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A Randomized Comparative Clinical Study to Evaluate the Effect of *Kataka Beeja Churna* and *Gokshura Churna* in the Management of *Mutrashmari* with Special Reference to Renal Calculi

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ABSTRACT

Mutrashmari is one of the disorders of *Mutravaha Srotas* and one among the *Astamahagada. Mutrashmari* is formation of stone anywhere in the *Mutravaha Srotas*, which can be compared with renal calculi. Clinical features as renal angle pain, haematuria, pyuria and dysuria. The lifetime risk of kidney stone is estimated to be between 5% and 10% with reoccurrence rate as high as 50%. Renal calculi occur in people of all parts of the world with lower time risk of 3-15% in the west 25% in Asia and 20% in India. Renal calculi are quite common and usually affects people who are between 20-60 years of age, they affect male more than female. It is estimated that renal colic affects about 10-20% of male and 3-5% female. In present study 40 patients selected on the basis of inclusion criteria and divided into 2 groups with 20 patients in each group by computerized random technique. The parameters will be recorded according to the case proforma before, during, and after treatment and follow up. Patient was asked to report on 15th day and 30th day during treatment for observation. *Kataka Beeja Churna* has shown complete relief in 70%, marked response in 20% & Moderate improvement in 10% of patients. *Gokshura Churna* has shown complete relief in 60%, marked response in 25% & Moderate improvement in 15% of patients.

KEYWORDS: *Mutrashmari, Astamahagada, renal calculi, Kataka Beeja Churna, Gokshura Churna*

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INTRODUCTION

Ayurveda is ancient system of medicine which aims at to maintain the health of the healthy individual and cure the disease of a diseased person.[1]

According to Ayurveda body is composed of *Tridosha, Saptadhatu,* and *Trimala*. These *Trimala* produced as a result of digestion and metabolism of food and get excreted from the body through their respective system. *Mutra* is one among the *Trimala* and is excreted through *Mutravaha Srotas*.[2]

Mutrashmari is one of the most common diseases among urinary disorders. The *Mutravaha Srotas Vikara* like *Ashmari, Mutrakrichchra, Mutraghata, Prameha* are the diseases causing distress to human being since ancient age.[3] Acharya Sushrutha explained *Mutrashmari* as one among the *Ashtamahagada*.[4] The reason for its inclusion in *Ashtamahagada* may be the disease is *Tridoshaja* in origin, *Marmashrayee* as the *vyaktashtana* of Ashmari is Basti it is one among Sadhyo Pranahara Marma, Basti is one of the Dashavidha *Pranayatana* and on the basis of *Sadhyasadhyata* the *Vyadhi* is *Kricchrasadhya.*[5]

Acharya Sushruta explains *Lakshanas* of *Ashmari* as pain in these region like *Nabhi* (umbilical), *Basti* (bladder), *Sevani* (perinealraphe), *Mehana* (penis), *Mutradharana* (obstruction in flow of urine), *Sarudhiramutrata* (haematuria), *Mutravikirana* (scattering of urine), *Gomedakaprakasa* (passing of urine like Gomeda), *Sasikata* (with gravels) and *Visrujati* (turbid).[6]

Renal calculi are one of the most painful and common disorders of urinary tract, which are solid crystals that form from dissolved minerals in urine, caused by both environmental and metabolic problems.[7] Renal calculi presents with clinical features as renal angle pain, dysuria, haematuria and pyuria. Based on the constituent of the stone, renal calculi are classified as oxalate stones, phosphate stones, uric acid stones, urate stones and cystine stones.[8]

In modern science different treatment modalities have been explained to manage renal calculi as conservative line of treatment with analgesics, hydrotherapy and chemical dissolution of renal stones requires indwelling ureteral catheters for constant through and through irrigation with Renacidin. [9] Surgical line of treatment as Percutaneous Nephro Lithotomy (PCNL), Extracorporeal Shock Wave Lithotripsy (ESWL) but they produce complications like heamorrhage from punctured renal parenchyma, renal haematoma, severe haematuria, injury to adjacent structures like perforation of the colon during the placement of percutaneous track and retaining of stone in ureter. If the calculi are not expelled by PCNL or ESWL then open surgery is the ultimate choice. They will help in removal of calculi but they will not act on root cause of the disease hence recurrence of the disease is common.[10]

Acharya Sushruta says in initial stage *Ashmari* can be treated by medicines but in advanced stage surgery is needed, he also opines that before going for surgical procedures one should try to manage with oral medications.[11]

Acharya Sushruta explained the use of *Gokshura* with *Madhu* and *Aviksheera* as *Anupana* in *Ashmari Chikitsa*. 15 *Gokshura* has properties like *Ashmarihara* and *Basti Shodana*. [12]

Kataka explained in *Dhanvantari Nighantu Chandanadi Varga* is taken for the study. *Acharya* while explaining the properties of *Kataka* states, it is *Vaariprasadana, Chedaniya Vishagna* and *Muootrashmarihara*. By going through the individual *Guna Karma* of *Kataka* it is said to be *Tridoshahara.*[13] the study will be carried out to evaluate the effect of *Kataka Beeja Churna* and *Gokshura Churna* in *Mutrashmari.*

MATERIALS AND METHODS

Selection of patients

Patients diagnosed as a *Mutrashmari* (renal calculi) based on classical signs and symptoms were randomly selected.

