

Traumatic testis dislocation: a case report and review of the literature

外傷性睪丸移位：個案匯報及文獻回顧

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Dislocation of testis is a rare and underreported condition, commonly associated with delayed diagnosis and treatment in pelvic injuries. Delayed treatment may cause infertility due to elevated temperature exposure leading to a reduced sperm production. It is imperative to look for this entity during the secondary survey in the management of a polytrauma patient. We encountered dislocation of testis in a 26-year-old male motorcyclist involving in a road traffic crash. He complained of pelvic pain. A tender mass was felt in the left groin during physical examination. Abdominal computed tomography scan revealed a dislocated left testis. Closed reduction was performed and the patient recovered without any complications. (Hong Kong j. emerg.med. 2012;19:295-297)

在盆骨創傷中，睪丸移位是一個罕見而低通報的情況，通常診斷和治療都較遲。因為溫度高引起精子產量減少，所以延遲治療可能導致不育。在處理多處創傷的病人中，於第二次檢查時去尋找有沒有這種情況是緊急的。在一宗關於26歲男性摩托車司機的交通意外裏，我們發現他患有睪丸移位。他主訴骨盆痛。在身體檢查時一個壓痛的包塊在左腹股溝被發現。腹部電腦掃描顯示了左側睪丸移位。我們進行了閉合式手法復位而病人沒有併發症下康復了。

Keywords: Computed tomography, traffic accidents, ultrasonography doppler, wounds and injuries

關鍵詞：電腦掃描、交通意外、超聲多普勒圖、傷口和受傷

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Introduction

Dislocation of testis is a rare event and is defined as the displacement of one or both testes to a position other than the scrotum.¹ Traumatic dislocation of a testis was first described by Claubry in 1818.² Its incidence has been rising in the past few decades.³ Traumatic dislocation of testis is usually related to straddle injuries in the motorcycle accidents where the rider is propelled forward, with the scrotum and perineum are crashed over the fuel tank.¹ Diagnosis may be delayed if clinical clues on abnormality could not be elicited from a physical examination of the

scrotum and testes regions. Abdominal computed tomography (CT) scan or ultrasonography investigations could be very helpful on the confirming diagnosis and planning of treatment. Here we report a case with inguinal dislocation of the testis after a motorcycle accident. The patient was treated by manual reduction in the emergency setting. The importance of abdominal CT in trauma patients for detecting unusual pathologies would be discussed.

Case report

A 26-year-old male motorcycle cop was brought to emergency department (ED) after an accident. He declared that at the moment of accident, they were two motorcycle cops and his colleague was sitting behind him. He admitted that he has been riding with an average speed of 90 km/hr when a car in front of them slipped suddenly. He lost control of the motorcycle and collided into the car. His colleague, who was thrown over the motorcycle to knock against the car, was also brought to emergency department. However, he was found to have serious brain injury and he received operative treatment immediately.

Our patient was haemodynamically stable and neurologically intact on arrival at ED. He complained of pain in the left lower quadrant. On physical examination a tender soft 10 × 5 cm mass was felt in the left groin but the left testis was not felt to rest in the scrotum. Abdominal FAST (Focused Abdominal Sonography in Trauma) was reported as normal. He claimed that both testes were in scrotum before the accident and denied any inguinal hernia, cryptorchidism or retractile testis in the past. Internal bleeding and pelvic fracture were excluded during the primary and secondary survey. Abdominal contrast-enhanced CT revealed the left testis in the subcutaneous area of the left groin with a size of 6 cm × 2.5 cm and the contour of testis was intact (Figure 1). After the patient was placed in Trendelenburg position; testis was manually reduced under sedation-analgesia with midazolam and fentanyl citrate. His pain was immediately relieved with bimanual reduction. In post-reduction scrotal Doppler ultrasonography (USG), no imminent pathology was

