ISSN: 0975-3583,0976-2833 VOL12, ISSUE 05, 2021

Prostatic Abscess: Management in a non-urological centre a series of 5 cases

Dr. Sana Siddique[1], Dr.Ashish Rathore[2], Dr. Vishal Madial[3], Dr. R.K Sharma[4], Dr.Renuka Sharma[5]

[1]Post graduate 3rd year, Department Of General Surgery, Maharishi Markandeshwar Medical college and hospital, Kumarhatti, Solan (H.P)., India;
[2]Sr Department Of General Surgery, Maharishi Markandeshwar Medical college and hospital, Kumarhatti, Solan (H.P)., India;
[3]Associate Professor, Department Of General Surgery, Maharishi Markandeshwar Medical college and hospital, Kumarhatti, Solan (H.P)., India;
[4,5]Professor, Department Of General Surgery, Maharishi Markandeshwar Medical college and hospital, Kumarhatti, Solan (H.P)., India;

Corresponding Author:
Dr. Vishal Madial, Associate Professor, Department Of General Surgery, Maharishi Markandeshwar Medical college and hospital,Kumarhatti, Solan (H.P)., India

ABSTRACT:
Aim and Objective-Prostatic abscess is a rare clinicalentity. It results from focal accumulation of pus within theprostate gland. The widespread use of antibiotics hasmarkedly reduced the incidence of this disease. Early diagnosis is challenging due to wide range of signs andsymptoms. Diagnosis depends on high index of clinical suspicion with laboratory evidence of sepsis followed byradiological confirmation with Trans rectal USG andComputed tomography. Due to lack of available guidelinesin the management of this potentially life-threateningcondition and rarity of this condition, main aim of thisseries is to present our clinical experience.
Material and Method- This study was conducted in thedepartment of surgery at a tertiary care centre from May2019 to May 2021. A total of 5 cases diagnosed as a case ofprostatic abscess were reviewed retrospectively. InMaharishi Markandeshwar Medical college and
hospital.The symptomatology of the patients was painlower abdomen, high grade fever with chills & rigors anddysuria.
Conclusion- The first step in the management of PA is toassess the patients for conditions that can lead to increasedrisk of infection. Control of comorbidities is of paramountimportance. High index of suspicion is needed in patients with fever and symptoms of lower urinary tract despite onantimicrobials, specifically in diabetics. Once PA is diagnosed, TRUS is useful in both treatment and follow up.
Keywords: Prostatic Abscess, prostatitis, septicaemia.

INTRODUCTION:

Prostatic abscess is a rare clinical entity. It results from focal accumulation of pus within the prostate gland. The widespread use of antibiotics has markedly reduced the incidence of this disease. It clinically mimics other diseases of lower urinary tract and it is even difficult to differentiate prostatic abscess[1] from acute bacterial prostatitis. Mortality of this condition ranges from 1 to 16%[2] and is attributed to delay in diagnosis and treatment. The disease is mostly seen in patients with immunocompromised status including diabetes and HIV[3].
Early diagnosis is challenging due to wide range of signs and symptoms. Diagnosis depends on high index of clinical suspicion with laboratory evidence of sepsis followed by radiological confirmation with Trans rectal USG and Computed tomography. Due to lack of available guidelines in the management of this potentially life-threatening condition and rarity of this condition, main aim of this series is to present our clinical experience.

MATERIALS AND METHOD

This study was conducted in the department of surgery at a tertiary care centre from May 2019 to May 2021. A total of 5 cases diagnosed as a case of prostatic abscess were reviewed retrospectively in Maharishi Markandeshwar Medical college and Hospital. The symptomatology of the patients was pain lower abdomen, high grade fever with chills & rigors and dysuria.
After history taking; thorough examination, which included digital rectal examination was done. Haematological investigations included complete blood count, Blood sugar, HbA1c, renal function tests, HIV screening and urine for culture/sensitivity. Initially Trans abdominal ultrasonography was performed in all the patients and this followed by Trans rectal ultrasonography.

ISSN: 0975-3583,0976-2833 VOL12, ISSUE 05, 2021

RESULTS

TABLE 1

Case	Age (years)	Comorbidities	Clinical Presentation	Examination	Urine culture	Case
1	56	Type 2 DM	Burning micturition, difficulty in passing urine, fever, perineal discomfort	Grade1 Prostatomegaly, boggy swelling Left lobe	Negative	1
2	72	Type 2 DM	Suprapubic pain, dysuria, scrotal swelling, fever	Suprapubic tenderness, Oedematous scrotum with loss of rugosities, fluctuation	MSSA	2
3	20	Nil	Burning micturition, pain lower abdomen, fever	Tenderness lower abdomen	CONS	3
4	48	Type 2 DM	Difficulty in passing urine, dysuria, Perineal discomfort, fever	Tender prostate with fluctuation	MSSA	4
5	58	Nil	Urinary retention, perineal pain	Bulky prostate	Escherichia coli	5

