A rare case of prostate tuberculosis after holmium laser enucleation of the prostate

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ABSTRACT

Prostatic tuberculosis is considered to be a rare disease. It is usually associated with nonspecific symptoms and is detected incidentally after prostatic histological analysis.

We report the case of a 60-year-old man suffering from acute urinary retention with an estimated 90 g prostate who underwent Holmium laser enucleation of the prostate. The diagnosis of prostate tuberculosis was histological based on the analysis of prostate enucleation chips.

The clinical course was favorable under anti-tuberculous drugs.

1. Introduction

Urogenital tuberculosis represents 10–14% of extra-pulmonary tuberculosis sites.1 Prostate localization is very rare, particularly in immunocompetent subjects.2

It manifests itself by nonspecific clinical and radiological signs which tend to misdiagnose and delay treatment.2

Our patient case was confusing with benign prostatic hypertrophy (BPH). Through this observation we will discuss the diagnostic and therapeutic aspects of prostatic tuberculosis (PT).

2. Case presentation

A 60-year-old patient, was received in consultation for acute urinary retention (AUR). He had a background history of lower urinary tract syndrome associating a dysuria with a mixed pollakiuria (4–6 nocturnal awakenings) evolving for several months.

On digital rectal examination, the prostate was enlarged, painless, with a regular surface and elastic consistency. The cytopathological examination of the urine was sterile with hyper-leukocyturia. The chest x-ray was unremarkable.

Ultrasound of the urinary tract revealed a heterogeneous prostate enlarged with an estimated weight of 90 g. There was no prostatic calcification and the pyelo-caliceal cavities were not dilated.

The patient benefited from an indwelling bladder catheter and medical therapy of alpha-blocker (Silodosine 8 mg), during the next 5 days.

When the bladder catheter was removed, he had another episode of AUR.

Following these investigations and the recurrence of AUR, the indication for Holmium Laser Enucleation of Prostate (HoLEP) was made.

An uneventful HoLEP was subsequently performed. During operation, the prostate was enucleated in 130 minutes using a 26F Storz Laser resectoscope and a 600-μm holmium:YAG laser fibre at 1.6 J, 35 Hz and 50 Watt. The enucleated prostate tissue weighted 65 g. The duration of inpatient stay was 48 hours and postoperative catheterization time was about 3 days.

At outpatient follow-up 3 months later, uroflowmetry and ultrasound showed a markedly improved maximum voiding flow rate of 19 mL/s with a residual bladder volume of 40 mL. The IPSS score was 14. There were no postoperative complications.

Histopathologic examination of the enucleation chips of the prostate showed mostly a glandular hyperplasia without malignant change and a granulomatous necrotizing prostatitis of tuberculous origin (Figs. 1 and 2). Further questioning revealed that the patient was vaccinated with the BCG tuberculosis vaccine in childhood and had no history of tuberculosis infection. The questioning did not reveal any notion of...
List of abbreviations

| Abbreviation | Description                          |
|--------------|--------------------------------------|
| AFB          | acid-fast bacilli                    |
| AUR          | acute urinary retention              |
| BPH          | benign prostatic hyperplasia        |
| HoLEP        | Holmium Laser Enucleation of the Prostate |
| IPSS         | International Prostate Symptom Score |
| PT           | prostatic tuberculosis               |

chronic cough, or long-term fever, weight loss or notion of tuberculosis contagion in the patient’s family circle. Urine and sputum tested for Acid-fast bacillus (AFB) were negative. The tuberculin skin test and the interferon-γ release assay were also negative.

The patient was put on anti-tuberculosis treatment combining rifampicin, ethambutol, isoniazid and pyrazinamide for 6 months. The consequences of treatment are marked by asymptomatic and normal physical examination and laboratory tests with no drug side effects. After a follow-up of 1 year, there was a clear improvement in urination and quality of life.

3. Discussion

PT is an extremely rare condition. This rarity has been reported by several authors.1,3 This isolated form was first described by Jasmin in 1882.1 Moreover, no case of PT after HOLEP had been reported.

The route of contamination can be downward from tuberculosis of the upper urinary tract.1 It can also be done by hematogenous, lymphatic or by direct extension from a neighbouring structure.1 Contamination after an intra-bladder injection of AFB is very rare, as is sexual transmission.1 It has been reported transmissions after trans-urethral endoscopic manoeuvres.1 PT should be distinguished from non-specific granulomatous prostatitis, eosinophilic and postoperative prostatitis. The distinction is usually made by histology.1

For our patient, we did not initially think of a PT, and for which the tuberculosis serology was not requested. Thus, the diagnosis of PT was made by histologic analysis by showing the existence of granuloma with langhans giant cells and characteristic areas of caseous necrosis. This observation illustrates the clinical, biochemical and radiological polymorphism of PT. As in the series by Kostakopoulos1 and Benchekroun,4 it was the histological analysis of the resection chips that allowed us to make the diagnosis of PT for our patient by chance.

There are no specific clinical signs of PT, however symptoms of bladder irritation followed by hematospermia are very suggestive as is sterile pyuria.1 In addition, the data of the rectal examination have no specific character and can lead to confusion with a BPH,4 as is the case in our patient. We did not objectify factors that can be incriminated in the genesis of PT in our patient.

Treatment of PT is essentially medical and is based on the use of anti-tuberculosis drugs with a variable protocol depending on the country.2

In Tunisia, following the recommendations of national tuberculosis management guide (2018 edition), we have established a 6-month protocol, with an intensive two-month phase combining four anti-tuberculosis drugs (rifampicin, isoniazid, ethambutol and pyrazinamide) followed by a four-month continuation phase combining two anti-tuberculosis drugs (isoniazid and rifampicin).

4. Conclusion

PT is a rare condition but also atypical due to its clinical and radiological expression, which makes it a differential diagnosis with BPH. Our observation of PT after HOLEP highlights the facts that PT can have a varied presentation and histological analysis of prostate tissues with the demonstration of AFB and caseous necrosis is the criterion standard for diagnosis of this disease.

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