



LOWER URINARY TRACT INFECTION- AN AYURVEDIC VIEW

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**ABSTRACT**

Introduction: Urinary tract infections(UTIs) are some of the most common bacterial infections, affecting 150 million people each year worldwide. Among all infections, infection of the urinary tract is the second most common type of infection. It can be classified into two types, such as Lower urinary tract infections and Upper urinary tract infections. **Methodology:** According to Ayurveda UTI can be correlated with *Mutrakrichra*. *Mutrakrichra* is described in all major classical textbooks of Ayurveda. Detailed information regarding various aspects of the disease is available in the different textbooks of Ayurveda along with different forms of *Sodhana* and *Samana Chikitsa*. **Result and Discussion:** It is a *Basti marmagata vikara*. As *Basti* (Bladder) is one among the *Trimarma*, management of the disorders related to it has greater therapeutic importance. It will be highly beneficial for society if effective Ayurvedic management is introduced after evaluating the disease from an Ayurvedic view.

Keywords: Urinary tract infection, *Mutrakrichra*

INTRODUCTION

Based on the site of infection, Urinary tract infection (UTI) can be divided into Lower urinary tract infec-

tion(LUTI) and Upper urinary tract infection(UUTI) and according to the complicating factors it can be

divided into Complicated and Uncomplicated Urinary tract infection. The most common symptoms of LUTI are increased frequency of micturition, painful micturition, burning sensation during micturition, urgency, supra pubic discomfort, nocturia, and yellow-colored urine¹. The main causative organisms are Gram negative bacteria like *Escherichia coli*, *Proteus mirabilis*, *Klebsiella* and Gram-positive bacteria like *Staphylococcus saprophyticus* and *Pseudomonas*². The term *Mutrakrichra* comprises two words *Mutra* and *Krichra*, the disease in which urine is passed with difficulty is called *Mutrakrichra*. Considering this, it can be stated that *Mutrakrichra* is a condition of the Urogenital system with dysuria as a prime symptom which includes UTI. Urinary tract infection is defined as the multiplication of organisms in the urinary tract. When the infection is restricted to the lower urinary tract i.e., urethra, bladder, and prostate then it is called as Lower urinary tract infection (LUTI). Bacteria are by far the most common invading organisms, but fungi, yeasts, and viruses also produce UTIs. Thus, UTI is potentially a serious condition, and failure to realize that this may lead to the development of serious chronic pyelonephritis and chronic renal failure.

The rationale of the study

The phrase Urinary tract infection is a broad term used to describe bacterial colonization in urine and invasion of structures in any part of the urinary tract⁵. It is common, particularly in young women whom the incidence is about 10 times that in men. The incidence varies from infancy to old age. School-going girls show a higher prevalence (5%) when compared to boys (0.03%). The incidence in women rises by 1% every 10 years. Young women are especially at-risk during pregnancy when the prevalence rises by about 7%. It is infrequent in men until older ages, with 5-10% of elderly men in the community and 35-40% in nursing homes having bacteriuria³. Patients with a neurogenic bladder and without an indwelling catheter and 100% of patients with chronic indwelling urethral catheters have bacteriuria. The rising incidence in males with advancing age is due to the

development of Prostatic hypertrophy.

In modern medicine, the management of Urinary tract infections is done by antibiotics. Even though they are effective, they can cause a considerable number of adverse effects which range from minor reactions such as rashes and at the same time the infective organism develops resistance to the drugs. The chances of resistance and recurrence after administration of antibiotics are also as high as 50%¹. Considering the above situation, it is highly relevant to search for an effective alternative treatment.

Aim

To study and evaluate the *Nidana Panchaka* of LUTI from an Ayurvedic perspective.

Materials and Methods

Classical Ayurvedic texts such as Charaka samhitha, Susrutha samhitha, Ashtanga hridaya, etc. were analysed for a better understanding of the *Nidana panchakas* as well as the *Chikitsa* of the disease.

Lower Urinary tract infection in Ayurvedic view

Nidana

Acharyas have clearly elicited the etiological factors of *Mutrakrichra* on the basis of theoretical and clinical experiences. The etiological factors of *Mutrakrichra* presented by Charaka would appear to be of:-

1. *Tridoshakopa nidanas*
2. *Mutramargavarodha nidanas*

Though Acharya Susrutha and Vagbhata have not pointed out the etiological factors of *Mutrakrichra* specifically, they mention the factors like *Ashmari*, *shalyaja*, etc. Madhavakara, Bhavamisra, Yogaratnakara, and others have said the *nidanas* of *Mutrakrichra* same as that of Acharya Charaka.

