

A CASE REPORT ON LOWER URINARY TRACT INFECTIONS

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Abstract

Urinary tract infection (UTI) is a common condition that is often painful and, in some cases, can be life-threatening. On average, females experience 0.5 to 0.7 episodes of UTI per year, with recurrent infections occurring in about 25% of cases. It is estimated that 50–80% of women in the general population will have at least one episode of UTI during their lifetime. This reported case serves as an illustration that reinforces the significance of individualization and the effectiveness of homoeopathic medicines in the management of lower urinary tract infection. In this case, the homoeopathic remedy Pulsatilla produced a favorable response and successfully aided in the treatment of LUTI.

Introduction

Urinary tract infection (UTI) is a common condition that is often painful and, in some cases, can be life-threatening. It occurs when bacteria gain entry into the urinary tract, persist, and multiply. The infection is most frequently caused by gram-negative organisms,

particularly *Escherichia coli* (accounting for 75–90% of cases), followed by *Klebsiella*, *Enterobacter*, *Pseudomonas*, and *Proteus*. In hospital-acquired UTIs, the causative agents may include pathogenic organisms, anaerobic bacteria, or fungi such as *Candida*.

On average, females experience 0.5 to 0.7 episodes of UTI per year, with recurrent infections occurring in about 25% of cases. It is estimated that 50–80% of women in the general population will have at least one episode of UTI during their lifetime. Uncomplicated cystitis is the most common clinical presentation, which is why women have been the primary focus of UTI-related clinical research.

Women are more susceptible to cystitis due to several factors, including a relatively short urethra (approximately 4 cm), colonization of the periurethral area by gram-negative enteric bacteria from nearby sites, absence of bactericidal prostatic secretions, and sexual activity, which facilitates the entry of bacteria into the bladder.

Anatomically, UTIs can be classified into lower urinary tract infections (urethritis

and cystitis) and upper urinary tract infections (pyelonephritis and perinephric abscess).

Uncomplicated Urinary Tract Infection

- Refers to cystitis or urethritis resulting from bacterial colonization of the bladder or urethra.
- Occurs far more frequently in females than in males.
- Typically presents with dysuria and increased urinary frequency, without associated fever or flank pain.

Complicated Urinary Tract Infection

- Encompasses infections of the lower or upper urinary tract that occur in the presence of factors increasing the risk of treatment failure. These infections often involve the prostate or renal parenchyma, leading to conditions such as prostatitis or

pyelonephritis.

- Management is often challenging, with recurrence after therapy being common.
- Serious complications such as sepsis, metastatic abscess formation, and renal failure may develop.

Host Factors Predisposing to Urinary Tract Infection

Anatomical factors

- Narrowing of the urethra
- Presence of posterior urethral valves
- Benign enlargement of the prostate
- Vesicoureteral reflux

Functional factors

- Neurogenic bladder dysfunction

Other contributing factors

- Immunosuppression, such as in post-renal transplant patients
- Urinary calculi
- Diabetes mellitus
- Presence of foreign bodies, including urinary catheters and stents
- Congenital anomalies of the urinary tract

Female-specific factors

- Certain voiding practices

- Post-menopausal status associated with estrogen deficiency
- Vaginal douching
- Use of spermicidal agents
- Inadequate perineal hygiene

Routes of Infection in Urinary Tract Infection

UTIs can develop through three main pathways:

- Ascending route
- Hematogenous route
- Lymphatic route

The ascending pathway is the most common mode of infection. In this route, microorganisms enter the urethra from the anorectal area, vagina, or vulva and then migrate upward to the bladder and may further reach the kidneys.

The second pathway is hematogenous spread, in which infection reaches the kidneys via the bloodstream, often originating from septic sites such as the tonsils, intestines, or other distant foci of infection.

The third pathway is the lymphatic route, where infection spreads from nearby structures, such as the genital organs in cases of cervicitis or from the adjacent ascending colon. Through periureteral lymphatic channels, organisms may extend from the bladder to involve the kidneys.

