

## Persistent Epididymitis Due to *Bacteroides fragilis* After Biopsy of the Prostate

### To the Editor:

Infectious and noninfectious etiologies account for epididymitis. In older men, bacteriuria caused by prostatic hypertrophy, urethral instrumentation, and urologic surgery including prostatic biopsy can all lead to infection of the epididymis.<sup>1</sup> Enterobacteriaceae, like *Escherichia coli* and other coliforms, are the most common pathogens implicated in infectious epididymitis in men older than 35 years.<sup>2</sup> Appropriate antibiotic therapy must empirically provide coverage of these organisms. The Centers for Disease Control and Prevention (CDC) guidelines consider fluoroquinolones as the first-line agents.<sup>3</sup> Obligate anaerobic microorganisms are not commonly reported as potential pathogens for epididymitis. We report the first case of acute epididymitis due to *Bacteroides fragilis* that did not respond to standard care of therapy and ultimately required surgical scrotal exploration and orchiectomy.

A 72-year-old man presented to our institution complaining of progressively worsening swelling and pain of the left scrotum of 3-week duration. This started shortly after a transrectal ultrasound-guided biopsy of the prostate gland 1 month before our evaluation. Sulfamethoxazole/trimethoprim was prescribed postoperatively as prophylaxis. The patient had a history significant for chronic lymphocytic leukemia on ibrutinib, which was held because of concerns of active infection. The prostatic biopsy revealed prostatic adenocarcinoma with a Gleason score of 3 + 3 = 6. The patient had completed a two 10-day course of antibiotics, levofloxacin, and sulfamethoxazole/trimethoprim, respectively, with minimal relief. The prostatic specific antibody was 6.31 ng/mL before the biopsy. The white blood cell count was 12,000 cells/mm<sup>3</sup>, and creatinine 1.2 mg/dL. The urinalysis showed negative leukocyte esterase and urine culture showed less than 1000 CFU/mL. A scrotal ultrasound (Fig. 1) demonstrated marked left acute epididymitis with phlegmon in the tail of the epididymis and thickening of the left anterior scrotal wall. A trial of ertapenem was started. Because of persistent and increasing pain and swelling, the patient underwent an orchiectomy. Histological examination revealed evidence of acute and chronic epididymitis (Fig. 2). Tissue culture grew moderate *Bacteroides fragilis*. Speciation was confirmed by matrix-assisted laser desorption time-of-flight mass spectrometry. The minimum inhibitory concentration for metronidazole was 8 mg/L or less. The patient completed a short postoperative course of cefpodoxime with metronidazole without any postsurgical complications.

Prostatic biopsies can rarely lead to chronic prostatitis and epididymitis (1%).<sup>4</sup> Infections due to anaerobic bacteria of the genitourinary tract have been described, like periurethral abscess, prostatic abscess, urethritis, cystitis, but not of the epididymis.<sup>5</sup> Szoke et al<sup>6</sup> in their cohort of 50 patients with chronic prostatitis reported 93 anaerobes cultured from expressed prostatic secretions, with 13 isolates being *Bacteroides urealyticus* and *Bacteroides* species. In their review, the isolation of these bacteria was likely the etiology of therapy-resistant chronic bacterial prostatitis.<sup>6</sup> We theorize that the transrectal prostatic biopsy likely introduced *B. fragilis*—which colonizes the gastrointestinal tract including the rectum and

is often isolated from rectal abscesses—to the procedure site, which then spread to the epididymis. The patient was treated for epididymitis with appropriate empiric antibiotic therapies without clinical response. In these rare cases of therapy-resistant epididymitis, anaerobic bacteria should be considered as possible etiology. Collection of semen specimen or epididymal aspiration—in consultation with a urologist—can be considered for both aerobic/anaerobic cultures.<sup>7,8</sup> Empiric anaerobic antibiotic coverage should also be considered in cases of epididymitis after transrectal prostatic biopsies.

**Maymonah Belal, MD**  
Stony Brook Medical Center  
Stony Brook, NY,

**Monica Mcgee, MS, MT**  
Department of Microbiology  
Veterans Affairs Medical Center  
Northport NY

**Zeena Lobo, MD**  
Division of Infectious Diseases Veterans Affairs Medical Center  
Northport, NY

**George Pseudos, MD**  
Division of Infectious Diseases Veterans Affairs Medical Center  
Northport, NY  
Stony Brook University School of Medicine  
Stony Brook, NY  
george.pseudos@va.gov

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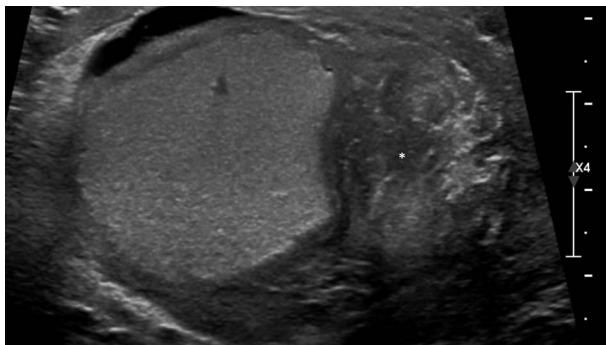


FIGURE 1. Ultrasound demonstrating acute epididymitis (asterisk).

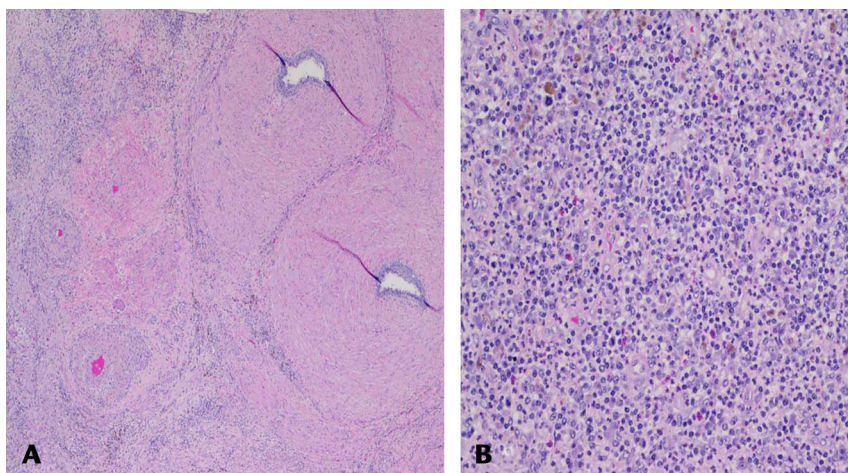


FIGURE 2. A, Epididymis hematoxylin and eosin stain, magnification  $\times 40$ . B, Hematoxylin and eosin stain, acute and chronic inflammation of the epididymis at  $\times 200$  magnification.