


Research Article
EFFICACY OF VEERATARVADI KASHAYA IN THE MANAGEMENT OF MUTRASHMARI
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ABSTRACT

Mutrashmari - Urolithiasis is a common problem to mankind since the ancient times as one among the most troublesome obstructive uropathic disorders. Urolithiasis is a consequence of imbalance between stone promoters and inhibitors in the kidney i.e. it is a process which involves sequence of events in the formation of any urinary stone. Increased incidence of urolithiasis in this industrialized world is associated with improved standards of living and is strongly associated with race, ethnicity and region of residence. Approximately 2% percent of people experience the disease in lifetime, as it is more common in males than females. In ancient treatise, so many indigenous compounds are already mentioned in the treatment of *Mutrashmari*. In this study, the drug *Veeratarvadi Kashaya*, a unique drug mentioned in *Ayurvedic* classics was selected. The drug was given with twice amount of water to 30 patients for a period of 30 days. Follow-up were taken on 1st, 10th, 20th and 30th day. During this study, symptoms like burning/dribbling micturition, pain in abdomen and hematuria was the subjective criteria for all patients. Also size, site of calculus and hydronephrosis was the parameters seen *via* USG (abdomen & pelvis) during the study. After a month, patients got much relief from previous complaints and the USG was also normal than before. The action of *Veeratarvadi Kashaya* is due to its *Mutrala* (diuretic), *Vikasi* (anti-spasmodic), *Ashmarighna* (lithotriptic), *Shothaghna* (anti-inflammatory) properties which is helpful for painless disintegration and expulsion of calculus. It also helps in preventing the hyper-concentration of urine as well as further complications. In the present work, we have tried to study the action of *Veeratarvadi kashaya*, diet and lifestyle changes with respect to disintegration /expulsion of the calculi.

KEYWORDS: *Mutrashmari, Urolithiasis, Veeratarvadi Kashaya.*
INTRODUCTION

Ayurveda is the science of life and *Upanga* of *Atharvaveda*; has described main diseases under the heading of *Sharirika* and *Manasika roga*. Among the *Sharirika* disease *Mutrashmari*^[1] is included in the group of urological disorders - *Mutraghata*, *Mutrakrichhra*, *Mutra-shmari* and *Prameha*. *Mutrashmari* is a common ailment known to the mankind since the *Vedic* era.

This disease is dreadful and hence considered one of the *Mahagadas* by *Acharya Sushruta* owing to its potentiality to disturb the anatomy and physiology of urinary system^[2]. *Sushruta* refers to *Mutrashmari* as a *Darun vyadhi* (difficult to treat) causing various complications related to kidneys such as altered kidney functions, infection, urine retention etc along with other complications.

Further according to modern science, *Mutrashmari* is compared to Urolithiasis. Renal stone or calculus or lithiasis is one of the most common diseases of the urinary tract. It occurs more frequently in men than in women and in whites than in black. It is rare in children. It shows a familial predisposition. Urinary calculus is a stone-like body composed of urinary salts bound together by a colloid matrix of organic materials. It consists of a nucleus around which concentric layers of urinary salts are deposited.^[6]

In *Ayurveda*, *Veerataru* is quoted to be effective in various conditions of *Mootravaha Srotodushti* such as *Mutrakruchchhra* (Dysuria), *Mutraghata* (Anuria), *Ashmari* (Urinary calculi), *Sharkara* (Concretions) etc.⁵

With these objectives in this study, *Veeratarvadi Kashaya*, a unique drug mentioned in *Ayurvedic* classics was selected in *Ayurvedic* literature all sorts of methodologies have been described by *Astang Hrudyam*⁴.

Many treatment modalities have been adopted in modern medicine to combat the disease but it is quite expensive and also the pathogenesis behind recurrence of formation of stone persists. Therefore it is necessary to find out an economical, effective, easily available and acceptable medicine to treat *Mutrashmari*.

Acharya Susruta said that before going for surgical procedures one should try with oral medications like *Ghruta* (Medicated ghee), *Taila* (Medicated oil), *Paneeya Kshara* (medicated alkali preparation), *Kwatha* or *Kashaya* (concentrated decoction) etc. which possesses the properties such as *Mutrala* (Diuretic), *Vikasi* (anti-spasmodic), *Ashmarighna* (lithotriptic), *Shothaghna* (anti-inflammatory) for facilitating the disintegration of the Urinary stones³.

