

Management of Renal Calculus (Mutrashmari) with Hydronephrosis by Ayurvedicformulations: A Case Study

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Abstract

Background: Stones that grow in the urinary tract (recognized as nephrolithiasis or urolithiasis) form when the urine becomes excessively supersaturated with respect to a mineral, leading to crystal formation, growth, aggregation and retention within the kidneys^[1]. Worldwide, approximately 80% of kidney stones are composed of calcium oxalate (CaOx) mixed with calcium phosphate (CaP). Stones composed of uric acid 9%, struvite 10% and cystine of 1% are common^[2].

Mutrashmari (Renal calculi/Kidney stones) is one among the Ashtamahagada (eight fatal conditions) and is Kaphapradhan Tridoshaja Vyadhi. It is correlated with urolithiasis. The prevalence of symptomatic urolithiasis is approximately 10% in men and 5% in women. Many treatment modalities have been adopted in medical sciences, but it is quite expensive and also the recurrence of development of stone cannot be avoided. Hence, it is necessary to find out easily available, an cost effective medicinetotreat Mutrashmari.

Aim: To evaluate the efficacy of Shaman Chikitsa in Mutrashmari

Materials and Method: It is a single case study. A 37-year-old woman who approached to outpatient department of Kayachikitsa of Datta Meghe Ayurved Medical College Hospital and Research Centre with complaints of pain in abdomen, low backache, which was radiating from loin to groin region; burning micturition; and dysuria. The patient was administered with Shaman Aushadhi.

Results: The patient got 100% results in chief and associated complaints and during and after the completion of therapy there was an improvement in the quality of life of the patient.

Conclusion: Satisfactory relief in symptoms was seen in patient after 7 days of Shaman Chikitsa.

Keywords: *Mutrashmari, Shaman Chikitsa, urolithiasis, hydronephrosis, Ashmari.*

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Introduction

Stones that grow in the urinary tract (recognized as nephrolithiasis or urolithiasis) form when the urine becomes excessively supersaturated with respect to a mineral, leading to crystal formation, growth, aggregation and retention within the kidneys¹. Worldwide, approximately 80% of kidney stones are composed of

calcium oxalate (CaOx) mixed with calcium phosphate (CaP). Stones composed of uric acid 9%, struvite 10% and cystine of 1% are common². A series of studies by Balwani et al have reported correlation of lupus³ parathyroid adenoma⁴ and psoriasis⁵ with progressive renal failure. Studies are also available showing effects of Guillain Barre Syndrome⁶, Kimuras disease⁷ and Kikuchi's disease⁸ on renal health.

Renal calculi (Kidney stones) are mineral densification in the renal calyces and pelvis that are found free or attached to the renal papillae⁹.

In our country kidney stone comprise one of the commonest diseases. and pain due to kidney stones is recognized as worse than that of labour pain. The information regarding Ashmari¹⁰ is available in almost all samhita of Ayurveda. In India, approximately 5-7 million patients suffer from stone disease and at least one from 1000 patients of Indian population needs hospitalization due to kidney stone disease. Thus, the disease is as common as it is old, particularly in countries with hot and dry climate. These are "stone belt regions". The incidence of calculi varies as per geographical distribution, sex and age group. The reappearance rate is 60 to 80%. Males are more commonly affected than the female with their ratio is 4:3. The incidence is higher in the age group between 30-45 years and incidence diminishes after age of 50 years.

Many medicinal formulations mentioned in Ayurvedic literature for the management of Mutrashmari, are cost effective, devoid of complications and provide wide scope for the successful treatment of Urolithiasis.

Important measures in preventing recurrence of kidney stones are Fluid intake and dietary changes. Many trials have shown that increasing urine volume to at least 2 L/day OR 2 lit/day can reduce the recurrence of stone disease by up to 40–50%. Fluid intake mainly should include water. As tea and coffee contain oxalate, milk (which binds free oxalate) should be added to them. However, increasing the urine volume has a disadvantage of reducing urinary citrate.

Formation of calcium oxalate stones has been found significantly reduced by a small reduction in urinary oxalate. Hence, oxalate-rich foods like cucumber, beetroot, spinach, soya bean, chocolate, popcorn and sweet potato should be avoided.

Many studies have established calcium restriction increase the risk of stone disease; therefore, dietary calcium restriction is not suggested.

Aims and Objectives: The aim of this study was to assess the efficacy of Shaman Chikitsa in the management of Mutrashmari (urolithiasis).

Materials and Method:

It is a single case study and the informed consent of the patient is taken in his own language.

- **History of Present Illness:** A 37-year-old woman was in a healthy condition before 2 months, then she started complaining of abdominal pain and it was found that the pain was intermittent and colicky in nature and it was present on right side of the abdomen, which was radiating from loin to groin region; difficulty in urination normally at the beginning of urination which is of pricking type; burning micturition sometimes; and occasionally smoky urine since 1 month. These chief complaints are briefly mentioned in Tables 1 and 2.

- **Past History:**

Not Significant: Patient had taken allopathic medicine Tab. Zerodol twice a day for Seven days and Tab. Levofloxacin once a day for seven days.

- **Family History:**

Not significant.

Demographic Details: Patient named Mrs.ABC, aged 37 years (female) was visited to our hospital on 21/06/2018.

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Chief complaints with Duration:**Table No. 1:**

Sr.No.	Complaints	Duration
1	Abdominal pain – radiating pain from loin to groin region	2 months
2	Nausea with Vomiting on and off	1 month
3	Burning Micturition	1 month
4	Dysuria	15 days
5	Feverish with mild rigors	15 days

Examination of patient:**Table No. 2:**

Pulse	70/min
Bp	110/70 mmhg
Respiratory rate	17/min
Temperature	98.70 F
Pallor	No pallor
Icterus	No icterus
Urine	Burning and painful micturition
Stool	Unsatisfactory bowel habits

Treatment Advised: By analyzing the above pathogenesis of disease in this patient following Shaman Chikitsa treatment plan was prescribed.

