

The Successful Management of *Mutrashmari* (Urolithiasis) Using Proprietary Ayurvedic Medicines: A Case Series

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Abstract:

Urolithiasis (*Mutrashmari*) is one of most-prevalent urological diseases in Asia. Even its prevalence is gradually increasing due to changing environmental conditions and dietary habits. However, medical treatment isn't satisfactory in many cases, frequently necessitating for surgical management of Urolithiasis. Therefore, some self-prepared exclusive Proprietary Ayurvedic Medicines in the form of Decoction (*Kwatha*), Freshly-expressed Juice (*Swarasa*), Alcoholic-preparation (*Arishta*) and *Choorna* Capsules have been evaluated in such patients in Out-patient settings. This Case Series reports effective management of Urolithiasis (*Mutrashmari*) using these Proprietary Ayurvedic Medicines in ten patients. The results have been reported very encouraging, as multiple bilateral renal calculi were expelled out through urine within a period of two to seventy-two days. It provides an example, portraying the effectiveness of Ayurvedic Medicines in expulsion of *Mutrashmari* without need of surgery. This provides a lead to conduct more-sophisticated clinical-trials, to establish use of Ayurvedic Medicines and potentially alter current medical treatment protocols.

Key words: Ayurvedic Management, Case Series, *Mutrashmari*, Urolithiasis.

Key Messages:

The present Case Series provides conspicuous evidence for some exclusively prepared Proprietary Ayurvedic Formulations, to expel the Renal Calculus (*Mutrashmari*) without any side-effects. It provides a lead to explore these medications further, by undertaking clinical trials and establish its clinical efficacy scientifically in a larger group of patients.

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Introduction:

We often observe cases of Urolithiasis, due to faulty food habits and changing lifestyles. However, medical treatment is symptomatic only, which usually doesn't provide satisfactory results. Other treatments like Medical-Expulsive-Therapy are of controversial value; compelling patients for costly Surgeries or sometimes even costlier Kidney-Transplantation. However, taking this factor in to consideration it was planned to evaluate some of the important ayurvedic drugs in the unique formulations. So, we prepared some exclusive formulations of ayurvedic drugs in the form of *Arishta*, *Kwatha*, *Swarasa* and Capsules for Urolithiasis (*Mutrashmari*) in our clinic. These exclusive formulations were administered to the patients of Urolithiasis (*Mutrashmari*) for 2 months and the results are surprising, the calculi were fallen down through urine.

Urolithiasis (*Mutrashmari*) is third most common agony of the urinary system and its prevalence is increasing due to environmental factors and dietary habits. The worldwide prevalence and incidence rates of Urolithiasis vary from place to place and have been changed in the last several decades, with prevalence ranging from 7% to 13% in North America, 5% to 9% in Europe and 1% to 5% in Asia.^{[1][2]} The etiological factors responsible for lithogenesis include dietary habits like heavy consumption of Calcium & Oxalate rich foods like spinach, tea, cocoa, chocolate etc., reduced fluid intake, environmental factors like hot climatic conditions, occupational factors like sedentary jobs in hot environments, some

genetic and metabolic diseases like Cushing's disease, hyperthyroidism etc.^[3]

Urolithiasis (*Mutrashmari*) has been widely described in the ancient Ayurvedic texts. This disease is awful and hence it's appraised as one of the "*Ashtau Mahagada*" (Eight Dreadful diseases) by the colonist of ancient science "*Acharya Sushruta*"^[4] and "*Acharya Charaka*" has mentioned *Ashmari* (Calculi) as one of the "*Bastimarma arishta vyadhi*" (Disease of Urinary Bladder).^[5]

As per *Ayurveda*, different types of Renal calculi (*Mutrashmari*) occur due to vitiated *Vata*, *Pitta* and *Kapha Dosha* (Three types of body humours). However, there's an exuberance of the deranged *Kapha Dosha* as an underlying cause of all types of *Ashmari*.^[6] There is *Mutravaha Stroto Dushti* (Vitiation of urinary channels) as well, along with the vitiation of *Mutra* (Urine) in the formation of Urolithiasis

Case History:**Case 1 Presentation:**

A female patient, 45 years old, presented on 02/05/2018 with chief complaints of Moderate pain at left lumbar region since last 10 days. However, there was no pain on the right side and no urinary incontinence as well. Patient brought the Ultrasonography (USG) Abdo-pelvis Report dated 30/04/2018 showing a calculus measuring about 8 x 5.89 mm (Millimetres) in the superior group calices of the right kidney and also two calculi measuring about 4.86 mm x 4.18 mm & 5.56 mm x 5.1 mm in the superior group calices. She was on the allopathic medication viz. Syrup Di-Sodium

Hydrogen Citrate 1.37 gram/5ml. She had no past history of kidney stone. On systemic examination, the abdomen was soft on palpation.

Case 2 Presentation:

A 52 years male patient arrived on 23/04/2018 with chief complaints of mild bilateral lumbar regional pain radiating to the groin, along with mild burning micturition since last 15 days. The USG Report dated 04/04/2018 revealed Bilateral Renal calculi, two calculi in the right kidney and two in the left. He was on the allopathic medications viz. Syrup Cital (Di-Sodium Hydrogen Citrate 1.37 gram/5 ml) and Tablet Meftal-Spas (SOS). He had no past history of kidney stone. On examination, the abdomen was soft on palpation.

