



To Study The Efficacy of Kokilaksha Paniya Kshara in Mutrashmari

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ABSTRACT

Mutrashmari is the commonest disease seen. It involves Udarshool, Sadaha mutrapravrutti, Sarakta mutrapravrutti. It can be correlated with Urolithiasis. Urolithiasis is commonly known as urinary tract stones, it is characterized by the formation of mineral deposits within the urinary system. Kokilaksha is indicated in ashmari in Bhavapraksh Nighantu [1]. Kokilaksha is Tridoshaghna. It has Shulahara, Mutral, Daran, Vilayana, Ropan effect. In this study total 50 patients fulfilling inclusion criteria were included and the patients were selected randomly. The patients were advised Kokilaksha Paniya Kshara for Abhyantar use. The result shows significant statistical improvement in those patients advised for Kokilaksha Paniya Kshara for Abhyantar use. Hence, we can say that Kokilaksha Paniya Kshara is effective in Mutrashmari. Present study reveals that there is significant effect of Kokilaksha Paniya Kshara in Mutrashmari (Urolithiasis) cases.

KEYWORDS: Kokilaksha Paniya Kshara, Mutrashmari, Urolithiasis.

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INTRODUCTION

Acharya Sushruta the father of surgery has explained Mutrashmari in the group of urological disorder in Nidansthan. [2] He gives detailed description of etiological factors, pathology, signs & symptoms, classification and line of treatment. In Ayurvedic literature the concept of Urolithiasis comes under the heading of 'Ashmari'.

'Ashmari' is included in the mutravaha strotovikara and also enumerated as one among the MAHAGADA. [4] When vitiated vata, pitta, kapha reaches in mutramarga and along with mutra by Upsneha produces Ashmari. [2] This shows various symptoms like Udarshool, Sadah mutrapravrutti, Sarakta mutrapravrutti.

Due to the sedentary lifestyle, unhealthy diet, salt and mineral rich foods, bother to drink plenty of water, digestive system gets affected and tridoshas gets vitiated on reaching the urinary tract causes Ashmari which resembles the kidney stones and various urinary tract diseases.

It can be correlated with Urolithiasis. Urolithiasis is commonly known as urinary tract stones; it is characterized by the formation of mineral deposits within the urinary system. It encompasses the presence of stones in various parts of urinary tract, including kidney, ureter, bladder and urethra.[3] in this study we have taken Kokilaksha Paniya Kshara. As Kokilaksha Paniya Kshara has tridoshaghna and Shulahara, Mutral, Daran, Vilayana, Ropan action. Hence Kokilaksha Paniya Kshara is used in the treatment of mutrashmari.

MATERIAL AND METHODS

It is open randomised clinical study. Study was approved by Institutional Ethical Committee. Raw drug was purchased local market; drug authentication was done. Kokilaksha Kshara was prepared as per classical reference and then standardization was done. Written Informed consent was obtained from each participant before recruitment explaining the details about the treatment and the study. Trial was registered with Central Trial Registry of India (CTRI/2022/02/039926).

Preparation of Kshara: [5]

- The whole plant was collected and washed with water, dried well in shed, and cleaned

- To remove waste material.
- Then burnt into ash.
- The ash was allowed to cool.
- Water was added to the ash in the ratio of 6:1 and stirred well and allowed to stand
- Undisturbed for 24 hrs.
- The next day, the supernatant liquid was decanted out and strained through a clean
- Piece of cloth 21 times successively to get a clear liquid.
- The liquid Ksharodaka was then taken in a vessel and heated over a mild fire till the
- Water evaporated completely.
- The residue obtained known as kshara was then collected and stored in a glass bottle.

➤ **Subject -**

To assess the therapeutic effect of Kokilaksha Paniya Kshara, 50 patients in single group with symptom of Mutrashmari were selected from department of Shalya Tantra OPD and IPD Bharati Vidyapeeth (Deemed To Be University) College of Ayurved and Hospital, Pune.

