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EFFECTIVE MANAGEMENT OF RENAL CALCULI (*MUTRASHMARI*) WITH AN AYURVEDIC TREATMENT: A CASE REPORT

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Abstract:

This case report evaluates the efficacy of *Ayurvedic* treatment in managing renal calculi, popularly known as kidney stones, which poses a significant global health issue. The patient, a 35-year-old male with a history of recurrent renal calculi, presented with symptoms including severe flank pain, nausea and intermittent painful urination. Diagnostic methods confirmed the presence of a 6.6 mm calculus at the left vesicoureteral junction. Utilizing a holistic *Ayurvedic* approach, the treatment strategy included a regimen of *ayurvedic* medications such as *MutravardhakVati*, *Stoni Cap*, and several others aimed at correcting physiological imbalances and enhancing the body's natural elimination processes. Over two months of treatment, significant clinical improvement was observed. Ultrasonography post-treatment showed complete dissolution of the renal calculus and subjective assessments reported a complete resolution of pain and gastrointestinal symptoms. The case underscores the potential of *Ayurvedic* medicine in treating renal calculi effectively, challenging the necessity for invasive procedures. It also highlights the importance of further scientific studies to validate these treatments, suggesting a need for rigorous controlled trials to establish a comprehensive, integrative approach to manage renal calculi effectively.

Keywords: - Renal Calculi, *Ayurveda*, *Mutrashmari*, Non-invasive Therapy

Introduction

Renal calculi or kidney stones, are prevalent urological condition affecting diverse populations around the globe. Epidemiological studies suggest that up to 12% of the global population will encounter renal stones at some point in their lifetime, with a high recurrence rate of nearly 50% within five years in the absence of preventive measures¹. An upward trend in the incidence of kidney stones correlates with a rise in risk factors such as obesity and diabetes mellitus².

From a modern medical standpoint, kidney stones primarily consist of minerals like calcium oxalate, uric acid, struvite or cystine. These compositions relate directly to varying factors such as dietary habits, fluid consumption and genetic predispositions³. Typically, the clinical manifestation of renal calculi becomes evident when a stone obstructs part of the urinary tract, causing severe pain and often propelling individuals to seek medical assistance.

In classical *Ayurvedic* medicine, found extensively in the ancient texts of India, kidney stones are referred to as "*Mutrashmari*" ('*Mutra*' meaning urine, and '*Ashmari*' meaning stone). The traditional *Ayurvedic* texts describe the formation of these stones as a result of a disruption in the body's doshas - *Vata*, *Pitta* and *Kapha*⁴. It is particularly noted that an aggravation of the *Vata dosha* leads to disturbances in the *Pitta* and *Kapha doshas*, culminating in the crystallization of waste materials in the urinary system. This theory underscores a significant divergence from the biochemical perspective of modern medicine, offering a holistic approach to understand the ailment.

The *Ayurvedic* methodology in treating *Mutrashmari* encompasses a comprehensive treatment regime aimed at restoring the balance of *doshas*. This often includes dietary adjustments, lifestyle changes and the use of specific herbs known for their therapeutic properties. Notably, herbs such as *Gokshura* (*Tribulusterrestris*), *Varuna* (*Crataevanurvala*), and *Pashanabheda* (*Bergenia ligulata*) are incorporated for their diuretic, lithotriptic (stone-breaking) and anti-inflammatory effects⁵.

The exploration of renal calculi across both modern and *Ayurvedic* practices illuminates a multifaceted understanding of the condition, benefiting from both advanced scientific

research and centuries of traditional insights. Thus, a synergistic approach marrying these two perspectives may enhance the efficacy of treatments and broaden the scope of preventive strategies against this painful and recurrent disease.

Case Report

Patient History and Information: A 35-year-old male, non-smoker, been experiencing recurrent renal calculi for approximately 6-7 months. The patient presented with symptoms including right flank pain, nausea and intermittent painful urination. About a month prior to his current visit, he suffered from renal colic. Moreover, the patient reported experiencing stress and anxiety, general weakness and occasional gaseous distention. His appetite was noted to be reduced, though his bowel movements remained regular. There was no significant family history of similar conditions. Regarding previous treatments, the patient did not report any specific use of *Ayurvedic* or allopathic medications related to his condition prior to this consultation.