Materials and Methods**1) Source of Data**

- Daily OPD and IPD based patients of Bharati Vidyapeeth Deemed University, Ayurved Hospital.
- Patients diagnosed as having *Mootrashmari* (Urolithiasis) was considered for the study.
- The study included cases that have been clinically diagnosed (symptoms based).

2) Materials Required for the Study**Drug: Veeratarvadi Kashaya****Method of Preparation of Drug**

Herbal ingredients (coarse powder) 1 part boiled in 16 parts of water and reduced to 4 part (according to *Kwatha kalpana*).

- Reference of Texts- *Astanga Hrudya Sutrasthana Adhyay 15/24-25*.

Method of Storage

Drug stored in airtight container or bottle in a dry place.

- The drug *Veeratarvadi Kashaya* was purchased from the company.
- Name of Manufacturers - *Arya Vaidya Kalpashala*, Pune.
- The standardization certificate, company FDA approved certificate of the drug were obtained from this company.

Dose and Method of Drug Administration

- **Dose** - 15ml (3 tablespoon full) diluted with 30-45 ml amount of water.
- **Method** - *Abhyantarpan* (internally), Twice a day before breakfast and Dinner.

Drug	Trial group
Drug name	<i>Veeratarvadi kashaya</i>
<i>Sevan kala</i>	<i>Apankale</i>
<i>Matra</i>	15 ml
<i>Anupan</i>	<i>Koshna jala</i>
Duration	30 days

Follow-ups taken periodically on day 1, 10, 20, 30 of the study.

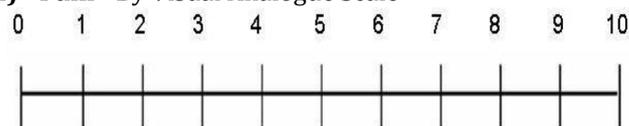
Aushadhi Sevan Kala: *Apaankale* (empty stomach)

Duration

- Dose is given for a maximum period of 30 days.

Age Group	Frequency	Percentage
< 20 Years	3	10.0
20-30 Years	13	43.3
30-40 Years	8	26.7
40-50 Years	1	3.3
50-60 Years	3	10.0
60-70 Years	1	3.3
70-80 Years	1	3.3
Total	30	100.0

- There is no any adverse reactions/complications seen throughout the whole duration of study.

Parameters of Assessment**A) Subjective Parameters****1) Pain - By Visual Analogue Scale****2) Burning Micturition**

- 1- Absent
- 2- Burning only while micturition
- 3- Burning persists for longer time after micturition

3) Haematuria

- 1 - Absent
- 2 - Microscopic bleeding in Urine
- 3 - Macroscopic bleeding in Urine

