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## OBSERVATIONAL STUDY OF RELATION OF MUTRASHMARI WITH DIFFERENT DEHA PRAKRITI.

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### ABSTRACT

*Ashmari* (urinary stones) is the condition in which there is formation of a substance like stone. <sup>[1]</sup> *Mutrashmari* (urinary stone) is one among the *Ashtamahagada* (eight fatal conditions). <sup>[2]</sup> It is considered difficult to cure because of its *Marma Ashrayatwa* due to involvement of *Basti*, which is one of the *Tri Marma* (three vital parts), being the *Vyakta Sthana*. <sup>[3]</sup> It is *Kapha* predominance *Tridoshaja Vyadhi*.<sup>[4]</sup> As per the clinical features, it is compared to urolithiasis. It is the formation of stony concretions in the bladder and urinary system. It is the common diseases of *Mutravaha strotas* (urinary tract) that occur due to disequilibrium between stone inhibiting and promoting factors in the urinary system. <sup>[5]</sup> *Ayurveda* states that *Mutrashmari* is *Kapha* dominant *Vyadhi*. Specific *dosha* dominant *prakriti* are more prone to that specific *dosha* dominant *vyadhi*. It has been said that certain *Prakriti* individuals are liable or prone for certain disease. Symptoms of *Mutrashmari* can lead to various urological complications. Formation of Urine is based upon dietary factors that is, diet according to *prakriti* can have specific effect on *Mutrashmari*. Therefore, specific *dosha* dominant *Ahaar Vihaara* can cause specific *dosha* dominant disease and can lead to serious complications. <sup>[1]</sup> The probability of disease manifestation in relation with specific *prakriti* needed to be practically observed and understood. By knowing the *prakriti* one will know about the strength of person to combat with diseases as person having equilibrium in *prakriti* is said to be having best immunity and strength. <sup>[1]</sup> Hence the present work an attempt has been made to elaborate the relation of *Mutrashmari* with *Deh-Prakriti*.

Key words: *Mutrashmari*, *Deh-Prakriti*, *vyadhi Dosha*, *Urolithiasis*.

**INTRODUCTION:**

Ayurveda provides better solution in the forms of proper dietary management, life-style advices, detoxification and biopurification procedures such as panchakarma, medicament & rejuvenation therapies treating the patient as whole meaning intervention targeted towards complete physical, psychological and spiritual well-being is the holistic approach of Ayurveda which makes this science a wonderful option in treating diseases. [1]

It is mentioned in a Samhita that *Mutrashmari* is caused due to improper purification of body. Following *Nitya-apathyasevana* that is, Disturbed *Dincharya* and *Ritucharya* along with *Diwaswapa*, *Samshana*, *Adhyashana*, *Shita*, *Snigdha*, *Guru*, *Madhur* Diet consumption regularly.

*Mutrashmari* is closely related with Renal calculi (urolithiasis) are common problems in primary care practice. It can Objectives:

be caused by both environmental & metabolic problems. Lifestyle modification play vital role to prevent the occurrence of urinary calculi which is further closely related with concept of *pathyapathyasevan* according to prakriti in Ayurveda.

It is noticed that most of the lifestyle related disorders and dietary habits are opposite to individuals *prakriti* (special body constitution) described in Ayurveda; in terms of *Dincharya* (daily regimen), & *Ritucharya* (seasonal regimen) & wholesome-unwholesome diet. Therefore, it clearly indicates that if a person wants to be healthy, he must design his lifestyle according to *prakriti*. [1] Hence the present work an attempt has been made to elaborate the relation of *Mutrashmari* with *Deh-Prakriti*.

**AIM OF THE STUDY:****Aim:**

To study relation of *Mutrashmari* with different *Deha Prakriti*.

**Table: 1- Objectives of present study**

<b>Ayurvedic</b>	Conceptual study of <i>Mutrashmari</i> . Review of <i>Deha Prakriti</i> from <i>Samhita</i> . Conceptual study of relation of <i>Mutrashmari</i> with <i>Deha Prakriti</i> . Observational study of relation of <i>Mutrashmari</i> with <i>Deha Prakriti</i> .
<b>Modern</b>	Review of Renal calculi (Urolithiasis). To observe the findings from modern parameter used for diagnosis of Renal calculi (urolithiasis) To study causative factor and risk factors responsible for Renal calculi. To find out relation of Renal calculi with ayurvedic concept of <i>Prakriti</i> using modern parameter.

