



## Ashmari in Brhat-Trayi: A Critical Review of Literature

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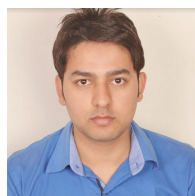
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**Abstract:** Ashmari has been known to humanity since the dawn of time and is one of the *Mutravaha Srotas*' most common diseases. Ashmari is mentioned in almost all Ayurvedic *Samhitas*, but "Father of Surgery" *acharya* Sushruta describes Ashmari in the most scientific way possible, including its etiopathogenesis, categorization, symptomatology, complications, and management. Urolithiasis, the third most frequent urinary tract disease after UTI and BPH, can be linked to Ashmari. Stone development is a symptom of Ashmari disease, which is a painful condition. As a result, it is considered one of the fatal ailments that are "Ashtamahagada". There are very few research articles available on this disease explaining the comprehensive review of classical texts. As the disease Ashmari is of prime importance for humans so many authors have tried to write and compile the references or information available in classical texts but there is not any single article that not only compiles the textual references but also explains its appropriate modern counterpart. So the primary objective of this study is to review all the literature related to Ashmari in Brhat-Trayi and compile it in a single place for gaining comprehensive knowledge and used it for easy referencing for conducting further research. *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridayam* along with classical commentaries, e-books, and research articles were reviewed critically in detail to collect literature regarding Ashmari. In this review, a few newer correlations are also included by the author. As this review also includes medicinal management, where a vast number of drugs are told by *Acharyas* so there may be a possibility of further research by finding or proving the antiurolithic or lithotriptic activity of several medicines. It will be the greatest achievement in the field of urology if we can prevent its reoccurrence and reduces the need for surgical management. There is a need for novel research to evolve an effective treatment that is curative as well as preventive.

**Keywords:** *Mutravaha srotas*, Ashmari, *Ashtamahagada*, Urolithiasis, and Brhat-Trayi

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## I. INTRODUCTION

Ayurveda is an *upveda* (branch) of *Atharvaveda*, one out of the four ancient literature known to mankind. The *prayojana* (aim) of Ayurveda is “*swastasya swasthya rakshanama, aaturasya vikaro upshamanam*” i.e., maintain the health of a healthy individual while curing the diseased.<sup>1</sup> According to Ayurveda, *Swasthya* (Health) is the state of the body where *deha dhatu, dosha, and mala* are in equilibrium.<sup>2</sup> So ancient *acharyas* have described in detail about preventives measures as in *Dinacharya* and *Ritucharya* to fulfill the first aim. Along with that, they have also described in detail about diseases or ailments from their etiology up to management fulfilling the second aim. The term *Brhat-Tray* means three main treatises of Ayurveda in which almost all health knowledge is compiled in form of verses. *Charaka Samhita, Sushruta Samhita, and Ashtanga Hridayam* are called as *Brhat-Tray*. Ayurveda has defined many illnesses as *Mutrakrichchra, Mutraghata, Ashmari*, and so on. *Ashmari* refers to a sickness in which stone formation occurs and which causes intense pain as if caused by an enemy. In our Ayurvedic classics and Vedic literature lot of references to *Ashmari* are present. The earliest reference available is in *Atharvaveda* (1<sup>st</sup> *kanda*, 3<sup>rd</sup> *sukta*, 6-9 *shlokas*). Because of the potential for urinary system disturbance, *Acharya Sushruta*, father of surgery, has thoroughly and completely described the topic of *Ashmari* during ancient times and included it in the *Ashta-Mahagada*<sup>3</sup>. *Basti* is *Vyaktasthana*<sup>4</sup> and *Ashmari* is *Tridoshaja, Marma-ashrayee*<sup>4</sup> (the vital part's disease) (seat). *Basti* has been included in *Dashvidha Pranaayatana*<sup>5</sup> and is also a *Saddyopranhara marma* (in which injury causes instant death). *Ashmari* is a *Krichchhrasadhya vyadhi* (difficult to treat) on the ground of prognosis. It is also deadly and requires surgery. *Acharya Sushruta* compares the *Ashmari* to “*Yamsa*” (a sure sign of death) and describes it as *Vyadhirantak-pratimam*<sup>6</sup> (the patient's last phase of the illness). *Ashmari's* patient will experience symptoms such as pain abdomen, dysuria, burning micturition, and urine retention. Unfortunately, during one's most productive years of life, *Ashmari* happens, which inhibits the individual from his/her daily routine job. *Ashmari* can be correlated to Urolithiasis which means a stone in the urinary system whether in the kidneys, ureters, bladder, or urethra. Urolithiasis is the third most frequent urinary tract disease after UTI and BPH affecting the urinary system's equilibrium.<sup>7</sup> About 15% of men and 5% of women develop renal calculi at some stage. If one has developed renal stones in the past, is likely to have a 70% chance of the formation of new stones in the future.<sup>8</sup> In India, one out of thousand people need hospitalization due to renal stone disease.<sup>9</sup> Males are affected 3 times as frequently as females. The peak incidence of stones occurs between the ages of 20-50 years.<sup>10</sup> More common in whites than in black.<sup>11</sup> In modern medicine, the treatment modalities of urinary stones depend upon the size, the position of calculi, etc. Nonsurgical management includes flush therapy, medical expulsive therapy using alpha-antagonists or calcium-channel blockers, ESWL & Dormia basket procedure. Operative treatment includes advanced techniques like PCNL, Partial Nephrectomy, Ureteroscopy, Pyelolithotomy, Nephrolithotomy Nephrectomy, Nephrostomy, etc. These therapies, however, are therapeutic for Urolithiasis, but they cannot prevent the pathophysiology that leads to the production of stones. As a result, stone recurrence after removal has become a typical occurrence. Therefore, it is essential to understand *Ashmari* in detail such as *Nidana* (etiological factors), *Samprapti* (pathogenesis), *Lakshanas* (symptomatology), *Upadrava* (complications), *Sadhya-asadhyata* (prognosis), and *Chikitsa* (management) to

