



Tuberculosis of the prostate in a patient presenting with acute retention of urine: A case report

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General Note

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ABSTRACT

Tuberculosis (TB) of the prostate is much less common than renal, vesiculo-seminal and epididyma ITB. Many urologists are unfamiliar with the diagnosis and management of prostatic TB with many cases found incidentally following transurethral resection. The possible modes of spread to prostate include a descending infection from the urinary tract, direct intracanalicular extension

from a neighbouring tuberculous focus in the genital tract or a hematogenous spread. We report on a 68 year old male presenting to us with acute retention of urine. Per rectal examination revealed a hard prostate and histopathological examination of the prostatic needle biopsy showed prostatic tuberculosis.

Keywords: Genitourinary; Granulomatous; Infection; Prostate; Rare; Tuberculosis

1. INTRODUCTION

Tuberculosis (TB) is a major public health problem in many developing countries including India. Worldwide TB continues to be an important clinical problem, mainly because of its nonspecific clinical presentation and variable radiographic appearance (Gupta et al., 2008; Yousef et al. 2020). Genitourinary tuberculosis (GUTB) roughly forms about 10-14% of all extra-pulmonary tuberculosis, involving any organ from kidney to the urethra (Nerli et al., 2016; Nerli et al., 2016). GUTB constitutes a major urological problem in India, as TB is known to affect over 10 million people. GUTB is usually secondary TB, with vague symptoms and signs. A high index of suspicion often helps in early diagnosis.

TB of the prostate is rare compared to renal, bladder and epididymal TB (Gupta et al., 2008). This is the reason that many urologists are unfamiliar with the diagnosis and management of prostatic TB. Most cases of prostatic TB are found incidentally following transurethral resection (Gow et al., 1998). The established mode of spread to the prostate has been through a descending infection, the haematogenous spread or a direct extension from a neighbouring focus. Sporer et al., 1978, suggested that TB of the prostate is almost always the result of one or perhaps successive hematogenous seedings. Predisposing factors associated with the development/reactivation of TB include prolonged use of steroids, immunosuppressive therapy, diseases that impair cell-mediated immunity, and diseases with poor immune mechanisms (Nerli et al., 2016; Gow et al., 1998).

Histopathological examination of the prostate gland usually reveals diffuse caseating granulomas which are not confined to the preiglandular/periductal region. Ziehl-Nielsen staining is helpful in confirming the infectious aetiology.

2. CASE REPORT

A 68 year old farmer presented to the Urological services of the hospital with acute retention of urine. He was catheterized and admitted for further investigations. Per-rectal examination revealed a huge prostate, hard in consistency and the rectal mucosa freely mobile over underlying tissues. Routine blood investigations showed a blood haemoglobin of 14.2 gm%, Total WBC count of 7650/cm, WBC differential count – neutrophils 62%, lymphocytes 34%, ESR 08 mm in first hour, serum creatinine of 0.70 mg%. Random blood sugar was 338 mg%, Serum tests for HIV (Human immunodeficiency virus) were non-reactive and Serum PSA (Prostate specific antigen) 2.39 ng/ml. Chest X-ray appeared normal except for prominent broncho-vascular markings. Ultrasonography of the KUB (Kidney, ureter and bladder) region revealed bilateral normal appearing kidneys and bladder, prostate 4× 3 cms (Figure 1).



Figure 1 Transrectal USG of the prostate shows the enlarged prostate with non-uniform echo pattern.

In view of the hard prostate, it was decided to perform transrectal ultrasonography (TRUS) guided prostatic biopsy. Twelve core biopsies were done and sent for histopathological examination (HPR), which revealed diffuse chronic inflammation with numerous granulomatous lesions dispersed in cores of lymphocytes, epithelioid cells and Langhans' type of giant cells suggestive of tuberculosis (Figure 2). The patient failed two catheter-free trials and underwent transurethral resection of the prostate. The patient withstood the procedure well and voided well after catheter removal. The patient was started on anti-tubercular drug therapy.