**REVIEW OF LITERATURE:*****Mutrashmari* and its *Chikitsa*:**

*Ashmari* is one of the *Mahagadas* due to its potentiality to disturb the urinary system. Also because of:

- *Tridoshaja* origin

- *Marmashrayi*
- It is a fatal disease, as it needs surgical intervention.
- *Kruchhrasaddhya* disease.

***Nirukti*:**

तुल्यताश्मना यान्ति तस्माताश्मरी विदुः ॥ [6] (मा. नि. अश्मरी

अध्याय)

Ashmari is the stone formed in the *Strotasa* especially in the *mutramarga*.

### Types of Mutrashmari:

Vataja, Pittaja, Kaphaja, Shukraja.

### Nidan:

The first principle of Ayurvedic treatment is to avoid *nidana* (*nidana parivarjan*) and then treat according to the disease.

Many Acharyas have described different etiological factors for *Ashmari*. According to *Sushruta*, those who neglect the *Samshodhana* of internal channels and those who are engaged in unwholesome dietary habits become the victim of *Ashmari*.

तत्रासंशोधनशीलस्यापथ्यकारिणः प्रकुपितः श्लेष्मा |

मुत्रसम्पृक्तो अनुप्रविश्य बस्तिमश्मरिं जनयति ॥ [7] (सु. नि.

३/४)

Acharya Charaka has not given separate chapter for the disease but explained it under the "*Mutrakricchra*". Hence the *nidanas* of both *Mutrakricchra* & *Ashmari* can be taken as same.

### Table 2: Pathyapathya in Mutrashmari

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

## UROLITHIASIS

### Aetiology

The causes of renal stone formation are not yet fully understood but in majority of cases multiple factors are involved. The important factors which influence the

Practice of excessive exercise, Strong medicines , *Ruksha Madyapana* , Excessive intake of *anupa - mamsa* , *Adhyashana* , *Ajeernabhojana* , *Matsya sevana* (Ch. Chi. 26/32) [8]

According to *Vagbhata*, the *Nidanas* are Intake of heavy, fatty & sweet food excessively, Day sleep, *Ajeerna-bhojana*, *Adhyashana* According to *Kashyapa Bhar vahana* on *Kati* and *Skandha*.

### Purvaroop:

तासां पुर्वरूपाणि ज्वरो बस्तिपीडा रोचकौ मुत्रकृच्छं ।

बस्तिशिरोमुष्कशोफसां वेदना कृच्छावसादो बस्तगधित्वं मुत्रस्येति ॥ [10] (सु. नि. ३/५)

### Roopa:

### Samanya lakshana:

मुत्रधारासंगः मुत्रविकिरणं अत्याविलं ससिकनं विसृजती ।

धावनलंधनप्लवनपृष्ठयोर्नोष्णाध्वगमनैचास्य वेदना भवन्ति ॥ [11] (सु. नि. ३/७)

### Pathyapathya:

No *Pathyapathya* has been directly mentioned by Acharya *Sushruta* in relation to *Ashmari* but *Charaka Samhita*, *Harita Samhita*, *Bhaishajya Ratnavali* have mentioned about it for *Ashmari*.

formation of growth of uroliths are as follows:

### Etiological factors:

Metabolic factors, Dietetic factors, Anatomical factors, Endocrine gland abnormalities. Others.

**Types of Renal calculi:****I. Primary stones:**

Are those which appear in apparently healthy urinary tract without any antecedent inflammation. These stones are usually formed in acid urine. [12] These stones are usually consisting of calcium oxalate, uric acid, urates, cystine, xanthine or calcium carbonate.

