



ORIGINAL RESEARCH PAPER

Medicine

EFFICACY OF TRUTYADI CHURNA IN THE MANAGEMENT OF MUTRASHMARI

KEY WORDS: Trutyadi churna, Mutrashmari, Dadhi.

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ABSTRACT

30 patients were selected as per the inclusive criteria with presenting symptoms Udarshool, Dahayukta Mutrapravrutti, Muhurmuhu Mutrapravrutti. The study was single open clinical trial. All the patients administered Trutyadi Churna with dosage 2 gm Apankale with Dadhi as Anupan. The special investigation such as USG (Abdomen and Pelvis) was carried out before and after the treatment. The assessment of treatment was done on 15th, 30th, and 35th day. The Trutyadi Churna showed significant relief in above Lakshanas during / after the treatment. The mean stone size significantly reduced from 4.9mm to 0.8mm after the treatment. Statistical analysis revealed that there was significant relief of symptoms (P<0.05) at 5% level of significance and also reduction of size of the stone was significant (P<0.05) at 5% of level of significance. During the study period there was no any adverse effect of drug. The Trutyadi Churna is safe and effective in Mutrashmari.

INTRODUCTION

- Mutrashmari is one of the important disease of Mutravaha Strotas.
- Ashmari comprises of two words, i.e. 'Ashma' and 'Ari'. Where Ashma means a stone and Ari means enemy. Ashmari is a disease in which there is formation of stone, resulting into severe pain as given by enemy. The very correct terminology by the name Mutrashmari, Reflecting a disease pathogenesis due to accumulation of inorganic substance in the urinary system.
- Ashmari is a disease in which there is formation of stone, resulting into severe pain as given by enemy.
- The word Mutrashmari is commonly used to denote urinary calculus. When you read 'Urinary Calculus', it might seem like a complicated medical term. It is common in India, affects children and adults both. Renal calculi affect all geographical cultural and racial groups. The lifetime risk is about 1 to 5% in the developed world
- According to modern, types of renal calculi i.e. Uric acid, calcium oxalate, amorphous phosphate, Calcium phosphate, calcium carbonate, Cysteine, tyrosine.
- Renal calculi consists of aggregates of crystals, usually containing calcium or phosphate in combination with small amounts of proteins and glycoproteins.
- There are four types of Mutrashmari according to Sushruta Samhita i.e. Vataja, Pittaja, Shleshmaja and Shukraja Ashmari.

different Mutravaha Strotasa diseases are reported. Mutrashmari is one of them.

- In modern science, the treatment of Mutrashmari is hydrotherapy, lithotripsy and other surgical intervention etc. which is expensive and not affordable for common population and is always not necessary because of frequency of calculi formation.
- In Ayurveda numbers of drugs are mentioned to treat different types of Mutrashmari. Among them the **Trutyadi Churna** is selected for this study.

AIM

- To observe the effect of Trutyadi Churna (Ref. Cha. Chi.26/64-65) in Mutrashmari.

OBJECTIVES

- To review Mutrashmari as per Ayurvedic and modern point of view.
- To observe the mode of action of Trutyadi Churna on Mutrashmari.
- To study adverse effects of Trutyadi Churna, if any.

HYPOTHESIS

- The trial drug i.e. Trutyadi Churna is effective in Mutrashmari as a Ashmari Nashak.

NULL-HYPOTHESIS

- The trial drug i.e. Trutyadi Churna is not effective in Mutrashmari as a Ashmari Nashak.

NEED FOR STUDY

- **Why Mutrashmari? Now, a days several patients of**

Table No. 1: Materials : Trutyadi Churna

DRUG	RASA	VIRYA	VIPAK	GUNA	KARMA
TRUTI	Katu, Madhur	Sheeta	Madhur	Laghu, Sukshma, Snigdha And Sugandhi	Kapha-Vatahara, Hridya, Dipana, Rochana, Shukranashak, Mutrajanan, Shoolaghna.
SURAHA	Tikta	Ushna	Katu	Laghu, Snigdha	Kapha-Vatahara, Vedanashamaka, Mutrashodhan, Mutrajanan, Dipana.
LAWANPANCHAK i) Saindhav ii) Souvrchal iii) Bid iv) Samudra v) Gadlawan	Lawan	Ushna	Madhur	Guru,Ushna, Snigdha, Tikshna	Mutrala
Yava	Kashaya, Madhur	Sheeta	Madhur	Guru	Kaphapittahara, Mutrala, Lekhana.
KUNDARU	Katu, Tikta, Madhura	Ushna	Katu	Laghu, Ruksha	Kaphapittahara, Mutrala, Shoolaghna
PASHANBHEDA	Kashaya, Tikta	Sheeta	Katu	Laghu, Snigdha, Tikshna	Tridoshahara, Mutravirechana, Ashmaribhedana
KAMPILLAKA	Katu	Ushna	Katu	Laghu, Ruksh, Tikshna	Kaphavatashamaka, Vranashodhana, Krumighna, Bhedan