Case 3 Presentation:

On 10/11/2018, a 23 years female patient presented with left-sided moderate pain, radiating from left lumbar region to groin and incontinence of urine since two days. However, there was no fever and haematuria. She was on medications like Tablet Cataspa (Dicyclomine 20 mg + Diclofenac 50 mg) SOS and Syrup *Niri* (A polyherbal regime) Two Teaspoons in 100 ml of water. She had no past history of chronic kidney disease (CKD) or kidney stone. No personal habits of Tobacco chewing, Alcohol or Smoking were observed in the patient. On systemic examination, the abdomen was soft on palpation. The patient brought a USG Report dated 09/11/2018, showing bilateral multiple renal calculi, along with mild obstructive uropathy due to the left upper ureteric calculi.

Case 4 Presentation:

A 50 years male patient visited on 20/09/2017 with chief complaints of mild abdominal pain in right lumbar region since 15 days. He had no other complaints like burning micturition. On examination, his general condition was fair, with Blood Pressure of 170/70 mm of Hg (Hydrargyrum i.e. Mercury) and Pulse Rate of 80 per minute. On palpation, the abdomen was soft, with mild pain in right lumbar region. He had no past history of Diabetes Mellitus, Ischemic Heart Disease, Kidney Stone or Chronic Kidney Disease. A Provisional Diagnosis of Right Renal Calculus was made.

Case 5 Presentation:

A male child aged 4 Years 6 Months visited on 15/03/2019 with Chief Complaints of Left Sided Colicky pain from lumbar region to groin since 6 months. He had on & off Burning micturition and Occasional urinary Incontinence, but no hematuria. On examination, his general condition was fair, with normal heart sounds on auscultation. On palpation, the abdomen was soft, with pain radiating from left lumbar region to groin. He had no past history as well as family history of Chronic Heart Disease, Kidney Stone or Chronic Kidney Disease. The patient's father had brought his Previous USG & X-Ray (KUB) Reports.

USG Report 1 (08/11/2018) - Left Side Moderate hydronephrosis & upper third hydroureter due to calculus in the upper third of Left Ureter Noted. Calculus Size: 9.05 mm x 5.97 mm.

USG Report 2 (12/11/2018) - Moderate Hydronephrosis seen in Left Kidney

secondary to a calculus of 12 mm x 7 mm of size on Left upper ureter approx. 2 cm (Centimetres) distal to Pelvi-ureteric junction (PUJ).

USG Report 3 (14/03/2019) - Moderate Hydronephrosis seen in Left Kidney. A Calculus of 12 mm x 8 mm in size in Left upper ureter, Approx. 2 cm distal to PUJ. Thus, the patient was already diagnosed for Left Renal Calculi and was taking medications like Tablet Soda-bicarb (One TDS) and a diuretic Tablet Dytor (Torasemide) 2.5 mg OD i.e. once a day (Morning).

Case 6 Presentation:

A 29 years male patient reported on 05/04/2018 with bilateral mild colicky pain since 15 days, but there was no burning micturition and urinary incontinence. The patient had brought his USG Abdomen Report dated 28/03/2018, which showed a cystic lesion of 37 x 34 mm at lower pole of Right Kidney and two calculi of 5 x 4 mm at mid-pole of both the Kidneys.

Case 7 Presentation:

A 37 years male visited the clinic on 25/08/2017 with chief complaints of Right iliac pain (moderate) radiating from Right lumbar to Hypogastric region, on & off since 3 months. He also had Burning micturition and Urinary incontinence on & off. He brought a USG Report with him dated 06/06/2017, which revealed a calculus of 7.9 x 6 mm at Right upper third portion of ureter, causing enlarged size & shape of Right Kidney with mild hydronephrosis & upper hydroureter. However, there was no calculus seen in the Left Kidney.

Case 8 Presentation:

A male patient of 36 years age appeared on 25/04/2017 with Chief Complaints of bilateral lumbar regional pain on & off since two months, which was more at the Left iliac region and was radiating to the groin. There was Burning Micturition as well, but no Haematuria. On examination, his general condition was fair, with Blood Pressure of 124/80 mm of Hg and Pulse Rate of 80 per minute. On palpation, the abdomen was soft, with no tenderness on McBurney's point. He had no past history as well as family history of Chronic Kidney Disease, Kidney Stone or Diabetes mellitus.

The patient had brought his previous USG Report dated 03/04/2017, showing Bilateral small Renal Calculi and Mild Obstructive Uropathy on Left side secondary to Utero-vesical Junction (UVJ) Calculus. He was on Allopathic medications viz. Syrup Cital and Tablet Cataspa as and when required (SOS).

Case 9 Presentation:

A female patient of 38 years age, visited the clinic on 25/03/2019 with Chief Complaint of Right sided Colicky pain of moderate degree, radiating from Right lumbar region to the groin since Five days. She also had mild Left Lumbar and Left iliac regional pain since Five days. She was also suffering from moderate burning micturition since Five days and Urinary incontinence from Two days.

Patient came in the OPD (Out-Patient Department) with a USG Report dated 16/07/2018, which had an impression of enlarged Right Kidney in size & shape, with a calculus of 5 x 5 mm at inferior group of calyces, mild hydronephrosis & hydroureter with another calculus of 9 x 6

mm at the Right lower-third of ureter. The Left Kidney was normal in size & shape, but had a calculus of 4 x 4 mm at mid-pole & another of 4.4 x 4 mm at the lower pole.

Case 10 Presentation:

A 26 years old female patient reported on 15/03/2019 with mild pain in Right lumbar region and occasional Burning micturition. On examination, her general condition was fair, with Blood Pressure of 110/70 mm of Hg and Pulse Rate of 70 per minute. On palpation, the abdomen was soft, with mild Lumbar regional pain radiating towards groin. No personal habits of Tobacco or Alcohol were observed in the patient. She had no past history of Chronic Kidney Disease, Kidney Stone or Diabetes mellitus.

