

## **A COMPARATIVE STUDY BETWEEN DOSHAJ TYPES OF MUTRASHMARI WITH MODERN TYPES OF UROLITHIASIS**

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### **ABSTRACT**

The urinary problems described in *Ayurvedic* texts, there is one variety where both the medicinal and the surgical treatments are advised and this entity is the *Mutrashmari*. The important factor i.e. the diagnostic part in case of a stone, the advice given by ancient *Acharyas* seems to be true even at present who were of the idea that before going for the treatment sure shot diagnosis is important both for the physician and the patient. According to modern the Urolithiasis is classified on the basis of their chemical composition as calcium oxalate, uric acid, phosphate etc. The crystals of stone are seen under microscope. Study of total 60 patients was carried out after appropriate counseling and with the informed consent for participation in the project. After diagnosis of the patients, the Urine examination was carried out which contained Urine routine and microscopic examination was done. Morphology of crystals was seen under microscope. The nature of crystals was observed under microscope and compare with the morphology of crystals given in various pathology texts. Considering the findings to compare the type of *mutrashmari* patients, for which types of crystal were present. Study suggests that in *Vataj Mutrashmari* Calcium Oxalate were Found, in *Pittaj Mutrashmari* Uric Acid were found and triple Phosphate were found in *Kaphaj Mutrashmari*.

**Keywords:** *Mutrashmari*, *Pittaj*, *Vataj*, calcium oxalate, uric acid, phosphate.

### **INTRODUCTION**

From the study of ancient surgical text *Sushruta samhita*, it becomes evident that the urological problems form an important part of medical sciences. Among all the urinary problems de-

scribed in *Ayurvedic* texts, there is one variety where both the medicinal and the surgical treatments are advised and agreed upon by all the *Acharyas* and this entity is the *Mutrashmari*.

Hence, so far as the diagnostic criteria is concerned we do find different types Ancient Acharya's were perfect in diagnosing a disease like *Mutrashmari* with their perfection in 'Nadi Pariksha' or with the help of *Mutra Pariksha*. The cause and mechanism of their formation is still uncertain. According to *Ayurved Srotovaigunya* resulting from *Dushit Kapha* localized in *Basti* in conjunction with *Pradushit Vata* and *Pitta* is responsible for the formation cause of *Ashmari*. Initially vitiation of *dosha* occurs in the *Mutravaha srotasa*, may be catalysed by the presence of an incipient lesion and ultimately be held responsible in the pathogenesis of *Mutrashmari*. According to *Ayurved Srotovaigunya* resulting from *Dushit Kapha* localized in *Basti* in conjunction with *Pradushit Vata* and *Pitta* is responsible for the formation of *Ashmari*. If we compare the *Doshaj* types of *Mutrashmari* and their symptoms and signs with the modern types of urolithiasis then it is useful for diagnostic purpose and management of urolithiasis. Furthermore renal calculus occurs in both the sexes at all the ages but commonly in the 3rd and 4th decades, stone in kidney or in ureter is probably little more frequent in men than women. Unfortunately none of these methods have proved to be the final solution for the problem. Similarly much work has already been carried out in most of the institutions all over the country.

## MATERIALS AND METHODS

- 1 The patients visiting to college hospital surrounding were selected for the study. Study of total 60 patients was carried out after appropriate counseling and with the informed consent for participation in the project.

- 2 Patients suffering from *mutrashmari* [Urolithiasis] were selected randomly for study. On the basis of signs and symptoms mentioned in text of *Vataj*, *Pittaj*, *Khaphaj* *Mutrashmari* patients were differentiate accordingly. *Vataj*: Those patients were examined & asked to give feedback of required information for filling observation forms.
- 3 The patients participating in the project were provided a questionnaire (attached in Annexure) to collect the informative data wherever necessary.

## INCLUSION CRITERIA

1. Patients suffering from signs and symptoms of urolithiasis.
2. Patients from age 20 to 60 years will be selected irrespective of age, sex, caste, income and occupation.
3. The patients of urolithiasis with medication for urolithiasis will be selected.

