Odisha under supervision of Head of the department.

A) Each Tablet of Ekangaveer Rasa Contains (Ref:- Brihat Nighantu Ratnakar)

1. Sodhita Parad
2. Sodhita Gandhak
3. Kanta louha Bhasma
4. Banga Bhasma
5. Tamra Bhasma
6. Abhra Bhasma
7. Sunthi Choorna
8. Pippali Churna
9. Maricha Choorna

Processed in Trifalla Kwatha, Nirgundi Swarasa and Bhringaraj Swarasa.

B) Each Tablet of Batagajankush Rasa contains (Ref:- Rasendra Sara Sangraha):

1. Rasasindoor
2. Louhabhasma
3. Swarnamakshika Bhasma
4. Sudhha Gandhak
5. Sunthi Choorna
6. Pippali Choorna
7. Maricha Choorna
8. Agnimantha Moola
9. Tankana

Processed in Mundi Swarasa and Nirgundi Swarasa.

All the drugs present in both the trial drugs are having *Vedanahara* (Analgesic), *Sothara* (Anti-inflammatory), *Vatahara* (Nurvine) and nutritive properties.

**CLINICAL STUDY**

**METERIAL AND METHOD**

**Type of Study:-** Comparative clinical Study.

**Plan & Protocol:-**50 nos of patients suffering from grudhrasi were selected from OPD of Gopabandhu Ayurveda Mahavidyalaya & Hospital, Puri Odisha

**Study design**

**Design**

**Single group design**

TG-A	B.T-----vrs-----A.T.	Effectiveness of Ekangaveer Rasa was assessed
TG-B	B.T-----vrs-----A.T.	Effectiveness of Batagajankush Rasa was assessed

**Double group design**

TG-A---vrs---TG-B	Effectiveness of Ekangaveer Rasa with respect to Batagajankush Rasa was assessed.
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**Statistical Analysis**

The Parameters like *Ruk*, *Toda* and *Stambha* before and after treatment and radiological change before and after were compared using Students Paired t-test. If the p – value was found to be < .05 the result was interpreted as insignificant. If the p – value was found to be < .01 the result was interpreted as significant. If the p – value was

following the selection criteria and divided into 2 groups; i.e.- Trial Group-A (TG-A) and Trial Group-B (TG-B) having 25 cases in each group.

Trial Group-A:- 25 nos of patients were treated with Ekangaveer Rasa 250 mg twice daily with honey for 30 days.

Trial Group-B:- 25 nos of patients were treated with Batagajankush Rasa 250 mg twice daily with honey for 30 days.

**Selection Criteria**

The total nos of cases were selected irrespective of age, sex, religion and severity of complains f backache with pain in lower limbs, after carefully examine under the criteria mentioned below;

- Pain in the lumbo-sacral region radiating to the lower extremities through the posterior parts of the thigh and legs.
- Stiffness of the muscles affected to lower limbs.
- Diminished morbidity of lumbo-sacral spine.
- Aggravation of pain on sneezing or coughing.
- Painful flexion of the leg at hips, knee and toe.
- Positive SLR
- Diminished knee jerk.
- Dragging of leg while walking.

**Exclusion Criteria**

- Intervertebral disc prolapsed.
- Arthritic changes in the radiological examination.
- Pain associated with paraplegia and hemiplegia.
- Cock’s spine
- Hypertension, heart disease, diabetes mellitus.
- Space occupying lesion in the spinal cord.
- Cases of duration more than one year
- Congenital anomaly in the spine.
- Pregnant and lactating women.
- Pain due to trauma.

found to be < .001 the result was interpreted as highly significant. All the calculations were done by using Graph pad statistical software.

The overall benefit of the drug was assessed by a specially designed scoring system. A percentage reduction in overall score after 15 days (AT1) and 30

days (AT2) of treatment was calculated for every patient. The percentage reduction in overall score was interpreted as per the following grid.