Patient had brought his USG Abdomen pelvis Report dated 07/03/2018, showing a Right renal calculus of 4 mm in middle calyx. Her second USG Abdomen pelvis Report dated 28/06/2018 showed Right renal calculi of 3.4, 2.6 and 3.7 mm in upper, middle and lower calyces. However, he was on no medications on that time.

Methodology/ Treatment given:

Case 1:

The treatment was provided as oral medication with *Mutkhada Arishta* (10 ml i.e. 10 Millilitres in 100 ml of plain water three times a day before meal), Capsule *Mutkhada* (One capsule Three times a day), *Mutkhada Swaras* (100 ml stat i.e. statum, meaning immediately in the clinic only), *Mutkhada Vanaushadhi Kadha* (Total 1 Litre, out of which 500 ml was given on the first day morning empty stomach, while the remaining 500 ml was administered on the next morning empty

stomach.) Also, tablet Dicyclomine (10 mg i.e. 10 Milligrams) + Mefenamic acid (250 mg) was suggested as per the requirement (Si opus sit - SOS). A follow-up was advised after 15 days of this treatment.

On the next follow-up dated 22/05/2018, the patient presented with a reduced pain, with no signs of Hematuria, Urinary incontinence or Burning micturition. The treatment was continued in the form of Syrup *Mutkhada Arishta*, Capsule *Mutkhada* and Syrup *Mutkhada Swarasa* in the before mentioned dose. A follow-up was advised again after 15 days.

On the next follow-up on 12/06/2018, patient arrived with two expelled kidney stones and a recent report of Ultrasonography dated 10/06/2018, showing a calculus measuring about 4.59 x 4.65 mm in the middle group calices of the right kidney. However, there was no evidence of calculus in the left kidney. There were no complaints presented by the patient. The treatment was again continued by administering Syrup *Mutkhada Arishta*, Capsule *Mutkhada* and Syrup *Mutkhada Swarasa* as before. A follow-up was advised again after 15 days. On the next follow-up dated 28/06/2018, patient brought the remaining one expelled kidney stone with him, along with a new USG Report dated 27/06/2018, suggestive of a normal Abdomen – Kidney-Ureter-Bladder (KUB). As the patient had no complaints at all, no treatment was given. He was only advised to take a balanced diet to avoid recurrence.

Case 2:

The treatment was provided by administering Syrup *Mutkhada Arishta*,

Capsule *Mutkhada* and Syrup *Mutkhada Swarasa* in the before mentioned doses (Same as in Case 1). A follow-up was advised after 15 days.

However, the patient returned just two days later on 25/04/2018 with four expelled stones and the USG Report dated 24/04/2018 showing a normal KUB (Kidney-Ureter-Bladder) study. As he had no further complaints, no treatment was given and only advised to take a balanced diet.

Case 3:

The oral medications were started as Syrup *Mutkhada Arishta*, Capsule *Mutkhada*, Syrup *Mutkhada Swarasa*, Syrup *Mutkhada Kadha* and Tablet Meftal-Spas in the already mentioned doses (As in Case 1). On 02/12/2018, the patient followed-up with reduced (moderate to mild) pain, reduced burning micturition and no urinal incontinence. Therefore, Syrup *Mutkhada Arishta*, Capsule *Mutkhada*, Syrup *Mutkhada Swarasa* were continued and a follow-up after 15 days was advised. On 25/12/2018, patient arrived with multiple (Five) kidney stones and a recent USG-KUB Report, in which no abnormality was detected. Therefore, the treatment was stopped and an advice of kidney healthy diet was given.

Case 4:

Tablet Cataspa (SOS) was given for symptomatic relief and Syrup *Mutkhada Arishta* 10 ml was administered in 100 ml of plain water stat. In the meanwhile, USG Abdo-Pelvis was advised to confirm the Provisional Diagnosis. It was performed on the next day (21/09/2017), which revealed a Calculus of 5 x 4 mm at the mid-pole of Right Kidney. Therefore,

Mutkhada Capsule (Ter die sumendum i.e. TDS – Three times a day) and Syrup *Mutkhada Arishta* (Two TSF i.e. Tea Spoon Full) were given for 15 days, with Tablet Cataspa (SOS). A follow-up was advised after 15 Days.

On follow-up (05/10/2017), there were no complaints, as the Right Lumbar Regional pain was reduced. Therefore, Syrup *Mutkhada Swarasa* was given 100 ml Stat in Clinic itself and all the previous medications were continued again for next 15 days. The patient was advised to follow-up with USG (KUB) Report.

The patient followed-up on 01/11/2017 with a kidney stone passed through urine and the USG Abdopelvis Report showing the Right Kidney of Normal Size & Shape with no evidence of Calculus. So, he was advised to stop the Treatment and drink plenty of Water.

Case 5:

The patient was started our proprietary Ayurvedic medicines viz. Syrup *Mutkhada Arishta* (5 ml in 50 ml of water), Syrup *Mutkhada Vanaushadhi Kadha* (Total 1 Litre over Four days, out of which 250 ml was given on the first day morning empty stomach, and every 250 ml dose was administered on the next three days), Capsule *Mutkhada* (One capsule Three times a day), Syrup *Mutkhada Kadha* (30 ml given once in a visit) and half Tablet of Meftal-Spas [Containing Dicyclomine (10 mg) + Mefenamic acid (250 mg)] was suggested as per the requirement (SOS). A follow-up was advised after 15 days of this treatment.

