



Case Report

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Successful Ayurvedic Management of Mutrakrichha (Recurrent Urinary Tract Infections)– A Case Study

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ABSTRACT

A urinary tract infection is the most common bacterial infection met in day to day practice. It is more common in females than males due to shorter urethra which allows the bacteria quick access to the bladder. In Ayurveda symptoms of UTI has close resemblance with *Mutrakrichha*. Acharya Charaka has described eight types of *Mutrakrichha*. In *Mutrakrichha*, the vitiated Pitta dosha along with *Apana Vayu* reaches the Vasti (bladder) and afflicts the *Mutravaha Srotas* due to which the patient feels painful and burning micturition. In this case report a 45 years old female patient presenting with symptoms of urinary urgency, increased frequency and burning micturition on and off since 10 years was diagnosed as a case of recurrent UTI, managed effectively with *chandraprabha vati*, *gokshuradi guggulu shwetparpati* for 21days and *uttarbasti* procedure for 3days. The assessment were done before and after treatment showed significant changes in sign, symptoms and urine examination report. No recurrence of UTI was noticed in follow up visit. Ayurvedic management offers a good approach to manage *Mutrakrichha*.

Keywords: Ayurvedic intervention, Cystitis, *Mutrakrichha*, Urinary tract infections, *Uttarbasti*.

INTRODUCTION

Recurrent UTI refers to a group of patients who have suffered from a UTI at least three times in the last 12 months or at least two times during the previous 6 months and have diminished quality of life¹. A urinary tract infection is defined as the presence of $>10^5$ organism/ml in the midstream sample of urine. Prevalence in women is 3% at age 20, rising by 1% per decade thereafter. The term UTI covers a range of conditions of varying severity from simple urethritis and cystitis to acute pyelonephritis with septicemia². 50 to 80 % of women have at least one UTI during their life time. The majority of UTI occurs through ascending of bacteria from the urethra to the bladder continuing ascent up to the kidney via ureter is pathway for most renal parenchymal infections because, bacteria causing UTIs will colonize the colon, perianal region and periurethral region in females forming a biofilm that usually resists the body's immune response. Infections of the urethra and bladder i.e., lower urinary tract infection are often considered superficial or (mucosal) infections while upper urinary tract infection which includes pyelonephritis and renal suppuration signifies the tissue invasion. *Escherichia coli* have approximately 68% of frequency for causing UTI and other common bacterias are proteus, klebsiella, enterobacter, pseudomonas etc.³.

In ayurvedic classics all the urinary symptoms were described under the broad classification of *mutraghata*(obstruction of urine),⁴ *mutrakrichha*(painful micturition),⁵ and *basti roga* (renal diseases)⁶. The root cause of *mutrakrichha* and *mutraghata* is vitiation of *vata dosha* and treatment of choice for that is *uttarbasti*⁷. The features of chronic cystitis can be correlated with the features of *pittaja mutrakrichha*, in which there is severe pain in groin and bladder region, frequent urination with scanty flow of urine and burning sensation⁸.

CASE REPORT

A 45 years old female, living in Sharma farm road, Hazira, Gwalior presented in the Outpatient Department (OPD) of Regional Ayurved Research Institute of drug development, Gwalior, M.P, India (OPD Regn. No. 7542/2018-19) on 13/08/19 with complaints of painful and burning micturition, increased frequency of urination with scanty flow, persistent urge to urinate. These symptoms were recurring off and on from the past 10 years from which she got frustrated and her attitude becomes towards suicidal tendency. These symptoms were recurred 5 days ago. The symptoms were so severe that she is admitted in (IPD Regn. No. 197/19) on 13/08/19. History revealed that she was suffering from chronic cystitis for which she has taken modern treatment but having only symptomatic relief, not cured completely.

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On examination, her *prakriti* (body constitution) was *pitta-vataj*, her *agni bala* (Digestive power) was *madhyam* and *sharir bala* (physique) was *madhyama*(medium). Systemic examination did not reveal any abnormality. Routine hematological investigations Hb-12gm/dl, RBS-108mg/dl were normal. Her previous investigation were cystoscopy(9/12/17)- normal , Uroflowmetry(15/12/17)-normal flow, urine culture- *E. coli* (16/4/14 & on 25/1/18), USG(14/3/18)-Cystitis, Previously she had received oral medicines but relief could not obtained.