B) Objective Parameters

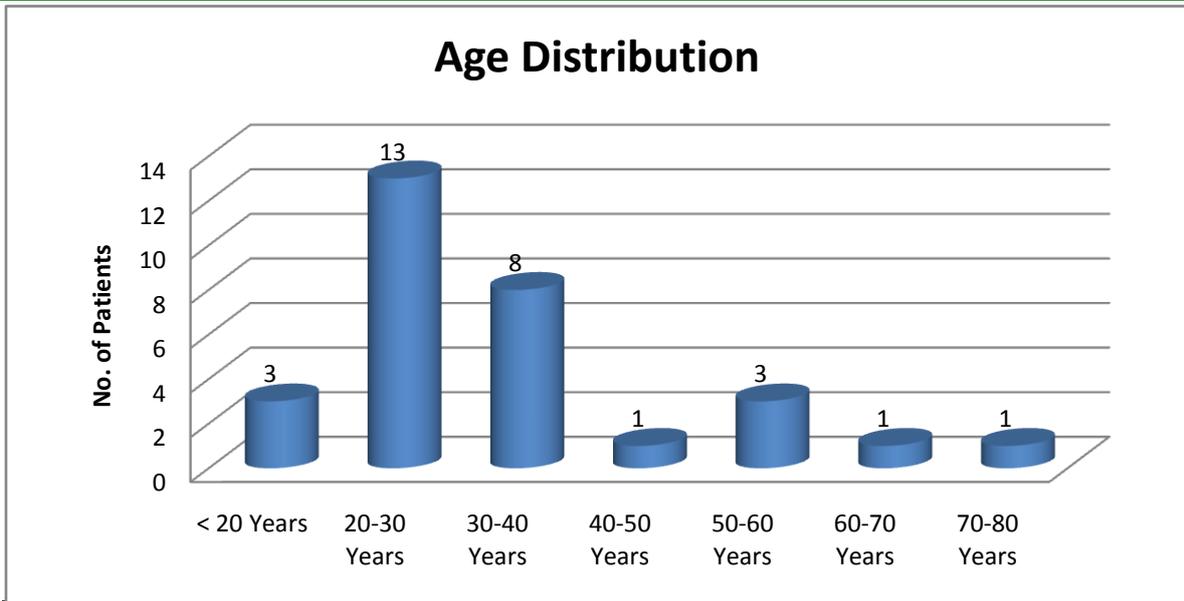
- 1) Size of Calculus
- 2) Site of Calculus
- 3) Hydronephrosis

Investigations**Radiological investigations**

1. USG - Before treatment, after treatment and as per need (SOS).
2. X-ray KUB (as per need)
 - Urine examination - Routine and Microscopic examination with pH.
 - Biochemical examination - Blood Urea, Serum Creatinine.

Observations**1) Distribution of patients according to Age**

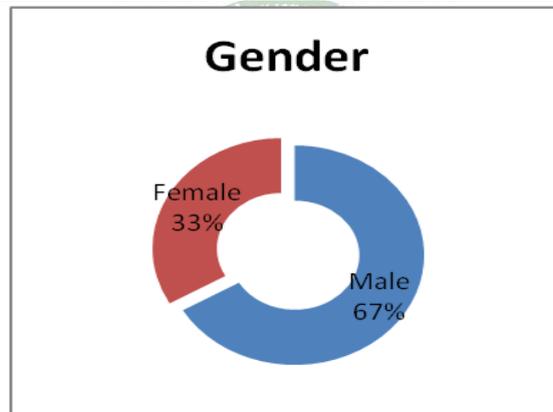
Occupation	Frequency	Percentage
Businessman	3	10.0
Farmer	3	10.0
Housewife	8	26.7
Labour	7	23.3
Servant	3	10.0
Student	6	20.0
Total	30	100.0



In present study, the age group more affected was 20-30 years i.e. 43.3 %.

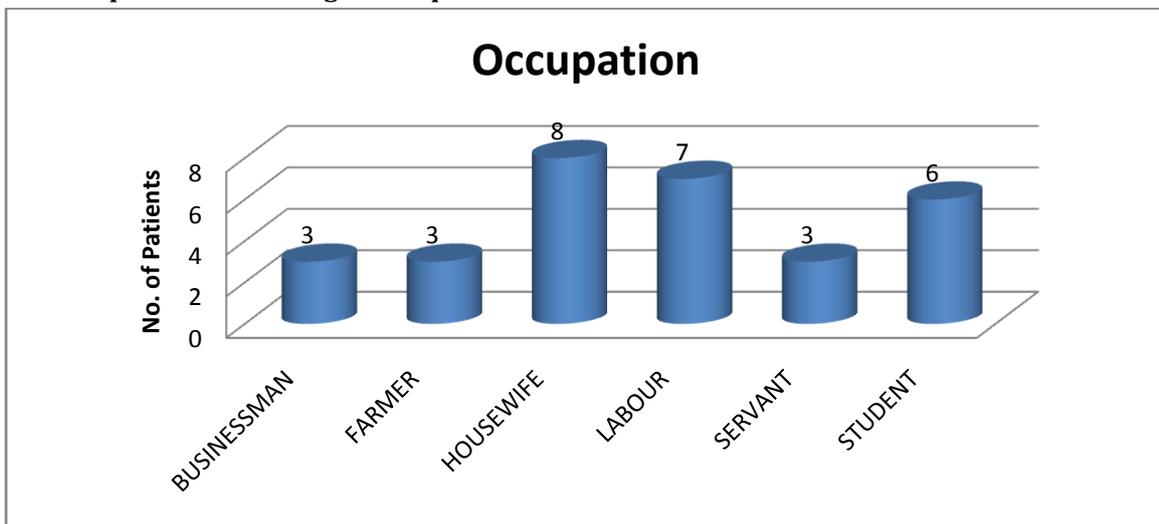
2) Distribution of patients according to Sex