**ASSESSMENT OF RESULT**

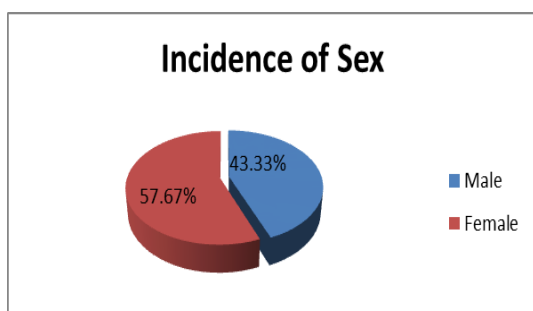
The assessment of progress was noted at 15<sup>th</sup> day and 30<sup>th</sup> day after treatment for all parameters. The result in view of percentage of improvement was classified as follows-

- a) Maximum improvement: > 75% improvement
- b) Moderate improvement: 50% - 75% improvement
- c) Mild improvement : 25% - 50% improvement
- d) Unsatisfactory : < 25% improvement

**Demographic Data**

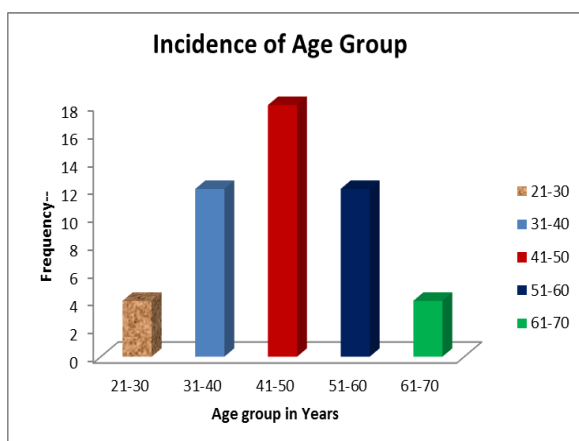
**1. Sex Wise Distribution of Subject.**

Sl. No.	Sex	No of Patients	%
1	Male	22	44.00
2	Female	28	56.00



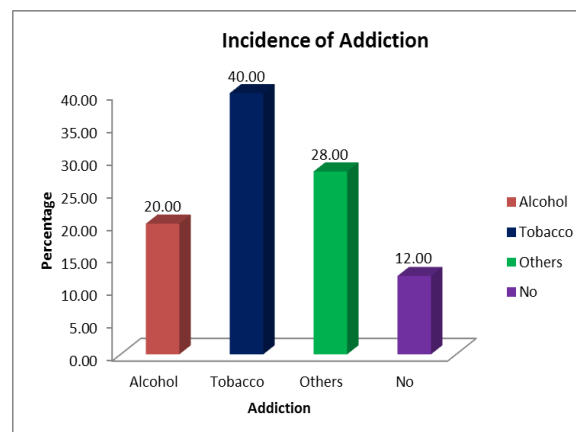
**2. Age group wise distribution of Subject.**

Sl. No.	Age Group in Years	No of Patients	%
1	21-30	4	8.00
2	31-40	12	24.00
3	41-50	18	36.00
4	51-60	12	24.00
5	61-70	4	8.00



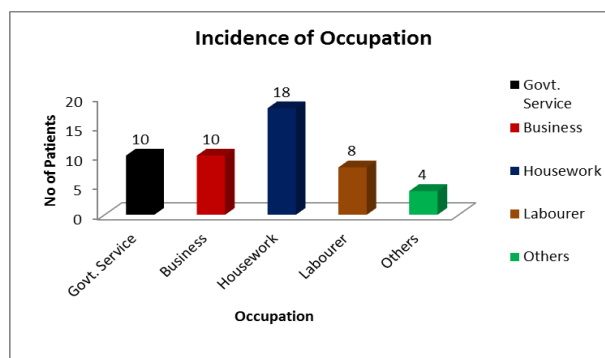
**3. Addiction Wise Distribution of Subject.**