Diet and Lifestyle History: The patient had a regular diet without specific dietary modifications and was living a moderately active lifestyle.

Surgical History: No significant surgical history was reported.

Medicine History: He has not been on constant medication prior to this episode, nor has been diagnosed nor treated for other systemic diseases.

Family History: There is no known family history of renal calculi or related metabolic disorders.

Onset and Progression of the Disease: The patient first noted symptoms of renal calculi approximately 6-7 months ago. The initial symptoms were less severe but have progressively worsened, leading to several episodes of noticeable pain and discomfort, culminating in an acute episode of renal colic one month prior to his current presentation.

Vital Parameters: Upon examination, the patient's vital signs were within normal limits. Blood pressure, heart rate, respiratory rate and temperature were all recorded and found to be stable, reflecting no immediate distress or systemic infection.

Ayurvedic Examination

Table 1. DashavidhaPariksha (Ten-fold Examination)

Sr. No	Examination	Findings
1.	Prakriti (Constitution):	<i>Vata Pitta</i>
2.	Vikriti (Imbalance):	<i>Vata Kapha</i>
3.	Sara (Tissue Excellence):	<i>Madhyam</i>
4.	Samhanana (Body Build):	Moderate
5.	Pramana (Body Proportions):	Within normal limits.
6.	Satmya (Adaptability):	Moderate
7.	Satva (Psychological Strength):	<i>Madhyam</i>
8.	Ahara Shakti (Digestive Strength):	<i>Madhyam</i>
9.	Vyayama Shakti (Exercise Capacity):	Moderate
10.	Vaya (Age):	<i>Madhyam</i>

Systemic Examination

1. **General Appearance:** No visible abnormalities
2. **Cardiovascular System (CVS):** No Abnormality detected.
3. **Respiratory System (RS):** Normal breath sounds.
4. **Gastrointestinal System (GIT):** Gaseous Distension occasionally
 - a. Abdominal Inspection: No abnormalities such as distension, visible masses or no scars were noted.
 - b. Abdominal Palpation: The abdomen was soft, non-tender, with no palpable masses or no organ enlargement observed. Dull Pain in the left iliac region.

- c. Abdominal Auscultation: Bowel sounds were regular, indicating normal bowel motility and function.
- d. Percussion: Revealed normal tympany and dullness, suggesting healthy organ anatomy.

5. **Central Nervous System (CNS):** Stress, Anxiety

6. **Skin:** No Abnormality detected

Ayurveda Samprapti

In Ayurveda, the condition of renal calculi, known as *Mutrashmari*, is understood through a detailed pathogenesis involving the *doshas*, *dhatu* (tissues) and *malas* (waste products). Primarily, the disturbance in *Apana Vayu*, a subtype of *Vata* dosha responsible for downward movement and elimination processes, leads to improper evacuation and dryness in the urinary tract, facilitating mineral crystallization. Secondary contributions may come from *Pitta*, promoting acidic urine conducive to uric acid stones, and *Kapha*, leading to calcium-enriched urine resulting in calcium oxalate stones. The involvement of *Meda* (fatty tissue) and *Asthi* (bone tissue) *dhatu*s indicates metabolic dysfunctions influencing mineral balance in the body. Furthermore, improper digestion due to imbalanced *Jatharagni* (digestive fire), especially in the stomach and intestines, can result in the production of *Ama* (toxins), promoting stone formation.

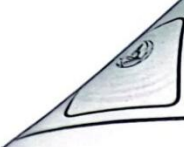
SampraptiGhataka :

1. ***Dosha-VataPittaja***
2. ***Dushya - Rasa Rakta***
3. ***Agni - Manda (Less)***
4. ***Avastha - Jeerna (Chronic)***
5. ***Rog Marga - Madhyama***
6. ***SadhyaAsadhyatva - Sadhya***

Diagnostic Assessment:

Ultrasonography of the abdomen confirmed the dilated pelvicalyceal system(mild-grade) and ureter and presence of a 6.6 mm calculus at the leftVU junction. No hydronephrosis was observed.