Intervention:**Table No. 3:**

Sr. No.	Intervention	Dose	Time	Anupan	Duration
1	Chandraprabhavati	500 mg BD	After meal	Water	For 7 days
2	Ayurvedic Formulation Tablet	2 tab TDS	After meal	Water	For 7 days
3	Varunadi Kashaya	3 t.s.f. BD	After meal	Lukewarm water	For 1 month

BD–twice a day, TDS–thrice a day

Assessment of Patient: Overall assessment of the therapy was made on the basis of the improvement in pain, Mutra Pravrutti and ultrasonography (USG) finding.

Assessment parameter:

Objective Parameter: USG of KUB was done before (0 day) and after intervention (7th Day) for the assessment of change in size of urinary calculi.

Subjective Parameter: Assessment was done before (0 day) and after intervention (7th day) based on grading of symptoms as follows.

Assessment of overall effect of therapy: Overall effect of the therapy was assessed by adopting the following criteria.

Complete Remission: 100% relief in Chief complaints and absence of calculi in USG of KUB.

Marked improvement: >75% and <100% improvements in chief complaints and decrease in size of stone was recorded as marked improvement.

Moderate improvement: <75% and >50% improvement in chief complaints and decrease in size of stone was recorded as moderate improvement.

Mild improvement: <50% and >25% improvement in chief complaints and reduction in size of stone was considered as mild improvement.

No improvement: <25% improvement in chief complaints and reduction in size of stone was recorded as no improvement.

Observations and Result

In the first follow-up; the patient informed the stone was expelled out through urine, and she experienced moderate pain and disturbance in the urine flow on

5th day. The patient got complete relief from pain in abdomen and did not experience dysuria.

Other assessment of before and after observation is mentioned in Table no. 4, Fig. (A and B), Table No. 5 and no. 6.

Table No. 4: Assessment of Patient

Complaints	Days	
	0 day [Before Treatment]	7th day [After Treatment]
Abdominal Pain [bastishool]	Severe	Nil
Renal angle tenderness	Severe	Nil
Burning micturition [mutradaha]	Severe	Nil
Generalized weakness	Moderate	Nil
Dysuria [mutrakruchra]	Moderate	Nil
Feverish	Mild	Nil

Table No. 5: USG findings

Sr.No.	Date	Clinical Findings	USG (Ultrasonography) Findings
1	22 June 2018	Generalized weakness Nausea/vomiting Burning micturition Dysuria Feverish	Mild Hydronephrosis noted on Right side with a calculus of about 5 mm in Right Mid Pole Calyx
2	29 June 2018	No any complaints	No sonic evidence of calculus or Hydronephrotic changes seen

Table No. 6: Investigation

Sr.No.	Investigation	Before Treatment	After Treatment
1	Epithelial cells	4-5/hpf	1-2/hpf
2	Pus cells	3-5/	1-2
3	Erythrocytes	0-4 p.v.f.	0-4 p.v.f.
4	Urine colour	Turbid	Clear
5	ESR	38/1 st h	15/1st h

Discussion

The intervention was found to be very effective in calculus calculus of about 5 mm in Right Mid Pole Calyx. This combination of drugs found to be very effective in reducing the symptoms of mutrashmarii. ebastishoola, mutrakrichrata and mutradaha within seven days.

Chandraprabha Vati is a potent anti-inflammatory Ayurvedic remedy used for the treatment of diseases of the urinary tract, kidney, pancreas, thyroid gland, bones and joints.

‘Chandra’ signifying ‘moon’ and ‘prabha’ denoting ‘glow’, Chandraprabhavati brings a glow to your body and promotes strength and immunity.

Ayurvedic Formulation Tablet contains Shilapushpa (*Didymocarpuspedicellata*) 130mg,

Pasanabheda(*Saxifagalgulata*Syn.*Bergenia ligulata/ciliata*) 98 mg, Manjishtha (*Rubiacordifolia*) 32 mg, Nagarmusta (*Cyperusscariosus*) 32 mg, Apamarga (*Achyranthesaspera*) 32 mg, Gohija (*Onosmabracteatum*) 32 mg, Sahadevi (*Vernoniacinerea*) 32 mg, Shilajeet (Purified) 26 mg, Punarnava, Ushira, Shweta Parpati and Hajarulyashood Bhasma which is used in urinary retention, dysuria, renal calculi, hematuria and burning in urination due to acidic urine.

Varunadi Kshayais capable of lithotryptic action, reducing pain intensity, dysuria and is also capable of reducing haematuria.

Conclusion

The result revealed that renal calculi can be cured with ayurvedic Shaman Chikitsa and lithotripsy and other surgical interventions can be avoided. Kidney stones present as an important and challenging clinical problem. Medical therapy, when used judiciously in conjunction with dietary measures, can help in preventing recurrence and in expulsion of small size (<10 mm) stones. It's really great that mid calyx stone expelled out **within seven days** with this **Ayurvedic Shaman Chikitsa**.

Till date there is no need to patient to undergo any surgical intervention as well as no recurrence of symptoms. This study is the management of the single case study only. An attempt must be made for additional investigation of effect of this Shaman therapy in large population for establishing standard treatment protocol. With the obtained results it can be concluded that the **Chandraprabha Vati, Ayurvedic Formulation Tablet, Varunadi Kshayac**an be safely and effectively carried out in patients of Mutrashmari with good results.

Ethical Clearance: Taken from institutional ethics committee.

Source of Funding: Self.

Conflict of Interest: Nil.

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