

Prostatic Abscess Detonating to Bilateral Perianal Abscess, an Atypical Clinical Situation

Managed

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Received: 01 July 2021

Accepted: 19 July 2021

Published: 23 July 2021

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Citation:

Kumar M. et al., Prostatic Abscess Detonating to Bilateral Perianal Abscess, an Atypical Clinical Situation Managed. Clin Surg. 2021; 5(15): 1-3

Keywords:

Anorectal abscess; Prostatic abscess; Diabetes mellitus; E. coli; TRUS

Abbreviations:

EPC: External prostatic capsule; DM: Diabetes mellitus; HIV: Human immunodeficiency virus; WBC: White blood cells; RBC: Red blood cells; MSSA: Methicillin-sensitive Staphylococcus aureus; UTI: Urinary tract infection; PA: Prostatic abscess; CT: Computed tomography; TRUS: Trans-rectal ultrasound; TUD: Trans-urethral derroofing.

1. Abstract

A prostatic abscess is an uncommon condition nowadays because of the use of broad-spectrum antibiotics. Perianal or Anorectal abscesses are frequently reported in males, common in the 3rd – 5th decades. Patients with diabetes, immunodeficiency states, chronic kidney disease, or on haemodialysis are more predisposed to develop a prostatic abscess. Prostatic abscess complicating into bilateral perianal abscess is a rare occurrence. We report a diabetic patient developing bilateral perianal abscess after drainage of prostatic abscess. Patients presenting with prostatic abscesses should be always monitored for perianal abscesses especially with predisposing conditions like diabetes, immunocompromised states.

2. Introduction

A prostatic abscess is an uncommonly reported medical condition nowadays, because of the extensive use of broad-spectrum antibiotics. A prostatic abscess is classically thought of as a sequela of untreated primary urinary tract infection, which is thought to arise from acute or chronic bacterial prostatitis or to develop de novo

from the retrograde flow of contaminated urine during micturition or hematogenous seeding. Those with comorbidities like diabetes, immunodeficiency, chronic kidney disease or on haemodialysis, cirrhosis or indwelling catheter, obstructive uropathy, or presence of the foreign body are more likely to develop prostatic abscess after urinary tract infections. [1,2] Prostatic abscess usually don't extend into ischio-rectal and perianal area, although few case reports are available in literature. We describe a diabetic patient developing perianal abscess after undergoing drainage of prostatic abscess.

3. Case Summary

A 44-year-old male patient was admitted to the urology emergency with complaints of urinary frequency, fever, and dysuria for the last one week. He was a known patient of diabetes mellitus on oral hypoglycaemics agents. On the digital rectal examination prostate was tender, boggy feel, non-nodular grade. Blood investigation revealed leucocytosis (WBC: $14.6 \times 10^9/L$) (ANC: $12.85 \times 10^3/\mu L$). A pelvic TRUS examination was suggested hypoechoic areas in the central zone extending to the peripheral zone of the prostatic (Figure 1).



Figure 1: Ultrasound showing prostate is hypoechoic, heterogenous, and is enlarged in size collection measuring approx. 43 mm*44mm seems to be extending inferiorly and posteriorly from the left peripheral zone of the prostate. The perirectal region also shows edema and communication with collection.

TRUS guided aspiration of the prostate abscess was done. About 10-12cc thick pus was aspirated. Antibiotics (Inj. Piperacillin-tazobactam 4.5g and Trimethoprim tablets) were given till pus c/s report. Pus c/s isolated *E. coli* sensitive to imipenem and blood c/s were sterile. He was started on Imipenem because of the pus c/s report. He improved and the fever settled.

After the 5th day of aspiration of the prostatic abscess, he developed a high-grade fever and perianal pain with increased TLC (WBC: $18.5 \times 10^9/L$) (ANC: $16.2 \times 10^3/\mu L$). On examination tender, fluctuant, boggy swelling was seen. Physical examination revealed induration at 3 o'clock and 9 o'clock position of the knee-elbow position. A diagnosis of bilateral perianal abscess secondary to a prostatic abscess was made. The ultrasound examination showed resolving prostatic abscess. The abscess drainage procedure was done under general anaesthesia and the bilateral perianal abscess was drained and approximately 100cc of pus drained. All the siltation and loculi have been opened and the abscess cavity has been flushed with plenty of hydrogen peroxide, betadine, and physiological saline solutions. Pus sent for culture sensitivity revealed *E. coli* and sensitive to imipenem and ciprofloxacin. Post-operatively patient managed on antibiotics and daily irrigation of wound and sitz bath. he has been discharged without any complications on the 8th post-operating day. He was discharged on antibiotic ciprofloxacin and anti-diabetic medication (Figure 2).