TABLE 2

Case	Abscess size	Mode of treatment	Complications	ICU stay
1	Prostate volume 30cc with multiple hypoechoic lesions with internal echoes, largest measuring (1.8 x 1.7cm)	Conservative	Nil	Nil
2	Multiple small prostatic abscesses with cystitis.	Surgical	Scrotal swelling	Yes
3	2.2 x 1.1 cm hypoechoic area in Left lobe of prostate	Conservative	Nil	Nil
4	5 x 4 x 5cm abscess	Surgical	Nil	Nil
5	Multiple small abscesses, few mm in dimension	Conservative	Nil	Nil

Figure 1: TRUS showing prostatic abscess.

ISSN: 0975-3583,0976-2833 VOL12, ISSUE 05, 2021

Figure 2: TRUS showing Resolution of abscess

Demographic and clinical data are shown in Tables 1 and 2. Mean age of presentation was 50.8 years, range (20 -72 years). Most common symptoms were those due to lower urinary tract infection, fever and pain lower abdomen. Out of 5 patients, 3 were diabetics with raised HbA1c. One patient had scrotal swelling along with urinary symptoms. On examination scrotum was oedematous with loss of rugosities and presence of fluctuation. Blood counts revealed leucocytosis, Hb 7.9 gm%, HbA1c 8%, serum urea 32, creatinine 1.01, 25-30 leucocytes per high power field in urine microscopy. On USG abdomen, there was evidence of collection of 106cc pus in pelvis, bulky prostate, right renal calculi and HDUN. TRUS was done and findings were bulky prostate with multiple small abscesses with cystitis with collection seen on right side in rectovesical pouch. Managed by surgical Exploration with high risk Orchidectomy and conservative for prostatic abscess. Pus was sent for culture which revealed Klebsiella oxytocia sensitive to Imipenem. Even, after surgical exploration, there was continuous purulent discharge from the wound and patient developed scrotal cellulitis due to poor diabetic control for which antidiabetic drug insulin (18U) and Tab. Metformin was started. When wound granulated, secondary suturing was done and corrugated rubber drain was placed.

One patient presented with urinary retention in emergency and catheterization was done. Foley's catheterization was done for the patient and it was seen pus discharge through urethra so suprapubic cystostomy was done of the patient.Urine for routine examination showed 30-40 pus cells/ hpf. USG abdomen findings were grade 1 BPH. After 1 day, patient started having high grade fever alongwith perineal discomfort. He was put on antibiotics and symptomatic treatment was given but there was no relief. Per rectal examination revealed tender prostate with fluctuation. Laboratory investigations revealed leucocytosis 14000, negative viral markers. TRUS was done which and revealed collection in the prostate 5cmx4cmx5cm with internal echoes. Trans rectal aspiration was done and pus was sent for culture/sensitivity. Patient was started with intravenous Ciplox 500mg 8hrly and amikacin 500mg 12 hrly. Repeated aspiration was done and total pus aspirated was 120cc. Microbiology showed methicillin sensitive staph aureus sensitive to Amoxiclav and gentamycin. Condition of the patient improved and he was discharged with urinary catheter in situ and kept on follow up.

Digital rectal examination was done in all cases and fluctuation was positive in only one case.

Midstream urine was sent for culture, AFB staining and CBNAAT an all the patients. AFB staining and CBNAAT was negative in all the patients. Culture was negative in one patient and positive in 4 cases (MSSA in 2 cases, Escherichia coli in 1 and CONS in 1).

Multiple small hypoechoic areas (micro abscesses) were seen in 3 cases. Multiple abscesses and small abscess were observed and treated with intravenous antibiotics apart from management of coexisting pathology. In 4 patients, conservative management was done for prostatic abscess with antibiotics, with longer duration of stay as compared to the patient with surgical management. Empiric intravenous antibiotics were started in all cases followed by revised treatment as per culture reports. Only in one case of large abscess, multiple transrectal aspirations were done. Mean hospital stay was 35 days.

DISCUSSION

Prostatic abscess is an uncommon condition, with only few reports described in the literature[1,4]. It occurs due to hematogenous[5] spread of infection or after local complication of acute bacterial prostatitis[6] with prevalence of 0.5%. Various predisposing factors have been described in literature including indwelling catheters, instrumentation of lower urinary tract, diabetes mellitus and prostate biopsy[7]. This disease is mostly seen in immunocompromised individuals with diabetes and HIV. In the present series, 3 out of 5 patients, had

ISSN: 0975-3583,0976-2833 VOL12, ISSUE 05, 2021

comorbidity (diabetes mellitus). There is no mortality seen in the present series in contrast to literature. On DRE fluctuation is present in only one patient, similar to results seen in other studies[8].