On the next follow-up dated 02/04/2019, all the complaints of Left sided colic, Burning micturition as well as Urinal

Incontinence were reduced. Therefore, all the medicines except Syrup *Mutkhada Vanaushadhi Kadha* were repeated again and follow-up was advised after 15 days.

There was more reduction in complaints of Left sided colicky pain and Burning micturition on the next follow-up dated 30/04/2019. So, the medicines were again repeated and follow-up was advised again after 15 days.

On 27/05/2019, the patient was having moderate pain in groin region and had a feeling of kidney stone arrived in urethra. After taking the medicine given, the Kidney Stone was expelled out. Subsequently, on 28/05/2019, a USG (KUB) was performed on the patient and he arrived with the expelled stone & the USG Report, in which a normal Ultrasonography of Urinary Tract was noted. Therefore, the treatment was stopped and an advice of drinking adequate water was given.

Case 6:

The same treatment (as mentioned in Case 1) was administered in the form of Syrup *Mutkhada Arishta*, Capsule *Mutkhada*, Syrup *Mutkhada Swarasa*, Syrup *Mutkhada Kadha* and Tablet Meftal-Spas (in the before mentioned doses). A follow-up was advised after 15 days.

On 20/04/2018, the patient revisited the clinic with reduction in pain. Therefore, the first three medicines were repeated, while the last two medicines were discontinued. A follow-up was advised after 15 days.

On 15/05/2018, the patient came with two expelled renal stones & a new USG Abdomen Report dated 13/05/2018, which showed normal size & shape of both the

kidneys with no evidence of calculus. As the patient had no further complaints, the treatment was stopped and a balanced diet was advised.

Case 7:

The same treatment (as mentioned in Case 1) was administered to the patient in the same before-mentioned doses. A follow-up was advised after 15 days.

On 08/09/2017, the patient followed-up having Complaints of Right iliac regional pain (moderate) on & off with occasional Burning micturition and Urinary incontinence. He brought the new USG Abdomen Report dated 08/09/2017, with an impression of calculus of 8 x 6 mm at Right Uretero-vesical junction (UVJ), causing enlarged size & shape of Right Kidney with mild hydronephrosis & upper hydroureter. Therefore, all the treatment except Syrup *Mutkhada Kadha* was repeated again and follow-up after 15 days was advised.

The patient visited again on 22/09/2017 with an expelled renal stone & new USG Abdomen Report of the same day showing normal size & shape of both the kidneys, with no evidence of calculus. Therefore, no treatment was given and a balanced diet was advised.

Case 8:

The patient was started the same treatment (as mentioned in Case 1) in the same before-mentioned doses. A follow-up was advised after 15 days.

On the next follow-up dated 20/05/2017, the pain and burning micturition were reduced. Therefore, all the previous treatment except Syrup *Mutkhada Kadha*

was repeated again and follow-up after 15 days was advised.

On 28/05/2017, the patient came with a new USG report & fallen Kidney Stone of 6 x 5 mm. The USG (KUB) Report dated 27/05/2017 showed bilateral Renal Calculi, but there was no evidence of Calculus in the Utero-vesical Junction (UVJ) as it had already fallen off. The treatment regimen of last follow-up was repeated by excluding Tablet Meftal-Spas. A follow-up was again advised after 15 days.

On 17/06/2017, patient arrived with the remaining two fallen Kidney Stones and a USG Report drawn on the same day, suggesting a normal KUB study.

Case 9:

The patient was started same treatment (as mentioned in Case 1) in the same before-mentioned doses and a follow-up was advised after 15 days.

On the next follow-up dated 15/04/2019, the patient's pain was reduced from moderate to mild and his other complaints of Burning micturition as well as the Urinary incontinence were reduced. Therefore, only Syrup *Mutkhada Arishta*, Capsule *Mutkhada* and Syrup *Mutkhada Swarasa* were continued as before; while the other two medicines were discontinued. A follow-up was again advised after 15 days.

On 03/05/2019, the patient came with two expelled kidney stones & a new USG Abdomen Report dated 02/05/2019, with an impression of enlarged Right Kidney having moderate hydronephrosis & hydroureter, with calculi of size 12.7 x 8.6

mm and 6 x 5 mm at the Right Utero-Vesical Junction (UVJ). The Left Kidney was normal in size & shape, with no evidence of any calculus. As the Right Kidney was still containing calculi, the same treatment continued again. Lab investigations like Serum Creatinine and Urine-Routine were also advised.

On 20/05/2019, patient arrived with other expelled kidney stones & new USG Report dated 18/05/2019, suggesting normal size & shape of both the kidneys, with no evidence of calculus. Therefore, no further treatment was advised and a balanced diet was recommended.

Case 10:

Treatment was started in the form of Tablet Meftal-Spas (SOS), Syrup *Mutkhada Arishta* (10 ml in 100 ml of water), Capsule *Mutkhada* (One capsule Three times a day for 15 days), Syrup *Mutkhada Swarasa* (100 ml stat in the clinic only given once a visit), and Syrup *Mutkhada Vanaushadhi Kadha* (Total 1 Litre, out of which 500 ml was given on the first day morning empty stomach, and remaining 500 ml was administered on the next day, after adding one Lime Juice). A follow-up was advised after 15 days.

On the next follow-up dated 02/04/2019, the pain had subsided and there was no burning micturition. Therefore, Syrup *Mutkhada Arishta*, Syrup *Mutkhada Swarasa* and Capsule *Mutkhada* were again given to the patient.

