

Efficacy of Laghupanchamula kwatha in the Resolution of Mutrashmari: A Case Study

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Abstract

Background: Mutrashmari (renal calculi) is a prevalent urological condition characterized by intense pain and urinary obstruction. In Ayurvedic practice, Laghupanchamula Kwatha is traditionally indicated for its lithotriptic and diuretic properties.

Case Presentation: A 30-year-old male presented with a 2-day history of acute, intermittent left-flank pain radiating to the groin, accompanied by microscopic hematuria. Ultrasonography (USG) of the KUB region confirmed a 5 mm solitary calculus in the lower pole of the left kidney. Based on the Ayurvedic diagnosis of Mutrashmari, the patient was administered Laghupanchamula Kwatha at a dose of 50 ml twice daily for 21 days.

Outcome: Following the 21-day treatment regimen, the patient reported complete resolution of flank pain and dysuria. A follow-up assessment on the 22nd day, followed by subsequent monitoring on the 28th and 35th days, revealed significant clinical improvement. Repeat investigations confirmed the absence of hematuria and the complete clearance of the renal calculus on USG KUB.

Conclusion: This case suggests the potential efficacy of Laghupanchamula Kwatha as a non-invasive, cost-effective therapeutic intervention for the management of small renal calculi. Further randomized clinical trials are warranted to validate these findings and establish standardized protocols.

1. INTRODUCTION

Mutrashmari (renal calculi) is recognized as one of the Ashtamahagada (eight formidable diseases) in Ayurvedic literature [1, 2], owing to its clinical complexity and potential for severe suffering. It is primarily characterized as a Kapha-predominant Tridoshaja vyadhi (a disorder involving an imbalance of all three doshas) that disrupts the Mutravaha srotas (urinary system) [2, 5]. In contemporary clinical practice, Mutrashmari is clinically correlated with urolithiasis.

The condition often presents with symptoms such as Mahati vedana (severe pain), Sarudira-mutrata (hematuria), Nabhi pradesh vedana (pain in the umbilical region), and Mutradhara sanga (obstruction of urine flow). Renal calculi represent a significant global health burden, with an increasing prevalence in India, where the incidence is estimated at approximately 12% [3, 4]. Among the population, the condition is highly common in the 30-50 age demographic, with a male-to-female ratio of 4:3. The recurrence of stone formation remains a persistent challenge, affecting nearly 50% of patients

within 5-7 years, often exacerbated by modern dietary patterns and sedentary lifestyles [3, 14].

While surgical interventions such as cystolithotomy, nephrolithotomy, and ureterolithotomy are standard protocols for advanced or obstructive cases, these procedures are often associated with high costs and potential post-surgical complications [2, 9, 14]. Consequently, there is a clinical imperative to explore conservative, evidence-based Ayurvedic approaches that offer non-invasive relief. Laghupanchamula, a traditional polyherbal formulation consisting of Shalaparni, Prishniparni, Brhati, Kantakari, and Gokshura, is documented in classical texts for its therapeutic potential in managing urinary disorders [5, 15]. This case study evaluates the efficacy of Laghupanchamula kwatha in the resolution of a 5 mm solitary renal calculus, aiming to contribute clinical evidence for its role in the management of Mutrashmari.

records of diabetes mellitus, hypertension, tuberculosis, or thyroid disorders [3]. Personal history revealed a non-vegetarian diet, reduced appetite, disturbed sleep patterns, and chronic constipation.

Clinical Examination

Physical Examination: The patient was conscious and oriented, though visibly uncomfortable during episodes of spasm. He was hemodynamically stable with a blood pressure of 120/80 mmHg, a pulse of 78 bpm, and a temperature of 98.6°F (37°C). Abdominal examination revealed a soft, non-distended abdomen with mild to

2. CASE PRESENTATION

Patient Information

A 30-year-old male presented to the outpatient department with a 2-day history of acute-onset, intermittent, colicky pain localized in the left flank region. The patient reported that the pain radiated toward the left iliac fossa and groin. He noted mild nausea but explicitly denied episodes of vomiting, fever, chills, or gross hematuria. His past medical history was non-contributory, with no

moderate tenderness elicited upon deep palpation of the left lumbar region. Clinical evaluation confirmed positive left-sided costovertebral angle tenderness (renal angle tenderness).

