

Female urinary tract infection: Prevention

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Macy E. Female urinary tract infection: Prevention. *J. clin. diagn. treat.* 2022; 4(3):24-25

ABSTRACT

Both in males and women, bacteria are found in the area of the urethral opening and frequently colonize urine in the urethra; however, they are washed away after micturition. Women's shorter distances from the bladder make it easier for bacteria to colonize the bladder before being eliminated via micturition. Women's urethral openings are also close to the rectum and vaginal cavity, which are

home to significant bacterial populations. Antibiotics are drugs that fight infection by killing microorganisms. Urinary tract infections are normally treated with antibiotics.

Key Words: *Uropathogen, siderophores, urinary tract infection, recurrent cystitis, genitourinary*

INTRODUCTION

Among the most prevalent bacterial illnesses contracted in the community and hospitals are Urinary Tract Infections (UTIs).

UTIs are often self-limiting in people without anatomical or functional problems, but they do tend to come again. Uropathogen can colonize and invade the urinary tract thanks to specialized traits such as the synthesis of adhesins, siderophores, and toxins. They can also spread from person to person and possibly through food or drink.

Although UTIs are typically self-limiting, antibiotic therapy of UTIs causes a quicker resolution of symptoms and is more likely to remove bacteriuria, but it also favors resistant commensal bacteria and uropathogen and has negative effects on the vaginal and gastrointestinal microbiota. It may be time to look at other methods of treating UTIs because uropathogens are growing more and more resistant to the antibiotics that are currently on the market.

Urine exits through the urethra, which also allows infections and other germs to enter the urinary system. Both in males and women, bacteria are found in the area of the urethral opening and frequently colonize urine in the urethra; however, they are washed away after micturition. Women's shorter distances from the bladder make it easier for bacteria to colonize the bladder before being eliminated via micturition. Women's urethral openings are also close to the rectum and vaginal cavity, which are home to significant bacterial populations.

An estimated 35% of healthy women experience Urinary Tract Infection (UTI) symptoms at some point in their lives. About 5% of women visit their general practitioner each year with frequent and painful urination (dysuria), which is the cause of 0.5%–1% of visits.

Lower (limited to the bladder) and upper (pyelonephritis) UTIs are separated into uncomplicated and complicated categories, respectively. Uncomplicated Urinary Tract Infections (UTIs) are those that happen in healthy hosts without structural or functional problems, who are not pregnant, and who have not been instrumented (for example, with a catheter) Urinary symptoms and urine culture results show the number of a known uropathogenic above a specified threshold (often defined as >1,000 cfu/ml of urine, but thresholds as low as 100 cfu/ml and as high as 100,000 cfu/ml are also employed) are combined to diagnose UTI. However, bacteriuria and urinary symptoms frequently occur separately: 20% of women who arrive with "classic" UTI symptoms have negative urine cultures as shown in Figure 1.

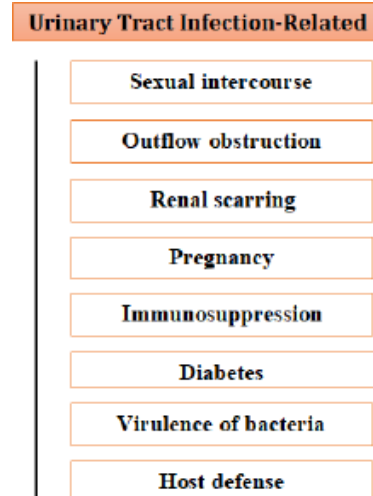


Figure 1) Urinary tract infection-related symptoms

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Received: 3-May-2022, Manuscript No. PULJCDT-22-5320; Editor Assigned: 6-May-2022, Pre QC No. PULJCDT-22-5320 (PQ); Reviewed: 18-May-2022, QC No. PULJCDT-22-5320 (Q); Revised: 19-May-2022, Manuscript No. PULJCDT-22-5320 (R); Published: 31-May-2022, DOI: 10.37532/puljcdt.22.4(3).24-25



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Both inpatient and outpatient settings frequently experience Urinary Tract Infections (UTIs). Asymptomatic Bacteriuria (ASB), acute uncomplicated cystitis, recurrent cystitis, catheter-associated ASB, Catheter-Associated UTI (CAUTI), prostatitis, and pyelonephritis are clinical entities covered by the term "UTI." The existence or absence of symptoms related to the urinary system, the patient's sex, coexisting diseases, and genitourinary history, including the presence of stones, stents, or catheters, further define these categories. Women are more susceptible to urinary tract infections than males in the absence of documented urinary system abnormalities. Acute cystitis is particularly common in premenopausal women; among those who engage in sexual activity, the prevalence ranges from 0.5 cases to 0.7 cases per person per year.

Diagnosis

Patients with complicated UTIs or pyelonephritis must take an MSU. There is no need for urine culture in those with sporadic, If the symptoms and signs are related, an uncomplicated UTI with murky urine and minute hemorrhage. One leucocyte Detecting pyuria using an esterase dipstick is possible and sticks are nitrite (a byproduct of bacterial metabolism of nitrogen) is detectable bladder nitrate). Clear urine samples from healthy, non-immunosuppressed people are not infectious and should not be discarded since they are for culture sent. When recurrent symptoms affect healthy patients, it is essential that urine culture and urine testing be used to confirm the diagnosis. Antibiotics are drugs that fight infection by killing microorganisms. Urinary tract infections are normally treated with antibiotics.

Antibiotics that are often used include:

1. Nitrofurantoin.
2. Sulfonamides (sulfa medicines) (sulfa drugs).
3. Amoxicillin.
4. Cephalosporins.
5. Sulfamethoxazole and trimethoprim (Bactrim®).
6. Doxycycline.
7. Quinolones, including ciprofloxacin (brand name: Cipro).

How to manage UTI?

1. Consuming more liquids produce more urine.
2. Oral treatment to alkalize, such as potassium citrate solution urinary system to reduce symptoms.

PREVENTION

1. By maintaining appropriate personal hygiene, you can frequently ward off UTIs. For women, this is especially crucial. *E. coli* bacteria can travel from the rectum back into the body more easily in women because their urethras are shorter than those of men.
2. Drinking lots of fluids: Increasing your daily intake of fluids, particularly water, can assist your urinary system get rid of additional bacteria. It is advised to consume six to eight glasses of water per day.
3. Changing your method of birth control: Some women who use a diaphragm for birth control have a higher chance of getting a UTI. Consult your healthcare practitioner about alternative birth control methods.