GOKSHUR	Madhur	Sheeta	Madhur	Guru, Snigdha	Vatapittahara, Bhedan, Mutrala, Bastishodhan
ERVARU	Madhur, Tikta	Sheeta	Madhur	Guru, Ruksha	Bhedi, Dipana, Kaphakara, Pittahara, Mutrala.
TRAPUSH	Madhur	Sheeta	Madhur	Laghu, Ruksha	Mutrala, Pittahara.
CHITRAKA	Katu	Ushna	Katu	Laghu,Ruksh, Tikshna	Lekhana, Dipana, Vatakaphahara, Bhedana, Pachana.
HINGU	Katu	Ushna	Katu	Laghu,Snigdha, Tikshna	Mutrala, Dipana, Pachana, Bhedaniya,, Kaphavatahara, Shoolahara
JATAMANSI	Tikta,Kashaya, Madhur	Sheeta	Madhur	Laghu,Snigdha	Tridoshahara, Balya, Mutrala
YAVANI	Katu, Tikta	Ushna	Katu	Laghu,Tikshna, Snigdha	Shoolaghna, Kaphavatahara, Dipana, Pachana, Vatanulomana
AMALAKI	Amla Pradhana Pancha Rasa (Except Lavana Rasa)	Sheeta	Madhur	Laghu, Ruksha	Tridoshahara, Vayasthapana, Mutrala
HARITAKI	Kashaya Rasa Pradhana Pancharasa (Except Lavana Rasa)	Ushna	Madhur	Laghu, Ruksha	Bhedan, Pachana, Tridoshahara, Anulomana, Lekhana, Dipana
BIBHITAKA	Kashaya	Ushna	Madhur	Guru, Ruksha	Dipan, Pachan, Kaphapittahara, Bhedana, Vedanasthapana.

Table No. 2: ANUPAN : DADHI

DRUG	RASA	VIRYA	VIPAK	GUNA	KARMA
DADHI	Amla, Kashaya	Ushna	Amla	Guru	Rochana, Dipana, Pachana, Snehana, Vataghna.

Table No. 3: OVERALL PROPERTIES OF TRUTYADI CHURNA

DRUG	RASA	VIRYA	VIPAKA	GUNA	KARMA
TRUTYADI CHURNA	Katu, Tikta, Kashay	Sheeta	Madhura	Laghu, Ruksha, Tikshna	Mutral, Bhedana, Shoolaghna

METHODS OF PREPARATION

- The trial drug i.e Trutyadi Churna was prepared as per the mentioned in Charak Samhita (26/64-65) and the procedure was followed according to Sharangdhar Samhita (Madhyamkhand 16).

TABLE NO. 4: DRUG ADMINISTRATION

NO. OF PATIENTS	30
DRUG	TRUTYADI CHURNA
DOSE	2gm
KALA	Apankala
ANUPAN	Dadhi
ROUTE OF ADMINISTRATION	Oral
TREATMENT PERIOD	30 days
FOLLOW UP	0, 15th, 30th, 35th

INCLUSION CRITERIA

- Patients presenting Udarshool, Muhurmuhu Mutrapravrtti, Dahayukta Mutrapravrtti of Mutrashmari as per the classics.
- The patients between the age group of 18-70 years are selected irrespective of occupation, chronicity and socio-economical status.
- Patients presenting less than 10 mm calculi.
- Patients having calculi in renal or ureteric junction.

EXCLUSION CRITERIA

- Patients having calculi size is above 10 mm are not taken.
- The patients below 18 years are excluded.
- Patient having Mutrashmari associated with
 - Acute renal failure
 - Chronic renal failure
 - Prostatomegaly
 - Pregnancy
 - Diabetes mellitus

OBSERVATION

Observations were represented with the help of various tables and graphs.

