

Spondylodiscitis, an Exceptional Complication of Prostate Biopsy: Case Report

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Abstract

Background: Transrectal prostate biopsy is a major prostate cancer diagnosis procedure that can cause infectious complications. Osteoarticular localization is uncommon. **Aim:** To report a case of spondylodiscitis due to a transrectal prostate biopsy and highlight therapeutical principles. **Case Presentation:** A 60-year-old male underwent transrectal prostate biopsy performed because of high PSA level, and presented 48 hours later with back pain, fever at 40°C associated with an obnubilation. He was treated for malaria without favorable evolution. Persistence of pain and occurrence of neurologic manifestations motivated dorso-lumbar Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) which permitted diagnosis of spondylodiscitis. The treatment was made by triple antibiotic therapy combining Imipenem 500 mg/8h (IV); Ofloxacin 200 mg/12h (IV) and Metronidazole 500 mg/8h (IV) over four weeks. Evolution under treatment was favorable. **Conclusion:** Spondylodiscitis is an exceptional complication of transrectal prostate biopsy. It may be evocated in case of bones pain after prostate biopsy.

Keywords

Spondylodiscitis, Prostate Biopsy, Complication

1. Introduction

Transrectal prostate biopsy is a major diagnostic procedure of prostate cancer

that it can be associated with severe complications. Infectious complications are among the most frequent, occurring in 2% - 4% of patients [1]. In our context, they are usually caused by *Escherichia coli* [2]. Resistance to fluoroquinolone has been reported as one of the factors associated to increasing infection occurring after prostate biopsy [3]. Although some cases have been reported in the literature, the osteo-articular localization is exceptional but can have life-threatening consequences [4]. We report the case of an immunocompetent patient presented with spondylodiscitis following transrectal prostate biopsy.

2. Case Report

A 60-year-old patient consulted for an elevation of the prostate specific antigen (PSA) rate of 13 ng/ml. He had no mictional disorder and no urological history. He had no personal or family history of genetic disease and was not taking any immunosuppressive therapy. The initial examination revealed a prostate with increased volume, with normal consistency and a smooth surface. The results of the suprapubic prostatic ultrasound were as follows: prostatic gland of 45 ml volume, homogeneous appearance. The patient underwent transrectal prostatic biopsy (12 cores) with local anesthesia, preceded by a single dose of ciprofloxacin 500 mg and a rectal hypertonic enema. The result of histologic analysis was benign prostatic hyperplasia (Figure 1). Forty-eight (48) hours later there was a fever at 40°C associated with an obtundation and shiver. Biological parameters were as follow: white blood cell (WBC) count of 18,000/ μ l, C-reactive protein (CRP) 25 mg/l, creatinine 13 mg/l, azotemia 0.43 g/l, glycemia 0.98 g/l. The diagnosis of malaria has been retained and the patient was treated in a non-specialized medical establishment with arthemeter for 72 hours. A specialized advice helped to rectify the diagnosis of acute prostatitis with regard to the persistence of fever. The evolution under probabilistic antibiotic therapy (Ceftriaxone 2 g/24h and Gentamicin 160 mg/24h) was marked by occurrence of intense and disabling low back pain not yielding under analgesics of steps 1 and 2 with the occurrence of paraparesis. The radiography of the vertebral skeleton and pelvis performed prematurely showed no lesions. Dorso-lumbar Computed Tomography (CT) made it possible to diagnose spondylodiscitis (Figure 2(a)).

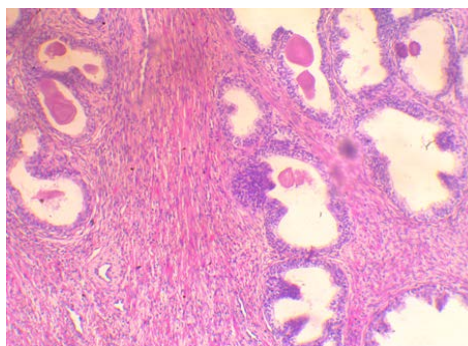


Figure 1. Prostate histologic analysis: rounded concretion with lamellar appearance and calcified, surrounded by a smooth hyperplastic muscle tissue.

