Isolated Urinary Bladder Tuberculosis: A Case Report

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Abstract

Tuberculosis (TB) affects all organs of the body and has varied presentations both pulmonary and extra-pulmonary. Genitourinary tuberculosis remains an important, but uncommon form of TB. It is caused by metastatic spread of the organism through the bloodstream during the initial infection. The kidney is usually the primary organ infected in urinary disease, and other parts of the urinary tract become involved by direct extension. Herein we report a patient who had bladder tuberculosis without any involvement of the upper urinary tract which is an extremely uncommon entity. A 36 years old unmarried male presented with frequent micturition for the last two years. There were few episodes of hematuria and lower abdominal discomfort. There was history of decreased appetite, evening rise of temperature and generalized weakness. He had family history of pulmonary TB. Tuberculosis should be the first disease to be excluded should a case of reduced bladder capacity report to the physician especially in countries where tuberculosis is endemic.

Case presentation

A 36 years old unmarried Asian male, non smoker, farmer by occupation with no previously significant medical and/or surgical history presented with frequent micturition for the last two years. The patient reported frequent episodes of burning micturition for which he did not seek any medical help and instead used to get relieved by taking over the counter drugs. There were few episodes of hematuria and lower abdominal discomfort. There was history of decreased appetite, evening rise of temperature and generalized weakness. His father had been treated as a case of pulmonary tuberculosis.

All the preliminary investigations were ordered which revealed the following information: Hemogram was within normal limits. X-ray chest did not reveal any abnormality. Urine examination revealed sterile pyuria. Ultrasonography revealed reduced bladder capacity 80 ml and normal kidneys and ureters (see Figures 1 and 2). Intravenous Pyelogram revealed small capacity bladder but normal kidneys (see Figure 3).

Figures 1 and 2 showing normal kidneys with contracted bladder.
Cystoscopy and biopsy revealed decreased bladder capacity with cystitis. There were no bladder trabeculations. Ureteric orifices were located with difficulty. Bladder wall biopsy was taken. Micturiting cystourethrogram revealed deceased bladder capacity. Histopathology Examination of the biopsy revealed epitheloid cell granuloma with Langhan’s giant cells confirming the diagnosis of bladder tuberculosis (see Figure 4).

Figure 4 is a histopathology slide of bladder wall showing granulomatous inflammation.
Urine culture for Mycobacterium tuberculosis (The BACTEC 460 medium) came to be positive. Uroflowmetry did not show any outflow obstruction. The patient was put on a six months regimen of rifampicin, INH, pyrazinamide, and ethambutol. On completion of treatment the patient was planned for augmentation cystoplasty to address the reduced bladder capacity. Ileocecocystoplasty with left ureteric reimplantation (as the orifice had become narrow) was done in this case (see Figure 5).

Figure 5 reveals postoperative Micturiting Cystogram showing increased capacity.

The patient is under strict follow-up. Before the surgical intervention urinary cultures were repeated to document tuberculosis-free state of the urinary tract. The patient is on CIC and satisfied with the treatment.

**Discussion**

The disease known as “consumption” has been observed in humans for over 7000 years. It is mostly caused by mycobacterium tuberculosis though cases of genitourinary tuberculosis due to mycobacterium bovis have been reported in literature [1]. The transmission to genitourinary tract is almost always from a primary lesion elsewhere [2]. Bladder lesions were always secondary to renal TB. Genitourinary tuberculosis can manifest in such a varied number of ways that it should always be a differential diagnosis in genitourinary afflictions [3]. The earliest forms of infection start around one or another ureteral orifice, which becomes inflamed and edematous. As the area of mild inflammation progresses, granulations appear and may completely obscure the ureteral orifice. If the disease continues to progress, bladder wall fibrosis and contraction can occur. Here in this case the patient had isolated form of bladder tuberculosis. The bladder was extensively involved to the extent of a capacity of 80ml only. All of the investigations were in the support of tuberculosis while ruling out any other cause of small bladder capacity. The patient first received full course of antitubercular therapy as a Category 1 patient. He received a four drug combination of rifampicin, INH, pyrazinamide, and ethambutol for 2 months, then rifampicin and INH for 4 more months. This is in accordance with EAU guidelines for the management of genitourinary tuberculosis [4].
On completion of therapy augmentation cystoplasty was planned to address his reduced bladder capacity and its symptoms. He was planned for Ileoceccystoplasty with left ureteric reimplantation (as the orifice had become narrow when the native bladder was bihalved). The diseased bladder was not removed as it is deemed unnecessary these days [5].

**Conclusion:** In conclusion tuberculosis can affect any organ of the body and should be first to be excluded should a case of reduced bladder capacity report to the physician especially in countries where tuberculosis is endemic.

**References**


**Conflict of Interest:** Nil

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**Authors’ contributions:** SA, MK and MM performed the surgery on the patient, besides SA evaluated the patient, prepared him for surgery and is following-up the patient.

**Consent:** Written informed consent was obtained from the patient for publication of this case report and accompanying images.