Case Report

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False Penile Fracture: A Case Report and Review of Current Diagnosis and Management

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ABSTRACT

False penile fracture, a rare cause of acute penis, results from deep dorsal vein, superficial dorsal vein, and dorsal artery injuries as well as non-specific dartos bleeding. The management of false penile fracture may be conservative when the diagnosis is certain. However, emergent surgical exploration and repair are favoured to prevent long-term complications. Reported herein is an uncommon case of deep dorsal penile vein rupture that was thought to be true penile fracture before exploration with a view to discussing the current diagnosis and management of false penile fracture.

Keywords: Trauma, Acute penis, True penile fracture, False penile fracture, Dorsal penile vein injuries.

INTRODUCTION

Penile fracture is a blunt trauma resulting in the rupture of the tunica albuginea of the corpus cavernosum of an erect penis. It may occur during vigorous sexual intercourse, masturbation, rolling over onto the erect penis, and falling off a mountain onto the erect penis. Penile fracture is the most common cause of acute penis.[1] Rarely, rupture of the dorsal artery, superficial or deep dorsal veins of the penis can mimic penile fracture.[2] All these vascular injuries are categorized as false penile fractures as the corpora carvenosa is spared.[3]

Gradual detumescence and an absence of characteristic popping sound may indicate a superficial or deep penile vein injury but they cannot safely rule out a true penile fracture. Both true and false penile fractures have similar aetiology and require emergent surgical exporation and repair to prevent long-term complications.[2] However, when one is sure of the diagnosis, conservative management may suffice for false penile fracture.[2]

Due to the rareness and the paucity of literature on false penile fracture, the best diagnostic approach and management of this disease entity are unclear. Presented in this case report is a patient who had a provisional diagnosis of true penile fracture but were intraoperatively found to have dorsal penile vein rupture. This report brings to the fore the need to discuss the current diagnosis and management of patients with false penile fracture.

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CASE PRESENTATION

A 65-year-old man presented to the urology clinic of our hospital with a history of difficulty in achieving an erection of 7 days duration. He had earlier noticed a gradual detumescence following a thrust against the partner's perineum during vaginal intercourse resulting in his inability to complete the act. This was followed by a gradual penile swelling and curvature, noticed the following morning. He did not notice any 'pop' sound and penile pain was mild sustained. He had no difficulty with voiding, passage of blood in urine, previous penile deformity, and no comorbidity.

Penoscrotal examination revealed a flaccid penis with significant swelling and 'eggplant' deformity (figure 1). 'Rolling sign' was absent. His vital signs were normal. Penile ultrasound scan was in keeping with penile fracture except for the absence of a corpora cavernosal defect. A clinical diagnosis of penile fracture was made and was taken to the operating room for surgical repair after obtaining informed consent. A size 16 Foley catheter was inserted per urethra to serve as a stent. Intraoperatively, an extensive haematoma was found (figure 2). Following the evacuation of the clot, the ruptured deep dorsal vein was ligated and haemostasis was secured (figure 3). The two corpora cavernosa

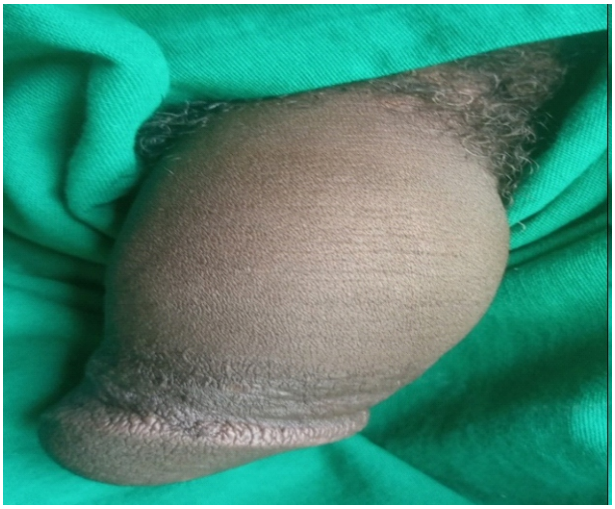

Figure 1: penile curvature following a false penile fracture.

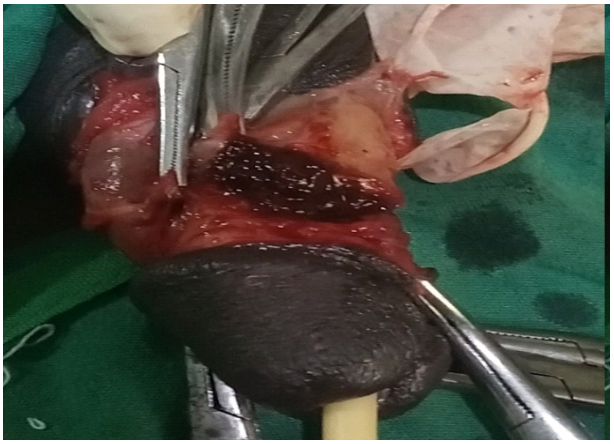

Figure 2: Penile haematoma following the exposure of the ruptured dorsal penile vein.