Nidanas can be differentiated as *Aharaja nidanas*, *Viharaja nidanas* and *Aushdhijanya nidanas*. *Aharajanya nidanas*: *Rooksha ahara*, *Madya sevana*, *Anoopa mamsa sevana*, *Anoopa matsya sevana*, *Adhyasana*, *Ajeerna bhोजना sevana*, *Katu amla lavana sevana*. *Viharaja nidanas*: *Vyayama*, *Nitya drutha prishtayaana*, *Streesevana*, *Vegadharana*. *Aushdhijanya*: *Teekshna aushadhi*⁴.

In modern view, the most common cause of UTI is bacteria from the bowel that lives on the skin near the

rectum or in the vagina, which can spread and enter the urinary tract through the urethra. Sexual intercourse is a common cause of Urinary tract infections because the female anatomy can make women more prone to UTIs.

Roopa

Acharya Vagbhata and Madhavakara explained the *Lakshanas* of each *Mutrakrichra* based on *Dosha* predominance^{6,8}. Acharya Charaka and Susruta explained *Lakshanas* of *Mutrakrichra* are not only based on the *Dosha* predominance, *Mutrakrichra* due to *Asmari*, *Sarkara*, *Sukra*, and *Kshata* are also explained^{4,7}. *Vataja mutrakrichralakshana*: *Teevra ruk*, *Vankshan vedana*, *Vasti sula*, *Medra sula*, *Swalpa mutratha*, *Muhurmutratha*, *Krichra mutratha*, *Aruna varna*, *Sasushka mehana vasti*⁴. *Pittaja mutrakrichra lakshana*: *Peetha mutratha*, *Saraktha mutratha*, *Saruja mutratha*, *Sadaha mutratha*, *Krichra mutratha*, *Muhurmutratha*, *Haridra mutratha*, *Mushkamehanavasti daha*, *Atyushna mutratha*⁴.

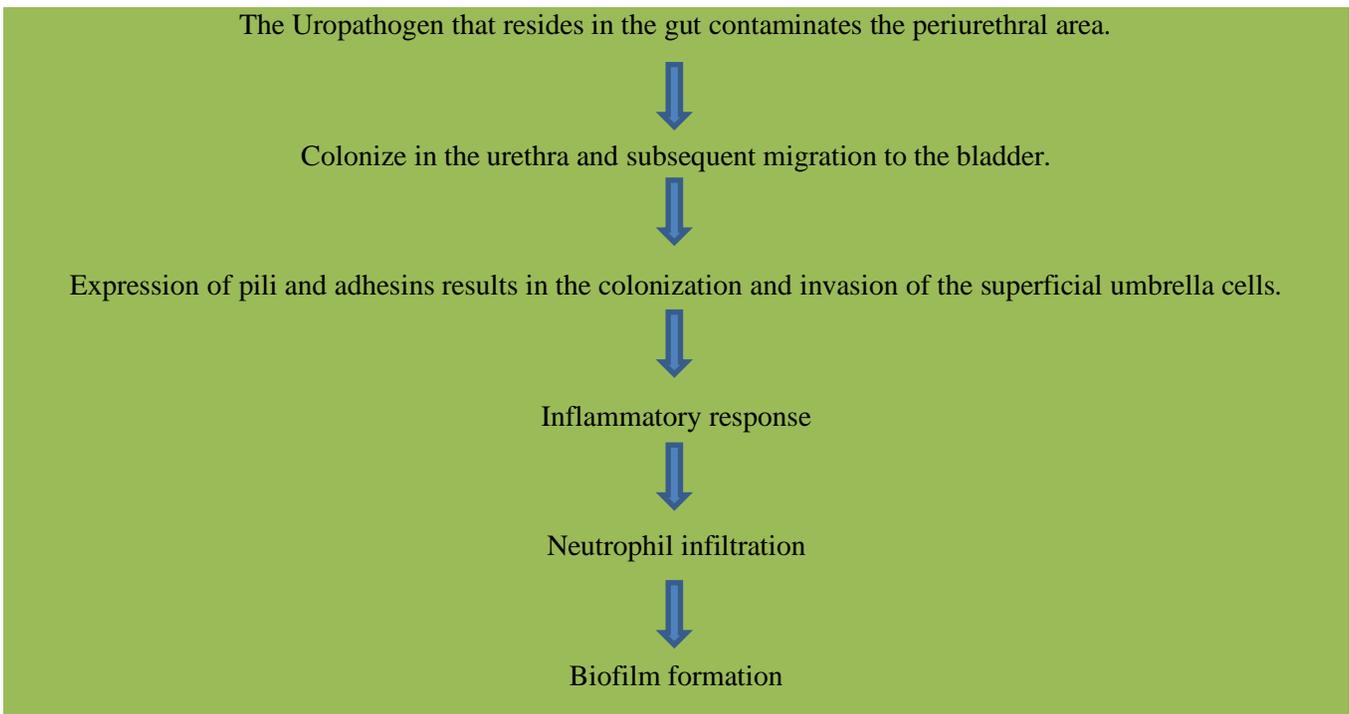
Kaphaja mutrakrichralakshana: *Vasti gourava*, *Santha*, *Pichila mutratha*, *Mushkamehanavasti gourava*, *snigdha mutratha*, *Swetha mutratha*, *Anushna mutratha*, *Samhrishta roma*, *Savibandhatha*,