Gender	Frequency	Percentage
Male	20	66.7
Female	10	33.3
Total	30	100.0



Comparatively, Males were more affected than Females i.e. 20 males (66.7%)

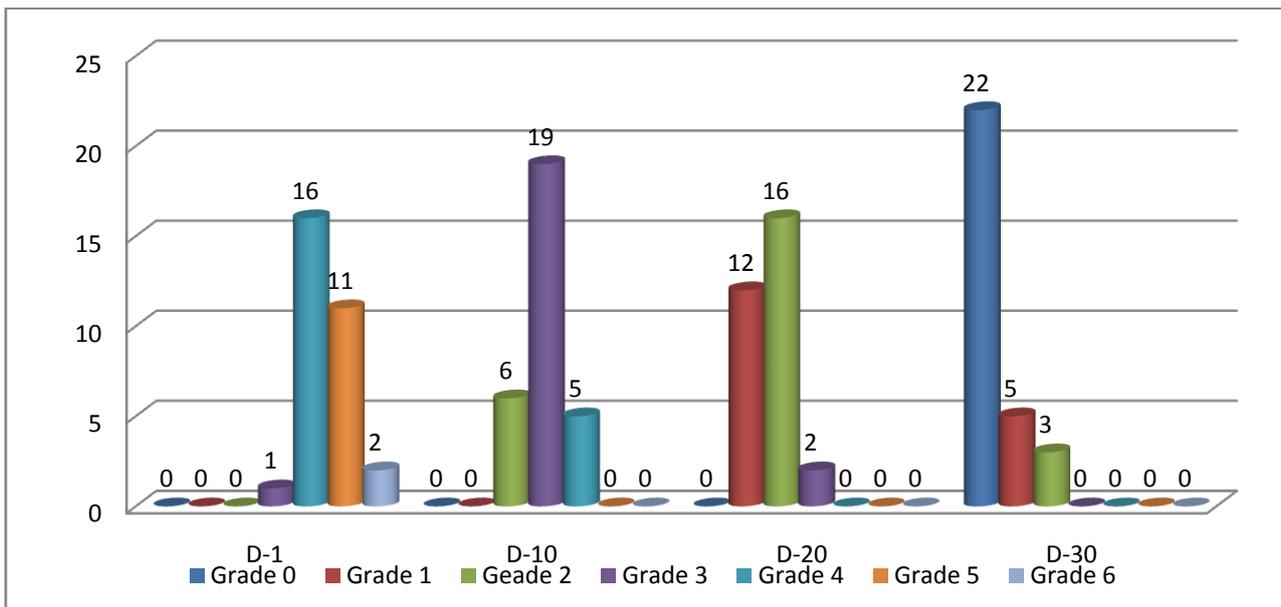
3). Distribution of patients according to occupation



The affected working class of peoples was from Housewife those were 08 i.e. 26.7% followed by labour class and students respectively.

