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### RESEARCH ARTICLE

#### CONSERVATIVE MANAGEMENT OF ASHMARI WITH AYURVEDA: A CASE STUDY

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#### Abstract

*Ashmari* is one among the eight most difficult to cure diseases (*Ashtamahagada*) described in Ayurveda classical texts. The symptomatology of *Ashmari* resembles the clinical features of Urolithiasis mentioned in the contemporary medical science. Urolithiasis is third most common disease of the urinary tract. Conventional management of Urolithiasis does not have any effect on the pathogenesis of this disease and therefore, recurrence of disease occurs very commonly. Ayurveda has more radical approach and wide range of options in the management of urolithiasis. A 23-year old Indian male student presented with the complaints of pain in right side of abdomen, burning and difficulty in micturition since last 15 days. Per abdomen examination elicited tenderness on right lumbar region of abdomen and around right renal angle. No other abnormality detected during general and systemic examination. Ultrasonography (whole abdomen) revealed multiple right renal calculi (largest being 6.9 mm). On Ayurvedic parlance, the present case was diagnosed as *Ashmari* based on the signs and symptoms. Patient was prescribed the Ayurvedic medicines, *Gokshuradi Guggulu* and *Varunadi Kashaya* on OPD basis. Patient was advised to follow-up initially after 07 days and later after every fortnight. Improvement in clinical features was there within 07 days. Patient showed complete relief in his complaints on third follow-up visit. Repeat Ultrasonography scan did not revealed any renal calculus. Clinically also, *Gokshuradi guggulu* and *Varunadi Kashaya* has provided complete relief in pain, burning micturition and dysuria. It can be concluded that *Gokshuradi guggulu* and *Varunadi Kashaya* may lead to disintegration and expulsion of calculi and thus provide relief in signs and symptoms of *Ashmari*. This case illustrates the effective conservative management of *Ashmari* with Ayurvedic medicines with no adverse events and no episode of recurrence even after one year.

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## Introduction:-

*Ashmari* is one of the prevalent ailments of the *mutravahasrotas* (urinary system) alongside *Mutrakrichra* and *Prameha*. In Ayurveda, Acharya Susruta described eight most difficult to cure diseases (*Ashtamahagada*) and *Ashmari* is one among them owing to its potentiality to disturb the structure and functions of urinary system.<sup>1</sup> The symptomatology of *Ashmari* explained in Ayurvedic texts resembles the clinical features of Urolithiasis mentioned in the contemporary medical science. Urolithiasis is third most common disease of the urinary tract after urinary tract infections and prostatic disorders.<sup>2</sup> Factors like irregular food habits, sedentary life style, occupation, hydration status, geography, nutritional deficiency, metabolic disorders etc. may be responsible for urolithiasis, however the causes and mechanism of their formation is still not clearly understood.<sup>3</sup> Urolithiasis is a complex process as a consequence of an imbalance between promoters and inhibitors of urinary crystallization in the kidneys.<sup>4</sup> Around 97% of the calculi are found in the kidneys and ureters while the other 3% in the urinary bladder and urethra.<sup>5</sup> Prevalence and incidence of urolithiasis has been increasing in present time; may be due to rapidly changing diet & lifestyle or better diagnostic tools for more accurate diagnosis. It occurs in approximately 12% of the global population and its re-occurrence rate in males is 70-81% and 47-60% in females.<sup>6</sup> In the current scenario, there are many treatment options available for the management of urolithiasis but the conventional management is quite expensive and the recurrence occurs commonly as it does not have any effect on the pathogenesis of this disease. It has the tendency to recur even after surgery. So, it is essential to find out an effective, easily available, acceptable and inexpensive treatment for urolithiasis. Ayurveda has more radical approach and wide range of options in the management of *Ashmari*. Ayurvedic drugs have potential to manage *Ashmari* (Urolithiasis) effectively due to their properties like *ashmari-bhedana* (lithotriptic), *mutrala* (diuretic), *vednasthapana* (analgesic), *shothahara* (anti-inflammatory), *basti-shodhana* (improve kidney functions), *deepana-pachana* (correct digestion and metabolism) and by maintaining urine pH. Acharya Susruta has described medical treatment for facilitating the disintegration of the *Ashmari* with *ghrita* (medicated ghee), *kshara* (medicated alkali preparation), *kashaya* (decoction), *ksheera* (medicated milk), *basti* (medicated enema) etc. before opting for surgical intervention.<sup>7</sup> A recent onset of *Ashmari* can be managed with oral medicines whereas large size and chronic calculi requires surgical treatment.<sup>8</sup>