➤ **Method of selection of Patients -**

1. Inclusion criteria -
 - Patient of calculus of age group (above 15 years) is included.
 - Patient having classical signs and symptoms of Mutrashmari is included.
 - Uncomplicated patients having with or without mild hydronephrosis is will be selected.
 - Selection of patients were irrespective of gender, religion, socio-economical class.
 - Size of Calculus: Less than 08mm.
2. Exclusion criteria -
 - Complicatains related to kidney / bladder / ureter.
 - Pregnant women and lactating mothers and children below age of 15 years will be excluded.
 - Patient having moderate or severe hydronephrosis will be excluded.
 - Patient will be dropped if they develop and complicatations during the course will also be excluded and will manage by standard treatment.
3. Screening Method -
 - All patients included in study were thoroughly examined and data was recorded systematically. Laboratory investigations required to rule out exclusion criteria were done.
4. Drug Administration -
 - Route of administratation : Oral
 - Dose : 04 ratti (500mg) Kokilaksha Kshara + 30ml of Koshna jala
 - Kala : Aapan kala (BD)
 - Duration of therapy : For 21 days
 - Follow up : 0, 7th, 14th, 21th day
5. Research Design -

The study was open randomized clinical study. Computer generated random numbers were used for study.

Intervention -













Total 50 patients were enrolled for the study randomly. The patients were advised Kokilaksha Paniya Kshara. Study duration was 21 days and follow-up were on 7th, 14th and 21st day. During study, patients were asked to follow the instructions and advised to report any adverse event to the investigator immediately.

➤ **Parameters of assessment -**

- Subjective Parameter -
- 1. Udarshool -

Udarshool will be calculated with Visual analogue scale.

COMPARATIVE PAIN SCALE CHART (Pain Assessment Tool)

											
0 Pain Free	1 Very Mild	2 Discomforting	3 Tolerable	4 Distressing	5 Very Distressing	6 Intense	7 Very Intense	8 Utterly Horrible	9 Excruciating Unbearable	10 Unimaginable Unbearable	
No Pain	Minor Pain			Moderate Pain			Severe Pain				
Feeling perfectly normal	Nagging, annoying, but doesn't interfere with most daily living activities. Patient able to adapt to pain psychologically and with medication or devices such as cushions.			Interferes significantly with daily living activities. Requires lifestyle changes but patient remains independent. Patient unable to adapt pain.			Disabling; unable to perform daily living activities. Unable to engage in normal activities. Patient is disabled and unable to function independently.				

2. Sadaha Mutrapravrutti -
 - 0 - Absent.
 - 1 - Daha present only while mutrapravrutti
 - 2 - Daha persists for longer time after mutrapravrutti
3. Sarakta Mutrapravrutti -
 - 0 - Absent
 - 1 - Present
 - Objective Parameter -
 1. Ashmari Pramana
Difference between the size of the ashmari before and after the treatment will be calculated.
 2. Ashmari Sthana
 - 0 - Ashmari shifted downward from its original position.
 - 1 - Ashmari remains as it is.

Statistical Analysis: Wilcoxon test was used for statistical analysis to find the final outcome.

DEMOGRAPHIC DATA

Out of 50 patients enrolled in study, 29 were males and 21 were females and maximum number of patients from age group of 20-30 years. Maximum number of patients were involved in sedentary work, and maximum were accustomed to mixed diet.

RESULTS AND DISCUSSION

Table 1. Details of mean of parameters

Parameter		Mean		x	% of improvement	Negative rank	Positive rank	Tie	z	P VALUE
		BT	AT							
UDARSHOOL	D0 th -D7 th	4.64	2.74	1.90	40.95%	50	0	0	-6.39	0
	D0 th -D14 th	4.64	1.54	3.10	66.81%	50	0	0	-6.22	0
	D0 th -D21 th	4.64	0.5	4.14	89.22%	50	0	0	-6.22	0
SADAH MUTRAPRAVRUTTI	D0 th -D7 th	0.54	0.26	0.28	51.85%	15	1	34	-3.5	0
	D0 th -D14 th	0.54	0.1	0.44	81.48%	20	0	30	-4.3	0
	D0 th -D21 th	0.54	0.06	0.48	88.89%	20	0	30	-4.18	0
SARAKTA MUTRAPRAVRUTTI	D0 th -D7 th	0.28	0.14	0.14	50.00%	9	2	39	-2.11	0.04
	D0 th -D14 th	0.28	0.04	0.24	85.71%	12	0	38	-3.46	0
	D0 th -D21 th	0.28	0.02	0.26	92.86%	13	0	37	-3.61	0
ASHMARI STHANA	D0 th -D21 th	1	0.36	0.64	64.00%	32	0	18	-5.66	0

