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Case Report

Simultaneous Bilateral Testicular Torsion: A Rare Case Report And Reviewing The Literature.

Faisal Bahasan[1], Ahmad Albarakaty[1], Ahmed Khiyami[1].

[1]*Department of Urology, International Medical Center Hospital, Jeddah, Saudi Arabia*

Abstract

Testicular torsion stands as a leading urological emergency that needs urgent medical attention to protect the testis. A 26-year-old male patient underwent emergency scrotal exploration with bilateral orchidopexy. Despite having no prior medical or surgical conditions. He visited the emergency department with severe bilateral testicular pain which lasted for more than five hours, associating with nausea and vomiting. The patient denied any history of intense exercise, scrotal injuries, sexual activities, fever, urinary tract symptoms, recent medical instrumentation or surgical procedures. The patient displayed light scrotal swelling but his external genital area showed normal appearance. Scrotal tenderness persisted without any improvement even after elvation of patient's testes. The testes were felt at their normal positions. Color Doppler-ultrasound showed severely reduced blood flow in both testes which strongly indicated bilateral testicular torsion. The patient signed the consent for scrotal exploration where orchidopexy or orchiectomy depended on the viability of the testes. Upon exploration, the testes showed early ischemic changes (swollen, congested testes with dusky color) that resolved after receiving socked abdominal packing with warm normal saline, hence, confirming their clinical viability. The spermatic cord examination revealed no self-rotation. A bilateral orchiopexy was done via absorbable sutures before scrotum closure. The patient remained without any postoperative complaints and was discharged home in a stable condition. The patient underwent three serial ultrasounds within a period of six months as part of the planned follow-up protocol which revealed a left testicular volume reduction from 16 mL to 11 mL

Keywords : torsion, detorsion, orchidopexy, reperfusion.

INTRODUCTION

Testicular torsion occurs when the testis or spermatic cord develops a twisting motion inside the scrotum leading to vascular compromise that requires immediate surgical intervention. Testicular torsion occurs more frequently among males under the age of 18 years at an annual rate of 5.9 per 100,000, in comparison to, 1.3 per 100,000 in those older than 18 years old (1).

The duration of testicular ischemia stands as the main critical factor that determines the chances of saving the testicle. In fact, the probability of testicular viability reaches up to 90% - 100% when surgical intervention is performed before six hours from the torsion while an extended ischemic duration of 6-12 hours or 12-24 hours lowers the success rate to 20-50% and 0-10%, respectively (2).

Although unilateral testicular torsion depicts a bimodal age distribution with peaks at neonatal and adolescent periods, bilateral involvement is mainly reported among newborns (1).

This case report presents a rare case of 26 year-old male who was diagnosed with bilateral testicular torsion and managed successfully.

CASE PRESENTATION

A 26-year-old male who is not known to have any significant medical or surgical history presented to the emergency department with bilateral severe intermittent testicular pain for more than five hours accompanied by nausea and vomiting. The patient denied any history of vigorous physical activity, scrotal trauma, sexual intercourse, fever, lower urinary tract symptoms, recent instrumentation.

Physical examination revealed mild scrotal swelling with normal external genitalia and severe scrotal tenderness. Scrotal elevation did not alleviate the pain, but both testes were palpable. A color Doppler-ultrasound performed in the emergency department demonstrated significantly reduced vascularity in both testes (**Figure-1**), consistent with incomplete bilateral torsion.

***Corresponding Author:** **Ahmad Albarakaty, MD**, Department of Urology, International Medical Center Hospital, Jeddah, Saudi Arabia. **Cell:** +966 536888857, **Email:** AlbarakatyAhmad96@gmail.com.