## EXCLUSION CRITERIA

1. Patients with severe complications like renal failure, malignancy, diabetes, hypertension.
2. The patients of *shukraj mutrashmari* will be excluded.
3. Pregnant women.
4. The patients with chronic disorders and of long term medication.

## Methodology:-

The standard case paper was prepared with the routine clinical data. Outdoor patients regularly visiting to *Nidana & Chikitsa* Department of the Institute were studied and included for data collection. Patients from various clinical camps organized by Institute were also considered for the study.

The total data was analyzed for the conclusion.

## OBSERVATIONS & RESULTS:

**Table 1. Data according to Consumption of Ahara –**

Sr.	Ahara	No. Of Patient
1.	Guru Ahara	34
2.	Ruksha Ahara	20
3.	Ushna Tikshna Ahara	6

**Table 2. Data according to Viharaj hetu-**

Sr.	Vegavidharana	No. Of patient
1.	Present	35
2.	Absent	25

**Table 3. Data according to Udarshul-**

Sr.	Udarshul Swarupa	No. Of patient
1.	Mild	13
2.	Moderate	16
3.	Sever	31

**Table 4. Data according Udarshul Kaal-**

Sr.	Udarshul Kaal	No. Of patient
1.	Morning	8
2.	Afternoon	5
3.	Evening	18
4.	Early Night	8
5.	Midnight	5
6.	Late night	16

**Table 5. Data according to Sakashta Mutrapravrutti–**

Sr.	Sakashta Mutrapravrutti	No. Of patient
1.	Present	19
2.	Absent	41

**Table 6. Data according to Sarakta Mutrapravrutti –**

Sr.	Sarakta Mutrapravrutti	No. Of patient
1.	Present	5
2.	Absent	55

**Table 7. Data according to Mutradaha–**

1.	Present	9
2.	Absent	51

**Table 8. Data according to Udargaurava –**

Sr.	Udargaurava	No. Of patient
1.	Present	13
2.	Absent	47

**Table 9. Data according to Apan Vayupravrutti –**

Sr.	Apan Vayupravrutti	No. Of patient
1.	Present	35
2.	Absent	25

**Table 10. Data according to Vepate–**

Sr.	Vepate	No. Of patient
1.	Present	23
2.	Absent	37

**Table 11. Data according to Hrullas/ Chhardi–**

Sr.	Hrullas/ Chhardi	No. Of patient
1.	Present	16
2.	Absent	44

**Table 12. Data according to Pravahana –**

Sr.	Pravahana	No. Of patient
1.	Present	28
2.	Absent	32

**Table 13. Data according to Malavshambha -**

Sr.	Malavshambha	No. Of patient
1.	Present	26
2.	Absent	34

**Table 14. Data according to Adhmana –**

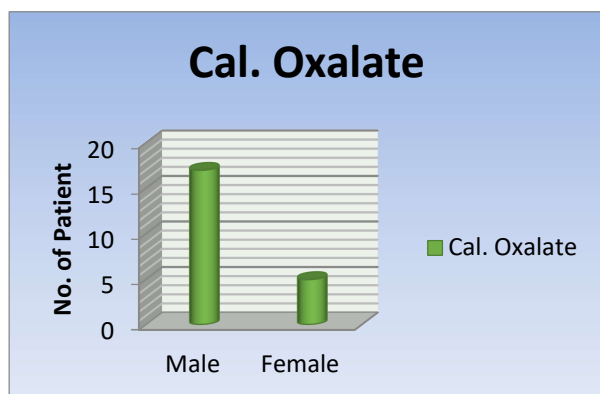
Sr.	Adhmana	No. Of patient
1.	Present	38
2.	Absent	22

