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Spontaneous rupture into the peritoneal cavity: Unusual presentation of prostatic abscess



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ABSTRACT

INTRODUCTION: Prostatic abscess is a rare but relatively serious infectious disease; its association with spontaneous rupture is extremely unusual.

PRESENTATION OF CASE: We present a case of peritonitis secondary to a rupture of prostatic abscess in a 87-year-old man. The diagnosis was made on computed tomography. Emergency laparotomy, transrectal ultrasonography guided aspiration of the residual abscess and antibiotics permitted a full recovery.

DISCUSSION: Delay in diagnosis of prostatic abscess can have grave sequelae, including spontaneous rupture into the urethra, perineum, bladder or rectum and the development of septic shock. Only one case of spontaneous rupture into the peritoneal cavity has been reported in the literature.

CONCLUSION: This case highlights the importance of early diagnosis of prostatic abscess and close monitoring of patients, with diabetes or immunosuppression, treated for acute prostatitis.

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1. Introduction

Prostatic abscess is an uncommon but potentially lethal disease. With the development of effective antibiotic therapy, the incidence of prostatic abscess has decreased during the last several decades [1,2]. In contrast to pre-antibiotic era, spontaneous rupture of prostatic abscess is infrequent now. Prostatic abscess can be an aggressive lesion within the pelvis and may rupture into the urethra, prevesical space, rectum, perineum, and ischioanal fossa [3]. However, to our knowledge, only one case of spontaneous rupture into peritoneal cavity has been reported [4]. Here, we report a case of a diabetic patient with peritonitis secondary to rupture of a large prostatic abscess into peritoneal cavity treated surgically.

2. Presentation of case

A 87-year-old man presented to the emergency department with the complaint of high fever (39°C), vomiting and abdominal pain. He had a history of diabetes mellitus with irregular medical control. Prior to this episode, 5 days before hospitalization, he developed fever and dysuria followed by acute retention of urine related to an acute prostatitis treated with oral antibiotics (ciprofloxacin 200 mg twice/day) and transurethral bladder catheterization. The physical examination of abdomen was consistent with peritonitis; Digital rectal examination disclosed an

enlarged warm prostate with a soft consistency. A complete blood count demonstrated white blood cells of 31,000/mL. His C-reactive protein was 187 mg/dL; The fasting serum sugar level was 260 mg/dL. Pyuria was noted on the urinalysis; Culture grew out Escherichia Coli. Abdominal computed tomography (CT) showed free fluid in the peritoneal cavity (Fig. 1) and a marked huge prostate with an irregular fluid-containing (Fig. 2a and b). A prostatic abscess communicating with the Douglas' pouch was highly suspected. Emergency laparotomy was performed after intravenous administration of antibiotics (Metronidazol combined with ciprofloxacin and cefotaxime). Peroperative exploration revealed a pelvic abscess and a turbid abdominal effusion. Samples were taken for bacterial culture. A thorough lavage of the abdominal cavity with warm saline solution was performed followed by insertion of two Salem-sump tubes in the peritoneal cavity and the Douglas' pouch and suprapubic bladder catheterization. Transrectal sonography (TRUS) was done and TRUS-guided aspiration of the residual abscess was performed with an 18 gauge Chiba needle. The aspirated pus from the prostatic abscess had grown Escherichia Coli which was sensitive to Ciprofloxacin. The postoperative course was uneventful; Fever subsides within 48 h of laparotomy, biologic inflammatory markers were regressed within 72 h. Patient was discharged after one week with the suprapubic catheter, on ciprofloxacin twice/day for 6 weeks and Tamsulosin. He had another TURS two weeks after his discharge from hospital which revealed that the abscess had resolved with no evidence of residual or recurrent abscess. Abdominal CT performed 3 months after discharge showed a huge prostate weighing approximately 512 g with no evidence of recur-

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Fig. 1. Axial computed tomography image reveals free fluid in the peritoneal cavity (star).

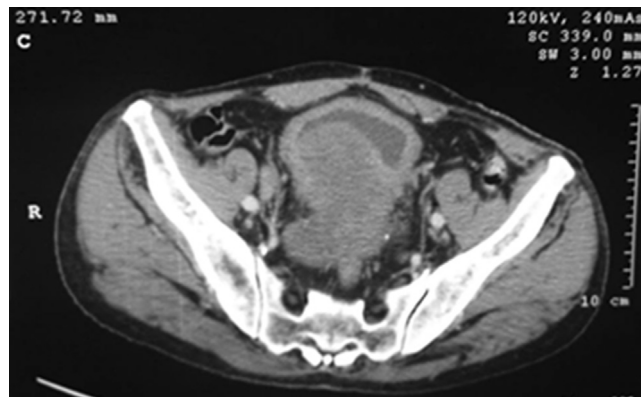


Fig. 3. Axial computed tomography image showing huge prostate with no evidence of recurrent abscess.

