

Neglected Traumatic Dislocation of the Testis and Successful Orchidopexy. A Case Report

Muzafr Shakir Ali Yousif^{1†}, Ahmed Shakir Ali Yousif² and Ismail Gareeballah Alhag Mohamad³

1.2.3. Gezira Hospital for Renal Diseases and Surgery

Abstract

Background: Neglected traumatic dislocation of the testis (TDT) is an infrequently documented condition, characterized by prolonged misplacement of the testis following trauma, often leading to complications such as infertility, chronic pain, and an elevated risk of malignancy. This case report delves into the complexities surrounding the neglect of this rare complication and its impact on testicular health.

Case presentation: A 29-year-old male bricklayer presented with an empty left scrotum, a result of trauma three years prior. Concerned about fertility, he underwent an examination revealing an undescended left testis. Despite normal hormone levels and semen analysis, he opted for surgical intervention. A left inguinal exploration and orchidopexy successfully placed the testis in the scrotum. Postoperatively, the patient recovered well, reporting no issues, and was advised to repeat semen analysis after three months.

Conclusion: This case highlights the successful diagnosis and management of an acquired undescended left testis secondary to trauma. Surgical intervention through left inguinal exploration and orchidopexy proved effective, resulting in a well-positioned and functional left testis.

Keywords: *Neglected Traumatic Dislocation of the Testis, Orchidopexy, Testicular Complications, Case Report, Long-term effects.*

Copyright: © 2024 The Authors. Published by Publisher. This is an open access article under the CC BY-NC-ND license (<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

Supplementary information The online version of this article (<https://doi.org/xx.xxx/xxx.xx>) contains supplementary material, which is available to authorized users.

Corresponding Author: Muzafr Shakir Ali Yousif^{1†}, Gezira Hospital for Renal Diseases and Surgery

Background

Traumatic dislocation of the testis (TDT) is a rare condition that occurs when a testis moves out of its normal position in the scrotum due to a blunt force to the area, often caused by pelvic injuries from accidents like motorcycle crashes or falls. The first recorded case was by Claubry in 1809 [1]. Less than 200 cases have been reported worldwide so far, but there may be more that are not diagnosed. Diagnosis is difficult because of other serious injuries that may happen at the same time, such as broken pelvis or internal bleeding, which require scrotal exams and imaging tests [2]. It is hard to differentiate traumatic dislocated testes from testes that are not descended or retracted, which look similar, so the patient's medical history is very important for a correct diagnosis [1]. It is essential to find ways to improve the diagnosis rate for this injury. If diagnosed quickly, the testis can be put back in place early, but if not, it can cause problems such as atrophy, infertility, and possible cancer, as seen in some cases [3, 4]. This case report shows a TTD that had a late surgery, and discusses how to avoid late diagnoses and the effects on the testes from previous cases.

Case Presentation: A 29-year-old male, who works as a bricklayer, was referred to our urology clinic with a complaint of an empty left scrotum. He had no significant past medical or surgical history. He reported that he fell astride on a scaffold three years ago and experienced severe pain in his left groin and scrotum, prompting a visit to a local health care center, where he was reassured. Since that time he did not seek medical attention until recently when he decided to get married and became concerned about his fertility.

On physical examination, the left scrotum was empty without any swelling or signs of infection. The right scrotum was normal with a normal-sized testis. The left testis was felt in the inguinal region, slightly tender to touch, but movable. No other abnormalities were detected in the abdomen, penis, or external genitalia. The patient had normal secondary sexual characteristics and libido.

Laboratory tests showed normal serum levels of testosterone, luteinizing hormone (LH), follicle-stimulating hormone (FSH), and prolactin (PRL). Semen analysis showed normal sperm count, motility, and morphology. Ultrasound (US) of the scrotum and inguinal region showed a normal right testis measuring 4.5 cm × 2.8 cm with normal echotexture and blood flow. The left testis was located in the deep inguinal ring measuring 3

cm × 2.6 cm with normal echotexture and blood flow (Fig. 1).

The patient was diagnosed with an acquired undescended left testis due to a previous trauma. He was counseled about the risks of infertility, malignancy, and the benefits of surgical intervention. He consented to undergo a left inguinal exploration and orchidopexy.

Under general anesthesia, a left inguinal incision was made and the spermatic cord was identified and isolated. The left testis was found in the deep inguinal ring, healthy and intact, without any evidence of ischemia, necrosis, or atrophy (Fig. 2 and 3). A subdartos pouch was created in the left scrotum and the testis was fixed in the dependent position with absorbable sutures. The wound was closed in layers and a scrotal support was applied.

