



# URINARY TRACT INFECTION AND ITS HOMOEOPATHIC MANAGEMENT

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**Abstract :** Urinary Tract Infections (UTI) are among the most widespread bacterial infections in today's world. Globally around 150 million people are diagnosed with UTI each year. It has a detrimental effect on people's mental and physical well-being and ultimately lowers their quality of life. As antibiotic resistance is rising, there is a need for alternate therapies for its management. In homoeopathy many remedies have characteristic UTI which can be used to alleviate symptoms on the basis of individualization.

## Keywords

Urinary Tract Infection, bacteria, Homoeopathy

## Abbreviations

UTI - Urinary Tract Infection, UUTI - Upper urinary tract infection, WBC - White blood cell, RBC - Red blood cell

## INTRODUCTION

Urinary tract infections are frequent in both men and women, however women have a higher incidence due to their physiology.<sup>1,2</sup> Urinary tract infections refers to acute urethritis and cystitis caused by a group of bacteria, most commonly Escherichia coli or Staphylococcus saprophyticus. Urinary tract infection can be defined as a situation in which bacteria penetrate, remain, and multiply in the urinary tract.<sup>3</sup>

## Etiopathogenesis

A UTI is most frequently caused by bacteria ascending from the urethra, according to a wealth of clinical and experimental data. Bacteria enter the urethra and start to proliferate in the urinary system through haematogenous or lymphatic dissemination<sup>5</sup>. Bacteria can also travel from the bladder to the kidneys through the ureters, leading to a condition called pyelonephritis. Once in the kidneys, bacteria can attach to the epithelium, multiply, and cause inflammation in the surrounding tissue. Extracellular bacteria are started to be eliminated by host inflammatory reactions, which include neutrophil infiltration. These bacteria produce toxins and proteases that induce host cell damage, releasing essential nutrients that promote bacterial survival and ascension to the kidneys. Kidney colonization causes harm to host tissue and the development of bacterial toxins.<sup>6</sup>

## Cause and Risk Factors<sup>8</sup>

- Personal hygiene - Maintaining personal hygiene is important as feces-contaminated perineal areas can increase the risk of coliform bacteria in the vagina and near the urethra.
- Sexual Activity - Trauma to the urethra and surrounding tissue may increase susceptibility to infection, and the bacteria can be mechanically pushed into the urethra.

- **Hormonal Status** - Low estrogen causes the tissue in the urethra and vagina to weaken and become deficient, which increases the risk of UTIs.
- **Diabetes** - Persistently high blood sugar levels cause immunosuppression which allows for greater susceptibility to UTIs.
- **Catheter use** - Those who use a catheter to urinate because they are unable to urinate on their own are more likely to develop urinary tract infections (UTIs).
- **Blockages in the Urinary Tract** - bladder's urine can harbour kidney stones or an enlarged prostate, which raises your risk of urinary tract infections.

### Clinical Types -

1. **Urethritis** - An infection is referred to as urethritis when it only affects the urethra. This is a typical sexually transmitted illness that affects men.
2. **Cystitis** - An infection or bacteria-related inflammation of the bladder.<sup>4</sup>
3. **Pyelonephritis** - An inflammation of the renal parenchyma and associated collecting system, which can be caused by parasites, viruses, and fungus as well as bacteria. The prognosis, treatment plan, and diagnosis differ for acute and chronic cases of bacterial pyelonephritis. It involves inflammation of the kidney, parenchyma, pelvis, and calyx due to a bacterial infection

### Clinical Sign And Symptoms

Pain in the suprapubic area, burning, pain during urination with or without frequency, or obvious haematuria are the typical symptoms of lower UTIs. Symptoms of an upper urinary tract infection (UUTI) can include fever (>100°F), chills, nausea, vomiting, discomfort at the cost vertebral angle, and nausea, with or without cystitis symptoms. Fever is typically linked to more complex types of UTIs and is infrequent in lesser UTIs.<sup>7</sup>

### Complications:

- Sepsis is a life-threatening infection that can progress from the urinary tract to the kidneys.
- Recurrent urethritis causes urethral constriction (stricture) in males, which was previously recognized with gonococcal urethritis.
- Untreated urinary tract infections might cause permanent kidney damage (pyelonephritis).
- focal renal nephronia
- Prostate abscess
- Renal abscess
- Staghorn urinary calculus

