In instances of genitourinary tuberculosis, the clinical presentation and diagnostic technique are described

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INTRODUCTION

The different forms of presentation of Genitourinary Tuberculosis (GUTB) and a straightforward diagnostic method are described in this paper.

GUTB manifests itself in a variety of ways, the most frequent of which is irritative voiding symptoms, which occur in more than half of all patients. The kidney, bladder, fallopian tube, and scrotum are the most commonly involved organs. The presence of mycobacterium in urine or bodily fluids, as well as radiographic examination, is the most common diagnostics performed to identify GUTB. Intravenous Urography (IVU) is regarded as one of the most effective techniques for determining the anatomical and functional features of the kidneys and ureters. MRI can be used to diagnose renal insufficiency. Newer tests, such as radiometric liquid culture methods (e.g., BACTEC®, Becton Dickinson, USA) and Polymerase Chain Reaction (PCR), provide quick results and are extremely sensitive in identifying mycobacterium.

GUTB may affect any portion of the genitourinary system, with symptoms ranging from nonspecific urine symptoms to chronic kidney failure. Newer technologies, such as radiometric liquid culture methods and polymerase chain reaction, provide quick findings with great diagnostic value.

Tuberculosis is a major public health issue in our country. According to the World Health Organization (WHO), the South-East Asia Region had the highest number of new Tuberculosis (TB) cases in 2005, accounting for 34% of all incident cases worldwide. In 2005, it is projected that 1.6 million people died as a result of tuberculosis. There are no credible epidemiological statistics on its prevalence available from India. Late consequences of this illness, such as a non-functioning kidney and a thimble urinary bladder, can be avoided with prompt identification and treatment. The clinical appearance and diagnosis of genitourinary TB are discussed in this article.

After lymph node involvement, Genitourinary Tuberculosis (GUTB) is the second most prevalent type of extrapulmonary tuberculosis. In most cases, the kidney is the main organ affected in urinary illness, and other sections of the urinary system get implicated by direct extension. The major sources of genital infection in males are the epididymis and the fallopian tubes in women.

CLINICAL PRESENTATION

The transfer of pulmonary TB to the genitourinary tract typically results in the development of genitourinary tuberculosis, when mycobacterium spreads through the blood to the genitourinary tract. Active genitourinary TB manifests itself 5 to 25 years after the first infection. As a result, it is uncommon in young children. Eight to fifteen percent of pulmonary tuberculosis patients are thought to be at risk of getting GUTB. Patients may arrive with symptoms specific to the organ in question, or they may have long-standing, unexplained urological problems. The kidney, bladder, fallopian tube, and scrotum are the most commonly involved organs. The GUTB can be presented in a variety of ways, some of which are as follows:

- Urinary tract infection that is recurring or resistant, sterile pyuria with or without hematuria
- Irritating urination symptoms, such as frequency, urgency, and dysuria
- An unintentional diagnosis of TB in a known case
- Renal or epididymal mass (hydronephrosis/pyonephrosis)
- Infertility and pelvic inflammatory illness

MYCOBACTERIUM RAPID IDENTIFICATION

Radiometric systems

Radiometric Liquid Culture Technologies (e.g., BACTEC®) [Becton Dickinson, USA] provide quick results and are extremely sensitive in identifying mycobacterium. However, working with radioactive materials has certain inherent challenges, and the requisite gear is quite costly**.** Alternative growth detection techniques for liquid culture that use oxygen quenching and redox reagents and perform similarly to BACTEC have recently been discovered and marketed. Culture and drug sensitivity tests take around 2 to 3 weeks**.**

Computed Tomography (CT scan)

Currently, CT is replacing IVU as the preferred imaging modality in GUTB at many locations. It can detect calyceal and infundibular abnormalities, renal parenchymal damage, and hydronephrosis or hydroureter. It also detects nearby adrenal, retroperitoneal, prostatic, and seminal vesicle abnormalities.

Cystoscopy and biopsy

Cystoscopy is rarely used to make a diagnosis. If there is a suspicion of cancer, a biopsy is required. To avoid illness spread, it should only be done after 4-6 weeks of medical therapy. Reduced bladder capacity and a patulous ureteral orifice are the cystoscopic findings. Positive bladder biopsy results for GUTB can be observed in up to 46% of individuals.

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