The patient had an uneventful postoperative course and was discharged on the same day. He was prescribed analgesics and antibiotics and advised to avoid strenuous activities for two weeks. He was followed up after one month and reported no pain or discomfort. On examination, the left testis was well-positioned in the scrotum, intact, and non-tender. US showed normal testicular texture and vascularity (Fig. 4 and 5). The patient was satisfied with the cosmetic and functional results and was advised to repeat semen analysis after three months.

Fig. 1: US scan showing left testis in the inguinal area

Discussion:



TDT is a very uncommon condition that happens when a testis moves out of the scrotum because of a strong hit to the area, often from pelvic injuries in accidents like motorcycle crashes or falls. The first case was reported by Claubry in 1809 [1]. Only 180 cases (243 testicles) have been found in articles published from 1936 to 2017 [5]. Different causes have been suggested, such as traffic accidents, riding injuries, kicking injuries, and explosion injuries [3, 6]. Motorcycle accidents, where the scrotum hits the fuel tank when the speed changes suddenly, are a typical cause [5]. But in this case, the injury was from falling on a scaffold while working on a building.

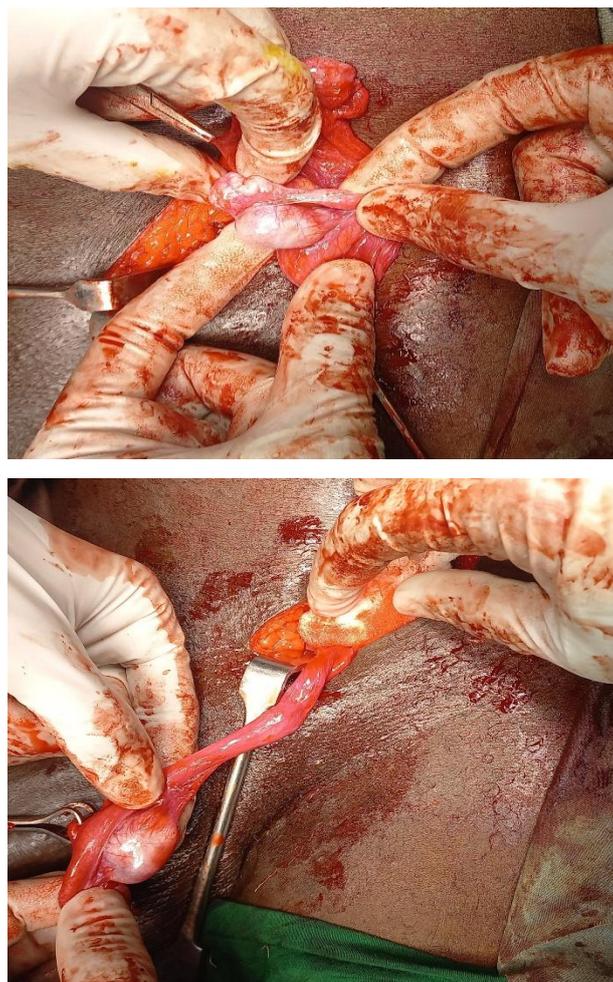


Fig. 2 and 3: Left Testis found in the deep ring.

There are also reports of late diagnoses of penile dislocation, where the penis moves into the scrotum or in front of the pubic bone [7-10]. This can cause problems with urination, and it needs to be separated from urethral rupture caused by pelvic fracture [8]. After the injury, some patients have direct testicular injury or testicular torsion, which can affect the blood flow and cause death of the tissue [3, 11]. Sometimes, testes can move out of the scrotum in different directions, one or both, because of the force of the hit or a strong muscle reflex under stress

[12]. The most common place is the superficial inguinal ring, and the testes can go to the pubic symphysis, inguinal canal, or even the retroperitoneum [6, 13].

Late diagnosis makes the testes stay in higher temperatures (about 4°C) than the scrotum for a long time, which can lead to problems like cryptorchidism, such as testicular shrinking, low function, torsion, and even testicular cancer, causing disability and legal issues [14, 15]. Recent reports on TDT often show late diagnoses, with some cases waiting for weeks or even years before treatment [6]. One report even showed a 15-year delay in finding out about two testes that moved out of the scrotum, which was related to azoospermia. Amazingly, after surgery, the sperm production came back and a healthy child was born naturally 40 months later [16].

