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Case report

Primary prostatic tuberculosis: A rare form of genitourinary tuberculosis



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KEYWORDS

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Abstract

Primary tuberculosis of the prostate is a rare form of genitourinary tuberculosis with an autopsy incidence of 1%. We report a case of primary prostatic tuberculosis and review the pathology, varied presentations and management of this rare entity.

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Introduction

Tuberculosis is one of the major health problems with huge cost implications in India. Genitourinary tuberculosis comprises 20% of all extrapulmonary types of tuberculosis, with the prostate being involved in 70% of all cases. Amazingly, primary prostatic tuberculosis in the absence of demonstrable disease elsewhere is rare with an autopsy incidence of only 1%, although the prostate is contiguous to the bladder and may be bathed in mycobacteria-infested urine for a long time [1]. The diagnosis of prostatic tuberculosis can only be confirmed on histopathology. It has varied presentations and can mimic malignancy. We report a case of primary prostatic tuberculosis and discuss its varied presentations and management.

Case report

A 65-year-old patient presented to us with urinary retention. On rectal examination, he had a non-tender, moderately enlarged prostate of firm to hard consistency. The external genitalia were normal. Ultrasonography revealed a normal upper urinary tract and an enlarged prostate of 120 cm³ volume. Serum PSA was within normal limits. Chest X-ray as part of the preoperative work up was normal. Cystoscopic examination showed a trabeculated bladder and a grossly enlarged prostate. Considering the large prostatic volume, the patient was subjected to retropubic prostatectomy in the course of which the prostate could be enucleated without much difficulty. The patient made an uneventful recovery. On histological examination (Fig. 1) 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. Intravenous urography (IVU) carried out in order to exclude renal involvement showed normal findings. As the findings on chest X-ray and IVU (Fig. 2) were normal and as the prostate was the only site of

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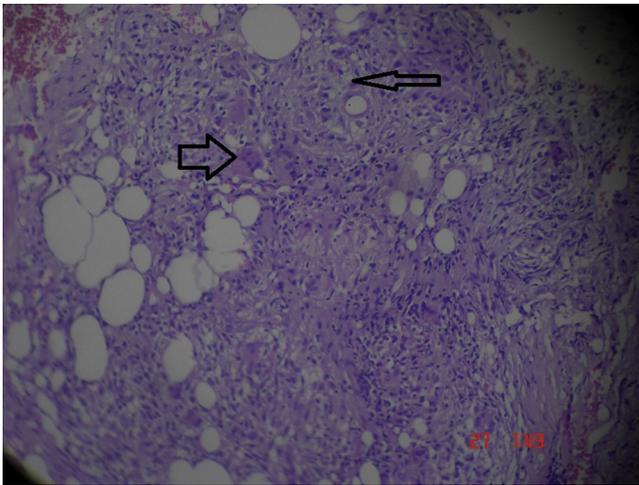


Fig. 1 Tubercular granuloma within the prostate gland showing caseating necrosis (long arrow), epithelioid cells and Langhans giant cells (short arrow); H & E Stain; 40× magnification.



Fig. 2 Intravenous urogram bilateral normal pelvicalyceal systems and ureters.

involvement, the diagnosis of primary prostatic tuberculosis was confirmed.

Discussion

Genito-urinary tuberculosis (GU Tb) is a rare form of extrapulmonary tuberculosis found in little over 2% of all individuals dying of pulmonary tuberculosis [1]. In descending order of frequency, it affects the epididymis, kidneys, ureters, bladder and seminal

vesicles. The prostate is the least affected organ, and primary tuberculosis of the prostate is extremely rare with an autopsy incidence of about 1% [1,2].

The prostate gets involved by hematogenous, lymphatic or direct routes [3,4]. Urinary transmission of the disease from an infected kidney does not occur, as the prostate is found to be involved in only 70% of cases of renal tuberculosis. Thus, also direct spread from urethral tuberculosis has been proven impossible. Once an infection has taken place, it leads to caseation, necrosis and, in extreme cases, to cavity formation. Development of a so-called watering can perineum, secondary to multiple tuberculous fistulae in the perineum, has been reported as well.

Primary prostatic tuberculosis is often diagnosed postoperatively on histopathology. The necrotic foci can sometimes mimic prostatic malignancy with a raised PSA level and hypo-echoic lesions on transrectal ultrasound. The diagnosis, in such cases, is confirmed on transrectal prostatic biopsy [5]. CT scan may reveal multiple hypodense necrotic areas that show ring enhancement in cases of abscess formation. On MRI one may see multiple hyperintense areas on T2 images, which are hypointense on T1 weighted images. Ring enhancement, if visualised, suggests abscess formation. On T2 images, Engin et al. identified diffuse radiating streaky areas of low signal intensity in the prostate, known as the 'water melon-skin' appearance [6].

Drugs remain the treatment of choice for prostatic tuberculosis. Patients in whom primary tuberculosis of the prostate was diagnosed after histopathological examination of a biopsy specimen often recover on anti-tuberculous therapy alone. However, patients presenting with urinary retention or perineal fistulae will usually be subjected to surgery followed by antituberculous medication. In our case the patient underwent retropubic prostatectomy and received medical treatment with anti-tubercular drugs. He is doing well at 3 years follow up.

Conclusions

Primary prostatic tuberculosis is a rare disease often diagnosed on histopathology. Once diagnosed, it has a good outcome when treated with anti-tubercular drugs.

Conflict of interest

None declared.

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