

Testicular torsion as the initial presentation of testicular tuberculosis

Razan Khalid Almesned, Dania A. Alseini¹, Khaled K. Bedaiwi¹

Department of Urology, King Faisal Specialties Hospital and Research Center, ¹Department of Urology, Prince Sultan Military City, Riyadh, Saudi Arabia

Abstract Testicular tuberculosis (TB) is a rare disease, and it tends to mimic other testicular diseases which are more common. We highlight the case of a 37-year-old male who presented to the emergency department with testicular torsion. Further investigations revealed evidence of TB.

Keywords: Testicular torsion, urogenital tuberculosis, urogenital infection

Address for correspondence: Dr. Razan Khalid Almesned, Department of Urology, King Faisal Specialties Hospital and Research Center, Al Mathar Ash Shamali, Riyadh 11564, Saudi Arabia.
E-mail: razanalmesned@hotmail.com

Received: 26.09.2021, **Accepted:** 07.03.2022, **Published:** 16.09.2022

INTRODUCTION

Tuberculosis (TB) is a global cause of mortality and morbidity in spite of advances in diagnosis and management. According to the WHO, although the numbers have been declining, in 2019 alone, around 10 million people worldwide were affected by TB.^[1] In 2019, out of the 7.1 million notified TB cases, 16% were extrapulmonary TB.^[1] The prevalence of urogenital tuberculosis (UGTB) varies according to the geographical region. In developing countries, it is estimated that UGTB occurs in 15%–20% of pulmonary TB cases.^[2]

Testicular TB is a rare disease and it tends to mimic other testicular diseases which are more common. Therefore, diagnosis of testicular TB is often delayed or even missed, particularly in patients with unknown history of systemic TB. Thus, the diagnosis of testicular TB requires a high index of suspicion.

To our knowledge, we report the first case in the English literature of testicular torsion as the initial presentation of testicular TB.

CASE REPORT

We report a case of a 37-year-old male who presented to the emergency department with 5-h history of severe pain and swelling of the right testicle. The pain continued and was not relieved by scrotal elevation. He denied a history of trauma to the scrotum, recent illness, and recent sexual contact. The patient is medically free and not on any medications. His surgical history is remarkable for laparoscopic cholecystectomy.

On examination, the patient had a thin body habitus. His temperature was 36.6°C, blood pressure was 138/87 mmHg, pulse rate was 106 beats/min, and respiratory rate was 21 breaths/min.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: WKHLRPMedknow_reprints@wolterskluwer.com

How to cite this article: Almesned RK, Alseini DA, Bedaiwi KK. Testicular torsion as the initial presentation of testicular tuberculosis. *Urol Ann* 2022;14:392-4.

Access this article online	
Quick Response Code:	Website: www.urologyannals.com
	DOI: 10.4103/ua.ua_163_21

Scrotal examination revealed bilateral scrotal tsetse. The right testis was high riding, firm, tender, and enlarged. The left testis was vertically laying; however, the left epididymis was stony hard. Scrotal skin was intact, without notable erythema or ulceration.

Hematologic evaluation showed white cell count of $9.2 (4-11 \times 10^9/L)$ and neutrophil count of $8.1 (1.8-7.5 \times 10^9/L)$.

Urine analysis came high for red blood cells as $44 (0-3/HPF)$ and white blood cells as $864 (0-5/HPF)$

Urine culture was negative. Elevated creatinine of $115 (59-104 \mu\text{mol/L})$ was observed. HBV, HCV, HIV, and total anti-Brucella antibody all were negative.

Initial ultrasound (US) and color Doppler were done and showed right testicular enlargement, absent vascularity, and swollen epididymis. The findings were consistent with right testicular torsion. As for the left testis, the epididymis was enlarged with increased vascularity representing epididymitis.

Therefore, the decision to proceed with bilateral testicular exploration with orchidopexy was made.

Intraoperatively, the right testicle was engorged, black, and torted 360° ; therefore, the diagnosis of torsion was confirmed. 15 min after detorsion, the right testis regained its color. The right testis was abnormal in shape with a laminated surface and thickened tunica vaginalis. For this reason, a small incision was made, and superficial testicular tissue was excised. The biopsy result revealed granulomatous orchitis. Since the right testicle looked suspicious, with the US findings in mind, we decided not to proceed with left orchidopexy until further investigations are done.