• DEMOGRAPHIC DATA AND OBSERVATIONAL DATA

AGE WISE DISTRIBUTION

Out of 30 Patients, 02(6.7%) belongs to age group below 20 years, 11(36.7%) belongs to age group 20-30 years, 08(26.7%) belongs to age group 30-40 years, 03(10.0%) belongs to age group 40-50 years, 03(10.0%) belongs to age group 50-60 years, 3(10.0%) belongs to age group 60-70 years.

ACCORDING TO GENDER DISTRIBUTION

Out of 30 Patients, 10(33.3%) were male and 20(66.7%) were female.

OCCUPATION WISE DISTRIBUTION

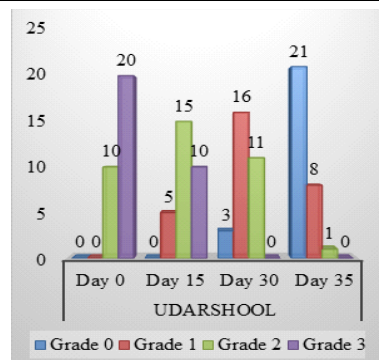
Out of 30 patients, 05 (16.7%) Students, 10 (33.3%) Housewives and 15 (50%) Employees.

PRAKRUTI WISE DISTRIBUTION

Out of 30 Patients, 17(56.7%) are of Kapha Pradhan Pitta Prakriti, 1(3.3%) are of Kapha Pradhan Vata Prakriti, 03(10%) are of Pitta Pradhan Kapha Prakriti, 0(00%) are of Pitta Pradhan Vata Prakriti, 6(20%) are of Vata Pradhan Kapha Prakriti and 3(10%) are of Vata Pradhan Pitta Prakriti.

UDARSHOOL (PAIN IN ABDOMEN) WISE DISTRIBUTION OF 30 PATIENTS OF MUTRASHMARI

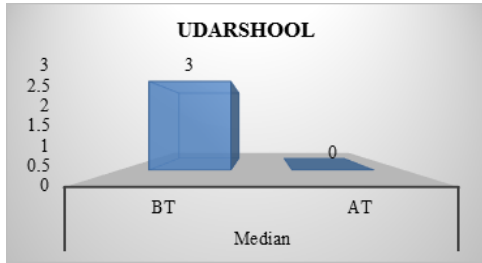
	UDARSHOOL			
	Day 0	Day 15	Day 30	Day 35
Grade 0	0	0	3	21
Grade 1	0	5	16	8
Grade 2	10	15	11	1
Grade 3	20	10	0	0
TOTAL	30	30	30	30



Graph 1 : Udarshool wise distribution

Table No. 6: Udarshool (Pain in Abdomen)

Udarshool	Median		Wilcoxon Signed Rank W	P-Value	% Effect	Result
	BT	AT				
	3	0	-4.940 ^a	0.000	87.5	Significant



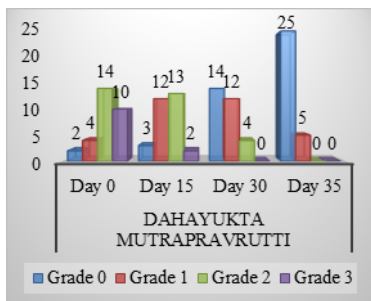
Graph 2 : Udarshool (Pain in Abdomen)

Since observations are on ordinal scale (Gradation), we have used Wilcoxon Signed Rank test to test efficacy. From above table we can observe that P-Value is less than 0.05 at 5% level of significance. Hence we conclude that, the effect of Trutyadi Churna on Udarshool (Pain in Abdomen) is significant. Median value of Udarshool (Pain in Abdomen) is significantly reduced from 3 to 0 after treatment.