Image 1 – Before Treatment

 Zaina Diagnostic & Imaging Centre ULTRASOUND, COLOUR DOPPLER, DIGITAL X-RAY, OPG, ECG, ECHO & PATH LAB	
Patient Name : <input type="text"/>	Referral : Self
Age / Gender : 35 years / Male	Patient ID : 30605
Collection Time : Aug 29, 2023, 10:12	Reporting Time : Aug 29, 2023, 10:33

RADIOLOGY

USG WHOLE ABDOMEN (MALE)

LIVER: Normal in size (12.5 cm), shape and echotexture. No focal or diffuse lesion/SOL seen. Hepatic veins radicals are normal. No dilated Intra-hepatic biliary radicals seen. Portal vein is normal.

GALL BLADDER : Gall Bladder is distended , lumen is normal . GB wall is normal. Common bile duct is normal.

PANCREAS: Normal in size, shape & echo-texture. Pancreatic duct is not dilated.

SPLEEN:Normal in size (9.5 cm) shape and & echotexture, no evidence of any focal or diffuse lesion. Splenic vein is not dilated.

KIDNEYS: (Rt kidney -92 x 42 mm , Lt kidney - 99 x 45mm)

Left Kidney - Evidence of dilated pelvicalyceal system (mild grade) and ureter and a calculus (6.6mm) in left VU junction of the ureter.

Rt Kidney - normal in size, shape & echo-texture with clear differentiation between cortex & medulla. No stone/mass or hydronephrosis seen. Pelvi-calyceal system is normal. No dilatation of upper 1/3 rd of both ureters seen. No Perinephric fluid collection seen.

URINARY BLADDER: Distended, wall thickness is normal. No stone / mass/ diverticula.

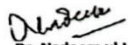
PROSTATE: Normal in size ,shape and echotexture

OTHERS: No evidence of lymphadenopathy or mass lesion in retroperitoneum.

No free fluid is seen in peritoneal cavity.

Visualized bowel loop appear normal.

Correlate clinically


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Treatment Plan

I. Diet Plan:[10]

The dietary guidelines provided by Jeena Sikho Lifecare Limited Clinic Karolbagh include the following key recommendations:

a. Foods to be avoided:

- Do not consume wheat, refined food, milk and milk products, coffee and tea and packed food.
- Avoid eating after 8 PM.
- During solid consume as small bite and chew 32 times.

Image 2 – After Treatm

Zaina Diagnostic & Imaging Centre ULTRASOUND, COLOUR DOPPLER, DIGITAL X-RAY, OPG, ECG, ECHO & PATH LAB	
Patient Name : Age / Gender : 35 years / Male Collection Time : Oct 01, 2023, 09:10	Referral : <input type="text"/> Patient ID : 33113 Reporting Time : Oct 01, 2023, 09:52

RADIOLOGY

USG WHOLE ABDOMEN (MALE)

LIVER: Normal in size (13.5 cm), shape and echotexture. No focal or diffuse lesion/SOL seen. Hepatic veins radicals are normal. No dilated Intra-hepatic biliary radicals seen. Portal vein is normal.

GALL BLADDER: Gall Bladder is distended, lumen is normal. GB wall is normal. Common bile duct is normal.

PANCREAS: Normal in size, shape & echo-texture. Pancreatic duct is not dilated.

SPLEEN: Normal in size (9.2 cm) shape and & echotexture, no evidence of any focal or diffuse lesion. Splenic vein is not dilated.

KIDNEYS: (Rt kidney - 96 x 42 mm, Lt kidney - 93 x 40 mm) Both Kidneys are normal in size, shape & echo-texture with clear differentiation between cortex & medulla. No calculus/mass or hydronephrosis seen. Pelvi-calyceal system is normal. No dilatation of upper 1/3 rd of both ureters seen. No Perinephric fluid collection seen.