Sl. No.	Addiction	No. of Patients	%
1	Alcohol	10	20.00
2	Tobacco	20	40.00
3	Others	14	28.00
4	No	6	12.00



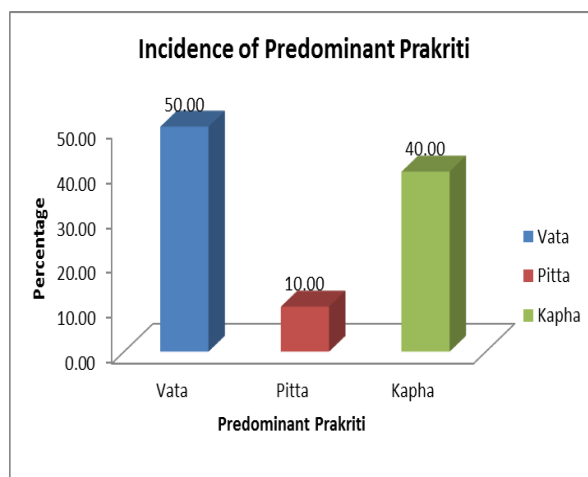
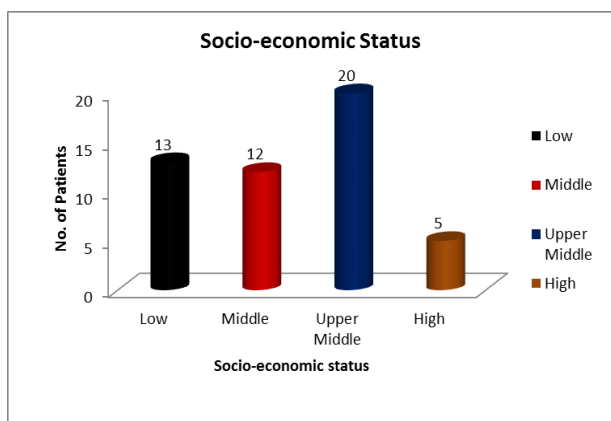
**4. Occupation Wise Distribution of Subject**

Sl. No.	Occupation	No of Patients	%
1	Govt. Service	10	20.00
2	Business	10	20.00
3	Housework	18	36.00
4	Labourer	8	16.00
5	Others	4	8.00



**5. Socio-economic status Wise Distribution of Subject**

Sl. No.	Socio-economic Status	No. of Patients	%
1	Low	13	26.00
2	Middle	12	24.00
3	Upper Middle	20	40.00
4	High	5	10.00



**6. Prakriti wise distribution**

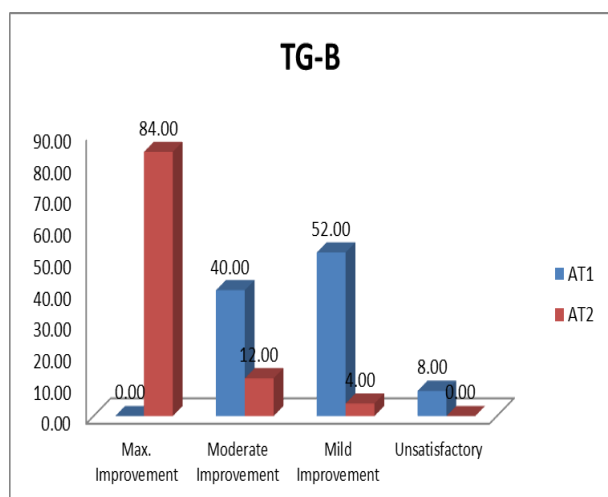
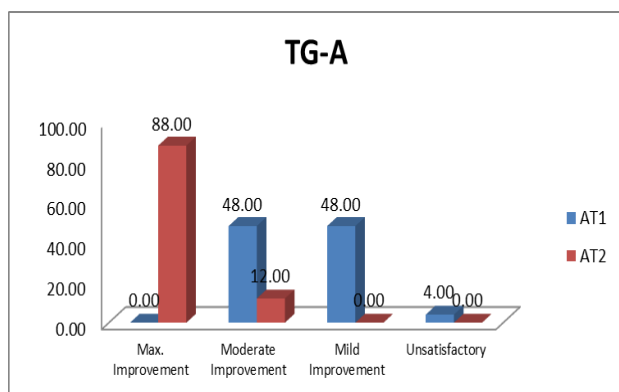
Sl. No	Predominant Prakriti	No. of Patients	%
1	Vata	25	50.00
2	Pitta	5	10.00
3	Kapha	20	40.00

