

# CONCURRENT SPERMATIC CORD ABSCESS AND PROSTATIC ABSCESS IN A DIABETIC MALE – A CASE REPORT

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## ABSTRACT

*Concurrent occurrence of spermatic cord abscess and prostatic abscess is exceedingly rare, with few cases reported in medical literature. These entities may present with overlapping signs and symptoms, particularly in immunocompromised individuals, such as those with diabetes mellitus. We report the case of a 42-year-old male with long-standing type 2 diabetes who presented with right groin pain, fever, and dysuria. Initial ultrasonographic evaluation at an outside facility misdiagnosed the condition as an incarcerated right inguinal hernia due to the presence of a tender inguinal swelling. However, further imaging at our centre revealed multiloculated abscesses involving the spermatic cord and prostate, along with associated seminal vesiculitis. The patient responded well to intravenous antibiotics and prostatic drainage and was discharged with complete clinical resolution. This case emphasizes the importance of considering deep pelvic and multifocal genitourinary infections in diabetic patients with groin pain and urinary symptoms.*

**KEYWORDS:** Spermatic cord abscess, Prostatic abscess, Seminal vesiculitis

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## CASE REPORT

A 42-year-old male with a 10-year history of type 2 diabetes mellitus presented with dull, progressive pain in the right groin since 7 days, accompanied by intermittent fever and burning micturition. He denied any urinary retention, urethral discharge, or history of sexually transmitted infections. There were no previous surgeries or similar complaints. He had no other comorbidities or immunosuppressive conditions other than poorly controlled diabetes (HbA1c 12%). On examination, the patient was febrile (100.8°F), tachycardic (102 bpm), and hemodynamically stable. There was a tender, firm swelling palpable in the right inguinal region, approximately 4 cm in size, without erythema or fluctuation. There was no cough impulse, ruling out obvious hernia. The testicles were normally positioned and non-tender. Digital

rectal examination revealed a boggy and tender prostate. Laboratory investigations showed only mild leukocytosis (WBC 11,600/mm<sup>3</sup> with neutrophilic predominance) and elevated CRP (120 mg/L), which can be attributed to chronic hyperglycaemia-related immune dysfunction, which is known to blunt the typical leukocytic response. Urinalysis revealed pyuria. Urine culture grew *Escherichia coli* >10<sup>5</sup> CFU/mL. Blood cultures were sterile. An initial ultrasound conducted at an outside hospital raised suspicion for an incarcerated right inguinal hernia. However, targeted ultrasonography at our centre revealed heterogenous, thickened right spermatic cord with increased vascularity and a well-defined hypoechoic collection extending to the right inguinal canal suggestive of funiculitis with abscess formation [FIG 1]. The prostate appeared enlarged and heterogeneous with a central hypoechoic collection indicative of an abscess [Fig 2]. Bilateral seminal vesicles were bulky with surrounding fat stranding, and calcifications were evident in both vas deferens and spermatic cords. Right epididymis and right testis were normal. Contrast-enhanced computed tomography (CECT) of the abdomen and pelvis further delineated a peripherally enhancing cystic tubular mass measuring 3.8 cm along the right spermatic cord extending from the right inguinal canal to the right seminal vesicle, consistent with a spermatic cord abscess [Fig 3]. Additionally, a peripherally enhancing hypodense collection was noted within the prostate with periprostatic fat stranding [Fig 4]. Bilateral seminal vesiculitis was also confirmed based on glandular enlargement with inflammatory changes in the surrounding fat. The patient was initiated on intravenous Piperacillin and Tazobactam, and glycemic control was optimized with insulin. Transrectal ultrasound-guided aspiration of the prostatic abscess yielded purulent material, which also cultured *E. coli*. Given the moderate size and stable clinical picture, the spermatic cord abscess was managed conservatively without surgical drainage. Over the course of one week, the patient's fever subsided, groin pain improved significantly, and repeat imaging showed marked regression of both abscesses. He was discharged on oral levofloxacin for two more weeks and remained asymptomatic at follow-up.