prevent or cure this disease. So all the literature related to *Ashmari* in *Brhat-Tray* - *Charaka Samhita, Sushruta Samhita, and Ashtanga Hridayam* along with classical commentaries, e-books, and research articles were reviewed critically in detail to collect literature regarding *Ashmari*. A brief etymology and derivation are explained before explaining in detail about *Ashmari*.

### I.1 Etymology

1. *Ashmanam Raati Dadati Ya*
2. *Asthma* – Stone, *Raati Dadati Ya* – ready, favorable or to give or to present.
3. *Ashman + Raa + Ka + Gauraditwak Dehi*
4. ‘*Ashman*’ is the root word for *Ashmari*. *Ra* is suffixed by *Ka* and *Gauraditwat Delhi* here. The disease in which stone formation occurs is called *Ashmari*.<sup>12</sup>
5. The term *Ashmari* is derived from the root “*Ashu*” (*Sanghatha*) as *Dhatu* and “*manin*” as *Krit*” *prathyaya*, when said as *strilinga* it becomes “*Ashmari*”.<sup>13</sup>

### I.2 Definition

According to numerous pieces of literatures<sup>12</sup>, *Ashmari* is characterized as.

1. “*Ashamarati it Ashmari*” or “*Ashmanam Raati dadathi iti Ashmari*” (*Amarakosha*) - That which resembles stones is called *Ashmari*.
2. *Ashmari Mutra krichchhra syat* (*Amarakosha*) - *Mutra krichchhra* is also known as *Ashmari*.
3. *Rogamarga Srotamsi Va Visheshate Mutramarga Sambhutam Pashanavishesham* (*Ayurvedic Shabdakoṣa*) - The *Pashana visesha* found in the *mutravaha srotas* is termed as *Ashmari*.
4. *Ashmari Mutra krichchhra bheda* (*Ayurvedic Shabdakosha*) - *Ashmari* is one of the type of *Mutra krichchhra*.

### I.3 Synonyms

- Sanskrit - *Ashmari, Ashmarih*
- Hindi - *Pathari*
- English - Stone, Gravel, Calculus, Vesical - Calculi.
- Latin - Calculus (singular) Calculi (Pleural)

### Ashmari as a Maharoga

The *Maharogas* are difficult to cure due to their *Ashraya* in *Marma Sthana* and involvement of *Bahu doshas* etc. *Maharogas* are 8 in number & are explained in all *Brihatrayees*. *Sushruta* and *Vagbhata* considered *Ashmari* as one of the *Mahagada* may be because of

- This disease is *Tridoshaja* in origin.
- It is *Marmashrayee*.
- *Basti* is a *Pranayathana marma*, which is the *Vyaktasthana* of *Ashmari*.
- Surgical intervention is needed when the disease becomes fatal.
- On prognosis the disease becomes *Kruchrasadhya*.

*Sushruta* has described in detail the Aetio-pathogenesis, Symptomatology, Medical, Surgical treatment, and prognosis separately. *Acharya Charaka* and *Vagbhata* have described this

disease under *Mootrakrichra*. Acharya Charaka has classified *Mootraroga* into two divisions.

- **Atipravrittija-** Prameha and its twenty varieties are included.
- **Apravrittija-** *Mootrakrichra* and *Mootraghata* are included. *Ashmari* is one among eight varieties of *Mootrakrichra*.

#### 1.4 Etiopathogenesis

In Ayurveda, the development of any ailment is characterized by five steps: *Nidana*, *Purvaroop*, *Roopa*, *Upashaya*, and *Samprapti*. These are the five stages that a doctor must follow to make an accurate diagnosis.

##### 1.4.1 Nidana

*Nidana* encompasses all aetiological elements. *Nidana*'s knowledge can help in the diagnosis of the disease, prevention, and management. *Ashmari*'s etiologic elements were mentioned (Table 1) individually by Acharya Sushruta, but Charaka and Kashyapa classified them under *Mutrakrichchra*. Acharya Sushruta states that for people who do not purify themselves (*ashamshodhan Sheela*) regularly and consume