1. Oxalate calculus (calcium oxalate)
2. Uric acid and urate calculi
3. Cystine calculi
4. Xanthine calculi
5. Indigo calculi

**II. Secondary stones:**

1. Phosphate calculus: calcium phosphate and ammonium magnesium phosphate (triple phosphate)
2. Mixed stones

**CLINICAL FEATURES**

1. Quiescent calculus
2. Pain
3. Hydronephrosis
4. Hematuria
5. Pyuria- infection can have pus in urine
6. Nausea / Vomiting

**PHYSICAL SIGNS**

Tenderness, Muscle rigidity over the kidney, Swelling

**INVESTIGATIONS**

1. Blood examination
2. Urinalysis
3. Chemical examination
4. Microscopic examination of urine
5. Bacteriological examination of urine
6. Renal function tests

**AYURVEDIC REVIEW OF DEHA PRAKRITI**

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**DEFINATION OF PRAKRITI**

समपित्तानिलकफाः केचिग्दर्भादि

मानवाः ।

दृश्यते वातलाः केचित्पित्तलाः

श्लेष्मलास्तथा ।।

तेषामनातुराः पूर्वे वातला.... सदातुराः

।

दोषानुशयिता ह्येषां देहप्रकृतिरुच्यते

॥ (च. सू. ७/३९-४०)

People are borne with various proportions of *Doshas*. Their body constitution is referred accordingly. Those borne with equal proportion of three *Doshas*, that is ratio of *Vata*, *Pitta* and *Kapha* equal to each other are *samapittanilakapha*. These individuals are generally healthy people and remain healthy. Few of them show predominance of one *Dosha*. Those exhibiting predominance of *Kapha* are *shleshmala* predominance of *Pitta* or *Vata* are called *pittala* and *vatala* respectively. These people frequently fall sick.

**Deha Prakriti:**

*Vataja*, *Pittaja*, *Kaphaja*, Combination of *Vataja* and *Pittaja*, Combination of *Pittaja* and *Kaphaja*, Combination of *Kaphaja* and *Vataja*, Combination of *Vataja*, *Pittaja* and *Kaphaja*.

**CHARACTERISTICS OF PRAKRITI****A. Vata Prakriti Characteristics:**

### ➤ From Charak Samhita

वातस्तु रुक्षलघुचलबहुशीतपरुषविशदः । तस्य रौक्ष्याब्दातला रुक्षापचचिताल्पशरिरः प्रततरुक्षक्षामसत्रसकजर्जरस्वरा जागरुका भवन्ति, लघुत्वाल्लघुचपलगतचेष्टाहाराः

चलत्वादनवस्तित सन्ध्यक्षिभुहन्वोष्ठजिह्वाशिरः स्कन्धपणिपादाः

बहुत्वात्बहुप्रलापकन्डरासिरप्रतानाः शिघ्रत्वाच्छीघ्रसमरंभक्षोभविकारः

शीघ्रत्रासरागविरागाः श्रुतग्राहिणो आल्पस्मृतया शैत्याच्छीतासहिष्णवः

प्रततशीतकोव्देपलस्तंभाः पारुष्यात्

परुषकेशश्मश्रुमनखदशनवनपाणिपादाः

वैशघातस्फुटितङ्गावयवाः सततसन्धिशब्दगामिनश्च भवन्ति; त एवं

गुणयोगाब्दातलाः प्रायेण

अल्पबलश्च अल्पायुषश्च अल्पापत्यश्च अल्पसाधनाश्च भवन्ति ॥

(च.वि.८/९७) [13]

### Pitta Prakriti Characteristics:

### ➤ From Charak Samhita –

पित्तमुष्णं तीष्णं द्रवं विस्त्रअम्लं कटुकं च ॥

पित्तमुष्णं तीष्णं द्रवं विस्त्रअम्लं कटुकं च ॥

तस्यौष्ण्यात् पित्तला भवन्ति उष्णासहा, उष्णामुखाः

सुकुमारावदातगात्राः,

प्रभुतपिप्लच्यंगतिलपिडकाः, क्षतपिपासावन्तः

क्षिप्रवलिपलितखालित्यदोषाः,

प्रायो मृदल्प कपिलश्मश्रुलोमकेशाश्च, तैक्षणपराक्रमाः

तिक्ष्णाग्रयः, प्रभुताशनपानाः क्लेशासहिष्णवो, दन्तशुकाः,

द्रवत्वाच्छिथिलमृदुसन्धिमांसाः, प्रभुतमृष्टस्वेदमुन्नपुरिषाश्च, विस्त्रवत्

प्रभुतपूतिकक्षास्यशिरः शारिरगन्धाः, कट्वम्लत्वादल्पशुक्रच्यापत्याः, च

त एवंगुणयोगात् पित्तला मध्यबलाध्यायुषोमध्यज्ञानवित्तोपकरणवन्तश्च

भवन्ति ॥ (च.वि.८/९७) [14]