Criteria of selection of patients

Inclusion Criteria:

- Patients between age group of 20-60 years of either sex.
- Diagnosed patients of *Mutrashmari* presenting with signs and symptoms of *Mutrashmari* (Renal calculi).
- Symptomatic and asymptomatic Patients with renal calculi of size 3mm to 10mm in kidney as reported by USG Abdomen and Pelvis.

Exclusion Criteria:

- Patient suffering with systemic disorders like Ischemic Heart Disease, tuberculosis, diabetes mellitus, hypertension etc
- Impacted stone.
- Pregnant and lactating women.

ASSESSMENT CRITERIA

Clinical features of *Mutrashmari* (renal calculi) in *Ayurvedic* classics were considered for Diagnosis and Assessment.

Subjective Criteria:

1. Renal Pain.
2. Tenderness over Renal angle.
3. Dysuria.

Objective Criteria:

1. Hematuria
2. Pyuria.
3. Size of Renal calculi

Investigative Criteria:

a. Radiological Investigations: USG Abdomen and Pelvis (will be done before and after treatment).
b. Urine routine (diagnostic).

Selection of drug

Kataka Beeja Churna and *Gokshura Churna* were prepared in the *Rasashastra* and *Bhaishajya Kalpana* department according to classical reference.

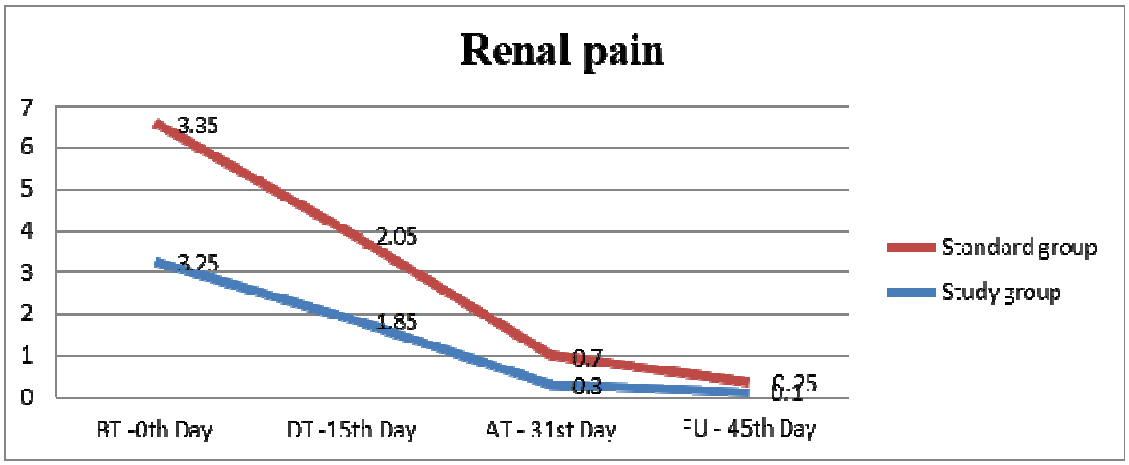
Drug Administration

Total number of 40 patients were divided in 2 groups,
Group A - 20 Patients were treated with *Kataka Beeja Churna*
Group B - 20 Patients were treated with *Gokshura Churna*

OBSERVATION & RESULTS:

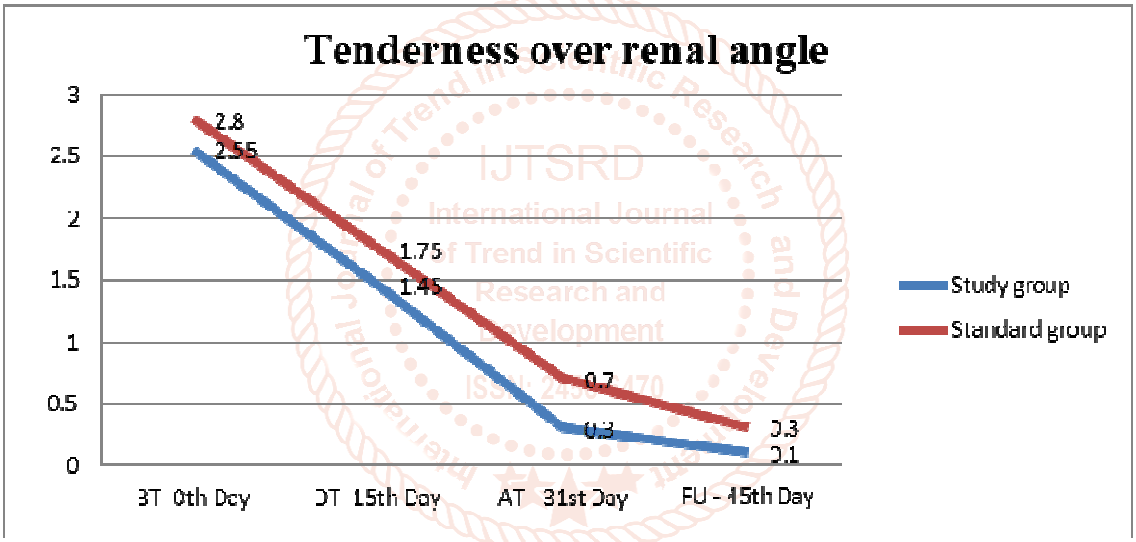
- **Renal pain:** On comparison of results of both the groups in renal pain showed that, on 0^{th} day no improvement in both study and standard group, on 15^{th} day 43% and 37%, on 31st day 91% and 86%, during follow-up on 45^{th} day 97 % and 92.5% of improvement noted.

Graph No 27: Comparison of results of renal pain between study group & standard group



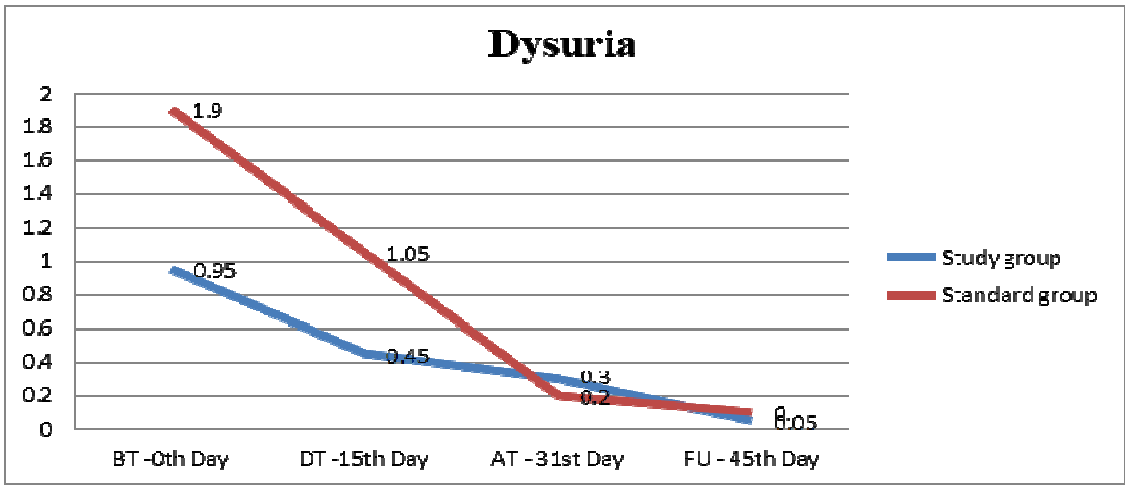
- **Tenderness:** On comparison of results of both the groups in renal angle tenderness showed that, on 0th day no improvement in both study and standard group, on 15th day 43% and 37.5%, on 31st day 88% and 75%, during follow-up on 45th day 96 % and 89% of improvement noted.

Graph No 2: Comparison of results of Tenderness over renal angle between study group & standard group



- **Dysuria :** On comparison of results of both the groups in Dysuria showed that, on 0th day no improvement in both study and standard group, on 15th day 53% and 45%, on 31st day 90% and 89%, during follow-up on 45th day 95 % and 94.7% of improvement noted.

Graph No 3: Comparison of results of Dysuria between study group & standard group



- **Size of the calculi :** On comparison of results of both the groups in size of the calculi showed that, on 0th day no improvement in both study and standard group, on 31st day of treatment 91.6% and 85% of improvement noted in both study and standard group respectively.