## Case Report:

A 23-year old Indian male student presented in the OPD of Regional Ayurveda Research Institute, Ranikhet in August 2018 with the complaints of pain in right side of abdomen, burning sensation and difficulty in micturition since last 15 days. Patient was asymptomatic before initiation of these complaints. He consulted the nearby Govt. Hospital where the doctor prescribed the Ultrasonography (whole abdomen) for the complaints in which multiple right renal calculi were shown. He was put on conservative medical management by the Govt. hospital consultant for a week. But, the patient did not get any relief in his complaints even after one week. Followed by this, patient visited the OPD of Regional Ayurveda Research Institute (RARI), Ranikhet for the treatment. Patient had no history of Diabetes mellitus, Gout, Hyperparathyroidism or any other metabolic ailments.

Per abdomen examination elicited tenderness on right lumbar region of abdomen and around right renal angle. No other abnormality detected during general and systemic examination. His vitals were within the normal limits. Multiple renal calculi (largest being 6.9 mm) seen in right kidney in Ultrasonography report (Table 1 & Image 1). Calcium oxalate crystals were found in urine examination report. All other urine examination and hemogram reports were normal. On Ayurvedic parlance, the present case was diagnosed as *Ashmari* based on the signs and symptoms described in classical texts.

## Therapeutic Intervention:

Patient was prescribed the following Ayurvedic medicines on OPD basis:

1. *Gokshuradiguggulu* 500 mg three times a day with lukewarm water and
2. *VarunadiKashaya* 40 ml twice a day; both the medicines to be taken one hour after meals.

The formulations administered were dispensed from the OPD of Regional Ayurveda Research Institute, Ranikhet and procured from Indian Medicine Pharmaceutical Corporation Ltd., Mohan, Almora, Uttarakhand, India. Ingredients of these two formulations have been described at Table 2. Diet and lifestyle restrictions were also advised to the patient. Patient was advised to drink plenty of water, take less quantity of animal proteins like meat, egg, chicken, fish, dairy products, etc., oxalate-rich foods like spinach, beetroot, tomatoes, lady finger, apple juice, grapefruit, chocolate, cola drinks, etc., and avoid calcium supplements.

**Follow-Up And Outcome:**

Patient was advised to follow-up initially after 7 days and later after every fortnight. Burning micturition was relieved within 07 days. However, mild intensity pain in right side of abdomen was there on second follow-up visit (after 21 days of initiation of treatment). Pain was completely relieved on third follow-up visit (after 45 days of initiation of treatment) and no other complaints were told by the patient. Patient was advised to repeat Ultrasonography (whole abdomen) scan after fourth follow-up visit (one month after the 3<sup>rd</sup> follow-up visit); but the patient did not have the Ultrasonography scan as per the advice due to his busy schedule and continued the same treatment for one more month. Repeat Ultrasonography scan was done on 8<sup>th</sup> December, 2018 (Table 1 & Image 2) and did not revealed any renal calculus. His urine examination and Hemogram reports were within normal limits. Clinically also, he has complete relief in pain abdomen, burning micturition and dysuria. Patient was advised to strictly continue following diet and lifestyle restrictions to prevent re-occurrence of calculus and visit the OPD of the institute if any complaint recurs again. No adverse events occurred during the course of treatment and even after stopping the treatment. Also, no episode of recurrence occurs even after one year. Details of follow-up have been given in Table 3.

**Table 1:-** Ultrasonography, Hemogram and Urine Examination Report.

	6/8/2018	8/12/2018
<b>Ultrasonography (Whole Abdomen)</b>		
	Multiple right Renal calculi largest being 6.9 mm	No calculi seen
<b>Hemogram</b>		
Hemoglobin (in gm%)	13.8	14.1
T.L.C. (per mm <sup>3</sup> )	7900	7600
D.L.C.	Neutrophils – 65 Lymphocytes – 30 Eosinophils – 3 Monocytes – 2 Basophils - 0	Neutrophils – 62 Lymphocytes – 32 Eosinophils – 5 Monocytes – 1 Basophils - 0
E.S.R. (mm/Isthr)	15	10
<b>Urine (Routine &amp; Microscopic) Examination</b>		
Albumin	Absent	Absent
Sugar	Absent	Absent
Ketone bodies	Absent	Absent
Pus cells	2-3/hpf	Nil
R.B.C.	Nil	Nil
Epithelial cells	1-2/hpf	1-2/hpf
Crystals	Calcium oxalate (+)	Nil
Casts	Nil	Nil
Bacteria	Nil	Nil

**GOVIND SINGH MAHRA GOVT. HOSPITAL RANIKHET**

Distt. Almora (Uttarakhand)

**ULTRASOUND REPORT**Pt. Name..... Seemil Age..... 51/12 Sex..... Dt.....

(1) Liver

(2) G.B.

