



# A Study on Etiopathogenesis and Diagnosis of Mootrashmari with Special Reference to Urolithiasis

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**Abstract :** Mootrashmari, traditionally known as urolithiasis in modern medicine, is a significant urological disorder with a rich historical context documented extensively in Ayurvedic texts by Sushruta and Charaka. This research paper delves into the etiopathogenesis and diagnostic approaches of Mootrashmari, drawing parallels between Ayurvedic and modern medical perspectives. The study highlights the imbalance of the three doshas—Vata, Pitta, and Kapha—as the primary cause in Ayurveda, while modern medicine attributes it to factors like hypercalciuria, hyperoxaluria, and hypocitraturia. Ayurvedic diagnostics rely on clinical symptoms and examinations like Nadi Pariksha and Mutra Pariksha, whereas modern diagnostics use imaging techniques and laboratory tests. Treatment modalities in Ayurveda include dietary modifications, herbal remedies, and surgical interventions, compared to the conservative management and advanced surgical techniques in modern medicine. The comparative analysis underscores the strengths of both systems, advocating for an integrative approach. This paper emphasizes the necessity for further research to validate Ayurvedic treatments and explore their potential integration into contemporary medical practice.

**IndexTerms -** Mootrashmari, urolithiasis, Ayurveda, etiopathogenesis, diagnosis, Nadi Pariksha, Mutra Pariksha, lithotriptic, herbal remedies, integrative medicine.

## 1. Introduction

Mootrashmari, known as urolithiasis in modern medical terminology, represents one of the most significant urological disorders documented since ancient times. The term "Ashmari" (meaning "stone") has been extensively discussed in classical Ayurvedic texts, particularly by Sushruta, the father of surgery in Mahagada. The prevalence of urolithiasis has been increasing globally, making it a crucial area of study for understanding its etiopathogenesis, diagnosis, and management from both Ayurvedic and modern perspectives.

## Historical Background and Literature Review

The concept of Mootrashmari has been well-documented in ancient Indian texts such as the Rigveda, Atharvaveda, and later elaborated in detail by Sushruta and Charaka. Sushruta's treatise on Ashmari describes the condition in terms of etiology, symptomatology, pathology, and treatment, including both medical and surgical interventions.

Hippocrates, the father of modern medicine, also acknowledged the condition, emphasizing its surgical management while recognizing the limitations of non-surgical approaches. The historical perspectives from both Ayurvedic and Western medicine underscore the chronic and recurrent nature of urolithiasis, necessitating a comprehensive approach to its treatment.

## Etiopathogenesis of Mootrashmari

### Ayurvedic Perspective

In Ayurveda, the formation of Ashmari is attributed to an imbalance of the three doshas—Vata, Pitta, and Kapha. The primary factors include improper diet (Apathya), lack of purification (Asamshodhanasheel), and lifestyle choices. These factors lead to the accumulation of doshas in the urinary system, resulting in the formation of stones.

### 1. Diet and Lifestyle Factors:

- Apathya: Consumption of foods that increase Kapha and Pitta, such as heavy, oily, and spicy foods, contributes to stone formation.
- Asamshodhanasheela: Individuals not undergoing regular detoxification (Shodhana) are prone to dosha accumulation, leading to stone formation.

### 2. Pathophysiology:

- Kapha Prakopa: Increased Kapha leads to mucous accumulation in the urinary tract.
- Vata Prakopa: Aggravated Vata causes stasis and obstruction in the urinary channels.
- Pitta Prakopa: Pitta, responsible for metabolic activities, contributes to the hardening of accumulated materials into stones.

### 2. Modern Medical Perspective

Urolithiasis is the third most common affliction of the urinary tract, surpassed only by urinary tract infections (UTIs) and benign prostatic hyperplasia (BPH). The pathogenesis of urolithiasis involves multiple factors including genetic predisposition, dietary habits, fluid intake, and metabolic abnormalities.

#### 1. Supersaturation of Urine:

- Hypercalciuria: Excess calcium in urine.
- Hyperoxaluria: Excess oxalate in urine.
- Hypocitraturia: Low citrate levels, which normally inhibit stone formation.

#### 2. Crystallization and Stone Formation:

- Formation of crystals from supersaturated urine components.
- Aggregation of these crystals into stones under conducive conditions.

#### 3. Recurrence:

- High recurrence rate due to persistent underlying metabolic abnormalities.

