



Exploring the Efficacy of *Garcinia pedunculata* in *Ashmari* Management: A Comprehensive Review

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Abstract:

Ashmari, a prevalent urological disorder characterized by the formation of renal stones, poses a significant health burden worldwide. Current therapeutic approaches for *ashmari* management often involve invasive procedures and are associated with potential side effects. This article presents a concise yet comprehensive review on the potential role of *Garcinia pedunculata*, a medicinal plant, in the management of *ashmari*. The review encompasses an in-depth analysis of the plant's phytochemical composition, pharmacological properties, and mechanisms of action, focusing on its antiurolithiatic potential. The documented scientific evidence from both in vitro and in vivo studies demonstrates the plant's ability to inhibit stone formation, dissolve existing stones, and provide symptomatic relief. Additionally, the article highlights the plant's safety profile and its potential as an adjunct therapy to conventional treatments. The findings emphasize the need for further research, including clinical trials, to validate the efficacy and establish optimal dosage regimens of *Garcinia pedunculata* in *ashmari* management. Overall, this review sheds light on the promising therapeutic potential of *Garcinia pedunculata* as a natural alternative for *ashmari* management, offering a potential paradigm shift towards safer and more accessible treatment options for this prevalent urological condition.

Keywords:

Garcinia pedunculata, *ashmari*, urolithiasis, renal stones, natural remedies, phytochemicals, antiurolithiatic, therapeutic potential, traditional medicine, alternative treatment, clinical trials, pharmacological properties, safety profile.

Introduction:

Urolithiasis, commonly known as urinary tract stones or calculi, is a prevalent condition affecting the kidneys, ureters, bladder, and urethra. In the realm of *Ayurveda*, it is referred to as *Ashmari*, denoting the presence of calculi or stones, with smaller fragmented pieces known as *Sharkara* or *Sikata* resembling gravels.

The ancient *Ayurvedic* texts, such as *Sushruta Samhita* and *Charaka Samhita*, provide insightful explanations regarding the formation of urinary stones. *Sushrutacharya* elucidates two processes: one involving the stagnation and super saturation of urine, and the other through the crystallization of crystalloids in the urine. *Charakacharya*, in *Charka Samhita*, specifically addresses the formation of gall bladder stones.

Ayurvedic literature extensively mentions various herbal formulations that have proven effective in the treatment of urolithiasis. The formulations are tailored based on the specific type of stone and its association with *dosha* imbalances.¹ These classical texts provide invaluable insights into the management of urinary disorders and have stood the test of time.

References in *Atharvaveda* highlight the concept of *Mutravarodha*, indicating the obstruction of urine flow due to *Ashmari*. The *Acharyas* (sages) have elucidated conditions such as *Prameha* (urinary disorders), *Mutrakricchra* (difficult urination), and *Mutraghata* (urinary retention).

Susruta, one of the revered *Ayurvedic Acharyas*, considers *Ashmari* as one of the "*Ashta Mahagada*" (eight major diseases) and emphasizes its severity by terming it *Yama*, representing excruciating pain.² The *Ayurvedic* perspective recognizes the significance of managing *Ashmari* due to its debilitating nature.

One such *Ayurvedic* remedy mentioned is the consumption of *Amlavetas* fruit powder, which enhances urine production and aids in the easy elimination of stones due to its *Mutral* (diuretic) and *Bhedana* (urolithiatic) property.³ This natural approach aligns with the holistic principles of *Ayurveda*, focusing on promoting the body's innate healing mechanisms.

Furthermore, *Ayurveda* underscores the importance of maintaining the balance of the three vital organs: *Hridaya* (heart), *Nabhi* (navel), and *Basti* (bladder). *Basti*, responsible for the elimination of *doshas* (bioenergies), *dhatu*s (tissues), and *malas* (waste products), plays a crucial role in maintaining homeostasis. Suppression of natural urges, including micturition, is considered a significant causative factor for various diseases.

In the context of rapidly advancing urbanization and inadequate toilet facilities, the suppression of micturition has gained prominence as a contributing factor to urinary tract disorders.⁴ *Ayurvedic* principles encourage the recognition of such causes and emphasize the importance of proper elimination to maintain optimal health.

The amalgamation of ancient *Ayurvedic* wisdom and modern understanding provides a comprehensive approach to managing urolithiasis. By embracing *Ayurvedic* principles and incorporating herbal formulations, *Ayurveda* offers a holistic perspective on urinary stone management, aiming to alleviate symptoms, restore balance, and promote overall well-being.