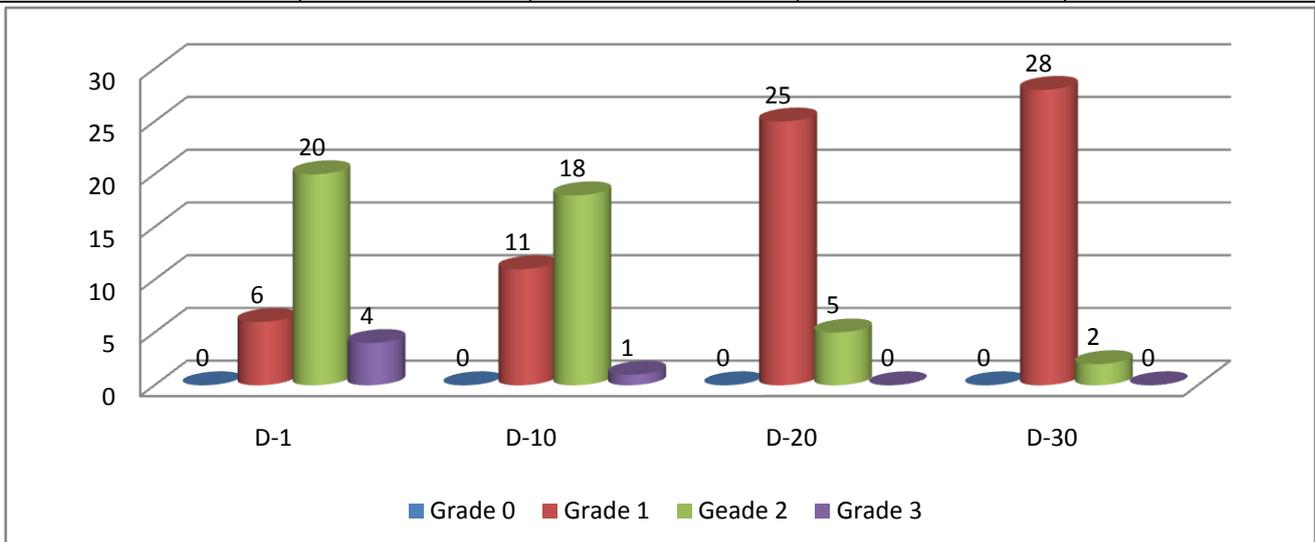
Abdominal Pain

Grade (VAS)	No. of Patients			
	D-1	D-10	D-20	D-30
0	00	00	00	22
1	00	00	12	05
2	00	06	16	03
3	01	19	02	00
4	16	05	00	00
5	11	00	00	00
6	02	00	00	00
7	00	00	00	00
8	00	00	00	00
9	00	00	00	00
10	00	00	00	00