URINARY BLADDER: Distended, wall thickness is normal. No stone / mass/ diverticula.

PROSTATE: Normal in size, shape and echotexture

OTHERS: No evidence of lymphadenopathy or mass lesion in retroperitoneum.
 No free fluid is seen in peritoneal cavity.
 Visualized bowel loop appear normal.

Correlate clinically

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b. Hydration:

- During water intake, take sip by sip and drink slowly to ensure the amount of water intake each time.
- Drink about 1 liter of alkaline water 3 to 4 times throughout the day.
- Include Herbal tea, living water and turmeric-infused water part of daily routine.
- Boil 2 liters of water & reduce up to 1 liter and consume.

c. Millet Intake:

- Incorporate five types of millet into your diet: Foxtail (*Setaria italica*), Barnyard (*Echinochloa esculenta*), Little (*Panicum sumatrense*), Kodo (*Paspalum scrobiculatum*) and Browntop (*Urochloa ramosa*).

- Use only steel cookwares for preparing the millets
- Cook the millets only using mustard oil.

d. Meal Timing and Structure:

1. Early Morning (5:45 AM): Herbal tea, curry leaves (1 leaf-1 min/5 leaves-5 min) along with raw ginger and turmeric.
2. Breakfast (9:00-10:00 AM): The patient had given steamed fruits (Seasonal), steamed sprouts (according to the season) and a fermented millet shake (4-5 types).
3. Morning Snacks (11:00AM): The patient had given Red juice (150 ml) and soaked almonds.
4. Lunch (12:30 PM - 2:00 PM): The patient had received Plate 1 and Plate 2. Plate 1 will include a steamed salad, while Plate 2 with cooked millet-based dish along with raw ginger and turmeric.
5. Evening Snacks (4:00 – 4:20 PM): Green juice (100-150 ml) along with 4-5 almonds.
6. Dinner (6:15-7:30 PM): The patient had served a steamed salad, chutney and soup, as Plate 1, along with millet khichdi as Plate 2 along with raw ginger and turmeric.

e. Fasting:

- It is advised to observe one-day fasting.

f. Special Instructions:

- Express gratitude to the divine before consuming food or drinks.
- Sit in *Vajrasana* (a yoga posture) after each meal.
- 10 minutes slow walk after every meal.

g. Diet Types:

- The diet comprises salt-less solid, semi-solid and smoothie options.
- Suggested foods include Herbal tea, red juice, green juice, a variety of steamed fruits, fermented millet shakes, soaked almond and steamed salads.

II. Lifestyle Recommendations were-

- (i) Include meditation for relaxation.
- (ii) Practice barefoot brisk walk for 30 minutes.
- (iii) Ensure 6-8 hours of quality sleep each night.
- (iv) Adhere to a structured daily routine.

Medicines

Table 2. First month – 28/08/2023

Medications	Dose	Anupana	Duration
MutravardhakVati	1 Tab BD	Lukewarm Water (<i>KoshnaJala</i>)	<i>Adhobhakta</i> (After Meal)
Stoni Cap	1 Cap BD	Lukewarm Water (<i>KoshnaJala</i>)	<i>Adhobhakta</i> (After Meal)
GIT Stimulator Syp	10 ml BD	Equal Amount of Lukewarm Water (<i>Sama Matra Koshna Jala</i>)	<i>Pragbhakta</i> (Before Meal)
BramhiVati	1 Tab BD	Lukewarm Water (<i>KoshnaJala</i>)	<i>Adhobhakta</i> (After Meal)