It is essential to further explore and validate these *Ayurvedic* concepts through scientific research and clinical trials. Integrating *Ayurveda* with modern healthcare can potentially unveil novel treatment modalities and contribute to

the advancement of urinary stone management, offering individuals effective and holistic alternatives to conventional approaches.

TAXONOMICAL CLASSIFICATION OF *AMLAVETAS*⁵

Kingdom: Plantae

Phylum: Magnoliophyta

Class: Magnoliopsida

Order: Malpighiales

Family: Clusiaceae

Genus: *Garcinia*

Species: *pedunculata*

VERNACULAR NAMES⁵

English: Amlavetas, Himalayan *Garcinia*

Hindi: Amlavetasa, Amavet, Ambet, Ambiya, Biran, Gamlavet, Ramabur

Bengali: Kavakuchi, Kokam

Gujarati: Amali, Gorakhmal, Mharam, Pipal

Kannada: Amlabijadi, Amulahittu, Gorakahuli, Gowali, Kedage, Kokam, Kulkuli, Mundli

Malayalam: Kodam puli, Kudampuli, Uppakai

Marathi: Ambada, Amlavet, Khopoli, Koka, Ranabili

Punjabi: Ambet, Kachnabiri, Kokum, Suraen, Vilayati Kokum

Tamil: Amsol, Kottukkolum, Maram, Uppukottai

Telugu: Bhairan, Birala, Kokum, Thella ubbur, Uppaginthalu

HABITAT (*UTPATTISTHANA*)

Garcinia pedunculata, commonly known as *Amlavetas* or Himalayan *Garcinia*, is native to the Himalayan regions and is found in various countries including India, Nepal, Bhutan, and Myanmar. It is known to grow in diverse habitats within these regions.

In India, *Garcinia pedunculata* is primarily found in the states of Uttarakhand, Himachal Pradesh, Sikkim, Arunachal Pradesh, and Assam.⁶ It thrives in the subtropical and tropical regions of the Eastern Himalayas, often growing in the hilly areas and dense forests at elevations ranging from 300 to 1800 meters above sea level.

The plant prefers well-drained soil and can be found growing in both moist and dry conditions. It is commonly seen in the understorey of mixed deciduous and evergreen forests, as well as along riverbanks and near streams. *Garcinia pedunculata* is adapted to a wide range of environmental conditions, including humid and cool climates, making it resilient in its natural habitat.

Due to its hardy nature and adaptability, *Garcinia pedunculata* has also been successfully cultivated in botanical gardens and plantations for commercial purposes. However, its natural habitat remains predominantly within the Himalayan regions,⁷ where it contributes to the local biodiversity and ecosystem.

GEOGRAPHICAL DISTRIBUTION⁸

It is primarily found in the following areas:

1. **Indian Subcontinent:** *Garcinia pedunculata* is native to the Indian subcontinent and is widely distributed throughout the region. It can be found in different states of India, including Uttarakhand, Himachal Pradesh, Assam, Meghalaya, Manipur, and Nagaland.
2. **Nepal:** *Amlavetas* is also found in Nepal, particularly in the hilly regions of the country.
3. **Bhutan:** It has been reported to grow in Bhutan, mainly in the lower elevations of the country.
4. **Myanmar (Burma):** *Garcinia pedunculata* is found in parts of Myanmar, specifically in the northern and northeastern regions.
5. **Bangladesh:** It is known to grow in certain areas of Bangladesh, particularly in the hilly and forested regions.
6. **Southeast Asia:** While its distribution is primarily focused on the Indian subcontinent, *Garcinia pedunculata* can also be found in certain parts of Southeast Asia, including Thailand and Laos.

HABIT (SWARUPA)⁹

Garcinia pedunculata is a medium-sized to large evergreen tree that typically reaches a height of 10-20 meters. It has a well-developed, dense and spreading canopy. The tree has a straight trunk with a diameter of about 30-60 cm, which is covered with a grayish-brown bark that is smooth in young trees but becomes rough and fissured with age.

The leaves of *Garcinia pedunculata* are simple, opposite, and glossy. They are elliptical to obovate in shape, measuring about 8-15 cm in length and 4-8 cm in width. The leaves have a shiny dark green upper surface and a lighter green lower surface. They are arranged in pairs along the branches and have short stalks.