### B. Kapha Prakriti Characteristics:

### ➤ From Charaka Samhita –

श्लेष्मा हि स्निग्धश्लक्ष्णमृदुमधुरसारसान्द्रमन्द स्तिमितगुरुशीतविलाच्छः ।

तस्यस्नेहात्श्लेष्मलाः

स्निग्धांसाः, श्लक्ष्णत्वात्श्लक्ष्णामृदुत्वात्तृष्टिसुखसुकुमारावदातगात्राः,

माधुर्यात्प्रभूतशुक्रव्यवायापत्याः,|

सारत्वात्सारसंहतस्थिरशरीराः,सांद्रत्वात्उपचितपरिपूर्णसर्वामन्दत्वात्तमन्द चेष्टाहारव्याहाराः,स्तैमित्यात्अशीघ्रआरम्भकक्षोभविकाराः,गुरुत्वात्सारा धिष्ठितावस्थितगतयः,शैत्यात्अल्पक्षुतृष्णासंतापस्वेददोषाः,विलत्वात्सु श्लिष्टसारसंधिबंधनाः, तथाऽच्छत्वात्प्रसन्न स्निग्धवर्णस्वराश्च भवन्ति । त एवं गुणयोगात्श्लेष्मला बलवन्तो वसुमन्तो विद्यावन्तः ओजस्विनः आयुष्मन्तश्च भवन्तिश्च ॥ (च.वि. ८/९८) [15]

### MATERIALS AND METHODS:

#### Materials:

- Classical sign and symptoms of *Mutrashmari*.
- Systemic Examination of patient having *Mutrashmari*.
- Investigations according to Ayurvedic and Modern parameters.
- Proforma for *Deha Prakriti* assessment to find out *Deha Prakriti* of individual having *Mutrashmari*.

#### Methods:

Patients having classical signs and symptoms of *Mutrashmari* were selected for the study from O.P.D. and I.P.D. of our Hospital. Both male and female patients between age group 30 years to 75 years have been taken for study. The known case of *Mutrashmari* were subjected for the study.

#### Place of study:

Patients reported in the OPD and IPD of our Hospital were carefully selected according to the diagnostic, inclusive criteria.

#### Consent:

An informed written consent of all patients included in my study was taken before starting the study.

#### **Ethical clearance:**

Clearance from ethical committee of the institution was taken.

#### **Plan of Study:**

The study was carried out under two headings, viz. Conceptual study and Observational study.

**Sample size:** 60 patients

#### **Inclusive criteria:**

1. Male and female patients having classical sign and symptoms of *Mutrashmari* had taken.
2. Patients between Age group of 30 years to 75 years.
3. Patient irrespective of DM or Hypertension.
4. Patient irrespective of caste, religion and economic status are selected for the study.

#### **Exclusive criteria:**

1. Age of patients less than 30 years and more than 75 years.
2. Patients having CCF, CRF and any major illness of urinary system including malignancy.
3. Patient having psychological illness.

#### **Withdrawal criteria:**

1. If patient have become uncooperative.

2. The patient is not willing to continue the follow the assessment schedule.

#### **CRITERIA OF ASSESSMENT:**

##### **A. Subjective parameter:**

##### **1. Criteria for Diagnosis of *Mutrashmari* using case record format:**

The classical sign and symptoms of *Mutrashmari* are as follows,

1. *Mutrakriccha* (Difficulty during micturition)
2. *Sa-daha* (Burning micturition)
3. *Sa-Shul* (Pain during Micturition)
4. *Udar-Shul* (Pain in abdomen)
5. *Sa-Rakta* (Hematuria)
6. *Parshwa-Shul* (Radiating pain in Lower back region)

According to modern science classical symptoms of *Mutrashmari* can be correlated with classical signs and symptoms of Renal calculi which further includes,

1. Nausea
2. Vomiting.

Total 8 signs and symptoms of *Mutrashmari* using both *Ayurvedic* and modern sciences are evaluated in this study as follows,

**Table 3: Gradation of *Mutrashmari* symptoms**

Sr.no	Grade	<i>Mutrashmari</i> symptom
1.	0	Absent
2.	1	present

History of past illness, Personal history including diet and addiction, *Ashtavidha parikshan*, *Strotas parikshan*, Physical examination and Systemic examination of patient having classical signs and symptoms of *Mutrashmari* were carried out and mentioned in case record format. Relation between *Mutrashmari* symptoms and different *Deha Prakriti* was observed.

