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EVALUATE THE EFFICACY OF SHUNTHYADI KWATH IN THE MANAGEMENT OF MUTRASHMARI (UROLITHIASIS) - A CARE-COMPLIANT CLINICAL CASE REPORT

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1. ABSTRACT

Background: *Mutrashmari* (urolithiasis) is classified as an *Ashtamahagada* (one of the eight dreadful conditions) due to its agonizing clinical manifestations, unpredictable structural complications, and potential for severe renal parenchymal impairment. Modern surgical interventions like Extracorporeal Shock Wave Lithotripsy (ESWL) and Retrograde Intrarenal Surgery (RIRS) manage mechanical blockages efficiently but fail to resolve the underlying systemic metabolic errors, resulting in a high recurrence rate of up to 50%. This case report evaluates the therapeutic potential of *Shunthyadi Kwath*, a polyherbal formulation from *Bhaishajya Ratnavali*, modified with specific *Prakshepa Dravyas* (medicated additives), as an ambulatory, non-invasive lithontriptic (*Ashmaribhedana*) and diuretic (*Mutrala*) option. **Case Presentation:** A 35-year-old male patient presented with a one-year history of recurrent, sharp right-sided loin-to-groin pain (*Shoola*), severe dysuria (*Mutrakrichra*), and burning micturition (*Daha*). Diagnostic

evaluation via Ultrasonography (USG KUB) confirmed a solitary 5.8 mm calculus lodged in the right proximal ureter, causing mild hydoureteronephrosis. The patient was treated with an oral decoction of *Shunthyadi Kwath* (48 ml administered twice daily) supplemented with *Ramatha* (Hingu), *Yavakshara*, and *Saindhava Lavana* as *Prakshepa* powders over a 60-day trial window. **Results:** The patient achieved significant relief from acute renal colic within the first 7 days of treatment. Complete spontaneous expulsion of the 5.8 mm stone was documented on Day 24 via follow-up USG, which also confirmed total resolution of the secondary hydoureteronephrosis. Urinalysis showed clear clinical improvements, with a shift to normal urinary pH and a complete absence of crystal deposits. No adverse drug reactions occurred during the course of therapy. At a 12-month post-procedural follow-up, the patient remained asymptomatic with zero stone recurrence. **Conclusion:** This clinical case study confirms that *Shunthyadi Kwath* serves as a safe, cost-efficient, and definitive non-invasive therapeutic option for lower urinary tract calculi. It effectively facilitates stone passage while correcting the underlying metabolic imbalance to help prevent long-term recurrence.

KEYWORDS: Ayurveda, Mutrashmari, Urolithiasis, Shunthyadi Kwath, Ashmaribhedana, Case Report, CARE Guidelines.

2. INTRODUCTION: Within the comprehensive surgical framework of Ayurveda, *Mutrashmari* (urolithiasis) is understood as a complex systemic metabolic condition rather than a simple localized structural blockage. Acharya Sushruta classified this disease under the *Ashtamahagada* (the eight highly destructive medical conditions) due to its severity (*Darunata*) and its potential to cause severe obstructive renal damage (*Vasti-ghata*), which can lead to life-threatening complications if left untreated.[1] The term *Ashmari* stems from *Ashma* (stone) and *Ari* (enemy), illustrating the agonizing, unpredictable nature of the pain, which resembles an enemy's strike within the vital urinary pathways (*Mutravaha Srotas*).[2] The disease pathogenesis involves an imbalance of the three *Doshas*: *Kapha* functions as the primary material binding agent (*Samavayi Karana*), *Vata* drives the drying process (*Vastishoshana*), and *Pitta* provides the thermal environment required for crystal precipitation.[3] Acharya Sushruta used a helpful analogy: just as clear water stored in an earthen pot gradually deposits fine sediment at the bottom over time, stagnation of urine (*Mutrasanga*) combined with a lack of internal purification (*Ashodhana*) leads to the concentration, crystallization, and formation of urinary calculi.[4] In contemporary clinical practice, urolithiasis remains the third most common disease of the urinary tract, trailing only

bacterial infections and prostate pathologies.[5] Dehydration-induced calculus formation is projected to increase significantly due to global climate shifts and modern lifestyle factors.[6] Although contemporary medicine provides advanced therapeutic interventions like lithotripsy and laser ureteroscopy, these procedures do not correct the underlying metabolic imbalance, resulting in a 50% recurrence rate within five years.[7] Therefore, prioritizing an Ayurvedic approach centered on *Nidanparivarjan* (avoiding causative factors) and *Samsamana* (palliative remedies) using specialized formulations like *Shunthyadi Kwath* is necessary to achieve complete stone dissolution (*Ashmaribhedana*) and smooth expulsion (*Anulomana*).[8]