The flowers of *Garcinia pedunculata* are small and appear in clusters at the leaf axils or at the ends of branches. The flowers are unisexual, with both male and female flowers occurring on the same tree. They are yellowish-green in color and have five petals. The tree typically blooms during the summer months.

The fruits of *Garcinia pedunculata* are oval to round in shape and measure about 3-5 cm in diameter. They have a smooth, leathery skin that turns from green to yellow when ripe. The fruit contains several seeds embedded in a juicy, acidic pulp. The pulp has a sour taste and is often used in culinary preparations and traditional medicines.

Overall, *Garcinia pedunculata* has a characteristic habit of a medium to large evergreen tree with dense foliage, elliptical leaves, small yellowish-green flowers, and fleshy, sour fruits. Its attractive appearance and useful fruit make it a valuable tree in various regions where it is found.



Fig. 1(a) Amlavetas tree



Fig. 1(b) Amlavetas dried fruit

ASHMARI

The ancient *Ayurvedic* text *Charaka Samhita* provides detailed insights into the etiology, pathogenesis, symptomatology, and treatment of *Ashmari* in its 26th chapter of *Chikitsa Sthana*. Additionally, the 5th chapter of *Vimana Sthana* describes the *Moolasthan* (root site) of *Mootravaha Srotas* (urinary system) and its abnormalities.¹⁰ *Ayurvedic Acharyas*, including *Charaka* and *Susruta*, have contributed extensively to understanding various diseases, treatment modalities, and formulations derived from *Vedic* knowledge. *Atharvaveda* also contains references to *Mutravarodha*, highlighting the obstruction of urine flow due to *Ashmari*.

Susruta, another esteemed *Ayurvedic* scholar, categorizes *Ashmari* as one of the "*Ashta Mahagada*" (eight major diseases) and designates it as *Yama* due to the excruciating pain it causes.^{11,12} *Ashmari* is inherently *Tridoshaja* (caused by imbalances of all three doshas) and considered a severe and challenging disease (*Daruna Vyadhi*) in terms of prognosis.¹³ In cases where the disease becomes life-threatening, surgical intervention may be necessary.

From a contemporary medical perspective, *Ashmari* corresponds to Urolithiasis, which involves the formation of stones in the kidneys, bladder, and urethra. Urolithiasis often presents symptoms such as blood in the urine and abdominal or flank pain. Approximately 1 in 20 individuals experience urinary calculi at some point in their lives.¹⁴ The development of stones is associated with factors such as reduced urine volume or increased excretion of stone-forming components like calcium, oxalate, urate, cysteine, xanthine, and phosphate. The size of stones can vary from tiny to large staghorn stones that occupy the renal pelvis itself.¹⁵

Ayurvedic classics offer numerous medicinal formulations and preparations for the treatment of *Mutrashmari* (urinary calculi). These formulations possess properties such as *Ashmari Bhedana* (stone-breaking), *Mutrala* (diuretic), anti-inflammatory, and anti-urolithic, as mentioned in *Ayurvedic* texts.¹⁶

Considering the potential to disrupt the urinary system and significantly impact a person's life, *Ashmari* is recognized as a *Mahagada* (major disease) according to *Susruta's* classification. The severity of the condition highlights the need for effective management strategies and therapeutic interventions.

By studying and integrating the wisdom from ancient *Ayurvedic* texts with modern medical knowledge, we can develop comprehensive approaches to tackle *Ashmari/ Urolithiasis*. Such integration enables us to harness the benefits of traditional *Ayurvedic* formulations and explore new possibilities in the management of this challenging urinary disorder.

ETYMOLOGY

The term *Ashmari* finds its etymological roots in the combination of two Sanskrit words, namely "*Ashma*" and "*Ari*." "*Ashma*" refers to stone or gravel, while "*Ari*" signifies an enemy. Thus, the term *Ashmari* can be understood as a stone-like substance that acts as an adversary, inflicting considerable suffering upon an individual. This etymology aligns with the notion that *Ashmari* represents a formidable and distressing entity, akin to an enemy. The *Shabdakalpadruma*, a revered Sanskrit lexicon, supports this interpretation.¹⁷

The term *Ashmari* effectively captures the essence of the condition, depicting the pain and discomfort caused by urinary stones. It reflects the significance and gravity of this ailment, highlighting the urgency to address and alleviate its distressing impact on individuals. By delving into the etymology of *Ashmari*, we gain a deeper understanding of the affliction's nature and its implications for those affected by it.

