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AYURVEDIC PERSPECTIVE OF *ASHMARI* W.S.R. NEPHROLITHIASIS: A REVIEW ARTICLE

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ABSTRACT

Nephrolithiasis is a common and recurrent disorder of the urinary system characterized by the formation of calculi within the urinary tract. The prevalence of urinary stone disease has increased remarkably in recent years due to changing lifestyle patterns, unhealthy dietary practices, sedentary habits, inadequate fluid intake, obesity, and metabolic abnormalities. The disease commonly affects individuals during the most productive years of life and is associated with high recurrence rates. Clinically, patients may present with severe flank pain radiating towards the groin, dysuria, haematuria, nausea, vomiting, and burning micturition. If neglected, the condition may further lead to urinary tract infection, obstruction, hydronephrosis, and progressive renal damage. In *Ayurveda*, a similar condition is described under the term *Ashmari*, which is considered one of the serious disorders of *Mutravaha Srotasa*. *Sushruta* has classified *Ashmari* among the *Ashtamahagada* due to its severe pain, difficult management, and recurrent nature. *Ayurvedic* classics explain that vitiation of *Doshas*, predominantly *Kapha* along with *Vata*, contributes to the formation of stone-like structures within the urinary system. The disease has been described in detail with respect to its *Nidana*, *Samprapti*, classification, symptomatology, and prognosis. Earlier diagnosis of *Ashmari* was mainly based on clinical features and physical examination; however, contemporary diagnostic modalities such as ultrasonography, X-ray, and computed tomography have improved the accuracy of diagnosis and assessment of urinary calculi. Despite advances in modern management, recurrence remains a major clinical challenge, highlighting the importance of preventive and holistic approaches. The present review article aims to critically analyze the *Ayurvedic* concept of *Ashmari* and establish its correlation with nephrolithiasis. The review also explores classical references, etiopathogenesis, clinical manifestations, diagnostic approaches, and the contemporary understanding of urinary stone disease from both *Ayurvedic* and modern perspectives.

KEYWORDS: Nephrolithiasis, *Ayurveda.*

INTRODUCTION

The prevalence of lifestyle-associated urinary disorders has increased considerably in recent years, among which nephrolithiasis remains an important clinical concern due to its recurrent nature and impact on quality of life. Recurrence of renal calculi, treatment expenses, dietary restrictions, and long-term complications continue to create a substantial burden on healthcare systems worldwide. Although various surgical and pharmacological modalities are available in modern medicine, recurrence rates remain notably high, indicating the need for a broader and preventive approach toward management. Nephrolithiasis is one of the most common urological disorders, affecting nearly 12% of the global population during their lifetime.[1] The disease is particularly prevalent in developing countries, including India, where changing dietary habits, inadequate hydration, and sedentary lifestyles have contributed to its increasing incidence.

Traditional *Ayurvedic* literature describes urinary stone disease under the concept of *Ashmari*, a condition

extensively elaborated in classical texts with detailed emphasis on causative factors, disease progression, prognosis, and management principles. Unlike the contemporary approach that mainly focuses on stone removal, *Ayurveda* highlights the role of disturbed bodily homeostasis, faulty dietary habits, impaired metabolism, and *Dosha* imbalance in the initiation and recurrence of the disease. The classical description also emphasizes preventive measures and correction of underlying pathological processes.

Among the *Ayurvedic* scholars, *Sushruta* has provided one of the most comprehensive explanations of *Ashmari* and considered it among the *Ashtamahagada*, indicating the seriousness and complexity of the disorder.[2]Classical references suggest that improper dietary habits, suppression of natural urges, sedentary lifestyle, and derangement of *Kapha* and *Vata* contribute significantly to stone formation within the urinary system.

With the growing global incidence of nephrolithiasis and increasing interest in integrative approaches, revisiting the *Ayurvedic* understanding of *Ashmari* becomes clinically relevant. A comparative exploration of classical concepts with modern scientific understanding may help in developing a more comprehensive outlook toward prevention and management of urinary calculi. Therefore, the present review aims to critically analyze the *Ayurvedic* perspective of *Ashmari* and correlate it with contemporary concepts of nephrolithiasis.