harmful foods and activities, *Kapha* becomes exacerbated, combines with urine, travels to the urinary bladder, and generates *Ashmari*. Acharya suggested distinct *Shodhana* measures for natural *Dosha* accumulation according to the season. Both the *Kitta bhaga* of digestion and the stored *Dosha* precipitate in the system due to a lack of suitable *Shodhana* measures, contributing to the production of *Ashmari*. The production of *Ashmari* is directly tied to dietary consumption and dietary routine. Because *Ashmari*'s major *Dosha* is *Kapha*, a diet and regimen that raises *Kapha* may cause *Ashmari* to form. *Guru*, *Snigdha*, *Sheeta*, and *Madhura Ahara*'s excessive intake, day sleep, irregular eating habits, and other factors may cause the *Kapha* to rise, resulting in *Ashmari* formation<sup>4</sup>. Acharya Charaka states that *tikshna Aushadha*, *Ati vyayama Ruksha sevana*, *Drutaprishtayana*, *Madya sevana*, *Matsya sevana*, *Aanupa Mansa sevana*, *Ajirna bhojan*, and *Adhyasana* are the factors responsible for the development of eight varieties of *Mutrakrichchra*, including *Ashmari*<sup>14</sup>. Children are more susceptible to suffering from *Ashmari* because in *Balyavastha* both body and *Prakriti* are similar, and also they are in the habits of *Divaswapna*, *Mithya ahara*, *Adhyashana*, *Abhishyandi ahara*, *Madhura ahara*, *Guru ahara* in excessive quantity.<sup>15</sup>

Table 1: Etiological factors for <i>Ashmari</i> <sup>4,14</sup>			
<i>Nidana</i>	Charaka Samhita	Sushruta Samhita	Ashtang Hridayam
<i>Asamsodana</i>	-	+	-
<i>Adhyasana</i>	+	+	+
<i>Samashana</i>	-	+	-
<i>Ajeerna bhojana</i>	+	-	-
<i>Seetha ahara</i>	+	+	-
<i>Medho Ahara</i>	-	+	+
<i>Guru Ahara</i>	-	+	+
<i>Madura Ahara</i>	-	+	+
<i>Matsya sevana</i>	+	-	-
<i>Ati vyayama</i>	+	+	-
<i>Atimaithuna</i>	+	-	-
<i>Maithuna Vighata</i>	-	+	-
<i>Mutravarodha</i>	-	-	+
<i>Teekshna oushdi</i>	+	+	-
<i>Ashwa yana</i>	+	+	-
<i>Teekshna Madhyasevana</i>	+	+	-
<i>Anoopa mamsa Sevana</i>	+	+	-
<i>Divaswapna</i>	-	+	+

Note – This table 1 shows different etiological factors for *Ashmari* as told by Acharyas. '+' denotes it is told in that samhita while '-' denotes it is not there in Samhita.

Table 1 illustrates different etiological factors for *Ashmari* as told by Acharyas which comes under two main headings-*Aharaja*(Dietary Factors) and *Viharaja* (Lifestyle or activities) *hetu*. *Ahararaja hetu* includes intake of *Ajeerna bhojana* *Seetha ahara*, *Medho Ahara*, *Guru Ahara*, *Madura Ahara*, *Matsya* and *Anoopa mamsa sevana*, *Adhyasana*, *Samashana*, *Teekshna oushdi* or *Teekshna Madhyasevana* while *Viharaja hetu* includes

*Asamsodana*, *Ati vyayama*, *Atimaithuna*, *Maithuna Vighata*, *Mutravarodha*, *Ashwa yana*, and *Divaswapna*. Acharya Vagbhatta has also told *Mutravarodha* is a causative factor in addition to other factors. Acharya Charak has added *Ajeerna bhojana*, *Matsya sevana*, and *Atimaithuna* as causative factors which were not mentioned by Acharya Sushruta.

Table 2 : Etiology According to Modern <sup>16</sup>		
ETIOLOGY	TYPE OF STONE	INCIDENCE
Hypercalciuria with or without hypercalcemia Idiopathic	Calcium stones	75%
UTI by organisms that splits urea like <i>proteus</i>	Struvite stones	15%

Hyperuricaemia (eg. gout) with or without Hyperuricosuria	Uric acid stones	6%
Cystine transport impaired	Cystine stones	2%
Inherited abnormalities of xanthine metabolism	Other types	<2%

**Note – This table 2 shows different etiological factors for different types of stones along with their incidence.**

#### 1.4.2 Poorvarupa (Prodromal Symptoms)

Before a disease may appear in the body, it must have certain signs and symptoms which are known as *Poorvarupa*. Different *Poorvarupa* is mentioned for *Ashmari* (Table 3).<sup>17,18,19</sup>

Table 3 : Poorvarupa of Ashmari			
Poorvarupa	Sushruta Samhita	Ashtang Hridayam	Ashtang Sangrah
Basti Pida	+	+	+
Aruchi	+	+	+
Mutrakricchra	+	+	+
Bastisirovedana	+	-	+
Mushka Vedana	+	-	+
Shepha Vedana	+	-	-
Jwara	+	+	+
Avasada	+	-	-
Bastigandhatwa	+	+	+
Sandra Mutra	+	-	-
Avila Mutra	+	-	-
Basti adhma	-	+	+

**Note – This table 3 shows different Poorvarupa for Ashmari as told by Acharyas. ‘+’ denotes it is told in that samhita while ‘-’ denotes it is not there in samhita**

