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Genito - Urinary Tuberculosis with Secondary Bacterial Urinary Tract Infection - A Case Report

Laqusha Yadu Naik[1], Uday C Kakodkar[2]

[1]Junior Resident, Department of Respiratory Medicine, Goa Medical College, Bambolim, Goa-403202, India

[2]Professor and Head, Department of Respiratory Medicine, Goa Medical College, Bambolim, Goa-403202, India

Abstract: ***Genito - Urinary Tuberculosis is a common term used for TB infection affecting either the urinary or Genital system. Diagnostic difficulties in GUTB are often due to insidious nature of disease onset, lack of bacteriological confirmation and failure to consider the diagnosis on basis of symptoms. We describe here a case of 23 years old female presented with history of burning micturition for 6 months, history of loss of appetite and loss of weight for 4 months, fever for 4 days and hematuria for 2 days. The patient was initially diagnosed as a case of bacterial urinary tract infection but further evaluation ultimately led to a diagnosis of GUTB with secondary bacterial urinary tract infection. Based on this case study GUTB should be suspected in young individuals who present with prolong history, even though urine routine microscopy does not show sterile pyuria. As early diagnosis of GUTB will significantly reduce morbidity like renal failure and infertility in young individuals.***

Keywords: GUTB, Sterile pyuria, Disseminated TB, Bacteria UTI

1. Introduction

Disseminated Tuberculosis refers to concurrent involvement of at least two non - contiguous organ sites of the body or involvement of the blood or bone marrow by TB process.

GUTB is a form of tuberculosis that affects the Genito urinary system, which includes the kidney, Ureters, bladder and reproductive organs. Diagnostic difficulties in GUTB are often due to insidious nature of disease onset, lack of bacteriological confirmation and failure to consider the diagnosis on basis of symptoms.

2. Case History (Description)

A 23 years old female patient presented with history of burning micturition for 6 months, history of loss of appetite and loss of weight for 4 months, right side flank pain for 4 months, fever for 4 days and hematuria for 2 days. Patient also gave history of above mentioned complaints were not subsiding even with multiple courses of antibiotics and there is history of recurrent UTI in the past 6 months. No history of Diabetes or any other immunocompromised state in patient.
On Physical Examination: - Vitals were stable

Respiratory system examination were normal

Abdominal examination: Tenderness was present in Right lumbar region

Differential Diagnosis
Urinary tract infection, Renal calculi with secondary infection, Genitourinary TB

Investigations
1) Complete Blood Counts - Normal
2) Renal Function Test - Normal
3) Liver Function Test - Normal
4) Fasting blood sugar level and HbA1C - Within Normal Range
5) HIV ELISSA was Nonreactive
6) On Urine Routine & Microscopy - Pale yellow turbid urine with numerous pus cell, WBC cast, RBC cast, bacteria were present.
7) Urine culture - showed growth of Escherichia coli bacteria for which patient was treated with Injectable Cefoperazone + Sulbactam combination as per culture sensitivity pattern for 7days with which patient's symptoms were still persisting.
8) USG Abdomen and Pelvis was showing Right Pyelonephritis with ureteritis. An echogenic lesion is in the right lower ureter, causing mild pelvi - calyceal and ureteric dilatation. The lesion could be a calculus or an excreted renal papillae. CECT was recommended for further evaluation.
9) CT Abdomen (Figure - 1) showed features of cystitis, ascending pyelonephritis. There was ureteric stricture and infundibular stenosis. Mild splenomegaly were present. Subcentimeter sized lymph nodes in the paracaval and inter aortocaval regions. Subcentimeter sized mesentric lymph nodes in right illiac fossa were present . The features were suspicious of GUTB.