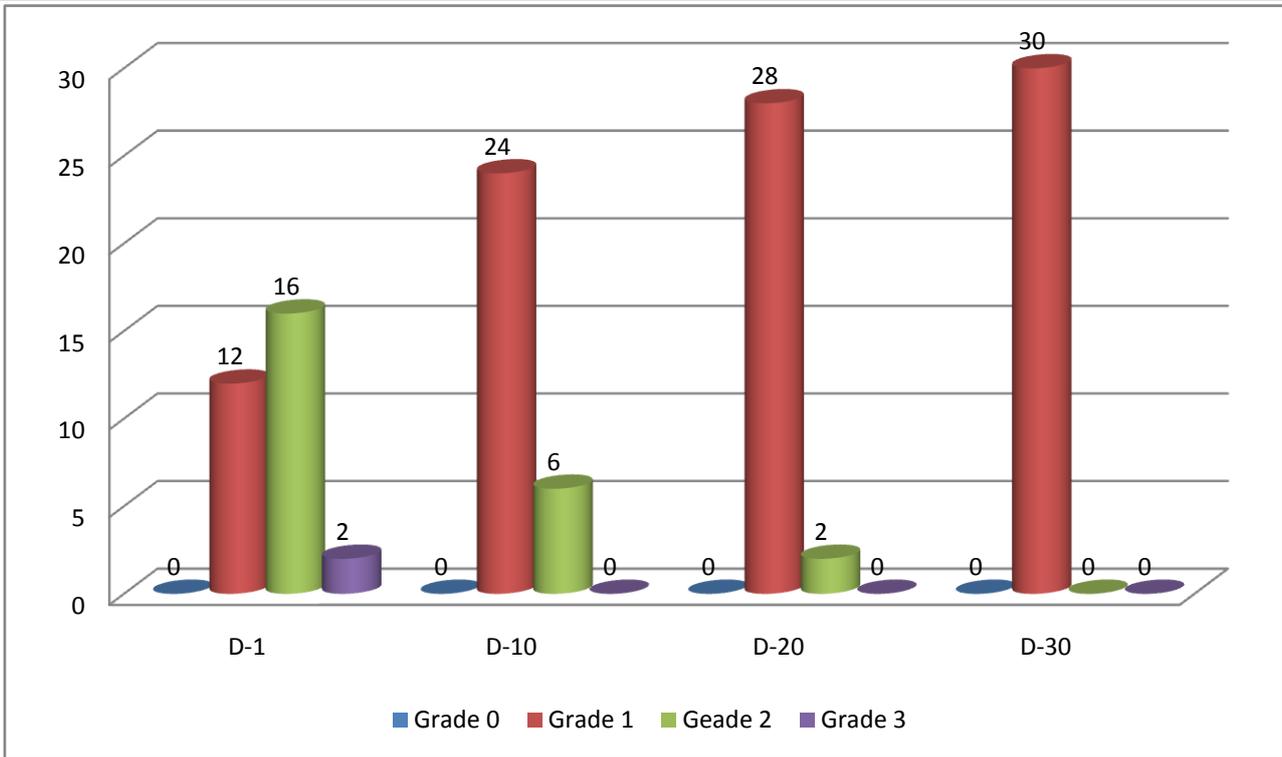
Burning Micturition

Grade	No. of Patients			
	D-1	D-10	D-20	D-30
Grade 1	06	11	25	28
Grade 2	20	18	05	02
Grade 3	04	01	00	00



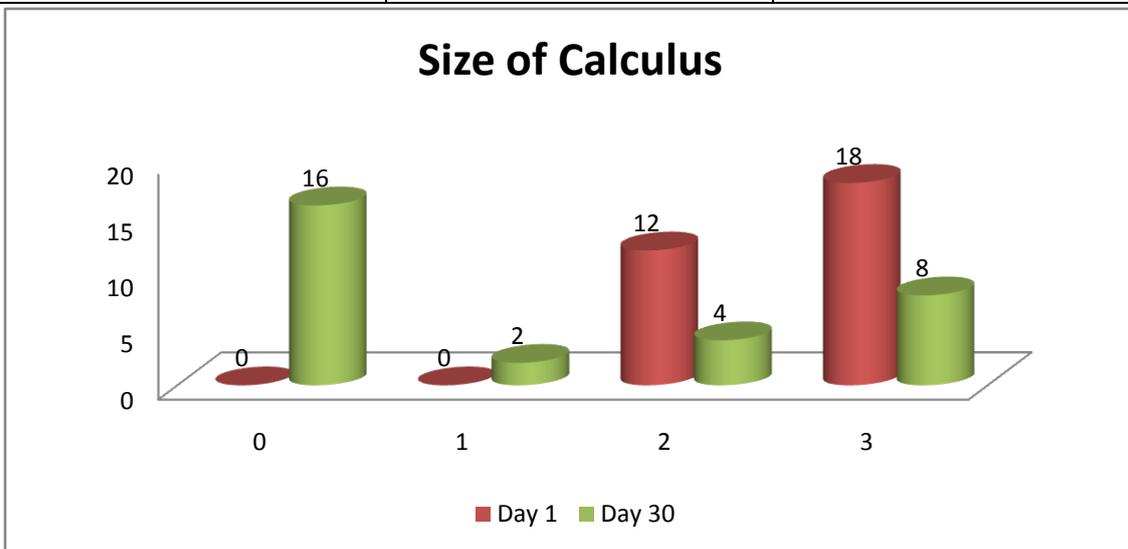
Hematuria

Grade	No. of Patients			
	D-1	D-10	D-20	D-30
Grade 1	12	24	28	30
Grade 2	16	06	02	00
Grade 3	02	00	00	00



Distribution of patients according to size of calculus

Grade	No. of Patients	
	Day - 1	Day - 30
0	00	16
1	00	02
2	12	04
3	18	08
Total	30	30