## 2. Criteria of Assessment of *Deha Prakriti*:

*Deha Prakriti* of patient having *Mutrashmari* was evaluated using Proforma for *Deha Prakriti* assessment approved by MUHS, Nashik.

Proforma for *Deha Prakriti* assessment is mentioned below in Annexure D.

### B. Objective Parameter

**Table 5: Shows *Deha Prakriti* wise distribution –**

Sr. No.	<i>Deha Prakriti</i>	No of Patients	% of patients
1	<i>Kapha Pitta</i>	25	41.67
2	<i>Kapha Vata</i>	21	35
3	<i>Pitta Kapha</i>	4	6.67
4	<i>Pitta Vata</i>	0	0
5	<i>Vata Kapha</i>	3	5
6	<i>Vata Pitta</i>	7	11.67
7	<b>Total</b>	<b>60</b>	<b>100</b>

## 1. USG Abdomen and Pelvis:

The size of calculus, site of calculus and number of calculi were directly observed from USG Abdomen and Pelvis.

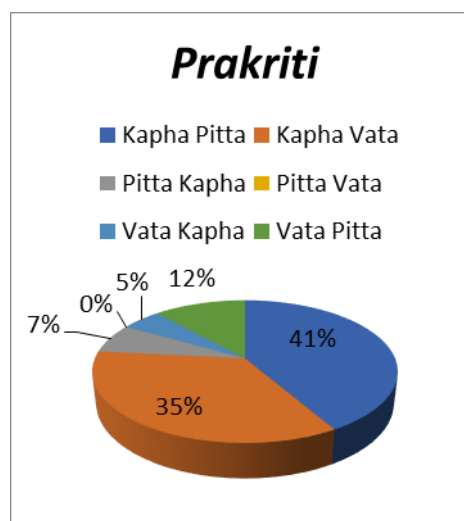
The size of calculus and number of calculi are tabulated as follows,

## 2. Urine analysis:

The Physical, Chemical and Microscopic examination of urine of patient showing classical signs and symptoms of *Mutrashmari* were carried out from nearby laboratory from the place of study.

## OBSERVATIONS AND RESULTS

### *Deha Prakriti*

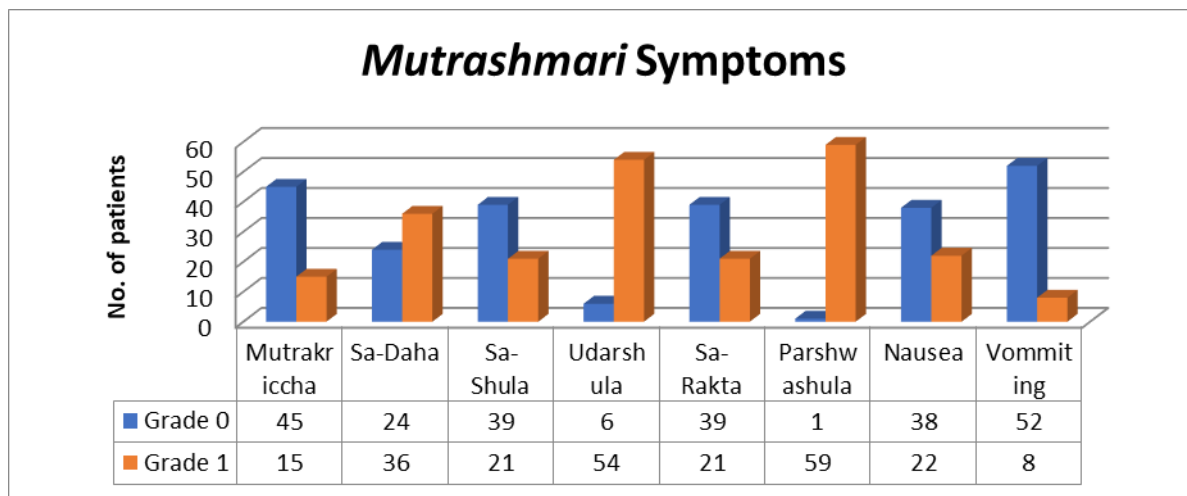
**Figure 1: Shows *Deha Prakriti* wise distribution –**

