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INTERNATIONAL JOURNAL OF DIAGNOSTICS AND RESEARCH**Diagnostic Method For Doshaj Bhed Of Mutrashmari: A Study Of Urine Microscopic Examination****Dr. Renuka Sawant¹, Dr. Ujwala Pawar²**¹ PG Scholar Dept. of Roga Nidana Government Ayurved College , Nanded.² Professor & HOD Dept. of Roga Nidana Government Ayurved College , Nanded.**Corresponding author: Dr. Renuka Sawant****Article Info: Published on : 15/04/2025****Cite this article as: - Dr. Renuka Sawant (2025) ; Diagnostic Method For Doshaj Bhed Of Mutrashmari: A Study Of Urine Microscopic Examination; Inter.J.Dignostics and Research 2 (3) 8-14, DOI: 10.5281/zenodo.15193205****Abstract**

Mutrashmari is one of the commonest diseases of urinary tract caused mainly due to dietary and behavioural changes. Also, *Acharyas* have considered it as *Ashtamahagad*, i.e., one of the most dreadful 8 diseases which are threat to life and difficult to treat. The description regarding its classification, clinical features, management and complication is mentioned in various Ayurvedic texts. However, diagnosis of *Mutrashmari* using modern diagnostic techniques is not mentioned clearly. Hence, the study was conducted to develop easy and convenient method for diagnosis of Doshaj bheda of *Mutrashmari*. Minimum of 200 patients diagnosed with *Mutrashmari* were chosen for study with informed consent. Patients were examined for symptoms and their grades, and urine microscopy. *Vataj Ashmari* was diagnosed in 78 out of 200 patients, *Pittaj Ashmari* in 73 out of 200 patients and *Kaphaj Ashmari* in 49 out of 200 patients. Urine microscopic examination may prove to be useful in this study to make observations regarding types of crystals and their association with *swarupa* of *Ashmari* mentioned in traditional texts. Thus, the research work is to develop urine microscopic examination as a diagnostic method as well as assessment of Doshaj bheda of *Mutrashmari*.

Keywords : *Mutrashmari, Doshaj, Diagnostic, Urine Microscopic Examination*

Introduction:

Mutrashmari, which means urinary calculi, is one of the commonest diseases of urinary tract. *Ashmari*

comprises of two words, i.e., *Ashma* and *Ari*. *Ashma* means stone and *Ari* means enemy. Hence, the name itself suggests its potential of being painful, difficult to cure, making it dreadful. In modern science, it can be correlated with urinary calculi on basis of its sign and symptoms. A calculus is polycrystalline aggregates composed of varying amounts of crystalloids and organic matrix. They can be classified on basis of their composition, shape, color and number. [1] The fine particles of these crystals are found in urine of patients suffering from urinary calculi, i.e., passing gravels in urine. These gravels are nothing but tiny sections of the actual crystal. These urinary gravels are mentioned as *Mutrasharkara* in Ayurvedic context and are similar in morphological characteristics to that of the actual *Ashmari*. [2] Hence, research work is to establish results of Urine Microscopic Examination, which can pave the way for the assessment of diagnosis of *Doshaj bheda* of *Mutrashmari*. This can help the disorder to be treated precisely as per the present circumstances. Therefore, an observational study was carried out about association between *Doshaj bheda* of *Mutrashmari* and *Mutrasharkara* with special reference to urine microscopic examination, with following aim and objective.

Aim: To assess association between *Mutrashmari* (*Doshaj Bheda*) and *Mutrasharkara* with special reference to urine microscopic examination.

Objectives:

1) Primary objective – To study the association between *Mutrashmari* (*Doshaj Bheda*) and

Mutrasharkara with special reference to urine microscopic examination.

2) Secondary objective –

- To study *Doshaj bheda* of *Mutrashmari*.
- To study *Mutrasharkara*.
- To study urine microscopic examination in detail.

Review of Literature:

1) *Mutrashmari* (Urinary Calculus)- In the Ayurvedic text like *Charak*, *Sushrut* and *Vagbhat Samhita* *Mutrashmari* is described very scientifically along with its *Chikitsa*. The word *Ashmari* is derived from two words- *Ashma* - Stone like structure *Ari* – Enemy. It suggests that *Ashmari* means a disease which act like enemy.

2) Classification of *Ashmari* :

Table 1: According to different *Acharyas* are as in under mentioned [3,4,5]

S.N	Ashm	S	A.	A.	M.	B.	Sh	Y.
o.	ari	u.	Hr.	S.	Ni.	P.	a.	R.
1.	<i>Kapha</i> <i>j</i>	+	+	+	+	+	+	+
2.	<i>Pittaj</i> <i>a</i>	+	+	+	+	+	+	+
3.	<i>Vataj</i> <i>a</i>	+	+	+	+	+	+	+
4.	<i>Shukr</i> <i>aja</i>	+	+	+	+	+	+	+

3) Urolithiasis : Urolithiasis is a crystallopathy where a solid piece of material (renal calculus) develops in the urinary tract. [6]

4) Types of Urinary calculi - According to composition, most commonly found urinary calculi are [7] :

- Calcium oxalate and phosphate (80%)
- Uric acid (10%) Triple phosphate (9%) Cystine (1%)
- Other types found are Calcium carbonate, Sulphonamide, Amorphous phosphate and urate and Leucine calculi.

