



Penile Fracture: A Rare Entity: A Case report

¹Dr. Samit Doshi, ²Dr. Mukesh Soni, ³Dr. Ashok Kalyanshetti, ⁴Dr. Sameer Kadam

¹Junior Resident, ²Assistant Professor, ³Professor, ⁴Professor and Head

Department of General Surgery, MGM Medical college and Hospital Kamothe, Navi Mumbai

*Corresponding Author:

Dr. Samit Doshi

Junior Resident, Department of General Surgery, MGM Medical college and Hospital Kamothe, Navi Mumbai

Type of Publication: Original Research Paper

Conflicts of Interest: Nil

Abstract

Background: Penile fracture is considered a grave and rare surgical emergency. Emergency department physicians need to be aware of the urgency in the diagnosis of this condition as well as initiation of treatment, as any delay increases the risk of serious complications. The condition is one of the few uncommon emergencies which are fully diagnosed through proper history and clinical examination. USG and Doppler are a supportive tool for diagnosis. The objective is to highlight the epidemiology, etiology, presentation, diagnosis and timely repair of penile fractures to prevent complications.

Case Capsule: Hereby presenting a case of 69year old male who presented to the OPD with chief complaints of pain and swelling in the penis associated with loss of erection. Careful history along with clinical and radiological examination revealed penile fracture.

Conclusion: A timely diagnosis and immediate surgical repair of penile fracture reduces long-term complications and increase the chances of complete recovery thus preserving voiding and sexual function.

Keywords: Penile fracture, spinal anaesthesia, circumcision, hematoma

Introduction

Penile fracture is considered a grave and rare surgical emergency. Around 400 cases have been described in the literature but many cases go unreported because of the embarrassment perceived by the patients suffering from this condition. Emergency department physicians need to be aware of the urgency in the diagnosis of this condition and in the initiation of treatment, as any delay increases the risk of serious complications. The condition is one of the few uncommon emergencies which are fully diagnosed through history and clinical examination. USG and Doppler are used as supportive tools for diagnosis. The incidence reported is 1 in 1,75,000. The presentation subsequent to the injury is characteristic - a cracking or popping sound followed by rapid detumescence of the erect penis and onset of pain, swelling and ecchymosis confined to the penile shaft^[1].

This report presents a case of 69year old male who presented in the OPD with complaint of pain and swelling in the penis with loss of erection since 2 days. Penile fracture was diagnosed after taking history and complete physical and radiological examination. An ultrasound confirmed the diagnosis, and surgical repair was performed for the same.

The objective is to highlight the epidemiology, etiology, presentation, diagnosis and timely repair of penile fractures to prevent complications.

Case Capsule

A 69-year old male came to the OPD with chief complaints of pain and swelling at penis, associated with loss of erection since 2 days. Patient had sustained trauma to the penis during sexual intercourse followed by appearance of the above symptoms. No history of bowel and bladder disturbances.

Upon arrival to the OPD, he was conscious, oriented with vital signs as follows: temperature 97.6 degrees Fahrenheit, heart rate 80 beats per minute and blood pressure 126/78 mm Hg.

On examination there is swollen and oedematous penile foreskin with ecchymosis, tenderness and inability to retract the penile foreskin (Figure 1), swelling extended from root of penis to inferior aspect of scrotum (Figure 2). Rolling sign was positive. There was pain on compression. Testis and epididymis were normal. There was no blood at the urethral meatus. Rest genital, per rectal and per abdomen examination was unremarkable. Blood profile was under normal limits. Chest X-ray and ECG had no abnormality. USG Penis with Doppler was suggestive of 2cm sized defect in tunica albuginea, vertically in mid shaft of penis with a 3x0.6x2cm sized collection superficial to it. A large 10.5x4.5x2cm sized subcutaneous collection extending from root of penis to inferior aspect of scrotum with subcutaneous oedema, features suggestive of penile fracture with surrounding hematoma. Doppler was not suggestive of any obvious abnormality. Based on the clinical history and physical and radiological examination, diagnosis of penile fracture was made.

The patient was transferred to the Operation theatre for emergency circumcision and hematoma evacuation. Under spinal anaesthesia, Foleys catheter 16F was inserted per urethra. Repair of penile fracture with evacuation of hematoma and circumcision was done. Intraoperatively 2 cm tear in tunica albuginea at 2cm laterally from corona was noted (Figure 3.1 and 3.2). Tear was closed with 3-0 Vicryl RB, hematoma was evacuated and circumcision was performed (Figure 4). The penis was covered with light gauze dressing. The patient received analgesics and anti-inflammatory post-operatively and the catheter was removed after 24 hours. The patient was discharged on post-operative

day 3. Regular OPD follow ups revealed adequate wound healing. After approximately 45 days, patient reported normal erection.