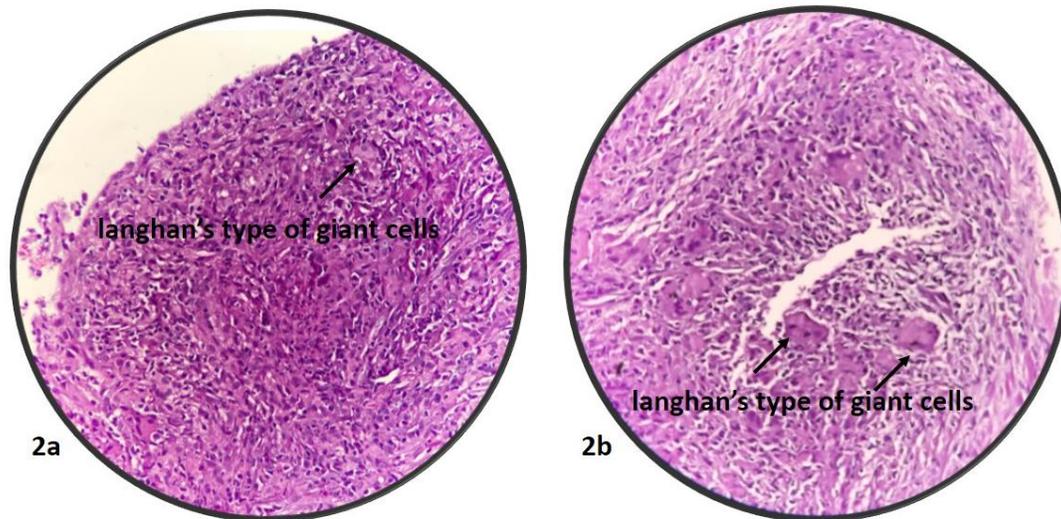


Figure 2 a & b. Histopathology (low power and high power) shows diffuse chronic inflammation with numerous granulomatous lesions dispersed in cores of lymphocytes, epithelioid cells and Langhans' type of giant cells- (arrows) suggestive of tuberculosis.

3. DISCUSSION

Genitourinary tuberculosis is known to involve kidney, ureter, bladder, and genital organs. Isolated lesions of the prostate can be seen in immunocompetent patients. It may be difficult to differentiate tuberculosis of the prostate from other disorders such as carcinoma of the prostate and chronic prostatitis whenever the prostate is hard and nodular on digital rectal examination and the urine shows no evidence of tubercular bacilli. It is usually the pathologist who diagnoses tubercular prostatitis on examining specimens after transurethral resection. Tuberculosis of the prostate is diagnosed only after a confirmatory biopsy of the prostate. The patient in our report was asymptomatic for GUTB, had no clinical or radiological evidence of tuberculosis elsewhere. Except for a hard prostate, the bladder appeared normal both on ultrasonography and on cystoscopy. Aziz *et al.*, 2015 reported on a 60-year-old male presenting with lower urinary tract symptoms and rectal examination revealing an enlarged hard prostate which was suspected to be a cancer; however, transrectal biopsy showed caseous necrosis with granulomas of tuberculosis. Similarly, Ratkal *et al.*, 2015 reported a 65-year-old male presenting with urinary retention, and underwent retropubic prostatectomy. On histological examination, the prostate was seen to exhibit caseating granulomas with epithelioid cells and Langhans' giant cells. Ziehl-Neelsen staining of the tissue confirmed the presence of acid-fast bacilli, thus confirming the diagnosis of tuberculosis of the prostate.

Diagnosis of prostatic TB clinically can be challenging. The most critical step is to elucidate a diagnosis of genitourinary TB from the patient's clinical history. The latency between pulmonary TB and manifestations seen in the genitourinary tract can be lengthy, with some reports showing a period of 30 years before the disease makes an appearance (Muttarak *et al.*, 2002). Tubercular prostatitis should also be suspected in patients with lower urinary tract symptoms and prostatic tenderness or nodularity after undergoing Bacille Calmette-Guérin therapy for bladder cancer (Porter *et al.*, 2001).

4. CONCLUSION

Anti-tubercular drug therapy remains the cornerstone in the management of GUTB. The treatment of choice is chemotherapy using three to four anti-TB drugs for up to six to nine months. Isoniazid, rifampicin, and pyrazinamide, with or without ethambutol, are normally used initially for six to 12 weeks. After the six to 12-week course, isoniazid and rifampin are used for an additional three to six months.

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Author Contributions

Details of contribution of each authors regards manuscript work & production.

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Conflict of Interest

The authors declare that there are no conflicts of interests.

Informed consent

Written & Oral informed consent was obtained from all individual participants included in the study.

Data and materials availability

All data associated with this study are available upon request to the corresponding author.

Peer-review

External peer-review was done through double-blind method.

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