On 19/04/2019, there was still no pain or burning micturition. But the calculi were not expelled out yet. Therefore, the treatment of previous follow-up was repeated again and the patient was advised

to follow-up after performing USG (KUB).

On 16/05/2019, patient came with three expelled kidney stones and a new USG Report drawn on the same day, with no evidence of calculus or hydronephrosis. Now, the patient had no complaints and therefore, she was advised to stop the treatment.

Medicinal Management:

Table 2 denotes that the Ayurvedic medicines were administered to all the patients in the form of Syrups and Capsule. Still, almost all the patients needed some Allopathic anti-spasmodic drug in the initial phase, in order to relieve the main cause of concern for the patient i.e. lumbar or abdominal pain as and when

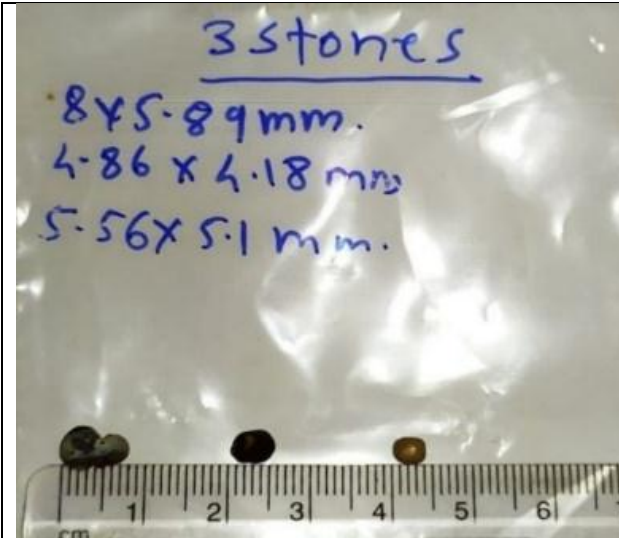
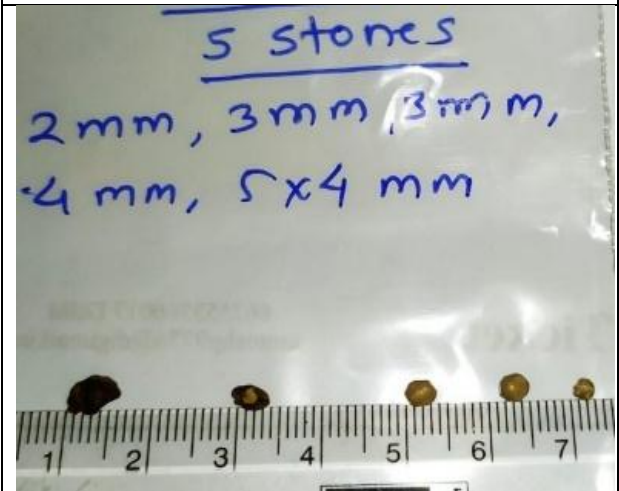
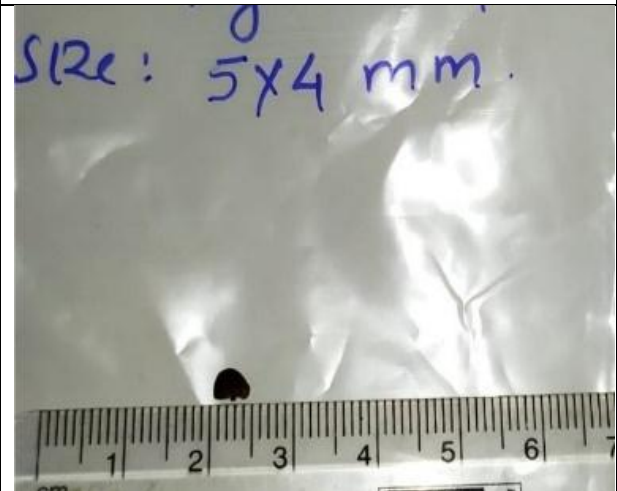
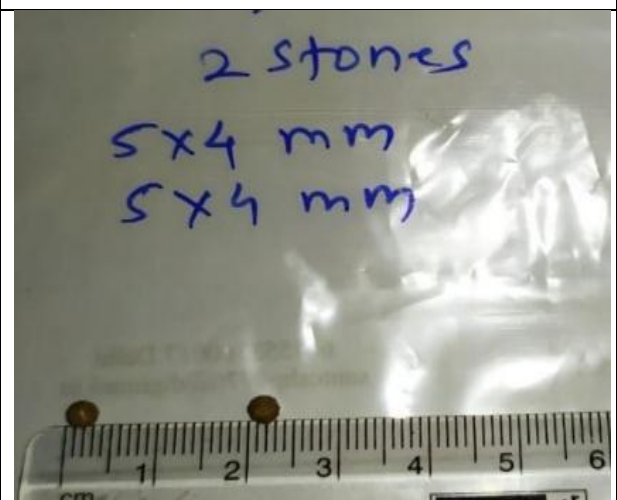
required (SOS). However, once the initial phase of pain subsided, the patients were very effectively maintained on the Ayurvedic medicines only and they did not require any further supplementation of the Allopathic medicines.

Result and Discussion: The patients of Urolithiasis generally present with one of the three common emergency conditions in the urology wards - Acute ureteric colic pain, Acute urinary retention and Hematuria.^[7] The same can be observed in Table 1, that the patients had reported when they suffered from mild to moderate lumbar or abdominal pain, radiating to other regions; and sometimes with burning micturition and Urinal incontinence.