#### 1.4.3 Roopa or Lakshana (signs and symptoms)

*Roopa* refers to signs and symptoms that have fully manifested and are important in diagnosing a manifested disease. *Samanya Lakshana* of *Ashmari* includes difficulty in voiding, pain in the umbilicus, suprapubic region, pain in the raphe, penis, and

bladder region. Increased frequency of micturition and defecation, Passage of urine in multiple streams and passing of clear urine or blood mixed urine, presses penis during micturition and when stone dislodges or comes out, then patient gets relief. Different *Roopa* are mentioned for *Ashmari* (Table 4).<sup>20,21,22,23</sup>

Table 4 : Roopa of Ashmari					
S.No	Roopas	Sushruta Samhita	Charaka Samhita	Ashtang Hridayam	Ashtang Sangrah
1.	Nabhi Vedana	+	-	+	+
2.	Basti Vedana	+	+	+	+
3.	Sevani Vedana	+	+	+	+
4.	Mehana Vedana	+	+	-	-
5.	Mutra Dhara Sanga	+	-	-	+
6.	Mutra Vikirana	+	-	-	-
7.	Gomeda Prakasha	+	-	+	+
8.	Atyavilam	+	-	-	+
9.	Sasiktam	+	-	-	+
10.	Dhavan, Plavan, etc	+	-	-	+
11.	Vishirna Dhara	-	+	+	-
12.	Sarudhira Mutra	+	+	+	+
13.	Mrudanti Medhra	-	+	-	-
14.	Makusakaran Munchati Mehana	-	+	-	-

**Note – This table 4 shows different Roopa for Ashmari as told by Acharyas. ‘+’ denotes it is told in that samhita while ‘-’ denotes it is not there in Samhita**

#### 1.4.4 Upashaya-Anupashaya

The *Upashaya* are the things that alleviate disease signs and symptoms, whereas the *anupashaya* are the elements that aggravate the condition. *Upashaya* is a disease-prevention strategy. None of the Ayurvedic classics mentioned *Upashaya* and *anupashaya* in comparison to *Ashmari*. However, because *Ashmari* is a *Kapha*-dominant condition, all of the stages that

lead to *Kapha* management can be considered *Upashaya*. Similarly, all vitiating *Kapha* measures might be considered *Ashmari's anupashaya*.<sup>24</sup>

#### 1.4.5 Samprapti

*Samprapti* is the mechanism by which a given disease manifests. The *Doshas*, *Dushyas*, *Srotodushti*, *Agni* condition, and other

factors can be assessed using *Samprapti*. With Gorochana's instance, Acharya Charaka depicts *Ashmari*'s formation cycle. He states that the *Doshayukta* or *Shukrayukta mutras* are turned into *Ashmari* when they reach *Basti*, where they are dried up by *Vayu* and *Pitta*'s involvement. Chakrapani comments on this and claims that all *Ashmari* is of *Tridoshaja* origin. He provides a lovely simile to support this claim. Similar to how heat and wind causes the evaporation of water present in the sky; *Vata* and *Pitta* cause similar action to *Kapha* present in the *Basti*. Additionally, he claims that while *Vata* dries up the *Mootra* to create *Ashmari*, it is *Kapha* that gives it the *Roopa*, making *Kapha* the primary *Dosha* fully accountable for the formation of *Ashmari*<sup>25</sup>. Acharya Vagbhatta, like Acharya Charaka, charted *Ashmari*'s progress. In his commentary on the above-mentioned *Samprapti*, Hemadri suggests that *Vayu*, after blocking the *Basti mukha*, performs the *Shoshana* of only *Mootra*, occasionally with *Pitta*, occasionally with *Kapha*, and occasionally with *Shukra*. He concurs that the primary *Adhara* for all *Ashmari* is *Kapha*<sup>26</sup>. According to Acharya Sushruta,

people who do not regularly go through shodhana practices and eat an unhealthy diet increase *vaatayukta Kapha*, *pittayukta Kapha*, or simply *Kapha*. It then travels to *Basti*, where it combines with *mutra* and takes on the form of an *Ashmari*. Acharya Sushruta presented another example to explain *Ashmari*'s progress. Calculus forms in *Basti* in the same way that clear water in a new pitcher becomes muddy over time. The way the air and electricity generated by thunder freezes the water during rain, analogous to *Pitta* in the bladder, in the *Vayu* conjugation, consolidates *Kapha* (in the form of *Ashmari*).<sup>27</sup>

#### 1.4.6 Type of *Ashmari*

The *Ashmari* disease was categorized into four types by Acharya Sushruta – *Shleshmashmari*, *Pittashmari*, *Vatashmari*, and *Shukrashmari*. Charaka has also described *Mridu* and *Kathina* *Ashmari*. The *Vishesha Roopa* of *Mutrashmari* (Table 5)<sup>28</sup> and Summary of *Roopa* (Table 6)<sup>29</sup> are explained below.

