Prostatic Abscess Presenting as Penile Discharge: A Case Report

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ABSTRACT

Introduction: While prostatic abscess formation is often mitigated by initiating antibiotics for prostatitis, early recognition and treatment are important to avoid risk of sepsis and death.

Case Presentation: A 79-year-old male presented with milky-white penile discharge during bowel movements. He had no fever, dysuria, or perineal pain. The discharge culture grew multidrug resistant Escherichia coli. Computed tomography of abdomen/pelvis showed a heterogenous, enlarged prostate leading to diagnosis of a prostatic abscess. The abscess was treated successfully with cystourethroscopy, transurethral unroofing, and a course of intravenous ertapenem.

Discussion: Previous research shows patients with prostatic abscesses present with perineal pain, dysuria, and fever. This case demonstrates the importance of considering a prostatic abscess in a patient with penile discharge alone.

Conclusions: We report a unique presentation of prostate abscess to educate and improve clinical suspicion of a rare, yet potentially fatal urological complication.

INTRODUCTION

The incidence of prostatic abscesses is bimodal, typically occurring in patients aged 20 to 40 and those over 60. Prostatic abscesses usually result from accumulation of purulent fluid within the prostate due to progression of acute bacterial prostatitis. When cultured, the most common pathogen is *Staphylococcus aureus*.[1,2] Over 50% of patients with a prostatic abscess have diabetes, and younger men who develop prostatic abscess also have been found to have undiagnosed diabetes.[3] Other risk factors include chronic catheter placement, immunomodulatory conditions including end-stage renal disease, liver cirrhosis, immunodeficiencies, urinary tract infections, and those who are status post prostate biopsy.[2] Common symptoms include perineal pain, difficulty urinating, and dysuria, along with systemic infection symptoms such as fever, chills, and myalgias.[2,3] For one-third of patients, management with antibiotics alone will treat the abscess, while two-thirds of patients will require antibiotics and surgical drainage for resolution.[1]

CASE PRESENTATION

A 79-year-old male with end stage renal disease (ESRD) secondary to hypertensive nephropathy on dialysis, anemia, rheumatoid arthritis, coronary artery disease, seizure disorder, rectal prolapse, and glaucoma presented to the internal medicine clinic for a hospital follow-up. He recently had been admitted for management of rectal bleeding secondary to known rectal prolapse. The rectal bleeding had resolved with plan for continued conservative management under the care of colorectal surgery due to his poor surgical candidacy.

However, despite this clinical improvement, the patient developed a new concerning symptom over the ensuing 2 to 3 weeks. When attempting to have a bowel movement, he noted a painless, milky-white discharge from the penis. Given that he had not produced urine in over 6 years, he was concerned about this clinical change, which had been occurring consistently during bowel movements. He had not experienced fevers, dysuria, penile, testicular, rectal, or perineal pain. He also had no recent sexual partners and was without a history of sexually transmitted infections. Four months prior to presentation, he was started on prednisone 10 mg once daily for management of rheumatoid arthritis newly diagnosed in the setting of neck and arm pain, joint deformities, and erosive changes on computed tomography (CT) of the cervical spine. He was not a candidate for disease-modifying antirheumatic drugs due to ESRD status and had not been initiated on any other immu-

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nosuppressive therapies. On examination, he was well-appearing, afebrile, and normotensive without tenderness to palpation over the penis, testicles, epididymitis, or perineum. No penile lesions or discharge from the urethral meatus were appreciated.

Upon attempting to provide a sample for urinalysis, a mucous discharge was excreted from the penis. The specimen sent for culture grew 4+ *Escherichia coli* (*E coli*) susceptible only to amikacin, ertapenem, and meropenem. A retrospective review of a CT abdomen and pelvis obtained during the aforementioned hospitalization noted a heterogenous, enlarged prostate with multiple areas of low attenuation. Given concern for prostatic abscess versus pyocystis on account of this clinical picture and the aforementioned CT scan, the patient was admitted for intravenous (IV) antibiotic management.