Considering the history, clinical examination and investigation, following treatment was prescribed in this case. [Table 1] The patient was advised to have two follow up visit at an interval of 14 days to check the recurrence of UTI.

The consecutive urine reports were done after each follow-up visit when compared with the before treatment status were able to exhibit the improvement. The subsequent observations were noted in table 2. This shows a considerable improvement in the urinary symptoms following the therapy to the before treatment status.

Table 1: Timeline of the case

Date		Relevant medical history & examination
2010		Diagnosed as a case of acute Cystitis
2011-18		Symptoms relieved with oral medicines, recurrences of urine infection on and off, thus chronic cystitis developed.
2019		Urinary symptoms again started.
Relevant personal, family and psychosocial history		No history of diabetes, weight loss and any other significant medical history. She underwent 3 times L.S.CS, having 3 live children. Family history was also not significant. She had a normal bowel habits.
Date & day of visit	Patient summary from initial & F/U visit and description of symptoms and signs	Interventions
13/08/19 (Day 0)	Increased frequency and urgency of micturition (18-20times/day), painful and burning micturition.	C.P Vati-250 mg twice daily with lukewarm water before food for 21 days GG- 250 mg twice daily with lukewarm water after food for 21 days SP-125 mg mixed with 250ml of water to be taken 4times/day for 21 days. Dietary and lifestyle modification explained.
24/08/19 (Day 11 th)	Moderate relief in urinary symptoms	CP+GG+SP in prescribed dosage. And as urine report becomes normal, mutragata uttarbasti was planned. Uttarbasti D ₁ - 27/08/19 Uttarbasti D ₂ - 29/08/19 Uttarbasti D ₃ - 03/09/19 After emptying urinary bladder, painting of perineal region with betadine antiseptic solution was done and then disposable feeding tube of no. 6, lubricated with xylocaine jelly was inserted into urethra and mixture of autoclaved sesame oil (15 millilitre), honey (4 millilitre) and rock salt (1 gram) was pushed into urethra which is retained for 10 minutes.
05/09/19 (Day 22 nd)	Significant relief in urinary symptoms obtained. Patient was discharged in stable condition with significant improvement	Dietary and lifestyle modification explained.
19/09/19 (Day 36 th)	1 st Follow up visit- OPD No recurrence of UTI was noticed	Dietary and lifestyle modification continued
3/10/19 (Day 50 th)	2 nd Follow up visit- OPD No recurrence of UTI was noticed	Dietary and lifestyle modification continued
Diet- Normal bland diet, avoid excessive salty, sour and spicy food, ginger etc. ⁹ Water- drinks plenty of water in the form of juice, soup, plain water, glucose water etc. Lifestyle- Avoidance of excessive work, stress, worries and excessive sun exposure and to maintain proper perineal hygiene.		

CP- Chandraprabha vati, GG- Gokshuradi Guggulu , SP-Shvetparpati

Table 2: Assessment of urine examination report

Urine Analysis	Before Treatment (13/8/19)	After Treatment (24/8/19)
Colour	Pale yellow	Straw
Specific gravity	1.020	1.016
Deposit	Nil	Nil
Transparency	Hazy	Slight hazy
pH	Acidic	Acidic
Albumin	Trace	Fine trace
Sugar	Nil	Nil
Pus cells	25-30/hpf	2-3
Epithelial cells	10-12/HPF	5-6
RBC'S	1-2	Nil
Cast	Epithelial cast	Nil
Crystals	Nil	Nil
Others	Bacteria++	Nil

DISCUSSION

The basti (urinary bladder) is said to be sthana of apana vayu, which is generally responsible of normal evacuation of urine, stool, flatus and sperm, so in mutrakriccha there is vitiation of apana vayu along with pitta dosha. Thickening and irregularity of bladder wall occurs due to khara (rough) and ruksha guna (dry) of vayu while due to chala (movable) guna of vayu patient had increased frequency, scanty flow and painful micturition. Pitta dushti resulting in burning micturition. Hence vata and pitta dosha vitiation were the causative factors for chronic cystitis and dushyas were rasa, rakta and mansa dhatu, because bladder musculature thickened in this condition

Ayurvedic perspective of this case presenting with painful and burning micturition with increased frequency and scanty flow of urine has been established with *pittaja mutrakriccha*. As Pain, increased frequency, urgency, scanty flow of urine are the features of *vata* dominance, burning sensation (Daha) is the feature of *Pitta*.

