



MANAGEMENT OF URINARY TRACT INFECTION – AN AYURVEDA PERSPECTIVE

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ABSTRACT

Urinary tract infections are the second most widespread infection and are elaborated in Ayurveda classical texts. The aim of the study is to compare the effect of the two well recognised and practised Ayurveda preparations in the treatment of urinary tract infection.

34 patients with proven UTI complaints in the age group of 20 to 60 years were randomly selected from out-patient and in-patient departments as per randomization chart and were divided into Group A and group B. Respectively in group A and group B, patients were advised 15 mL of *Ardhabilwa kashaya* and *Brihatyadi kashaya* before food thrice daily with equal quantity of water. After seven days follow up, assessment was done based on the clinical signs and symptoms. Urine examination at base line, 7th and at 15th day was performed. Study proved both drugs were clinically efficacious and statistically significant in the management of urinary tract infection.

KEYWORDS : Urinary Tract Infection, UTI, Dysuria, Burning Micturition, *Ardhabilwa kashaya*, *Brihatyadi kashaya*

INTRODUCTION

Urinary Tract Infection (Mootrakrichra-sk) (UTI) is well explained with treatment in classical texts of Ayurveda (Paradkar 2000; Trikamji 2011; Trikamji, Ram 2005). It is one of the most common clinical conditions seen in our daily practice. This is a global problem present in all age groups and in both sex. Symptoms are dysuria, burning micturition and increased frequency. UTI is the most common bacterial infection managed in general practice and accounts for 1% to 3% of consultation, up to 50% of women has UTI at some time. It is not common among male except 1 year and above 60 year old (Colledge et al. 2010). Infection is mainly caused by *Escherichia coli* accounts for about 85% of community acquired (Shah2008). The available data demonstrate a worldwide increase in the resistance of *Escherichia coli* to antibiotics commonly used to treat UTI (Kasperet al. 2015). Antimicrobial resistance among uropathogens varies from region to region and impacts the approach to empirical treatment of UTI. (Kasperet al. 2015)

The present study is carried out to find out the efficacy of two ayurveda formulation in the treatment of UTI.

MATERIALS AND METHODS:

We attempted to compare the effect of the two well accepted, regularly practised ayurveda preparations [*Ardhabilwa kashaya* (AK) (Vaidyan, Pillai 2010) and *Brihatyadikashaya* (BK) (Paradkar 2000)] in UTI.

Patients of either sex having the classical signs and symptoms of UTI, like increased frequency of urination, /painful / dysuria / burning micturition, attending the departments of Kayachikitsa, Shri, B.M. Kankanawadi Ayurveda Hospital and Research centre were enrolled in this study. Their age group was 20 to 60 years. Prior to treatment, consent was obtained from patients and basic information of the disease and treatment was given to the patients. Patients with traumatic injury to urethra, acute and chronic renal failure, known congenital genitourinary anomalies, obstructive pathology like urethral stricture, pregnant and lactating women and patients undergoing antibiotic treatment over the last 48hr or hospitalization or catheterization within the previous 2 weeks were not included in this study. Urine routine examination was done before and after treatment.

Random numbers were generated from online software

named as "Random Number Generator". Evaluation of signs and symptoms were done before and after the treatment.

A total number of 34 patients were included in this study. They were divided into two groups A and B with 17 subjects in each group. In group A *Ardhabilwa kashaya*(AK) *, 15 ml thrice daily with equal quantity of water was administered before food and in group B (BK), patients were advised 15 ml of *Brihatyadi kashaya* (BK)** before food thrice daily with equal quantity of water.

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Ingredients of *Ardhabilwa Kashaya* (AK) (Shunti, Bruhati, Apamarga, Dusparsha, Punarnava) were separately powdered and mixed. This was given in packets to patients (25 gms) based on daily dose. Patients were advised to prepare decoctions in the following way:

- One packet of powder was to mix with 8 parts (200 ml) of water and soak for whole night.
- Following morning it was to boil in moderate flame till it reduced to 50ml
- This was to filter using clean cloth
- Patient was advised to take this prepared decoction 15 ml thrice daily

Similar method was employed for the preparation of *Brihatyadi kashaya* (BK) (Gokshura, Brihati, Kantakari, Shalaparni, Prushnaparni) also.

Patients were advised to take plenty of fluid, maintain hygiene, avoid excess sexual activity and avoid suppression of natural urge for urine (Trikamji 2011).

Patients were assessed and follow-up study was done after seven days of treatment. Anova One way test was carried out at each symptom individually in both groups, whereas Two way Anova test was applied to study the comparative results of both groups.

RESULTS

A total number of 33 patients completed the course of treatment (16 in group A and 17 in group B). Majority of patients (44.12%) were reported in the age group of 20- 29

years followed by 29.41% in the age group of 30-39yrs and 26.47% in the age group 40+yrs. Female patients were 88.24% and male were 11.76%, 70.58% were married.