Initial complete blood cell count showed a white blood cell count of 11 600 µL (normal range, 3900 – 11 200 µL), which later decreased to 5700 µL with treatment. Based on culture sensitivities showing multidrug-resistant *E coli*, ertrapenem 500 mg every 24 hours was initiated. During admission, the patient remained hemodynamically stable but did ultimately endorse groin pain. Blood culture (1 of 2) also grew multidrug-resistant *E coli*. Early into the admission, repeat CT scan of the abdomen and pelvis with and without contrast obtained to differentiate between pyocystis and a prostatic abscess and showed a presumed prostatic abscess (4.2 x 2.9 cm in size) that had enlarged since prior imaging (previously 2.8 x 2.9 cm). Given enlargement, urology advised unroofing.

The patient underwent cystourethroscopy and transurethral unroofing of the prostatic abscess on hospital day 2 with continuation of ertapenem 500 mg every 24 hours for 7 days. Ertapenem was then transitioned to 1000 mg every 24 hours post-hemodialysis on Mondays, Wednesdays, and Fridays. He ultimately completed 4 weeks of treatment (500 mg daily for 7 days followed by 1000 mg 3 times weekly for 3 weeks) with abscess resolution noted on a repeat CT scan.

DISCUSSION

Prostatic abscesses are less common since the development of antibiotics, with a 0.5% incidence, and often may be overlooked.[2] Approximately 6% of acute bacterial prostatitis coalesce to become an abscess. The clinical presentation, medical history, and physical exam findings of acute bacterial prostatitis and prostatic abscesses are similar, making them difficult to distinguish.[2] If not caught early, there is a high risk of sepsis, with a mortality rate from 1% to 16%.[2] Antibiotics are the initial treatment for prostatic abscess. However, 75% of abscesses are resistant to first-generation antibiotics, making cultures with antibiotic sensitivities essential to care. If the abscess does not respond to antibiotics, surgical drainage becomes essential.[1,3] In this case, surgical drainage was initiated early for source control. As previously noted, the patient was started on prednisone in the setting of rheumatoid arthritis around 4 months before presentation, which may have contributed to abscess development.

While many pathogens may cause prostatic abscesses, *Staphylococcus aureus* is the new leading cause of abscess, with others being *E coli*, *Klebsiella*, *Pseudomonas*, *Proteus*, *Enterobacter*, *Serratia*, and *Enterococcus*. Most hospital-acquired infections are due to *Pseudomonas aeruginosa*, *Enterococcus*, and *Staphylococcus aureus.*[1,2,4] A 2016 study showed that 10% of men with prostatic abscess had recent prostate biopsies performed.[2] These nosocomial pathogens are associated with more aggressive symptomology, a higher likelihood of developing into a prostatic abscess, and a higher risk of sepsis.[4]

Our patient came in with unique symptoms of milky-white penile discharge but no initial perineal pain, dysuria, or fever. Typical disease presentation is perineal pain, dysuria, fever, chills, and muscle aches. Creating a differential for milky-white penile discharge would include lower urinary tract infection (pyocystis), inflammation of the head of the penis (balanitis), and sexually transmitted infections, such as *Neisseria gonorrhea* or *Chlamydia trachomatis*. Our patient denied perineal pain, fevers, new sexual partners, or history of sexually transmitted infections, decreasing the likelihood of a *Neisseria gonorrhea* or *Chlamydia trachomatis* infection. Balanitis was less likely due to the absence of tenderness, erythema, or ulcerations on the glans on examination of the penis. Pyocystis should be considered given its association with anuria. Imaging can help distinguish pyocystis from a prostatic abscess.

The repeat CT showed an increase in the size of the presumed prostatic abscess, further confirming our suspicion. Subsequently, a cystourethroscopy and transurethral unroofing of the prostatic abscess was performed, and the patient continued ertapenem for 4 weeks. At the time of treatment completion, a repeat CT scan showed abscess resolution.

CONCLUSIONS

While prostatic abscesses are rare, the consequences of a missed, untreated, or intervention-resistant abscess can be fatal. In this case report, we provide insight into a unique presentation of prostatic abscesses to educate and improve clinical suspicion of a potentially fatal urological issue.

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