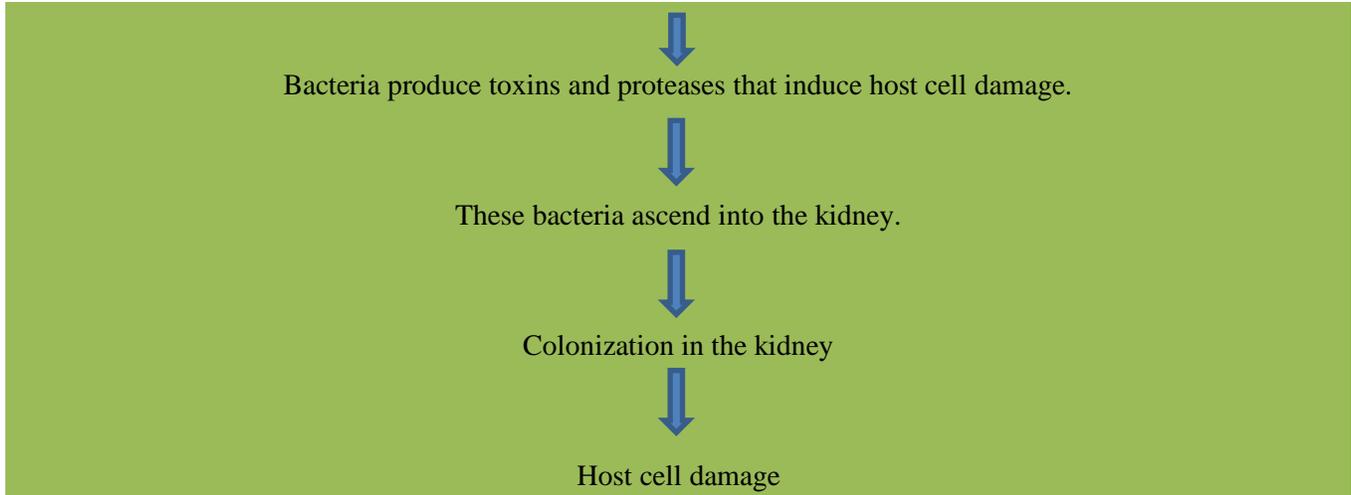
*Alpamutratha*⁴. *Sannipataja mutrakrichra*: *Sarvani rupani*, *Muhurmutratha*, *Nanavarna mutratha*, *Mutradaha*, *Vedana*, *Murcha*, *Bhrama*, *Vilapa*⁴. Signs and symptoms of LUTI include Yellow coloured urine, Dysuria, Increased frequency of micturition, Burning micturition, Urgency of micturition, Stranguria, Nocturia, Suprapubic discomfort.

Samprapthi

Due to *Nidana sevana*, *Pitta* and *Vata prakopa* occur in the body. This *Prakupita Pitta* and *Vata* results in *Agni dushti* and ends in the formation of *Ama*. From this *Amayukta Rasadhatu* is formed and from this *Dushita Pitta* is formed. This in turn produces *Mala rupa pitta* in excess. Because of the *Tikshna* and *Ushna* of *Mala rupa Pitta*, *Kleda soshana* occurs. Thus formed *Mutra* from the *Kledamsa* of *Rakta* will also possess similar qualities and reaches *Basti* through the *Mutrvaha srotas*. As *basti* provides the seat for *Apana vayu*, because of its *Yogavahi guna*, *Lakshanas* like *Peetamutratha*, *Daha*, *Ushna mutratha*, and *Krichra mutratha* are exhibited⁴.

Pathogenesis of Urinary tract infection includes:





Samprapthi ghataka

- Doshā – Pitta pradhana tridosha
- Dushya – Rasa, Raktha
- Agni – Jataragni
- Ama – Jataragni janya ama
- Srothas – Mootravaha, Rasavaha, Rakhavaha
- Dushtiprakara – Sanga
- Udbhavastana – Amasaya, Pakwasaya
- Adhishtana – Vasti
- Vyakthasthana – Mutra marga
- Sanchara – Mutravaha
- Rogamarga – Madhyama
- Vyadhi swabhava – Asukari, Chirakari

Purvarupa

According to the Chakrapani commentary on Charaka samhitha, Chikitsa 11/12, the *Lakshanas* of a *Vyadhi* expressed in milder form can be considered as *Purvarupa*. So, the *Lakshanas* of *Mutrakrichra* in the milder can be considered as its *Purvarupa*⁴.

