

## AN AYURVEDA APPROACH TO RENAL STONE

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### ABSTRACT

Renal stone is common clinical problem faced by clinicians. The prevalence mostly seen in the younger population and recurrent rates are very high. India is a developing country and a large number of populations under the poverty line and treatment for renal stone for these people not affordable and in modern medicine surgical intervention is the ultimate options. But after surgery also recurrent rate is high. This condition impacts on the economically active population representing a significant healthcare cost burden, as it is associated with restricted activity and/or hospitalization. In *Ayurveda*, we can compare this disease with *Ashmari* which is elaborately described in classics. So, dietary modification, life style changes and proper medicament management are essential for these *Ayurveda* e diseases which are elaborately described in *Ayurveda* classics. So, *nidana parivarjana* (etiological factor), *shodhan chikitsa* (purification therapy) and *aushadhies* (medicament) are described by our *acharyas*.

**Keywords:** *Ashmari*, *Ayurveda*, Renal stone

### INTRODUCTION

Renal stone is a disease of the genitourinary system characterized by the formation of solid piece of mineral salts present in urine. Kidney filters unwanted substances from body fluids, remove them in the form of urine and control chemical levels. When this processes is abnormal and there is deposition of crystals like calcium, oxalate, uric acid etc then there is formation of different type, shape and colours of stones.

Stones are typically classified by their location and composition. When the stone are in the Kidney and urinary tract it is termed as Nephrolithiasis, stone present in bladder termed as cystolithiasis, stone in ureters it is called as Ureterolithiasis. Mainly composed of calcium salts, uric acid, cysteine struvite, Calcium Oxalate and calcium phosphate are the most common types found in 80% of patients of Renal Stone<sup>1</sup>. It has

also applicable synonyms calculus of kidney, renal calculus, Stag horn calculus, and renal stone.

Various risk factors has been identified for stone formation and these includes hot climate, Vitamin A deficiency, excessive administration of Vitamin D, Metabolic disorders, Hyperthyroidism, Gout, Idiopathic Hypercalciurea, Acid urea, Family history of urinary stone, Geographic area, Dietary factors rich with calcium like red meat, fish, cereals and pulses, Fluoride rich water and recurrent urinary tract infection also plays an important role as a risk factors<sup>2,3,4</sup>.

Renal calculi occurs in peoples of all parts of the world with a lower life time risk of 3-15% in the West., 25% in Asia, 20% in India. Renal calculi are quite common and usually affects people who are between 20-60 years of age, they affect male more than female. It is estimate that renal colic affects about 10-20% of male, and 3-5% of female. Out of which 50% may end up with loss of kidney and renal damage. Recurrent stone formation is a common problem with all types of stones<sup>5</sup>.

Some time kidney stone passing and block the urinary tract and least to reduced to urine flow with symptoms of renal stone includes radiating pain lower back to abdomen, in external genitalia and groin get burning sensation and pain during micturation, blood in urine and increase urge and frequency of urination, fever and chills, irritability, Nausea, Vomiting, urine that smells bad or looks cloudy<sup>6</sup>.

In *Ayurveda*, this disease can be considered as *Ashmari*, which is comes under the *Mutravaha srotas vyadhi* and considered one among the *Ashtamaha-gada*<sup>7</sup>. *Acharya charaka* has explained this disease under *Trimarmiya chikitsa adhyaya*. *Acharya Sushrut* explains *Ashmari roga* under *nidana sthana*, *Ashmari* under *chikitsa sthana* and in *Mutrakrichra pratishedhatmak Adhyay* under *Uttartantra*. In *Ash-tanghridaya Mutraghat Nidan* under *nidan sthana* and *mutraghat chikitsa* under *chikitsa sthana*. In *Madhav-nidan* it is described under *Ashmari nidan adhyay*.

### Classification of *Ashmari*<sup>8</sup>

*Ashmari* can be classified under two broad heads as follows:

#### Doshic varieties

##### 1. *Vataja Ashmari*

##### 2. *Pittaja Ashmari*

##### 3. *Kaphaja Ashmari*

##### 4. *Shukrashmari*

#### Etiopathogenesis of *Ashmari*

*Ashmari* is one of the few surgical conditions which have been given a very prominent place in *Ayurveda*. *Vagbhata* mentioned it as *Maharoga*. *Susruta*, the father of surgeon, has described the *Ashmari* in details about its etiopathogenesis, symptomatology, prognosis, complications, Medical and surgical treatment, etc.

In *Madhava Nidana Kapha* is described as the basic *Dosha* for *Ashmari*. He also says *Ashmari* gets formed when *Vata* dries up the semen, urine, *Pitta* or *Kapha*, stored in the urinary bladder just as bile gets solidified in the cow and all types of *Ashmari* is are caused by the combination of all the three *Doshas*<sup>9</sup>.