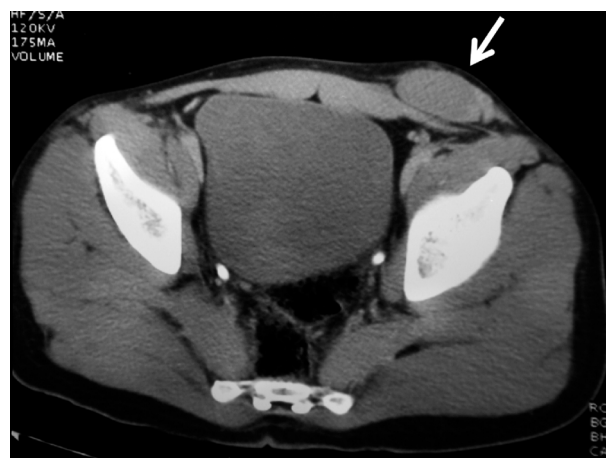


Figure 1. A slice of computed tomography presenting dislocated left testicle (arrow).

observed. He was discharged from the hospital on the next day without any complications. The follow-up examination at the outpatient clinic was normal one week later.

Discussion

Traumatic testicular dislocation is uncommon, and most cases were related to straddle injuries in the motorcycle accidents where the rider is propelled forward, with the scrotum and perineum are crashed over the fuel tank.¹ Ko et al reported that it could rarely associate with blunt abdominal trauma.⁴ In both situation, delayed or missed diagnosis could be due to associated injuries or a lack of awareness of its possible occurrence. Delayed correction of the traumatic dislocation could result in infertility due to elevated temperature exposure.⁵ Dislocation could be unilateral or bilateral, superficial (testis being forced into superficial inguinal pouch) or internal (testis being forced through the external ring into the inguinal canal or even abdominal cavity). Possible sites with relative frequency were reported to be: superficial inguinal 50%, pubic 18%, penile 8%, canalicular 8%, truly abdominal 6%, perineal 4%, acetabular 4% and crural 2%.⁶

Although this uncommon condition could be overlooked during the primary survey of a trauma patient, it should be sought intentionally during the

secondary survey. Examination of the scrotum as a part of thorough physical examination should be the key of any successfully early diagnosis, though a scrotal haematoma may sometimes mask the dislocation.⁷ The differential diagnosis would include an undescended testis, retractile testis, or trauma-induced testicular torsion with high position of the testis.

If the physical examination findings are indeterminate in patients with scrotal trauma, then ultrasonography should be performed. Ko et al reported a series of nine patients with groin trauma in which the associated dislocations of testis were initially missed in all cases.⁴ USG examination might help to localise the testis and demonstrate capsular or parenchymal damage. Advantages of ultrasound could include lack of ionising radiation, decreased cost, and rapid availability of results.⁸ However, the abdominal USG for trauma patients may focus on detection of free fluid and the detection of other pathology would depend on the clinician's skill and index of suspicion. Clinician's notification of possible clinical diagnosis of dislocation of testis would be important to the radiologist or sonographer interpretation.

Discussion on the role of CT in the rapid diagnosis of penoscrotal trauma is rare. As CT becomes a common investigation modality for major trauma patients with pelvic injuries, more cases of early diagnosis of dislocation of testis in ED would be made and reported. If a CT diagnosis has been obtained, further characterisation (such as by USG) would likely be unnecessary before surgical intervention.⁹ However, there are still some consensus statements that exclude CT from triage protocol on blunt scrotal trauma.¹⁰

We opine that abdominal CT is helpful in the diagnosis of most extreme pathologies including testicular dislocation for polytrauma patient. If the testis is intact and normally perfused, a closed reduction under sedation may be attempted. Associated testicular torsion or rupture is a contraindication for closed reduction and these should be ruled out by imaging before attempting closed reduction. If closed reduction fails, then exploration is indicated. If there is any doubt about the viability of the testis then prompt exploration should be undertaken.¹¹

Conclusion

This case emphasizes the importance of a complete physical examination during secondary survey in managing trauma patients. The secondary survey should include examination of scrotum and both testes to avoid delayed or missed diagnosis of testicular dislocation especially in victims of motorcycle accidents. In patients with traumatic testicular dislocations, urgent treatment and reduction may help to avoid permanent complication like testicular atrophy. Abdominal CT may be a useful and time saving diagnostic tool to detect and guide on the management of testicular dislocation.

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