**Table 15. Data according to crystals present in Urine –**

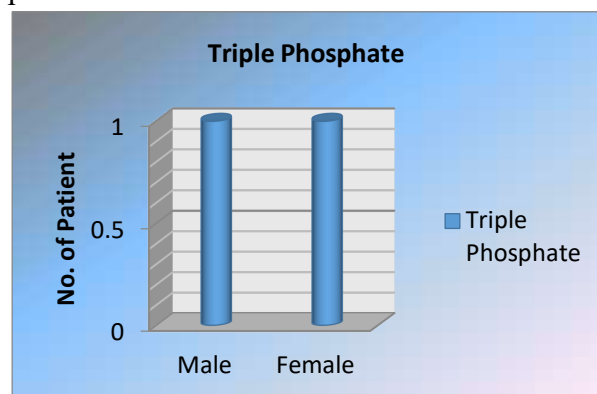
Sr.	Crystals present in Urine	No. Of patient	Male	Female
1.	Cal. Oxalate	22	17	5
2.	Uric Acid	4	3	1
3.	Triple Phosphate	2	1	1
4.	Nil	32	21	11

**Comparative graph for distribution of crystals present in urine sample**

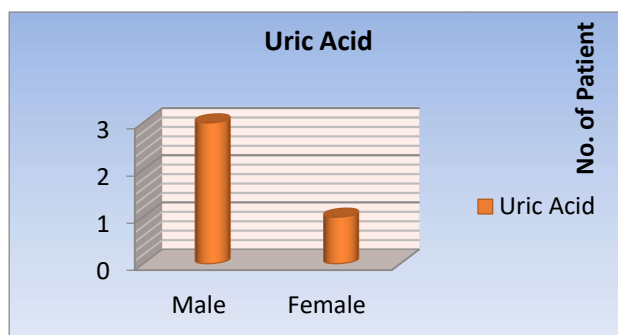
**Graph 1:** Data of Cal. Oxalate Crystals present in Urine in both sex:



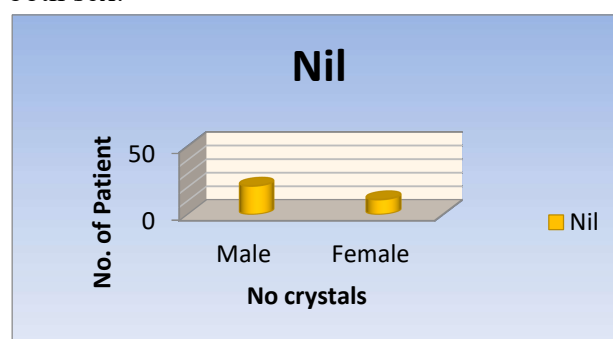
**Graph 3:** Data of Triple Phosphate Crystals present in Urine in both sex:



**Graph 2:** Data of Uric Acid Crystals present in Urine in both sex:



**Graph 4:** Data of Crystals absent in Urine in both sex:



**Table no.16. Data according to doshaj type:**

	Vataj	Pittaj	Kaphaj
No. of Patient	38	9	13
Male	29	6	7
Female	9	3	6

**Table no.17. Distribution of Crystals in Mutrashmari:-**

**A) Distribution of Calcium Oxalate crystals in Vataj Mutrashmari:-**

	Vataj Mutrashmari	Cal. Oxalate Crystals present in Urine
No. of Patient	38	22
Male	29	17
Female	9	5

### B) Distribution of Uric Acid crystals in *Pittaj Mutrashmari*:-

	<i>Pittaj Mutrashmari</i>	Uric Acid Crystals present in Urine
No. of Patient	9	4
Male	6	3
Female	3	1

### C) Distribution of Triple phosphate crystals in *Kaphaj Mutrashmari*:-

	<i>Kaphaj Mutrashmari</i>	Triple Phosphate Crystals present in Urine
No. of Patient	13	2
Male	7	1
Female	6	1

## DISCUSSION

### Discussion According To Age Demographic

#### Data:

#### AGE:

20- 30years = 25 -- 41.67%

30-40years = 21 -- 35%

40- 50 years = 6 --10%

50- 60years = 8 --13.33%

More number of the patients suffering from the *Mutrashmari* in the age 20yrs to 30yrs. In more deep observation it was found that it was almost 75-80% in the age 20yrs to 40 yrs. i.e. from middle age group. Renal calculus occurs at all the ages but commonly in the 3rd and 4th decades.