Table 1: Clinical manifestations observed in the patients of Urolithiasis (*Mutrashmari*):

	Abdominal or Lumbar Pain	Radiating Pain	Burning micturition	Urinal Incontinence
Case 1	+	-	-	-
Case 2	+	+	+	-
Case 3	+	+	-	+
Case 4	+	-	-	-
Case 5	+	+	+	+
Case 6	+	-	-	-
Case 7	+	+	+	+
Case 8	+	+	+	-
Case 9	+	+	+	+
Case 10	+	+	+	-

Images of stones expelled out in all cases:

	
Case No. 01:	Case No. 02:
	
Case No. 03:	Case No. 04:
	
Case No. 05:	Case No. 06:

<p>Case No. 07:</p>	<p>Case No. 08:</p>
<p>Case No. 09:</p>	<p>Case No. 10:</p>

Table 2: Ayurvedic Treatment administered in patients of Urolithiasis (*Mutrashmari*):

	Syrup <i>Mutkhada</i> <i>Arishta</i>	Capsule <i>Mutkhada</i>	Syrup <i>Mutkhada</i> <i>Swarasa</i>	Syrup <i>Mutkhada</i> <i>Kadha</i>	Syrup <i>Mutkhada</i> <i>Vanaushadhi</i> <i>Kadha</i>	Tablet Meftal- Spas	Tablet Cataspa
Dose	During Onset of Pain as well as TDS for 2 months	2 TDS after meal	100 ml Once in a 15 days	30 ml once in a 15 days	500 ml BD Once in a month for 2 months	SOS	SOS
Case 1	+	+	+	+	-	+	-
Case 2	+	+	+	-	-	-	-
Case 3	+	+	+	+	-	+	-
Case 4	+	+	+	-	-	-	+
Case 5	+	+	-	+	+	+	-
Case 6	+	+	+	+	-	+	-
Case 7	+	+	+	+	-	+	-
Case 8	+	+	+	+	-	+	-
Case 9	+	+	+	+	-	+	-
Case 10	+	+	+	-	+	+	-

As the pathogenesis of *Mutrashmari* is due to vitiation of all three *Dosha* (with predominance of *Kapha Dosha*), with vitiation of *Mutra* (Urine) causing *Mutravaha Stroto Dushti*; we need *Tridoshaghna* (Anti-*Tridosha*, but predominantly *Kaphaghna*) *Chikitsa* and Diuretic therapy (*Mutra Virechaniya Chikitsa*) along with *Apan Vayu Anulomana Chikitsa* (Therapy aiding the natural downward movement of *Apan Vayu*) to treat the disease. Therefore, some Proprietary Ayurvedic Formulations have been prepared exclusively to serve this purpose.

Table 3: Ingredients of *Mutkhada Arishta*:

S. N.	Ingredients	Latin Name	Action
1.	Gokshura	<i>Tribulus terrestris</i>	Diuretic, Anti-urolithic, Analgesic, Anti-inflammatory
2	Punarnava	<i>Boerhavia diffusa</i>	Anti-inflammatory, Diuretic, Antibacterial, Anti-oxidant, Spasmolytic
3	Pashanbheda	<i>Bergenia ligulata</i>	Anti-urolithic, Antioxidant, Diuretics,
4	Kantakari	<i>Solanum xanthocarpum</i>	Anti-Bacterial, Anti-spasmodic, Anti-inflammatory,
5	Palasha Pushpa	<i>Butea monosperma</i>	Antioxidant, Antimicrobial, Wound healing, Anti-inflammatory
6	Varuna	<i>Crataeva nurvala</i>	Anti-inflammatory, Urolithiatic, Anti-bacterial, Analgesic
7	Sahadevi	<i>Vernonia cinerea</i>	Diuretic, Anti-inflammatory
8	Lajjalu Mula	<i>Mimosa pudica</i>	Wound healing activity, Diuretic, Anti-microbial, Antiviral
9	Shila Pushpa	<i>Parmelia perlata</i>	Anti-oxidant, Antibacterial, Antifungal, Anti-urolithiatic
10	Manjishtha	<i>Rubia cordifolia</i>	Anti-inflammatory, Wound healing, Anti-microbial, Anti-oxidant, Diuretic,
11	Nagarmotha	<i>Cyperus rotundas</i>	Antibacterial, Anti-inflammatory, Anti-uropathogenic, Anti-oxidant
12	Apamarga	<i>Achyranthes aspera</i>	Anti-inflammatory, Anti-oxidant, Anti-allergic
13	Gojivha	<i>Onosma bracteatum</i>	Anti-bacterial, Anti-microbial,
14	Kulattha	<i>Dolichos biflorus</i>	Anti-inflammatory, Diuretic, Anti-oxidant, Anti-urolithiatic,
15	Yavakshara	<i>Hordeum vulgare</i>	Anti-ulcerative, Anti-oxidant, Anti-urolithic,
16	Suntha	<i>Zingiber officinale</i>	Anti-inflammatory, Antioxidant, Anti-bacterial
17	Shweta Parpati	-----	Anti-urolithiatic,
18	Kusha	<i>Desmostachya bipinnata</i>	Anti-oxidant, Analgesic, Diuretic,
19	Kasha	<i>Saccharum spontaneum</i>	Diuretic
20	Shara	<i>Saccharum munja</i>	Diuretic
21	Darbha	<i>Desmostachya bipinnata</i>	Antioxidant, Diuretic,
22	Ikshu	<i>Saccharum officinarum</i>	Analgesic, Diuretic,
23	Musali	<i>Asparagus adscendens</i>	Anti-bacterial, Diuretic,
24	Ashmantak	<i>Ficus rumphii</i>	Antimicrobial activity, Antioxidant, Analgesic,
25	Atibala	<i>Abutilon indicum</i>	Anti-inflammatory, Analgesic, Antioxidant, Antibacterial, Diuretic
26	Ushir	<i>Vetiveria zizanioides</i>	Anti-Inflammatory, Antioxidant,