Algorithm has been proposed by few studies for treatment of PA[2,9]. Prostatic abscess should be suspected in patients presenting with fever and persistent lower urinary symptoms despite antimicrobials with progression to urinary retention. Most of these symptoms are non- specific as seen in this series, although diagnosis can be made by various imaging modalities including Transrectal ultrasound. TRUS can also be helpful in the treatment of PA[10], with result of 83.3%[11] and 85.4%[12] following TRUS guided needle aspiration. In our series the most common finding on TRUS was hypoechoic regions within the prostate. This finding is in consistent with other studies.

One study suggested medical treatment for PA <1cm and TRUS needle aspiration in PA >1cm or failed medical treatment and TUD for failed TRUS needle aspiration cases[2].

The most commonly used treatment modality in our series is parenteral broad-spectrum antibiotics (80%) and TRUS guided aspiration in 1 case (20%). Patient was kept on under follow up and he required repeated aspirations required.

Only two studies in the literature compared the three treatment modalities of PA[1,13]. Alnadhari I et al. concluded that for subcentimeteric abscesses conservative management can be successful, TUD for large, multiloculated abscess with high recurrence for TRUS aspiration.

CONCLUSION

Although PA is rare in the antibiotic era but if not treated appropriately, can lead to spontaneous rupture into adjacent organs and severe septicaemia. The first step in the management of PA is to assess the patients for conditions that can lead to increased risk of infection. Control of comorbidities is of paramount importance. High index of suspicion is needed in patients with fever and symptoms of lower urinary tract despite on antimicrobials, specifically in diabetics. Once PA is diagnosed, TRUS is useful in both treatment and follow up.

LIMITATIONS

Non urologic centre with lack of all available modalities and small sample size of our case series.

BIBLIOGRAPHY

1. Jang K, Lee DH, Lee SH, Chung BH. Treatment of prostatic abscess: case collection and comparison of treatment methods. Korean J Urol. 2012 Dec;53(12):860-4. doi: 10.4111/kju.2012.53.12.860.
2. Abdelmoteleb H, Rashed F and Hawary A. Management of prostate abscess in the absence of guidelines. Int Braz J Urol 2017; 43: 835–840.
3. Ha US, Kim ME, Kim CS, Shim BS, Han CH, Lee SD, et al. Acute bacterial prostatitis in Korea: clinical outcome, including symptoms, management, microbiology and course of disease. Int J Antimicrob Agents. 2008;31: S96-101.
4. Elshal AM, Abdelhalim A, Barakat TS, Shaaban AA, Nabeeh A, Ibrahiem E-H. Prostatic abscess: Objective assessment of the treatment approach in the absence of guidelines. Arab J Urol. 2014;12(4):262–8.
5. Oliveira P, Andrade JA, Porto HC, et al. Diagnosis and treatment of prostatic abscess. Int Braz J Urol 2003; 29: 30–34.
6. Lee DS, Choe HS, Kim HY, et al. Acute bacterial prostatitis and abscess formation. BMC Urol 2016; 16: 38.
7. Brede CM, Shoskes DA. The etiology and management of acute prostatitis. Nat Rev Urol. 2011;8(4):207–12.
8. Tiwari P, Pal DK, Tripathi A, Kumar S, Vijay M, Goel A, Sharma P, Dutta A, Kundu AK. Prostatic abscess: diagnosis and management in the modern antibiotic era. Saudi J Kidney Dis Transpl. 2011 Mar;22(2):298-301. PMID: 21422629.
9. Choudhry M, Pellino G, Simillis C, Qiu S, Kontovounisios C. Prostatic abscess. A case report and review of the literature on current treatment approaches. Cent European J Urol. 2017; 70: 118-122.
10. Göğüş Ç, Özden E, Karaboğa R, Yağci C. The value of transrectal ultrasound guided needle aspiration in treatment of prostatic abscess. Eur J Radiol. 2004; 52: 94-98.
11. Collado A, Palou J, Garc J, et al.Ultrasound-guided needle aspiration in prostatic abscess. Urology. 1999; 53: 548-552.
12. Vyas JB, Ganpule SA, Ganpule AP, Sabnis RB, Desai MR. Transrectal ultrasound-guided aspiration in the management of prostatic abscess: A single-center experience. Indian J Radiol Imaging. 2013; 23: 253-257.
13. Alnadhari I, Sampige VRP, Abdeljaleel O, El Ansari W, Ali O, Salah M, Shamsodini A. Presentation, diagnosis, management, and outcomes of prostatic abscess: comparison of three treatment modalities. Ther Adv Urol. 2020 Jun 5;12:1756287220930627.doi: 10.1177/1756287220930627.