Impact Surgery

Case report

e-ISSN: 3033-4470

Thrombosed Spermatic Vein-a Rare Cause of Testicular Mass

Rabih Awad [1], Maytham Al-Musawi [2], Hani Chanbour [3], Danielle Abou Khater [4], Leila Abes [5], Ayman Awad [6]

Correspondence: Rabih Awad MD, Urology Medicine, Faculty of Medicine, Lebanese University, Beirut, Lebanon.
Email: rabihawad95@hotmail.com

Abstract

Acute thrombophlebitis of spermatic vein is an uncommon pathology with an ill-defined etiology. Most patients present with acute testicular or inguinal pain, frequently misdiagnosed as incarcerated inguinal hernia or testicular torsion. We report the case of a 29-year-old male, a policeman with prolonged standing hours, who presented to the clinic for severe left testicular pain and a palpable mass. Doppler-ultrasound revealed left spermatic vein blood flow alteration. CT angiography confirmed the presence of left spermatic vein thrombosis. Conservative management was adopted with anticoagulant and non-steroidal anti-inflammatory drugs. Spontaneous spermatic vein thrombosis is a rare entity with a high likelihood of misdiagnosis.

1. Urology Department, Faculty of Medicine, Lebanese University, Beirut, Lebanon

2. Urology Department, Beirut Arab University, Beirut, Lebanon

3. Faculty of Medicine, Faculty of Medicine, Lebanese University, Beirut, Lebanon

4. Emergency Medicine Department, Faculty of Medicine, Lebanese American University, Beirut, Lebanon

5. Radiology Department, Nini Hospital, Tripoli, Lebanon

6. Urology Department, Nini Hospital, Tripoli, Lebanon

Introduction

Venous thrombosis occurs when a blood clot partially or completely obstructs a deep or superficial vein. In urology, thromboembolic events are rare, with an incidence of 0.7% to 1.2% in postoperative patients [1]. These events are often underdiagnosed, particularly when involving veins like the iliac, jugular, right heart, ovarian, renal, dorsal penile, or testicular veins [2]. Spermatic vein thrombosis, typically affecting the left side, is an uncommon cause of acute scrotal pain and is often mistaken for conditions such as testicular torsion, twisted appendix, epididymitis, or incarcerated inguinal hernia [1]. Few cases have been reported in the literature. Here, we present a unique case of spermatic vein thrombosis in a young patient with a painful scrotal mass.

