

Fracture Of The Penis: A True Surgical Emergency

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Citation

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Abstract

A case of a young married soldier sustaining penile fracture secondary to rolling over onto the erect penis while asleep in bed is reported. Early surgical intervention with hematoma evacuation, debridement and water-tight repair of the tunica albuginea was done. The patient recovered well.

INTRODUCTION

Penile fracture is defined as rupture of the tunica albuginea of the corpus cavernosum when the penis is erect¹. Injuries during sexual intercourse constitute 50% of all cases; mostly with female-dominant position when penis slips out of vagina and strikes the perineum or pubic bone. Other causes include masturbation, direct blow, forced bending, turning-over in bed, unconscious nocturnal penile manipulation, hastily removing or putting on clothes with erect penis, industrial accidents and gunshot injury. Blake SM et al. reported fracture of the penis in association with pharmacologically induced erection secondary to use of Viagra™ (sildenafil)². Predisposing factors include excessive force at coitus or manipulation, chronic urethritis and fibrosclerosis of the tunica albuginea³.

CASE REPORT

A 25-year-old married soldier was brought to the Army Field Hospital in the early hours of morning from the barracks with blunt trauma of the penis. He was immediately rushed to the field hospital; where he was given emergency treatment and transferred to our hospital. Detailed history of illness was taken. According to the patient, he was deeply asleep when he rolled over onto erect penis in his bed. He noticed a cracking sound followed by severe continuous shooting pain in his penis radiating to the lower abdomen aggravated by movements, associated with nausea, vomiting and immediate detumescence of the penis. He noticed a sudden moderate tender swelling of the penis. There was no history of physical manipulation, dysuria, urinary retention, bleeding per urethra or fever. No history of past hospitalization, surgery, asthma, allergy or TB was present. Drug history revealed diclofenac 75 mg I/M and Ampicillin

1g intravenously in the morning.

General physical examination revealed a young average built man, conscious, oriented, hemodynamically stable with a pulse of 80/min, BP 120/70 mmHg and afebrile. There was gross swelling of the penis from the corona to the base along with scrotal swelling and the penis was tilted towards the left side. Generalized ecchymosis of the penis, scrotum and hypogastrium was present. A 3x3cm tender lump was palpable on the right midshaft of the penis with mobile overlying skin but fixed to underlying tissues. There was no blood from the urethra. The abdomen was soft, scaphoid and moving with respiration. It was non-tender, non-distended, with no visceromegaly and normal bowel sounds. There was no shifting dullness and pelvic compression was non-tender. The rest of the systemic examination was unremarkable.

Figure 1

Figure 1: Eggplant Deformity With Butterfly Ecchymosis



He was admitted in the surgical intensive therapy centre, put on nil perorally and intravenous crystalloid infusion was started. Injection Diclofenac 75mg deep I/M 8-hourly, Augmentin 1.2g 8-hourly after test dose, Cefotaxime 1g 12-hourly and Metronidazole

500mg 8-hourly were also started. Injection of diazepam 5mg I/M 8-hourly was started to prevent spontaneous penile erection. The patient was counseled in detail about the nature of his injury, its sequelae, operative merits/demerits and informed written consent was taken for exploration under general anesthesia. Consent for pre/post-operative photography was taken as well. His blood examinations, urine analysis, coagulation profile and abdominal ultrasonography were unremarkable.

Foley catheterization was done preoperatively to avoid any urethral injury. The penile shaft was exposed through sub-coronal circumferential skin degloving incision. A blood clot 4x4cm over the right penile mid-shaft was seen covering a 1.5x0.5cm transverse laceration in the tunica albuginea of the right corpus cavernosum.

Figure 2

Figure 2: Penile Hematoma.