(3) C.B.D.

(4) PANCREAS

(5) SPLEEN

(6) Rt. KIDNEY

(7) Lt. KIDNEY

(8) U. BLADDER

(9) UTERUS

(10) Rt. Ovary

(11) Lt. Ovary

(12) OTHERS

none

in RT kidney calced

System multiple

echogenic shadow

are seen calcing

n.b

largest size (6.9mm)

Lt kidney / none

n.b

multiple RT Renal

Impression

calculi

(RADIOLOGIST)

us

Image 1:- Ultrasonography report before treatment.

**Dr. Susheela Tiwari Govt. Hospital**  
Haldwani, Distt.- Nainital - 263139

NOTE : THIS REPORT IS STRICTLY NOT FOR MEDICO - LEGAL USE

PATIENT NAME \_\_\_\_\_  
AGE/SEX \_\_\_\_\_  
REGD/DATE \_\_\_\_\_  
PART SCANNED : 2884622/8-12-18  
U S G WHOLE ABDOMEN

**USG REPORT OF WHOLE ABDOMEN**

- LIVER 11.5 cm
  - Normal in size, shape & echotexture
  - No IHBR dilatation seen
  - No focal lesion seen
- GALL BLADDER
  - Normal and anechoic
  - Wall thickness is normal
  - No evidence of any calculi
- PORTAL VEIN
  - Is normal in caliber
- CBD
  - Is normally visualized
  - Is normal in caliber
- PANCREAS
  - Normal in size and echotexture
  - No peripancreatic collection seen
- SPLEEN 8.4 cm
  - Normal in shape, size and echotexture
- RIGHT KIDNEY
  - Normal in size & echotexture
  - No hydronephrosis seen
  - No calculi seen
  - Corticomedullary differentiation is well maintained
- LEFT KIDNEY
  - Normal in size & echotexture
  - No hydronephrosis seen
  - No calculi seen
  - Corticomedullary differentiation is well maintained
- URINARY BLADDER
  - Normal and anechoic
  - No calculi seen
  - Wall thickness is normal

• Prostate volume = 16 cc

IMPRESSION :  
• No gross abnormality detected at present Jan

P.T.O.

Image 2:- Ultrasonography report after treatment.

Table 2:- Composition of Prescribed formulations.

Medicines	Ingredients
GokshuradiGuggulu	Gokshur ( <i>Tribulusterrestris</i> ) Guggulu( <i>Commiphoramukul</i> ) Shunthi ( <i>Zingiberofficinale</i> ) Marich ( <i>Piper nigrum</i> ) Pippali( <i>Piper longum</i> ) Haritaki ( <i>Terminaliachebula</i> ) Vibhitak ( <i>Terminaliabellerica</i> ) Amalaki ( <i>Phyllanthusemblica</i> ) Musta ( <i>Cyperusrotundus</i> )
VarunadiKwatha	Varuna ( <i>Crataevanurvala</i> ) Pashanbhed ( <i>Berginialigulata</i> ) Shunthi( <i>Zingiberofficinale</i> ) Gokshur ( <i>Tribulusterrestris</i> )

Table 3:- Timeline of Events.

Date	Details
6 <sup>th</sup> August 2018	Ultrasonography (whole abdomen) revealed multiple right renal calculi

16 <sup>th</sup> August 2018	First visit to OPD of RARI, Ranikhet and diagnosed as <i>Ashmari</i> Prescribed Ayurvedic medicines, <i>Gokshuradiguggulu</i> and <i>VarunadiKashaya</i> on OPD basis along with diet and lifestyle modifications
24 <sup>th</sup> August 2018	1 <sup>st</sup> Follow-up visit Burning micturition was relieved but the pain in right side of abdomen was not completely relieved Continued with the same oral medicines
17 <sup>th</sup> September 2018	2 <sup>nd</sup> Follow-up visit Pain in right side of abdomen got mild in intensity Continued with the same oral medicines
10 <sup>th</sup> October 2018	3 <sup>rd</sup> Follow-up visit Pain in right side of abdomen was completely relieved with no other complaints Continued with the same oral medicines
12 <sup>th</sup> November 2018	4 <sup>th</sup> Follow-up visit No Fresh complaints Advised to repeat Ultrasonography (whole abdomen) scan
26 <sup>th</sup> November 2018	5 <sup>th</sup> Follow-up visit No Fresh complaints Patient did not have the Ultrasonography scan as per the advice due to his busy schedule
8 <sup>th</sup> December 2018	Ultrasonography scan did not revealed any renal calculus
10 <sup>th</sup> December 2018	6 <sup>th</sup> Follow-up visit No Fresh complaints Advised to continue following diet and lifestyle restrictions to prevent re-occurrence and visit the OPD of the institute if any complaint recurs again.