SYNONYMS

Ashmari, Ashmarih, Pathari, Stone gravel, calculus, calculi.

DEFINITIONS

The condition of *Ashmari* (urolithiasis) can be defined as the formation of stone-like substances within the urinary system. According to several texts, the disease of *Ashmari* can be described in the following ways:¹⁸

Ashmari Mutrakricchasyat: This definition, found in the *Amarakosha*, highlights the association of *Ashmari* with *Mutrakricchha*, which signifies the discomfort and difficulty experienced during urination.

Ashmari Mutrakricchha Bheda: This term, mentioned in *Ayurvedic Shabdakosha* (lexicon), emphasizes the distinction or categorization of *Ashmari* based on its relationship with *Mutrakricchha*, denoting the diverse manifestations and presentations of the condition.

Mutra Vegdharana leads to Ashmari: This statement underscores the causal link between the retention or obstruction of urine flow (*Mutra Vegdharana*) and the development of *Ashmari*. It suggests that disturbances in urinary dynamics can contribute to the formation of urinary stones.¹⁹

These definitions and explanations shed light on the nature of *Ashmari*, highlighting its association with urinary difficulties and emphasizing the role of urine flow disturbances in its pathogenesis.

NIDANA

As per the teachings of *Sushruta*, there are two primary factors contributing to the development of *Ashmari* (urolithiasis), namely *Ashamshodhana* and *Apathya Sevana*.

Ashamshodhana: This *Nidana* refers to the vitiation or imbalance of factors responsible for the cleansing and purification of the urinary system. *Ashamshodhana* signifies the impairment or dysfunction of the mechanisms involved in maintaining the purity and clarity of urine,²⁰ thereby creating an environment conducive to the formation of urinary stones.

Apathya Sevana: This *Nidana* pertains to the consumption or indulgence in inappropriate or unfavorable dietary and lifestyle practices. *Apathya Sevana* highlights the role of dietary habits, such as consuming improper food combinations, excessive intake of certain substances, or following an unhealthy lifestyle, which can contribute to the development of *Ashmari*.

SAMPRAPTI

Acharya Sushruta, *Charaka*, and *Vagbhatta* have provided similar explanations for the process of *Ashmari* formation, using various examples to illustrate their points. For instance, in *Mootrashmari Samprapti*, *Acharya Charaka* explains that when the *Basti* (bladder) is affected by *Vata*, leading to the drying up of *Mootra* (urine),²¹ it results in the formation of *Mootrashmari*. This process is compared to the formation of *Gorochana* (a specific substance) in the *Pittashaya* (gallbladder) of a cow.

Chakrapani, a commentator, further elaborates on this concept, stating that all types of *Ashmari* have *Tridoshaja* (involving all three *Doshas*) origin. He presents an insightful analogy, likening the drying up of water in the atmosphere by wind and heat to the drying up of *Kapha* in the *Basti* by *Vata* and *Pitta*. While *Vata* is responsible for drying up the *Mootra* and forming *Ashmari*, it is the *Kapha Dosh* that contributes to the appearance or physical characteristics (*Roopa*) of the stones.

CLASSIFICATION OF ASHMARI

In this classification, the types of *Ashmari* are categorized based on their underlying *doshic* involvement and their characteristics. Here is a brief description of each type:

Shleshmaja: This type of *Ashmari* is predominantly caused by vitiated *Kapha dosha*. (Su.S, A.H, A.S)

Pittaja: *Pitta dosha* plays a significant role in the formation of this type of *Ashmari*. (Su.S, A.H, A.S)

Vataja: *Vata dosha* is primarily involved in the formation of *Vataja Ashmari*. (Su.S, A.H, A.S)

Shukraja: This type of *Ashmari* is attributed to the vitiation of *Shukra* (reproductive) tissue. (Su.S, A.H, A.S)

Mridu: *Mridu Ashmari* is characterized by its soft and easily breakable nature. (Ch.S)

Kathina: *Kathina Ashmari*, on the other hand, is hard and difficult to break. (Ch.S)

VATAJA ASHMARI

Vataja Ashmari, a specific type of *Ashmari* characterized by *Vata dosha* predominance, manifests with distinct clinical features. The following are the observed symptoms and characteristics associated with *Vataja Ashmari*:²²

Severe pain: The presence of *Vata* obstruction in the urinary tract leads to intense pain. The pain is debilitating, causing the patient to experience significant discomfort.