Upasaya and Anupasaya

Pathya and Apathya

Pathya

- Ahara
- Shooka dhanya varga: Purana Raktashali, Purnayava
- Shami dhanya: Mudga
- Mamsa varga: Jangala Pasu pakshi mamsa
- Shaka varga: Patola, Tanduliya, Trapusha
- Phalavarga: Narikela Phala, Kushmanda, Ela, Amalaki, Haritaki.

- Ikshu Varga: Madhra ikshu, Sita
- Gorasa varga : Godugdha, dadhi, Takra, Ghritha
- Vihara
- Seethavayusevana, Seethagraham

Apathya

- Ahara
- Rasa: Kashaya, Lavana, Amla
- Anna: Shushka, Ruksha, Pishtanna, Virudhasana, Vishamasana, Grahihara, Vidahihara
- Shooka dhanya: Tila, Sarshapa
- Shami dhanya: Masha
- Kritanna varga: Tilabhrishtapinyaka
- Mamsa varga: Matsya
- Madya varga: Madya
- Vihara
- Vyayama
- Vegadharana
- Vyavaya
- Adhika srama
- Gaja aswa ayana

Prognosis: Disease affecting *Marma* are among *Yapya Roga*

Chikitsa

Vataja Mutrakrichra

- Abhyanga, Svedana, Upanaha, Parisheka with *Vatasamaka dravyas* like *Dasamoola*, *Eranda*, *Nirgundi*, on *Katipradesa*.
- Sodhana –Niruha vast, Uttaravasti with *Vata samaka kwatha* like *Dasamoola kwatha*
- Shamana –Amritadi kwatha, Sthiradi aushadha, *Swadamshttra thaila*, *Misraka sneha*⁴.

Pittaja Mutrakrichra

- *Seeta parisheka*
- *Avagaha* in cold water
- *Sodhana –Virechana* with *Tikta evam madhura kashaya, Uttaravasti*
- *Samana– Satavaryadi kwatha(cha), Hrithakyadi kwatha, Trina panchamoolakwatha(YR), Trina-panchamoola churna, Ervarubeejadi churna with Tandula dhawana⁴.*

Kaphaja Mutrakrichra

- *Svedana*
- *Abhyanga* with *taila* containing *Tikta ushna dravya*.
- *Sodhana –Vamana ,Niruha vasti* with *Kshara, Tikta* and *Katu dravya*.
- *Shamana –Vyoshadi churna, Pravala bhasma(Cha), Swadamshtradi kwatha, Trikantakadi ghritha, Takra⁴.*

Sannipataja Mutrakrichra

- In *Sannipathaja mutrakrichra*, the treatment should be done according to *Vata sthana*.
- The *Dosha* which is more dominant is treated first.
- *Sodhana* –If *Kapha* is predominant then *Vamana*, if *pitta* is predominant *Virechana*, if *Vata* is predominant *Vasti karma*.
- *Samana –Pashanabhedadi yoga, Brihatyadi kwatha, Gudadugdha yoga, Dhatriyadi yoga⁴.*

DISCUSSION

The main factors which are contributing to the pathogenesis of LUTI are the pH of the urine, the health status of the genitourinary tract, and also the immunity of the individual. Likewise, the *Nidanas* of *Mutrakrichra* is capable of changing the pH of the urine and reducing the immunity of the individual.

The main *Lakshana* of *Mutrakrichra* is *Krichratha* in urination and all the associated *Lakshanas* are based on the predominance of other *Doshas* involved in it. The symptoms like pain during micturition, burning sensation during micturition, increased frequency of micturition, and suprapubic discomfort differ from individual to individual and this will be based on the predominance of the *Doshas* involved.

CONCLUSION

The *Nidanas* explained for the *Mutrakrichra* in our *Samhithas* can be considered as predisposing factors rather than the real cause. The *Samprapthi* of *Mutrakrichra* and Pathogenesis of UTI is difficult to correlate in each step. Based on the symptoms shown by the individual and on the basis of the investigations like the Urine routine, *Mutrakrichra* can be well managed by the different *Samana* and *Sodhana Aushadhis* mentioned by our *Acharyas*. Chances of recurrence and drug resistance cases are more common in LUTI. Single-drug therapy is not sufficient. Multiple drugs which are having multiple actions like diuretics, antimicrobials, and immunomodulating actions are used. It is difficult to treat LUTI in patients with diabetes since they are more prone to recurrent infection.

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