5) Urine microscopy :

Many laboratorial tests and techniques have been mentioned to examine the changes in constitution of urine to diagnose a particular disease. Although there are advances in technique for the same, ancient findings recorded can also be found in modern era. Thus, it makes necessary to interpret modern results from *ayurvedic* aspect.^[8] Microscopic examination of urine of Ashmari patient shows crystals which are similar in characteristic features to that of Ashmari in urinary tract of patient.

- Sample – First morning stream freshly voided sample is preferred
- Microscope - Optical microscope or light microscope with binocular lenses was used for this study.
- Findings^[9] –

Crystals			
Normal		Abnormal	
Acidic	Alkaline	Acidic	Alkaline
1)Uric acid (diamond, rosette, plates, barrel) 2)Ca oxalate (dihydrate, monohydrate) 3)Amorphous urates	1)Ca carbonate 2)Phosphates 3)Ammonium urate	1)Cysteine 2)Cholesterol 3)Bilirubin 4)Leucine 5)Tyrosine 6)Sulphonamide	- -

Materials & Methods:

Materials: Diagnosis is made on the basis of Case Recording Proforma prepared for the study in relation to *Mutrashmari* and urine microscopy. This research work was approved by the Institutional Ethics Committee of Government Ayurved College and Hospital, Nanded, No. IEC/GACN/940/2024.

Methods:

Source of Data: The patients visiting O.P.D. and I.P.D. of Government Ayurved Hospital

Patients Selection: Minimum 200 patients diagnosed with Urinary calculi

Inclusion Criteria:

- Age group – upto 50 years
- Either sex
- Diagnosed patients of *Mutrashmari* with crystalluria (*Mutrasharkara*)

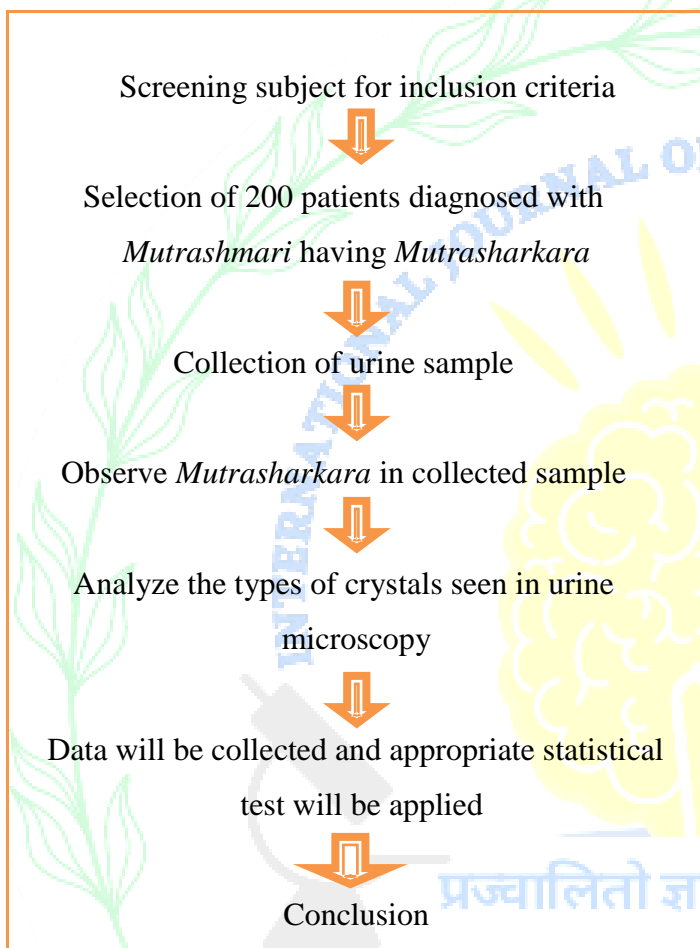
Exclusion Criteria:

- Urinary Tract Infection
- BPH
- Nephropathies
- Osteoporosis

Cells	RBCs	
	WBCs	
	Epithelial cells – Squamous, transitional, renal tubular	
Casts	Cellular	Non-cellular
	1) RBC Cast 2) WBC Cast 3) Epithelial cell Cast	Hyaline cast Waxy cast Granular cast Fatty cast

- Gout
- Severe metabolic disorders like diabetic mellitus, hypo/hyper parathyroidism

Study design :



1) Shape of crystals – Table No. 2 shows distribution of shapes of crystals :

Shape of crystals	No. of observations
Needle	28
Octahedral	13
Dumbbell	23
Blackish granules	8
Shocks of wheat	6
Irregular	17
Prism	16
Fern	16
Rosette	20
Barrel	15
Yellow granules	13
Rectangular	13
Brownish concentric	12
Total	200

2) *Swarupa* of *Sharkara* :Table /no. 3 shows distribution of *Swarupa* of *Sharkara*-