Table 3. Second Month – 30/09/2023

Medications	Dose	Anupana	Duration
Stoni Cap	1 Cap BD	Lukewarm Water (<i>KoshnaJala</i>)	<i>Adhobhakta</i> (After Meal)
MutravardhakVati	1 Tab BD	Lukewarm Water (<i>KoshnaJala</i>)	<i>Adhobhakta</i> (After Meal)
Amlapittanashak Cap	1 Cap BD	Lukewarm Water (<i>KoshnaJala</i>)	<i>Pragbhakta</i> (Before Meal)
GIT Stimulator Syp	10 ml BD	Equal Amount of Lukewarm Water (<i>Sama Matra Koshna Jala</i>)	<i>Pragbhakta</i> (Before Meal)

Follow-up and Outcomes:

After 2 months of *Ayurvedic* treatment, the results that were seen are-

Table 4 – Outcomes – Objective Parameters

Parameters	Pre-Treatment	Post-Treatment
Ultrasonographic Evaluation	Ultrasonography identified a 6.6 mm calculus at the left vesicoureteral (VU) junction.	Follow-up ultrasonography showed complete dissolution of the renal calculus.
Reduction in Gallstone Size	Average stone size 6.6 mm	No renal stones
Blood Pressure:	Recorded at 140/90 mmHg, indicating pre-hypertension	Normalized to 120/80 mmHg, within normal limits.

The changes in the subjective parameters that was observed are-

Table 5- Outcomes – Subjective Parameters

Parameters	Pre-Treatment	Post-Treatment
Pain Severity (VAS)	Patient reported severe pain, rated at 8 on a scale of 1-10 during episodes of renal colic.	Complete resolution of pain, rated at 0 on a scale of 1-10.
Gastrointestinal Symptoms:	Occasional gaseous distension and dull pain in the left iliac region.	Significant improvement in GI symptoms, with no reports of gaseous distension or abdominal pain

Discussion:

The management of renal calculi or *Mutrashmari*, through *Ayurvedic* treatment hinges on the concept of restoring balance among the *doshas* and cleansing the *strotas* (channels) to prevent the formation and facilitate the dissolution of stones. This case provides a significant example of how *Ayurvedic* formulations, combined with dietary and lifestyle modifications,

can serve as effective non-invasive treatments for renal calculi, potentially lowering the need for surgical interventions.

Contemporary research aligns with the efficacy of certain *Ayurvedic* herbs used in the treatment described. *Gokshura* (*Tribulusterrestris*) is acknowledged for its lithotriptic properties, enhancing urine output and solubilizing minerals in the urine, thereby preventing the aggregation into stones⁶. Similarly, the *Varuna* (*Crataevanurvala*) plant has been recognized for its nephroprotective and anti-urolithiatic activities due to its potent antioxidant properties⁷. *Pashanabheda* (*Bergenia ligulata*) has been traditionally used for its effects on breaking down renal stones and facilitating their expulsion by modulation of the crystalloid-colloid imbalance⁸.

The pharmacological actions of the medications used can be linked to their roles in breaking the *Samprapti* (pathogenesis) of *Ashmari*. *MutravardhakVati* and *Stoni Cap*, likely containing ingredients, aids in managing *Vata* and *Pitta dosha*, thus addressing the root causes by enhancing the digestive fire (*Agni*) and preventing crystallization of waste materials (*Ama*) in the urinary tract. These actions help in dissolving the existing stones and prevent new stone formation by balancing the metabolic activities and normalizing urine chemistry.

Furthermore, improved digestive strength (*Agni*) and GIT function suggested by cessation of gaseous distension symptoms may also indirectly support the elimination of toxins and prevent further stone formation. The use of *Bramhi Vati* and *GIT Stimulator Syp* could enhance psychological wellbeing and manage stress, which is vital because psychological stress can exacerbate *Vata dosha*, contributing to further physiological imbalances⁹.