### 3. Diagnostic Approaches

#### Ayurvedic Diagnostics

In Ayurveda, the diagnosis of Mootrashmari involves a combination of clinical examination and historical symptoms aligned with classical descriptions in texts.

#### 1. Clinical Symptoms:

- Severe colicky pain in the flanks and abdomen.
- Hematuria (blood in urine).
- Dysuria (painful urination).

## 2. Examination Techniques:

- Nadi Pariksha: Pulse examination to assess doshic imbalances.
- Mutra Pariksha: Urine examination for signs of stone.

## 4. Modern Diagnostics

Modern diagnostic techniques rely heavily on imaging studies and biochemical analysis.

### 1. Imaging Techniques:

- Ultrasound: First-line diagnostic tool to detect stones in the kidneys, ureters, and bladder.
- CT Scan: High-resolution imaging for detailed assessment of stone size, location, and density.
- X-Ray (KUB): Useful for radiopaque stones.

### 2. Laboratory Tests:

- Urinalysis: Detection of hematuria, crystalluria, and infection.
- Blood Tests: Evaluation of calcium, phosphate, uric acid, and other relevant metabolic parameters.

## 5. Management and Treatment

### Ayurvedic Treatment

Ayurvedic treatment for Mootrashmari includes a combination of dietary modifications, herbal remedies, and surgical interventions when necessary.

#### 1. Dietary Recommendations:

- Avoidance of Kapha and Pitta aggravating foods.
- Increased intake of hydrating and cooling foods.

#### 2. Herbal Remedies:

- Pashanabheda (*Bergenia ligulata*): Known for its lithotriptic properties.
- Gokshura (*Tribulus terrestris*): Diuretic and anti-inflammatory.
- Punarnava (*Boerhavia diffusa*): Diuretic and anti-inflammatory.

#### 3. Surgical Interventions:

- Ashmari Bhedana: Surgical removal of stones described by Sushruta, akin to modern cystolithotomy.

### Modern Medical Treatment

Modern treatment of urolithiasis includes both conservative management and surgical interventions.

### 1. Conservative Management:

- Hydration: High fluid intake to facilitate stone passage.
- Medications: Pain relievers, alpha-blockers to relax ureteric muscles, and potassium citrate to prevent recurrence.

### 2. Surgical Interventions:

- Extracorporeal Shock Wave Lithotripsy (ESWL): Non-invasive technique to break stones into smaller fragments.
- Ureteroscopy: Endoscopic removal of stones from the ureter.
- Percutaneous Nephrolithotomy (PCNL): Minimally invasive surgery to remove large renal stones.

## Comparative Analysis of Ayurvedic and Modern Approaches

The comparative analysis of Ayurvedic and modern approaches highlights the strengths and limitations of each system. Ayurveda emphasizes holistic management through diet, lifestyle, and herbal remedies, aiming to address the root cause and prevent recurrence. Modern medicine provides advanced diagnostic tools and effective surgical options for immediate relief and management.

## 6. Conclusion

The study of etiopathogenesis and diagnosis of Mootrashmari (urolithiasis) underscores the importance of an integrative approach that combines the strengths of both Ayurvedic and modern medical systems. While Ayurveda offers valuable insights into prevention and holistic management, modern diagnostics and surgical techniques provide effective solutions for acute management. Further research and clinical trials are essential to validate the efficacy of Ayurvedic treatments and explore their integration into contemporary medical practice.

## References

1. Charaka Samhita, translated by Pt. Kashinath Shastri and Dr. Gorakhnath Chaturvedi, Vidyotini Hindi Commentary.
2. Sushruta Samhita, translated by Kaviraj Ambika Dutt Shastri, Chaukhambha Sanskrit Sansthan.
3. Astanga Hridaya by Vagbhata, translated by Moti Lal Banarasidas.
4. Astanga Sangraha by Vagbhata, translated by Satya Bhama Y. Pandurang.
5. Madhava Nidana by Sri Madhvacharya, translated by Dr. Brahmanand Tripathi.
6. Clendening, L. (1942). Sourcebook of Medical History. New York: Dover Publications.
7. [Charaka Samhita] (<https://www.ncbi.nlm.nih.gov/books/NBK11154/>)
8. [Sushruta Samhita] (<https://www.ncbi.nlm.nih.gov/books/NBK92757/>)
9. [Astanga Hridaya] (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3215341/>)
10. [Madhava Nidana] (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3215345/>)