**Table 5: *Vishesha Roopa* of *Mutrashmari* according to *Dosha***

	Vataja Ashmari	Pittaja Ashmari	Kaphaja Ashmari	Shukraj Ashmari
<b>Sign and Symptoms</b>	Moothra Prathigathath, Thirva Vedana	Chooshyathe	Biddyathe	Mutra Krichrum
	Danthan Khadayathi	Dhahyathe	Nisthyudyathe	Basthi Vedana
	Nabim Peedayathi	Dhooshyathe	Basthir Gurutha	Vrushanayor Shvayathu
	Medrum Mrudhnathi	Pachyathe	Basthir Shithata	Not Found in the children
	Payum Sparshayathi	Basthir Ushnavathas cha Bhavathi		
	Vishardhathi			
	Vidhahati			
	Vatha, Purisha Mootra Krichrena Nisarathi			
<b>Colour</b>	Shyava in Color	Raktha Varna, Peethabha, Krishna, Madhuvarna	Shwetha, Madhuka Pushpavarna	
<b>Texture or Surface</b>	Parusha, Vishama, Khara		Snigdha, Mahathi	
<b>Appearance</b>	Kadamba Pushpavath	Ballathakasthi Prathima	Kukkutanda Prathima	

**Note – This table 5 shows *Vishesha Roopa* of *Ashmari* like Shape, Colour, Texture, and Appearance according to *Dosha*.**

**Table 6 : Summary of *Roopa***

S.No.	Ayurveda Perspective of <i>Ashmari</i>	Modern Counterpart
1.	A prominent feature is <i>Ruja</i>	A prominent feature is Pain
2.	<i>Basti avatodha</i> is present	Renal colicky pain will be felt when there will be an obstruction in the pathway
3.	<i>Vataja Ashmari</i> - <i>Shyavavarna</i> with an irregular, rough surface with spikes and looks like <i>Kadamba Pushpa</i> .	Calcium oxalate stones are dark in color and are extremely hard with spikes.
4.	<i>Pittashmari</i> - Colour is red or honey-colored. The shape is like <i>Bhallataka</i>	Usually non-opaque but when admixture with calcium it becomes opaque and moderately hard. The Colour is yellow to dark brown.
5.	<i>Kaphaja Ashmari</i> - Colour is <i>Shweta</i> , Size is <i>Mahathi</i> , and looks like <i>Kukkutanda</i> / <i>Madhuka Pushpa</i> .	Uric acid stones are radiolucent and have smooth surfaces. Usually red but can be yellow to reddish brown.

**Note – This table 6 shows the Similarities of Modern and Classical *Roopa* of *Ashmari***

### 1.4.7 Analogous Study of Roopa

The primary presenting symptom of stone is pain, which is also prevalent in contemporary texts. It is possible to compare the *Vataja Ashmari* pain to the intermittent colicky pain caused by lumen obstruction. In *Pittaja Ashmari* along with calculi, the burning type of pain and haematuria are specific. The stone can be compared to *Kaphaja Ashmari* because of its dull agony and big size. *Vataja Ashmari* resembles calcium oxalate stones quite closely. *Pittaja Ashmari* and *Kaphaja Ashmari* are comparable to uric acid stones and phosphate calculi, respectively. *Shukrashmari* differs from seminal calculi in this regard. As opposed to *Shukrashmari*, which is created in the urethral tract and can be squeezed out, they are formed in the seminal vesicle.<sup>29</sup>

### 1.5 Sadhyata Asadhyata

*Ashmari* is regarded by Acharya Sushruta as one of the *Ashtamahagadas* and *Mahagadas* are very hard to treat because in nature they are *Asadhyata*. Because of the lesser space that the lesion occupies and the decreased subcutaneous fat, *Ashmari's* prognosis in children is better.<sup>30</sup> Like the God of Death, *Ashmari* is a deadly sickness. When it is newly produced and smaller in size, it can be healed with medications, but once it has progressed, it requires surgical treatment. Complications linked with *Ashmari* and *Arishta Lakshnas* should be prevented.<sup>6</sup>

### 1.6 Sarkara (Gravel)

Urinary calculi can take on different forms, such as appearing in the urine as sand, gravel, or ash-like things. Urinary calculi and gravel are both known to cause pain. They (the stone) come out when *Vayu* is favorable, especially when the calculi are little.<sup>29</sup>

### 1.7 Complication Produced by Gravel

The difficulties caused by those (gravel) becoming caught up on their journey down the urethra include weakness, emaciation, lethargy, flank pain, pallor, a dislike for food, cysto-urethritis, pain in the pericardium, thirst, and vomiting.<sup>29</sup>

### 1.8 Upadrava

#### 1.8.1 Complications Told in Ayurvedic Classics

Secondary *Ashmari* disorders include *Sharkara* (urinary gravel),

*Sikata meha* (diabetic variant), and *Bhasmakhya roga* (*Mutrashukra*-like similarities noted in *Sushruta Samhita-Uttara tantra's Mutraghaat-pratishedhamadhyay*). Only *Sharkara* should be recognized as *Ashmari* due to similarities in shape and symptoms. Except for *Sharkara*, no particular *upadravas* have been mentioned about *Ashmari* by Ayurvedic classics other than Sushruta.<sup>31</sup>

### 1.8.2 Complications Told in Modern Classics<sup>29</sup>

- Impaction and obstruction – most frequently in the pelvic-ureteric junction or in the ureter, either where it crosses the common iliac arteries or just before entering the bladder.
- Stricture of ureter
- Infection – like pyelonephritis, cystitis
- Malignant change – can occur due to chronic irritation to the renal pelvis by calculi.
- Aneurin- from kidney and ureter obstruction alone, or both.

These are related to the passage of the stone and develop in two situations.