Ashtavidha Pariksha (Ayurvedic Examination):

- Nadi (Pulse): Vata-Kaphaja.
- Mutra (Urine): Vibandha (constricted/obstructed).
- Mala (Stool): Prakruta (normal).
- Jivha (Tongue): Saama (coated).
- Shabda (Speech): Prakruta (normal).
- Sparsha (Touch): Samashitoshna (normal body temperature).
- Druk (Eyes): Prakruta (normal).
- Akriti (Built): Madhyama (moderate).

Diagnostic Assessment

- Urinalysis: Revealed microscopic hematuria (5-10 RBCs/hpf) and a pH of 6.2. No pyuria, nitrites, or crystals were observed.
- Hematology & Biochemistry: Serum creatinine (0.9 mg/dL), blood urea nitrogen, and serum calcium levels were within physiological limits, and the complete blood count showed no leukocytosis.

- Ultrasonography (USG) of KUB: Confirmed a solitary, echogenic focus measuring 5 mm in the lower pole of the left kidney, casting a distinct posterior acoustic shadow. No significant hydronephrosis or proximal ureteral dilatation was noted, and the right kidney, urinary bladder, and prostate appeared normal.

3. INTERVENTIONS

The patient was diagnosed with Mutrashmari and prescribed Laghupanchamula kwatha at a dose of 50 ml twice daily (BD) before food for a duration of 21 days. Clinical management focused on the reduction of pain and the expulsion of the calculus.

Assessment Framework: Grading Parameters

To objectively measure clinical improvement, the patient's condition was assessed using established grading scales for subjective and objective parameters.

Subjective Parameters

- Abdominal Pain (Flank to Groin): Graded on a scale from 0 (No Pain) to 4 (Severe constant pain without relief).
- Dysuria (Painful Micturition): Graded from 0 (No Painful Micturition) to 3 (Severe Painful Micturition)

The severity of clinical symptoms is classified according to the following grading systems:

Symptom	Grade 0	Grade 1	Grade 2	Grade 3	Grade 4
Abdominal Pain (Flank to Groin)	No Pain	Occasional pain	Occasional pain, but required treatment	Constant dull ache pain	Severe constant pain, did not show relief
Dysuria (Painful Micturition)	No Painful Micturition	Mild Painful Micturition	Moderate Painful Micturition	Severe Painful Micturition	N/A

Table No. 1: Grading system to measure severity of clinical symptoms

Objective Parameters

- Hematuria (Urine Routine): Graded based on the count of RBCs/hpf, ranging from Grade 0 (No RBC/Hpf) to Grade 4 (>16 RBC/Hpf).
- Size of Renal Calculi (USG KUB): Graded from 1 (Small stones <5 mm) to 4 (Very large stones >20 mm).

The objective status is evaluated through urinalysis and diagnostic imaging:

Parameter	Grade 0	Grade 1	Grade 2	Grade 3	Grade 4
Hematuria (Urine Routine)	No RBC/Hpf	0-5 RBC/Hpf	6-10 RBC/Hpf	11-15 RBC/Hpf	>16 RBC/Hpf
Size of Renal Calculi (USG KUB)	N/A	Small: <5 mm	Medium: >5 mm and ≤10 mm	Large: >10 mm and ≤20 mm	Very Large: >20 mm

Table No. 2: Grading system to evaluate objective criteria

Course During Treatment and Follow-up

The patient's therapeutic journey spanned a total of 35 days, structured into three distinct phases.

- **Active Treatment (Day 1 to Day 21):** The patient received Laghupanchamula Kwatha at a dosage of 50 ml twice daily (BD) before food.
- **After-Treatment Assessment (Day 22):** A comprehensive evaluation was conducted to assess the immediate response to the 21-day intervention.