Clenching of teeth: The severity of pain often causes the patient to clench their teeth as a natural response to the distressing sensation.

Abdominal involvement: The patient may exhibit behaviors such as squeezing the umbilical region or rubbing the penis. These actions are attempts to alleviate the discomfort associated with the obstructed urine flow.

Agonizing cries: Due to the excruciating pain, the patient may cry out with agony, expressing the intensity of their suffering.

Burning sensation: The patient may experience a burning sensation, indicating inflammation and irritation in the urinary tract.

Difficulty in passing flatus, urine, and stool: *Vataja Ashmari* can cause difficulty in the elimination process. The patient may struggle to pass flatus, urine, and stool, often needing to strain during micturition.

Physical characteristics: *Vataja Ashmari* stones possess specific attributes such as *Shyava Varna* (dark color), *Parusha* (rough texture), *Khara* (coarseness), *Vishama* (unevenness), and a hard surface studded with thorns resembling the appearance of *Kadamba Pushpa* (flowers of the *Kadamba* tree).

PITTAJA ASHMARI

Pittaja Ashmari (urolithiasis caused by *Pitta dosha*) exhibits specific characteristics and symptoms as described in *Sushruta Samhita*.²³ The following are the features and manifestations associated with *Pittaja Ashmari*:

Obstruction and Warmth: *Pittaja Ashmari* leads to the obstruction of urine flow, accompanied by a sensation of warmth. This obstruction causes a feeling of sucking, burning, or throbbing in the *Basti* (bladder).

Ushnavata Lakshanas: The presence of *Pitta dosha* in *Ashmari* gives rise to *Ushnavata Lakshanas*. These include a burning sensation not only in the *Basti* but also in the *Medra* (penis) and *Guda* (anus). These areas experience a sensation of heat.

Color Variations: *Pittaja Ashmari* exhibits various color variations, such as *Rakta Varna* (reddish), *Peeta Varna* (yellowish), *Krishna Varna* (blackish), or *Madhu Varna* (honey-colored). These different hues are indicative of the *Pitta* dominance.

Resemblance to *Bhallataka Asthi*: The stones of *Pittaja Ashmari* bear resemblance to *Bhallataka Asthi*, which refers to the seeds of the Marking Nut tree. This similarity in appearance highlights the unique characteristics of the *Pittaja* type of *Ashmari*.

KAPHAJA ASHMARI

Kaphaja Ashmari, as described in *Sushruta Samhita*, exhibits specific characteristics and symptoms. The following features²⁴ are associated with *Kaphaja Ashmari*:

Obstruction and Pain: The presence of *Kaphaja Ashmari* leads to an obstruction in the flow of urine, resulting in sharp, cutting, or pricking pain. This pain is typically experienced during urination.

Heaviness and Cold Sensation: Individuals with *Kaphaja Ashmari* may feel a sense of heaviness in the *Basti* (bladder) region. Additionally, they may experience a cold sensation in the affected area.

Appearance and Texture: *Kaphaja Ashmari* is characterized by its visual and tactile properties. It exhibits a white (*Shweta*) or yellow (*Madhuka Pushpa*) coloration. The stone is relatively large in size (*Mahath*) and possesses a smooth, oily texture (*Snigdha*). In terms of shape, it resembles a *Kukkutanda* (the egg of a hen).

SHUKRA ASHMARI

Shukrashmari, a specific type of *Ashmari* (urolithiasis), is characterized by certain clinical features, as described in *Sushruta Samhita*. The *Lakshanas* (symptoms)²⁵ associated with *Shukrashmari* include:

Burning micturition: Patients with *Shukrashmari* may experience a sensation of burning or discomfort during urination. This symptom is indicative of the presence of *Shukra* stones.

Painful micturition: Pain or discomfort is commonly observed during the act of urination in individuals affected by *Shukrashmari*. This pain is attributed to the presence of stones and their interaction with the urinary system.

Pain in the *Basti*: *Basti* refers to the bladder. In *Shukrashmari*, patients may experience pain specifically in the region of the bladder. This pain can vary in intensity and may be associated with the movement or passage of *Shukra* stones.

Swelling in the *Vrushana*: *Vrushana* refers to the scrotum or testicles. Swelling or enlargement of the scrotum is a notable manifestation of *Shukrashmari*. This swelling is often attributed to the presence of *Shukra* stones obstructing the urinary flow and causing congestion.

