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Management of Mutrashmari by ayurvedic formulations with special reference to Ultrasonography - a case study

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Abstract:

Ashmari (urinary stones) is the condition in which there is formation of a substance like stone. Mutrashmari (urinary stone) is one among the Ashtamahagada (eight fatal conditions).

The lifetime prevalence of symptomatic urolithiasis is 10% in men and 5% in women, and the chance of the second stone formation within 5–7 years is approximately 50% of population due to the daily lifestyle and the dietary pattern of the peoples.

Many treatment procedures have been adopted in medical sciences to treat the disease but it is quite costly and also the prognosis behind recurrence of stone formation cannot be avoided. In alternative medicines, mainly surgery is described but as per Acharya Sushruta he said that before going for surgical procedures one should try with oral medications such as medicated alkali preparation, decoction, medicated ghee, and medicated oil, which possesses the properties such as diuretic, splitting, scarification, breaking, and cutting; it facilitates the dissolution of the urinary stones. Hence, it is necessary to find out an economical, easily available, cost-effective, and acceptable medicine to treat Mutrashmari. Hence, in this clinical study, ayurvedic formulations were selected for the management of Mutrashmari.

Keywords: Mutrashmari, urolithiasis, ayurvedic formulations.

Introduction-

Ashmari (urinary stones) is the condition in which there is formation of a substance like stone. *Mutrashmari* (urinary stone) is one among the *Ashtamahagada* (eight fatal conditions). It is considered difficult to cure because of its *Marma Ashrayatwa* due to involvement of *Basti*, which is one of the *TriMarma* (three vital parts), being the *Vyakta Sthana*. It is *Kapha* predominance *Tridoshaja Vyadhi*.¹ As per the clinical features, it is compared to urolithiasis. It is the formation of stony concretions in the bladder and urinary system. It is the common diseases of *Mutravaha strotas* (urinary tract) that occur due to disequilibrium between stone inhibiting and promoting factors in the urinary system.

Urolithiasis is an effect of complex physico-chemical process, which involves sequence of events in the formation of any urinary stone, including urinary saturation, super saturation, nucleation and the growth of crystals, aggregation and retention of crystal, and finally formation of stone.²

The lifetime prevalence of symptomatic urolithiasis is 10% in men and 5% in women, and the chance of the second stone formation within 5–7 years is approximately 50% of population due to

the daily lifestyle and the dietary pattern of the peoples.³

Increased percentage of urolithiasis in this world is associated with improved standard of living. A urinary stone is the major cause of morbidity and is strongly associated with race, ethnicity, and region of residence. A diet that is rich in cereals and pulses, intake of fruits such as grapes and oranges and fluoride-rich water, and intake of fruits such as oranges and grapes plays a vital role in the occurrence of urinary stone

Many treatment procedures have been adopted in medical sciences to treat the disease but it is quite costly and also the prognosis behind recurrence of stone formation cannot be avoided. In alternative medicines, mainly surgery is described but as per *Acharya Sushruta* he said that before going for surgical procedures one should try with oral medications such as medicated alkali preparation, decoction, medicated ghee, and medicated oil, which possesses the properties such as diuretic, splitting, scarification, breaking, and cutting; it facilitates the dissolution of the urinary stones.⁴ Hence, it is necessary to find out an economical, easily available, cost-effective, and acceptable medicine to treat *Mutrashmari*. Hence, in this clinical study, ayurvedic formulations were

selected for the management of Mutrashmari.

Aim & objectives-

Aim-To evaluate the efficacy of ayurvedic formulations in the management of Mutrashmari with special reference to ultra-sonography.

Objectives-

- 1) To study the Mutrashmari as per ayurvedic view
- 2) To study sign symptoms of Mutrashmari
- 3) To study the effect of ayurvedic formulations on Mutrashmari.

Consent-

Informed consent of the patient is taken in his own language.

History & present illness- A 52 year male patient approached in OPD presenting with c/o pain in abdomen (Right loin region pain & left iliac-fossa) & difficulty in urination, these symptoms occurred since 2 years, increased from 1-2 months.

Past history-

The patient had a history of the same complaint, for that he underwent lithotripsy in 2020.