Postoperatively, detailed history was taken from the patient. It revealed recent unintentional weight loss, lower back pain, and malaise. However, fever and night sweats were absent. The patient also gave a history of neglected renal stones that were diagnosed 2 years ago in a local hospital.

Notably, chest X-ray came negative for consolidation and pleural effusion. Further cross-sectional imaging with computed tomography (CT) and magnetic resonance imaging (MRI) showed features that are consistent with granulomatous reaction. Postoperative CT scan showed signs of pyelonephritis, diffused ureteral and urinary bladder wall thickening. It was also remarkable for multiple splenic calcifications, which could be related to the granulomatous disease and few indeterminate para-aortic

lymph nodes, which could be reactive. Abdominal MRI revealed bilateral renal swelling, hydronephrosis, bilateral parenchymal cysts, retroperitoneal lymphadenopathy, scattered foci of calcification in the spleen, hepatic lesions, and erosive endplate changes of L4 vertebral body.

On further examination, the patient was found to have bilateral axillary lymph nodes. US of the axilla showed multiple bilateral lymph nodes. The largest were measuring 1.5 cm and 1.6 cm on the left and right side, respectively, which necessitated US-guided core needle biopsy. Polymerase chain reaction (PCR) assay was positive for *Mycobacterium tuberculosis* DNA. The culture yielded no growth.

Based on the PCR finding of the axillary lymph nodes and the biopsy of testicular tissue, anti-TB chemotherapy with rifampicin, isoniazid, ethambutol, and pyrazinamide was started.

DISCUSSION

The way in which TB spreads to the testes has been suggested in some studies. Hematogenic spread, lymphatic spread, descend from the upper urinary system, or dissemination from the prostate or seminal vesicles have been suggested.^[2]

Taking a thorough history and performing proper physical examination are keys to reaching any diagnosis. However, in some situations, it is difficult to do so. In our case, it was difficult to obtain a detailed history and perform a full physical examination as the patient was in excruciating pain. Moreover, the diagnosis of torsion was confirmed using color Doppler US, for that immediate surgical intervention was necessary to preserve testicular function.

US is the imaging modality of choice to evaluate the scrotum. Ultrasonographic features of testicular TB are vague and unspecific as they can mimic a broad range of other testicular diseases that are more common.^[3] In addition, testicular TB goes through multiple pathological stages, and each has a different sonographic appearance.^[3] In the present case, it was difficult to reach the diagnosis of testicular TB by the initial US.

Confirmation of the diagnosis can be reached by detection of acid-fast bacilli, culture, or PCR of a clinical sample. When available, PCR can provide rapid detection with higher sensitivity and specificity for TB, 95.59% and 98.12%, respectively compared with acid-fast bacilli staining which has a sensitivity of 52.07%,^[4] which allows early treatment with anti-tuberculous drugs.

With a few exceptions, the WHO recommends treating UGTB with the same duration and antitubercular agents as that of pulmonary TB.^[5]

CONCLUSION

This case highlights a rare presentation of TB. To our knowledge, this is the first reported case in the English literature of testicular TB with an initial presentation of torsion.

Health-care practitioners should keep TB in mind when evaluating patients with genitourinary symptoms since delay in the diagnosis can lead to andrological complications, spread of the disease, and possible sexual transmission.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will

not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Available from: <https://apps.who.int/iris/bitstream/handle/10665/336069/9789240013131-eng.pdf>. [Last accessed on 2022 Apr 23].
2. Zajackowski T. Genitourinary tuberculosis: Historical and basic science review: Past and present. *Cent European J Urol* 2012;65:182-7.
3. Nepal P, Ojili V, Songmen S, Kaur N, Olsavsky T, Nagar A. "The Great Masquerader": Sonographic pictorial review of testicular tuberculosis and its mimics. *J Clin Imaging Sci* 2019;9:27.
4. Moussa OM, Eraky I, El-Far MA, Osman HG, Ghoneim MA. Rapid diagnosis of genitourinary tuberculosis by polymerase chain reaction and non-radioactive DNA hybridization. *J Urol* 2000;164:584-8.
5. World Health Organization, & Stop TB Initiative (World Health Organization). *Treatment of tuberculosis: guidelines*. World Health Organization; 2010.