In a Chinese study of 1,967 men with blunt abdominal injury in 15 years, nine had testicular dislocation, but none were diagnosed at first. Only three cases got a quick CT scan that showed testicular dislocation, and they did not need surgery after manual putting back. Among patients not seen by CT scan, two were diagnosed later by US. Late diagnosis (3–60 days, average 19 days) led to orchiopexy for five patients and orchiectomy for one because of testicular torsion and infarction [6].

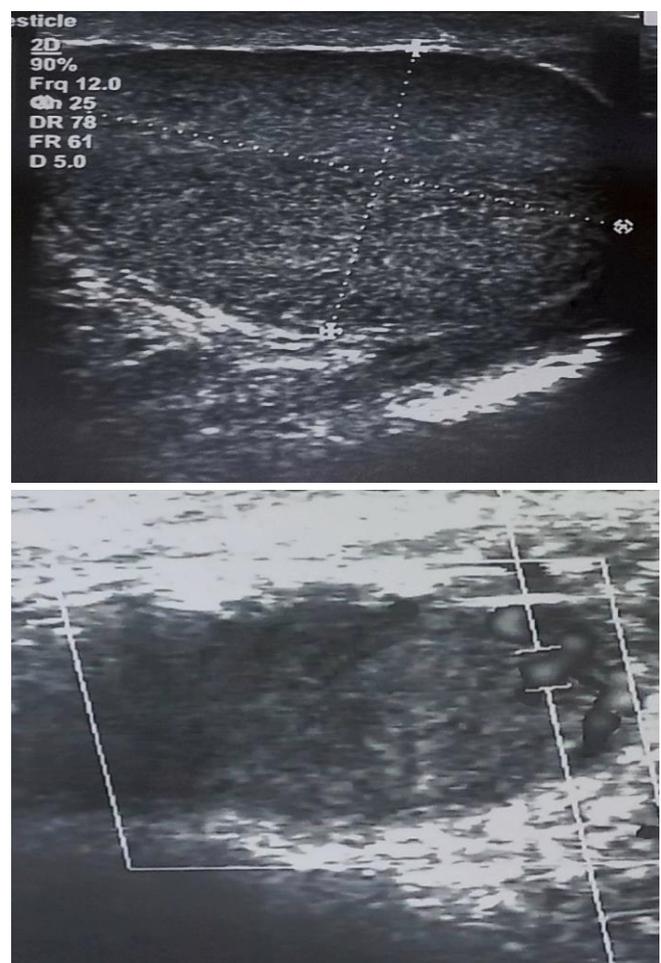


Fig. 4 and 5: US scan and Doppler showing good echotexture and vascularity.

Looking at the reasons for late diagnosis, serious pelvic fractures often need urgent care, fluid replacement, and stopping bleeding, which makes less serious conditions less noticeable. Severe pain, local bruising, and swelling can hide the real situation. Doctors and imaging experts may pay attention to vital organs in emergencies, and may not check the reproductive system in physical exams. Different departments in hospitals may not communicate well and examine patients in different ways, which adds to delays. Patients may also not understand their condition well and may not seek diagnosis soon. It is important to know the hidden but serious problems of TDT caused by pelvic fracture. Problems such as testicular shrinking, low function, torsion, and even testicular cancer [6, 14, and 15] can show up after a long time, as shown by cases up to 15 years [16]. Finding and treating the problem correctly is very important to prevent problems like testicular shrinking and may even fix conditions like azoospermia [16].

The patient had mixed feelings about having left inguinal exploration and orchidopexy-relieved to fix the problem but nervous about the surgery. The patient trusted the healthcare team to help make the decision. After the surgery, the patient was very happy and thankful for the good result. The one-month follow-up showed normal blood flow and ended the patient's suffering. Looking back, the patient stresses the need for quick medical help, the help from the healthcare professionals, and the importance of honest communication during the process.

Increased awareness among clinicians is essential to mitigate delayed diagnoses and reduce patient disability rates.

Conclusions:

We report a rare case of an acquired undescended testis in a 29-year-old male due to a previous trauma. The patient underwent a successful left inguinal exploration and orchidopexy with satisfactory cosmetic and functional outcomes. This case highlights the importance of early diagnosis and treatment of testicular injuries and the possibility of testicular ascent following trauma. It emphasizes the importance of increased awareness among clinicians to mitigate long term complications. Acquired undescended testis should be considered in the differential diagnosis of an empty scrotum in adult males.