1. The passage of a small stone will cause injury to the ureter leading to stricture and subsequent impaction of the stone.
2. Passage of large stones causes impaction at the upper and lower ends of the ureter or at the brim leading to stasis of urine which will cause Infections and Hydronephrosis.

Further stone production is aided by the emergence of stasis and infection. Stag horn Calculus may result from this. This huge solitary stone is connected to pelvic and calyx suppuration and ulceration. Squamous epithelium metaplasia might be brought on by a stone or infection in the pelvis. This can occasionally progress to squamous carcinoma.

### 1.9 Sapeksha Nidana (Differential Diagnosis)

When the clinical manifestations of one or more disorders are similar, accurate diagnosis is often hampered. Differential Diagnosis of *Ashmari* are different *Rogas* like *Tuni*, *Mutraghata*, and *Mutrakrichra* (Table 7).<sup>29</sup>

**Table 7: Sapeksha Nidana of Ashmari**

Sapeksha Roga	Lakshana
<i>Tuni</i>	<i>Tuni</i> is the name for the downward-moving <i>Shoola</i> that originates in <i>Malashaya</i> and <i>Mootrashaya</i> and has an impact on <i>Guda</i> and <i>Jananedriya</i> .
<i>Vata Basti</i>	Urinary incontinence, itching, and discomfort.
<i>Ushna Vata</i>	A person experiences pain and burning in <i>Mutrendriya</i> and <i>Basti</i> regions and struggles to pass reddish or yellow urine.
<i>Vataashtheela</i>	In <i>Basti pradesha</i> , <i>kathinata</i> like <i>Granthi</i> ; Hindrance to both <i>Pureesha</i> and <i>Mutra</i> .
<i>Mutrasada</i>	Thick urine that is red, yellow, or white and accompanied by <i>Daha</i>
<i>Mutra Jatara</i>	Due to <i>Vataprakopa</i> obstruction to both <i>Pureesha</i> and <i>Mutra</i> . Urine builds up in the bladder, producing discomfort.
<i>MutrAGRAnthi</i>	<i>Kapha</i> and <i>Vata</i> are vitiated leading to the vitiation of <i>Rakta</i> and obstructing urine by forming a nodular, hard mass which is painful as <i>Ashmari</i> .
<i>Mutrakshya</i>	Decreased urination that was painful and bloody.
<i>Vataja Mutrakrichra</i>	Severe aching pain in <i>Medhra</i> , <i>Basti</i> , and <i>Vankshana</i> , with increased frequency of micturition and quantity less.
<i>Pittaja Mutrakrichra</i>	Yellow, <i>Savedana</i> , <i>Sarakta</i> , <i>Sadahayukta</i> and passes urine with struggle with increased frequency.
<i>Kaphaja Mutrakrichra</i>	Heaviness in the urinary bladder, Urine will be foamy with increased frequency of micturition.
<i>Raktaja Mutrakrichra</i>	Blood accumulates in <i>Basti</i> as a result of the injury and struggles to exit close to the urine.



Sannipataja Mutrakrichra	The above symptoms will be present and will be very challenging to cure.
Sukraja Mutrakrichra	Passage of semen mixed urine, Medhra and Basti pain, and pass urine with struggle with piercing pain in the scrotal region

**Note – This table 7 shows Sapeksha Roga of Ashmari and their Lakshana.**

### 1.10 Arishta Lakshana

According to Sushruta, when patients' Nabhi and Vrishanas are inflamed, they experience severe discomfort and urinary obstruction, and when the Ashmari is related to Sharkara or Sikata, the patient dies quickly.<sup>32</sup>

### 1.11 Chikitsa

Ashmari can be dealt with in a variety of ways.

1. Aushadha Chikitsa
2. Basti Chikitsa
3. Kshara Chikitsa
4. Shastra Chikitsa.

#### 1.11.1. Aushadha Chikitsa

Ashmari is a disease that is known to be lethal and dangerous. It is critical to diagnose and treat it as soon as possible. Acharya Sushruta advised treating the ailment even at the Purvaroop stage. A recently developed Ashmari can be treated with medications; however, a large or chronic Ashmari should be treated surgically.

##### 1.11.1.1. Vatashmari Chikitsa

Ghrita is made using a decoction of Pashanabheda, Vashira, Vasuka, Ashmantaka Gokshura, Shatavari, Brihati, Brahmi (Kapotvanka), Kantakari, Artagala, Ushira, Kacchaka Kubjaka, Bhalluka, Vriksadini, Shaka- Phala, Shaka- phala barley, Varuna, Kulattha, Kola and Kataka fruits, and with the Kalka that makeup Ushakadi Ganas group. Vata's Ashmari is easily broken down by this Ghrita. As meals and beverages; alkali, gruels, soups, decoctions, and milk made with Vata-subduing medications should be recommended.<sup>33</sup>

##### 1.11.1.2. Pittashmari Chikitsa

Ghrita is made using a decoction of Kasa, Kusha, Sara, Itkat, Gundra, Morata, Shatavari Pashanabheda, Shalimula, Vidari, Trikantaka, Patola, Bhalluka, Patha, Kuruntika, Pattura, Shirisha Shirisha, and Punarnava; and the Kalka of Shilajatu, Indivara (blue lotus), Madhukar, Trapusha and Ervaruka. Pitta-caused Ashmari is easily broken down by this Ghrita. As meals and beverages; alkali, gruels, soups, decoctions, and milk made with Pitta-subduing medications should be recommended.<sup>33</sup>