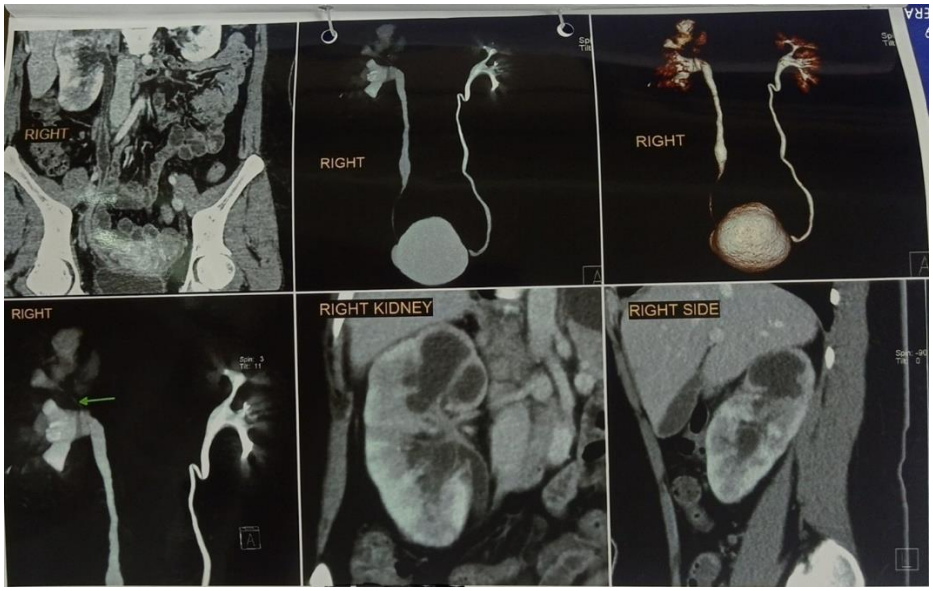

Figure 1: Showing features of cystitis, ascending pyelonephritis, ureteric stricture and infundibular stenosis.

10) The urine smear was positive for Acid fast bacilli the grade being scanty
11) Urine for CBNAAT - detected Mycobacterium Tuberculosis sensitive to Rifampicin
12) Urine FL - LPA - Rifampicin and INH sensitive.
13) Chest Xray (Figure - 2) showed Nodular lesion in left mid zone with prominence of left hilum.

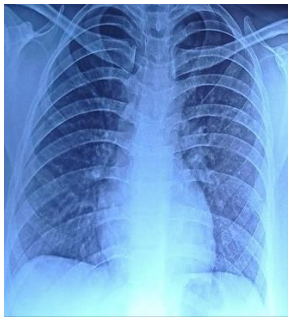

Figure 2: Showing Nodular lesion in left mid zone

14) Sputum CBNAAT - MTB not detected.

3. Diagnosis

Disseminated Koch's (Pulmonary + Genitourinary) with Secondary Bacterial Urinary tract infection.

4. Treatment

Patient was started on Anti tuberculosis Treatment (ATT) as per NTEP guidelines. Right DJ stenting was done by urologist for ureteric stricture. All the symptoms have completely regressed at the end of Intensive Phase of treatment. Urine AFB smear is negative and chest x - ray (Figure - 3) showed clearance of left mid zone nodular lesion at the end of continuation phase of treatment. USG Abdomen +Pelvis is showing thickening of pelvicalyceal fat of right kidney. Patient has completed 9 months of ATT.

Figure 3: Showing clearance of left mid zone nodular lesion

5. Discussion

Genitourinary TB (GUTB) is a form of extra pulmonary TB accounting for 27% of cases of all extra - pulmonary TB. The disease is common in reproductive age group of 20 - 40years with incidence in male 2 times higher than in female.

The individuals who present with repeated urinary tract infection, not responding to multiple course of antibiotics, presenting with prolonged history, even though urine routine microscopy does not show sterile pyuria GUTB should be suspected. Based on this case study early diagnosis of GUTB will significantly reduce morbidity which includes renal failure and infertility in young adults.

Declarations

Ethics approval and consent to participate: NA

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

Availability of data and materials: The datasets used and/or analysed during current study are available from the corresponding author on reasonable request.

Competing interests: No conflict of interest.

Funding: No funding source is used for the case.

Authors' contributions: First author has written the case report. Second guided with the diagnosis as well as with the imaging. Both authors read and approved the final manuscript.

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