Clinical Features

Common manifestations of cystitis and urethritis include:

- Sudden onset of increased urinary frequency
- An abrupt urge to pass urine
- Burning sensation or pain during urination (dysuria)
- Pain in the lower abdomen during and after micturition
- A persistent urge to void again shortly after urination, often due to spasms of the inflamed bladder wall
- Cloudy urine with an unpleasant odor
- Presence of blood in urine, either microscopic or visible

- Foul-smelling or mucoid urethral discharge.

Investigations

Diagnostic evaluation may include:

- Routine urine examination
- Urine culture and sensitivity testing
- Ultrasonography
- Plain X-ray of the abdomen
- Intravenous urography
- Computed tomography (CT) of the abdomen
- Isotope renography using Technetium-99m-labeled dimercaptosuccinic acid (DMSA)
- Micturating cystourethrography and cystoscopy.

Case

Personal Identification:

OPD Reg No: 25008601	Age : 20
Name: Miss PP	Sex: Female
Occupation: Student	Ref : Self
Address: Limda, Vadodara	D.O.R:
Religion: Hindu	Mobile no.

Chief Complaints:

- Burning pain during micturition
- Increased frequency of micturition 8 -10 times
- Pain at the close of micturition
- Headache with heaviness
- Pain < motion
- > open air

Past H/O

No major illness in past

Family H/O

All are healthy

Personal H/O

Desire: NS	Perspiration: on exertion
Aversion: NS	Sleep: Sound
Appetite: Good	Dream: NS
Thirst: Drink only during meal	Bowel: Satisfactory
Thermal: Chilly	Urine: 10-12, small quantity, no hematuria

Mental:

- Fear of being alone
- Fear of darkness
- Cry easily when hurt

Menstrual

LMP 22/11/25

Regular, dark red, no clots, non offensive

Vital Data

- BP -110/70mmhg
- Pulse -64b/min
- RR:14/min

Examination

CVS: S1 and S2 heard. No

murmur RS: AEBE

PA: Mild Tenderness on lower abdomen

CNS: Concious oriented. No nuerological deficit.

Investigation

Urine Routine on 19/11/25 s/o Pus cells 8-10 hpf and USG KUB on 27/11/25 suggestive of Cystitis. Urine culture was done on 27/11/25 s/o growth on aerobic culture

Diagnosis: Lower Urinary Tract Infection – Acute Cystitis

Repertorial Sheet : Repertorized by using Synthesis Repertory

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34			
1. MIND - WEEPING - easily (41) 1	1	1	2	2	2	3	-	-	2	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	1	-	1	-	-	-	1	-	
2. MIND - FEAR - dark; of (76) 1	2	1	1	1	2	2	2	1	1	1	2	1	1	2	2	-	2	-	1	1	2	4	2	1	-	-	1	-	-	-	-	1	-	-	1	-	1
3. MIND - FEAR - alone, of being (83) 1	3	3	2	1	1	2	1	3	-	3	-	3	1	-	1	1	2	2	1	2	2	-	3	-	-	-	-	-	1	-	-	2	-	1	-	-	1
4. BLADDER - URINATION - dysuria (169) 1	3	3	2	3	1	3	-	3	2	3	1	3	2	3	3	1	1	2	2	3	2	1	-	2	1	1	2	2	-	2	1	2	1	2	1	2	
5. BLADDER - URINATION - frequent (286) 1	3	3	2	2	3	3	2	1	2	3	1	2	2	1	2	2	1	3	3	3	2	1	3	2	2	2	2	2	2	1	1	2	1	3	3		
6. URETHRA - PAIN - urination - close of, at (14) 1	1	-	-	-	-	1	-	1	-	1	-	-	-	1	3	-	-	-	-	-	-	-	-	1	3	-	1	-	1	-	-	-	-	-	-		
7. STOMACH - THIRSTLESS (179) 1	2	2	2	2	1	3	1	2	1	1	1	2	2	1	1	1	1	3	3	1	2	2	1	1	3	1	1	1	1	1	3	2	2	2	1		
8. GENERALS - AIR - open air - desire for (164) 1	3	3	1	1	1	3	3	2	2	3	1	1	1	1	1	1	2	2	1	-	2	1	1	1	1	1	1	1	1	1	2	2	-	1	-		
9. HEAD - HEAVINESS (331) 1	2	2	2	2	2	2	3	2	3	2	2	1	2	1	2	1	2	1	3	3	3	2	1	1	2	2	2	2	1	2	-	2	2	2	2		
10. HEAD - PAIN - motion - agg. (173) 1	2	2	2	3	1	-	3	1	2	1	2	1	1	1	1	1	1	1	2	2	2	1	1	1	-	2	2	1	1	1	1	2	2	2	1		
11. HEAD - PAIN - air - open - amel. (149) 1	3	1	3	1	1	3	2	2	2	1	3	1	1	1	1	1	1	1	2	-	1	1	-	1	1	1	1	-	1	1	2	2	1	-	-		