## DISCUSSION

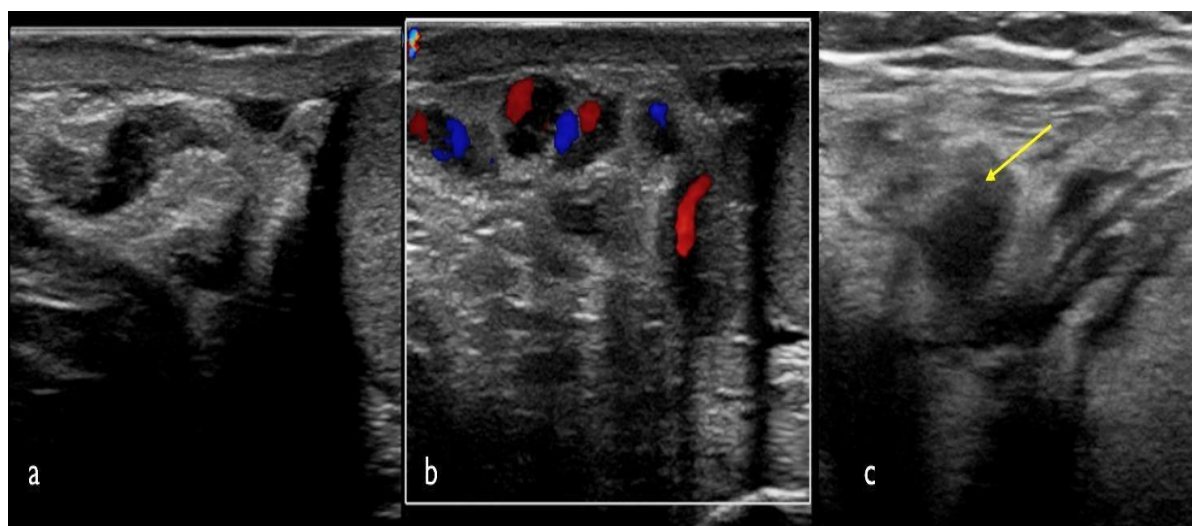
Spermatic cord abscess is an exceptionally rare urologic condition, with only a handful of cases reported in the literature. A review by Machida et al. (2008) [1] noted that fewer than five cases of spermatic cord abscess had been documented at the time, and concurrent presentation with a prostatic abscess is even more uncommon, with only isolated case reports available. Such cases are typically seen in individuals with impaired immunity, such as patients with poorly controlled diabetes mellitus, which promotes bacterial proliferation and hinders resolution of deep-seated infections. The pathogenesis of spermatic cord abscess may involve either a retrograde (ascending) infection through the urethra and vas deferens or, less commonly, an antegrade spread via hematogenous dissemination—particularly in immunocompromised individuals such as those with diabetes. In most cases, spermatic cord abscess is considered a secondary complication of prostatic inflammation. The prevailing hypothesis suggests that infection ascends retrogradely from the lower urinary tract, passing through the ductus deferens to reach the spermatic cord [2]. In our patient, the concurrent findings of a prostatic abscess, bilateral seminal vesiculitis, and calcifications in the vas deferens strongly support the retrograde route of infection as the most plausible mechanism. Spermatic cord abscess can pose a significant diagnostic challenge due to its nonspecific clinical presentation. One of the most important differentials is an incarcerated or strangulated inguinal hernia, especially when the patient presents with groin swelling, tenderness, and systemic signs of infection. Other potential differentials include epididymo-orchitis, cord hematoma, spermatic cord tumors, or funiculitis. In our case, the initial ultrasonographic evaluation outside our centre had suggested an incarcerated inguinal hernia, underscoring the potential for diagnostic confusion. Contrast-enhanced computed tomography (CECT) proves invaluable in delineating the pathology and distinguishing it from its mimics [3]. CT findings of spermatic cord abscess typically reveal a

multiloculated, peripherally enhancing hypodense collection extending along the spermatic cord. Concurrent prostatic abscess appears as a heterogeneous or hypodense lesion within the prostate with peripheral rim enhancement, often accompanied by periprostatic fat stranding. In addition, seminal vesiculitis may manifest as enlarged, inflamed seminal vesicles with adjacent inflammatory fat stranding. The constellation of these findings on CT imaging not only aids in making the diagnosis but also helps distinguish these entities from more common surgical conditions like hernias, thereby guiding appropriate non-surgical or image-guided management. Antibiotic therapy remains the cornerstone of treatment, but drainage becomes essential when abscesses are large, symptomatic, or fail to resolve [4]. Our patient underwent transrectal ultrasound-guided aspiration of the prostatic abscess, while the spermatic cord abscess was treated conservatively. Both approaches led to complete resolution, reinforcing the potential of tailored, minimally invasive management in such complex presentations. In conclusion, this case illustrates the importance of considering simultaneous infections within the male genitourinary tract in diabetic patients with atypical symptoms such as groin pain. Timely imaging and intervention can prevent complications such as testicular infarction, fistula formation, or septicemia. Given the rarity of spermatic cord abscess, especially in conjunction with a prostatic abscess, this case contributes to the little existing literature and emphasizes the need for clinical suspicion and radiologic precision in diagnosis.

