

## Fournier gangrene as an atypical presentation of seminal vesicle abscess: a case report

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### Abstract

**Background:** seminal vesicle abscesses are usually misdiagnosed due to the rarity of this pathology and can be mistakenly diagnosed as an inguinal hernia or scrotal abscess even with the aid of computerized tomography of the abdomen and pelvis. We report a case where a pre-operative diagnosis was difficult owing to the atypical presentation with Fournier gangrene.

**Aim of the work:** To the best of our knowledge, our case is the first to report a seminal vesicle abscess presenting as Fournier's gangrene. We believe it can add to the scarce literature and help increase the index of suspicion for such rare urological condition.

**Results:** For our patient, the transurethral approach was successful without any complications and he was asymptomatic and able to void on the third day postoperative.

**Conclusion:** the transurethral drainage is a good alternative to transrectal drainage with comparable hospitalization period and symptoms relief. Also, it ensures complete drainage of the abscess cavity.

**Keywords:** seminal vesicles, abscess, atypical presentation

### Introduction

Seminal vesicle abscess is a rare entity with only 28 cases reported in the English literature [1-3]. The first case of seminal vesicle abscess was reported by **Raijfer et al.** in which the patient presented with fever and prostatic mass [3]. A review was done by **Pandey et al.** documented the clinical presentations of reported cases with 74% presenting with fever, 58% with dysuria and 32% with a tender prostate or ongoing epididymo-orchitis [1]. Although the literature recommended the use of transrectal ultrasound (TRUS) in diagnosing seminal vesicle abscess, CT scan is the most frequently described diagnostic tool [2]. TRUS has the advantage of a real-time image that can show the extent of the abscess cavity and the extension of physical diagnosis yet without radiation exposure. In addition, it has the ability to be used for diagnostic, therapeutic and follow-up purposes. Surgical drainage has been the mainstay for treatment, which can be achieved by the transrectal, transperineal or transurethral approach [2].

### Case report

This was a 66-year-old male who was known to have hypertension and type II diabetes mellitus. He presented to the Emergency Department with a 30-day history of scrotal and left groin swelling with a history of fever and no history of dysuria or hematuria. He had a history of not passing bowel motion for six days with abdominal pain. On physical exam, the patient

had a fever of 39.5C, pulse rate of 112 and blood pressure of 103/65. He appeared fatigued and dehydrated. Abdominal examination revealed generalized abdominal distention and tender swelling over the left inguinal area. Genital examination showed swollen scrotum with gangrenous scrotal skin (**Figure 1**).



**Figure 1:** picture of the scrotum that shows marked swelling with a large area of gangrenous skin

Laboratory investigations showed that hemoglobin was 68 gm/l, white cells count was  $20,000 \times 10^9/L$  and hematocrit was 22%. His serum sodium, random glucose, blood urea nitrogen, creatinine, and serum CO<sub>2</sub> levels were 125 mEq/L, 23.8 mmol/l, 10 mmol/L, 111 μmol/L and 70 mEq/L respectively. Urinalysis was positive for bacteria, negative for nitrate with WBC 35 per high power field (HPF).

Ultrasound showed left scrotal abscess, an intact testis, left groin collection and possible incarcerated hernia. Due to patient's high creatinine, a non-enhanced CT scan of the pelvis was performed, which revealed a small bowel-containing left direct inguinal hernia, with no bowel obstruction. The patient was started on empirical antibiotics and underwent an emergency incision and drainage of the scrotal abscess with debridement of Fournier's gangrene. The procedure also included exploration and repair of left inguinal hernia revealing an inguinal abscess involving the spermatic cord that was drained. In addition, we elected to further assess the extent of the inguinal abscess. Therefore, an enhanced CT scan of the pelvis was performed after the renal function has normalized. The CT scan showed a large seminal vesicle and prostatic abscess (**Figure 2**), which was drained transurethrally.



