

**Case Study****EFFICACY OF AN AYURVEDIC INTERVENTION IN THE MANAGEMENT OF URETERIC CALCULI: A CASE STUDY****Mangal Anil<sup>1\*</sup>, Rashmi<sup>2</sup>, Dixit Amit K<sup>3</sup>, Rotwar DS<sup>4</sup>, Bharati PL<sup>5</sup>**<sup>1</sup>Research Officer/Scientist-2 (Ayurveda), <sup>2</sup>Consultant (Ayurveda), <sup>3</sup>Research Officer (Biochemistry), <sup>4</sup>Research Officer (Ayurveda), <sup>5</sup>Research Officer/Scientist-2 (Ayurveda), Regional Ayurveda Research Institute for Drug Development, CCRAS, Madhya Pradesh, India**KEYWORDS:** Ureteric calculus, Urolithiasis, *Swetparpati*, *Chandraprabhavati*.**ABSTRACT**

Urinary calculi is one of the most common and painful urological disorder of the urinary tract affecting 10-12 % of the population. It is characterized by frequent micturition, intermittent pain occasionally radiates to flanks, sweating and restlessness during the pain. Most of the patients taking allopathic medicine but calculi was not expel or crushed from the urinary tract. Endoscopic procedures such as ureterostomy, percutaneous nephrolithotomy and extracorporeal shockwave lithotripsy or other surgical procedures is the treatment of choice in case of ureteric calculi in the conventional system. Non-invasive and safe study had designed for the management of this entity. In the present study, An Ayurvedic intervention *Chandraprabha Vati* (500 mg) and *Swetparpati* (250 mg) along with decoction of natural herbs 30 ml twice in a day for 90 days used for ureteric calculi. The response to the treatment is encouraging by symptoms relief and through lower abdomen ultrasonography (USG). Ureteric calculi has expel from the tract through this management.

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**INTRODUCTION**

Urinary calculi affect 10-12% of the population with a peak incidence at 20-40 years of age<sup>[1]</sup>. A Ureteric calculus is a still challenge for allopathic medical practice. In India, High incidences of kidney stone were among urban people as compared to rural people<sup>[2]</sup>. Kidney stones are mainly composed of calcium salts, uric acid, cysteine, and struvite. Calcium oxalate and calcium phosphate are the most common types accounting for >80% of stones, followed by uric acid (8-10%) and cysteine, struvite in remainders<sup>[3]</sup>. It is continued to occupy an important place in everyday urological practice. Urinary calculi is one of the most common and painful urological disorder of the urinary tract. Variable size of calculus affected the urinary tract. Less than 1-2 mm size of calculi pass out of the body without any clinical intervention but above 2 mm associated with unbearable pain can be treated with ureterostomy, extracorporeal shock wave lithotripsy, percutaneous nephrostomy and surgery in allopathic system of medicine.

Ayurveda, an Indian system of medicine ancient scientist have described Ureteric calculi as *Mutrashmari*. A disease, which are related to *Mutravaha Samsthana* (urinary system), this channel is responsible for excretion of urine and semen. *Mutrakricchra*, *Mutraghata*, *Mutrashmari* etc diseases are also related to this channel. Acharya *Sushruta*<sup>[4]</sup>, the pioneer in the art

and science of surgery has described widely and comprehensively about the *Mutrashmari*.

**CASE STUDY**

A male aged 40 years visited Outpatient department (OPD) of Regional Ayurveda Research Institute for Drug Development on 5.11.2016 vide registration no.25321 with clinical features of ureteric calculi like frequent micturition, intermittent pain occasionally radiates to flanks, sweating and restlessness during pain. He had no previous history of diabetes, hypertension, and addiction to tobacco chewing or smoking.

He had taken 30 days allopathic medicine for ureteric calculi but symptomatically pain was subsiding. Associated symptoms were reappeared after stopped the medicine. General examination, pathological, biochemical and Ultrasonography (USG) were performed before starting the treatment and after the treatment. Written consent in prescribed format taken from the subject with proper counseling before the study. Avoid the seedling vegetables in their diet.

**General Examination**

Pulse: 78/min regular  
Respiratory rate: 20/ min  
Blood Pressure: 126/82 mm of Hg  
Temperature: 98.6° f  
General condition: Poor

**Systemic examination**

Per abdomen examination revealed tenderness in both left and right lumbar regions, more predominant in left region. Rest of the systemic examination did not reveal any significant abnormality.

**Dashavidhpariksha**

- *Prakriti- Vat kaphaj*
- *Vikriti-Kapha*
- *Sara-Meda*
- *Samhanan-Madhyam*
- *Satmya-Vyamishra*
- *Satwa-Madhyam*

- *Praman-Madhyam*
- *Aharashakti-Avar*
- *Vyayamshakti-Avar*
- *Vaya-Yuvavastha*

**Probable diagnosis:** Urinary calculi

**Investigation carried out:** CBC, Urine R/M and USG

**INTERVENTION**

The treatment was carried out with the following medicines (Table-1) for 90 days with follow up every 15 days. During this period, intake of routine food and avoid seedling fruits and vegetables were strictly follow up.