Personal history-

Food habits: Spicy and salty food; *Ruksha Ahar* (poha, bread, and toast), Curd
Lifestyle: Insufficient water intake, sedentary lifestyle, and suppression of natural urges. Sleep: Disturbed due to pain

On examination-

General examination^{5,6}

Built – Moderate, Nourishment – Moderate,

Temperature- 98.4 F, Respiratory rate - 20/min,

Pulse rate – 76 B/M, B.P - 120/70 mm of Hg,

Weight - 70 Kg, Pallor – Absent

Edema – Absent, Tongue - Uncoated

RR- 18/Min RS- B/Lclear CVS-

S1S2 normal

CNS - Conscious oriented

P/A- Tenderness+

Ashtavidha Pariksha⁷

Sr no	Particulars	Result
1	Nadi	76/ min
2	Mala	Prakrut
3	Mutra	Difficulty in urination
4	Jivha	Saam
5	Shabda	Spashta
6	Sparsha	Ruksha
7	Druk	Prakrut
8	Aakruti	Madhyam

DASHAVIDHA PARIKSHA:⁷

1. Prakruti - Vata + Pitta
2. Vikruti - Madhyama
3. Sara - Madhyama
4. Samhanana - Madhyama
5. Pramana - Prakurata
6. Satmya - Madhyama

7. Satva - Madhyama
8. Aahara Shakti-
Others: Abhyavaharana- Shakti-
Madhyama , Jarana Shakti- Madhyama
9. Vyayama Shakti- Madhyama
10. Vaya – Madhyama

RADIOLOGICAL

INVESTIGATIONS-

Ultrasonography finding on Before treatment (Dated:07/02/2022)

Right kidney shows single non obstructive renal calculus measuring 4.6 mm in the upper calyx.

Left kidney shows mild degree hydro nephrosis & upper hydro ureter due to a mid-ureteric calculus measuring 12.5 mm.

Treatment advised-

By analyzing the above pathogenesis of disease in this patient following treatment plan was prescribed for 3 months, which can be categorized as-

Sr no	Drug	Dose	Time of administration
1	Kwath of these churna in same quantity(5 gm each) Gokshur,Punarnava, Bhumyamalki, Pashanbhed Churna ^{8,9,10,11}	50 ML	Empty stomach BID

2	Apamarg kshar ^{8,9,10,11}	Small pinch (20mg)	With kwath
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Method of preparation-

Take each 5 gm of Gokshur, Punarnava, Bhumyamalki, Pashanbhed churna in 120 ml of water & boil it. After decoction 50 ml of prepared kwath which will be taken on empty stomach.

Assessment of patient-

Overall assessment of the therapy was made based on the improvement in pain, *Mutra Pravrutti*(difficulty in urination) and ultra-sonography (USG) finding-

Complaints/ days	0	→	60	90
Pain in abdomen	Severe	Moderate	Mild	Nil
Difficulty in urination	Severe	Moderate	Mild	Nil

Observation & result-

In the first follow-up, the patient informed that the severity of pain & difficulty in urination is decreased.

In the second & third follow-up, the patient informed that, he gets complete relief from pain & difficulty in urination but stone was not expel outside.

But in this period of treatment he is taking irregular medicines. So that’s why we

again continue the same treatment for next 3 months. After 3 months USG was done.

Ultrasonography finding After Treatment (Dated: 5 August 2022)

Right kidney shows two non-obstructive renal calculi measuring 5.1 mm & 3.4 mm in the upper & mid calyx respectively.

Left kidney shows mild degree hydronephrosis & upper hydroureter due to a lower ureteric calculus measuring 12.7 mm.

After taking regular medicine for 30 days, from the last USG patient came for follow-up & told that expelled out of 2 calculi during urination. After 2 calculi expelled out then we start only pashanbhed kwath. He is taking medicine continuously. After 3 months repeat USG was done.

Ultrasonography finding on 2 November 2022-

Left kidney shows mild degree hydronephrosis & upper hydroureter due to a lower ureteric calculus measuring 12.3 mm.

After USG we changed the some medicine for 1 month & shifted on-

Sr no	Drug	Dose	Administration
1	Chandraprabha vati	2 table t TID	After meal

2	Gokshuradi guggule	2 table t TID	After meal
3	Brihat varunadi kwath	20 ml with warm water	After meal
4	Dashmularish ta	20 ml with warm water	After meal

On 29 November lower ureteric calculus measuring 12.3 mm was expelled outside during urination.

On the next day we started brihat varunadi kwath 20 ml early morning for 21 days as a part of apunarbhav chikitsa with one week gap after 21 days.

Discussion-

Many treatment modalities have been adopted in medical sciences to treat the disease in

the Chikitsasutra of Mutrashmari.

Acharya Sushrut said that before going for surgical procedures one should try with oral medications such as *Kshara Kalpana* (medicated alkali preparation), *Ghrita* (medicated ghee), and *Taila* (medicated oil), which possesses the properties such as *Chhedana* (cutting/breaking), *Bhedana* (splitting), *Lekhana* (scarification),

and *Mutrala* (diuretic), and *Kwath* (decoction) for facilitating the disintegration of the urinary stones. Hence, as per *Chikitsa Sutra* in this clinical study, a *Apamarg kshar* and other *Shaman Aushadhi* were selected for the management of *Mutrashmari*.

Apamarg kshar-It acts as a natural diuretic. Hence useful to relieve dysurea(difficulty in urination).