Concept of *Ashmari*

Ashmari is one of the most significant diseases of *Mutravaha Srotasa* described in *Ayurveda*. The condition is characterized by the development of stone-like concretions within the urinary tract, which interfere with the normal process of micturition and produce considerable morbidity. Classical *Ayurvedic* literature recognizes *Ashmari* as a disease of great clinical importance because of its painful presentation, recurrent nature, and potential to cause serious complications if neglected.

The term *Ashmari* is derived from the word *Ashma*, meaning stone, which aptly describes the hard structure formed within the urinary passages. Among the ancient *Ayurvedic* scholars, *Acharya Sushruta* has provided the most elaborate description of the disease and classified it among the *Ashtamahagada*. This classification reflects the gravity of the disorder and highlights the challenges associated with its management. The involvement of vital structures of the urinary system and the possibility of progressive complications further justify its inclusion among the severe diseases described in *Ayurveda.*

From an *Ayurvedic* perspective, *Ashmari* is not merely a localized urinary disorder but the outcome of complex pathological changes involving *Dosha* imbalance and derangement of *Mutravaha Srotasa*. According to *Acharya Madhava*, *Kapha* is regarded as the *Samavayi Karana* of *Ashmari* and plays a pivotal role in the initiation of stone formation.[3] The predominance of *Kapha* promotes the aggregation and consolidation of pathological constituents within the urinary system, while *Vata* facilitates their drying, hardening, and subsequent progression. The interaction of these factors ultimately results in the formation of hard calculi within the urinary tract.

The detailed descriptions available in classical texts regarding the causative factors, pathogenesis, symptomatology, prognosis, and treatment of *Ashmari* demonstrate the advanced understanding of urinary stone disease in *Ayurveda.* Owing to similarities in clinical presentation and disease progression, *Ashmari* is commonly correlated with nephrolithiasis or urolithiasis described in contemporary medicine.

Etiopathogenesis of *Ashmari*

Ayurvedic literature attributes the development of *Ashmari* to the combined influence of improper dietary practices, faulty lifestyle habits, and vitiation of *Doshas*. Classical texts describe factors such as *Viruddha Ahara*, *Adhyashana*, *Ajeerna*, excessive intake of dry and heavy food articles, alcohol consumption, and suppression of natural urges as important contributors to the disease process.[4] These factors disturb the physiological equilibrium of the body and adversely affect the normal functioning of *Mutravaha Srotasa*.

Although all three *Doshas* participate in the pathogenesis of *Ashmari*, *Kapha* is regarded as the principal pathogenic factor. *Acharyas* have emphasized the role of *Kapha* in providing the basic material for stone formation, whereas *Vata* facilitates desiccation, aggregation, and hardening of the accumulated contents. *Pitta*, through its transformative properties, may further influence the pathological changes occurring within the urinary system. The collective action of these factors results in the gradual formation of a hard concretion within the urinary tract.

Acharya Sushruta explains this process through an analogy, stating that just as clean water kept in a vessel gradually becomes turbid due to suspended substances, in a similar manner the constituents present in urine lead to gradual deposition and hardening, resulting in *Ashmari* formation.[5]

As described in *Ashtanga Hridaya*, obstruction of the bladder outlet by *Vayu* leads to retention and drying of urine, which then combines with *Pitta*, *Kapha*, and semen, ultimately contributing to the gradual formation of *Ashmari*, comparable to *Gorochana*.[6]

From a contemporary perspective, this mechanism bears resemblance to the process of urinary supersaturation, crystal nucleation, aggregation, and calculus formation described in nephrolithiasis. Thus, the *Ayurvedic* concept of *Ashmari* provides a comprehensive explanation of the

factors responsible for the initiation and progression of urinary stone disease.