**Table 1: Drug used for the study**

S.No	Name of medicine	Doses	Pharmacological action of Drug	Ayurvedic Action of drug	Reference
1.	<i>Swetparpati</i>	250mg twice in a day for 90 days	Diuretic	It is used in the treatment of dyspepsia, urinary calculi, difficulty in urination.	Siddha Yoga Sangraha Ashmari Mutrakrichra Adhikara, AFI Vol. 2, 12:2
2.	<i>ChandraprabhaVati</i>	500mg twice in a day for 90 days	anti-hyperglycemic Diuretic antilithiatic and lithotriptic effects,	It is used in Ayurvedic treatment of urinary tract infection, difficulty in urination, urinary calculi.	Sharangdhara Samhita Madhyama Khanda 7/40 – 49, Bhaishajyaratnavali.
3.	Decoction of following raw drugs in the dose of freshly prepared <i>Kulatha (Dolichos biflorus)</i> Seed, <i>Varuna (Cratevea nurvala)</i> Stem bark, <i>Patharphool (Bryophyllum)</i> Whole plant, <i>Ikshu (Sachrum officinalis)</i> Root.	30 ml BD for 90 days		Tonic, astringent, diuretic, antilithiatic,	The Ayurvedic pharmacopoeia of India, Part I, Vol. I &II.

**RESULTS**

The patient had followed the diet and restriction as advised. Dysuria, pain, sweating and restlessness during pain and other associated symptoms have disappeared. Urine routine examination and USG were done after the completion of three months. The findings of hematological, urine analysis and USG of whole abdomen including kidney ureter bladder (KUB) region report before starting the treatment and after the treatment are in (Table-2):

**Table-2: Investigation carried out for assessment**

S.No.	Bio chemical and radiological parameters	At the starting of the treatment	At the end of the treatment
1	<b>CBC</b>	Showed mild Lymphocytosis with increased neutrophils	Normal CBC report.
2	<b>Urine</b> (Routine and microscopic)	Pus cells 6-8 / HPF and Few RBC casts	Pus cells 1-2/HPF and No RBC cast
3	<b>USG</b>	Left renal calculus of 4.3 mm along with mild cystitis	Normal USG report with no calculus seen in either kidney with no cystitis.

**DISCUSSION**

In the present era number of options for endoscopic procedures such as ureterostomy, treatment of urinary calculi, including surgery, percutaneous nephrolithotomy and extracorporeal

shockwave lithotripsy are used in conventional system of treatment. Tamsulosin and corticosteroid was the most efficacious combination – stones passed more quickly and the need for analgesics was reduced<sup>[5]</sup>. The patients treated with alfuzosin required fewer analgesics and less surgical interventions like ureteroscopic lithotripsy and /or extracorporeal shock wave lithotripsy<sup>[6]</sup>. Adverse effects of these therapies were not acceptable in the society.

Traditional medicines have used to treat urinary stone disease. World health organization has also emphasized development and utilization of herbal drugs and traditional medicines for the benefit of the world population, in terms of cost effectiveness and side effects of the drugs. The organization has also estimated that about 80% of the population living in the developing countries relies on traditional medicine for healthcare needs<sup>[7]</sup>. With the understanding of many pathophysiological features underlying urinary stone disease and the mechanism of herbal remedies that can have a role in the formation and treatment of urinary stones. In Ayurveda, an Indian traditional system of medicine has lot of focus on ureteric calculi under the chapter of *Ashmari*. For the manifestation of the disease *Ashmari* the *Kaphadoshais* the main factor, which contributes the nucleus for the pathogenesis. When the urine becomes stagnant in the urinary system for long time, it gets concentrated and infected. Thus there are more chances of formation of stone. Hence, the main aim of the treatment must be *Kaphahara*, *Lekhana* (scraping) and *Mutrala* (Diuretic). *Swetparpati*<sup>[8]</sup> due to its content has potent diuretic action helps in flushing out of the ureteric calculi. *Chandraprabhavati*<sup>[9]</sup> have contents which act as antiseptic, *Kaphashamaka* and diuretic which help in relieving infection and stopping further stone formation. The decoction which contains the raw drugs<sup>[10]</sup> has multisystem action as it has the properties of crushing the stone, diuretic, *Kaphashamaka* and antiseptic. Earlier studies had also revealed that *Chandraprabhavati*, *Gokshuradigugglu*, *Swetparpati* have potent lithotripsy activity.<sup>[11]</sup>

## CONCLUSION

The present study shows the efficacy of an Ayurvedic intervention is an effective and safe alternate in the management of ureteric calculi. It brings about significant symptomatic relief and helps in expulsion of stones or reducing the size of the renal calculi. The study is a pilot study which needs to be evaluated on a large scale to benefit a large section of society.

## Author's contribution

AM contributed to conception, designation, and acquisition and drafted the study. SR, AKD and DSR

participated in study design and analysis. PLB helped in coordination and gave final approval of the version to be published. All authors read and approved the final manuscript.

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