Follow-up Period:

- **First Follow-up (Day 28):** Performed 7 days post-treatment to monitor the sustained status of clinical symptoms.
- **Second Follow-up (Day 35):** Performed 14 days post-treatment for final clinical and objective observation.

Initial and Final Assessment

The efficacy of the intervention was determined by comparing the baseline diagnostic gradations with post-treatment findings.

Initial Baseline Assessment:

Prior to treatment, the patient presented with acute clinical symptoms corresponding to a diagnosed 5 mm left-sided renal calculus, accompanied by microscopic hematuria (5-10 RBCs/hpf).

Final Assessment:

Clinical Signs & Symptoms: The primary success indicator was the reduction of abdominal pain and dysuria grades, aiming for complete resolution to Grade 0.

Objective Reductions: Success was confirmed through a repeat Urine Routine to evaluate the clearance of hematuria and a repeat USG KUB scan to verify the reduction or complete clearance of the 5 mm renal calculus.

Parameters	Initial Assessment (Day 1)	Final Assessment (Day 22-35)
Abdominal Pain	Grade 3 (Constant dull ache)	Grade 0 (No pain)
Dysuria	Grade 2 (Moderate painful micturition)	Grade 0 (No painful micturition)
Hematuria	Grade 2 (6-10 RBC/hpf)	Grade 0 (No RBC/hpf)
Size of Renal Calculi	Grade 1 (5 mm)	Resolved (Clearance observed)

Table No. 3: Clinical Assessment (Initial vs. Final)

4. DISCUSSION

Mutrashmari (renal calculi) presents a significant clinical challenge due to the intensity of pain and the high rate of recurrence [3, 14]. The pathophysiology, as understood in Ayurveda, involves Kapha-predominant Tridoshaja imbalance causing the accumulation of Ashmari (calculi) within the Mutravaha srotas [1, 2, 5]. The patient in this case study presented with classic symptoms, including flank pain, dysuria, and microscopic hematuria, which correlated with the ultrasound findings of a 5 mm calculus in the left kidney.

The selection of Laghupanchamula was based on its established pharmacological profile, which includes anti-inflammatory, diuretic, and lithotriptic (antilithic) properties [5, 6, 8]. In this study, the administration of Laghupanchamula kwatha (50 ml, BD) for 21 days demonstrated a favorable clinical outcome. The observed resolution of symptoms—specifically the reduction of abdominal pain and dysuria—can be attributed to the diuretic action of the formulation, which likely facilitated the washout of the calculus, and its anti-inflammatory effects, which reduced the irritation of the urinary tract.

The objective improvement was confirmed by the clearance of hematuria and the absence of the 5 mm calculus on repeat USG KUB imaging conducted during the post-treatment follow-up period. These findings align with traditional therapeutic indications where such decoctions are utilized to break down and expel small calculi without the need for invasive surgical procedures [1, 2, 9]. Given that modern surgical interventions can be costly and associated with potential complications, the efficacy demonstrated in this case highlights the potential of Laghupanchamula kwatha as a safe and accessible conservative management strategy for small renal calculi (≤ 7 mm) [6, 7]. While this result is promising, it underscores the need for larger, randomized clinical trials to further validate these

findings and standardize dosage protocols for broader clinical application.

5. CONCLUSION

This clinical case study highlights the therapeutic potential of Laghupanchamula kwatha in the management of Mutrashmari (renal calculi) [1, 6]. The 21-day administration of this traditional decoction resulted in the complete resolution of both clinical symptoms—including flank pain and dysuria—and objective evidence of the 5 mm calculus as confirmed by follow-up ultrasound.

The success observed in this patient suggests that Laghupanchamula kwatha serves as a safe, non-invasive, and cost-effective alternative to surgical intervention for small renal calculi (≤ 7 mm) [3, 9]. These findings provide preliminary evidence supporting the integration of traditional Ayurvedic formulations into contemporary urological management protocols [7]. However, to establish standardized treatment guidelines and confirm the broad efficacy of this intervention, further large-scale, randomized clinical trials are recommended.

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