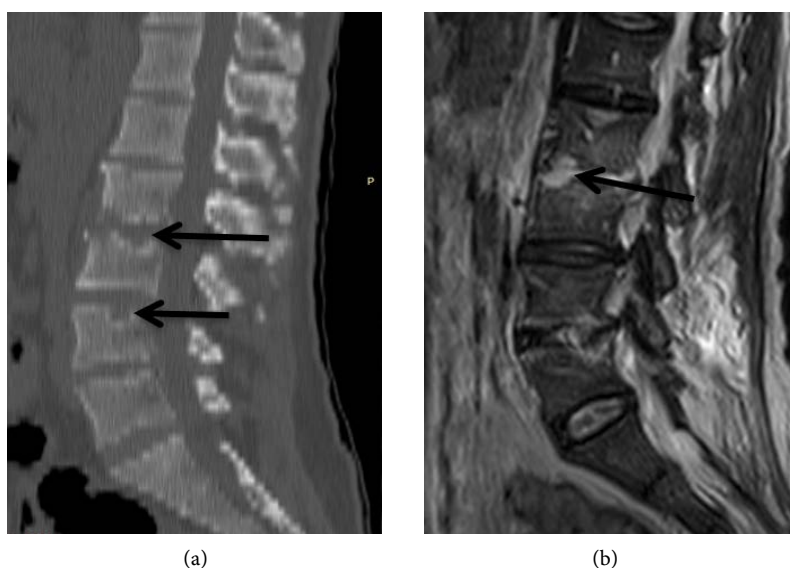


Figure 2. Dorso-lumbar Computed Tomography (CT) (a) and dorso-lumbar Magnetic Resonance Imaging (MRI) (b). (a): osteolytic lesions of the 3rd, 4th and 5th lumbar vertebrae on MRI (sagittal view); (b): osteolytic lesions of the 3rd, 4th and 5th lumbar vertebrae on CT (sagittal view).

A dorso-lumbar Magnetic Resonance Imaging (MRI) was made in order to make a more accurate lesion assessment (**Figure 2(b)**). The search for a causative agent through urinary and blood tests was negative; the spinal tap test was not performed. Triple antibiotic therapy combining Imipenem 500 mg/8h (IV); Ofloxacin 200 mg/12h (IV) and Metronidazole 500 mg/8h (IV) over four weeks allowed a gradual resumption of mobility, the disappearance of pain, and the improvement of the infectious syndrome. The patient had fully recovered after six months. At functional level, the mobility was totally recovered but with a mild spinal pain.

3. Discussion

The risks of prostatic biopsy evolve a diagnosis procedure that must be prepared and performed under the best conditions of asepsis to minimize complications. These complications are mostly infectious and usually limited to the urogenital tract if taken care early and appropriately. The diagnostic and adequate treatment delay of the post-biopsic infection in our patient explains the secondary localization to the osteo-articular tissue. The correlation between bone pain and infectious bone disease is not evident in urological context. The diagnostic error is also linked to the easy diagnosis of malaria in case of any fever associated with aches in our malaria endemic area.

In the literature, secondary osteo-articular complications to prostatic biopsy are rare, probably because of the precautions surrounding this procedure [5]. Antibiotic prophylaxis does not guarantee the absence of infection even if it significantly reduces the rate and severity, and some studies have shown that more than half of post-biopsy infections are resistant to fluoroquinolone [6]. Targeted

antimicrobial prophylaxis with pre-biopsy rectal culture has been described as an efficient prevention procedure, reducing significantly the rate of infectious complications associated with transrectal prostate biopsy [7].

The management of spondylodiscitis combines antibiotic therapy and immobilization, which not only relieves pain but also avoids the complications associated with the weakening of the osteo-articular structures. The collaboration between the urologist, neurosurgeon and infectiologist is a guarantee of a successful treatment.

Therapeutic indications take into account five key elements: the infectious agent, the instability of the segment, the presence of abscess, neurological impairment, and infectious outbreak [8].

The most frequent infectious outbreak is certainly lumbosacral because of its rich vascularization and the direct vascular connection between venous drainage of both the prostate and lumbar vertebrae, but also its mobility which creates a “pump effect” [9] [10]. Frequent involvement of this segment explains the frequently noticed instability, and which requires stabilization surgery in 83.9%; whereas spinal cord compressions are more frequent at the cervical spine [10].

A conservative method consisting of local infiltration of antibiotic for three cycles of three weeks separated by five weeks each was tested by some authors [11]. Although its effectiveness has not been formally proven, it could allow a faster functional recovery than the standard treatment.

4. Conclusion

This case recalls the need for an appropriate and early management of prostatitis after a prostate biopsy. Disabling osteo-articular pain associated with fever could be a reminder of bone infection in the aftermath of a prostatic biopsy.

Ethics Approval

This case report was approved by the Department of Urology of CHU Kara, University of Kara.

Consent

Written informed consent was obtained from the patient for publication of this case.

Guarantor

Tchilabalo Matchonna Kpatcha is the guarantor of this work.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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