#### SEX:

Male: 42 = 70%

Female: 18 = 30%

Males were more affected by *mutrashmari* compared to females. In percentage study of patients it was observed that male patients were 70% & female patients were 30%. Thus, we may say that this disease was more prevalent in male.

#### OCCUPATION:

On considering the nature of occupation of patients, it was found that maximum number of patient was from servicemen group i.e. 27 patients (45%). While 6 patients (10%) were from

students group & 9 patients (15%) were from self employed group. Percentage of housewives was 30% i.e 18 patients.

**Distribution of all 60 patients according to various *Aaharaj hetu* consumption:** Excessive consumption of non-vegetarian and fast food, Chinese was found in 34 patients *Guru Ahara*. *Rukshahara* such as bakery products were found in 20 patients. Spicy food consumption were observed in 6 patients i.e. *Ushna Tikshna Ahara*. *Mutrashmari* was *tridoshaj vyadhi* but *samvayi karana* of *mutrashmari* was *Kaphaprakopa*. In 34 patients *Aaharaj hetu* were *Guru Ahara* i.e. *Kaphaprakopak hetu*.

**Distribution of all 60 patients according to *Viharaj hetu*:-**According to *charaka vegvidharana* was basic cause of *mutrakruccha*. In *mutrashmari* patients, 35 patients were having *vegvidharana* as a *viharaj hetu* and 25 were not having *vegavidharna*.

**Distribution of all 60 patients according to various *Vyasana* (Addiction):-**

In *Charak Chikitsasthanaadhyaya* 26 *madyapana* as a *hetu* of *mutrakruccha* was mentioned. Out of 60 patients 32 patients were consuming alcohol and 28 were not. So there were 53.33% patients of alcohol consumption and 46.67% were non alcoholic.

## General signs and symptoms:-

### 1. *Udarshul*:-

- ***Swarupa***:- According to *Udarshula swarupa* more number of patients having severe *udarshula* i.e. 31 patients. 16 patients were having moderate pain in abdomen, 13 patients having mild abdominal pain.
- ***Kal***:-These results clearly indicate that, 16 patients were having abdominal pain at late night and 18 patients were having abdominal pain at evening. While 8 patients at morning and 8 at early night. And 5 patients had pain at afternoon and midnight each. 34 patients having pain at *Vataj Kal*, 16 in *Kaphaj Kal* and 10 patients in *Pittaj kala* as far as the abdominal pain was concern.
- ***Sthana***:- 22 patients were having the abdominal pain at renal angle. 19 patients were having pain around the umbilicus and 19 patients were having pain at lower abdomen.

The pain was usually confined to the renal region, particularly in renal angles generally radiates along the ureter. In men it may refer to testicle and make them tender. In women, it may radiate to the labia majora, round ligament and anterior surface of the thigh.

2. ***Sakashta Mutrapravrutti***:-19 patients were having *sakashta mutrapravrutti*. Dribbling, sudden urethral pain, sudden stoppage of stream and few drops of blood stain urine flow occurs during micturition.
3. ***Sarakta Mutrapravrutti***:-*Sarakta Mutrapravrutti* observed in 5 patients out of 60 patients. This may occur due to the injury to the urinary system by their projecting part at the time of movements.
4. ***Mutradah***:-*Mutradah* were present in 9 patients while 51 patients did not complain of

*mutradah*. This may occur due to irritation to the urinary system.