Final Prescription : Pulsatilla 200* 2pills OD X 1 Week. Sac Lac 30*4pills BD X

1 week

Follow Ups

Sl NO.	FOLLOW UP	SYMPTOMS	PRESCRIPTION
1	24/11/25	Burning pain during micturition reduced by 10 % Frequency of micturition reduced by 10 % Pain at the close of micturition still same Headache with heaviness reduced by 30 % On Examination : Abdomen soft, mild tenderness	Puls 200* 2pills OD X 1 week Sac Lac 4pills BD x 10days
2	06/12/25	Burning pain during micturition reduced by 30 % Frequency of micturition reduced by 30 % Pain at the close of micturition reduced by 30 % No c/o headache On Examination: Abdomen soft, no tenderness	Sac Lac 2pills BD x 15 days
3	18/12/25	Burning pain during micturition much reduced Frequency of micturition and Pain at the close of micturition reduced from last visit On Examination: Abdomen soft, no tenderness	Puls 200* 2pills TDS X 1 week Sac Lac 2pills BD x 10days
4	29/12/25	No any fresh complaints. Patient feels better. On Examination: Abdomen soft, no tenderness	Sac Lac 2pills BD x 10 days
5	10/01/26	No any complaints Patient feels comfortable <ul style="list-style-type: none"> • On Examination: Abdomen soft, no tenderness • BP -110/70mmhg • Pulse -64b/min • RR:14/min 	Sac Lac 2pills BD x 10 days

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Response : Marked improvement

Urine Report

Urine test before Treatment	Urine test After Treatment																																																																																																																																																																																																																								
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USG KUB

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FINDINGS:

BOTH KIDNEYS

Both Kidneys are normal in size and texture. Corticomedullary differentiation is well maintained.

No evidence of hydronephrosis or calculus is seen.

URETERS

The upper part of both ureters is normal.

The vesico-ureteric junctions are normal.

URINARY BLADDER

Urinary Bladder is well distended. Walls are thickened and irregular.

No focal mass / Calculi seen

IMPRESSION:

Minimally distended urinary bladder with Changes of cystitis.

No other significant abnormality is noted

Please correlate clinic-pathologically.

Conclusion :

Patient come with the c/o of Lower Urinary Tract Infection.. After taking case and repertorized by using Synthesis repertory, Pulsatilla is selected as final prescription and given to patient along with Sac Lac. Patient showed marked improvement till fifth follow up. Post Treatment Urine routine was done on 28/12/25 which showed pus cells 2 hpf

Reference

1. Munjal YPal, Association of Physicians of India. API textbook of medicine. Association of Physicians of India; 2012. 36 p.
2. Harrison's Principles Of Internal Medicine_20E.
3. Medicine_By George Mathew_5th Edition.
4. TEXTBOOK OF DC DUTTA's

GYNECOLOGY including
Contraception.

5. Mohan H. Textbook of pathology.
6. Innes EAJA, Davidson's Essentials
V. Student Consult.
7. Yogeswari Dr, Kurian DrCR,
Raj DrD, Bhuvanewari Dr.
A brief overview of urinary
tract infection and its
application by using a
concise repertory of
homoeopathic medicine by
Dr. SR Pathak. International
Journal of Homoeopathic
Sciences. 2022 Oct
1;6(4):81-5.