The mechanism of action of the medicines that is used in this case are

- ***MutravardhakVati*** - *MutraVardhakVati* is an *Ayurvedic* formulation designed primarily to enhance urinary tract function and promote renal health. ***Gokhru*** is a key ingredient known for its diuretic properties, helps to increase urine output and manage kidney disorders. ***Guggul*** contributes anti-inflammatory and lipid-lowering effects, beneficial for overall kidney function. ***Sonth (dried ginger), Kalimirch (black pepper) and Pippali (long pepper)*** act synergistically to improve digestion and enhance the bioavailability of other *ayurvedic* components. ***Bahera, Harad and Amla*** form the trio known as *Triphala*, revered for its balancing effect on the *doshas* and its supportive role in detoxification and rejuvenation. ***Motha (Nut grass)*** aids in soothing urinary disorders and enhancing bladder health. Together, these

components of *MutraVardhakVati* work in harmony to support the kidneys' filtration capacity, reduce inflammation and promote overall urinary system health, making it an effective supplement for managing urinary tract disorders and supporting kidney function.

- **Stoni Cap** - Stoni Capsules are designed as an *Ayurvedic* formulation specifically aimed at preventing and dissolving kidney stones. The formulation combines various herbs and minerals known for their lithotriptic and diuretic properties. ***PashanBhed*** and ***Gokhru Chota*** are central to this formulation, known for their ability to dissolve stones and clear gravel from the urinary tract. ***Kulthi*** (Horse gram) is used for its benefits in breaking down renal stones. ***Pather bar***, ***Elaichi Badi*** (Greater Cardamom) and ***Jawakhar*** (Potash alum) works synergistically to cleanse the urinary system and soothe the urinary tract. ***Akshar*** further aids in the removal of stones. ***ShudhShilajeet*** acts as a rejuvenator, enhancing the repair of urinary organs, while ***HazralYahudBhasam*** helps in regulating urinary pH and reducing stone formation. Together, these ingredients work to effectively manage and prevent the formation of kidney stones, enhancing kidney health and promoting natural stone expulsion.
- **GIT Stimulator Syp** - The G.I.T. Stimulator Syp is a comprehensive *Ayurvedic* formulation designed to enhance overall digestive health. It blends numerous herbs such as ***Kutaj***, ***Chitrak*** and ***Nagarmotha*** for their abilities to regulate digestion and combat diarrhoea. Cooling agents like ***Ushir*** and ***Chandan*** soothe the stomach lining, while ***Kali Mirch*** and ***Haldi*** stimulates digestive enzymes, improving digestion and absorption. ***Vidanga*** and ***Chirata*** are included for their antiparasitic effects, enhancing gastrointestinal cleansing. Additionally, calming herbs such as ***Jatamansi*** and ***Tagar*** helps to manage stress-related digestive issues, contributing to a balanced digestive function. This formulation is well-rounded, targeting digestive efficiency, soothing irritation and providing anti-inflammatory benefits, making it ideal for maintaining a healthy gastrointestinal tract.
- **Brahmi Vati** - *Brahmi Vati* is a classical *Ayurvedic* formulation utilized for enhancing cognitive functions and managing stress-related disorders. The primary ingredient, ***Brahmi***, is well-known for its neuroprotective properties that enhance memory and cognitive function. ***Ras-sindur*** (purified mercury) is used in trace amounts for its revitalizing and detoxifying effects on the nervous system. ***Shilajeet*** contributes rejuvenating properties, improving overall vitality and stamina. ***Kalimirch*** (Black

pepper), *Vayavidanga* and *Pippali* (**Long pepper**) are included to enhance digestion and bioavailability of other ingredients, promoting better assimilation and effectiveness. *AbhrakBhasma* and *Vang Bhasma* are mineral preparations added for their therapeutic effects on mental agility and nervous system health. Collectively, this formulation supports mental acuity, manages stress, and improves overall brain health, positioning Brahmi Vati as a beneficial adjunct in the management of cognitive disorders and mental fatigue.

