

## Effectiveness of Varividaryadi Kashaya in the Management of Lower Urinary Tract Infections (LUTI): A Single Case Study

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### Abstract:

Urinary tract infections (UTI) are some of the most common bacterial infections, affecting 150 million people each year worldwide. The term covers a wide range of conditions of varying severity from simple urethritis and cystitis to acute pyelonephritis with septicaemia. The typical symptoms of cystitis are dysuria, urinary frequency and urgency, nocturia, hesitancy, suprapubic discomfort, and hematuria. The features of lower urinary tract infections (LUTI) can be found under the heading *Pittaja Mutrakrichra Lakshana*. This is a case report of a 39 year old female patient, with the complaint of burning micturition since 15 days; came with urine culture and sensitivity showing the presence of *Escherichia coli* bacteria. Patient was advised to take freshly prepared *Varividaryadi Kashaya* 48ml twice daily before food for 15 days and follow up was done after 15 days of completion of treatment. *Varividaryadi Kashaya* is mentioned in *Sahasrayogam Mutrakrichra Prakaranam*; in which all the drugs are having *Seeta Virya* and most of the drugs are having *Madhura Rasa*, *Guru- Snigdha Guna*, and *Madhura Vipaka* which in turn helps in *Vata-Pitta Samana* and *Krimighna Karma*. After treatment, urine culture and sensitivity showed free from bacteria. *Varividaryadi Kashaya* is effective in managing lower urinary tract infections due to *E.coli* bacteria.

**Key Word:** *Pittaja Mutrakrichra*, Urinary tract infections, UTI, *Varividaryadi Kashaya*

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### Introduction:

Urinary tract infection (UTI) is the most common bacterial infection managed in general medical practice and accounts for 1–3% of consultations. Prevalence in women is 3% at age 20, rising by 1% per decade thereafter. The term covers a range of

conditions of varying severity from simple urethritis and cystitis to acute pyelonephritis with septicaemia. Typical features of cystitis are increased frequency of micturition, dysuria, Suprapubic pain during and after voiding, urgency, Cloudy urine with an

unpleasant odour and Microscopic or visible haematuria<sup>1</sup>.

In Ayurveda, lower urinary tract infections (LUTI) can be considered as *Mutrakrichra* especially *Pittaja Mutrakrichra*. Due to their *Nidana*, the three *Doshas* both individually or jointly get aggravated in *Basti*, and afflict the *Mutamarga*, and then this gives rise to *Mutrakrichra*<sup>2</sup>. The *Doshas* involved in the pathogenesis of *Mutrakrichra* are *Pitta* and *Vata*.

*Varividaryadi Kashaya* is mentioned in *Sahasrayogam Mutrakrichra Prakaranam*<sup>3</sup>. It contains *Satavari* (*Asparagus racemosus*), *Vidari* (*Ipomea panniculata*), *Gokshura* (*Tribulus terrestris*), *Musta* (*Cyperus rotundus*) and *Sariva* (*Hemidesmus indicus*)<sup>4,5,6,7,8</sup>.

### Case Presentation:

#### Presenting complaints with history:

A 39 year old female patient, reported to Kayachikitsa OPD, on 27/03/2021 with complaints of burning sensation while passing urine since 15 days. She also had the complaints of urgency of micturition along

with increased frequency of micturition. She had a history of recurrent UTI.

Patient had H/O of hypertension since 3 years. In personal history, Appetite: Good, Nature of diet: Mixed, Bowel Habits: Regular, Stool Consistency: Normal, Urine Output: Frequent, Physical Exercise: Sedentary, Sleep: Disturbed, Allergies: Allergic to certain allopathic medicines, Emotional Stress: Moderate, Menstrual Cycle: Regular, 6-7 days/ 28 days, Obstetric history: G<sub>3</sub>P<sub>2</sub>L<sub>2</sub>A<sub>1</sub>

#### Methodology/Treatment Given:

Patient was advised to take freshly prepared *Varividaryadi Kashaya* 48ml twice daily before food for 15 days and follow up was done after 15 days of completion of treatment. The assessment of result was done before and after treatment as per subjective and objective criteria adopted (table – 2, 3). Also, Blood routine examination was done before treatment (only) and the results are: Hb – 6.4gm% Total WBC count – 7500 cells/cu mm, Neutrophils – 55%, Lymphocytes – 37%, Eosinophils – 08%, Monocytes – 00%, Basophils – 00% & ESR – 18 mm/hr