**Effectiveness of the Trial Drugs**

Sign & Symptoms	Treatment Group	Duration of Treatment	Mean ± S.D.	df (n-1)	t- value	P-value	Remark
Ruk	TG-A	BT	2.76 ± 0.44	24	10.94	< 0.001	Extremely significant
		AT1	1.68 ± 0.48				
		AT2	0.28 ± 0.46				
	TG-B	BT	2.76 ± 0.44		10.52	< 0.001	
		AT1	1.44 ± 0.51				
		AT2	0.28 ± 0.46				
Toda	TG-A	BT	2.80 ± 0.41	24	10.66	< 0.001	Extremely significant
		AT1	1.44 ± 0.51				
		AT2	0.28 ± 0.46				
	TG-B	BT	2.84 ± 0.37		15.39	< 0.001	
		AT1	1.28 ± 0.46				
		AT2	0.28 ± 0.46				
Stambha	TG-A	BT	2.80 ± 0.41	24	10.66	< 0.001	Extremely significant
		AT1	1.44 ± 0.51				
		AT2	0.28 ± 0.46				
	TG-B	BT	2.84 ± 0.37		15.39	< 0.001	
		AT1	1.28 ± 0.46				
		AT2	0.32 ± 0.48				

**Overall Assessment of Both the Trial Drugs**

Sl. No.	Clinical Assessment	TG-A				TG-B			
		AT1		AT2		AT1		AT2	
		f	%	f	%	f	%	f	%
1	Max. Improvement	0	0.00	22	88.00	0	0.00	21	84.00
2	Moderate Improvement	12	48.00	3	12.00	10	40.00	3	12.00
3	Mild Improvement	12	48.00	0	0.00	13	52.00	1	4.00
4	Unsatisfactory	1	4.00	0	0.00	2	8.00	0	0.00



### OBSERVATION AND RESULT

- The study included both male (22 nos.) and female (28 nos.) patients. But females dominated male patients.
- The Study included patients in the age limit of 21 to 70 years (both inclusive). Patients in the age group of 41 – 50 years were maximum (18 nos.) and in the age group of 51 – 60 and 21-30 years were minimum (4 in each).
- Grudhrasi was found to be well distributed among different occupation. However patients with house work were found to be maximum (18 nos.)
- Grudhrasi affect all types of Socio-economic classes of population higher middle class being the maximum (20 nos) followed by middle and low classes.
- Tobacco (40%) users were maximum followed by other form of addiction and alcohol users.
- Among all the patients 50 % were Vatik, 10 % were Paitik and 40 % were Kaphaj in Prakriti.
- Ekangaveer Rasa (TG-A) was found effective in controlling Ruk, Toda and Stambha and the results was found to be highly statistically significant ( $p < 0.001$ ) after 15 and 30 days of treatments.
- Simultaneously Batagajankush Rasa (TG-B) was also found effective in controlling Ruk, Toda and Stambha and the results was found to be highly statistically significant ( $p < 0.001$ ) after 15 and 30 days of treatments.