Classification of *Ashmari*[7]

Ayurvedic classics classify *Ashmari* into four distinct varieties based on the predominance of *Doshas* and the nature of the pathological process involved. This classification not only explains the variations in clinical presentation but also serves as a guide for prognosis and therapeutic planning. The four types described in the classical texts are *Vataja Ashmari*, *Pittaja Ashmari*, *Kaphaja Ashmari*, and *Shukraja Ashmari.*

- ***Vataja Ashmari****: Vataja Ashmari* develops due to the predominance of *Vata Dosha* and is characterized by severe pain resulting from the movement of the calculus within the urinary tract. The stone is usually hard, rough, and associated with marked discomfort during micturition.
- ***Pittaja Ashmari****:* In *Pittaja Ashmari*, *Pitta Dosha* plays a dominant role, leading to burning sensation, discoloration of urine, and inflammatory manifestations. Patients may experience increased urinary irritation along with symptoms suggestive of heat and inflammation.
- ***Kaphaja Ashmari****: Kaphaja Ashmari* is attributed to the predominance of *Kapha Dosha*. Owing to the heavy, dense, and cohesive properties of Kapha, the calculi tend to be larger and grow gradually over time. Symptoms generally progress slowly and may be associated with a feeling of heaviness and urinary obstruction.
- ***Shukraja Ashmari****: Shukraja Ashmari* is a comparatively distinct entity described in *Ayurvedic* literature. It is believed to arise due to derangement of *Shukra* and is associated with the formation of stone-like structures in relation to the reproductive system. Classical texts describe symptoms such as pain, swelling, and difficulty in urination in such cases.[8]

This *Dosha*-based classification highlights the diverse clinical manifestations of *Ashmari* and reflects the individualized approach of *Ayurveda* towards understanding and managing urinary stone disease.

Clinical Manifestations of *Ashmari*

The clinical presentation of *Ashmari* evolves gradually as the pathological process progresses within the urinary system. *Ayurvedic* texts describe certain premonitory features indicating early involvement of the *Mutravaha Srotasa*, which include bladder distension (*Bastyaadhmanam*), pain in the lower abdominal and pelvic region, dysuria (*Mutrakruchra*), urinary odor due to dribbling (*Bastasagandhatva*), fever (*Jwara*), and loss of appetite (*Aruchi*).[9] These early manifestations are generally non-specific but suggest underlying pathological changes leading to stone formation.

As the disease advances, classical symptoms described by *Acharya Sushruta* become evident. These include bladder pain (*Bastipeeda*), dysuria, fever, anorexia (*Arochaka*), and pain involving the bladder, genital region, and lower abdomen (*Basti-Shira, Mushka, Shepha Vedana*).[10] Pain remains the cardinal symptom of *Ashmari* and may vary in intensity depending upon the site and size of the calculus.

In the established stage of the disease, characteristic features such as severe pain in the perineal region and urinary tract (*Nabhi–Basti–Sevani–Murdha Vedana*), haematuria (*Visheernadhara mutra, Tatsankshobhat Ashram*), sudden interruption of urine flow (*Mutradhara Sanga*), and passage of gravel-like particles in urine (*Sasiktam Mutram*) are observed.[11] These features are highly suggestive of urinary calculus disease and demonstrate close similarity with the clinical presentation of nephrolithiasis.

Correlation of *Ashmari* with Nephrolithiasis

Ashmari described in *Ayurveda* bears a close resemblance to nephrolithiasis and other forms of urolithiasis described in modern medicine. Although the conceptual framework of disease causation differs between the two systems, significant similarities can be observed in terms of disease manifestation, progression, recurrence, and complications. Both conditions are characterized by the formation of stone-like concretions within the urinary tract, leading to obstruction of urinary flow and considerable patient discomfort.

