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Case Report

A rare case of primary disseminated multi-drug resistant tuberculosis

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ABSTRACT

Tuberculosis (TB) is the commonest cause of infection-related death globally. Disseminated tuberculosis (TB) is a life-threatening disease which results from the hematogenous spread of *Mycobacterium tuberculosis*. Genitourinary tuberculosis (GUTB) is usually caused as a result of the hematogenous spread of the mycobacteria during the initial infection. The patient's clinical presentation may vary from asymptomatic to non-specific symptoms related to the organ involved and may also overlap with urinary tract infections caused by other pathogens hence delaying the diagnosis. Here we report one such case where the vague symptoms of the patient and absence of respiratory symptoms delayed the diagnosis of primary disseminated multi-drug resistant (MDR) tuberculosis.

Keywords: MDR tuberculosis, Genitourinary tuberculosis, Disseminated tuberculosis

INTRODUCTION

Tuberculosis (TB) remains a worldwide health burden especially in the developing countries. The insidious onset and non-specific constitutional symptoms of genitourinary tuberculosis (GUTB) often hinder the diagnosis and lead to rapid progression of the disease.

Urogenital TB complicates 3-4% of all cases of pulmonary TB and make up at least 30 per cent of all cases of extra-pulmonary disease.[1-3] The genitourinary tract is a primary target of hematogenous infections.[4] GUTB usually affects adults between the second and fourth decades of life and is reported as being rare in children and in the fifth and sixth decades. A mean age of 40.7 years (range: 5-90 years) has been noted.[8,9] UTB has an insidious onset, no specific symptoms and atypical presentations, which lead to difficulty and delay in diagnosis.[7] Most patients present with local symptoms such as frequent voiding; dysuria; pyuria; back, flank, or abdominal pain; and microscopic or macroscopic hematuria.[8] Systemic symptoms of fever, weight loss, and anorexia are less common.[8] Primary MDR-TB patients are those who have no prior TB treatment history or treatment of <1 month.[5] The prevalence of primary MDR-tuberculosis is around 3%.

CASE REPORT

A 23-year-old unmarried male, presented to the OPD with complaints of burning micturition of 6 months duration and pain after passing urine. He also gave history of increased frequency and urgency of micturition. The patient developed hematuria (on and off) for 3 months. No history of flow related disturbances. He had consulted at nearby hospitals and was treated symptomatically but there was no improvement in symptoms. The patient developed cough with expectoration since 1 month. No history of fever, shortness of breath, chest pain, weight loss. The patient's uncle had history of pulmonary tuberculosis diagnosed 10 years ago and was treated for the same.

General physical examination was normal. Respiratory system and uro-genital examination did not reveal any abnormalities.

Peripheral blood counts showed a hemoglobin level of 14 g/dl, total leucocyte count was 9560 cells/mm^3 and ESR was 23 mm/hr. Urine AFB done at onset of symptoms was negative and urine culture and sensitivity showed no growth. Repeat urine AFB done 3 months later showed

AFB 3+. Urine GeneXpert was done, and MTB was detected, Rif resistance detected. Sputum AFB was negative, but sputum GeneXpert showed MTB detected with Rif resistance.

Chest x-ray revealed a cavitary lesion in the right upper zone. Ultrasonogram of abdomen showed a thickened bladder with debris. CT KUB showed bilateral intrarenal calculi, right renal cortical cyst (Bosniak II), left renal cyst (Bosniak I) and cystitis.

Patient was started on short course MDR regimen according to MDT guidelines under NTEP program and is on regular follow up for 6 months.

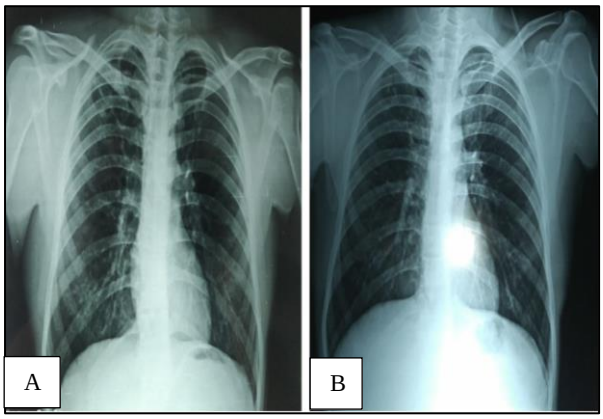

Figure 1: (A) Pre-treatment chest X-ray; and (B) chest X-ray taken after 6 months of treatment.

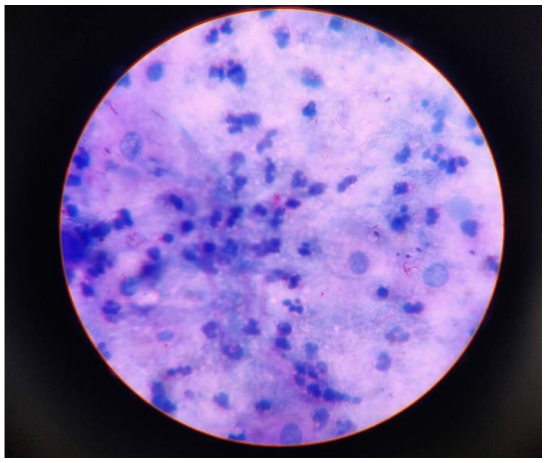

Figure: Urine AFB smear.

DISCUSSION

Complicated urinary tract TB is a rare disease with unusual symptoms; our patient's complaints were painful micturition, hematuria and left flank pain with a close tuberculosis contact. This patient had felt symptoms of TB for 6 months, and according to the timetable of Wallgren, urinary tract TB happens after five years of TB infection.[9] This case of concurrent pulmonary and urinary bladder MDR TB is a rarity. Approximately, 25% of tuberculosis cases might affect extrapulmonary organs through hematogenous and lymphatic spread.[10] Urinary tract tuberculosis is one of the rare manifestations of *Mycobacterium tuberculosis* (MTB) infections.[10] Acid-fast bacilli (AFB) examination in the urine with Ziehl-Neelsen staining should be checked 5 times in a row, but its sensitivity is very low (40%) although its specificity is high (96.7%), with the positive result only when 5,000-10,000 bacteria/ml urine is present. In this patient, urinalysis yielded positive results on the first examination. Prompt diagnosis by sending sputum for geneXpert, culture and LPA is warranted to detect primary MDR-TB. Providing treatment to diagnosed drug resistant TB patients is of utmost importance.

CONCLUSION

In endemic countries, high degree of suspicion is required to diagnose primary MDR-TB. There is significant delay in diagnosis of genitourinary TB as there is an absence of typical clinical features and overlapping of urinary tract infection caused by other pathogens. Patient often receives multiple courses of antibiotic therapy before the proper diagnosis. Sterile pyuria should always increase the suspicion for GUTB. Consider renal tuberculosis in any patient with a non-discrete renal calcification. Documenting the history plays an important role in diagnosis of tuberculosis. In conclusion, early diagnosis of GUTB with universal DST and effective MDT have a significant impact on the outcome.

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