- On overall assessment of the effectiveness of Ekangaveer rasa & Batagajankush rasa in Grudhrasi after 15 days we got the following results Ekangaveer rasa gave Moderate result in 48 % cases, mild results in 48 % cases and Unsatisfactory results in 4 % cases where as Batagajankush rasa gave Moderate result in 40 % cases, mild results in 52 % cases and Unsatisfactory results in 8% cases.
- And after 30 days of complete treatment we got the following results Ekangaveer rasa gave Maximum improvement in 88 % cases, Moderate result in 12 % cases, mild results in 0 % cases and Unsatisfactory results in 0 % cases where as Batagajankush rasa gave Maximum improvement in 84 % cases, Moderate result in 12% cases, mild results in 4% cases and Unsatisfactory results in 0% cases.
- On analysing the incidence of adverse effects we got, Neither Ekangaveer rasa nor Batagajankush rasa have produce any adverse effect. So the trial is safe without any complication and with a successful result.

### DISCUSSION

The female patients dominated the male patients in the study. This may be due to the reasons that females are more habituated with house hold work and they are obese after their child birth due to hormonal imbalance.

Patients in the age group of 41 – 50 were maximum in the trial indicating that Grudhrasi is more prevalent in this age group. This may be due to the fact that these years in life are more stressful years due to responsibilities for family, so there is every chance of altered dietary habits and getting addicted to tobacco or alcohol which might have facilitated the progression of Grudhrasi.

The peoples with household work and service field work were more in number in this trial. Their Stressful life style (as they are not satisfied in their job) may be held responsible for accelerating Grudhrasi.

Most of the patients were having addiction of Tobacco and alcohol. High incidence of tobacco & alcohol users proves that these are potential risk factors for Grudhrasi.

Upper middle class, low middle class and poor class people are more prone for Grudhrasi as they cannot fulfil the all needs properly and having stress in life. As stress is the prime factor, so they are attribute to Grudhrasi.

Both the Trial drugs Ekangaveer rasa and Batagajankush Rasa were found effective in controlling all the symptoms like Ruk, Toda and Stambha simultaneously even after 15 days of treatment and also after completion of treatment.

The overall effect of both the drugs were remarkable but Ekangaveer Rasa is slight better than Batagajankush.

As per safety profile, both are safe without any adverse effect and any organic effects like alter liver function and renal functions.

Considering the effectiveness both Ekangaveer rasa and Batagajankush rasa in managing Grudhrasi, we can say that the former has slight greater effect over the later but both drugs are potent enough to control the disease Grudhrasi.

#### Possible Mode of Action of Trial Drugs

The trial drug – A, Ekangaveera rasa is a herbo-mineral compound containing some Vata and Kapha Samak drugs like- Sodhita Parad, Sodhita Gandhak, Kanta louha Bhasma, Banga Bhasma, Tamra Bhasma, Abhra Bhasma, Sunthi Choorna, Pippali Churna, Maricha Choorna and processed in Trifalla Kwath, Nirgundi swarasa and Bhringaraj swarasa.

The trial drug – B, Batagajankush Rasa rasa is a herbo-mineral compound containing some Vata and Kapha Samak drugs like- Louhabhasma, Swarnamakshika Bhasma, Sudhha Gandhak, Sunthi Choorna, Pippali Choorna, Maricha Choorna, Agnimantha Moola, Tankana, and processed in Mundi swarasa and Nirgundi swarasa.

Both the drugs have been already proven to be effective to cure Vataja and Vatakaphaja diseases. As Grudhrasi is a Vataja as well as Vatkaphaja vyadhi both trial drugs are beneficial to cure Grudhrasi.

#### CONCLUSION

As per the results of this study, Ekangaveera rasa (TG-A) and Batagajankush rasa (TG-B) both were found effective in controlling the symptoms and sign of Grudhrasi But as per comparison Ekangaveer rasa yield slight better result than Batagajankush rasa. Since both the trial drugs don't produce any adverse effects, therefore they would definitely be a better and safer choice in managing Grudhrasi. But Ekangaveer rasa will be better than Batagajankush due to its effects.

Further it is advice to continue the follow up study.

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