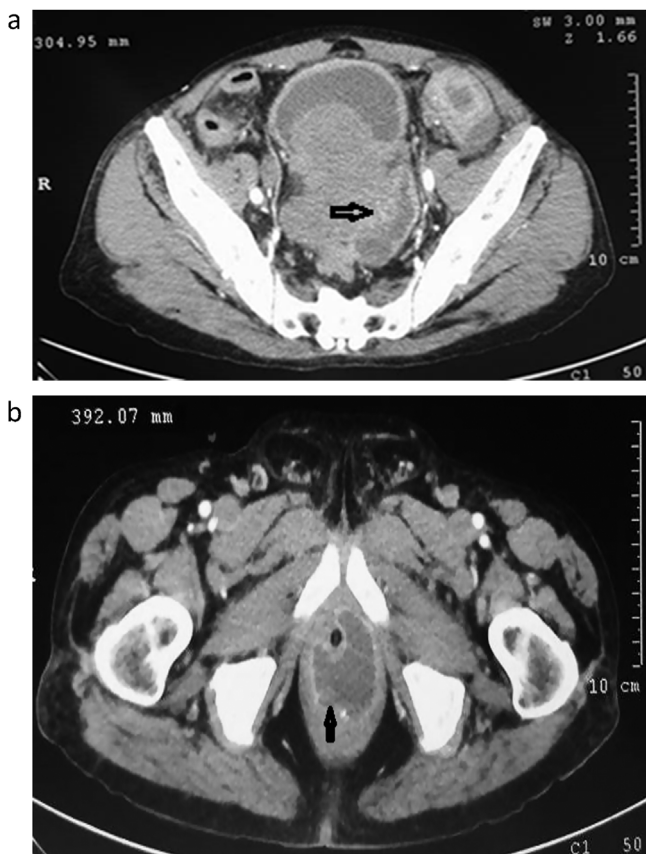


Fig. 2. (a) Axial computed tomography image showing a huge prostate with abscess (arrow). (b) Axial computed tomography image showing a huge prostate with abscess (arrow).

rent abscess (Fig. 3). A trial without catheter was successful and the patient was advised to continue Tamsulosin with regular controls.

3. Discussion

Prostatic abscess represents 0.5%–2.5% of all prostatic disease; mortality ranges from 6%–30% [5]. Prior to the advent of modern antibiotic treatment, Neisseria gonorrhoea was the major microorganism. Now, the spectrum of organisms responsible for

the causation of prostatic abscess has changed; Escherichia Coli and Staphylococcus species alone or in combination are the main causative organisms [6]. Majority of prostate abscess occur in diabetic and immunocompromised patients, as was the case of this patient.

Clinical presentation is variable, but can include: fever, irritative voiding symptoms and a tender prostate on digital rectal exam. The diagnosis of prostatic abscess has been regarded as difficult because of the lack of pathognomonic symptoms. So, prostatic imaging has become a very important tool in the diagnosis and management. TRUS and CT scan have been found to be very helpful in diagnosing prostatic abscess.

Delay in diagnosis can have grave sequelae, including spontaneous rupture of the abscess into the urethra, perineum, bladder or rectum and the development of septic shock with a mortality rate of 1% to 16% [1]. In their review of literature involving 260 cases, Weinberger et al. noted that spontaneous rupture occurred in only 17% (44) cases of prostatic abscess in following sites: 31 cases (70.5%) ruptured into urethra, 8 (18.2%) into rectum, while 4 cases (9%) ruptured into perineum and only one ruptured into peritoneal cavity[3]. To our knowledge, it is the second reported case of spontaneous rupture of prostatic abscess into the peritoneal cavity.

The treatment of prostatic abscess includes antibiotic administration and drainage of the abscess. Ludwig et al. suggested that a monofocal abscess of <1 cm in diameter could be treated with antibiotic therapy and a suprapubic catheter. Surgical treatment should be performed for multifocal abscesses >1 cm in diameter, sepsis, recurrent abscess, or for patients who respond poorly to antibiotics for more than 3 days [2].

Lack of uniformity in antibiotics prescription occurs due to the rarity of the disease, varied etiological agents in different studies and no uniform guidelines for these cases. trans-rectal or trans-perineal ultrasound-guided puncture, digital-guided puncture/drainage by perineal route, trans-urethral incision of the prostate, trans-urethral resection of prostate or open perineal drainage are choices of treatment for drainage [7,8]. There is a preference for minimally invasive procedures that may be performed under local anesthesia or sedation, and repeated if necessary.

3.1. Conclusion

Spontaneous rupture of the prostatic abscess is extremely unusual; only one case has been reported in the literature. Authors highlight the importance of early diagnosis of prostatic abscess and close monitoring of patients, with diabetes or immunosuppression, treated for acute prostatitis.

Author contribution

Salem Braiek and Rafik El Kamel took care of the patient. Sahbi Naouar and Nidhal Ati wrote the report. Salem Braiek performed the endoscopic approach. All authors have read and approved the final manuscript.

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Ethical approval

No ethical approval needed.

Consent

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

Conflict of interest statement

No conflicts of interest exist for any author.

Guarantor

Sahbi Naouar, MD.

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