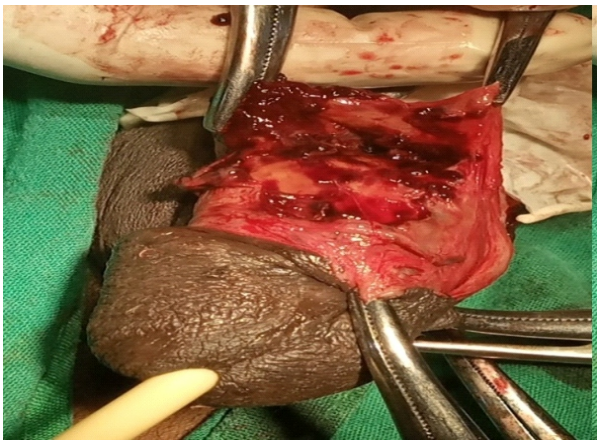

Figure 3: Intact corpora cavernosum following evacuation of clot.

Figure 4: Immediate post-repair

were noted to be uninjured, and the wound was closed in layers (figure 4). Postoperatively, patient was placed on antibiotics, analgesic and the urethral catheter was kept for 2 days, which was subsequently removed before discharge. He was asked to abstain from intercourse until complete healing occurred. At 3 months interval the optimal voiding function, erection function, and cosmetic result were achieved.

DISCUSSION

Penile injuries are rare because of the well-sheltered location and the high degree of mobility of the penis. Traumatic penile injuries are varied with penile fracture being the most common. Penile fracture is defined as a tear of the tunica albuginea of the corpus cavernosum of an erect penis. The most common aetiology of penile fracture is sexual intercourse. Other causes include masturbation, manipulation, rolling over an erect penis.[3] The diagnosis is often made after a detailed history and a thorough physical examination. The history of snapping sound, acute penile pain of sudden onset, progressive penile swelling following aggressive sexual intercourse, or penile manipulation during masturbation are usually suggestive. Clinical examination will usually show an ecchymotic, swollen, tender curved penis with a defect on palpation.

False penile fractures resulting from the rupture of penile blood vessels are infrequent causes of acute traumatic penile injuries which are often difficult to differentiate from 'true' penile fracture. These vascular injuries may result from deep dorsal vein, superficial dorsal vein, and dorsal artery injuries as well as non-specific dartos bleeding. It constitutes about 5-10% of all patients operated with a clinical diagnosis of penile fracture.[3,]

Clinically, a false penile fracture is closely indistinguishable from a 'true' penile fracture. Both the true and false penile fractures have similar aetiology. However, the detumescence is often gradual with no palpable penile defect in false penile fracture.[4] In this index patient, gradual detumescence with no 'popping' or 'cracking' sound was reported. Cracking sound and penile deviation or bending away from the site of the injury suggests corporal cavernosal tear seen in true penile fracture, but their absence is not pathognomonic for intact corporeal cavernosa. The ecchymosis resulting from superficial dorsal vein injury can extend to the subcutaneous tissue of the scrotum and perineum. On the other hand, the hematoma due to deep dorsal vein injury and true fracture of the penis is limited to underneath the Buck's fascia and thus confined to the penile shaft except when the Buck's fascia is torn.[3] Rupture of the deep dorsal vein is almost difficult to differentiate from corpora cavernosal tear seen in true penile fracture, except for the absence of a 'popping sound', immediate detumescence, and pain.[3,10,12]

Different radiological investigations have been used to assess true and false penile rupture. Of these, none seem to be ideal. These imaging techniques have varying specificities and sensitivities with none reliably differentiating false from true penile fractures. A penile ultrasound scan may give false-negative results when the corpora cavernosal tear is small or the presence of haematoma at the fracture site and it is operator-dependent.[5] Caversonography predisposes to contrast hypersensitivity, priapism, and a high risk of infection with attendant high false-negative results. With the advantages of high soft-tissue resolution and multiplanar capacity, MRI is considered the most precise imaging tool in cases of penile fracture. However, it is time-consuming, costly, and not readily available. In our practice, even when a false penile fracture is suspected, we recommend performing immediate surgical exploration to avoid missing an opportunity to repair a missed tunical tear that may lead to erectile dysfunction.

Though there are some clinical differences between false and true penile fracture, both entities may overlap with the possibility of long-term complications of missed albugineal tears being a topmost concern. Surgical management is aimed at the evacuation of the hematoma, exclusion of the tunica injury, and ligation of any injured vessels. This patient underwent immediate surgical exploration and ligation of both vascular ends of the ruptured deep dorsal vein of the penis after the

evacuation of the clot. A circumscribing-degloving subcoronal incision was used, which provided a good cosmetic outcome and exposure of the whole tunica albuginea and the urethra. The evacuation of the clots in false penile fractures might avert likely future complications. Different injuries can be identified: superficial dorsal vein rupture, deep dorsal vein rupture, dorsal penile artery avulsion, and nonspecific dartos bleeding.[9] Unlike a true penile fracture, time appeared not to be a prognostic factor for patients with false penile fracture as the index patient had full recovery despite the delayed presentation.

When one is sure of intact cavernosal bodies, non-operative treatment may be undertaken. However, this may expose patients to untoward complications like an abscess, infected hematoma, penile chordee, and plaques. All in all, surgical exploration and repair of vascular injuries is advocated in patients with false penile fracture, with a sub-coronal degloving incision to allow careful and complete evaluation of corpora and urethra.

CONCLUSION

False penile fracture is an extremely rare urologic pathology. Sexual intercourse is the most frequent cause. Non-operative treatment may be undertaken when the diagnosis is certain but with attendant untoward complications. It is usually difficult to distinguish a false penile fracture from a true penile fracture with certainty either clinically or radiologically; hence surgical exploration is mostly necessary.

Consent and ethical approval

The author declared that he has obtained all required consent. The patient has also given consent for his clinical photographs and information to be published in the medical journal. He understands that all necessary efforts will be made to conceal his identity.

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Competing interests

The author has declared that no competing interests exist.

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