Discussion

Rupture of corpus cavernosum was first described by Malis in 1925^[2]. Nicolaisen et al in 1983 in a literature review reported about 110 cases, of which 11 cases had associated urethral trauma^[3]. Fracture of the penis, faux pas du coit, is the rupture of the tunica albuginea of the corpus cavernosa. Jack et al. states that the strain of buckling the engorged corpora can 'generate pressures in excess of 1,500 mm Hg, thus exceeding the limit of the thinned tunica'. In an erect penis, the tunica is exceptionally thin (as little as 0.25 mm) making it more vulnerable to trauma. Fracture of corpora cavernosa is always associated with an erect penis. The tear is mostly unilateral and transverse.^[4,5]

The diagnosis of penile fracture describes the traumatic rupture of tunica albuginea of an erect penis. Most commonly the rupture occurs on the lateral side of the proximal corpora, but it can also occur anywhere on the corpora. They typically occur when the engorged penile corpora are forced to buckle and pop under pressure of blunt sexual trauma. Other causes include traumatic masturbation, direct blunt trauma to penis or falling off bed on an erect penis. The penis is deviated to side opposite to the side of the ruptured corpus cavernosum^[5,6,7]. Cases associated with urethral trauma presents with blood at the urethral meatus and acute retention of urine, however urethral injuries can't be ruled out if these features are absent.

Patients describe immediate detumescence, pain and swelling as a result of injury. The gross appearance of a fractured penis is often summarized as an eggplant deformity and a rolling sign is positive (Penile skin can be rolled over the clot against the affected shaft^[8]). The diagnosis of penile fracture is often straightforward and can be reliably made through a proper history and physical examination. Cavernosography and MRI can be used to diagnose an atypical presentation^[9]. If there is suspicion of concomitant urethral trauma, retrograde urethrography should be performed^[9].

The ideal management of penile fracture has been a subject of controversy. Any penile injury should be

treated as an “emergency until proven otherwise”^[10] and the management has changed over the years, it is either conservative or surgical^[11]. Conservative measures include cold compresses, anti-inflammatory, analgesia, splinting and anti-fibrinolytics. These are often associated with complications such as infected hematoma, penile deformity, impotency^[11]. To minimize the incidence of these sequelae Meares, in 1971 stressed the need for immediate surgical exploration with evacuation of hematoma and primary repair of the corporal tear^[12]. The protocol for managing penile fracture has evolved from a conservative approach to current predominate approach that involves surgical exploration. Recent studies states that immediate surgical repair of penile fracture have a low complication rate, shorter hospital stay and better long-term outcome^[11]. The advantages of primary repair are a shorter hospital stay and the opportunity to repair any urethral injuries, if present. Surgical repair includes procedures such as suturing of tears, evacuation of hematoma, debridement, bleeder ligation, urethral stenting and or end to end urethral anastomosis^[11].

There can be delay between trauma and management of the conditions due to personal embarrassment. Cummings et al. report that a delay of 24-48 hours does not impact the postoperative functioning of the penis^[13]. Some study reports that a delay is directly related to late post-operative complications^[9].

In our case report immediate surgical repair was performed without any delay and complications.

Conclusion

This case report demonstrates a rare incidence. The objective is to highlight the epidemiology, etiology, presentation, diagnosis and timely repair of penile fractures to prevent complications.

A timely diagnosis and immediate surgical repair reduces long-term complications and increase the chances of complete recovery thus preserving voiding and sexual function.

References

1. Nicely ER, Costabile RA, Moul JW. Rupture of the deep dorsal vein of penis during sexual Intercourse. *J of Urol* 1992; 147: 150-152.

2. Malis J. Penile Fracture. *Arch Klin Chir* 1925; 129: 651- 652.
3. Nicolaisen GS, Melamud A, Williams RD, McAninch JW. Rupture of the Corpus Cavernosum: Surgical Management, *J of Urol* 1983; 130: 917-918.
4. Asgari MA, Hosseini SY, Safarinejad MR, Samadzadeh B, Bardideh AR: Penile fracture: evaluation, therapeutic approaches and long-term results. *J Urol* 1996, 155(1):148–149.
5. Atat RE, Sfaxi M, Benslama MR, et al: Fracture of the penis: management and long-term results of surgical treatment. Experience in 300 cases. *J Trauma* 2008, 64:121–125.
6. Muentener M, Suter S, Hauri D, Sulser T: Long-term experience with surgical and conservative treatment of penile fracture. *J Urol* 2004, 172(2):576–579.
7. Gottenger EE, Wagner JR: Penile fracture with complete urethral disruption. *J Trauma* 2000, 49:339–341.
8. Zargooshi J: Penile fracture in Kermanshah, Iran: report of 172 cases. *J Urol* 2000, 164:364–366.
9. Gottenger EE, Wagner JR: Penile fracture with complete urethral disruption. *J Trauma* 2000, 49:339–341.
10. Dubin J, Davis JE: Penile emergencies. *Emerg Med Clin North Am* 2011, 29:485–499.
11. Gamal WM, Osman MM, Hammady A, Aldahshoury MZ, Hussein MM, Saleem M: Penile fracture: long-term results of surgical and conservative management. *J Trauma* 2011, 71:491–493.
12. Meares EM Jr. Traumatic Rupture of the Corpus Cavernosum. *J of Urol* 1971; 105: 407-408.
13. Cummings J, Parra RO, Boullier JA: Delayed repair of penile fracture. *J Trauma* 1998, 45(1):153–154.
14. McDougal WS, Wein AJ, Kavoussi LR, et al. *Campbell-Walsh Urology 10th Edition Review*: Elsevier Health Sciences; 2016.
15. Walton JK. Fracture of the penis with laceration of the urethra. *Br J Urol.* 1979;51:308–309.



