

# Acute testicular pain: right spermatic vein thrombosis. A case report

Suat Morkuzu,<sup>1</sup> Hidir Kas,<sup>2</sup> Emrah Oz,<sup>3</sup> Cihan Yazar<sup>4</sup>

<sup>1</sup>Department of Emergency Medicine, Lice Halis Toprak Vakfi Devlet Hastanesi, Diyarbakir; <sup>2</sup>Department of Emergency Medicine; <sup>3</sup>Department of Radiology; <sup>4</sup>Department of Internal Medicine, Dicle University School of Medicine, Diyarbakir, Turkey

## Abstract

One of the rare reasons for acute testicular pain is spermatic vein thrombosis. In the literature, the right side is much less involved than the left side. We report a case of a common symptom with a rare clinical feature. A 28-year-old man presented with acute testicular pain and swelling. Ultrasonography (US) showed focal venous thrombus at the level of the internal ring. The symptoms were resolved after anti-inflammatory therapy, but thrombosis was

not. Due to the uncommon existence of spermatic vein thrombosis, the emergency department should be aware of misdiagnosis and the right therapy modalities.

Correspondence: Suat Morkuzu, Department of Emergency Medicine, Lice Halis Toprak Vakfi Devlet Hastanesi, Diyarbakir, 21280 Turkey.

E-mail: morkuzu.suat@gmail.com

Key words: spermatic vein thrombosis; testicular pain; scrotal ultrasound; air travel.

Contributions: SM and HK wrote manuscript, and searched literature. EO revealed thrombosis by US, CY prescribed medication and followed up.

Conflict of interest: the authors declare no conflict of interest.

Ethics approval and consent to participate: no ethical committee approval was required for this case report by the Department, because this article does not contain any studies with human participants or animals. Informed consent was obtained from the patient included in this study.

Patient consent for publication: the patient gave his written consent to use his personal data for the publication of this case report and any accompanying images.

Availability of data and materials: all data underlying the findings are fully available.

Acknowledgments: Mehmet Tahir Aslan edited manuscript and checked grammar.

Received for publication: 25 November 2022.

Accepted for publication: 11 April 2023.

This work is licensed under a Creative Commons Attribution 4.0 License (by-nc 4.0).

©Copyright: the Author(s), 2023

Licensee PAGEPress, Italy

Emergency Care Journal 2023; 19:11035

doi:10.4081/ecj.2023.11035

*Publisher's note: all claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article or claim that may be made by its manufacturer is not guaranteed or endorsed by the publisher.*

## Introduction

Acute testicular pain is one of the most common presentations to the emergency department. Many clinical situations can cause testicular pain, including torsion of the testis, epididymitis, trauma or damage to the testis, varicocele, and inguinal hernia.<sup>1</sup> Thrombosis of the spermatic vein or the pampiniform plexus is a rare cause of acute testicular pain.<sup>2</sup> In general, the left side of cases involves a significant clinical entity, and in most of the cases, the etiology remains uncertain.<sup>3</sup> The symptoms of right spermatic vein thrombosis typically include sudden onset of severe pain and swelling of the affected testicle.<sup>4</sup> Intense exercise, inguinal hernias, structural defects, trauma, and a tendency for excessive clotting may all contribute to the pathogenesis of spermatic vein thrombosis.<sup>3,5</sup>

In this article, we report a case of right spermatic vein thrombosis with acute testicular pain treated with rapid diagnosis and anti-inflammatory medication without any surgical intervention.