Gokshura-According to charak gokshura is described as *mutra virechaniya* also due to *madhura vipaka* it decreases pain in uroliathiasis.

Punarnava & Bhumyamalki – As Punarnava & Bhumyamalki defined as a *shothaghana* in *Bhavprakash* i.e. used to reduce edema by increasing urine output. In this case punarnava increases urine output which enhances expulsion of urinary stones.

Pashanbhed- According to charak Pashanbhed is very effective in cutting of stones & diuretic action, the term used is *asmabheda* which reflects decreases the concretion of urinary stone which is essential for expulsion of stone

CONCLUSION-

The result revealed that renal calculi can be cured with ayurvedic *Shaman Chikitsa* and lithotripsy, other surgical interventions can be avoided. Now till date there is no need to patient to undergo any

surgical intervention as well as there is no recurrence of symptoms. This study is about the presentation of the single case study only. An attempt must be made for further exploration of effect of this *Shaman* therapy in large population for establishing standard treatment protocol.

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Appendix

1: Reports/Pictures

Figure 1.1 Before treatment USG Report

USHAKIRAN DIAGNOSTIC CENTRE
Dr. Ranjeet S. Shinde
M.B.B.S., D.M.R.E.
(Reg.No. 2014073110)
Consultant Radiologist

Advanced 3D/4D Scan, High Resolution Sonography, Color Doppler, Digital X-Ray

Patient Name: [Redacted] Date: 07 Feb 2022
Referred By: [Redacted] Age: 54 YEARS Sex: M

EXAMINATION: USG OF WHOLE ABDOMEN

Real time ultrasound examination of whole abdomen shows normal sized liver with normal echotexture. No localized area of increased or decreased echogenicity. The intra as well extra hepatic biliary radicles are normal. Hepatic veins appear to be normal. CBD and portal vein are normal in dimension. Gall bladder is physiologically distended and normal in size, shape and position. It shows normal wall thickness. No evidence of calculus or cholecystitis.

Pancreas is normal in size and shows normal echotexture. No abnormal area of calcification or mass impression.

Spleen is normal in size and shows normal echotexture.

Both the kidneys are larger in size, shape, normal in position, axis and outline. Both kidneys show normal cortico-medullary ratio and differentiation. There is no evidence of mass.

Right kidney- 12.3 x 6.1 cm. Left kidney – 11.5 x 6 cm.
Right kidney shows irregular outlines & thinning cortex with edematous PC system. Right kidney shows single non obstructive renal calculus measuring 4.6 mm in the upper calyx.
Left kidney shows mild degree hydronephrosis and upper hydroureter due to a mid ureteric calculus measuring 12.5 mm.
No evidence of free fluid in the abdomen.
No evidence of abdominal lymphadenopathy.

Urinary bladder is partially distended and shows irregular circumferential mucosal wall thickening, maximum wall thickness measures 3.2 mm. No evidence of calculus or mass impression seen.

Prostate is normal in size. It shows homogeneous echotexture with few specks of intraparenchymal calcification. Prostatic capsule is intact. Prostatic volume ml - 15 cc.

Visualized bowel loops are normal in calibre with normal peristaltic activity.
E/o feco gaseous distension of colon noted.
Abdominal aorta and IVC are normal in calibre.

Scan of right and left iliac fossae doesn't reveal any mass / collection / fat stranding. Appendix not visualized.
Bilateral inguinal regions are normal. Bilateral pleural spaces are clear.

IMPRESSION:
RIGHT NON OBSTRUCTIVE RENAL CALCULUS
LEFT MID URETERIC CALCULUS
CYSTITIS

DR. RANJEET SHINDE
M.B.B.S., D.M.R.E.