According to *Susruta*, people who do not take proper cleansing procedure (*asamshodhana*) and are indiscrete regarding their dietary habit (*apathya karina*) gets their *Shlesma Dosha* aggravated, then mixed with urine and enters the *Vasti* (urinary bladder) to produce calculi<sup>10</sup>.

*Charaka* described the *Ashmari* in the chapter of *Mutrakrichra*. He explains excessive physical exercise, strong and irritant medication (*tikshna - ausadhi*), riding on fast moving horses or vehicles, drinking of dry wine in excess, ingestion of flesh of wet land, fishes and other food staffs, eating before the digestion of previous meal (*adhyasana*) are the basic causes of eight varieties of *Mutrakrichra* and ultimately *Ashmari*. At the time of treatment *Charaka* also warned the patient to avoid exercise, ingestion of dried and rough articles, suppression. of natural urges, baked food, excess of wind and sun, eating of food causing vitiation of *Vayu* (like lotus - rhizome, Jambu, etc.) *Charaka*, unlike *Susruta*, emphasised *Vayu Dosha* a contributory factor<sup>11</sup>.

*Kashyapa* described the etiology of *Mutrakrichra* and *Ashmari* as carrying heavy loads on the loins (*kati*), shoulders (*skandha*) by which *Pitta* is vitiated then in combination with *Kapha* and *Vayu* enters the *Vasti* affecting the same<sup>12</sup>.

*Kashyapa* emphasised more on *Pitta* than *Kapha* and *Vata*. In cases of differentiation between *Prameha* and

*Mutrakrichra*, *Kashyapa* mentioned *Pitta* (vitiated) is main cause of *Mutrakrichra*. He has given also the description of management of *Mutrakrichra* by *Pitta Shamaka* drugs (e.g., *madhura* or sweet, *ikshu* or sugar cane, *ghee*, etc.) and avoidance of *Pitta* vitiating materials<sup>13</sup>.

**According *Susruta Samhita* –**

- i) *Shleshma* is essential; it is the seat (*adhithana*) for *Ashmari*.
- ii) Children are more affected.
- iii) Subject not observing cleansing procedure.

iv) *Apathyakarina* i.e. indiscriminate dietary habit.

**According *Charaka Samhita* –** *Vata Dosha* is important as it dries up the other *Doshas* as well as the urine.

**PURVARUPA**

*Sushrut* explain prodromal features are pain in *Vasti* (urinary bladder), testis (*mushka*), penis (*shefasm*), internal urethral orifice (*vasti sira*), anorexia, lethargy, goat's body like odour of urine (*vastagandhattam*), fever (*jvara*), dysuria (*mutrakrichra*)<sup>14</sup>.

S.NO	PURVARUPA	SU	A.H.	A.S.	M.N.
1.	<i>Basti pida</i> (pain in urinary bladder)	+	+	+	+
2.	<i>Aruchi</i> ( Anorexia)	+	+	+	+
3.	<i>Mutrakrichra</i> (dysuria)	+	+	+	-
4.	<i>Bastimurdhvedana</i> ( pain in pelvic)	+	-	+	-
5.	<i>Mushakvedana</i> (pain in testis)	+	-	+	-
6.	<i>Shefvedana</i> (pain in penis)	+	-	-	+
7.	<i>Jwara</i> (fever)	+	+	+	+
8.	<i>Avasad</i> (lethargy)	+	-	-	-
9.	<i>Bastagandhatwa</i> (goat's body like odour)	+	+	+	+
10.	<i>Sandramutra</i> (cloudy urine)	+	-	-	-
12.	<i>Avil mutra</i> ( Turbidity of urine)	+	-	-	-
13.	<i>Basti adhman</i> (heaviness in urinary bladder)	-	+	+	+

**RUPA**

According to *Susruta* general symptomatology of *Ashmari* are intense pain in naval region, *Vasti* (urinary bladder), perineal raphe and penis (*medhra*) during micturition, there may be obstruction of urinary flow, urine may come like spray from urethra, some-

times mixed with blood. Urine may also be clear like *Gomeda gems*. At times passing sand like particles (*sikata*), pain during running, jumping, swimming, riding on horses back or on camel and even while walking<sup>15</sup>.

