

Rare Diagnosis in The Emergency Department: Traumatic Testicular Dislocation

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Abstract

Traumatic Testicular Dislocation (TTD) is a rare form of scrotal trauma, involving the displacement of the scrotum directly towards the surrounding tissues due to direct compression, often occurring towards the inguinal area. In this report, we present a case of TTD in an adult patient involved in a motor vehicle accident and provide a brief review of this rare condition. An 18-year-old male patient was brought to our emergency department following a motorcycle accident. The patient reported a new swelling in his left groin. On physical examination, the left side of the scrotum was found to be empty, without the presence of hematoma. A swelling in the described area was palpated in the left inguinal region. A computed tomography (CT) scan did not reveal the left testis in its normal position; instead, the testis was identified in the left inguinal region. Scrotal Doppler Ultrasound was performed, revealing normal blood flow. The left testis was manually manipulated and descended into the left scrotum by Urologist. The patient was discharged with a prescription. TTD is a rare complication of blunt scrotal trauma. Even in the presence of multiple injuries, a thorough examination of the testicles is always recommended. Ultrasound (USG) and Doppler USG are the most useful diagnostic tools for TTD, but CT can also be helpful in cases of complex trauma. While TTD is not a life-threatening condition, a careful plan is recommended for the repositioning of the testis.

Keywords: Emergency Medicine, Trauma, Testicular Dislocation

Introduction

Testicular traumas can lead to the production of antisperm antibodies, resulting in hypogonadism, which can ultimately lead to infertility (1). Traumatic Testicular Dislocation (TTD) is a rare form of scrotal trauma, involving the displacement of the scrotum directly towards the surrounding tissues due to direct compression, often occurring towards the inguinal area (2,3). TTD can occur either in isolation or in conjunction with blunt abdominopelvic trauma (4). While TTD is more commonly diagnosed immediately after trauma, delayed diagnoses have been reported in a minority of cases.

Ultrasonography (USG), color Doppler USG, and computed tomography (CT) are the primary diagnostic tools (5). Early diagnosis and treatment are recommended to preserve testicular function and minimize the risk of malignant transformation (2).

In this report, we present a case of TTD in an adult patient involved in a motor vehicle accident and provide a brief review of this rare condition.

Case

An 18-year-old male patient was brought to our emergency department following a motorcycle accident.

Upon arrival, his vital signs were stable, and the Glasgow Coma Scale (GCS) was determined to be 15. Deformity and crepitation on palpation were noted in the patient's right wrist region. The patient also reported a new swelling in his left groin. There was no history of undescended testis or testicular surgery in the patient's medical history. On physical examination, the left side of the scrotum was found to be empty, without the presence of hematoma. A swelling in the described area was palpated in the left inguinal region. Rectal tone was normal, and no blood was detected in the urine test. A CT scan, conducted due to trauma, did not reveal the left testis in its normal position; instead, the testis was identified in the left inguinal region (Figure-1 and 2). Scrotal Doppler Ultrasound was performed, revealing normal blood flow. The patient was consulted to the urology department. It was determined that the left testis had displaced to the proximal part of the left inguinal canal. The left testis was manually manipulated and descended into the left scrotum. A repeat scrotal Doppler ultrasound conducted one hour later showed no scrotal pathology. Since no urological intervention was deemed necessary, the patient was discharged with a prescription for NSAIDs and advised to follow up at the urology outpatient clinic.

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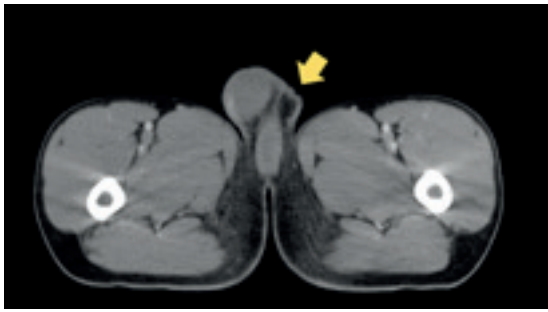


Figure 1. The left testis, which is not in its normal position on the CT scan (arrow head)

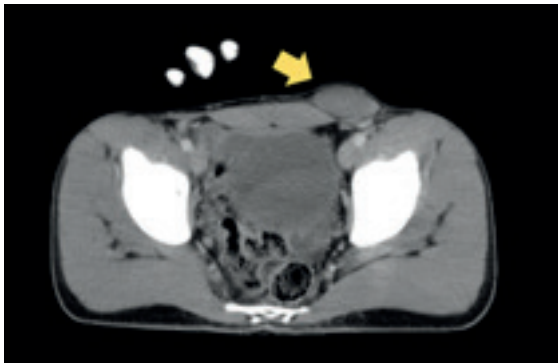


Figure 2. Identified left testis in the left inguinal region on the CT scan (arrow head)

Discussion

Testicles are organs that are less affected by traumas due to their location and mobility, accounting for less than 1% of all injuries. Approximately 85% of testicular injuries are due to blunt mechanisms, with motorcycle accidents also present in the etiology (6).

TTD, also known as traumatic dislocation of the testis, was first reported in 1818 by Claubry in a case where an individual fell from a wagon (7). The true incidence of TTD remains unknown, likely due to its rarity, leading to underreporting or oversight (4). In a case presentation reported by Zavras et al., 47 cases were identified in the literature, with the majority occurring after a motorcycle accident. The average age of these cases was 25.09 (6-62), and almost half of them were unilateral (49.5%).

The primary mechanism of TTD involves the rupture of spermatic cord fascias (external, cremasteric, and internal fascias) due to a direct force pushing the testis outside the scrotum (2). The most common area where the scrotum migrates is the superficial inguinal pouch, observed in half of the cases. Other areas include pubic, penile, canalicular, and entirely abdominal, perineal, acetabular, and crural regions.

During physical examination, a palpable mass in the migrated area is detected along with an empty hemiscrotum. However, it can often be overlooked during the initial assessment due to concurrent severe injuries (4). In our case, there was also associated extremity trauma. Undescended testis or undiagnosed cryptorchidism should always be questioned in these cases.

USG is a very important imaging modality in the diagnosis of testicular traumas and determining the need for surgery (6). The essential diagnostic tools for diagnosis of TTD include USG and Doppler USG. Additionally, abdominal and pelvic CT is recommended to assess the presence of pelvic and scrotal traumas associated with intraabdominal dislocation (4).

Manual reduction or surgical exploration are the treatment options for these cases. Manual reduction can be attempted within the first 3-4 days after trauma, before the resolution of edema and without the development of adhesions. However, manual reduction is successful in only about 15% of cases (2). In our case, manual manipulation was recommended by the urology consultant. Surgical intervention has advantages, such as requiring a relatively minor approach, carrying low morbidity, and the potential to detect accompanying testicular torsion or testicular trauma (4). In our case, surgical intervention was not recommended, the performed manual manipulation was successful, and no complications were observed during the one-hour follow-up.

Regardless of the chosen treatment, early diagnosis and prompt intervention are crucial. Delayed diagnosis, particularly after the fourth month, has been reported to show histological changes.

Conclusion

TTD is a rare complication of blunt scrotal trauma. Even in the presence of multiple injuries, a thorough examination of the testicles is always recommended. Ultrasound (USG) and Doppler USG are the most useful diagnostic tools for TTD, but CT can also be helpful in cases of complex trauma. While TTD is not a life-threatening condition, a careful plan is recommended for the repositioning of the testis.

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