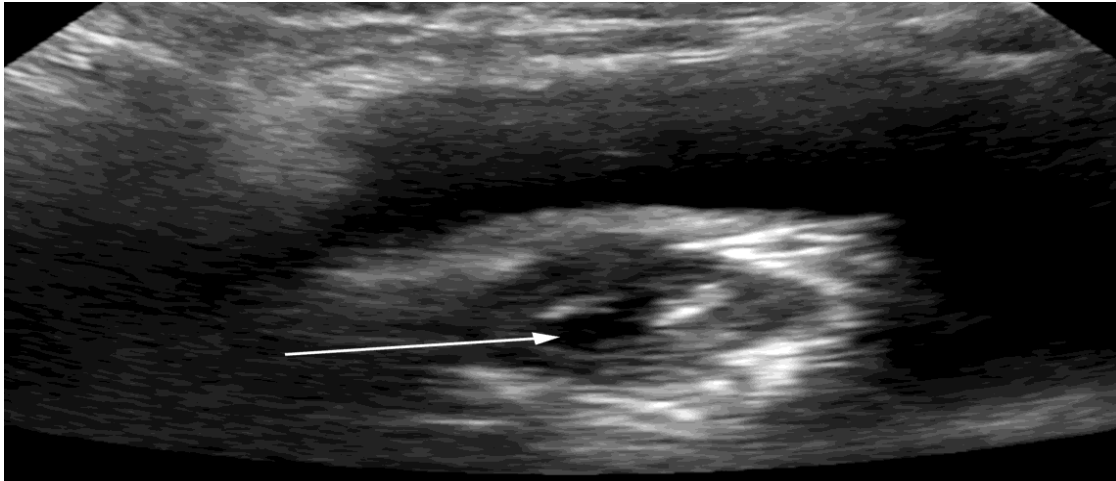
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#### FIGURE LEGENDS:



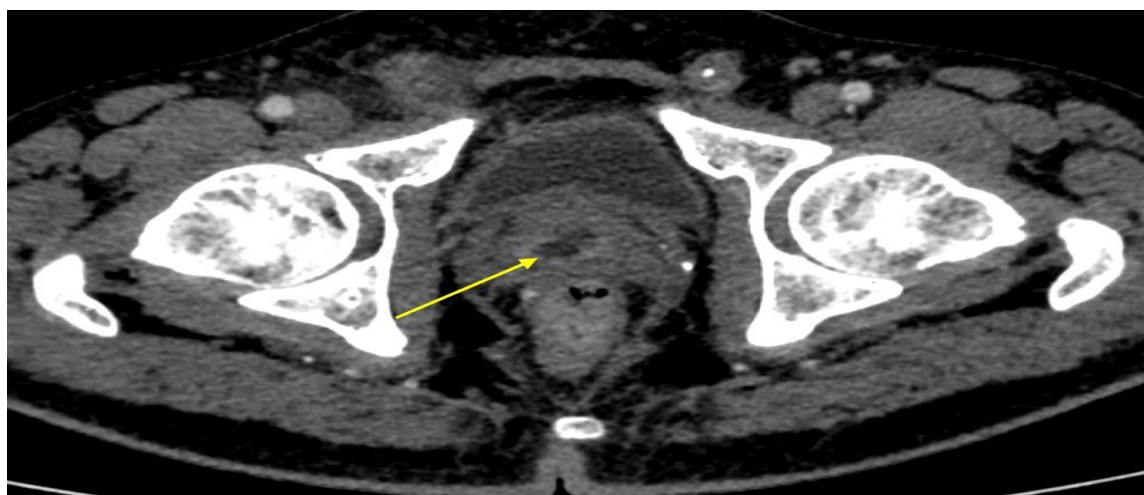
**Figure 1: Right scrotal Ultrasound: Grayscale (a & c) and colour Doppler (b) images show thickened, heterogeneous right spermatic cord with increased vascularity and a hypoechoic collection (yellow arrow) in the right inguinal canal.**



**Figure 2:** Pelvis ultrasound grayscale image shows an ill-defined hypoechoic collection (white arrow) in the prostate suggestive of prostatic abscess.



**Figure 3:** Contrast -enhanced CT: Axial (a) and coronal (b) images shows tubular peripherally enhancing mass extending from right inguinal canal to the right seminal vesicle (red arrow) and the thickened inflamed right spermatic cord along with calcifications (yellow arrow) entering the right hemiscrotum.



**Figure 4:** Contrast enhanced CT reveals marginally enhancing collection (yellow arrow) in the prostate consistent with prostatic abscess.