### Discussion:-

AcharyaSusruta considered *Ashmari* as a grave disease and fatal as death itself.<sup>8</sup> As per Ayurveda, the root cause of *Ashmari* is aggregation of *Kaphapradhanadosha* in *Mutravahasrotas* due to *Agnimandya* and *Ama* formation.<sup>9</sup> The process of *Ashmari* formation takes place by the stagnation and super saturation of the urine and by crystallization of the crystalloids in the urine.<sup>10</sup> The mechanism of renal calculus formation as per modern medical science is a complex process which results from various complex processes including supersaturation, nucleation, growth, aggregation, and retention of urinary stone constituents within tubular cells.<sup>3</sup> Despite wide range of conventional medicine intervention options, 50% of patients suffer at least one recurrence, and 10-20% experience three or more further episodes of recurrence.<sup>11,12</sup> If left untreated or poorly treated, urolithiasis could result in urinary tract infection, urinary obstruction, chronic kidney diseases, end-stage renal failure and hypertension.<sup>13,14,15</sup>

Ayurvedic drug management to disintegrate the pathogenesis of *Ashmari* include the drugs with following properties:

#### ***Ashmari-bhedana:***

Disintegration, dissolution, expulsion, and to some extent prevention of urolithiasis like *Gokshura* (*Tribulusterrestris* Linn.), *Varuna* (*Crataevanurvala* Buch-Ham.), *Pashanbheda* (*Bergeniaciliata* Sternb.), *Kulatha* (*Dolichosbiflorus* Linn.), *Punarnava* (*Boerhaviadiffusa* Linn.) etc.<sup>16-22</sup>

#### ***Mutrala:***

Drugs which increase the production of urine and thus help in the expulsion of the urolithiasis like *Gokshura*, *Punarnava*, *Shvetaparnati*, *Trinapanchamula* etc.<sup>23-26</sup>

#### ***Deepana-Pachana:***

Drugs to correct abnormalities in the digestion and metabolism (as the intermediary metabolites (*ama*) while being excreted through the urinary tract could precipitate and give rise to urolithiasis) like *Trikatu* [Combination of *Shunthi* (*Zingiberofficinale*), *Pippali* (*Piper longum*), *Maricha* (*Piper nigrum*)], *Triphala* [Combination of *Haritaki* (*Terminaliachabula*), *Vibhitak* (*Terminaliabellerica*), *Amalaki* (*Phyllanthusemblica*)], *Musta* (*Cyperusrotundus*) etc.

**Urine alkalizer** drugs like *Yavakshara* (ash of *Hordeumvulgare*), *Gokshura*, *Shveta parpati*.<sup>25,27</sup>

**Vednasthapana&Shothahara:**

Anti-inflammatory and analgesic drugs like Guggulu (*Commiphoramukul* Hook. Ex Stocks), *Gokshura*, *Punarnava*etc.<sup>28-30</sup>

The constituents of both the prescribed medicines, *Gokshuradiguggulu* and *VarunadiKashaya* have *ashmari-bhedana* (lithotriptic), *mutrala* (diuretic), *vednasthapana* (analgesic), *shothahara* (anti-inflammatory), *basti-shodhana* (improve kidney functions) and *deepana-pachana* (correct digestion and metabolism) properties as mentioned above. By virtue of these medicinal properties, both the administered drugs have effectively disintegrated the pathogenesis of *Ashmari* and lead to expulsion of the *Ashmarifrom* the urinary tract in the present case.

The major limitation in this study is that it is a singlepatient study. However, based on the clinical outcome of this case study, a well-designed study for managing *Ashmari*with conservative Ayurvedic management can be developed with statistically significant sample size.

**Conclusion:-**

*Gokshuradiguggulu* and *VarunadiKashaya* effectively disintegrated the pathogenesis of *Ashmari*, provided complete relief in pain, burning micturition, dysuria and expulsion of *Ashmari*from the urinary tract in the present case. This case illustrates the effective conservative management of *Ashmari* with Ayurvedic medicines with no adverse events and no episode of recurrence even after one year.

**Clinical Significance:-**

As both the drugs are effective, easily available and inexpensive, they can be used in the management of *Ashmari* (Urolithiasis) in the initial stage when there are mild symptoms, small size of calculus with no high grade obstruction in the urinary tract.

**Informed Consent:-**

Informed written consent for reporting this case study was obtained from the patient.

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