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## Research Article

### A CLINICAL STUDY ON EFFECT NAGRADI GHANVATI AND SWADANSTRADI KASHAY I N ASHMARI W.S.R. TO RENAL CALCULUS

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#### ABSTRACT

Urinary calculi consists of aggregate of crystals containing small amount of proteins and glycoprotein. Acute loin pain radiating to the groin together with haematuria is typical of ureteric obstruction most commonly due to calculi, different type vary in frequency around the world, probably as a consequence of dietary and environmental factor, but genetic factor may also contribute. In Europe 80% of renal calculi contain crystal of calcium about 15% contain magnesium ammonium phosphate and small number of pure cystine or uric acid stone are found. Predisposing Factor's are Dehydration, pH of urine, Infection, Hot climate, Dietary Factor, Metabolic condition, Immobilization, Decreased Urinary citrate. In renal calculus main symptoms are Pain in lumber region, Burning maturation and Dysuria. In this study 60 patients are registered from Govt. Ayurved college & Hospital Raipur Chhattisgarh. Patients are divided in Group-A and B with Nagradi Ghanvati and Swadanstradi Kashaya which is mentioned by Acharya Chakradatta in Ashmari (Renal Calculus) Chapter. After treatment of 45 day's batter result were found in Group-B. In pain 86.3%, Burning maturation 91.8%, 100% in haematuria, 89.7% relief in Dysuria. Aim of this article to provide knowledge about Ashmari (Renal calculus) and provide a safe and cost effective medicine for human being.

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#### INTRODUCTION

The medical terms for kidney stones are renal calculus/Nephrolithiasis. In renal calculi calcium is the major portion. Kidney stones happen in 1 in 10 individuals in their lifetime.<sup>1</sup> Numerous reasons are there for the formation of kidney stones which can affect any part of the urinary tract from the kidneys to the bladder.<sup>2</sup> Urinary lithiasis is a common condition currently affecting 4-2% of the world population<sup>3,4</sup>. The information regarding *Ashmari* is available in almost all *samhita* (Ancient treatise) of Ayurveda. In India, approximately 5-7 million patients suffer from stone disease and at least 1/1000 of Indian population needs hospitalization due to kidney stone disease. Thus, the disease is as widespread as it is old, particularly in countries with dry, hot climate<sup>5</sup>. In *Ayurveda* numbers of drugs are mentioned to treat *Ashmari* Among them the '*Nagradi Ghanvati and Swadanstradi Kashaya*', which is mentioned in *Chakradatta*<sup>6</sup> was selected for the study. This compound drug is advised in decoction form.

Stone formation is a very complex procedure( Physio-chemical procedure) of urinary saturation, supersaturation, Nucleation, Crystal growth, Crystal retention than stone formation all stages are responsible for formation if calculus in Kidney or any specific place on urinary tract including Kidney, Ureter and Bladder<sup>6</sup>.

##### Aims and Objective

- To evaluate therapeutic effect of Nagradi Ghanvati and Swadanstradi Kashay in Renal Calculus.
- To know the efficacy of the conservative medical treatment.
- Interpretation of Statistical data of clinical study.

##### Selection of Patients

For the present study, 60 patients with classical signs and symptoms of Ashmari (Renal Calculus) who were attending the OPD/IPD of Kayachikitsa (Medicine) department from Government Ayurved college Raipur Chhattisgarh, randomly

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selected for the study. Nagradi Ghanvati and Swadanstradi Kashay was prepared according to ayurvedic texts in the Department of Rasashastra and Bhaishajya Kalpana (Pharmaceuticals) of Govt. Ayurved College and Hospital, Raipur.

### Grouping

Entire study was divided into two Group, Group A & Group B selected randomly from Govt. Ayurved college and Hospital OPD/IPD department of Kayachikitsa (Medicine).

**Table 1** This table show study plane of both group it's medicine with dosage and duration

Group	No.of Patients	Medicine	Dosage	Anupana	Duration
Group A	30	Nagradi Ghanvati	1000Mg	Guda, Yavakshara	45 Day
Group B	30	Nagradi Ghanvati	1000Mg	Swadanstradi Kashay	45 Day

### Inclusion Criteria

- Age in between 21-60 years.
- Mutradhara Sanga (Dysuria)
- Bastyi vedna (Pain)
- Sarakta Mutrata (Heamaturia)
- Mutradaha(Burning Micturation)

### Exclusion Criteria

- Age below 21 year and above 60 year.
- Classical Ashadhya Sign & Symptoms.
- Size of Renal Calculus more then 10mm.

Follow up:- 15 days.