In the present study, maximum 41.67 % of patients were found to be of *Kapha-Pitta Prakriti*. 35 % of patients were found to be of *Kapha-Vata Prakriti*. 11.67 % of patients were of *Vata-Pitta Prakriti*, 6.67 % of

patients were of *Pitta-Kapha Prakriti*, 5 % of patients are of *Vata-Kapha Prakriti*. No patient was found to be of *Pitta-Vata* and *Samdoshaj Prakriti*.

**Gradation of Subjective Criteria (*Mutrashmari* Symptoms)**

Shows Gradation in *Mutrashmari* Symptoms -



**Objective Parameters by Analysis of Variance (ANOVA)**

**A) Average *Mutrashmari* Symptoms according to different *Prakriti***

**Table No. 38 - Average *Mutrashmari* Symptoms according to different *Prakriti*-**

<i>Mutrashmari</i> symptom Score	<i>Prakriti</i>					
	<i>Vata-Pitta</i>	<i>Vata-Kapha</i>	<i>Pitta-Vata</i>	<i>Pitta-Kapha</i>	<i>Kapha-Vata</i>	<i>Kapha-Pitta</i>
<b>N</b>	<b>7</b>	<b>3</b>	<b>0</b>	<b>4</b>	<b>21</b>	<b>25</b>
<b>Mean</b>	<b>2.4286</b>	<b>2</b>	<b>0</b>	<b>2.25</b>	<b>5.9048</b>	<b>3.2</b>
<b>SD</b>	<b>0.5345</b>	<b>0</b>	<b>0</b>	<b>0.5</b>	<b>1.2209</b>	<b>0.5774</b>

ANOVA test is applied to determine the significances. The level of significance is set at 5% level,  $p < 0.05$ ,  $f$  calculated  $> f$  table value indicates the significance.

From the statistical analysis of the above table, it is observed that

1. In *Vata pradhan pittanubandhi Prakriti* average *Mutrashmari* Symptoms Score is  $2.4286 \pm 0.5345$ .
2. In *Vata pradhan kaphanubandhi Prakriti* average *Mutrashmari* Symptoms Score is  $2 \pm 0$ .
3. In *Pittapradhan vatanubandhi Prakriti* average *Mutrashmari* Symptoms Score is  $0 \pm 0$ .
4. In *Pittapradhan kaphanubandhi Prakriti* average *Mutrashmari* Symptoms Score is  $2.25 \pm 0.5$ .
5. In *Kaphapradhan vatanubandhi Prakriti* average *Mutrashmari* Symptoms Score is  $5.9048 \pm 1.2209$ .
6. In *Kapha pradhan pittanubandhi Prakriti* average *Mutrashmari* Symptoms Score is  $3.2 \pm 0.5774$ .



**Analysis of Variance (ANOVA) Summary-**

Source	df	Sum of square	Mean Square	F-ratio	P
Between Group	4	133.4621	33.3655	45.5616	0
Within Group	55	40.2775	0.7323		
Total	59	173.7395			

On comparing these six groups by applying ANOVA test, the calculated f value is 45.5616. Table value for 4 df across ( $\rightarrow$ ) and 55 df vertically at 5% level of significance = 2.38. Calculated value is greater than table value. So null hypothesis is rejected and alternative hypothesis (H1) of significant difference between the mean is accepted. Hence *Deha Prakruti* and *Mutrashmari* Symptoms Score are dependent and there is significant difference in the *Mutrashmari* Symptoms Score between *Vata pradhan pittanubandhi*, *Vata pradhan kaphanubandhi*, *Pitta pradhan vatanubandhi*, *Pitta pradhan kaphanubandhi*, *Kapha Pradhan Vatanubandhi* and *Kapha pradhan pittanubandhi Prakriti* and on looking at the mean of these six *Prakriti* groups, we find that mean of *Mutrashmari* Symptoms Score of *Kapha pradhan Vatanubandhi Prakriti* is apparently highest than other groups.