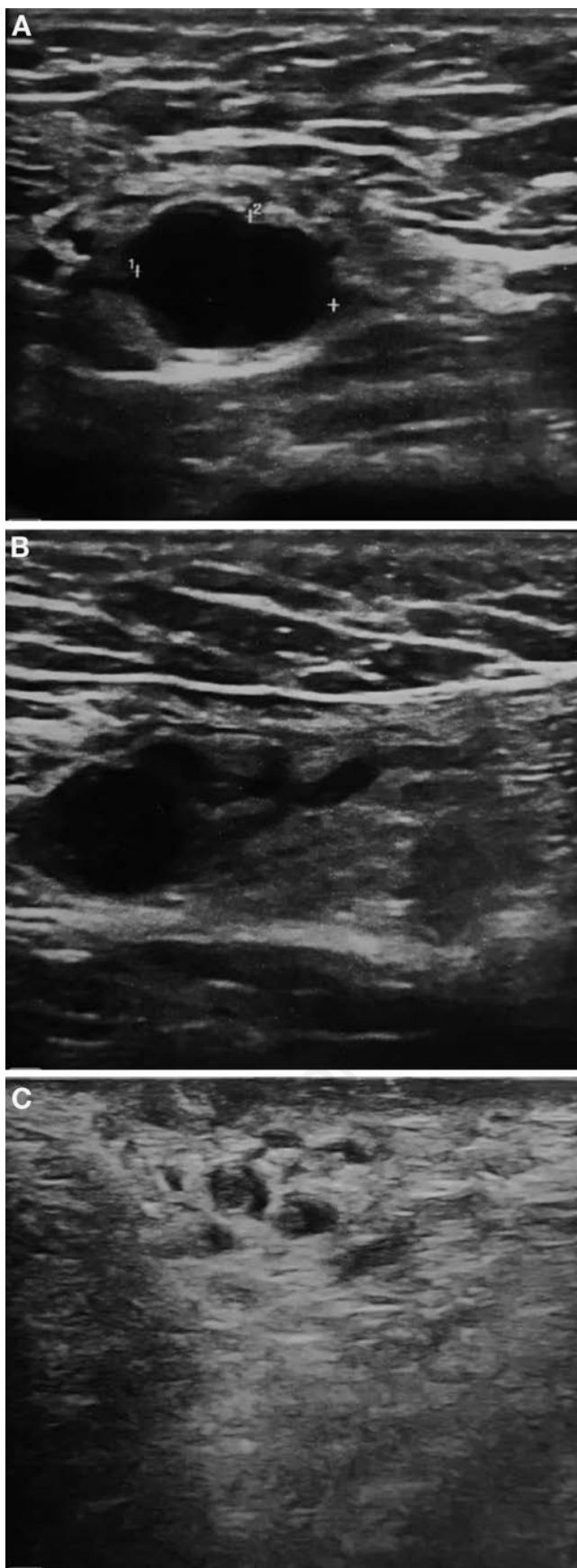
## Case Report

A 28-year-old man was admitted to the emergency department with right testicular pain and swelling. The pain had started the same day, after 14 hours of flying. On the second day, the pain radiated to the groin, and the pressure was increasing. He has no remarkable medical history. In the physical examination of the inguinal region, a mass was detected. Scrotal B-Mode-US revealed mild epididymal thickening and a 15×10 mm extending mass consistent with an intraluminal, hypoechoic focal venous thrombus in the right inguinal canal at the level of the internal ring (Figure 1). There were no laboratory abnormalities, including coagulation parameters. Anti-inflammatory therapy was started, and after 10 days the pain was relieved without any tenderness.

At the follow-up, the B-Mode US at 2 months and the B-Mode US at 6 months showed nearly the same size, and on the physical examination, the mass was still palpable.

## Discussion

Numerous factors can affect thrombosis of the spermatic vein. In addition to varicocele and hypercoagulability, structural defects, physical activity, and trauma can also cause spermatic vein thrombosis. For example, an inguinal hernia may increase the pressure on the spermatic vein, resulting in the formation of a thrombus. In addition to scrotal damage, strenu-



**Figure 1.** Ultrasound views of spermatic vein thrombosis.

ous physical activity can increase the risk of thrombosis.<sup>3,5</sup>

In our case, most likely, economic class syndrome may be a major trigger of stasis due to around 14 hours of air travel. Hence, long air travel can lead to thrombosis due to environmental factors and low mobility.<sup>6</sup>