### Assessment of Subjective Criteria

**Table 2** This table show assessment criteria of Mutradhara Sang (Dysuria)

Criteria	Grading
<b>Mootradhara Sanga</b>	
No any complain of Dysurea	0
Mild dysurea	1
Moderate Dysurea	2
Severe Dysurea	3

**Table 3** This table show assessment criteria of Vedna (Pain)

Criteria	Grading
<b>VEDNA</b>	
No complain of Pain in inguinal Region	0
Mild Pain	1
Moderate Pain	2
Severe Pain	3

**Table 4** This table show assessment criteria of Saraktamutrata (Heamaturia)

Criteria	Grading
<b>Sarakta Mootrata</b>	
No any complain of Blood in Urine	0
Mild blood in urine	1
Moderate Blood in Urine	2
Severe Blood in Urine	3

**Table 5** This table show assessment criteria of Mutradaha (Burning Maturation)

Criteria	Grading
<b>Mutradaha</b>	
No any complain of Burning Micturation	0
Mild Burning Micturation	1
Moderate Burning Micturation	2
Severe Burning Micturation	3

### Statistical Analysis

For gathering P-Value used a some statistical parameters Mean (X), Difference Mean ( $X^1-X^2$ ), Standard deviation(SD), Standard error(SE). Paired t-test was carried out at  $P > 0.05$ ,  $P < 0.05$ ,  $P < 0.01$ . The obtained result was interpreted as;

- Non-significant :  $P > 0.05$
- Significant :  $P < 0.05$
- Highly Significant :  $P < 0.01$

### Criteria for Assessing the Total Effect

Considering the overall improvement had shown by the patient in sign and symptoms, the total effect of the therapy has been assess as below:

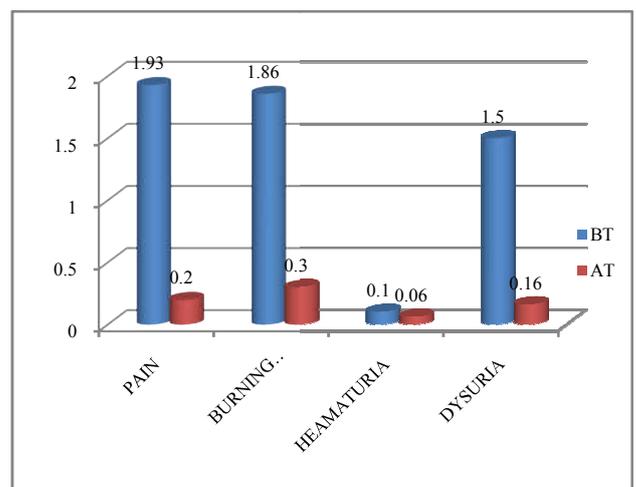
**Table 6** This table show a assessment of total effect of Relief

No.	Percentage	Relief
01	76% - 100%	Marked Relief
02	51% - 75%	Moderate Relief
03	26 % - 50%	Mild Relief
04	Below than 25%	No Relief

### Statistical Analysis

**Table 7** This table show a statistical data of Group-A after treatment of 45 days

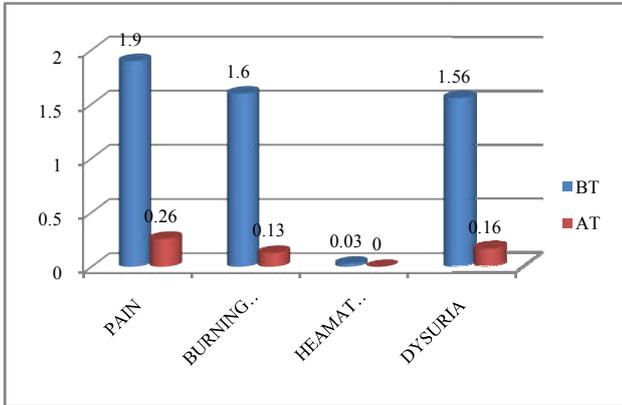
No	Symptoms	Mean		Diff. Mean	Relief %	SD	SE	T-Value	P - Value	Remark
		BT	AT							
1	Pain	1.93	0.2	1.73	89.6%	0.520	0.095	18.2	0.00	HS
2	Burning Micturation	1.86	0.3	1.56	83.87%	0.504	0.092	17.02	0.00	HS
3	Heamaturia	0.1	0.06	0.04	40%	0.182	0.033	1.00	0.326	NS
4	Dysuria	1.5	0.16	1.34	89.3%	0.479	0.087	15.23	0.00	HS