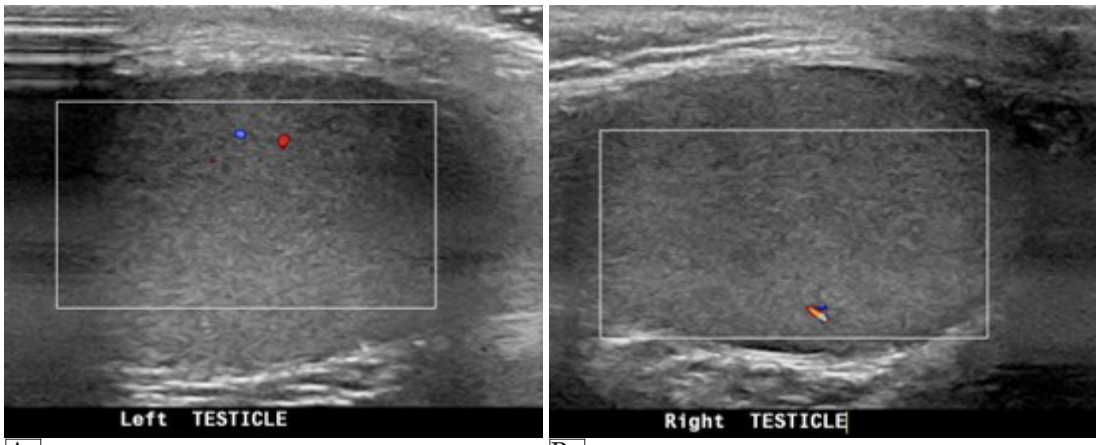
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The patient was promptly consented and taken to the operating room for scrotal exploration, with orchidopexy versus orchiectomy planned as indicated. Intraoperative findings revealed both testes to be viable, with early signs of ischemia but no rotations detected around the spermatic cords. Both testes were fixed within the scrotum using absorbable sutures.
The patient was discharged without complications, and a postoperative follow-up protocol was initiated. Follow-up ultrasounds conducted in 1, 3, and 6 months postoperatively revealed a decrease in left testicular volume from 16 mL to 11mL.

Figure 1. (A) left testis, (B) right testis: both showed decrease to absent blood flow which is highly suggestive of bilateral testicular torsion.



A B

DISCUSSION

There are two main types of testicular torsion which include intravaginal and extravaginal types. The former is commonly presented in older children and adults due to the abnormal high attachment of the posterior testicular wall to the tunica vaginalis, also known as bell-clapper deformity. On the other hand, the extravaginal type occurs because of an underdeveloped scrotal wall attachment to the tunica vaginalis. Moreover, it presents more commonly in prenatal and neonate periods as a bilateral testicular torsion (3).
The bell-clapper deformity is present bilaterally in 66-100% of patients with testicular torsion. In addition, other risk factors were also reported including cryptorchidism, trauma, sexual activity, cold weather and a history of previously treated testicular torsion (4).
Testicular torsion is primarily diagnosed by clinical examination. However, imaging such as scrotal ultrasound can be used for confirmation. Ultrasound findings may show a normal or an enlarged testis due to edema secondary to venous occlusion. Doppler ultrasound when utilized in conjunction with clinical examination has a sensitivity of 88.9 to 100% and specificity of 97.9 to 98.8% (5). The clinical examination was not enough to reach the diagnosis in our case because of the atypical presentation and patient's age. However, with the aid of Doppler ultrasound demonstrating the decreased vascularity of both testes, the diagnosis was made (see Figure-1).

A major challenge in the management of testicular torsion is the scarcity of available data on the optimal timeframe for testicular reperfusion after successful detorsion. Nevertheless, many several factors were described in the literature which may be associated with a better testicular viability including arterial bleeding from the testis after making an incision in the tunica albuginea, change in testicular color after detorsion, low degree of torsion, and symptoms duration of less than 6 hours. The patient's symptoms persisted for more than five hours before scrotal exploration was done which revealed congestion in both testes without torsion. These findings may indicate intermittent bilateral testicular torsion.
Intermittent testicular torsion and detorsion is usually characterized by recurrent episodes of acute scrotal pain that resolves spontaneously. During detorsion, the affected testis may have normal or increased blood flow on Doppler ultrasound, yet prolonged torsion may cause segmental testicular infarction (6). Furthermore, experimental animal studies have shown that testicular torsion and detorsion are associated with increased inflammatory responses and decreased spermatogenesis (7). Despite the timely treatment in our case, an uncertain reduction in left testicular volume exceeding 30% was noted. Several measures were proposed in the literature to Lessen the pathological ischemic changes such as antioxidants, anti-inflammatory agents, NSAIDs, and phosphodiesterase-5 inhibitors, but none of them is supported by human clinical data (8).

CONCLUSION

In summary, we report a rare case of intermittent bilateral testicular torsion presents in an unusual age that required emergency radiological imaging to confirm the diagnosis which necessitate an urgent scrotal exploration and bilateral orchidopexy. The six-month follow-up ultrasound evaluation displayed a unilateral testicular atrophy. Therefore, the thorough postoperative monitoring is necessary to measure the long-term outcomes and to determine possible therapeutic interventions that could prevent future complications. This case report strengthens the need to maintain high level of suspicion for testicular torsion regardless of the patient age.

Conflict of interest

No potential conflict of interest was disclosed

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