Prostatic Abscess a Diagnostic Dilemma

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ABSTRACT

Abscess of the prostate has become increasingly rare due to modern antibiotics and a decreasing incidence of gonococcal infections. It is still difficult to diagnose the disorder on clinical grounds. Diagnosis is often made after ultrasound examination. We report 2 cases of prostatic abscess and review etiopathogenic factors, clinical findings, diagnosis and treatment of this uncommon entity.

Key words: abscess, diagnosis, etiopathogenesis, prostate, therapeutics

INTRODUCTION

Prostatic abscess is a rare clinical entity and difficult to diagnose because the clinical presentation may mimic symptoms of lower urinary tract infection. Most cases of prostatic abscess have been identified in immunocompromised patients, such as those with diabetes mellitus or HIV infection, or on chronic hemodialysis. Our cases presented with lower urinary tract symptoms and the diagnosis of prostatic abscess could not be made on clinical grounds. In the first case, diagnosis could only be established at the time of transurethral resection of prostate (TURP) and in other case by ultrasonography (USG).

CASE REPORTS 1

A 60 years old gentleman presented with dysuria, frequency, hesitancy, nocturia and poor stream of urine for one month. Per rectal examination revealed non tender, soft and smooth enlargement of prostate. Urinalysis and blood examination revealed plenty of pus cells and leucocytosis respectively. Patient was catheterized and put on Alfuzocin and ceftriaxone. USG revealed grade IV prostatomegaly (Figure 1). Urine culture grew Klebsiella species and yeast cells other than candida albicans. His international prostatic symptom score (IPSS) score was assessed as 28/5.

Based on clinical presentation and his IPSS score TURP was planned. On cystourethroscopy left lateral lobe of prostate was found to be predominantly enlarged and bladder neck was congested. No pus was seen to be coming out from the region of verumontanum. As we started cutting prostatic tissue pus started oozing out freely (Figure 2). TURP was completed. Patient tolerated
the procedure well and the recovery was uneventful. Pus
culture grew E.coli (Figure 3).

Figures 2. Prostatic abscess at TURP and pus oozing
out of it.

Figures 3. Both cases showed E-Coli in the growth

CASE REPORTS 2

Another 50-years old male was admitted with acute
urinary retention. He was having dysuria, frequency and
nocturia for last one month. The patient was HIV sero
negative. The catheterization was done however patient
developed fever with chills and rigors next day. His IPSS
was assessed to be 26/5. On per rectal examination
soft, tender and smooth swelling of prostate was found.
Laboratory examination revealed plenty of pus cells
and leucocytosis. Urine culture showed no growth. USG
showed enlargement of prostate measuring 46.2 x 40.4
x 39.9 mm with heterogenous echogenicity with calcific
certi suggestive of prostatic abscess.

USG guided 14 mL of pus was aspirated from the non
dependent area. The aspirated material was cultured,
which grew E.coli (Figure 3) sensitive to Amikacin and
ciprofloxacin. Patient made uneventful recovery with
aspiration and antibiotics. On follow up after 3 months
he was symptom free.

DISCUSSION

Prostatic abscesses are uncommon in recent years
because of early antibiotic therapy. Effective treatment
of Neisseria gonorrhoeae, a major cause of prostatic
abscesses in the past, has contributed significantly
to this phenomenon. Various factors have influenced
the shift of the epidemiological profile of prostatic
abscess, such as routine and widespread use of broad-
spectrum antibiotics to patients with lower urinary tract
symptoms, therapeutic hemodialysis, organ transplants,
chemotherapy, and immunosuppressive drugs etc.

Prostatic abscess has undergone a great shift in
the types of aetiologic agents. In the 1940s the major
organism was Neisseria gonorrhoeae. More recent data
suggests members of the Enterobacteriaceaefamily,
being the most common agents. Among these E. coli, has
the highest prevalence and is responsible for about 70%
of the cases. Both of our cases also grew E.coli on pus
culture. Other members of Enterobacteriaceaesuch as
Klebsiella species. Enterobacter and Proteus have been
reported as causative agents of prostatic abscess. Other
organisms reported are Pseudomonas, Staphylococcus
and occasionally obligate anaerobic bacteria. A few
cases of prostatic abscess caused by Staphylococcus
aureus have suggested a haematogenous pathogenesis.
Rare cases of prostatic abscesses due to Brucella
and fungi like Candida, Cryptococcus neoforms and
Aspergillus have also been reported.