Figure 1: Fractured penis with preputial oedema, deformity.



Figure 2: Pre-operative image. Fractured penis with preputial oedema, hematoma extending till the inferior aspect of scrotum.

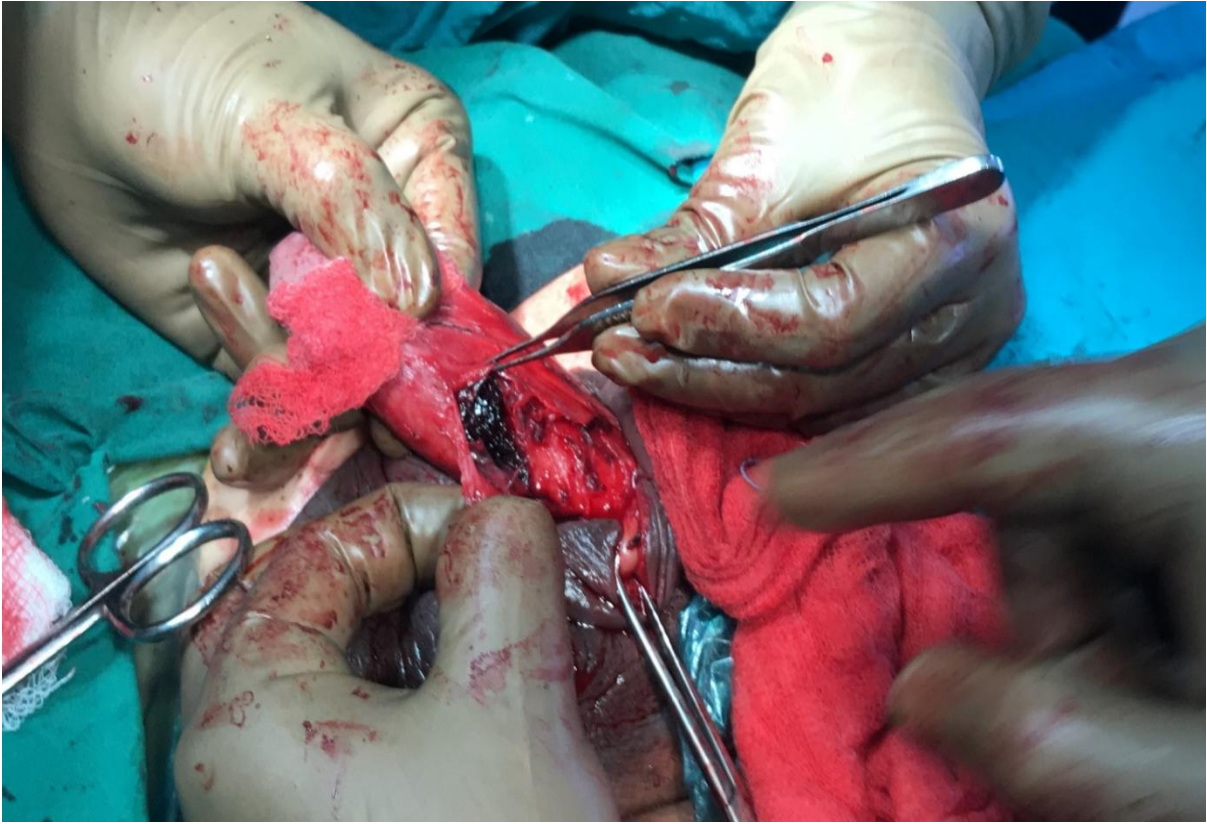


Figure 3.1- 2cm tear noted in the tunica albugenia with hematoma.



Figure 3.2- Intraoperatively, 2cm tear noted in the tunica albuginea.



Figure 4- Post-operative circumcised penis with repair of tear.