Ayurvedic literature explains the development of *Ashmari* through the vitiation of *Doshas*, particularly *Kapha* and *Vata*, affecting the normal functioning of *Mutravaha Srotasa*. *Kapha* is considered responsible for the accumulation and cohesion of pathological material, while *Vata* facilitates its drying, hardening, and movement within the urinary passages. This description appears comparable to the modern concept of urinary supersaturation, crystal nucleation, aggregation, and subsequent calculus formation. In both perspectives, a gradual process of deposition ultimately results in the formation of a solid mass within the urinary system.

The clinical features described for *Ashmari* closely parallel those observed in nephrolithiasis. Symptoms such as severe pain, dysuria, interruption of urinary flow, haematuria, and passage of gravel-like particles are frequently encountered in both conditions. Likewise, the tendency for recurrence and the potential for complications such as urinary obstruction and infection further strengthen the clinical correlation between the two entities.

Ayurvedic texts classify *Ashmari* into *Vataja, Pittaja, Kaphaja*, and *Shukraja* varieties based on *Dosha* predominance. While an exact one-to-one comparison with modern stone types is not possible, certain clinical similarities may be appreciated. The intense pain associated with *Vataja Ashmari* resembles the

presentation of mobile urinary calculi producing renal colic, whereas *Pittaja Ashmari* demonstrates features suggestive of inflammatory changes and urinary irritation. *Kaphaja Ashmari*, characterized by gradual growth and larger stone formation, may conceptually correspond to slowly enlarging calculi encountered in contemporary clinical practice. These comparisons, however, should be interpreted as clinical correlations rather than direct pathological equivalence.

Despite differences in terminology and theoretical understanding, both *Ayurveda* and modern medicine recognize the influence of dietary habits, urinary abnormalities, and recurrent pathological changes in the genesis of stone disease. Therefore, *Ashmari* can be considered the closest *Ayurvedic* correlate of nephrolithiasis, providing a valuable foundation for understanding urinary stone disease from an integrative perspective.

Contemporary Understanding of Nephrolithiasis

Nephrolithiasis, commonly referred to as kidney stone disease, is a multifactorial disorder characterized by the formation of crystalline concretions within the urinary tract. It represents one of the most prevalent urological conditions worldwide and is associated with substantial morbidity owing to its recurrent nature and potential complications. The incidence of nephrolithiasis has increased considerably over recent decades, a trend largely attributed to changes in dietary patterns, sedentary lifestyle, obesity, metabolic disorders, and environmental influences.

Stone formation is a complex process involving urinary supersaturation with stone-forming constituents, followed by crystal nucleation, growth, aggregation, and retention within the urinary tract. Various physicochemical factors influence this process, including urinary pH, concentration of solutes, urine volume, and the presence or absence of crystallization inhibitors. Disturbances in these factors create a favorable environment for the development of urinary calculi.

Epidemiological studies indicate that nephrolithiasis affects individuals of all age groups; however, it is most frequently observed during the second to fifth decades of life. The disease is generally more common in males than females and demonstrates considerable geographical variation in prevalence. In addition to causing acute episodes of renal colic, recurrent stone disease may contribute to urinary tract infections, obstructive uropathy, hydronephrosis, and progressive deterioration of renal function.

Based on their chemical composition, urinary calculi are broadly classified into calcium-containing stones, struvite stones, uric acid stones, cystine stones, and a small proportion of other less common varieties. Among these, calcium-based calculi constitute the majority of cases encountered in clinical practice. Each stone type possesses distinct etiological and metabolic associations, which influence both disease progression and therapeutic strategies.

The occurrence of nephrolithiasis is influenced by a combination of dietary, metabolic, environmental, and genetic factors. Inadequate fluid intake, excessive consumption of sodium and animal protein, obesity, metabolic abnormalities, family history, and low urinary volume are recognized as important risk factors. Understanding these determinants is essential for both prevention and long-term management, particularly in individuals with recurrent stone disease.

