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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.

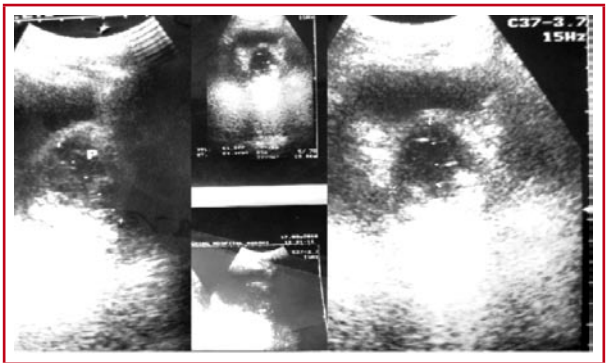
Key words: abscess, diagnosis,etiopathogenesis,prostate, therapeutics

INTRODUCTION

Prostatic abscess is a rare clinical entity and difficult to diagnose becausethe clinical presentation may mimic symptoms of lower urinarytract infection.[1]Most cases of prostatic abscess have been identified in immunocompromised patients,such as those with diabetes mellitus or HIV infection,or on chronic hemodialysis.[2]Our casespresented 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 gradeIVprostatomegaly (Figure1). Urine culture grewKlebsiella species and yeast cells other than candida albicans.His international prostatic symptom score(IPSS) score was assessed as 28/5.



Figures 1. USG prostate reported as BPH (came out to be prostatic abscess)

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

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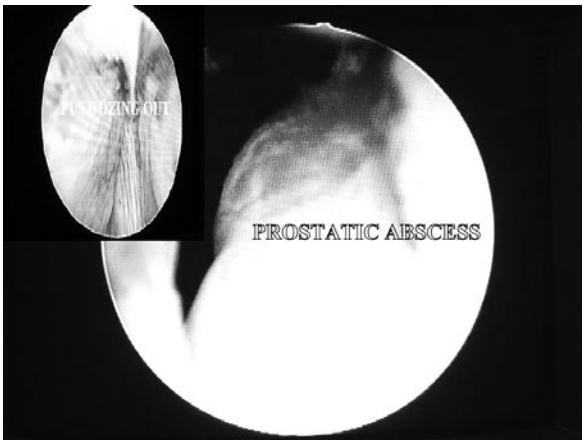
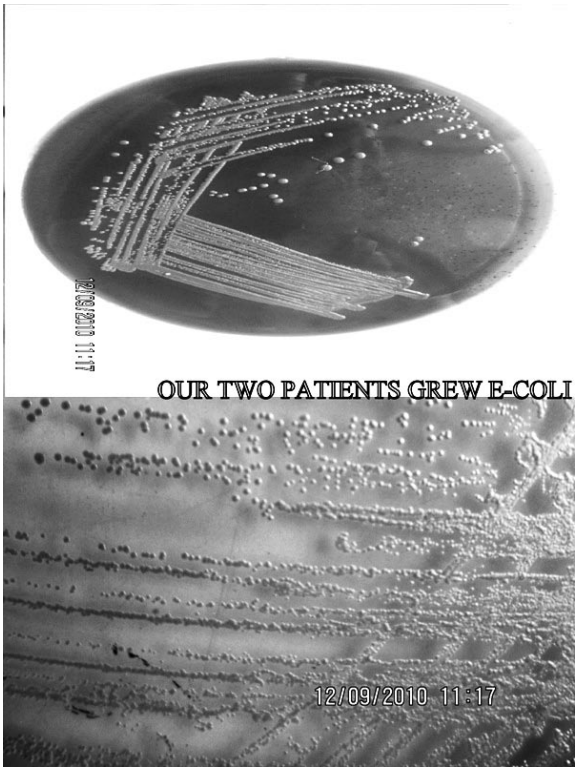
the procedure well and the recovery was uneventful. Pus culture grew E.coli (Figure 3).



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 foci 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.[3]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,[4] therapeutic hemodialysis, organ transplants, chemotherapy, and immunosuppressive drugs etc.[4-7]

Prostatic abscess has undergone a great shift in the types of aetiologic agents. In the 1940s the major organism was Neisseria gonorrrheae.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.[8]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.[9] A few cases of prostatic abscess caused by Staphylococcus aureushave suggested a haematogenous pathogenesis.[10] Rare cases of prostatic abscesses due to Brucella[11] and fungi like Candida, Cryptococcus neoformansand Aspergillushave also been reported.[12-14]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 inolder 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.[15-16]Both of our caseswere 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, urgence,and frequency[3,7,17]and urinary retention in 1/3rdof the patients.[7,17]Surprizingly, a tender, fluctuant prostatic mass on rectal examination has not been a constant and uniform occurrence.[15]

A complete blood count usually disclosespronounced leuk ocytosis,predomoinantly neutrophils.Urinalysis may show pyuria and bacteriuria.However, these findings may be absent ingram-positive (Staphylococcus) abscesses due to hematogenous route.[15] Since theclinical presentation and laboratory findings are nonspecific,imaging studies are crucial in the diagnosis of aprostatic 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.[7] Differential diagnosis should include prostatic cysts and neoplasia.[18,19] Computed tomography adds few benefits to transrectal ultrasonography, especially when there are extraprostatic collections.[20,21]

When not adequately treated, it may progress to sepsis and death.[22]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.[22] 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.[15]This may be performed by transrectal puncture[23] or transperineal ultrasound-guided, digital-guided puncture/drainage by perineal route, transurethral incision of the prostate, TURP, or open perineal drainage.[24-27] There is a preference for minimally invasive procedures that may be performed under local anesthesia or sedation, and repeated if necessary. Traditionally, aperinealincision ortransurethral resection was recommended asthe method of choice.[28,29] Problems with these methodsinclude dissemination of bacteria, poor woundhealing, incomplete drainage of multiloculated or peripheralabscesses, and retrograde ejaculation.[30]

Needle aspiration of a prostatic abscess was consideredprimarily a diagnostic tool.[29] However, Becker first reported that needle aspiration with adjuvant antibiotictherapy could produce a cure.[31] Needle aspirationsubsequently became the first choice of treatmentbecause 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.[30,32-34]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, haemodyalysis 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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