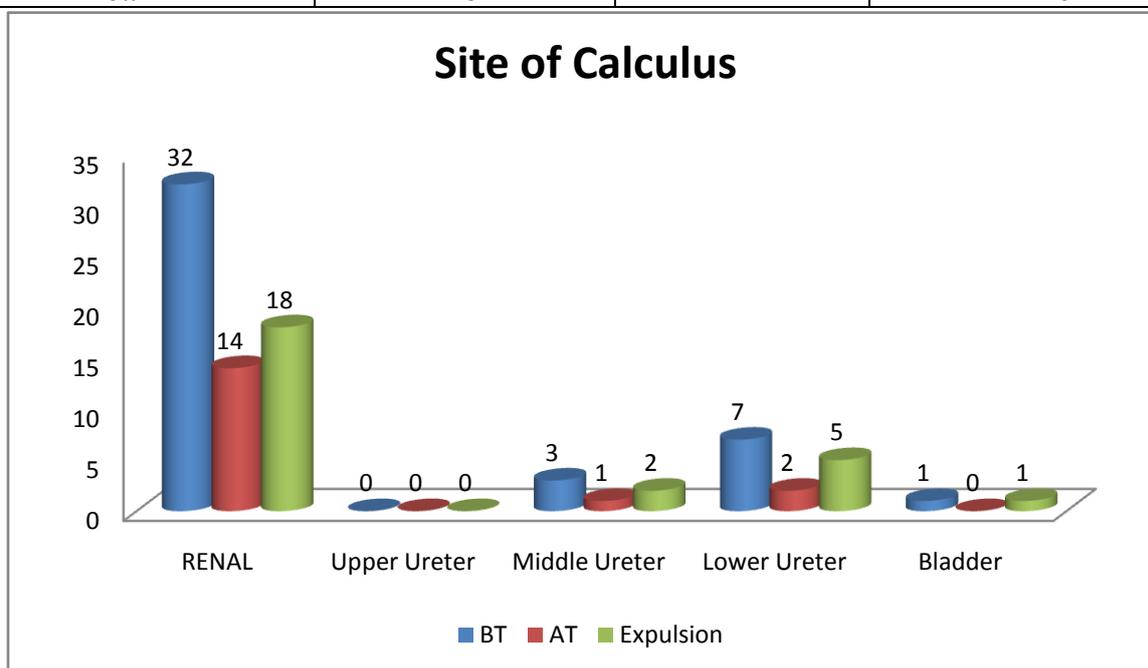


At the end of treatment, there was significant reduction in size of calculus and 16 patients were free from calculus.

Expulsion of Calculus According to Site

Total percentage of calculus expulsion is 60.46 % and renal calculi expulsion rate is more than ureteric calculus.

Site	BT	AT	Expulsion
Renal	32	14	18
Upper Ureter	00	00	00
Middle Ureter	03	01	02
Lower Ureter	07	02	05
Bladder	01	00	01
Total	43	17	26



Here on analysing the data to evaluate the clinical efficacy of the *Veeratarvadi Kashaya* as an internal medicine in the management of *Mutrashmari*, it was found that *Mutrashmari* described in *Ayurvedic Literature* resembles Urolithiasis.

DISCUSSION**Age incidence**

Age wise distribution of patients showed that, 03 patients (10.0%) in the age group of below 20 yrs, 08 patients (26.7%) in the age group of 30 to 40 yrs, 01 patient (3.3%) in the age group of 40 to 50 yrs, 03 patients (10.0%) in the age group of 50 to 60 yrs, 01 patient (3.3%) in the age group of 60 to 70 yrs, 01 patient (3.3%) in the age group of 70 to 80 yrs. Thus patients having age between 30-40 years are more sufferer of this disease may be because of this age group is a working age group, so due to work and shift duties they tends to gets addicted to fast foods and neglects themselves.

Sex wise distribution

According to sex wise distribution out of 30 patients, incidence of *Mutrashmari* was observed. In males, 20 patients (66.66%) and in females, 10 patients (33.33%). In the study groups, majority of patients were

Pain in Abdomen

Ho :- There is no significant difference between BT & AT in symptoms

H1 :- There is significant reduction in symptoms after treatment

Pain in Abdomen	Median		Wilcoxon Signed Rank W	P-Value	% Effect	Result
	BT	AT				
	4	0	-4.922 ^a	0.000	91.8	Significant

male may be due to males has to work more than females and addicted and negligence towards health.

Occupation

Occupation wise distribution shows that, 03 patients (10%) were Farmers, 08 patients (26.7%) were Housewives, 03 patients (10%) were Servant, 03 patients (10.0%) were Business class, 06 patients (3.3%) Students, 07 patients(3.3%) Labour class.