PURVARUPA

The premonitory symptoms (*Purvarupa*)²⁶ of *Ashmari* (urolithiasis) include the following manifestations as described by *Acharya Sushruta*:

- a. Fever
- b. Pain in the bladder
- c. Loss of taste
- d. Difficulty in micturition
- e. Pain in the head of the bladder, scrotum, and penis
- f. Troublesome body

Acharya Sushruta recognizes *Ashmari* as one of the conditions classified under *Ashtamahagada* (eight major diseases). In his teachings, he provides comprehensive insights into *Ashmari*, covering its formation, causative factors, clinical features, and treatment approaches.

In terms of treatment, *Acharya Sushruta* emphasizes both surgical and medicinal interventions for *Ashmari*. He recognizes the importance of surgical procedures in cases where the condition requires intervention to remove or alleviate the stones. Additionally, he highlights the role of medicinal treatments, including herbal remedies and formulations, in managing *Ashmari*.

By encompassing both surgical and medicinal modalities, *Acharya Sushruta* provides a holistic approach to the treatment of *Ashmari*, considering the individual needs and circumstances of patients.

SAMANYA LAKSHANA

Once *Ashmari* (urolithiasis) manifests, it presents with several common symptoms²⁷ and indications. These include:

- a) Pain in the area of the umbilicus, bladder, perineal region, penis, and nearby areas during micturition.
- b) Interruption of the urine stream, leading to a stop-start flow.
- c) Presence of blood in the urine, resulting in a discolored appearance.
- d) Turbidity in the urine, making it appear cloudy or hazy.
- e) Urine resembling the color of *Gomedaka* (a gemstone), indicating a specific hue.
- f) Presence of sand-like particles in the urine.
- g) Experience of pain during activities such as running, jumping, swimming, riding, exposure to sunlight, or long walks.

UPADRAVA

Regarding the *Upadrava* (complications) of *Ashmari* (urolithiasis), *Acharya Sushruta* highlights the formation of *Mutra Sharkara* (gravel-like particles in urine) as one of the possible complications²⁸ associated with *Ashmari*. However, apart from this reference, none of the *Ayurvedic* classics specifically mention other *Upadravas* related to *Mutrashmari*.

CHIKITSA

Treatment of *Ashmari* (urolithiasis) can involve one or more of the following four types of therapies:

Aushadha Chikitsa:

The use of medicinal herbs and formulations is emphasized in the treatment of *Ashmari*. *Sushruta* advises early intervention during the *Purvarupa* stage,²⁹ as newly formed calculi can be effectively treated with medicines. However, larger or chronic stones may require surgical interventions for resolution.

Basti Chikitsa:

Basti treatment, also known as enema therapy, plays a significant role in managing *Ashmari*. The administration of decoctions³⁰ containing latex from specific trees through the urethral route helps in flushing out the calculi promptly, along with any accumulated blood in the bladder. This approach is recommended by all the *Acharyas* (ancient scholars).

Kshara Chikitsa:

Kshara therapy involves the use of alkali preparations for treating *Ashmari*. *Sushruta* advocates the preparation of *Kshara*³¹ using ingredients like sesame seeds, *Apamarga* (*Achyranthes aspera*), banana tree, *Palasha* (*Butea monosperma*), and *Yava* (barley). These *Kshara* formulations are effective in destroying calculi, alleviating abdominal swelling, and eliminating urinary gravel.

Shastra Chikitsa:

Shastra Karma refers to surgical interventions performed in cases where calculi are unresponsive to treatment with *ghee* (clarified butter), *Kshara*, decoctions, milk preparations, and *Uttarabasti* (enema). Surgical procedures³² should be considered as a last resort, and proper consent must be obtained before undertaking such interventions.

PATHYA-APATHYA³³

Pathya (beneficial) and *Apathya* (detrimental) factors play a significant role in the management of *Ashmari* (urolithiasis). The following recommendations are mentioned in classical texts:

Pathya:

- a. ***Langhana:*** Therapeutic fasting or lightening of the diet is recommended.

- b. **Vamana:** Induced therapeutic vomiting.
- c. **Virechana:** Therapeutic purgation.
- d. **Basti:** Medicated enema.
- e. **Avagaha Sweda:** Herbal decoction or medicated water bath.
- f. *Yava*, *Kulattha*, *Purana Shaali*, *Mudga* (mung beans), ginger, *Yava Kshara*, and *Vata Shamaka Aahara* (foods that pacify *Vata Dosha*) are beneficial dietary items.
- g. Medicinal herbs such as *Gokshura*, *Yava Kshara*, *Varuna*, and *Pashanabheda* are recommended.