### Investigations

1. **Urine Culture** - A urine culture involves placing a urine specimen on an agar plate and incubating it in the laboratory for 24 to 48 hours. It is then analysed for bacterial growth. Quantitative urine culture is considered the gold standard for diagnosing UTI.
2. **Plain X-ray of the Abdomen**- Plain X-ray of the abdomen reveals the presence and degree of calcification in the urine.
3. **Urine dipstick test** - Urine dipstick tests involve examining a urine sample under a microscope for white blood cell (WBC) counts, red blood cell (RBC) counts, and cellular or hyaline casts. Nitrite is a dipstick test that uses NO<sub>3</sub> sticks to detect bacteraemia. A combination of clinical symptoms, dipstick and microscopic investigation demonstrating pyuria, and/or positive nitrite/leukocyte esterase tests can be utilized as presumptive proof of UTI.<sup>8</sup>
4. **MRI** - MRI provides the same information as CT scanning and is helpful in situations where an iodine-containing contrast injection is not recommended, such as in cases of renal insufficiency or during pregnancy.
5. **Retrograde and Urinary Urethrocytography** - This procedure investigates vesico-ureteric reflux when clinical suspicion exists, as well as any obstruction to the lower urinary tracts.

**Conventional Treatment** - Treatment for a UTI should be tailored to each patient's specific needs and medical history.<sup>9</sup> Antibiotics has reduced the morbidity and mortality rate from bacterial illnesses. Amoxicillin/clavulanate, cefixime, cefprozil, levofloxacin, nitrofurantoin, fosfomicin, and nalidixic acid are some of the other antibiotics often used to treat bacterial UTI.<sup>7</sup>

### Homoeopathic therapeutics

1. **BELLADONNA**- Urine rich in phosphates, black, and murky with tenesmus. Frequent urge to urinate, Difficulty releasing urine, sometimes releasing only a few drops of bloody urine. Continual dribbling of urine. When passing water, faeces escape. Tenesmus of the bladder. Burning in the bladder, with frequent urination, especially at night.<sup>10-11-12-13</sup>
2. **CANNABIS SATIVA**- Urethra very sensitive to touch or pressure, cannot walk with leg close together, it hurt the urethra Tearing pain along urethra in a zigzag direction .Burning while micturating extending to the bladder Painful urging, urine in split stream urine.  
10-11-12-13
3. **CUBEBA OFFICINALIS**- Inflammation of urethra. Secretion of mucus from urethra greatly increased. Cutting and constriction after micturition Irritation of urinary passages always. Urethritis, with much mucus especially in women<sup>10-11-12-13</sup>.
4. **CANTHERIS VESICATORIA**- Constant urging to urinate, passing but a few drops at a time. This is mixed with blood Intolerable urging before, during and after urination, violent pain in bladder. Burning, cutting pain in urethra during micturition the burning pain and intolerable urging to urinate. Nephritis with bloody urine. Urine passed drop by drop. Urine jelly-like, shreddy<sup>11-12-13</sup>
5. **EUCALYPTUS GLOBULUS**- Presence of blood in the urine. Renal irritation due to suppuration. Low urea and presence of pus in the urine. Burning and tenesmus; catarrh of bladder. Urine smells of violets<sup>11-12-13</sup>
6. **EUPATOREUM PURPUREUM**- Deep, dull pain in kidneys. Burning in bladder and urethra on urinating. Insufficient flow due to (BPH) enlarges prostate milky urine due rich amount of albumin secretion in urine strangury hematuria. Constant desire; bladder feels dull. Dysuria. Vesical irritability in women. Urinary infections associate with diabetes insipidus<sup>12-13</sup>
7. **EQUISETUM HYEMALE**- Intense, dull bladder discomfort and fullness not relieved by urination. Frequent urging leading to excruciating pain during urination. Urine flowing drop by drop. Sharp, burning, cutting pain in the urethra when urinating. Urine containing a lot of mucus and albumin.<sup>11-12-13</sup>
8. **MEDORRHINUM**- Often indicated for chronic ailments due to suppressed gonorrhoea for women with chronic pelvic disorders. UTI due to excessive sexual indulgences with multiple partners urethritis in both males and females with intense pruritus recurrent abdominal pain with frequent urging of urination better by lying on abdomen<sup>12-13</sup>
9. **METHYLENUM COERULEUM**- Extreme irritation of bladder with post-surgical kidneys associated cystitis where extreme high grade fever recurrence due to high pus cells in urine (infection) acquires a green colour, cystitis associates with gonorrhoeal rheumatism with profuse foul bad smell odour.<sup>12-13</sup>
10. **PULSATILLA PARATENSIS**- Burning sensation in the urethral opening during and after urination. Bladder spasms after urination. Urine is extremely sparse, bloody, and filled with mucus; patients experience difficulty in waiting for urination and may complain before and during the urination process<sup>12-13</sup>
11. **PETROSELENIUM SATIVUM**- Burning, tingling, from perineum throughout whole urethra; sudden urging, to urinate; frequent, voluptuous tickling in fossa navicularis. Gonorrhoeal sudden, irresistible desire to urinate; intense biting, itching, deep in urethra; milky discharge<sup>12-13</sup>
12. **PRUNUS SPINOSA**- Special action on the urinary organs tenesmus of bladder. Ineffectual effort to urinate. Hurriedly impelled to urinate; the urine seems to pass as far as glans, and then returns and causes pain in urethra. Neuralgic dysuria. Must press a long time before urine appears<sup>12-13</sup>
13. **POPULUS TREMULOIDES**- Usefulness in catarrh of the bladder, especially in old people. Good remedy in vesical troubles after operations and in pregnancy. Cystitis. Fullness of head, and sensation of heat of the surfaces of the body with night sweat and ague Severe Tenesmus; painful scalding. Urine contains mucus and pus. Prostate enlarged. Pain behind pubis, at end of urination<sup>12-13</sup>
14. **STAPHYSAGRIA**- Urinary infections due to excess of sexual indulgences in sinners and young, new married females especially during and after honeymoon with very irritable bladder. Cystocele (locally and internally). Cystitis in lying-in patients. Ineffectual urging to urinate in newly married women. Pressure upon bladder; feels as if it did not empty. Sensation as if a drop of urine was rolling continuously along the channel. Burning in urethra during micturition. Prostatic troubles; frequent urination, burning in urethra when not urinating. Urging and pain after urinating. Pain after lithotomy<sup>12-13</sup>