According To Dahayukta Mutrapravrti (burning Micturition) Distribution Of 30 Patients Of Mutrashmari

Table 7: Dahayukta mutrapravrti wise distribution

	DAHAYUKTA MUTRAPRAVRUTTI			
	Day 0	Day 15	Day 30	Day 35
Grade 0	2	3	14	25
Grade 1	4	12	12	5
Grade 2	14	13	4	0
Grade 3	10	2	0	0
TOTAL	30	30	30	30

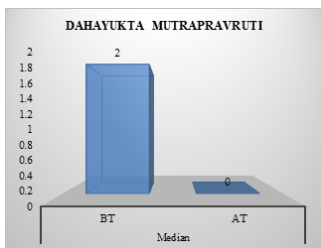


Graph 3: Dahayukta Mutrapravrti wise distribution

Evaluation Of Patients Based On Dahayukta Mutrapravrti (burning Micturition)

Table No. 8: Dahayukta Mutrapravrti (Burning Micturition)

Dahayukta Mutrapravrti	Median		Wilcoxon Signed Rank W	P-Value	% Effect	Result
	BT	AT				
	2	0	-4.809a	0.000	91.9	Significant



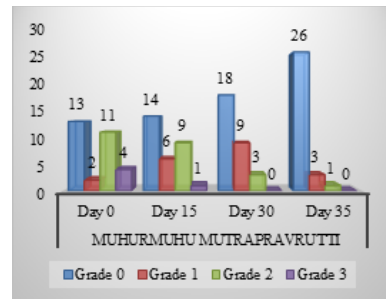
Graph 4 : Dahayukta Mutrapravrti (Burning Micturition)

Since observations are on ordinal scale (Gradation), we have used Wilcoxon Signed Rank test to test efficacy. From above table we can observe that P-Value is less than 0.05 at 5% level of significance. Hence we conclude that, the effect of Trutyadi Churna on Dahayukta Mutrapravrti (Burning Micturition) is significant. Median value for Dahayukta Mutrapravrti (Burning Micturition) is significantly reduced from 2 to 0 after treatment.

Muhurmuhu Mutrapravrti (dribbling Micturition) Wise Distribution Of 30 Patients Of Mutrashmari

Table 9: Muhurmuhu mutrapravrti wise distribution

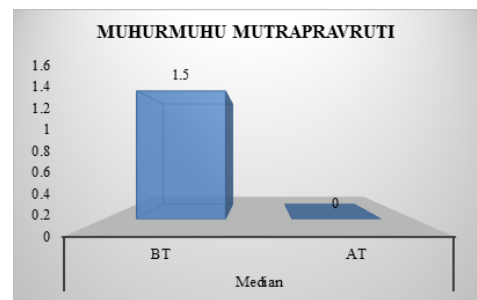
	MUHURMUHU MUTRAPRAVRUTTI			
	Day 0	Day 15	Day 30	Day 35
Grade 0	13	14	18	26
Grade 1	2	6	9	3
Grade 2	11	9	3	1
Grade 3	4	1	0	0
TOTAL	30	30	30	30



Graph 5: Muhurmuhu Mutrapravrti wise distribution

Evaluaoion Of Patients Based On Muhurmuhu Mutrapravrti (dribbling Micturition)

Muhurmuhu Mutrapravrti	Median		Wilcoxon Signed Rank W	P-Value	% Effect	Result
	BT	AT				
	1.5	0	-3.879 ^a	0.000	86.1	Significant



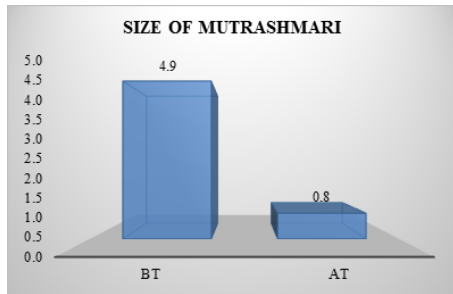
Graph 6 : Muhurmuhu Mutrapravrti (Dribbling Micturition)

Since observations are on ordinal scale (Gradation), we have used Wilcoxon Signed Rank test to test efficacy. From above table we can observe that P-Value is less than 0.05 at 5% level of significance. Hence we conclude that, the effect of Trutyadi Churna on Muhurmuhu Mutrapravrti (Dribbling Micturition) is significant. Median value for Muhurmuhu Mutrapravrti (Dribbling Micturition) is significantly reduced from 1.5 to 0 after treatment.