**Table-1: Grading of the subjective parameters:**

Subjective Parameters	Grade 0	Grade 1	Grade 2	Grade 3
Dysuria	No	Yes, mild	Yes, moderate	Yes, severe
Increased frequency of micturition	No 4 or less times per day	Yes, mild 5 – 6 times/ day	Yes, moderate 7 – 8 times / day	Yes, severe 9 – 10 or more times/ day
Urgency of micturition	No	Yes, mild	Yes, moderate	Yes, severe
Nocturia	No	Yes, mild 3 times	Yes, moderate 4 times	Yes, severe More than 4
Hesitancy	No	Yes, mild	Yes, moderate	Yes, severe
Supra pubic discomfort	No	Yes, mild	Yes, moderate	Yes, severe
Feverish feeling	No	Yes, mild	Yes, moderate	Yes, severe

**Table-2: Assessment of result as per subjective parameters:**

Subjective Parameters	Before Treatment	After Treatment	After Follow up
Dysuria	Grade 2	Grade 0	Grade 0
Increased frequency of micturition	Grade 2	Grade 0	Grade 0
Urgency of micturition	Grade 2	Grade 0	Grade 0
Nocturia	Grade 1	Grade 1	Grade 0
Hesitancy	Grade 0	Grade 0	Grade 0
Supra pubic discomfort	Grade 0	Grade 0	Grade 0
Feverish feeling	Grade 0	Grade 0	Grade 0

**Table-3: Assessment of result as per objective parameters:**

Urine Routine Examination	Before Treatment	After Treatment	After Follow up
Urine sugar	NIL	NIL	NIL
Urine albumin	NIL	NIL	NIL
RBC	NIL/hpf	Not seen	Not seen
Pus cells	10 – 15 /hpf	2 – 3 /hpf	3 – 5 /hpf
Epithelial cells	3 – 5 /hpf	2 – 4 /hpf	2 – 4 /hpf
Casts	NIL	NIL	NIL
Crystals	NIL	NIL	NIL
Bacteria	Not seen	Absent	Absent
Urine Culture and Sensitivity	Escherichia Coli Significant >10 <sup>5</sup> CFU/ml	No bacteriuria	No bacteriuria

### Results and Discussion:

UTI is one among the most common bacterial infections. When it is restricted to the lower urinary tract i.e. bladder and urethra; it is called lower urinary tract infections (LUTI). Due to *Nidana Sevana*, *Pitta* and *Vata Dosha Prakopa* occurs in the body. This *Prakupita Pitta* and *Vata* results in *Agni dushti* and ends in the formation of *Ama*. From this *Ama*, *Ama Yukta Rasa Dhatu* is formed. Further, *Dushita Rakta* gets formed and in turn produces *Mala Roopa Pitta* in excess. Because of the *Tikshna* and *Ushna Guna* of the *Mala Roopa Pitta*, *Kleda Soshana* occurs. Thus formed *Mutra* from the *Kledamsha* of *Rakta* will also possess similar qualities and reaches *Basti* through the *Mutravaha Srotos*. As *Basti* provides the seat for *Apana Vayu*; because of its *Yogavahi Guna*, *lakshana* like *Peeta Mutrata*, *Daha*, *Ushna Mootrata*, *Krichra Mutrata* are exhibited.