List of Abbreviations

CT	Computed Tomography
FSH	Follicle Stimulating Hormone
LH	Luteinizing Hormone
PRL	Prolactin
TDT	Traumatic Dislocation of the Testis
US	Ultrasound

References

1. Gabbe BJ, de Steiger R, Esser M, Bucknill A, Russ MK, Cameron PA. Predictors of mortality following severe pelvic ring fracture: results of a population-based study. *Injury*. (2011) 42:985–91. doi: 10.1016/j.injury.2011.06.003.
2. Heetveld MJ, Harris I, Schlaphoff G, Balogh Z, D'Amours SK, Sugrue M. Hemodynamically unstable pelvic fractures: recent care and new guidelines. *World J Surg*. (2004) 28:904–9. doi: 10.1007/s00268-004-7357-9.
3. Bjurlin MA, Fantus RJ, Mellett MM, Goble SM. Genitourinary injuries in pelvic fracture morbidity and mortality using the National Trauma Data Bank. *J Trauma*. (2009) 67:1033–9. doi: 10.1097/TA.0b013e3181bb8d6c.
4. Lenfant M, Escoffier A, Chevallier P-O, Danan L, Hardy J, Lofffroy R. Traumatic ectopic dislocation of testis: an easily overlooked occurrence of blunt injury in polytrauma patients. *Quant Imaging Med Surg*. (2019) 9:2008–11. doi: 10.21037/qims.2019.11.11.
5. Subramaniam S, Khalil M, Zakaria J, Hayati F. Managing traumatic testicular dislocations: what we know after two centuries. *BMJ Case Rep*. (2020) 13:e236801. doi: 10.1136/bcr-2020-236801.
6. Ko SF, Ng SH, Wan YL, Huang C-C, Lee T-Y, Kung C-T, et al. Testicular dislocation: an uncommon and easily overlooked complication of blunt abdominal trauma. *Ann Emergency Med*. (2004) 43:371–5. doi: 10.1016/s0196064403007492.
7. Lim MC, Srinivasan S, Teh HS, Teh CP. Dislocation of the penis: a rare complication after traumatic pelvic injury. *Singapore Med J*. (2015) 56:e4–6. doi: 10.11622/smedj.2015017.
8. Taguchi M, Inoue T, Nishida T, Kawakita S, Muguruma K, Murota T, et al. A case of traumatic dislocation of the penis. *Hinyokika Kiyo Acta*

- Urologica Japonica. (2016) 62:435–8. doi: 10.14989/ActaUrolJap_62_8_435.
9. KESHIN JG. Dislocation of penis complicated by neurogenic bladder, fistula from bladder to thigh, and impotence. *J Urol.* 1959 Sep; 82:342-6. doi: 10.1016/S0022-5347(17)65890-7. PMID: 14408663.
 10. Sahadev R, Jadhav V, Munianjanappa NB, Shankar G. Penile dislocation with inversion: a rare complication of blunt pelvic injury. *J Indian Assoc Pediatr Surg.* (2018) 23:90–2. doi: 10.4103/jiaps.JIAPS_71_17.
 11. Zhong H, Bi Y. Pediatric trauma-induced testicular torsion: a surgical emergency. *Urol Int.* (2021) 105:221–24. doi: 10.1159/000511747.
 12. Kochakarn W, Choonhaklai V, Hotrapawanond P, Muangman V. Traumatic testicular dislocation a review of 36 cases. *J Med Assoc Thailand.* (2000) 83:208–12.
 13. Bromberg W, Wong C, Kurek S, Salim A. Traumatic bilateral testicular dislocation. *J Trauma.* 2003 May; 54(5):1009-11. doi: 10.1097/01.TA.0000055220.78753.25.
 14. Rodprasert W, Virtanen HE, Mäkelä JA, Toppari J. Hypogonadism and Cryptorchidism. *Front Endocrinol (Lausanne).* 2020 Jan 15; 10:906. doi: 10.3389/fendo.2019.00906.
 15. Hayami S, Ishigooka M, Suzuki Y, Sasagawa I, Nakada T, Mitobe K. Pathological changes of traumatic dislocated testis. *Urol Int.* 1996; 56(2):129-32. doi: 10.1159/000282830.
 16. Sakamoto H, Iwasaki S, Kushima M, Shichijo T, Ogawa Y. Traumatic bilateral testicular dislocation: a recovery of spermatogenesis by orchiopexy 15 years after the onset. *Fertil Steril.* (2008) 90:2009.e9–11. doi: 10.1016/j.fertnstert.2008.01.105.