15. TEREBINTHINIAE OLEUM- Symptoms include tenesmus, sensitivity in the lower abdomen, intense burning and cutting sensation in the bladder, cystitis, and urinary retention caused by weak bladder muscles. Painful erections due to urethritis may also be experienced<sup>12-13</sup>
16. UVA URSI- Cystitis with hematuria, chronic cystitis with pain, tenesmus and catarrhal discharge. Burning after discharge of slimy urine. Frequent urging with sever spasms of the bladder burning and tearing pain Urine contains blood, pus, and a lot of tenacious mucus, with clot in large masses. Painful dysuria with green urine<sup>12-13</sup>
17. NITRICUM ACIDUM- Very offensive urine Scanty, dark, offensive. Smells like horse's urine. Cold on passing. Burning and stinging. Urine bloody and albuminous Alternation of cloudy, phosphatic urine with profuse urinary secretion in old prostatic cases <sup>12-13</sup>

#### Discussion:

Urinary tract infections (UTIs) are among the most common bacterial infections acquired in the community and in hospitals. UTIs are usually self-limiting in people without anatomical or functional problems, but they do tend to reoccur. Uropathogens are spread between persons by person-to-person contact, food, and possibly water. They have particular properties that allow them to colonize and invade the urinary tract, such as the creation of adhesins, siderophores, and toxins. Antibiotic treatment of UTIs is often self-limiting. UTI has received limited attention in Research, leading to a lack of comprehensive studies on the topic. This article aims to shed light on the subject. In this context, Homeopathy provides a gentle, long-lasting, and effective treatment founded on a holistic Approach. Medication is chosen based on comprehensive considerations of mental, physical, and characteristic aspects. Homeopathy provides considerable relief for individuals with UTI, addressing not only the physical symptoms but also supporting psychological and overall wellness. Therefore, homeopathy stands out as a comprehensive healing approach.

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