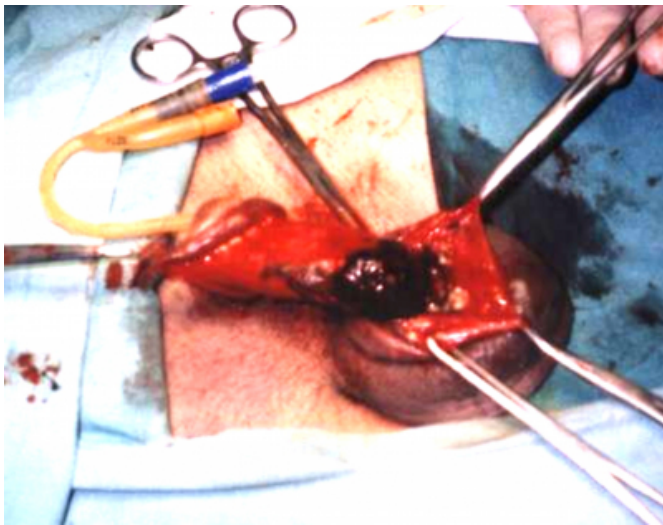


Figure 3

Figure 3: Laceration In Tunica Albuginea.



The hematoma was evacuated, debridement was done and the wound was thoroughly washed with saline. The tunica albuginea laceration was repaired with 4/0 polygalactin-910 (Vicryl™) interrupted mattress stitches. Buck's fascia was repaired with 4/0 polygalactin-910 (Vicryl™) interrupted mattress stitches and the left tunica albuginea was plicated with same sutures at the same level to prevent any penile curvature. Water-tight closure was confirmed by saline induced artificial erection. Layered closure without drain was done. The patient had a smooth uneventful postoperative recovery. He was discharged on the 5th postoperative day with strict compliance to avoid any sexual relationship for eight weeks. Stitches were removed on the 10th postoperative day. There was no complication like impaired penile sensations, hematoma, infection, erection problems or penile cordee in the immediate follow-up.

Figure 4

Figure 4: Watertight Closure On Artificial Erection.



DISCUSSION

Penis fracture is relatively uncommon but a true surgical/urologic emergency. In 183 publications from 1935-2001, only 1331 cases have been reported³. Pathologically, it is a rupture of the tunica albuginea and corpus cavernosum. During penile erection, arterial inflow increases, the corpora cavernosa enlarge transversely and longitudinally, the tunica albuginea thins from 2mm to 0.5mm, stiffens and loses elasticity. Increase in intracorporeal pressure due to sudden trauma causes transverse laceration in the tunica albuginea, corpus cavernosum or penile urethra. One or both corpora may be involved with concomitant injury to the penile urethra. Clinical features include sudden penile pain, popping/cracking sound, immediate detumescence, penile swelling and deviation, ecchymosis, dysuria, blood-at-meatus and urinary retention.

Physical examination shows penile hematoma, penile deviation, gross penile swelling (eggplant deformity) and penile ecchymosis if Buck's fascia is intact, butterfly-pattern ecchymosis if Colles' fascia is intact but Buck's fascia torn¹. Rolling sign is present where penile skin can be rolled between fingers over a localized blood clot and accurately localizes the defect. Concomitant urethral injury occurs in up to 30% presenting as blood-at-meatus, microscopic/gross hematuria, dysuria, and urinary retention. Various radiological studies have been used for the diagnosis of penile fracture. Penile ultrasonography is a readily available,

highly operator-dependent non-invasive tool with low sensitivity. Penile cavernosography remains a debatable invasive investigation with low sensitivity, risk of contrast reactions, post-procedural priapism and increased corporeal fibrosis⁴. Retrograde urethrography is only undertaken if suspicion of urethral injury is present. Magnetic resonance imaging is an expensive technique indicated in atypical presentations and severe painful swelling preventing examination. It reveals exact site, size, and extent of the laceration with associated urethral injury, intracavernosal or extra-tunical hematoma⁵.

