Urology Case Reports 17 (2018) 39–41

Contents lists available at ScienceDirect

Urology Case Reports

journal homepage: www.elsevier.com/locate/eucr

Oncology

Treatment experience for incidentally diagnosed asymptomatic prostate tuberculosis in a patient with history of BCG intravesical therapy

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ARTICLE INFO

Article history:
Received 25 October 2017
Accepted 14 December 2017
Available online 29 December 2017

ABSTRACT

Intravesical BCG therapy after transurethral resection of bladder tumor (TURB) is considered the most effective treatment for prophylaxis against the recurrence of high risk non-muscle invasive bladder cancer, and generally well tolerated and infectious complication are rare. We reported a case of granulomatous prostatitis is a patient who had undergone intravesical BCG therapy due to non-invasive superficial urothelial carcinoma of bladder. This patient was diagnosed by prostate biopsy because of PSA elevation without any other voiding symptoms and abnormal abscess pocket in transrectal ultrasonography.

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1. Introduction

Bacillus Calmette-Guerin (BCG) intravesical instillation therapy, which is commonly performed as adjuvant chemotherapy following TURB, is the golden standard treatment for patients with high grade non-muscle invasive bladder cancer (Ta & T1).[1] This therapy is generally safe but may rarely be complicated by granulomatous prostatitis.[2] However, the patient in this case report showed no signs of recurrent cancer, and was diagnosed with active prostate tuberculosis in a biopsy performed after observing PSA elevation not accompanied by voiding or systemic symptoms. The biopsy was performed 5 years after the patient underwent BCG intravesical therapy. Here, we report the treatment of this patient.

2. Case report

A 59-year-old male patient who had no previous history of tuberculosis visited our clinic for abrupt onset gross hematuria in 2008. Cystoscopy performed at that time showed a diffuse papillary mass on the posterior wall. Accordingly, TURB was performed, and the mass was completely removed without any remnant mass. Based on pathology results, the patient was diagnosed with high grade transitional cell carcinoma (T1) of bladder, and accordingly, intravesical BCG(OncoTice®, Organon Teknika, Boxtel, Netherland) instillation were performed once a week for 6 weeks at a concentration of 12.5mg in 60ml saline. Thereafter, the patient underwent cystoscopy regularly in outpatient clinics, and underwent three booster BCG intravesical therapy sessions in 2009, but showed no signs of recurrent cancer. Although no voiding symptoms were observed, PSA levels that were coincidentally measured were high. When the patient visited our clinic in 2015, a PSA level of 3.08 ng/mL was found, higher than that measured in 2008 of 0.76 ng/m, and was later elevated to 4.07 ng/mL. However, the patient had no voiding symptoms or subjective symptoms such as perineal discomfort, and no abnormal findings were made in *trans*-rectal prostate ultrasonography with regard to prostate volume, which was 27 gm, and abscess pocket(Fig. 1). Because the patient's PSA level continued to elevate, the patient was suspected to have prostate cancer, and accordingly, an ultrasonography-guided 12-core prostate biopsy was performed in 2016. The patient was diagnosed with chronic granulomatous prostatitis with caseation necrosis based on pathology results (Figs. 2 and 3). The patient has been on anti-tuberculosis medications since a Ziehl-Neelsen stain revealed a positive acid-fast bacilli. He is scheduled for a follow-up prostate biopsy at the end of the 6-month pharmacotherapy of isoniazid(300mg), rifampicin(600mg), etambutol(800mg), and pyrazinamide(1,500mg) daily. And the PSA level fell to 1.48ng/ml at the same time.

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https://doi.org/10.1016/j.eucr.2017.12.007
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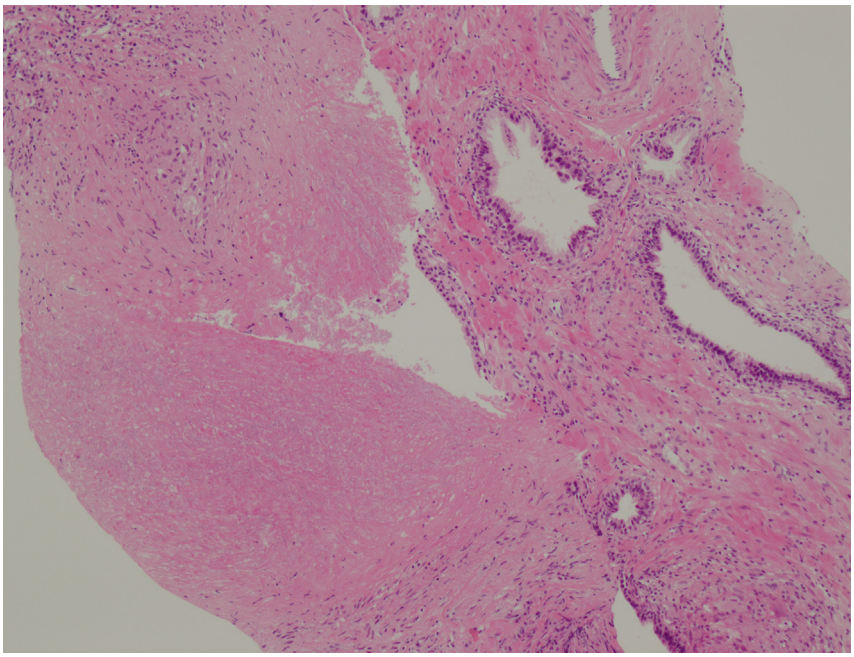

Fig. 1. Transrectal ultrasonographic finding.