5. ***Udargaurava***:-The patients with renal stone experience discomfort or a dull pain in the renal region. *Udargaurava* presents in 13 patients, and 47 patients were no complaining of *udargaurava*.
6. ***Apan Vayupravrutti***:-*Apan Vayupravrutti* presents in 35 patients and in 25 patients it was absent. The *Mutranishkramana kriya* carried out by *Apan Vayu*. Due to *Mutrashmari* the *Apan Vayu dushti* take place and vice versa.
7. ***Vepate***:-*Vepate* i.e shivering was present in 23 patients and was absent in 37 patients. This was due to *Apan vayu dushti*.
8. ***Hrullas/ Chhardi***:-Present data suggests that 44 patients were not having either *hrullas* or *chhardi*, while 16 were having *hrullas* or *chhardi*.
9. ***Malavshambha***:-28 patients were having *Malavshambha*, while other 32 were not having it. It observed in most of *Vataj mutrashmari* patients.
10. ***Pravahana***:-28 patients were having *pravahana*, while other 32 were not having it. The *malanishkramanakriya* carried out by *Apan Vayu*. Due to *pravahana Apan Vayu dushti* take place.
11. ***Adhmana***:- Data distribution of *adhmana* which suggests that 38 patients have it and 22 didn't have it. Among all *Vataj Mutrashmari* patients *adhmana* were present.

## Distribution of 60 patients according to Crystaluria:-

In Microscopic examination of Urine the crystals were found in 28 patients out of total 60 patients. In 22 patients Cal. Oxalate Crystals were

present, in 4 patients Uric Acid crystals present and in 2 patients Triple Phosphate seen. 32 patients didn't have crystaluria.

Major patients with calcium oxalate i.e. 22 patients. Out of which 17 were male and 5 were female respectively. Out of 4 patients of Uric Acid 3 were male and 1 was female. And 2 patients of Triple Phosphate one was male while other was female. In 32 patients crystaluria was not found out of which 21 male and 11 female.

**Distribution of 60 Patients according to doshaj type:-** In total number of patients *Vataj Mutrashmari* were more in no. i.e. about 38 out of which 29 were male and 9 were female. Followed by *vataj* there were 13 *Kaphaj Mutrashmari* patients, out of which 7 male and 6 female. The *pittaj Mutrashmari* patients were 9 in no. Out of which 6 were male and 3 were female.

**Distribution of Calcium Oxalate crystals in Vataj Mutrashmari:-** In 38 *Vataj Mutrashmari* patients 22 patients had Calcium Oxalate crystals. Out of which 17 male and 5 female. The percentage of Calcium Oxalate Crystaluria among the *Vataj mutrashmari* was 58%.

**Distribution of Uric Acid crystals in Pittaj Mutrashmari:-** In 9 *Pittaj Mutrashmari* patients 4 patients had Uric Acid crystals. Out of which 3 were male and 1 was female. The percentage of Uric Acid Crystalluria among the *Pittaj mutrashmari* was 44%.

**Distribution of Triple phosphate crystals in Kaphaj Mutrashmari:-** In 13 *Kaphaj Mutrashmari* patients 2 patients had Triple Phosphate crystals. Out of which 1 was male and 1 was female. The percentage of Uric Acid Crystalluria among the *Kaphaj mutrashmari* was 13%.

## CONCLUSION

The study suggests that the *Mutrashmari* occurs at all the ages but commonly in the 3rd and 4th decades. Males are more affected by *mutrashmari* as compared to females. The prime cause of *mutrashmari* is *Kaphaprakopak Ahar* and *vihar*. *Asanshodhana* i.e. not undergoing regular *sanshodhana* is a prime cause for production of *Ashmar*. In *Mutrashmari* patient having severe type of pain. The study suggests that in the no. of patients crystals were not found in urine. In which crystals were found commonly Calcium Oxalate. In minor quantity Uric acid and triple phosphate were found in Urine. Prevalence of *Vataj Mutrashmari* patients are more. *Mutrashmari vyadhi* presents in *Vata sthana* so more patients are of *Vataj Mutrashmari*. Most of *hetu* presents are *Kapha Prakopak* and *Vata Prakopak*. So no. of *Vataj* and *Kaphaj Mutrashmari* are more. In Urine of *Vataj Mutrashmari* patients commonly Calcium Oxalate are found. In *Pittaj Mutrashmari* Patients in which crystals were found was Uric Acid and in *Kaphaj Mutrashmari* Patients Phosphate crystals were found. So, the study suggests that in *Vataj Mutrashmari* Calcium Oxalate were Found, in *Pittaj Mutrashmari* Uric Acid were found and triple Phosphate were found in *Kaphaj Mutrashmari*.

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