Figure 2: Image showing recovery after drainage of the abscesses.

4. Discussion

The prostate gland is located between the pelvic diaphragm and the peritoneal cavity in the sub-peritoneal compartment. It is located anterior to the rectum, posterior to the symphysis pubis, and inferior to the urinary bladder, thus allowing digital palpation for examination. Classically referred to as “walnut-shaped,” it is conical in shape and surrounds the proximal urethra as it exits from the bladder. The apex rests on the superior surface of the urogenital diaphragm and contacts the medial surface of the levator ani muscles. The posterior surface of the prostate is triangular and flat and rests on the anterior wall of the rectum. The inferior-lateral surface joins the anterior surface and rests on the levator ani fascia above the urogenital diaphragm [3].

Its external boundary, which may be referred to as the External Prostatic Capsule (EPC) or pseudo-capsule extends posterior, lateral, and anterolateral. The EPC represents the peripheral compressed stromal (fibro-muscular) component of the latticework supporting the glandular elements [4].

A prostatic abscess is an uncommon condition nowadays because of the early use of antibiotics in urinary tract infections. It is estimated that the frequency of prostatic abscess can be as high as 0.5% of urologic diseases and the mortality rate is between 1% - 16%. Those having diabetes, immunodeficiency, chronic kidney disease, or on hemodialysis are more predisposed to develop a prostatic abscess [5].

Prostatic abscess historically caused by *Neisseria gonorrhoea*, *Staphylococcus aureus*, and *Mycobacterium tuberculosis*. The microbial profile of prostatic abscesses has changed drastically since the pre-antibiotic era, with a majority of cases now being gram-negative such as *Escherichia coli*, are becoming an increasingly common causative species, often predominantly due to overt urinary tract infection with an occurrence of up to 70% in such cases [6]. Recently, many case reports have been published showing the presence of methicillin-resistant *Staphylococcus aureus* as a causing organism for prostatic abscess [7].

Prostatic abscess manifests as fever, vague perineal pain, irritative

lower urinary tract symptoms. Management of Prostatic abscess usually imposes a challenge to urologists, due to the difficulty in diagnosis, as it may mimic other diseases of the lower urinary tract. The diagnosis of a prostatic abscess is challenging owing to its wide range of local and systemic signs and symptoms. Early diagnosis depends on a high index of suspicion, clinical and laboratory evidence of severe infection or sepsis, and is confirmed by either transrectal ultrasound, Computed Tomography (CT) scan, and in inconclusive cases, magnetic resonance imaging (MRI). Treatment options include either conservative treatment or its combination with surgical transrectal ultrasound-guided (TRUS) needle aspiration or transurethral deroofing (TUD) of PA [8].

Perianal or Anorectal abscesses are a frequently reported medical condition requiring surgical assistance, with a higher incidence in men as compared to women. Anorectal abscesses cases ratio in case of men and women is 2:1 or 3:1 respectively which is usually has seen in the 3th-5th decades of life. The risk factors for abscess formation are foreign bodies, tuberculosis, malignancy, trauma, inflammatory bowel disease, leukemia, postoperative infection, and simple skin infections. The abscess is mostly classified on the basis of their position to the internal and external anal sphincter. An anorectal abscess is classified as perianal, intersphincteric, ischioanal, ischioanal, supra levator, and horseshoe abscess.

An ischioanal abscess occurs when the purulent collection extends through the external anal sphincter and subsequently develops into the fatty and fibrous tissue of the ischioanal fossa. Anorectal abscess cases secondary to prostatic abscess fistulizing to the rectum and perineum have been reported in the literature rarely [1, 2].

In our patient aspiration of prostatic abscess helped in spreading the contained pus into the periprostatic area. As the patient had uncontrolled DM, impaired host defences helped in the spread of prostatic abscess to the perianal region.

Hence, we recommend aspiration with a narrow bore needle and careful postoperative monitoring of patients, especially in immunocompromised states. Also, prostate should be assessed as cause of perianal abscesses in all patients.

Our case report highlights the importance of follow-up in these comorbid patients especially in diabetes. If a perianal abscess is detected, it should be promptly drained.

5. Conclusion

Prostatic abscesses in comorbid patients especially with DM should be carefully monitored for the development of a perianal abscess. Important message is that prostate can be cause of perianal abscesses in rare cases. So adequate assessment of prostate should be done in patients presenting with perianal abscesses.

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