In this Study maximum numbers of (64.71%) patients gave the past history of recurrent attacks and total number of 61.76% of them reported the history of acute onset. Maximum (100 %) patients had complaint of burning micturition, increased frequency i.e. 79.41%. Whereas 38.23% patients had painful micturition and 35.29% had difficulty in micturition.

EFFECT OF THERAPY:

Group A:

Results showed relief in the complaint of dysuria (100%), burning micturition (95%) and increased frequency of micturition (94.92%), Statistically highly significant improvement (p value < 0.001) was seen in all these complaints. Significant improvement (p value <0.01) was seen in painful micturition. Statistically highly significant (p value <0.001) improvement was present in case of turbidity of urine (84.74%), epithelial cells (78.26%), pus cells (59.54%) and albumin (75%) (Table1).

Table 1 - Showing the Effect of Therapy in Group A:

S. N	Subjective Parameters	Mean			Mean Difference	Relief (%)
		Base line	7 th day	14 th Day		
1	Burning Micturition	2.4	1.25	0.12	2.28	95
2	Dysuria	2.0	0.5	0.0	2.0	100
3	Increased Frequency of Micturition	1.38	0.30	0.07	1.31	94.92
4	Painful Micturition	1.6	0.6	0.0	1.6	100

Table 1.2 - Showing the Effect of Therapy in Group A on Urine Test Parameters

S. N	Urine Test Parameters	Mean			Mean Difference	Relief (%)
		Base line	7 th day	14 th Day		
1	Appearance	1.18	0.45	0.18	1.0	84.74
2	Pus Cells	2.62	1.93	1.06	1.56	59.54
3	Epithelial cells	1.38	0.92	0.30	1.08	78.26
4	Albumin	1.0	0.53	0.25	0.75	75

Group B

Therapy followed in group B showed excellent relief in dysuria, painful, increased micturition and burning micturition which was statistically highly significant (p value <0.001).

Urine results showed decrease in turbidity (82.30%), decline in presence of epithelial cells (97.15%), presence of pus cells (55.97%), albumin (65%) which was statistically highly significant (p value <0.001) (Table 2).

Table 2 - Showing the Effect of Therapy in Group B:

S. N	Subjective Parameters	Mean			Mean Difference	Relief In (%)
		Base line	7 th day	14 th day		
1.	Burning Micturition	2.6	0.5	0.23	2.37	91.15
2.	Dysuria	2.0	0.62	0.0	2.0	100
3.	Increased Frequency of Micturition	1.46	0.38	0.0	1.46	100
4.	Painful Micturition	2.2	0.57	0.0	2.2	100

Table 2.2- Showing the Effect of Therapy in Group B on Urine Test Parameters

S. N	Urine Test Parameters	Mean			Mean Difference	Relief In (%)
		Base line	7 th day	14 th day		
1.	Appearance	1.13	0.40	0.20	0.93	82.30

2.	Pus Cells	2.68	2.25	1.18	1.5	55.97
3.	Epithelial cells	1.76	1.07	0.05	1.71	97.15
4.	Albumin	1.0	0.57	0.35	0.65	65

Comparative effect of therapy of groups A and B was statistically insignificant implies that both drugs are equal in effect in treating urinary tract infection.

DISCUSSION:

Ayurveda says that body is constituted by three basic elements "Vata", "Pitta" and "Kapha" (Vata- body humour contributing to move/down; Pitta- body humour contributing to generate heat; Kapha- body humour contributing to keep together/binding) (8). In case of urinary tract infection dysuria and increased frequency of micturition are because of vata dosha, burning micturition is related to aggravated pitta dosha and turbidity is the result of provoked kapha dosha. The drugs which are present in both the preparations have potential to bring back the intensified dosha's to their normalcy.

Drugs present in both preparations have anti-inflammatory, analgesic; Diuretic and anthelmintic properties (Sharma 2003). They also elevates vatadosha, kaphadosha and burning sensation, corrects dysuria, which helps in the management of urinary tract infection and their pharmacological activities are anti-inflammatory, antipyretic, antioxidant, antibacterial, antifungal, analgesic (Sharma et al.2000).

The regular complete emptying of bladder is one of the most significant host defense mechanism and any interfering with this process regularly leads to an increased risk of infection, stasis of urine in the bladder allows for the multiplication of bacteria and that will be responsible to produce infection (Harvey et al.1984). Both preparations are having diuretic effect so bladder is drained regularly there by flushing effect of urine will be enhanced, so there will not be stasis of urine which is responsible for the colonization of bacteria in the path of urinary tract.

Rejuvenating effect of punarnava, shaliparni and gokshura strengthens the bladder mucosa which is immunologically resistant to the infection. So these preparations have shown effective result in patient of urinary tract infection by breaking the pathogenesis of disease.

In conclusion both ayurveda preparations i.e Ardhabilwa kashaya (AK) and Brihatyadi kashaya (BK) are found to be efficacious in the management of urinary tract infection.

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