D- Day ; BT- Before treatment ; AT- After treatment

Table 2. Details of mean of Ashmari Pramana

Parameter		Mean		x	% of improvement	t	P VALUE
		BT	AT				
ASHMARI PRAMANA	0 th day -21 th day	5.53	3.45	2.08	37.55%	7.29	0

Udarshool

The mean grade of UDARSHOOL at 0th day was 4.64 which was decreased to 2.74 at 7th day of treatment. The mean increment in score was 40.95% which is significant as observed by "wilcoxon test" (as p value < 0.05) thus it can be said that there is significant increment on UDARSHOOL in Mutrashmari (Urolithiasis). Also here 66.81% improvement found at 14th days which is increased to 89.22% at 21st day of treatment on UDARSHOOL in Mutrashmari (Urolithiasis). Kokilaksha Paniya Kshara was effective on UDARSHOOL in Mutrashmari (Urolithiasis).

Sadaha Mutrapravrutti

The mean grade of SADAH MUTRAPRAVRUTTI at 0th day was 0.54 which was decreased to 0.26 at 7th day of treatment. The mean increment in score was 51.85% which is significant as observed by “wilcoxon test “(as p value<0.05) thus it can be said that there is significant increment on SADAH MUTRAPRAVRUTTI in Mutrashmari (Urolithiasis) Also here 81.48% improvement found at 14th days which is increased to 88.89% at 21st day of treatment on SADAH MUTRAPRAVRUTTI in Mutrashmari (Urolithiasis) Kokilaksha Paniya Kshara was effective on SADAH MUTRAPRAVRUTTI in Mutrashmari (Urolithiasis).

Sarakta Mutrapravrutti

The mean grade of SARAKTA MUTRAPRAVRUTTI at 0th day was 0.28 which was decreased to 0.14 at 7th day of treatment. The mean increment in score was 50% which is significant as observed by “wilcoxon test “(as p value<0.05) thus it can be said that there is significant increment on SARAKTA MUTRAPRAVRUTTI in Mutrashmari (Urolithiasis) Also here 85.71% improvement found at 14th days which is increased to 92.86% at 21st day of treatment on SARAKTA MUTRAPRAVRUTTI in Mutrashmari (Urolithiasis) Kokilaksha Paniya Kshara was effective on SARAKTA MUTRAPRAVRUTTI in Mutrashmari (Urolithiasis).