<i>Swarupa</i> of <i>Sharkara</i>	No. of observations
<i>Kantakachita</i>	33
<i>Kadambpushpvata</i>	36
<i>Shyava</i>	9
<i>Shwet</i>	18
<i>Madhukpushpvata</i>	31
<i>Pitavbhasa</i>	40
<i>Madhuvarna</i>	21
<i>Bhallatakasthipratima</i>	12
Total	200

Observation and Result:

In the present study, 200 patients of *Mutrashmari* who are already diagnosed as *Mutrashmari* with help of case record format were registered. The obtain data is discussed table wise under the heading observation-

3) Distribution of *Ashmari* according to *Doshajbheda*

-Table No.4 shows distribution of *Ashmari*

according to *Doshaj bheda* -

Doshaj bheda of Ashmari	No. of observations
Vataj	78
Pittaj	73
Kaphaj	49
Total	200

4) Association between *Sharkara* (crystals) and *Swarupa* of *Ashmari* -Following Table No. 5, 6 and 7 show association between *Sharkara* (crystals) *Swarupa* of *Ashmari* -

1) *Vataj Ashmari*:

	Kadam b pushpv ata	Kanta ka chita	Shyav a	X ²	P value
Needle	2	25	1	56.34 17	<0.00 001
Octahed ral	9	3	1		
Dumbbe ll	20	1	2		
Blackish granules	2	2	4		
Shocks of wheat	3	2	1		

From above table it is observed that, p value is <0.00001. Hence, null hypothesis is rejected at $p < 0.10$, i.e., there is significant association between needle shaped, octahedral shaped, dumbbell shaped, blackish granular and clumped shocks of wheat like crystals and *Vataj Ashmari*.

2) *Pittaj Ashmari* :

	Pitavb hasa	Madhu varna	Bhallat akasthi pratima	X ²	P valu e
Rosett e	16	3	1	39.7 151	<0.0 0001
Barrel	3	10	2		
Yellow granul es	11	1	1		
Rectan gular	9	3	1		
Brown ish concen tric	1	4	7		

From above table it is observed that, p value is <0.00001. Hence, null hypothesis is rejected at $p < 0.10$, i.e., there is significant association between rosette shaped, barrel shaped, yellow granular shaped, rectangular shaped and brownish concentric crystals and *Pittaj Ashmari*.

3) *Kaphaj Ashmari* :

	Shwe t	Madhukpushpv ata	X ²	P value
Prism	5	11	6.00 3	< 0.0000 1
Fern	3	13		
irregul ar	10	7		

From above table it is observed that, p value is <0.00001. Hence, null hypothesis is rejected at $p < 0.10$, i.e., there is significant association between prism shaped, fern shaped, irregular shaped crystals and *Kaphaj Ashmari*.

Discussion:

It is observed that, out of 200 patients, *Vataj Ashmari* was present in maximum number of patients (78) followed by *Pittaj Ashmari* (73) and *Kaphaj Ashmari* (49) in urine microscopic examination. Out of 78 patients diagnosed with *Vataj Ashmari*, 28 needle shaped crystals can be associated with *Kantakachita Vataj Ashmari*; 23 dumb bell shaped, 13 octahedral shaped and 6 shocks of wheat like crystals can be associated with *Kadambpushpvata Vataj Ashmari*; whereas 8 blackish granular shaped crystals can be associated with *Shyava Vataj Ashmari*.

Out of 73 patients diagnosed with *Pittaj Ashmari*, 20 rosette shaped, 13 yellow granular shaped and 13 rectangular shaped crystals can be associated with *Pitavbhasa Pittaj Ashmari*; 15 barrel shaped crystals can be associated with *Madhuvarna Pittaj Ashmari* and 12 brown concentric crystals can be associated with *Bhallatakasthipratima Pittaj Ashmari*. Out of 49 patients diagnosed with *Kaphaj Ashmari*, 16 prism shaped and 16 fern shaped crystals can be associated with *Madhukpushpvata Kaphaj Ashmari*, whereas 17 irregular shaped crystals can be associated with *Shwet Kaphaj Ashmari*. Above data is statistically significant. Hence, it is concluded that there is significant correlation between Calcium crystals and *Vataj Ashmari*; Uric acid and leucine crystals and *Pittaj Ashmari*; phosphate crystals and *Kaphaj Ashmari* with special reference to urine microscopic examination.

Conclusion:

Hence, we can conclude that patients diagnosed with *Mutrashmari* having crystalluria can be diagnosed further of *Doshaj bheda* of *Mutrashmari* with help of urine microscopic examination. The crystals

observed in urine sample of patients suffering from *Ashmari* closely resembles the morphological features of *Sharkara* described in *Ayurvedic* texts and *Doshaj bheda* can be ruled out to plan a precise treatment as per *Ayurvedic* principles which are based on *Dosha* predominancy. Also, it can be stated as urine microscopy is easy and convenient method to find out composition of stone and generate appropriate line of treatment not only conservative but also surgical.

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Dr. Renuka Sawant Inter. J.Digno. and Research

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