

URINARY TRACT INFECTION IN WOMEN

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Annotation. Urinary tract infection (cystitis) is one of the most common infectious diseases among women. This condition is observed especially in women of reproductive age and causes inflammatory processes in the lower part of the urinary system. Urinary tract infection not only negatively affects the patient's quality of daily life, but can turn into chronic forms and cause other serious complications. In this article, we will focus on the causes and risk factors, pathogenesis, diagnosis, treatment methods and preventive measures of urinary tract infection in women.

Key words: cystitis, pathogenesis, postmenopausal period, Klebsiella, Proteus, Enterococcus and Pseudomonas aeruginosa.

The Epidemiology of Urinary Tract Infections (UTIs): Urinary tract infections (UTIs) are highly common among women, affecting millions of patients worldwide each year. Due to the anatomical structure of women, specifically the short urethra and its proximity to the anogenital areas, the risk of urinary tract infections is higher in women compared to men.

Key Statistics:

1. Approximately 50-60% of women will experience at least one urinary tract infection (UTI) at some point in their lives.
2. The recurrence rate of cystitis in young women is 25-30%.
3. Women in the postmenopausal period frequently experience the recurrence of this condition.

Etiology and Risk Factors:

Etiological Factors:

1. **Escherichia coli (E. coli):** The primary causative agent of cystitis in 80-90% of cases.
2. **Staphylococcus saprophyticus:** The second most common causative agent of cystitis in young women.
3. **Other Microorganisms:** Includes Klebsiella, Proteus, Enterococcus, and Pseudomonas aeruginosa.

Risk Factors:

1. **Hygienic Practices:** One of the most significant factors leading to urinary tract infections is improper hygiene.
2. **Sexual Activity:** Active sexual life increases the risk of cystitis (often referred to as "honeymoon cystitis").
3. **Hormones:** Decreased estrogen levels (e.g., during menopause) weaken vaginal flora and urethral defense.

4. **Anatomical Changes:** Narrowing of the urinary tract or other congenital abnormalities increase susceptibility to infection.
5. **Medical Manipulations:** The use of catheters and other invasive procedures increase the risk of infection.

Pathogenesis:

The pathogenesis of urinary tract infections (UTIs) typically includes the following stages:

1. **Entry of Pathogen:** Microorganisms move upwards through the urethra.
2. **Adherence:** Bacteria adhere to the epithelial cells of the urinary tract.
3. **Inflammatory Response:** The body activates inflammatory mediators, leading to the manifestation of symptoms.
4. **Weakness of Defense Mechanisms:** The failure to flush out bacteria through urination, the weakening of the urethra's protective lining against bacteria, and a compromised immune system contribute to the persistence of the infection.

Clinical Manifestations:

The main symptoms of urinary tract infection (UTI) include:

1. Pain during urination (dysuria);
2. Change in color and cloudiness of urine;
3. Frequent need to urinate (polyuria);
4. Pain and discomfort in the lower abdomen;
5. Sometimes fever and general weakness.

Diagnosis:

The diagnosis of urinary tract infections involves both laboratory and instrumental methods:

1. **History Taking:** Gathering information about clinical symptoms and risk factors.
2. **Urinalysis:**
 - To detect leukocyturia, erythrocyturia, and bacteriuria.
3. **Urine Culture:** To identify the etiological pathogen and determine antibiotic sensitivity.
4. **Ultrasound Examination:** To detect structural problems in the urinary tract.

Treatment:

The treatment of urinary tract infections (UTIs) aims to eliminate the etiological causes and reduce symptoms.

Antibiotic Therapy:

1. **Trimethoprim/Sulfamethoxazole:** Often chosen as the first-line treatment.
2. **Nitrofurantoin:** A safe and effective drug, especially for pregnant women.
3. **Fosfomycin:** A convenient drug for single-dose treatment.
4. **Fluoroquinolones:** Used for complicated and recurrent infections.

Additional Treatment Methods:

1. **NSAIDs:** Used to reduce pain and inflammation.
2. **Probiotics:** Help restore vaginal and intestinal flora.
3. **Immunomodulators:** Enhance the body's ability to fight infection.

Preventive Measures:

To prevent urinary tract infections (UTIs), the following measures are recommended:

1. Adhering to personal hygiene rules;
2. Drinking sufficient amounts of water to encourage urination;



3. Urinating after sexual activity;
4. Using antibiotics only on the advice of a doctor;
5. Maintaining a healthy lifestyle to strengthen the immune system.

Conclusion

Urinary tract infections (UTIs) are common among women, but they can be effectively treated without complications if diagnosed and managed promptly. Proper diagnosis and the formulation of an individualized treatment plan can prevent the infection from becoming chronic. Adhering to hygiene practices and promoting a healthy lifestyle are also crucial in reducing the risk of infection.

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