Size Wise Distribution Of 30 Patients Of Mutrashmari

Table No. 11: Size wise distribution

Size	Mean	N	SD	SE	t-Value	P-Value	% Effect
BT	4.9	30	0.9	0.2	15.784	0.000	83.7
AT	0.8	30	1.3	0.2			



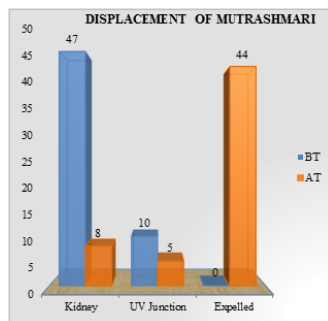
Graph 7: Size wise distribution

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

Displacement Wise Distribution Of 30 Patients Of Mutrashmari

Table No. 12: Displacement wise distribution

Location	BT	AT
Kidney	47	8
UV Junction	10	5
Expelled	0	44



Graph 8: Displacement wise distribution

DISCUSSION

On the basis of Demographic data

- Age** :- Most of the people belong to the age group 20-30 yrs(36.7%)
- Gender** :- Out of 30 patients Males 10 (33.3%), Females 20 (66.7%)
- Occupation** :- Out of 30 patients Students 05 (16.7%),Housewives 10 (33.3%), Employees 15 (50%).
- Prakruti** :- 77% patients have Kapha Pitta Pradhan Prakruti.

On the basis of subjective criteria

1. Udarshool :-

- On observation the effect observed is 87.5 % which is significant.
- The Lakshana reduced due to Ushna, Snigdha and Mutral Karma of Trutyadi Churna and specifically due to Vataghna property of Yava, Gokshur, Lavanapanchak and Shoolaghna Karma of Kundaru, Yavani and Suraha.

2. Dahayukta Mutrapravrti :-

- On observation the effect observed is 91.9 % which is significant.
- The Lakshana got reduced due to Sheeta Virya and Madhur Vipak of specifically Truti, Yava, Gokshur, Ervaru, Trapush, Jatamansi and Amalaki and due to Tikta, Madhur and Kashaya Rasa of Trutyadi Churna.

3. Muhurmuhu Mutrapravrti :-

- On observation the effect observed is 86.1% which is significant.
- The Lakshana decreased due to Deepan, Pachan and Bhedana and Mutral properties of Trutyadi Churna and specifically due

to Deepan, Pachan Karma of Haritaki and Bhibhitaki and Bhedan Karma of Pashanbhed, Kampillak, Gokshur, Chitrak and Haritaki.

On the basis of objective criteria

1. Size of Mutrashmari :-

- Size of the Mutrashmari was found to be reduced significantly due to the Ashmarihara, Bhedan, Lekhana Karma of Pashanbheda, Kampillak, Gokshura, Chitrak and Haritaki.
- Hence, it can be said that the marked reduction observed in the size of the Ashmari over a period of 30 days was due to the combined overall effect of Trutyadi Churna which were administered.

2. Displacement of Mutrashmari :-

- Displacement of Mutrashmari is significantly changed after treatment.
- The significant change observed in the displacement of Mutrashmari, is the reason being the Anulomana, Mutrala, Bastishodhan Karma of Truti, Suraha, Lawanpanchak, Yava, Pashanbheda, Gokshur, Ervaru, Trapush, Hingu, Jatamansi, and Amalaki and also the Bhedan, Lekhan Karma of Pashanbheda, Kampillak, Gokshura, Chitrak, Haritaki.

RESULT

- The symptoms like Udarshool (Pain), Dahayukta Mutrapravrti (Burning micturition) and Muhurmuhu Mutrapravrti (Dribbling micturition) were reduced significantly.
- Also the reduction in size of the calculus and change in location of stone was found to be significant.
- In all symptoms P value is less than 0.05
- Efficacy of Trutyadi Churna given in Apankale over in period of 30 days is found to be effective in reducing, displacing and expelling Mutrashmari.
- In this study, no any adverse effect was observed.

CONCLUSION

- Trutyadi Churna is significantly effective in the management of Mutrashmari.
- The symptoms like Udarshool (Pain), Dahayukta Mutrapravrti (Burning micturition) and Muhurmuhu Mutrapravrti (Dribbling micturition) were reduced significantly but maximum results was found in Dahayukta Mutrapravrti.
- Trutyadi Churna is significantly effective in reducing, displacing and expelling the Mutrashmari.
- Trutyadi Churna significantly reduced the size of Mutrashmari from 4.9 mm to 0.8 mm.
- Trutyadi Churna can be used as a primary aid in patients of Mutrashmari.
- No any adverse effect of the drug occurred during the treatment.

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