##### 1.11.1.3. Shleshmashmari Chikitsa

Ghrita of Goat's milk should be cooked with the decoction of Varunadi Gana, Cardamom, Guggulu, Harenu, Bhadradi, Kutha, Maricha, Devadaru and Chitraka and the Kalka of Ushakadi Gana. Kapha -caused Ashmari is easily broken down by this Ghrita. As meals and beverages; alkali, gruels, soups, decoctions, and milk made with Kapha- subduing medications should be recommended.<sup>33</sup>

##### 1.11.1.4. Shukrashmari Chikitsa

A seminal concretion or pebbles that have been transported

down to the urinary route by chance should be retrieved through the same channel. If the route does not eject the stone, the urethra should be sliced open and a hook-like instrument (*Badisha shastra*) or any other tool should be used to remove it. For one year, the person must abstain from sexual activity, riding a horse or elephant, diving, climbing trees and mountains, and exchanging indigestible things.<sup>34</sup>

#### 1.11.2. Basti Chikitsa

In Ashmari, all Acharyas recommend Basti chikitsa. According to Sushruta, when a decoction of latex trees is administered through a urethral bath, the calculus and blood deposited in the bladder are flushed out promptly.<sup>34</sup>

#### 1.11.3. Kshara Chikitsa

The preparation of Kshara from the above medicines to prepare Ghrita has been promoted by Acharya Sushruta. Calculus, stomach edema, and urinary gravel are all removed with this Kshara. An alkali produced from Tila, Apamarga, Kadali, Palasha, and Yava paste should be mixed with the sheep's urine to dissolve urinary gravel. Alkalis such as Patala and Karvira should also be utilized.<sup>35</sup>

#### 1.11.4. Shastra Chikitsa

Even with competent surgeons, progress is unpredictable, thus surgery must be the main treatment. When non-operative care is predicted to result in death, the surgical option should be considered first. As a result, after receiving the authority's approval, surgery should be performed by a trained surgeon. When Ghrita s, alkali decoctions, milk preparations, and Uttar Basti are ineffective, Shastra karma is used as a last resort.<sup>36</sup>

### 1.12. Purvakarma (Pre-Operative Procedures)<sup>36</sup>

Firstly, the patient should be compensated by the use of an oleaginous material like oil or ghrita. The patient's bodily channels should be cleaned and drained with emetics and purgatives so that all doshas should be eliminated. The patient is now given a meal after being sedated and rubbed with oil. After that, the karma of Bali-pradaan, Mangal-paath, and Swasti-vaachan is completed. Collect all of Agropaharaniya adhyay's tools and medications. The patient must be informed afterward by the surgeon.

#### 1.12.1. Positioning of the Patient

A person with a strong body who is not nervous should be forced to sit on a table as high as the knee joint. The patient should then be allowed to lie on his or her back on the table, the upper half of his or her body on an elevated fabric cushion, and the lower part of his or her body in the lap of the attendant. The elbows and knee joints (of the patient) should then be contracted and bound using ropes or straps.

#### 1.12.2. Pre-Operative Manipulation of the Stone

Massage the patient's umbilical region with oil after positioning,

then press down on the left side of the umbilical region with a closed fist to bring the stone down. The surgeon's lubricated index and middle fingers should be inserted into the rectum. When pushed, the finger should be taken up to the raphe of the perineum, i.e. in the middle line, to place the stone between the rectum and the penis, giving the appearance of an elevated *granthi*.

### 1.13. Pradhana Karma (Operative Procedure)<sup>36</sup>

An incision the length of barley corn and wide enough to allow unobstructed stone escape should be created on the left side of the perineum raphe. Most specialists prefer making the incision on the right side of the perineum raphe for convenience of procedure. When extracting the stone from its cavity, care should be given to avoid it fracturing into fragments and leaving any fragmented particles behind (inside the bladder). Even if a small particle is left behind, it will grow in size again; hence it should be completely removed with the *Agravakra yantra* (curved forceps). Because the uterus and urinary bladder are close in women, the stone should be removed by an oblique and upward incision; otherwise, a urine-exuding ulcer would develop. Any injury to *Bastimukha* would be treated in a male patient with the same situation during the surgery. After the stone is removed, the patient is fomented by sitting in a *Droni*, which prevents blood from accumulating in the bladder. If there is blood in the bladder, a *Pushpa-netra* tool should be used to inject a latex tree decoction into the bladder.

### 1.14. Pashchata Karma (Post-Operative Procedures)<sup>36</sup>

The patient is given a treacle solution to clear his urinary system, and after removing him from the *Droni*, the operated wound should be massaged with honey and *Ghrta*. Every morning and evening for three days, the patient should be given a *yavagu* boiled with medications (which purify the urine) and coupled with *Ghrta*. After that, the patient is given rice milk and a significant amount of treacle for ten days (for urine and blood purification, as well as a moist wound). After ten days, the patient is forced to eat a meal consisting of rice, *Jangala* animal meat soup, and expressed citrus fruit juice. After that period, the patient is given *swedana karma* (sudation therapy), either by oil or liquid. The wound should next be cleansed with a latex tree decoction. The wound should be filled with pastes made from *Rodhra*, *Madhuka Manjishtha*, and *Prapundarika*, and treated with therapeutic oil or *Ghrta* made from the same ingredient as *Haridra*.