Case presentation

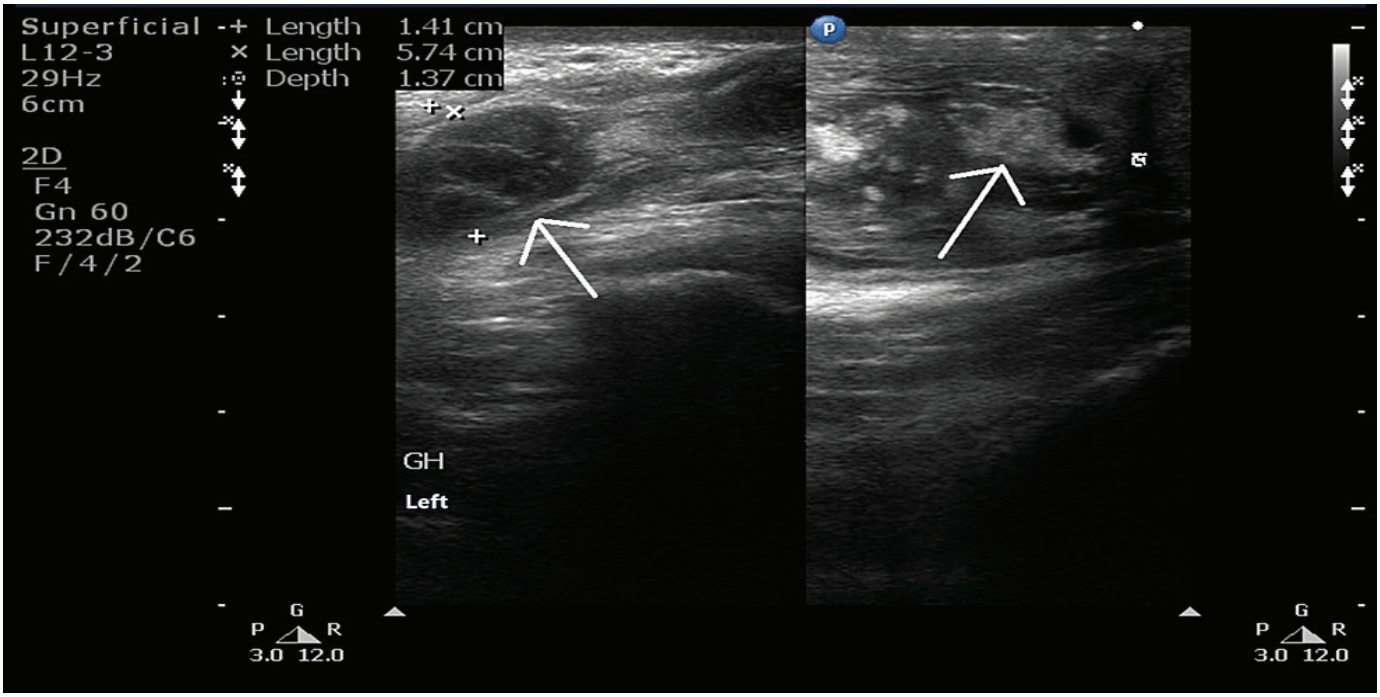
A 29-year-old male policeman (non-smoker and not sexually active) presented with a two-week history of a left testicular mass and pain radiating to the left inguinal area, worsened by standing or straining, without fever or systemic symptoms. Physical examination showed normal external genitals with no trauma, but a palpable, tender mass about 1 cm in diameter extending from the left testicle to the external inguinal orifice. He had no significant medical history, took no medications, and had negative Covid-19 PCR and antibody tests.

Urine tests showed no hematuria or infection. Semen analysis revealed asthenozoospermia

Cite as: Awad, R., Al-Mousawi , M., Chanbour, H., Abou Khater , D., Abes, L., Harran, R., & Awad, A. Thrombosed Spermatic Vein-a Rare Cause of Testicular Mass. Impact Surgery, 1(5), 201–204. https://doi.org/10.62463/surgery.88

with leukospermia. Doppler ultrasound identified left spermatic vein thrombosis, 1.2 cm in diameter, with complete blood flow cessation (Figure 1).

Figure 1. Testicular ultrasound showing an immobile mass extending from the left external inguinal canal till the scrotum (right arrow shows a dilated left external inguinal canal; left arrow shows thrombosis in the spermatic pampiniform vessel). Doppler Ultrasound showed a heterogenous mass of 1.2 cm in diameter with complete cessation of venous blood flow.



CT venous angiography ruled out malformations or compressions, showing thrombosis extending from the posterior scrotum to the external inguinal orifice, with no renal tumors or vein compressions (Figure 2). Laboratory tests, including ESR, CRP, and coagulation profile, were normal.

The patient was started on conservative management with Rivaroxaban 20 mg daily for three months and Celecoxib 200 mg twice daily. After two weeks, his pain resolved completely. A follow-up CT scan after three months confirmed thrombus resolution (Figure 3). However, semen analysis still showed persistent asthenozoospermia with leukospermia.

Discussion

This is a rare case of a testicular tender mass in a young male with no predisposing risk factors, diagnosed as spermatic vein thrombosis via doppler ultrasound and CT angiography. Only 41 cases have been reported [1-4]. The patient, a policeman with long working hours and heavy lifting, likely experienced venous stasis in the pampiniform plexus due to repetitive intraabdominal pressure increases.