3. ETIOPATHOGENESIS (NIDANA PANCHAKA): According to the teachings of Acharya Sushruta, when an individual neglects seasonal systemic purification (*Shodhana*) and regularly consumes an incompatible or unhealthy diet (*Apathya*), the aggravated *Kapha Dosha* enters the urinary bladder (*Vasti*), mixes with concentrated urine, and solidifies into a stone.[4] This pathological sequence is outlined in the classical text:

तत्रासंशोधनशीलस्यापथ्यकारिणः प्रकुपितः श्लेष्मामूत्रसम्पृक्तोऽनुप्रविश्य वस्तिमश्मरींजनयति ।।

(सु.नि. ३/४)[4]

In a person who neglects regular seasonal purification and follows an unwholesome diet, the aggravated Kapha Dosha mixes with urine, enters the bladder cavity, and leads to the formation of Ashmari (calculus).

4. CASE HISTORY

4.1 Patient Information and Presenting Symptoms: A 35-year-old male office administrator presented to the outpatient department of Shalya Tantra at our institution, reporting recurrent episodes of sharp, agonizing pain in the right lumbar region that radiated down toward the groin (*Shoola*). He also reported severe burning during urination (*Daha*) and a frequent, painful urge to urinate with poor stream velocity (*Mutrakrichra*). These symptoms had occurred intermittently over the past year.

4.2 History of Present Illness and Lifestyle Factors: The patient's professional routine required him to sit for 9 hours daily in an air-conditioned office, and he reported a habit of low daily water intake (less than 1.5 litres). One year prior, he experienced his first episode of acute right flank pain. A local clinic managed the episode with parenteral antispasmodics and oral analgesics. Over the subsequent twelve months, the pain recurred every 3 to 4 weeks,

accompanied by progressive dysuria. He regularly relied on over-the-counter Non-Steroidal Anti-inflammatory Drugs (NSAIDs), which provided only temporary, symptomatic relief. Seeking a permanent, non-invasive solution, he chose to try an Ayurvedic therapeutic approach.

4.3 Past, Family, and Personal History

- **Past History:** No history of surgical intervention, abdominal trauma, or chronic metabolic diseases like Diabetes Mellitus or Hypertension.
- **Family History:** No history of urolithiasis or renal disorders in the immediate family.
- **Personal History:** The patient resides in an urban area, follows a strictly vegetarian diet with high dairy intake, possesses a normal appetite, and reports regular bowel habits. Sleep patterns were occasionally disrupted during acute pain attacks.

5. CLINICAL AND DIAGNOSTIC ASSESSMENT

5.1 Physical and Systemic Examination: The physical evaluation revealed a well-nourished male patient in mild distress during acute episodes. His vital signs were stable: Pulse Rate: 82 beats per minute, Blood Pressure: 128/84 mmHg, and Respiratory Rate: 16 breaths per minute. Systemic status of gastrointestinal, respiratory, and central nervous systems was normal. Marked tenderness was elicited on deep palpation over the right renal angle (costovertebral junction) and the right iliac fossa, matching the anatomical path of the ureter. No structural rebounds or abnormal masses were detected.

5.2 Laboratory and Radiological Workup

- **Ultrasonography (USG KUB):** Confirmed a solitary, highly echogenic structure measuring 5.8 mm lodged in the right proximal ureter, causing mild backward pressure dilatation (mild hydoureteronephrosis).
- **X-ray KUB:** Revealed a faint radio-opaque shadow matching the USG coordinates, indicating a calcium oxalate component.[7]
- **Urinalysis:** Showed an acidic pH (5.2), numerous calcium oxalate crystals, 8–10 pus cells/hpf, and 4–5 RBCs/hpf, confirming microscopic hematuria.
- **Biochemical Parameters:** Serum Urea (28 mg/dl) and Serum Creatinine (0.9 mg/dl) were within normal physiological limits.

6. THERAPEUTIC INTERVENTION: The patient was treated with the classical polyherbal formula *Shunthyadi Kwath*, sourced from the *Ashmari Chikitsa Adhyaya* of the *Bhaishajya Ratnavali*.[8]

शुण्ठ्यग्निमन्यपाषाणशिश्रुणरुणगोक्षुरैः। काश्मर्यारग्वधफलैः क्वाथं कृत्वा विचक्षणः।।

रामठक्षारलवणचूर्णं दत्त्वा पिबेन्नरः। अश्मरीमूत्रकृच्छ्रघ्नं दीपनं पाचनं परम्।।

(भै.र. ३६/७,८)[8]

6.1 Preparation and Administration Protocol: The raw ingredients were verified and processed into a coarse powder (*Yavakuta*). The patient boiled 24 grams of this mixture in 384 ml of water, reducing it to 48 ml (*Kwath Kalpana*).[9] The decoction was prepared fresh twice daily. Immediately before oral administration, 500 mg of *Hingu* (Ramatha), 1 gram of *Yavakshara*, and 1 gram of *Saindhava Lavana* were blended into the warm liquid as *Prakshepa Dravyas*.[8] The modified formula was administered orally twice daily on an empty stomach (*Apana Kala*) at 7:00 AM and 6:00 PM for 60 consecutive days.