On physical examination, our patient experienced mild, palpable discomfort in the spermatic vein, which is indicative of many etiologies.<sup>7</sup> The main issue in the first admission is misdiagnosis, which can lead to unnecessary medications and surgical approaches.<sup>3,8</sup> During diagnosis, US should be first examined with a detailed physical examination if the patient has no medical history.<sup>9</sup> Furthermore, a CT scan can be performed to diagnose the source of the disease and provide further information regarding the progression of the thrombus in relation to the external inguinal ring.<sup>10</sup> Also, in the literature, CT scan, MRI, or combinations of these imaging methods are used with Doppler US to rule out other etiologies.<sup>7</sup>

According to the literature, the right side, as in our cases, has the rarest presentations of spermatic vein thrombosis.<sup>11</sup> Before the intervention, most of the patients were provisionally diagnosed with an incarcerated inguinal hernia during their initial admission to the emergency department.<sup>12,13</sup>

Non-steroidal anti-inflammatory medication and surgical approaches, in addition to anti-coagulation, are appropriate treatment methods for the symptoms of isolated spermatic vein thrombosis, according to our knowledge.

## Conclusions

Right spermatic vein thrombosis is a quietly rare cause of acute testicular pain. During the first presentation to the emergency department, physicians should be aware of the potential for misdiagnosis, a suitable examination, and unnecessary treatment modalities. The surgical approach should be considered an alternative treatment.

## References

1. Velasquez J, Boniface MP, Mohseni M. Acute scrotum pain. In: StatPearls. Treasure Island (FL): StatPearls Publishing; January 1, 2023.
2. Kamel K, Gassen S, Mohamed M. Bilateral spontaneous thrombosis of the pampiniform plexus: A rare etiology of acute scrotal pain: A case report and review of literature. *Afr J Urol* 2018;24:14-8.
3. Hashimoto L, Vibeto B. Spontaneous thrombosis of the pampiniform plexus. *Scand J Urol Nephrol* 2006;40:252-4.
4. Barzanji A, Ghaderi M, Rezaghali P. Thrombosis of Right Spermatic Vein: A Case Report. *Acta Medica Iranica* 2021; doi:10.18502/acta.v59i11.7783
5. Zampieri N, Castellani R, Mantovani A, et al. Thromboses of the pampiniform plexi after subinguinal varicocelectomy. *Pediatr Surg Int* 2014;30:441-4.
6. Dusse LMS, Silva MVF, Freitas LG, et al. Economy class syndrome: what is it and who are the individuals at risk? *Rev Bras Hematol Hemoter* 2017;39:349-53.
7. Whiteley MS, Abu-Bakr O, Holdstock JM. Testicular vein thrombosis mimicking epididymo-orchitis after suspected Covid-19 infection. *SAGE Open Med Case Rep* 2021;9: 2050313X2111022425.

8. Gleason TP, Balsara Z, Goff WB. Sonographic appearance of left spermatic vein thrombosis simulating incarcerated inguinal hernia. *J Urol* 1993;150:1513-4.
9. Tanner R, Twomey M, Maher MM, et al. A rare cause of testicular pain: thrombosis of the pampiniform plexus. *Ir Med J* 2016;109:347-8.
10. 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.
11. Bolat D, Gunlusoy B, Yarimoglu S, et al. Isolated thrombosis of right spermatic vein with underlying Factor V Leiden mutation. *Can Urol Assoc J* 2016;10:E324-E327.
12. Bakshi S. Correction to: Bilateral spontaneous thrombosis of the pampiniform plexus mimicking incarcerated inguinal hernia: case report of a rare condition and literature review. *Surg Case Rep* 2020;6:56.
13. Liu M, Luo L, Zhou A, Liu J. Ultrasonography assessment of spermatic vein thrombosis. *Am J Emerg Med* 2018;36:2339.e1-2339.e3.

Non-commercial use only