The Virchow Triad—venous stasis, coagulation activation, and mural factors—are key in venous thrombosis [2]. Anatomical factors also contribute, particularly affecting the left spermatic vein, which has a longer course and higher pressure, predisposing it to varicocele and stasis. This explains why 29 of 41 cases involved the left side. Additionally, the left spermatic vein may be compressed by the sigmoid colon, affecting venous return [1-3].

Potential etiologies like coagulopathy, systemic diseases (e.g., Buerger's disease), and intra-abdominal malignancies must be ruled out. Compression of the left renal vein by the meso-aorta should also be excluded [4-5]. A pediatric case linked to nutcracker syndrome and Factor V Leiden mutation has been reported [6].

Strenuous exercise and heavy lifting increase intra-abdominal pressure, predisposing the pampiniform plexus to thrombosis [1-2]. The Covid-19 pandemic has increased thromboembolic events, with one case of testicular vein thrombosis post-Covid reported [4].

Spermatic vein thrombosis presents with varied symptoms and is often clinically indistinguishable from conditions like testicular torsion, epididymitis, or varicocele. Scrotal ultrasound is essential for diagnosis and management, though CT venography can also be useful. Conservative treatment is usually preferred, with surgery reserved for failed cases [7].

Figure 2. Computed Tomography abdominopelvic (a) coronal view (b) axial view. Computed tomography showing spermatic vein thrombosis at the level of left external inguinal canal till the scrotum without the presences of any abnormalities or external compression.

Sperm abnormalities have not been widely reported due to lack of spermogram data, but persistent asthenozoospermia may be related to post-thrombotic inflammation. Further studies are needed to explore this association. Spontaneous spermatic vein thrombosis is rare and underdiagnosed due to numerous mimickers. It should be considered in differential diagnoses for painful scrotum.

Conflict of interest: None declared.

Consent: Full written consent for publication of this case report is held by the authors.

References

1. Amador Robayna A, Rodríguez Talavera J, Ballesta Martínez B, et al. Deep vein thrombosis: a rare cause of acute testicular pain. Case report: literature review. Urol Int 2018; 101: 117–20. DOI:10.1159/000486287.

2. Petca RC, Popescu RI, Cãlin C, et al. Left spermatic vein thrombosis—an uncommon diagnosis: a case report. Chirurgia (Bucur) 1990; 115: 505–10. DOI:10.21614/chirurgia.115.4.505.

3. Isenberg JS, Ozuner G, Worth MH, et al. Effort-induced spontaneous thrombosis of the left spermatic vein presenting clinically as a left inguinal hernia. J Urol 1990; 1016: 0022–5347. DOI:10.1016/s0022-5347(17)39395-3.

4. Whiteley MS, Abu-Bakr O, Holdstock JM, et al. Testicular vein thrombosis mimicking epididymo-orchitis after suspected Covid-19 infection. SAGE Open Med Case Rep 2021; 4: 2050313-211022425. DOI:10.1177/2050313X211022425.

5. Raghavendran M, Venugopal A, Kiran Kumar G, et al. Thrombosed varicocele—a rare cause for acute scrotal pain: a case report. BMC Urol 2018; 18: 34. DOI:10.1186/s12894-018-0347-2.

6. Pérez-Ardavín J, Serrano Durbá A, Miró I, et al. Spontaneous spermatic vein thrombosis in pediatric patients: a condition to be considered. Trombosis espontánea de la vena espermática en la edad pediátrica: una entidad a tener en cuenta. Cir Pediatr 2020; 33: 99–101.

7. Sieger N, Di Quilio F, Stolzenburg JU, et al. What is beyond testicular torsion and epididymitis? Rare differential diagnoses of acute scrotal pain in adults: a systematic review. Ann Med Surg 2020; 12: 265–74. DOI:10.1016/j.amsu.2020.05.031.