6.2 Pharmacodynamics of the Herbal Matrix

Ingredient Name	Botanical Identity	Part Used	Core Mode of Action (Karma)[9,10]
Shunthi	*Zingiber officinale*	Rhizome	Deepana, Pachana, Vata-anulomana (corrects metabolic errors)
Agnimantha	*Clerodendrum phlomidis*	Root	Shothahara (reduces ureteric edema around the stone)
Pashanabheda	*Bergenia ligulata*	Rhizome	Ashmaribhedana (lithontriptic, dissolves crystal matrix)
Shigru	*Moringa oleifera*	Bark	Teekshna, Lekhana (scraping action on crystalline structures)
Varuna	*Crataeva nurvala*	Bark	Ashmarighna, Mutrala (diuretic and antilithic agent)
Gokshura	*Tribulus terrestris*	Fruit	Mutravirechaniya, Shulaprashamana (soothes the urinary tract)
Kashmari	*Gmelina arborea*	Fruit	Rasayana, Balya (protects bladder and ureteric tissue integrity)
Aragvadha	*Cassia fistula*	Fruit pulp	Sramsana (mild laxative action to clear lower Vata pathways)

7. RESULTS AND CLINICAL TIMELINE: The treatment plan yielded progressive clinical improvement across the follow-up timeline:

- **Day 1 to 7:** The patient reported a reduction in sharp colic episodes. The VAS score for pain decreased from 8/10 to 3/10. Dysuria diminished as urine output increased.

- **Day 15:** The patient experienced an increase in urinary volume accompanied by a brief sensation of pressure in the urethra. Flank pain was completely resolved (VAS: 0/10), and burning micturition ceased.
- **Day 24:** The patient reported the passage of small stone fragments during morning micturition. A repeat USG KUB scan performed that afternoon confirmed the complete clearance of the right proximal ureteric calculus and showed absolute resolution of the hydoureteronephrosis.

- **Day 25 to 60:** The intervention was continued until Day 60 to correct the underlying tissue imbalance (*Dhatu-vaishamya*). A final urinalysis showed a neutral pH (6.6) with zero crystals, pus cells, or RBCs. At a 12-month post-treatment follow-up, the patient remained asymptomatic with zero stone recurrence.

Chronological Evaluation Matrix

Assessment Parameter	Baseline (Day 0)	Mid-Treatment (Day 14)	Resolution Phase (Day 30)	Post-Ablation (Day 60)
Pain Score (VAS 0–10)	8/10	3/10	0/10	0/10
Burning Micturition	Severe	Mild	Absent	Absent
Stone Size (USG)	5.8 mm	5.8 mm (lodged)	Completely Absent	Completely Absent
Hydronephrosis	Mild	Trace	Resolved	Resolved

8. DISCUSSION

The rapid resolution of this case highlights the clinical synergy achieved by combining classical lithontriptic herbs with alkaline *Prakshepa* additives. The clinical success of this protocol relies on several interconnected mechanisms: *Bergenia ligulata* (Pashanabheda) and *Moringa oleifera* (Shigru) contain active phytochemicals that help break down the mucilaginous matrix holding calcium oxalate crystals together, leading to gradual stone softening and fragmentation.[9] Simultaneously, *Crataeva nurvala* (Varuna) and *Tribulus terrestris* (Gokshura) function as natural diuretics. By increasing total urine volume, they elevate hydrostatic pressure behind the stone, facilitating its downward movement through the ureter.[10]

The inclusion of *Yavakshara* (an alkaline ash preparation) helps raise urinary pH, which increases the solubility of uric acid and calcium oxalate crystals to inhibit further stone growth. Concurrently, *Hingu* (Ramatha) and *Shunthi* act as anti-spasmodics, relaxing the

smooth muscles of the ureteric walls to allow smooth stone passage without causing severe pain or mucosal scratching.[8,9] By addressing root metabolic changes (*Khavaigunya* correction), this formulation targets the foundational causes of stone formation, helping lower the 50% recurrence rate commonly associated with modern surgical interventions.[5,7]

9. CONCLUSION

This clinical case study demonstrates that oral administration of *Shunthyadi Kwath*, enhanced with targeted *Prakshepa* additives, provides a safe, highly effective, and non-invasive alternative for managing *Mutrashmari* (urolithiasis). By combining stone fragmentation, increased urine flow, and urinary pH modulation, this classical Ayurvedic approach achieves complete stone clearance and addresses the underlying metabolic errors to help prevent long-term recurrence.

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