**Figure 1** This chart show relief of symptoms before treatment and After treatment of Group A

**Table 8** This table show a statistical data of Group – B after treatment of 45 days

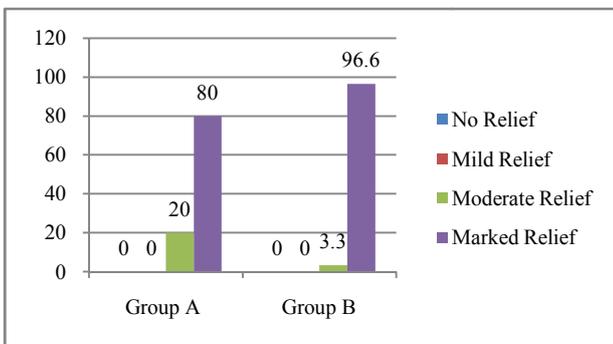
No	Symptoms	Mean		Diff.		SD	SE	T-Value	P-Value	Remark
		BT	AT	Mean	Relief %					
1	Pain	1.9	0.26	1.64	86.31%	0.466	0.085	19.97	0.00	HS
2	Burning Micturation	1.6	0.13	1.47	91.87%	0.507	0.092	16.551	0.00	HS
3	Heamaturia	0.03	0.00	0.03	100%	0.182	0.033	1.00	0.326	NS
4	Dysuria	1.56	0.16	1.4	89.74%	0.507	0.092	15.83	0.00	HS



**Figure 2** This chart show relief of symptoms before treatment and After treatment of Group B

**Table 9** This table show a total % of Group-A & B after treatment of 45 days

No.	Percentage	Group A		Group B	
		No. of Patient	Percentage	No. of Patient	Percentage
01	76% - 100%	24	80%	29	96.6%
02	51% - 75%	06	20%	01	3.33%
03	26 % - 50%	00	00%	00	00%
04	Below than 25%	00	00%	00	00%
05	Total	30	100%	30	100%



**Figure 3** This chart show total relief of symptoms in percentage of both Group A & Group B

## RESULT

In this entire clinical study 60 patients are register. After therapy of 45 day I found Highly significant result in all symptoms except Heamaturia in both group. Percentage of relief in heamaturia is 40% and 100% respectively in Group-A & Group-B because of number of patients is very less as compare to other symptoms that's why result are found Non-significant in both group. I found a batter Result in Group B with both medicine work well when used simultaneously rather than single medicine used.

## DISCUSSION

**For Group: A** According to above statistical calculation we have seen all the sign & symptoms in 30 Patients of group A and observe after treatment of 45 days:-

**Pain:** In Pain the mean difference of BT & AT is 1.73, P-Value is 0.00 which is highly significant at the 1% level and Percentage of relief is 89.6%.

**Burning Micturation:** In Burning maturation the mean difference of BT & AT is 1.56, P-Value is 0.00 which is highly significant at the 1% level and Percentage of relief is 83.87%.

**Heamaturia:** In heamaturia the mean difference of BT & AT is 0.04, P-Value is 0.326 which is non-significant and Percentage of relief is 40%.

**Dysuria:** In dysuria the mean difference of BT & AT is 1.34, P-Value is 0.00 which is Highly significant at the 1% level and Percentage of relief is 89.3%.

**For Group: B** According to above statistical calculation we have seen all the sign & symptoms in 30 Patient of group B and observe after treatment of 45 days:-

**Pain:** In Pain the mean difference of BT & AT is 1.64, P-Value is 0.00 which is highly Significant at the 1% level and Percentage of relief is 86.31%.

**Burning Maturation:** In Burning maturation the mean difference of BT & AT is 1.47, P-Value is 0.00 which is highly significant at the 1% level and Percentage of relief is 91.87%.

**Heamaturia:** In heamaturia the mean difference of BT & AT is 0.03, P-Value is 0.326 Which is non-significant and Percentage of relief is 100%.

**Dysuria:** In dysuria the mean difference of BT & AT is 1.4, P-Value is 0.00 which is Highly significant at the 1% level and Percentage of relief is 89.74%.

## CONCLUSION

In this study both medicine are work very effectively on both groups Standard deviation is 0.520, 0.504, 0.182, 0.479 are respectively Symptoms like Pain, Burning maturation, Heamaturia, dysuria in Group A and also 0.466,, 0.506, 0.182, 0.507 respectively Symptoms in Pain, Burning maturation, Heamaturia, dysuria in Group B. Standard Error is 0.09, 0.09, 0.03, 0.08 are respectively Symptoms Pain, Burning maturation, Heamaturia, dysuria in Group A and 0.08, 0.09, 0.03, 0.09 are respectively Symptoms Pain, Burning maturation, Heamaturia, dysuria in Group B. After the treatment of 45 days 80% Patients are markedly improved, 20% Patients are moderate improved in Group-A thus in Group-B 96.6% Patients were markedly improved and 3.3% patients were moderate improved. After follow up of 15 days, in only 10% patients in Group-A and 6.6% patients were found with recurrence with symptoms of renal calculus.

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