Our two cases have grown only E.coli, therefore study involving large
number of cases is contemplated to know other types of
organism involved.

The most common mechanism in older individuals having
bladder outlet obstruction is reflux of infected urine
into the prostatic ducts leading to abscess formation.
Patients with an immunocompromised status, diabetes,
or chronic renal failure on hemodialysis are all at higher
risk for this disease. Predisposing factors also includes
urethral instrumentation and prostate carcinoma.

Both of our cases were not having any of the above
mentioned risk factors.
The clinical picture of a prostatic abscess often mimics that of lower urinary tract infection. Initially the disease manifests as dysuria, urgency, and frequency and urinary retention in 1/3 of the patients. Surprisingly, a tender, fluctuant prostatic mass on rectal examination has not been a constant and uniform occurrence.

A complete blood count usually discloses pronounced leukocytosis, predominantly neutrophils. Urinalysis may show pyuria and bacteruria. However, these findings may be absent in gram-positive (Staphylococcus) abscesses due to hematogenous route. Since the clinical presentation and laboratory findings are nonspecific, imaging studies are crucial in the diagnosis of prostatic abscess.

The diagnostic study of choice to assist the treatment and follow-up of patients with prostatic abscess is transrectal ultrasonography of the prostate. The most common finding is presence of one or more hypoechogenic areas, containing thick liquid primarily in the transitional and central zones of the prostate, permeated by hyperechogenic areas and distortion of the anatomy of the gland. Differential diagnosis should include prostatic cysts and neoplasia. Computed tomography adds few benefits to transrectal ultrasonography, especially when there are extraprostatic collections.

When not adequately treated, it may progress to sepsis and death. Thus, a prostatic abscess needs accurate diagnostic and an efficient treatment. Most published data about prostatic abscess are case reports, and there is no standardization of the diagnostic and therapeutic routine. Treatment implies in parenteral broad-spectrum antibiotic administration and abscess drainage. Surgical drainage should be performed for multifocal abscesses greater than 1 cm in diameter, septic shock, recurrent abscess, or in patients responding poorly to antibiotics for 3 days or longer. This may be performed by transrectal puncture or transperineal ultrasound-guided, digital-guided puncture/drainage by perineal route, transurethral incision of the prostate, TURP, or open perineal drainage. There is a preference for minimally invasive procedures that may be performed under local anesthesia or sedation, and repeated if necessary. Traditionally, perineal incision or transurethral resection was recommended as the method of choice. Problems with these methods include dissemination of bacteria, poor woundhealing, incomplete drainage of multiloculated or peripheral abscesses, and retrograde ejaculation.

Needle aspiration of a prostatic abscess was considered primarily a diagnostic tool. However, Becker first reported that needle aspiration with adjuvant antibiotics or chemotherapy could produce a cure. Needle aspirations subsequently became the first choice of treatment because of the excellent safety and efficacy. Aspiration can be performed via either transrectal or transperineal approaches. Approximately 83%-86% of patients were able to achieve complete resolution without a second procedure. Patients are followed-up with TRUS weekly after aspiration and in cases of failure repeated aspiration can be done.

No predisposing factor like diabetes, alcoholism, haemodialysis or HIV was present in our patients and both these cases presented with LUTS. We could not find the mode of infection. In first case diagnosis could only be made at the time of resection and in other only after USG. On clinical grounds cases were looking like case of lower urinary tract infection. Therefore it is suggested that high index of suspicion is required for the diagnosis of prostatic abscess and it should be considered in patient presenting fever and persistent irritative voiding symptoms, despite antimicrobials use and for those with lower urinary tract symptoms and fever progressing to urinary retention.

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REFERENCES