S.NO	RUPA	CH.	SU.	A.H.	A.S.	M.N.
1.	<i>Nabhivedana</i> (Intense pain in umbilical region)	-	+	+	+	+
2.	<i>Sevani vedana</i> ( pain in perineal raphe)	+	+	+	+	+
3.	<i>Mehan vedna</i> ( pain in penis)	+	+	-	-	-
4.	<i>Mutradhara sang</i> (slow stream of urine)	-	+	-	-	-
5.	<i>Mutravikirna</i> (spray like urine )	-	+	-	-	-
6.	<i>Gomedprakasham</i> ( urine like Gomeda gems)	-	+	+	+	+
7.	<i>Avilatwa</i> (Turbidity of urine)	-	+	-	+	-
8.	<i>Sasikta</i> (sand like particles)	-	+	-	+	+
9.	<i>Vidirnadhara</i> ( splitting of urine flow)	+	-	+	-	-
10.	<i>Sarudhir Mutra</i> ( urine with blood)	+	+	+	+	-
11.	<i>Medhra mrudan</i> ( rubbing of penis)	+	-	-	-	-
12.	<i>Mutravrodha</i> (Obstruction in urine flow)	-	-	+	-	+

**SPECIFIC RUPA**

1. *Kaphaja Ashmari*<sup>16</sup> – (swarupa) *Shweta, Snigdha, Kukkutand pratikasham, Madhukpushpa varni.*
2. *Pittaj Ashmari*<sup>17</sup> – (swarupa) *sarakta pitavabhasata, krishna, bhallatakasthi pratima, madhukvarna.*
3. *Vataj Ashmari*<sup>18</sup> – (swarup) *shyava, parush, visham, khara, kadamb pushpa kantik saman.*
4. *Shukra Ashmari*<sup>19</sup> – *piditmatre cha tasminne pradeshe pravilayamapadyate.*

**Classification and characteristics of kidney stones<sup>20</sup>**

Type	Incidence	Crystal shape	X-ray findings	Urinary risk factors	Clinical risk factors
Calcium oxalate dihydrate & monohydrate (mulberry stone)	75%	Envelope & dumbbell shaped	Radio-opaque Spherical, brown colour with sharp projection	↑Urine calcium, oxalate, uric acid, ↓urine volume citrate	Men in 30-40 yr age group
phosphate stone (staghorn calculus)	10-15 %	Amorphous	Radiopaque, spherical, smooth with white color. It is either Ca phosphate or Ca, mg, ammonium phosphate.	↑ Urine calcium, urine pH.	Primary hyperparathyroidism, distal RTA, Alkali treatment. Generally, in infected urine.
Uric acid	10%	Diamond Rhomboid	Radiolucent, <b>smooth, hard, yellowish,</b> staghorn possible	↑ Urine uric acid, ↓urine pH, urine volume	Gout, Diabetes mellitus, chronic diarrheal disease
Struvite	10%	Coffine –lid	Radiopaque, staghorns common Defective absorption of cystine from renal tubules.	↑ urine pH, urease- positive UTI	Neurogenic bladder, other anatomic abnormality
Cystine	<1%	Hexagonal	Faintly radiopaque, staghorns common	Inherited disorder	-

**Specific Symptoms** which further leads to burning Characteristics of *Ashmari* according to its different types are and pain during micturition as follows;

**Kaphaj Ashmari<sup>21</sup>**

- The *Kapha dosha* attends compactness and increases in size and obstructs the urine and produces features like tearing type of pain in bladder, heaviness in the bladder and feeling of cold.
- *Ashmari* appears like hen’s egg, pale-white colour, unctous to touch, large in size and like *madhuka* flower.

**Pittaj Ashmari<sup>22</sup>**

- *Kapha dosha* along with *Pitta dosha* attends compactness and obstructs the urine and produces dis-

comfort like burning sensation in the *vasti-medhra* (bladder-penis), feeling of hot air coming out of bladder.

- *Ashmari* appears like red, yellow, dark in colour and appears like seed of *Bhallataka*

**Vataja Ashmari<sup>23</sup>**

- *Vata* and *kapha dosha* after combining together obstructs the urine and causes pain as a result person bites his teeth, presses navel, external genitals, anus and shouts due to pain.
- Has to pass urine after putting force.
- The *ashmari* formed is *Shyava*, hard, irregular, rough, it contains thorny structures like of *Kadamba Pushpa*.

**CHIKITSA<sup>24</sup>**

1. *Aushadha chikitsa*
2. *Basti*
3. *Kshara Chikitsa*
4. *Shashtra Chikitsa*

Also *Nidan Parivarjan* is as much important as above *chikitsa*. As *Ashmari* is *Kapha* predominant condition, avoiding *kaphavardhak Ahar vihar* is necessary.

**Aushadh Chikitsa:** Early diagnosis and early treatment is necessary because it is difficult to treat. So, *Sushruta* even mentioned *chikitsa* during *Purvaroop* stage.