**DISCUSSION:****DISCUSSION ON SUBJECTIVE PARAMETER FOUND DURING THE STUDY-*****Deha Prakriti***

In the present study, maximum 41.67 % of patients were found to be of *Kapha-Pitta Prakriti*. 35 % of patients were found to be of *Kapha-Vata Prakriti*. 11.67 % of patients were of *Vata-Pitta Prakriti*, 6.67 % of patients were of *Pitta-Kapha Prakriti*, 5 % of patients are of *Vata-Kapha Prakriti*. No

patient was found to be of *Pitta-Vata* and *Samdoshaj Prakriti*.

**Discussion on Relation of *Mutrashmari* and *Deha Prakriti* found during present study-**

Certain *Doshaj Prakriti* is Prone to certain *dosha* dominant *Vyadhi*. *Acharya sushruta* mentioned *Mutrashmari* is *Kapha* dominant *Vyadhi* due to its *Shleshmadhithana*. *Sanghat* i.e. binding together is a property of *Kapha Dosha*. Stone formation is nothing but binding particles together inside the structure. *Kapha Prakriti* individual have natural dominance of *Kapha Dosha*. Therefore, vitiation of *Kapha Dosha* can generate more dominant symptoms of *Mutrashmari* among *Kapha* dominant *Prakriti* i.e. *Kapha*

*Pradhan Vatanubandhi* and *Kapha Pradhan Pittanubandhi Prakriti* are closely related with *Mutrashmari*.

**Discussion on Relation of *Mutrashmari* Symptoms and *Deha Prakriti* found during this study-**

Among *Kapha Pradhan Vatanubandhi* and *Kapha Pradhan Pittanubandhi Prakriti* patients, severity of *Mutrashmari* Symptoms had seen in *kapha Pradhan Vatanubandhi Prakriti*.

Properties of *Kapha Dosha* precipitates formation of stone. *Vata Dosha* is responsible for generating *Avarodha* and thereby *shula*. Due to '*Chala Guna*' of *Vata Dosha*, there may be constant

change in size and site of stone. It leads to more obstruction, damage to the mucous and epithelial lining inside the kidney, ureter, VUJ which further lead to development of more severe symptoms among the *kapha Pradhan Vatanubandhi Prakriti*.

## **DISCUSSION ON OBJECTIVE PARAMETER FOUND DURING THE STUDY-**

### **A. USG Abdomen and Pelvis**

The type of stone, size of stone, site of stone and number of calculi were observed from USG abdomen and Pelvis.

1. It was found that, 65 % of patients had shown Renal stones that were Non obstructed in nature and 35 % of patients had shown Renal stones that were Obstructed in nature in the present study.

2. 51.67 % of patients in this study had shown multiple size Renal stone. 21.67 % of patients had shown Renal stone of size 4-6 mm, 10 % of patients had shown Renal stone of size 2-4 mm and 6-8 mm respectively. 6.67 % of patients had shown Renal stone of size 8-10 mm.

3. In this current study, 48.33 % of patients were found with single Renal stone, 28.33 % of patients were found with two Renal stone unilaterally or bilaterally, 13.33 % of patients were found with three Renal stone unilaterally or bilaterally and 10% of patients were found with four Renal stone unilaterally or bilaterally in kidney, ureter, VUJ junction.

### **Discussion on relation of USG findings and Deha Prakriti found during present study-**

It was observed that, *kapha Pradhan Vatanubandhi Prakriti* have multiple stone, size of stone more than 8 mm and mostly having Obstructive type of stone. Along with *kapha Dosha Vata Dosha* generates *Kricchrasadhyatva* and *Asadhyatva of Vyadhi*. *Vata* aggravates pain and severity of *vyadhi*.

### **B. Urine analysis**

1. In this study, 63.33 % of patients showed Specific Gravity of Urine in between 1.010 to 1.020. 31.67 % of patients showed Specific Gravity of Urine sample in between 1.021 to 1.030. 5 % of patients showed Specific Gravity of Urine sample above 1.030.