**Figure 2: an axial cut of the CT scan following groin and left testicular abscess drainage. There is multi-lobular rim enhancing fluid collections in the left prostate and left seminal vesicle**

Pus and urine cultures came as *E.coli*. The patient was kept on Foley catheter postoperatively for 3 days. A follow-up CT showed a significant interval decrease in the abscess size (**Figure 3**). There was no abscess discharge from the inguinal wound and he was discharged with oral antibiotics. On follow up two weeks later he was doing well.



**Figure 3: a follow-up CT scan showing interval improvement of the previously noted multilocular left seminal vesicle**

### Discussion

Nowadays, seminal vesicle abscess is uncommon owing to the effective and widespread antibiotic therapy. In previously documented cases the most common causative organism is *Escherichia coli* (*E.coli*), which correlates with our findings. In fact, a study of **Saglam et al.** cultured *E. coli* from the urine and abscess in 100% of cases [2]. Patients usually present with fever, dysuria and tender prostate [1]. Computerized tomography is the most frequently described diagnostic tool, although the most recent literature advocates the use of trans-rectal ultrasound [2].

Our patient had an unusual presentation where he came with left inguinal-scrotal swelling. In fact, the initial impression was Fournier gangrene. However, I was able to diagnose seminal vesicle abscess only after the enhanced CT scan that was performed to further assess the extent of the inguinal abscess. Similar cases were reported in the English literature in which patients presented with tender groin, inguinal swelling or a concurrent prostatic abscess [2]. However, our case was the first one reporting Fournier gangrene as a presentation of seminal vesicle abscess. Imaging modalities such as TRUS, CT scan and magnetic resonance imaging (MRI) were critical for diagnosing and managing seminal vesicle abscess. The characteristics of a seminal vesicle abscess in CT scan included 1- unilateral or bilateral enlargement of the seminal vesicle, 2- an area of low attenuation within the seminal vesicle, 3- inflammatory changes in the surrounding fat and 4- focal or diffuse thickening of bladder wall [6]. The CT scan of the patient of our study was critical in reaching the diagnosis. In our

case, once the renal function has normalized after draining the inguinal-scrotal abscess, we performed an enhanced CT scan, which showed a multilobular rim-enhancing fluid collection in the left seminal vesicle and part of the left prostate lobe. Current treatment modalities include drainage via transrectal, transperineal or transurethral approach. In our patient, we performed a transurethral drainage; a resectoscope loop was used to begin resection just distal to the bladder neck at the 5 o'clock position. The cavity opened widely and it was irrigated transurethrally during the procedure, 24 french foley catheter was used postoperatively for drainage. Other treatment modalities had also been reported. These included conservative management with intravenous antibiotics <sup>[7]</sup>, transrectal ultrasound-guided transperineal and transrectal drainage, laparoscopic and surgical drainage were reported in the literature <sup>[2,8]</sup>. All patients who underwent transrectal and transperineal drainage developed fever, dysuria, chills, frequency, and perineal pain and were discharged after 2 to 3 days with a 1-week course of antibiotics <sup>[2]</sup>. Transurethral incision of the abscess through the bladder wall or prostate, evacuation, and irrigation of the cavity and insertion of Foleys catheter for 3 days were tolerated well with no complications and a complete resolution of the abscess on follow up <sup>[3]</sup>. Failure of the transurethral approach has been reported for which a laparoscopic drainage has been performed <sup>[3]</sup>. Our patient had uneventful postoperative recovery, his follow up CT showed a significant interval decrease in the abscess size, which proves the effectiveness of the performed technique. Foley catheter was removed after 3 days and the patient was discharged home on oral ciprofloxacin. On follow up two weeks later he was doing well.

Finally, I believe that our case will add to the scarce literature as it can widen the spectrum and raise the index of suspicion among urologists. Furthermore, it emphasizes the role of CT scan in the diagnosis as well as the safety and efficacy of transurethral approach in order to assure safe and prompt urological practice.

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