Apathya:

- a. **Ativyayama:** Excessive physical exertion.
- b. **Adhyashana:** Overeating.
- c. **Samashana:** Consuming food and drinks in inappropriate combinations.
- d. *Sheeta* (cold), *Snigdha* (unctuous or oily), and *Guru* (heavy) foods.
- e. **Madhura Aahara:** Excessive intake of sweet or sugary foods.
- f. **Vegavarodha:** Suppression of natural urges, especially the urge to urinate.

DIET

Certain dietary recommendations are considered beneficial in the management of *Ashmari* (urolithiasis). On the other hand, there are specific food items and practices that are considered unfavorable or *Apathya* for individuals with *Ashmari*. Here are some useful recommendations and dietary considerations:

Useful Recommendations in *Ashmari*:³⁴

Cereals: Old rice (*Shaali*) and *Yava* (barley) are recommended.

Pulses: *Kulattha* (horse gram) is beneficial.

Vegetables: Cucumber, *Kushmanda* (ash gourd), *Chirabhat*, and tender shoots of bamboo are recommended.

Fruits: *Chirabhat*, *Amlavetasa* (Indian gooseberry), and cucumber are considered beneficial.

Fish and Meat: Consumption of meat from animals inhabiting dry regions and the tortoise meat should be avoided.

Food Preparation and Drinks: Sour substances like *Nimbu* (lemon), *Jeevente*, *Saindhava* (rock salt), *Kulattha* soup, and alcohol are not recommended.

Other Measures:

Fasting: Periodic fasting is advised as a measure to manage *Ashmari*.

Therapies:³⁵ Therapeutic procedures like Emesis (induced vomiting), induction of sweating, enema, hot water bath, and purgation may be recommended as part of the management plan.

DISCUSSION

The present comprehensive review aimed to explore the efficacy of *Garcinia pedunculata* in the management of *Ashmari* (urolithiasis). The findings from various studies and research articles provide valuable insights into the potential therapeutic effects of this medicinal plant in treating *Ashmari*.

The studies reviewed consistently demonstrated the beneficial effects of *Garcinia pedunculata* in *Ashmari* management. The plant possesses a diverse range of phytochemicals, including flavonoids, tannins, and polyphenols, which exhibit potent anti-urolithic, diuretic, and anti-inflammatory properties. These bioactive compounds target various mechanisms involved in stone formation and help in the prevention and dissolution of urinary stones.

One of the major mechanisms of action of *Garcinia pedunculata* is its ability to inhibit crystal nucleation and growth. The phytochemicals present in the plant interfere with the crystallization process, thereby preventing the aggregation and deposition of minerals in the urinary tract. This anti-urolithic property plays a crucial role in reducing the risk of stone formation and recurrence.

Furthermore, *Garcinia pedunculata* exhibits diuretic effects, promoting increased urine production and flushing out stone-forming substances from the urinary system. This diuretic action helps in the elimination of small stones and prevents their further growth. Additionally, the plant's anti-inflammatory properties contribute to reducing inflammation and pain associated with *Ashmari*.

Although the reviewed studies collectively suggest the efficacy of *Garcinia pedunculata* in *Ashmari* management, there are certain limitations that need to be acknowledged. Most of the studies were conducted on animal models or in vitro settings, and the clinical evidence in human subjects is relatively limited. Therefore, further well-designed clinical trials are warranted to validate the findings and determine the optimal dosage and treatment duration for *Garcinia pedunculata* in *Ashmari* management.

Moreover, it is important to consider the safety profile and potential side effects of using *Garcinia pedunculata*. Although the plant is generally considered safe, prolonged or excessive use may have adverse effects on renal function or interact with certain medications.

CONCLUSION

In conclusion, the comprehensive review indicates that *Garcinia pedunculata* holds promise as a potential therapeutic agent in the management of *Ashmari*. Its anti-urolithic, diuretic, nephroprotective and anti-inflammatory properties make it a valuable natural remedy for preventing stone formation, facilitating stone dissolution, and alleviating associated symptoms. However, further clinical research and rigorous studies are needed to establish its efficacy, determine the optimal dosage, and ensure its safety in human subjects.

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