2. In the present study, 55 % of patients did not show Albumin in urine while 45 % of patients showed Trace Albumin in urine.

3. In the present study, 7 patients (11.67 %) showed sugar in their urine. Variation seen in amount of sugar in urine. 1 patient showed sugar + and 1 with sugar ++ quantity in urine.

4. In the present study, 55 % of patients were found with absence of blood in their urine. While 45 % of patients were found with presence of blood in their urine.

5. In the present study, 16.67 % of patients showed 10-15 RBC in their urine. 8.33 % of patients showed 10-12 RBC and 8-10 RBC respectively. 1.67 % of patients showed 5-6 RBC in their urine while 65 % of patients show absence of RBC in their urine.

6. In the present study, 66.67 % of patients were presented with absence of pus cells in their urine. While maximum 15 % of patients were found with 2-3 pus cells, 3.33 % of patients were found with 3-4 and 6-8 pus cells in their urine respectively. 6.67 % of patients were found with 8-10 pus cells in their urine sample.

7. Present study showed that, 15 % of patients had calcium oxalate crystals in their urine. 8.33 % of patients had uric acid crystals while 76.67 % of patients had no any crystals in their urine sample.

### **Discussion on relation of findings from Urine analysis and Deha Prakriti found during present study-**

*kapha Pradhan Vatanubandhi* and *kapha Pradhan Pittanubandhi Prakriti* patients dominantly showed increased Specific Gravity of Urine sample. The person showing Specific Gravity of Urine more than 1.030 showed presence of Albumin, blood and the person having history of DM had shown presence of sugar in more or less amount inside the urine sample. These patients also showed presence of RBC, Pus cells and Crystals in the urine sample. Greater number of RBC, pus cells, Crystals and amount of sugar is seen in patients having *kapha Pradhan Vatanubandhi Prakriti*. This may be due to Chronicity and Severity of disease and association of *Vata* along with *Kapha Dosh*.

### CONCLUSIONS

1. There is a significant Relation of *Mutrashmari* and *Deha Prakriti* exists which was the primary objective of the study.
2. *Kapha Dosh* dominant *Prakriti* i.e. *Kapha Pradhan Vatanubandhi* and *Kapha Pradhan Pittanubandhi Prakriti* is more prone for development of *Mutrashmari*.
3. Increased severity and chronicity of *Mutrashmari* is seen in *Kapha Pradhan Vatanubandhi Prakriti*.
4. The probability of development of Renal Calculi is highest in male between 30-50 age group.
5. Past history of DM or HTN or both, Addiction like Alcohol & tobacco, Nonvegetarian Diet, less water intake, sedentary job profile and Obesity are the Risk factors for development of Renal Calculi.
6. *Katu Lavana* and *Katu Amla Ras Pradhan Ahara* increases Risk of *Mutrashmari*.
7. USG findings conclude that, *Kapha Pradhan Vatanubandhi Prakriti* patients develop Multiple Obstructed type of

stone with Size more than 8 mm. while *Kapha Pradhan Pittanubandhi Prakriti* patients develop Single mostly Non obstructed type of stone with size in between 4-8 mm or less than 4 mm.

8. Findings from Urine analysis conclude that, *Kapha Pradhan Vatanubandhi Prakriti* patients show increased number of RBC, Pus Cells and Crystals in their Urine. This *Prakriti* shows severity and chronicity of Disease.
9. *Kapha Pradhan Vatanubandhi Prakriti* patients require surgical interventions for treatment of disease. While in most other *Prakriti* medicinal treatment or Hydrotherapy is enough.
10. From the statistical analysis by applying Anova test, as value of p is far less than 0.05, significant difference was found between *Mutrashmari* and *Deha Prakriti*.

After comparing data statistically by Anova test, there is significant relation observed between *Mutrashmari* and *Deha Prakriti*. We should reject the null hypothesis  $H_0$  and accept the alternate hypothesis  $H_1$  i.e. there is a relation of *Mutrashmari* with different *Deha Prakriti*.

**Hence it is concluded that,**

**There is significant association between *Mutrashmari* Symptoms and different *Deha Prakriti*.**

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