**Sushruta** described *Doshanusar Aushadh chikitsa* as follows:

**Vataj:** *Pashanbheda, Vasuka, Vashir, Ashmantak, Shatavari, Gokshur, Brihati, Kantakari, Kapotvanka, Khasa, Gunja, shyonak, Varun, Yava, kulattha, Badar.*

**Pittaj:** *Kusha, kasha, Ikshumula, pashanbheda, shatavari, Vidari, Dhanyaka, patala, Shyonak, Gok-*

*shur. Varunadi Gana, Guggulu, Kutha. Devadaru, Ela, Haridra. Marich, Chitrak.*

**Kaphaja ashmari-** *varunadi gana, guggulu, ela, kushtha, devdaru, haridra, maricha, chitraka etc drugs in form of kshar, peya, kshira, yavagu, kwatha.*

**2. Basti:** *Uttarbasti, Asthapan, Anuvasan basti* made by decoction of *Ksheeri Vriksha, Kakolyadi gana* flushes out the stone and collected blood from bladder and gives instant relief.

**3. Kshar:**

1. *kshara* prepared from *Varunadi Gana dravyas* is useful in *Ashmari*.

2. *Tilakalk, Apamarga, Kadali, Palasha* and *Yava kshar* should use with *Avimutra*.

3. *Patol* and *Karaveera kshara* as above also useful in *Ashmari*.

4. **Shashtra karma:** *Acharya Sushruta* described the detailed *Shastrakarma* of *Ashmari Nirharan* if above three *chikitsa* failed to remove *Ashmari*.

**PATHYAPATHYA**

	<i>Pathya</i>	<i>Apathya</i>
<i>Diet</i>	<i>Yava, Jeerna Shali, Mudga, Kulattha, Kushmand, Jangal mansa, cucumber,</i>	<i>Shushkann, pishtann, vartak, kapittha, jambu, Kharjur, Kashay Raspradhan Dravya</i>
<i>Vihar</i>	<i>Langhana, Vaman, Basti, Avagah sweda, Virechana</i>	<i>Ativyayam, Vyavay, mutravegavarodha and Vegaudeerana</i>

Diet according to types of Kidney stone<sup>25</sup>

**Calcium oxalate – primary abnormality is increased intestinal absorption of calcium. So to control this type of stones avoided calcium rich products.**

**Avoided**

1. **High calcium-** Egg, Milk, yoghurt, cheese( dairy products), cabbage, spinach, soybeans, ladyfinger, almonds, oranges, kelp, sesame seeds, celery, broccoli, collards, Turnips, fish, strawberries, chicken, dried figs, tamarind, prunes, apricots, black currants, custard apple, pineapples, kiwi, litchi. **High Oxalate** – Potato, peanuts, chocolate, beets, spinach.
2. **Calcium phosphate – Avoided**

Sodium intake, less animal protein like meat, dairy product, most plant based protein like nuts, legumes, dried peas, lentils, sunflower seeds.

**3. Uric acid – Avoided**

Meats of liver - kidney , sea food, alcohol, sunflower seeds, chicken, fish, mushrooms, asparagus, spinach, cauliflower, banana, raisins, broccoli, apricot, sprouts, soybean, white beans, peanuts, groundnuts.

**DISCUSSION**

*Vata* is located in *Pakvashaya* (large intestine) which is main responsible factor for the elimination and retention of *mala, mutra* and other toxic particles. When this *Vata* is aggravated then this Aggravated *Vata* is responsible for the formation of *ashmari*. Vitiating *Vata* dries up the *Shukra, Mutra, Pitta* and *Kapha* lo-

cated in the *Basti pradesh* and gradually stones are formed. According to *Sushruta Mutra* enters into *basti* through the *Mutravahak nadies*, like *mutra - Vata, Pitta* and *Kapha* also enters into the *basti* and further with *Upsneha nyaya Ashmari* is formed. The symptoms of calcium oxalate stone mimic with *Vataja Ashmari* like amber colour like that of lac or resin, hard to touch, irregular in shape with rough surface, appearance is like *kadamba puspa..* Uric acid stones, Urate Calculus appear yellowish brown in color comparative with *Pittaja Ashmari* color changes of cystine stone initially yellow and green on exposure to external atmosphere again compares with basic color representation of *Pitta like* red or yellow or black in colour, size is like *bhallataka* seed (approx), sometimes colour is like honey. Phosphate stone impart white color, smooth surface, larger size, lesser pain compared to other types of calculi, correlates with classical features of *Kaphaj Ashmari* like white, glossy to touch, large, oval in shape (like egg of hen) and colour like the flower of *madhuka..* So we can consider renal stone as *Ashmari* mentioned in *Ayurveda classics*.

## CONCLUSION

It is Multidimensional therapy like life style modification through diet; internal medicines and *basti* therapy are highly effective in the management of renal stone. *Acharya Sushruta* also indicates that by taking substances which are incompatible to one another as regards their tastes, potencies and digestive transformations, a greedy and intemperate person becomes afflicted with disease and weakness of the sense-organs, and ultimately dead.

If proper counselling and guidance is provided to kidney stone patients at the right time regarding *pathya-pathya* (dietary management) correlation with *Ashmari* and its management, it can be helpful in preventing further complications including recurrence of disease.

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