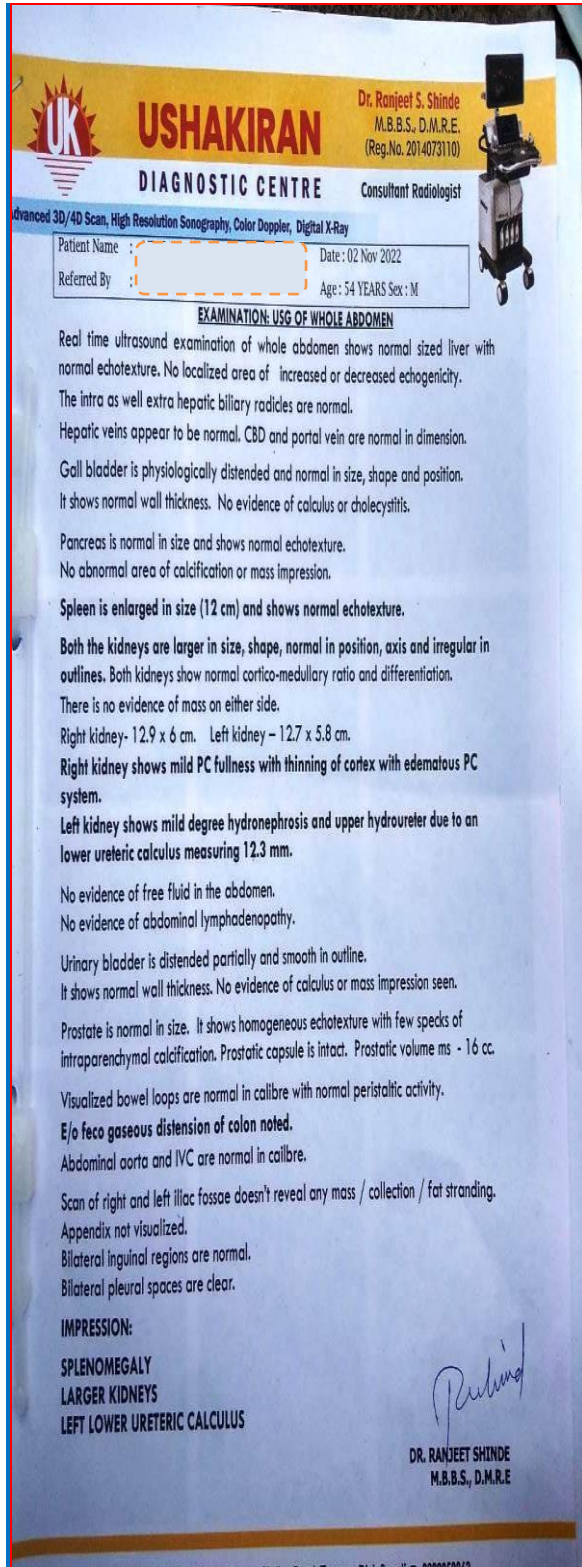


Figure 2.2 After treatment USG Report

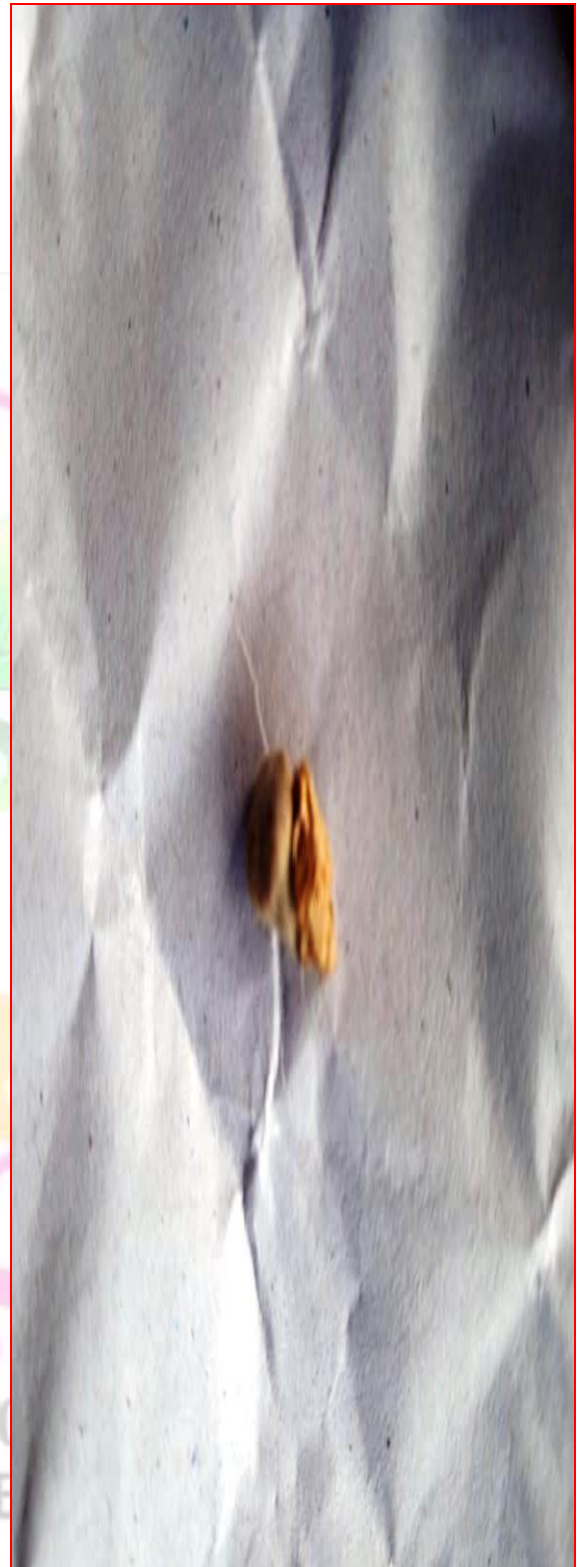


Figure 3.3 After treatment expulsion of renal calculi