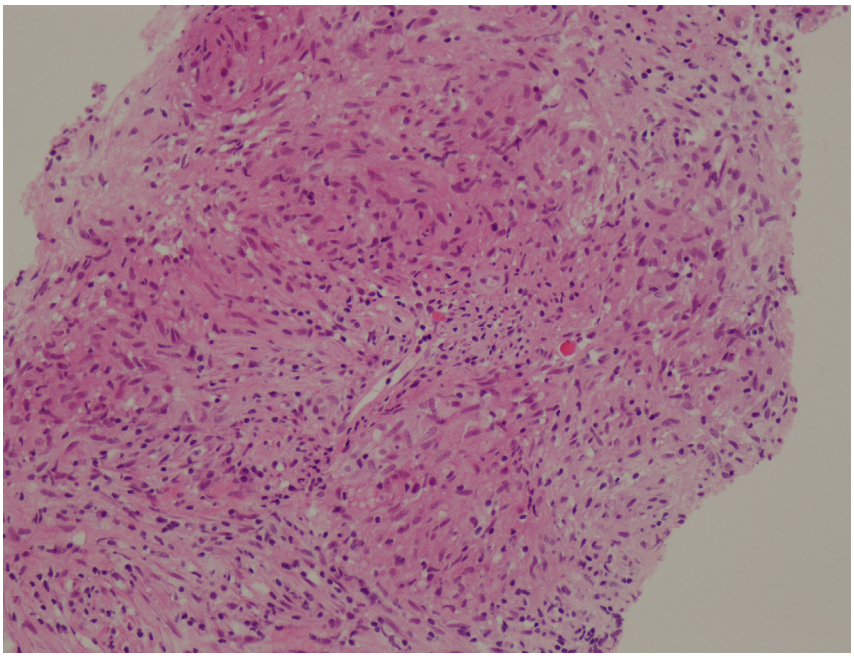

Fig. 2. Caseous necrosis in needle biopsy (H-E, ×100).

3. Discussion

Intravesical BCG is an effective treatment option for management of recurrent superficial bladder carcinoma and carcinoma in situ. Intravesical BCG has been a commonly used treatment for non-muscle invasive bladder cancer since 1976.[1] Most complications are minor, but also associated with toxic side effects including fulminant sepsis. Local complications of BCG intravesical therapy are more common, and include cystitis, hematuria, and granulomatous prostatitis.[2] The rate of symptomatic prostatitis that develop after BCG intravesical therapy is around 0.9%,[3] less of asymptomatic prostatitis and cases have been reported in which granulomatous

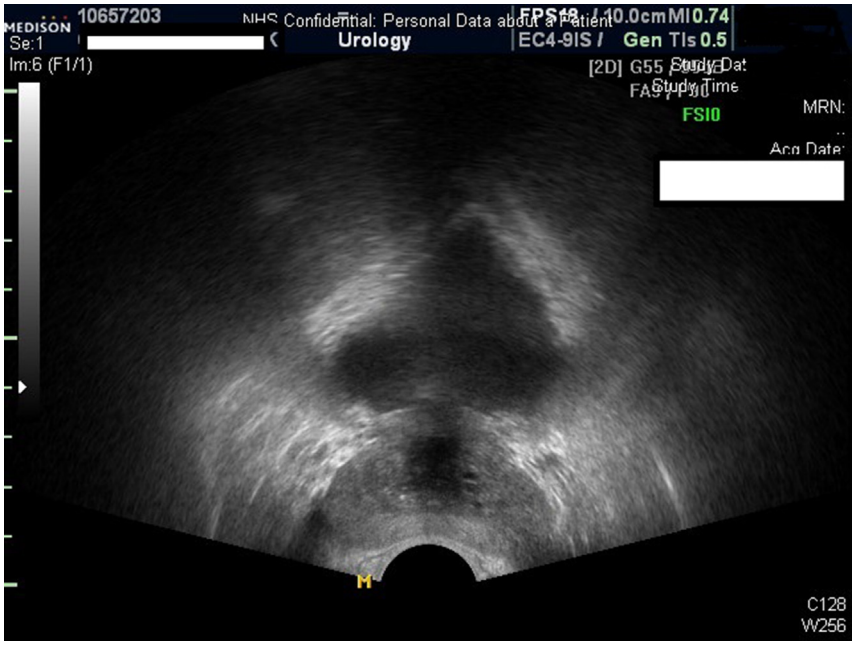

Fig. 3. Multiple granulomas and chronic inflammation (H-E, ×200).

prostatitis did not develop as a complication after BCG intravesical therapy.[4] While it has been reported that asymptomatic granulomatous prostatitis does not require treatment even if the patient is AFB positive,[5] patients with continuous asymptomatic PSA elevation must be assessed for prostate cancer through a prostate biopsy. To our knowledge, there has not been a case in which a patient began treatment for prostate cancer that was diagnosed in a biopsy performed after observation of PSA elevation more than six years after undergoing BCG intravesical instillation therapy. Therefore, when a patient shows asymptomatic PSA elevation without any systemic symptoms or pain, as was the case in this case report, a prostate biopsy must be performed immediately for diagnosis and treatment of the patient. Thus, progression to systemic diseases can be prevented.

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