			Antibacterial
27	Vrikshaadani	<i>Dendrophthoe falcata</i>	Wound healing, Anti-microbial, Antioxidant,
28	Vyaghri	<i>Terminalia chebula</i>	Anti-ulcerogenic, Anti-bacterial, Antioxidant,
29	Yava	<i>Hordeum vulgare</i>	Anti-ulcerative, Anti-oxidant, Anti-urolithic
30	Kila	<i>Phyllanthus niruri</i>	Nephro-protective, Antispasmodic, Anti-bacterial, Antioxidant
31	Eranda	<i>Ricinus communis</i>	Antioxidant activity, Antimicrobial activity, Wound healing, Anti-inflammatory
32	Ringani	<i>Solanum xanthocarpum</i>	Diuretic
33	Vidarikanda	<i>Pueraria tuberosa</i>	Wound healing and anti-inflammatory,
34	Varahikanda	<i>Dioscorea bulbifera</i>	Wound healing, Anti-microbial, Antioxidant, Anti-inflammatory
35	Paatha	<i>Cissampelos pareira</i>	Antioxidant, Anti-inflammatory
36	Shirisha	<i>Albizia lebeck</i>	Anti-inflammatory, Antiseptic,
37	Ajmoda	<i>Apium graveolens</i>	Anti-fungal, Diuretic, Anti-spasmodic,
38	Kadamba Mula	<i>Neolamarckia cadamba</i>	Antifungal activity, Antibacterial activity, Anti-inflammatory
39	Bilwa Mula	<i>Aegle marmelos</i>	Anti-pyretic, Diuretic
40	Tila	<i>Sesamum indicum</i>	Antioxidant, Analgesic
41	Kadali	<i>Musa paradisiaca</i>	Anti-microbial, Anti-oxidant, Diuretic, Anti-allergic, Wound healing

Table 4: Ingredients of Mutakhadahara Swarasa (100 ml):

Sr. No.	Ingredients	Latin Name	Action
1.	Jayanti veda	<i>Tridax procumbens</i> leaf	Antiviral, Analgesic, Antioxidant

Table 5: Ingredients of Mutakhadahara Vanaushadhi Kadha (1000 ml):

Sr. No.	Ingredients	Latin Name	Action
1.	Parnabeeja / Churna	<i>Bryophyllum pinnatum</i>	Antimicrobial, Anti-inflammatory
2.	Mishri / Sitopala	<i>Khadisaakhara</i>	Natural coolant, Natural detoxifier
3.	Baking soda	<i>Sodium hydrogen carbonate</i>	Neutralizer

Table 6: Ingredients of Mutakhadahara Capsule (500 mg):

Sr. No.	Ingredients	Latin Name	Action
1	Gokshura	<i>Tribulus terrestris</i>	Diuretic, Anti-urolithic, Immuno-modulatory, Analgesic, Anti-inflammatory
2	Punarnava	<i>Boerhavia diffusa</i>	Anti-inflammatory, Diuretic, Antibacterial, Anti-Fungal, Anti-oxidant, Spasmolytic
3	Pashanbheda	<i>Bergenia ligulata</i>	Anti-urolithic, Antioxidant, Antiviral, Diuretics, Antipyretic,
4	Kantakari	<i>Solanum xanthocarpum</i>	Anti-Bacterial, Anti-fungal, Anti-spasmodic, Anti-inflammatory,
5	Palasha Pushpa	<i>Butea monosperma</i>	Antioxidant, wound healing, Anti-inflammatory
6	Shweta Parpati	-----	Anti-urolithiatic
7	Varuna	<i>Crataeva nurvala</i>	Anti-inflammatory, Urolithiatic, Anti-bacterial, Analgesic
8	Hajarul Yahud Bhasma	<i>Lapis judaicus</i>	Diuretic, Urolithiatic, Antipruritic
9	Sahadevi	<i>Vernonia cinerea</i>	Diuretic, Anti-inflammatory
10	Yavakshara	<i>Hordeum vulgare</i>	Anti-ulcerative, Anti-oxidant, Anti-urolithic, Anti-fungal
11	Lajjalu Mula	<i>Mimosa pudica</i>	Wound healing activity, Diuretic, Antimicrobial, Antifungal, Antiviral
12	Shila Pushpa	<i>Parmelia perlata</i>	Anti-ulcer, Anti-oxidant, Antibacterial, Antifungal,
13	Manjishtha	<i>Rubia cordifolia</i>	Anti-inflammatory, Wound healing, Anti-microbial, Anti-oxidant, Diuretic
14	Nagarmotha	<i>Cyperus rotundas Linn</i>	Antibacterial, Anti-inflammatory, Anti-oxidant
15	Apamarga	<i>Achyranthes aspera</i>	Spermicidal, Antiparacitic, Anti-inflammatory, Nephroprotective, Anti-allergic
16	Gojivha	<i>Onosma bracteatum</i>	Anti-bacterial, Anti-microbial,

Table 7: Summary of all cases:

Case No.	Sex	Age in Years	Stone Unilateral or Bilateral	Total No. of Kidney Stones in USG	Total No. of Ayu. Medicines required?	Whether Allopathic Medicines required?	Intermittent Expulsion of Calculi (After days?)	Total Days for Expulsion of All Calculi
1	F	45	Bilateral	3	4	Yes	42	58
2	M	52	Bilateral	4	3	No	----	2
3	F	23	Bilateral	5	4	Yes	----	46
4	M	50	Unilateral	1	3	Yes	----	43
5	M	4.5	Unilateral	1	4	Yes	----	74
6	M	29	Bilateral	2	4	Yes	----	41
7	M	37	Unilateral	1	4	Yes	----	29
8	M	36	Bilateral	3	4	Yes	34	54
9	F	38	Bilateral	4	4	Yes	40	57
10	F	26	Unilateral	3	4	Yes	----	63

From the Table 7 given above, it can be observed that Six of the Ten patients of Urolithiasis treated were males, while Four were females. This supports the fact that there is a slight male preponderance in the gender-wise rate of incidence of Urolithiasis.

Discussion:

Most of the ingredients of these Proprietary Ayurvedic Medicines, as mentioned in the Tables 3, 4, 5 and 6, are having *Kaṭu*, *Tikta*, *Kashaya Rasa* (Pungent, Bitter and Astringent tastes), which are *Kaphaghna* and possess *Kapha-Vata Shamaka* (Pacifying) properties. *Gokshura* acts as an alkalizer as it contains potassium nitrate in rich quantity.^[8] Baking soda contains sodium bicarbonate which also acts as an alkalizer and slows down the progression of Urolithiasis.

Yavakshar, *Pashanbheda*, *Varuṇa*, *Shilapushpa*, *Shweta Parpati*, *Triṇapanchamula*, *Eranda*, *Bilva Mula*, *Kadali*, *Jayanti Veda*, *Parnabija* are having actions like *Shodhana* (Cleansing), *Lekhana* (Scraping), *Bhedana* (Breaking), *Pachana* (Digestion), *Tridoshaghna* (Anti-Tridosha) and *Mutrala* (Diuretic) which assist the *Pachana* (Digestion) of stone.^[9] The drugs like *Varuṇa*, *Yavakshara* and *Apamarga* are *Ashmari Chhedaka* (Stone breaker), *Mutrakricchraghna* (Easing the difficulty in micturition) and *Ashmarihara*

(Stone remover). Drugs like *Shirisha*, *Vrikshadini*, *Yavakshara*, *Trinapanchamula* etc. are having anti-inflammatory action which reduces the associated inflammation and due to the diuretic action of Ayurvedic drugs like *Punarnava*, *Gokshura*, *Vidarikanda*, *Ringani*, *Atibala*, *Yava*, *Varuṇa* reduces the risk of hydronephrosis.^[10]

So, overall these Proprietary Ayurvedic Medicines are having Urolithic properties which act as alkalizer, which enhances the function of urinary system, helps in maintaining the fluid & acid-base balance and finally the *Vata Shamaka* (Pacifying) property of the drugs normalizes the function of *Apan Vayu* & helps to eliminate stone from urinary tract without any pain.^[11]

As *Ayurveda* emphasizes on “*Nidana parivarjana*” (Avoiding the disease-causing and aggravating factors) being a major therapeutic tool to minimize the further risk of Urolithiasis, the patients need to follow certain rules of diet and lifestyle regime along with the treatment. Therefore, a Balanced, Kidney-healthy diet was prescribed to all the patients, in order to avoid the recurrence of Calculus.

Almost all the patients (Nine patients) were in the age group of 23-52 years. This reiterates the statistical data that most of the patients of Urolithiasis are found between the age group of 30 to 50 years. However, one patient was just four and half years old. This shows that even children as young as below Five years of age can suffer from this disease as well.

Six of the patients had calculi on both the sides, while four were suffering from unilateral calculi only. Therefore, the results of these Proprietary Ayurvedic

Medicines have been found equally good, even in the condition of Bilateral Renal Calculi.

The numbers of calculi in all these patients have been variable from One up to Five. The results of these medicines have been very promising, even in case of multiple Renal Calculi, as a patient having as much as Four Renal Calculi has been recovered in the shortest period of Two days only.

Most of the patients required four of these Proprietary Ayurvedic Medicines, while a couple of them have been treated successfully with the help of Three medicines as well. Almost all the patients initially needed Allopathic anti-spasmodic drugs to relieve the pain. However, they were effectively maintained on the Ayurvedic medicines only in the later stages and didn't require any Allopathic medicines further.

Three out of Ten patients expelled out the calculi intermittently after a period of 34 to 42 days (Approx. 5-6 weeks). For complete relief by expulsion of all the Renal Calculi, usually 29 to 74 days (One to Two and half months approximately) were required. However, miraculous results were observed in one patient, as he spontaneously expelled out Four calculi just within a span of Two days after initiation of the treatment.

Conclusion:

The present Case Series provides prominent evidence that, the exclusively prepared Proprietary Ayurvedic Formulations have a potential to expel the Renal Calculus (*Mutrashmari*) without any need of surgery. The Ayurvedic medicines utilized in the above-discussed patients haven't presented any side-effects as well.

Limitations of the study:

In the management of Urolithiasis (*Mutrashmari*), both dietary instructions as well as the Ayurvedic management prove helpful for the cure. As the present Case Series is focused on demonstrating the success of medicinal management, it has been limited to the treatment part only and therefore, the dietary advices have not been discussed.

As the optimum aim of Evidence-based medicine is to facilitate the decision making by using evidence from well-conducted research, the present data may not provide the same value of evidence, unless further research work is carried out in the form of clinical trials, to evaluate its efficacy in a larger group of patients.

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