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, 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 and off and on the past 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 signs, 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 sepsicaemia2. 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 bacteriae are proteus, klebsiella, enterobacter, pseudomonas etc.

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

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 urine. 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.
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 & 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<sup>th</sup>) | Moderate relief in urinary symptoms | CP+GG+SP in prescribed dosage.  
And as urine report becomes normal, mutragata uttarbasti was planned.  
Uttarbasti D<sub>1</sub>- 27/08/19  
Uttarbasti D<sub>2</sub>- 29/08/19  
Uttarbasti D<sub>3</sub>- 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<sup>nd</sup>) | 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<sup>th</sup>) | 1<sup>st</sup> Follow up visit- OPD  
No recurrence of UTI was noticed | Dietary and lifestyle modification continued |
| 3/10/19 (Day 50<sup>th</sup>) | 2<sup>nd</sup> 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.  
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
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 mutrakrichcha 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 dysuria 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 mutrakrichcha. As Pain, increased frequency, urgency, scanty flow of urine are the features of vata dominancy, burning sensation (Daha) is the feature of Pitta.

The treatment was planned on the basis of predominance of dosha and dushyas were rasa, rakta and mansa dhatu, hence vata and pitta dosha vitiation were the causative factors for burning sensation (Daha) is the feature of Pitta.

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Chandraprabhavati is classically indicated medicines for Mutrakrichcha (urinary tract infection)10, 11. It is sheeta veerya and having a rasayana, tridoshagnaha, mutrala and deepana-pachana properties12. It helps in correcting the agni, there by overcoming the pathogenesis of Mutrakrichha. The major ingredients Shilajeet (Asphaltam), Sweta Parpati, Moolikshar (extract of the ashes of radish), Sarjikshar, Punarnava (Boerhavia diffusa), Gokshura (Tribulus terresteris), Varun (Crateva nerval), 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 veerya14, deepaniya15, vatashamak16 and rasayana17. These properties help in reducing the burning micturition.

Gokshuradi Guggulu is a well-known guggul kalpa effective in urinary disorders like mutrakrichcha, mutraghata and ashmari. Gokshura (Tribulus terresteris) possess Madhur (sweet) Rasa (taste), Guru (heaviness), Snigdha (unctuousness) Guna (property), Sheeta Virya (cold in potency), Vatapittashamaka (Vatapi 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 brings 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 sanctum19,20, which are effective against major urinary tract pathogens namely E. coli, Klebsiella pneumoniae, Pseudomonas aeruginosa and Enterococcus faecalis. Shwetaparpati 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 kshara22 and Sphatika having a tridoshagna, 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 mutrakrichcha 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 vatasthana of apana vayu, which is vitiated in this condition so Tila taila is choosen due to its vatashamak, soothing and healing properties24,25, honey has shodhan (purification), ropon (Healing) and antibacterial properties26,27 while saindhava lavana

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                       |

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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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