- **Amlapittanashak Cap** – AmlapittNashak Cap is formulated primarily to address hyperacidity and related digestive complaints. *Mulethi* (**Licorice**) acts as a soothing agent, reducing gastric irritation and protecting the mucosal lining. *Pudina* (**Mint**) offers a cooling effect and helps to alleviate stomach discomfort. *Hing* (**Asafoetida**) and *Jeera* (**Cumin**) are known for their carminative properties that enhance digestion and reduce gas formation. *Chitrak* and *Ajwain* (**Carom seeds**) stimulates digestive enzymes, aiding in effective digestion and relief from indigestion. *Marich* (**Black pepper**), *Pipal* (**Long pepper**) and *Shunthi* (**Dried ginger**) collectively enhance gastrointestinal motility and improve absorption, thus reducing acidity. *Amla*, *Haritaki* and *Vibhitak* forms *Triphala*, which is revered in *Ayurveda* for its balancing properties on the *doshas* and its beneficial effects on the stomach and intestines. *ShankhBhasam* is an antacid that neutralizes stomach acid, providing relief from heartburn. *Bhawnadravya*, a liquid media used during the processing of these tablets, incorporates additional *ayurvedic* extracts that synergize and augment the tablet's efficacy. Together, these ingredients make AmlapittNashak Cap, effective in managing acidity, promoting digestion and maintaining overall gastrointestinal health.

A key consideration in *Ayurvedic* treatment is its holistic approach, focusing not only on treating the disease but also on promoting overall health. This case demonstrates improvement in both specific symptoms related to renal calculi and general health parameters such as blood pressure and stress levels, reflecting the comprehensive nature of *Ayurvedic* treatment.

As renal calculi are becoming more common due to lifestyle and dietary factors, an effective, non-invasive treatment option like *Ayurveda* could be of significant interest.

In summary, the patient's recovery can be attributed to the strategic use of *Ayurvedic* formulations designed to break the pathogenesis cycle (*SampraptiVighatana*) of

Mutrashmari, coupled with improvements in lifestyle and dietary habits. The results recommend a deeper scientific exploration into the mechanisms and efficacy of these treatments.

Need for Further Research

The promising outcomes demonstrated in this case report necessitate further scientific exploration into *Ayurvedic* treatments for renal calculi. Crucially, there is a need for rigorous randomized controlled trials to reliably compare the efficacy and safety of *Ayurvedic* interventions against standard medical treatments. Additionally, in-depth studies into the pharmacological mechanisms of action of *Ayurvedic* herbs could enhance understanding and optimize therapeutic protocols. Longitudinal research is also required to assess the long-term effectiveness of these treatments and their impact on stone recurrence. Moreover, integrating *Ayurvedic* practices with conventional medical approaches may offer more comprehensive care models. Finally, expanding research to include diverse demographic groups would help to tailor therapies to different population needs, enhancing the applicability and effectiveness of *Ayurvedic* treatments for renal calculi globally.

Conclusion:

The effective management of renal calculi in this patient through *Ayurvedic* practices exemplifies the profound capabilities of traditional medical systems in addressing modern health concerns. Within a six-week treatment framework, the patient achieved complete dissolution of a 6.6 mm renal calculus, an impressive outcome underscoring the treatment's efficacy. Additionally, there was a normalization of the patient's blood pressure and resolution of his gastrointestinal symptoms, further demonstrating the holistic benefit of the *Ayurvedic* approach.

This clinical success can be attributed to the multifaceted *Ayurvedic* treatment regimen tailored to the patient's specific condition, which focused on correcting physiological imbalances and addressing both the symptoms and underlying causes of *Mutrashmari* (renal calculi). The *Ayurvedic* interventions were carefully designed to disrupt the pathogenesis of the disease by balancing the *doshas* involved, enhancing the digestive fire (*Jatharagni*) and facilitating the elimination of toxins that contribute to stone formation.

Investigations prior to initialization of the treatment confirmed the presence of the calculus and helped in tailoring the intervention precisely. Over the course of treatment, follow-up

assessments were crucial in monitoring the reduction in stone size and the improvement in vital parameters, confirming both the disappearance of the kidney stone and the restoration of health markers such as blood pressure.

In conclusion, the holistic and individualized approach of *Ayurveda* not only addressed the immediate clinical symptoms presented by the renal calculi but also promoted an overall enhancement of health, validating the integration of traditional medicinal practices with modern clinical methods to provide comprehensive patient care.

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