Conservative management consists of cold compresses, pressure dressing, penile splintage, anti-inflammatory drugs, fibrinolysis and urinary diversion. It has high complication rates (30-50%) including penile aneurysm, induration, fibrotic nodule at rupture site, penile curvature, erectile dysfunction, painful erection, painful coitus, missed urethral injury, penile abscess, corporo-urethral fistula, arterio-venous fistula and urethro-cutaneous fistula. Conservative management is indicated only for patients unfit for any anesthesia, unavailability of surgical set-up and surgical team, patient unwillingness for surgery and history of penile trauma but normal findings clinically.

Early surgical repair has fewer complications, better outcome, short hospital stay, rapid return of sexual function and increased patient satisfaction³. Aims of surgical repair are relief of painful symptoms, prevention of erectile dysfunction and normal micturition. Principles of surgery include optimum exposure, hematoma evacuation, watertight repair of tunica albuginea, urethral repair, and urinary diversion if required. Sub-coronal circumferential degloving incision requires general anesthesia, extensive dissection, has excellent exposure but may be associated with impaired penile sensations or distal skin necrosis. Inguinoscrotal incision is used for lesions involving the base of the penis. Direct incision accurately over the defect is less extensive with less tissue trauma, has optimum exposure and can be performed under local anesthesia as day-case surgery⁶. However, sub-coronal incision is more popular than inguinoscrotal or direct incision over the defect. Aman et al.⁷, Jafri et al.⁸, Jalbani⁹, Arif et al.¹⁰, El-Taher et al.¹¹ and Jaffrey¹² all recommended early emergency surgical intervention for easy tissue handling and to minimize complications. Delayed repair 7-12 days after fracture of penis was done and recommended by Naraynsingh¹³ for penile fracture cases where accurate clinical localization of the defect was difficult because of extensive swelling.

Diazepam or stilbesterol are advocated for spontaneous erection suppression. The patients should abstain from all sexual relations for 6-8 weeks.

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References

1. Choe JM, Heiland M, Ghoniem GM, Talavera F, Morey A. Penile Fracture and Trauma. <http://www.emedicine.com>.
2. Blake S M, Bowley DMG, Dickinson A. Fractured penis: Another complication of SILDENAFIL. <http://www.grandrounds-e-med.com/articles/gr2001-020-print.pdf>.
3. Eke N. Fracture of the penis. *BJS* 2002; 89(5): 555-7.
4. Hinev A. Fracture of penis: Treatment and Complications. *Acta Medica Okayama* 2000; 54(5):211-6.
5. Choi MH, Kim B, Ryu JA, Lee SW, Lee KS. MR imaging of acute penile fracture. *RadioGraphics* 2001; 21(5): 1169 - 85.
6. Naraynsingh V, Maharaj D, Kuruvilla T, Ramsewak R. Simple repair of fractured penis. *J R Coll Surg Edin* 1998; 43: 97-8.
7. Aman Z, Qayyum A, Khan M, Afridi V. Early surgical intervention in penile fracture. *JPGMI* 2004; 18(3):432-8.
8. Jafri SSA, Gondal KHI, Chughtai MN. Diagnosis and management of fracture of penis - a 7-year experience at Jinnah Hospital, Lahore. *Ann KEMC* 2004; 10(1):74-6.
9. Jalbani MH. Fracture of penis. *Professional Med J Sep* 2002; 9(3):218-22.
10. Arif P, Khan S, Nawaz H, Khan M, Ahmed SS. Penile fractures and accompanied urethral injuries. *J Surg Pakistan* 2002; 7(1):28-7.
11. El-Taher, Ahmed M, Aboul-Ella, Hassan A, Mohamed A, Atef A. Management of penile fracture. *J Trauma, Injury, infection & Critical Care* 2004; 56(5):1138-40.
12. Jaffery S. Fracture of penis, evaluation & treatment policy. *Pak Postgrad Med J* 2001; 12(1):15-7.
13. Naraynsingh V, Ramdass MJ, Thomas D, Maharajas D. Delayed repair of fractured penis: A new technique. *Int J Clin Pract.* 2003; 57(5):428-9.

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