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Febrile Pelvic Mass in a Man: A Seminal Vesicle Abscess as a Rare Differential Diagnosis

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Abstract | **Clinical Case**

***Introduction*:** Seminal vesicle abscesses (SVA) are rare and often under-recognized conditions. Their exact incidence remains unknown, but they are generally associated with predisposing factors such as diabetes mellitus, recurrent urinary tract infections, or previous urological interventions [1]. Clinically, these abscesses present with non-specific symptoms, such as fever, dysuria, pelvic or perineal pain, and sometimes a palpable mass on digital rectal examination [2]. Diagnosis relies on medical imaging, where transrectal ultrasound may suggest a retrovesical collection, but magnetic resonance imaging (MRI) offers precise lesion characterization, allowing differentiation between an abscess and other pelvic masses such as tumors or cysts [3]. Complete situs inversus, a rare congenital anomaly characterized by transposition of thoracoabdominal organs, further complicates the diagnostic process due to the reversed anatomical layout [4]. This anatomical variant can lead to misinterpretation during clinical and imaging examinations, thereby delaying appropriate management. We report the case of a 53-year-old male patient with type 2 diabetes and complete situs inversus, admitted for persistent fever and dysuria, in whom a left seminal vesicle abscess was diagnosed using MRI.

Keywords: Seminal Vesicle Abscess, Pelvic Mass, Magnetic Resonance Imaging (MRI), Diabetes Mellitus, Situs Inversus.

INTRODUCTION

Seminal vesicle abscesses (SVA) are rare and often under-recognized conditions. Their exact incidence remains unknown, but they are generally associated with predisposing factors such as diabetes mellitus, recurrent urinary tract infections, or previous urological interventions [1]. Clinically, these abscesses present with non-specific symptoms, such as fever, dysuria, pelvic or perineal pain, and sometimes a palpable mass on digital rectal examination [2].

Diagnosis relies on medical imaging, where transrectal ultrasound may suggest a retrovesical collection, but magnetic resonance imaging (MRI) offers precise lesion characterization, allowing differentiation between an abscess and other pelvic masses such as tumors or cysts [3].

Complete situs inversus, a rare congenital anomaly characterized by transposition of thoracoabdominal organs, further complicates the diagnostic process due to the reversed anatomical layout [4]. This anatomical variant can lead to misinterpretation during clinical and imaging examinations, thereby delaying appropriate management.

We report the case of a 53-year-old male patient with type 2 diabetes and complete situs inversus, admitted for persistent fever and dysuria, in whom a left seminal vesicle abscess was diagnosed using MRI.

CLINICAL CASE

The patient was a 53-year-old man with a medical history of type 2 diabetes (on oral antidiabetics) and complete situs inversus, admitted for a persistent fever at 39 °C lasting for two weeks, associated with dysuria. He had received empirical antibiotic therapy for 10 days without improvement.

Clinical examination revealed a large, painful pelvic mass displacing the anterior rectal wall upon digital rectal exam. Examination of other systems was unremarkable.

Laboratory tests showed signs of inflammation: elevated CRP at 69 mg/L and leukocytosis at 15,410/mm³ with neutrophil predominance. HIV, syphilis, hepatitis B and C serologies were negative. Urinalysis was turbid, with a positive culture.

Pelvic ultrasound showed a large, ill-defined, heterogeneous pelvic collection with multiple septations and no Doppler vascularization, with no clearly identified origin. A right ectopic kidney located in the pelvis was also noted.

Pelvic MRI (Figure 1) revealed a large, left-sided collection with thick walls, septations, hypointense signal on T1, heterogeneous intermediate signal on T2, diffusion restriction, and peripheral enhancement after gadolinium injection. The collection was centered on the left seminal vesicle, with infiltration of the prostate, penile urethra, and circumferential involvement of the rectum and anal canal, without fistulous tract. Mild infiltration of pelvic fat was also noted. These findings were consistent with a left seminal vesicle abscess.