For breaking the *Samprapti* of LUTI, *Vata-Pittahara*, *Mutrakrichrahara dravyas* are essential. *Varividaryadi Kashaya* contains *Gokshura* which is mentioned as the *Agrya Oushadha* for *Mutrakrichra*<sup>9</sup> and is *Vatahara*, *Mutrakrichrahara*<sup>10</sup>; also having *Mootrala*, *Vatahara*, and *Vasti Sodhana* action. In *Varividaryadi Kashaya*, all the drugs are having *Seeta Virya* and most of the drugs are having *Madhura Rasa*, *Guru- Snigdha Guna*, and *Madhura Vipaka* which in turn helps in *Vata-Pitta Samana Karma* and *Krimighna* and thereby breaking the *Samprapti* of the disease. The outcome of this case study was the absence of bacteria in urine culture and sensitivity and also there is reduction in the number of pus cells. Also, the patient showed significant changes in the subjective parameters. In *Varividaryadi Kashaya*, *Gokshura* and *Musta* is having *Krimighna* property; and all the drugs except *Vidari* are

having anti-microbial activity<sup>11-14</sup>. The *Mutrala* property of the formulation helps in increasing the urine output and thereby reducing the urine concentration. This will destroy the medium favourable for the bacterial growth. This might be the reason for the absence of bacteria in urine after the intake of medicine.

Dysuria refers to painful urination, often described as burning. It is usually felt in the urethra. In women, it may be internal or external. Internal urethral discomfort can be a symptom of LUTI. An external burning from the flow of urine may be caused by irritated or inflamed labia. Men typically feel a burning sensation proximal to the glans penis. It can be correlated as *Saruja Sadaha Mutra Pravruthy* which is a symptom of *Pittaja Mutrakrichra*<sup>2</sup>. *Sashoola Mutra Pravruthy* is a feature of *Mutravaha Srotodushti*<sup>15</sup>. Also the vitiated *Pitta* causes *Paka*, which may have led to the manifestation of painful micturition. Relief in the symptom may be due to *Madhura Rasa* and *Vipaka*, *Seeta Virya*, *Vata-Pitta Samana* and *Mutrala* properties of the formulation.

Urinating more frequently than usual or feeling the need to urinate more frequently is also a symptom of LUTI. The primary cause of urinary frequency is decreased bladder capacity with a resultant decrease in the volume of urine per voiding. It can be due to inflammation of the bladder due to acute bacterial cystitis and altered pH. Though normal bladder mucosa is pain-sensitive and when it is inflamed, its pain threshold is markedly decreased so that it takes fewer stimuli to initiate the desire to void. Increased frequency of micturition can be correlated with *Muhur Muhur Mutra* which is a *Lakshana* of *Paittika Mutrakrichra*<sup>2</sup>. *Vata* is aggravated by vitiated *Pitta* causing *Pratiloma Gati* of *Vayu* in *Basti* resulting in *Muhur Mutra*. The drugs in *Varividaryadi Kashaya* have got diuretic activity along with the anti-inflammatory activity<sup>11-14</sup>. Diuretic activity of the drugs helps in flushing out the bacteria and thus reducing

the sensitivity of the bladder. This activity also helps in the production of a good amount of urine thus helping in maintaining the pH of urine.

The urgency of micturition is a sudden, strong urge to urinate, due to the involuntary contractions of the bladder muscles. Urinary urgency occurs when suddenly the pressure in the bladder builds up and becomes difficult to hold in the urine. This pressure causes a strong and immediate urge to urinate. Urinary urgency can occur regardless of whether the bladder is full or not. It can also cause increased frequency of urination. Inflammation of urinary bladder causes increased pressure in the bladder and results in urgency of micturition. As *Basti* is the seat of *Vata* and the act of micturition is controlled by *Apana Vata*. The *Apana Vata* vitiation due to the *Nidana* leads to abnormal *Mutra Pravruthi*. *Madhura Rasa* and *Vipaka*, *Guru-Snigdha Guna* and *Vatahara* property of the *Kashaya* corrects the vitiated *Apana Vata*. The *Seeta Virya* and *Pitta Samana* property helps in reducing the inflammation of the bladder. Thus it corrects the urgency of micturition and leads to proper urination.

### Conclusion:

The patient underwent treatment for 15 days showed marked relief in his symptoms and absence of bacteria in urine. Hence, *Varividaryadi Kashaya* has a significant role in the management of lower urinary tract infections.

### Limitation of study:

As it is a single case study, the efficacy of *Varividaryadi Kashaya* cannot be generalised. Time period is of short duration to observe its reoccurrence. The study was only conducted in lower urinary tract infection and hence the result cannot be generalized for other urinary tract infections

**Patient consent:**

A written consent was obtained from the patient before starting the trial.

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