Types of Renal Calculi

Urinary calculi are commonly classified according to their chemical composition. The major categories include calcium stones, struvite stones, uric acid stones, and cystine stones. Among these, calcium-containing calculi constitute the most frequently encountered type in clinical practice. Struvite stones are generally associated with urinary tract infections, whereas uric acid stones are linked to acidic urine and abnormalities of purine metabolism. Cystine stones are relatively uncommon and usually occur due to inherited metabolic defects. Identification of stone composition is clinically important, as it helps in understanding the underlying etiology and guides appropriate preventive and therapeutic measures.

Diagnosis of *Ashmari* and Nephrolithiasis

Accurate diagnosis plays a crucial role in the effective management of urinary stone disease. In *Ayurveda*, the diagnosis of *Ashmari* is primarily based on a detailed assessment of clinical manifestations, disease progression, and involvement of *Doshas*. Renal calculi are characterised clinically by colicky pain (renal colic) as they pass down along the ureter and manifest by haematuria, nausea, vomiting, fever, obstructive uropathy, urinary tract infection and blockage of urine flow and passage of gravel-like particles provide important clues for the identification of the disease.[12] Careful evaluation of these features helps in understanding the severity and nature of the pathology.

In modern medicine, the diagnosis of nephrolithiasis involves a combination of clinical assessment, laboratory investigations, and imaging studies. A detailed history regarding previous episodes of stone disease, family history, dietary habits, and associated medical conditions aids in identifying predisposing factors. Urinalysis is useful for detecting haematuria, urinary infection, crystalluria, and abnormalities in urinary pH.

Imaging modalities are essential for confirming the diagnosis and determining the size, number, and location of calculi. Ultrasonography is commonly employed as an initial diagnostic tool owing to its safety, accessibility, and non-invasive nature. Additional investigations such as plain radiography and computed tomography may be utilized for comprehensive evaluation and treatment

planning. Early diagnosis not only facilitates timely intervention but also helps in preventing complications and reducing the risk of recurrence.

Management of *Ashmari*[13],[14]

The management of *Ashmari* aims not only at the alleviation of symptoms but also at the disintegration, expulsion, and prevention of recurrence of urinary calculi. *Ayurveda* advocates a multidimensional treatment approach based on the stage of the disease, size of the calculus, predominance of *Doshas*, and involvement of the urinary tract. Classical texts emphasize that recently formed and smaller calculi can often be managed conservatively, whereas large, impacted, or complicated stones may require surgical intervention.

- **Conservative Management:** In the initial stages, treatment is directed towards facilitating urinary flow, relieving pain, reducing inflammation, and promoting the fragmentation and expulsion of calculi. Various formulations possessing *Mutrala*, *Ashmaribhedana*, *Shoolahara*, and *Shothahara* properties have been described in *Ayurvedic* literature. Drugs such as *Pashanabheda*, *Gokshura*, *Varuna*, *Punarnava*, *Shatavari*, and *Guggulu* are frequently mentioned for their beneficial effects on the urinary system. These agents help in reducing urinary stasis, improving urine output, and assisting in the natural elimination of stone-forming material.
- ***Basti* Therapy:** Among *Panchakarma* procedures, *Basti Chikitsa* holds considerable importance in disorders of the *Mutravaha Srotasa*. Since Vata plays a pivotal role in the pathogenesis of *Ashmari*, *Basti* therapy is considered useful in correcting the underlying *Dosha* imbalance. Classical texts particularly mention *Uttara Basti* in selected cases, especially when the pathology is localized to the bladder and lower urinary tract.
- ***Kshara Chikitsa:*** *Kshara* preparations prepared from medicinal plants have been advocated for their *Ashmaribhedana* and *Lekhana* properties. These formulations are believed to facilitate the breakdown of calculi, relieve urinary obstruction, and improve urinary drainage. Owing to their therapeutic action on stone disintegration, *Kshara*-based interventions occupy an important place in the *Ayurvedic* management of *Ashmari.*
- **Surgical Management:** Surgical intervention becomes necessary when the calculus attains a large size, produces persistent obstruction, or fails to respond to conservative measures. *Acharya Sushruta* has provided detailed descriptions regarding the operative management of *Ashmari*, highlighting the significance of timely surgical removal in advanced cases. Considering the potentially serious complications associated with untreated stone disease, surgical management remains an important therapeutic option when indicated.