The treatment was planned on the basis of predominance of dosha and dushya (body tissue) and srotas (macro and microcirculatory channels) involvement [Table 1].

Chandraprabhavati is classically indicated medicines for *Mutrakriccha* (urinary tract infection)^{10, 11}. It is sheeta veerya and having a rasayana, tridoshaghna, mutrala and deepana-pachana properties¹². It helps in correcting the *agni*, there by overcoming the pathogenesis of *Mutkruchha*. The major ingredients *Shilajeet* (Asphaltum), *Sweta Parpati*, *Moolikshar* (extract of the ashes of radish), *Sarjikshar*, *Punarnava* (*Boerhavia diffusa*), *Gokshura* (*Tribulus terrestris*), *Varun* (*Crataeva nurvala*), *Pashan Bheda* (*Bergenia ligulata*), *Ikshumool* (*Saccharum officinarum*), *Kulatha* (*Dolichos biflorus*) are mainly acts on *Mutravaha Srotas* and alkaline in nature¹³. Other ingredients like guggulu, loha bhasma and swarnamakshika bhasma are *sheeta veerya*¹⁴, *deepaniya*¹⁵, *vatahamak*¹⁶ and *rasayana*¹⁷. These properties help in reducing the burning micturition.

Gokshuradi Guggulu is a well-known guggul kalpa effective in urinary disorders like *mutrakriccha*, *mutraghata* and *ashmari*. *Gokshura* (*Tribulus terrestris*) possess Madhur (sweet) Rasa (taste), Guru (heaviness), Snigdha (unctuousness) Guna (property), Sheeta Virya (cold in potency), *Vatapittashamaka* (Vatapitta pacifying nature), *mutrakricchahar*, *Mutravirechaniya* (diuretic) and *Ama Pachana* (digestive) properties. By *Mutravirechaniya* (diuretic) action, urine volume is increased, pH becomes alkaline and inflammation is reduced, by *pitta Shamaka* (pacifying burning sensation) properties it soothes the epithelium of urinary tract and by *Ama Pachana* (digestive) property medicines breaks down the process of *Kleda* (waste) formation¹⁸.

Urinary antiseptic and anti-adhesion herbs like *Juniperus* spp., *Vaccinium macrocarpon*, *Salvia officinalis*, *Punica granatum*, *Tribulus terrestris*, *Terminalia chebula*, *Ocimum sanctum*, *Cinnamomum cassia*, *Azadirachta indica* and *Ocimum sanctum*^{19,20}, which are effective against major urinary tract pathogens namely *E. coli*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa* and *Enterococcus faecalis*.

Shwetparpati is having deepana and pachana properties. It is useful in mandagni, ajeerna and udarshool. It is mutral and vatanuloman in action²¹.

The main ingredients of Shweta parpati are *Surya kshara* (potassium nitrate), *Sphatika* (*Alum*) and *Nausadar* (*Ammonium chloride*) in which *Surya kshara*²² and *Sphatika* having a tridoshaghna, shodhana and ropana properties. On the basis of these content it is alkaline in nature and diuretic²³ prevents the stasis of bacteria in bladder.

The main treatment of the *mutkrichhra* is *Uttara Basti* (administration of the medicated oil). *Uttara Basti* is a specific treatment procedure mentioned for bladder disorders. It is administered through the urethra into urinary bladder. As basti (urinary bladder) is said to be vatasthan of apana vayu, which is vitiated in this condition so Tila taila is chosen due to its *vatahamak*, soothing and healing properties^{24,25}, honey has *shodhan* (purification), *ropan* (Healing) and antibacterial properties^{26,27} while saindhava lavana

increases the efficacy of tila tail. Uttarbasti offers the possibility of higher concentration of drug in affected area; it is simple and cost effective procedure and found to be a better treatment method for UTI.

CONCLUSION

This case study shows that recurrent UTI can be managed successfully with Ayurvedic intervention. The symptoms of UTI were markedly reduced. No adverse effect pertaining to the prescribed drug was reported. No recurrence of UTI was noticed. Ayurvedic medicines offer a good approach to manage mutrakrichcha, but to establish this fact further study on larger sample is required.

Conflicts of interest

None declared.

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