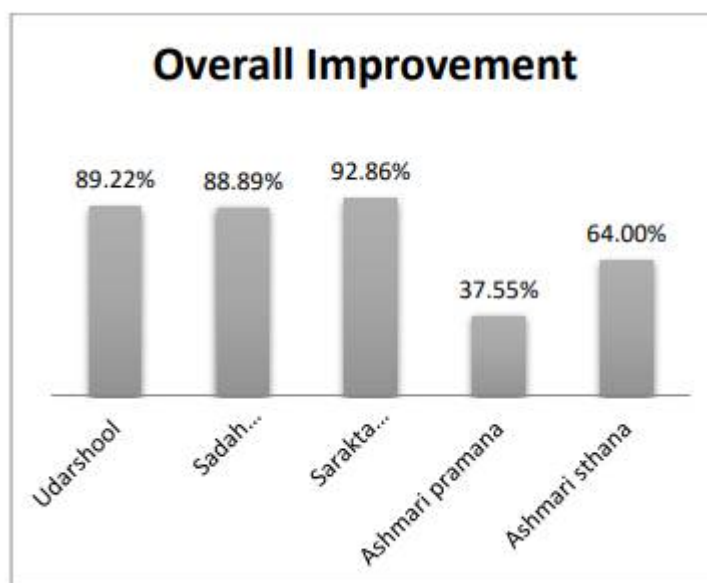
Ashmari Praman

The mean grade of ASHMARI PRAMANA at 0th day was 5.53 which was decreased to 3.45 at 21st day of treatment. The mean increment in score was 37.55% which is significant as observed by “paired t test “(as p value<0.05) thus it can be said that there is significant increment on ASHMARI PRAMANA in Mutrashmari (Urolithiasis) Kokilaksha Paniya Kshara was effective on ASHMARI PRAMANA in Mutrashmari (Urolithiasis).

Ashmari Sthan

The mean grade of ASHMARI STHANA at 0th day was 1 which was decreased to 0.36 at 21st day of treatment. The mean increment in score was 64% which is significant as observed by “wilcoxon test “(as p value<0.05) thus it can be said that there is significant increment on ASHMARI STHANA in Mutrashmari (Urolithiasis) Kokilaksha Paniya Kshara was effective on ASHMARI STHANA in Mutrashmari (Urolithiasis).

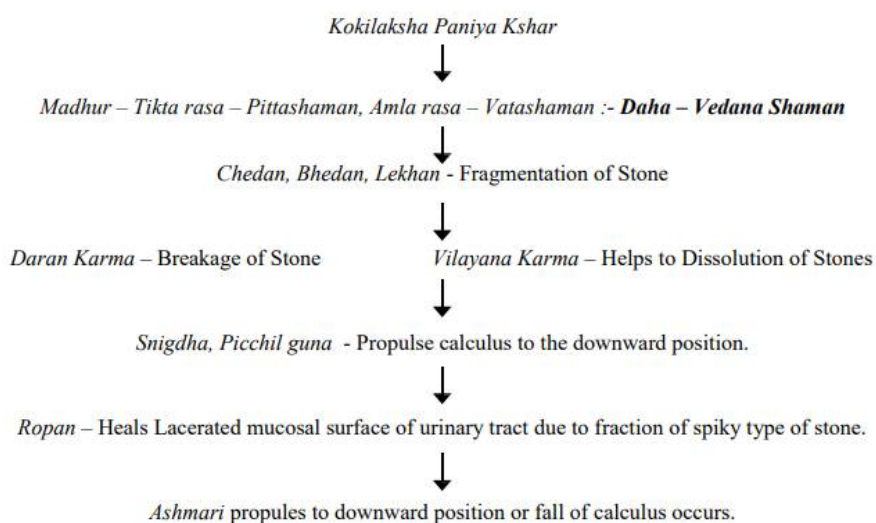
Graph 1. Showing overall improvement in parameters.



As the percentage of improvement seen from the above table we can say that the Kokilaksha Paniya Kshara is effective on Mutrashmari (Urolithiasis).

Probable Mode of Action of Kokilaksha Paniya Kshara -

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- The phytochemical study shows Kokilaksha Paniya Kshara contains the potassium which acts on a dissolution of stones.
- The alcohol extract of the plant showed the significant increase in the total urine volume and concentrations of Na⁺, k⁺ and Cl⁻ in the urine this findings supports traditional use asa a diuretics.
- The phytochemical study shows Kokilaksha Paniya Kshara contains the Alkaloids which inturn increases the pH of urine and acts as a alkalizer which decreases the burning micturition.
- The phytochemical study shows Kokilaksha Paniya Kshara contains the Glycosides which inturn acts as a Urinary antiseptic agent, this covers the lacerated mucosal surface and heals the tract. The phytochemical study shows Kokilaksha Paniya Kshar contains petroleum, ether, chloroform, alcohol which significantly increases the pain threshold of body and this causes the analgesic action on the body.

CONCLUSION

- The overall stastical analysis shows the Kokilaksha Paniya Kshar is effective in Mutrashmari (Urolithiasis).
- No adverse effect was observed during the course of study, hence being cost effective, it can be effectively utilized.

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Conflict of Interest- None

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