Thus, the *Ayurvedic* management of *Ashmari* encompasses medicinal, para-surgical, and surgical modalities, aiming at both disease eradication and prevention of recurrence through a comprehensive and individualized approach.

DISCUSSION

Ashmari remains one of the most extensively described disorders of the *Mutravaha Srotasa* in *Ayurvedic* literature. Its inclusion among the *Ashtamahagada* reflects not only the severity of the disease but also the potential complications that may arise when timely intervention is not undertaken. The classical descriptions provided by *Acharya Sushruta* demonstrate a comprehensive understanding of urinary stone disease, encompassing its causation, clinical manifestations, progression, and management.

A critical analysis of the *Ayurvedic* concept reveals that the pathogenesis of *Ashmari* is centred on the interaction of vitiated *Doshas* within the urinary system, with *Kapha* serving as the principal factor responsible for the initiation of stone formation. The role attributed to *Kapha* in providing a matrix for aggregation and to *Vata* in promoting hardening and retention of the calculus appears conceptually comparable to the modern phenomenon of crystal nucleation, aggregation, and growth within supersaturated urine. Although the explanatory models differ, both systems acknowledge that stone formation is a gradual process resulting from the accumulation of pathological constituents within the urinary tract.

The symptomatology of *Ashmari* exhibits remarkable similarity to the clinical presentation of nephrolithiasis. Features such as severe pain, dysuria, haematuria, urinary obstruction, and passage of gravel-like particles are consistently described in both classical and contemporary literature. This close clinical resemblance supports the widely accepted correlation of *Ashmari* with urinary stone disease.

An important observation emerging from both *Ayurvedic* and modern perspectives is the influence of dietary and lifestyle factors on disease occurrence and recurrence. Classical *Nidanas* such as improper dietary habits, disturbed digestion, and suppression of natural urges can be viewed in the context of contemporary risk factors including inadequate hydration, excessive salt intake, metabolic disturbances, and sedentary lifestyle. This parallel understanding highlights the enduring relevance of preventive measures in reducing the burden of stone disease.

The management of *Ashmari* described in *Ayurveda* adopts a holistic approach by combining medicinal therapy, procedural interventions, and surgical measures when necessary. In addition to facilitating stone expulsion, emphasis is placed on correcting the underlying pathological process and preventing recurrence. Such a multidimensional approach remains particularly relevant in view of the recurrent nature of

nephrolithiasis and the limitations associated with symptomatic management alone.

Therefore, the *Ayurvedic* concept of *Ashmari* provides a comprehensive framework for understanding urinary stone disease and offers valuable insights that may complement contemporary approaches to the prevention and management of nephrolithiasis.

CONCLUSION

Ashmari represents one of the most important disorders of the *Mutravaha Srotasa* described in *Ayurveda* and continues to hold significant clinical relevance in the present era owing to the increasing prevalence of urinary stone disease. The classical *Ayurvedic* descriptions of its etiopathogenesis, symptomatology, and management demonstrate notable similarities with the contemporary understanding of nephrolithiasis. Despite differences in conceptual foundations, both systems acknowledge the multifactorial nature of stone formation and the crucial role of dietary habits, lifestyle factors, and urinary abnormalities in disease development.

Ayurveda offers a comprehensive approach to the management of *Ashmari* through preventive measures, pharmacological interventions, procedural therapies, and surgical management when indicated. The emphasis on *Nidana Parivarjana*, early diagnosis, and recurrence prevention remains particularly relevant considering the recurrent nature of nephrolithiasis. A critical appraisal of classical *Ayurvedic* concepts alongside modern scientific knowledge suggests that an integrative understanding of urinary stone disease may contribute to improved patient care and long-term disease management. Further clinical and experimental research is warranted to validate and strengthen the therapeutic potential of Ayurvedic interventions in the management of nephrolithiasis.

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