#### 1.14.1. Precaution During Surgery

When a person is handling a stone and the patient falls motionless with his head bowed and eyes fixated on a vacuous gaze like that of a dead man, no effort should be made to remove the stone. Death is unavoidable in such a situation. The procedure should be preceded in the absence of such an incident<sup>36</sup>. The following parts are to be covered during *Ashmari*'s surgical removal- *Mutravaha Srotasa*, *Shukravaha Srotasa*, *Mushka srota*, *Mutra Praseka*, *Sevani*, *Yoni*, *Guda*, and *Basti*. Death may occur as a result of the cut in a *Mutravaha Srotasa*, causing fluid to build in the bladder. Any *Shukravaha Srotasa* accident results in death or impotence for the patient. Some *Mushka* injuries cause *Dhwajabhanga* (erection loss), while *Mutra Praseka* injuries cause frequent pee dribbling. Injuries to the *Yoni* or *Sevani* produce excruciating pain, while injuries to the rectum or bladder cause immediate death.<sup>37</sup>

### 1.15. Pathya-Apathya

Although *Ashmari's Pathyapathya* was described in the *Charaka Samhita*, *Harita Samhita*, and *Bhaishajya Ratnavali*, it was not mentioned by *Acharya Sushruta*. *Pathya* includes *Langhana*, *Virechana*, *Vamana*, *Basti*, and *Avagaha sweda* are all useful in *Ashmari*. *Yava*, *Purana Shali*, *Kulattha*, *Mudga*, *Yavakshara*, the flesh of the *Krauncha* bird, and all *Vata Nashaka Aahara* are recommended dietetic foods. *Vatanulomana* and *Mutrala* make up the majority of these products. Medicines include *Gokshura*, *Yavakshara*, *Varuna*, *Punarnava*, and *Pashanabheda*<sup>38</sup>. According to *Acharya Sushruta*, for *Ashmari*, *Samashana*, *Ativiyayama* (physical work or exercise), *Adhyashana*, *Snigdha*, *Sheeta*, *Madhura*, *Guru*, *Aahara*, defecation and micturition suppression, and heavy diets are viewed as *Apathya*. For *Ashmari*, according to *Acharya Charaka*, *Sandharana*, *Vyayam*, *Ruksha*, *Sushka*, *Vaartaka* seven, *Pishtanna*, *Kharjur*, *Vyavay*, *Shalook*, *Jambav*, *Kapittha*, *Bisma* (*kamal mool*), *Kashaya rasa sevana*, etc. are *Apathya*.<sup>39</sup>

## 2. CONCLUSION

There is one type of urinary disorder among those mentioned in Ayurvedic literature for which both medical and surgical solutions are suggested and accepted by all *Acharyas*, and that condition is known as *Mutrashmari*. While *Ashmari* and urolithiasis share many of the same symptoms, the pathophysiology described in Ayurveda and modern medicine are different due to distinct ideological viewpoints. *Beeja dusti* (*beeja bhaga avayava dusti*) appears to be a significant factor in *Ashmari's* cause. Therefore, this could be regarded as *Utpadaka nidana*. *Asamshodhana sheelata*, *Mootra vegavidharana*, and *Apathya sevana* are said to be etiological factors of *Ashmari* which is why they may also be referred to as *Vyanjaka nidana*. The *Samavayee karana* for the formation of *Ashmari* has vitiated *Kapha dosha*. *Sanghata* and *Ashmari* are produced as a result of the *Shoshana* of such *mala* found in the urine, which is caused by this *Kapha* and its relationship with *Vata*. *Vishoshana* causes the concentration and supersaturation of urine. Stone formation necessitates supersaturation of urine, which may be caused by decreased urinary flow or excessive perspiration. *Ashmari's* continuing presence led to the *Mootravaha srota dushti*, which eventually gave rise to *Vyadhi lakshana*. In *Charaka samhita*, the description of *Ashmari* is present here and there. *Sushruta* was the first one to describe in detail the disease in a separate chapter along with its etiopathogenesis symptomatology, types, prognosis, and management. Then *Vagbhatta* did the same. In this study, all the information given in classical texts is compiled and shown with tables and authentic references. This will help researchers to collect all prospective or variations in terms of etiological factors, *poorvaroopa*, *roopa*, *samprapti*, given in *samhitas* at a single place. Further, this can be helpful for a clinician to identify different types of *Ashmari* as some signs and symptoms of these are the same as that of various stones found in the urinary tract so that he can take references and go for a holistic approach for the management of this disease.

## 3. AUTHORS CONTRIBUTION STATEMENT

Dr. Akshay Kumar conceived of the presented idea. Dr. Akshay Kumar wrote the manuscript with support from Dr. Pavithra Jaivarshaa. Dr. Devyani Dasar supervised the study. Dr. Akshay Kumar drafted the final version of the manuscript.

## 4. CONFLICT OF INTEREST

Conflict of interest declared none.



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