ACUTE UNCOMPLICATED CYSTITIS IN WOMEN: EPIDEMIOLOGY, DIAGNOSIS, AND EVIDENCE-BASED TREATMENT APPROACHES

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Abstract. Acute uncomplicated cystitis is one of the most encountered infections among women, affecting millions annually. It is characterized by dysuria, urinary frequency, and suprapubic discomfort without systemic signs of infection. A substantial burden on public health systems has been attributed to this condition due to its prevalence and recurrent nature. In this review, the epidemiological patterns, diagnostic approaches, and evidence-based treatment options are outlined. Current guidelines have been reviewed, and emerging therapies have been discussed. The importance of antimicrobial stewardship has been emphasized in the context of rising antibiotic resistance.

Keywords: Acute cystitis, women, urinary tract infection, diagnosis, antibiotic resistance, epidemiology, treatment guidelines

Introduction. Acute uncomplicated cystitis is considered a prevalent infection of the lower urinary tract, primarily affecting healthy women of reproductive age. It is typically caused by "Escherichia coli" and is distinguished from complicated urinary tract infections by the absence of structural or functional abnormalities. Despite its benign course in most cases, the condition can significantly impair quality of life and lead to unnecessary use of antibiotics if not managed properly. A growing concern about antimicrobial resistance has necessitated a reassessment of conventional treatment strategies. In this context, evidence-based approaches have gained critical importance in improving patient outcomes.

Epidemiology. Acute uncomplicated cystitis has been estimated to affect nearly 50% to 60% of women at least once in their lifetime. Among them, approximately 20% to 30% have been reported to experience recurrent episodes within six months. The highest incidence has been observed in sexually active women aged between 20 and 40 years. Risk factors such as recent sexual activity, use of spermicides, and a prior history of urinary tract infections have been consistently identified. A lower prevalence has been reported in postmenopausal women, although anatomical and hormonal changes contribute to increased susceptibility in this population.

Diagnosis. The diagnosis of acute uncomplicated cystitis is primarily based on clinical presentation. Common symptoms include dysuria, increased urinary frequency, urgency, and suprapubic pain. In the absence of vaginal discharge or irritation, a diagnosis can often be made without the need for laboratory tests. However, urinalysis may be performed to support clinical suspicion, and a positive leukocyte

esterase or nitrite test can strengthen diagnostic confidence. Urine cultures are generally not recommended in uncomplicated cases, though they may be indicated in recurrent or treatment-resistant infections.

Evidence-Based Treatment Approaches. Management of acute uncomplicated cystitis has been increasingly guided by antimicrobial stewardship principles. First-line treatment options have been recommended based on local resistance patterns and clinical efficacy. Nitrofurantoin (100 mg twice daily for 5 days), fosfomycin (3 g single dose), and trimethoprim-sulfamethoxazole (160/800 mg twice daily for 3 days, where resistance is below 20%) have been endorsed by clinical guidelines. Fluoroquinolones and beta-lactams are considered second-line options due to broader spectrum activity and higher risks of collateral damage.

Non-antibiotic strategies have also been explored, including the use of analgesics like phenazopyridine and preventive measures such as increased fluid intake and behavioral modifications. Recent studies have emphasized the potential role of non-steroidal anti-inflammatory drugs (NSAIDs) and delayed antibiotic prescriptions in selected patients to reduce antibiotic usage without compromising safety.

Conclusion. Acute uncomplicated cystitis remains a significant public health issue due to its frequency and impact on women's health. Accurate clinical diagnosis and the use of evidence-based treatment strategies are essential to ensure effective management. Rising antibiotic resistance has underscored the need for judicious antibiotic use and ongoing research into alternative therapies. Future directions may involve personalized treatment pathways and enhanced patient education to further optimize outcomes.

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