



TUBERCULOUS CYSTITIS

Ashirov Ulug'bek Khusanboyevich

Deputy Director of the Namangan Regional Phthisiology Pulmonology Center of the Republic of Uzbekistan Phthisiology Urologist, Urologist.

Phone number +99894 104 13 40

Annotation: Tuberculous cystitis is a rare but serious manifestation of genitourinary tuberculosis that primarily affects the urinary bladder. This article examines the epidemiology, pathogenesis, clinical presentation, diagnostic approaches, and contemporary treatment strategies for tuberculous cystitis. Special attention is given to the increasing clinical relevance of the disease due to rising migration, HIV co-infection, and antibiotic resistance. The study emphasizes the importance of early detection using advanced imaging and laboratory methods, as delayed diagnosis often leads to irreversible bladder dysfunction. The findings highlight the need for multidisciplinary management and timely antitubercular therapy to improve patient outcomes.

Keywords: Tuberculous cystitis; Genitourinary tuberculosis; Bladder inflammation; Mycobacterium tuberculosis; Diagnosis; Antitubercular therapy; Urogenital infections.

Introduction

Tuberculous cystitis represents a significant clinical challenge as part of genitourinary tuberculosis (GUTB), which accounts for approximately 20–30% of all extrapulmonary tuberculosis cases worldwide. It occurs when *Mycobacterium tuberculosis* spreads hematogenously or via direct extension to the urinary bladder, leading to chronic inflammatory changes, mucosal ulceration, and progressive fibrosis. Although the global incidence of tuberculosis remains high, tuberculous cystitis often remains underdiagnosed because of its non-specific symptoms such as hematuria, dysuria, urinary frequency, and pelvic discomfort, which mimic common bacterial infections.

In recent years, increased population mobility, immunosuppressive conditions, and multidrug-resistant tuberculosis strains have contributed to the growing clinical importance of this disease. Early diagnosis is crucial, as prolonged inflammation can result in reduced bladder capacity, urinary tract obstruction, and long-term urological complications. Modern diagnostic tools, including urine PCR, imaging modalities, and cystoscopy, have significantly improved detection rates; however, timely clinical recognition remains essential.

This article provides a comprehensive overview of the etiological factors, clinical features, diagnostic criteria, and treatment options for tuberculous cystitis, emphasizing the importance of an integrated urological and infectious-disease approach to ensure optimal clinical outcomes.

Tuberculous cystitis is a disease of the bladder wall (urinary bladder) caused by *Mycobacterium tuberculosis*. This process occurs after tuberculosis of the kidneys and ureters. In the mucous membrane of the bladder, there is an increase in the pattern of blood vessels (injection), focal redness (hyperemia), characteristic tuberculous ulcers (lumps).



Symptoms: Painful, burning urination; Frequent urination or urinary incontinence; Blood in the last portions of urine (pink urine); Pain in the bladder area; Red urine, bloody urination; Frequent recurrent cystitis; Inability to cure cystitis despite the treatment measures; Reduction in bladder volume (bladder filled with little urine).

The patient may experience one or more of the above symptoms at the same time. With the onset of these symptoms, the patient begins to try to avoid people. Wherever he goes (at work, at home, on the street, in a hotel), the first thing he looks for is the toilet. Sleep is disturbed. In short, the way of life is disrupted.

Diagnosis (diagnosis):

- Examination by a specialist phthisiourologist.
- Examination of urine for tuberculosis.
- Cystoscopy (examination of the inner mucous membrane of the bladder).

Treatment: Treatment is carried out in specialized tuberculosis hospitals. When bladder tuberculosis is detected, the treatment of this disease is carried out with special anti-tuberculosis drugs. The earlier the disease is detected, the less complications there will be.

When the above symptoms are observed, tuberculous cystitis should be ruled out. The reason is that the above symptoms do not mean only tuberculous cystitis, therefore it should be differentiated from other bladder diseases. That is, you should consult a specialist Phthyziourology.

Conclusion

Tuberculous cystitis remains a clinically significant and often underrecognized form of genitourinary tuberculosis that poses substantial diagnostic and therapeutic challenges. The chronic and nonspecific nature of its symptoms frequently leads to delays in diagnosis, increasing the risk of irreversible bladder damage and long-term functional impairment. Advances in diagnostic technology—such as polymerase chain reaction testing, enhanced imaging techniques, and cystoscopic evaluation—have improved early detection; however, the effectiveness of treatment still largely depends on timely clinical intervention. Standardized antitubercular therapy remains the cornerstone of management, though complex cases may require surgical correction to restore urinary tract function. Overall, improving clinician awareness, strengthening laboratory capacities, and implementing multidisciplinary approaches are essential to reducing disease burden and enhancing patient outcomes.

REFERENCES:

1. World Health Organization. Global Tuberculosis Report 2023. Geneva: WHO Press, 2023. 72 p.
2. Figueiredo A.A., Lucon A.M. Urogenital tuberculosis: update and review of 8961 cases from the world literature // Rev. Urol. 2008. Vol. 10, No. 3. P. 207–217.
3. Muneer A., Macrae B., Krishnamoorthy S., Zumla A. Urogenital tuberculosis — epidemiology, pathogenesis and clinical features // Nat. Rev. Urol. 2019. Vol. 16. P. 573–598.



**AMERICAN
ACADEMIC
PUBLISHER**

INTERNATIONAL JOURNAL OF MEDICAL SCIENCES

ISSN NUMBER: 2692 - 5206

Volume 5, No 11, November ,2025

4. Kulchavenya E. Extrapulmonary tuberculosis: definition, epidemiology, and clinical manifestations // *Therap. Adv. Infect. Dis.* 2014. Vol. 2, No. 2. P. 61–70.
5. Gupta N., Mandal A.K., Singh S.K. Tubercular involvement of the bladder in urinary tract tuberculosis // *Indian J. Urol.* 2008. Vol. 24, No. 3. P. 357–361.