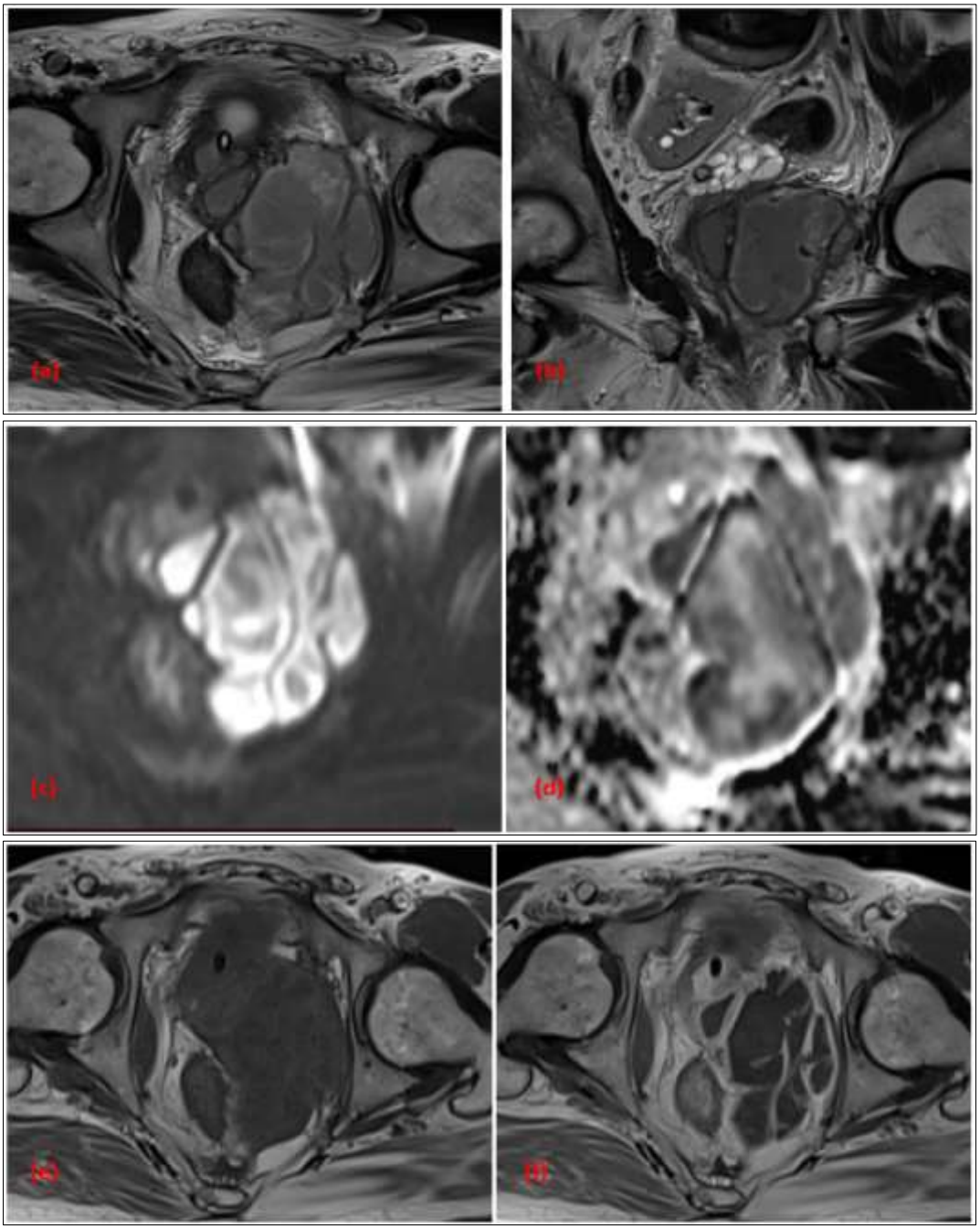

Figure 1: Axial (a) and coronal (b) T2-weighted pelvic MRI, diffusion-weighted imaging (c) with ADC map (d), and pre- (e) and post-gadolinium (f) T1-weighted images showing a large, left-located collection involving the left seminal vesicle, with thickened walls, septations, hypointense T1 signal, heterogeneous intermediate T2 signal, diffusion restriction, and peripheral enhancement after contrast administration

The patient underwent surgical drainage of the collection with placement of a Delbet-type drain, and purulent fluid was sent for cytobacteriological analysis. Dual antibiotic therapy was initiated. Clinical progress was favorable, with resolution of fever, regression of urinary symptoms, and normalization of inflammatory markers.

DISCUSSION

Seminal vesicle abscesses (SVA) are rare and often underdiagnosed due to their non-specific clinical presentation. Symptoms typically include persistent fever, urinary symptoms such as dysuria, and pelvic or perineal pain. Digital rectal exam may reveal a painful mass, but such findings are often attributed to more common conditions such as prostatitis or lower urinary tract infections [1].

Diabetes mellitus is a major risk factor for the development of SVA. Chronic hyperglycemia impairs immune response, promoting ascending urinary tract infections. In addition, diabetic autonomic neuropathy may cause incomplete bladder emptying, increasing the risk of complicated urinary infections [2].

Imaging plays a critical role in diagnosing SVA. Transrectal ultrasound may suggest a retrovesical collection, but MRI is the modality of choice for detailed evaluation. MRI allows for lesion characterization, assessment of extension to adjacent structures, and differentiation from other pelvic pathologies such as tumors or cysts. Typical MRI features include T1 hypointensity, heterogeneous T2 hyperintensity, diffusion restriction, and peripheral enhancement post-gadolinium injection [3].

In our case, MRI revealed a collection centered on the left seminal vesicle, with infiltration of the prostate, penile urethra, and involvement of the rectum and anal canal without fistulous tract. These findings are compatible with a locally invasive SVA, a rare but documented presentation [4].

Complete situs inversus complicates diagnosis by reversing organ anatomy, which may lead to misinterpretation during clinical and imaging evaluations. Thorough knowledge of this congenital anomaly is essential to avoid diagnostic delays [5].

Treatment of seminal vesicle abscesses relies on appropriate antibiotic therapy, often combined with surgical or percutaneous drainage. In our case, the patient underwent surgical drainage with placement of a Delbet-type drain and dual antibiotic therapy, leading to favorable outcomes.

CONCLUSION

Seminal vesicle abscess is a rare condition, and its diagnosis can be challenging due to non-specific symptoms. This case illustrates the importance of pelvic MRI, which allows precise characterization of the collection, its origin, and its extension to adjacent structures. The presence of complete situs inversus complicates anatomical interpretation, highlighting the need for careful and contextualized image analysis. Treatment is based on targeted antibiotics and drainage, with generally favorable outcomes. This case underscores the importance of considering this condition in any febrile pelvic mass, particularly in at-risk patients such as diabetics.

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