Graph No 4: Comparison of results of Size of the calculi between study group &standard group

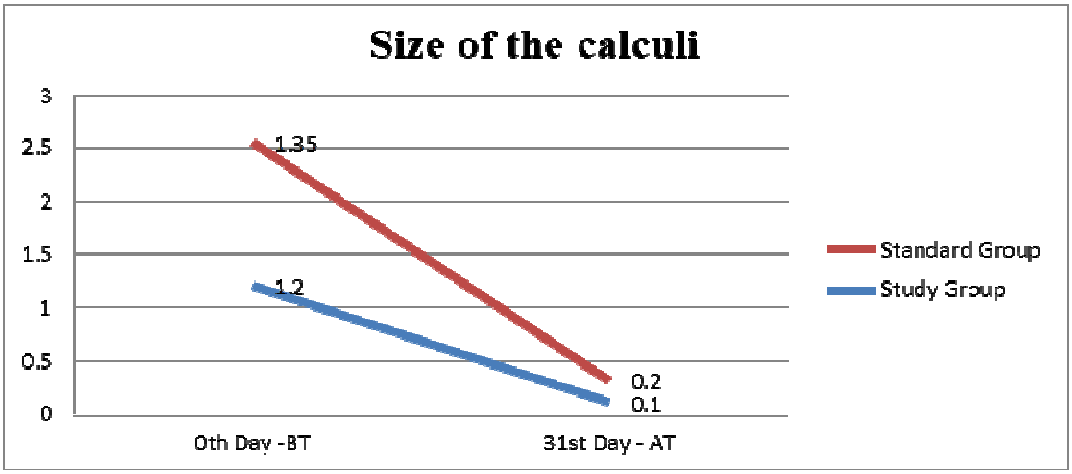


Table No. 1 Assessment of Renal calculi after treatment

Calculus result	Group –A Study group		Group –B Standard group	
	No	%	No	%
Cured (Expulsion)	18	90%	16	80%
Size reduced	02	10%	01	5%
Unchanged	00	00%	03	15%
Total	20		20	

Table No 2. Overall effect of the treatment

Overall result After Treatment	Group –A Study group		Group –B Standard group		Chi square test	P value
	No of Patients	Percentage				
Cured (complete relief)	14	70%	12	60%	3.636	P<0.01
Marked Improvement	4	20%	5	25%		
Moderate Improvement	2	10%	3	15%		
Mild Improvement	0	0%	0	0%		
No improvement	0	0%	0	0%		
Total	20	100%	20	100%		

DISCUSSION

Kataka Beeja churna shown complete relief in 70%, marked response in 20% & Moderate improvement in 10% of patients. *Gokshura Churna* shown complete relief in 60%, marked response in 25% & Moderate improvement in 15% of patients.

Overall response based on the signs and symptoms is, both study and standard group have shown significant results in the management of Renal Calculi and study group showed better results compared to Standard group statistically with p value < 0.01.

On mode of action of *Kataka Beeja Churna*

Kataka Beeja Churna is having *Tikta* and *Kashaya Rasa, laghu guna* so it does the *Kapha Shamana* because of *madhura rasa* it pacify *Vata Dosha* and the drug is having *Kashaya* and *Madhura Rasa*, *Sheeta Veerya* it act as *Pittahara*. By going through the individual *Guna Karma* of *Kataka* it is said to be *Tridoshagna.*

Renal Pain which is a main symptom, Pain control is of the essential measures to take care in *Mutrashmari* conditions. The study drug *Kataka Beeja Churna* possesses *Vataghna, Sulaprasamana, Vedhanastapana,* action thus it helps in reduction of pain.

Kataka is having property like *Ashmarichedhaka* (lithotriptic), *Mutrala*(diuretic) and *Ashmarighna* (antiurolithogenic). *Kataka* due to its *Ashmarigna* properties, *Kapha bhavas* responsible for mucosal adhesions are cleared there by *Ashmari* are dislodged and it has also got antimicrobial property which prevents infections. It helps in disintegration and flushing out the calculi from the body and prevents the formation of calculi. In Vitro studies have shown

that *Kataka Beeja* along with its diuretic and nephroprotective effect it lowers the concentration of urinary stone forming constituents and reduces the formation of urinary stones and prevent the growth of urinary stones.

On mode of action of *Gokshura Churna*

Gokshura Churna has *Madhura Rasa, Madhura Vipaka* and *Guru, Snigdha Guna* which pacify *Vata Dosha* and also *Shotha hara* property hence, pain abdomen is reduced.

Gokshura Churna has *Mutrala Guna* which increases intra-luminal pressure and because of which, calculus is expelled out. Because of its diuretic action, the organisms acting as a nidus for calculus formation are also flushed out with the calculus.

CONCLUSION

1. *Kataka Beeja Churna* has shown good efficacy in the management of *Mutrshmari* with special reference to renal calculi.
2. *Gokshura Churna has* shown efficacy in the management of *Mutrshmari* with special reference to renal calculi.
3. In comparison *Kataka Beeja Churna* has shown statistically significant effect than *Gokshura Churna* in the management of *Mutrshmari* with special reference to

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