In the study groups, majority of patients were housewives and labour class, may be due to less oral intake of water and negligence towards health.

Discussion regarding Symptoms

Discussion regarding statistical analysis of the trial drug in *Mutrashmari* was done by applying Wilcoxon signed rank, T- test. Results drawn are as follows.

Since observations are on ordinal scale, we have used Wilcoxon Signed Rank test. From above table we can observe that P-Value is less than 0.05. Hence we conclude that effect observed was significant in pain in abdomen.

Burning micturition

Ho :- There is no significant difference BT & AT in symptoms

H1 :- There is significant reduction in symptoms after treatment

Burning Micturition	Median		Wilcoxon Signed Rank W	P-Value	% Effect	Result
	BT	AT				
	02	01	-4.564 ^a	0.000	44.8	Significant

Since observations are on ordinal scale, we have used Wilcoxon Signed Rank test. From above table we can observe that P-Value is less than 0.05. Hence we conclude that effect observed was significant in burning micturition after treatment.

Hematuria

Ho :- There is no significant difference BT & AT in symptoms

H1 :- There is significant reduction in symptoms after treatment

Hematuria	Median		Wilcoxon Signed Rank W	P-Value	% Effect	Result
	BT	AT				
	02	01	-4.066 ^a	0.000	40.0	Significant

Since observations are on ordinal scale, we have used Wilcoxon Signed Rank test. From above table we can observe that P-Value is less than 0.05. Hence we conclude that effect observed was significant in hematuria after treatment.

Size of Calculus

In the present study, we found that there was significant reduction in size of calculus and 16 patients were free from calculus.

Ho:- There is no significant difference between BT & AT in size.

H1:- There is significant reduction in size after treatment.

Size	Mean		t-Value	P-Value	% Effect	Result
	BT	AT				
	5.0	2.1	6.984	0.000	57.8	Significant

Since observations are quantitative, we have used paired t-test. From above table we can observe that P-Value is less than 0.05. Hence we conclude that effect observed was significant.

Site and Expulsion of Calculi

In the study, out of total 43 calculi, 26 calculi were expelled out at the end of therapy. The percentage of expulsion of renal calculi was more than ureteric, may be due to lithotriptic effect, the calculus disintegrated first then due to diuretic effect, calculus was displaced from its position towards distal ureter and due to its anti-spasmodic action, the smooth muscles of the bladder gets relaxed and helps in easily expulsion of calculus.

Mode of Action of Drug

Veerataradi Kashaya have *Mutrala* effect there-by increasing intra-luminal pressure. Because of this pressure, calculus is expelled quickly as a whole from urinary system. *Veerataradi Kashaya* reduces burning micturition, pain in abdomen associated with calculus by its anti-inflammatory action. Thus action of *Veerataradi Kashaya* is due to its diuretic, lithotriptic, anti-spasmodic and anti-inflammatory properties which is helpful for painless expulsion of calculi and relieve of symptoms.

Result

On analysis of the subjective and objective parameters, *Veerataradi Kashaya* is found effective to minimise the symptoms of *Mutrashmari*.

Kapha and *Vata* always plays a major role in urolithiasis. As *Veerataradi Kashaya* is *Kaphavataghna* in

its *Doshagnata*, it is helpful for *Shaman* of associated *Doshas* taking part in etiopathogenesis of *Mutrashmari*.

CONCLUSION

From the clinical trials conducted to "Efficacy of *Veerataradi Kashaya* in the management of *Mutrashmari*" following conclusions can be drawn.

Veerataradi Kashaya has shown significant relief in the symptoms of *Mutrashmari* like abdominal pain, burning micturition, hematuria.

In this study, it was found that the proposed duration of treatment is 30 days, which was sufficient in some cases to the expulsion of the calculus.

During the study, there were no adverse effects or complications and the treatment was well tolerated by all the patients.

From the study, it can be concluded that administration of drug *Veerataradi Kashaya* can be applied as an effective treatment method for *Mutrashmari* which overcome the surgical intervention by easy, comparatively cheap and painless expulsion of *Ashmari*.

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