International Surgery Journal
Barua SK et al. Int Surg J. 2019 Jul;6(7):2602-2604
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: http://dx.doi.org/10.18203/2349-2902.isj20193002

Case Report

Double penile fracture with complete urethral disruption following anal intercourse: a case report

Sasanka K. Barua, Sarbartha Kumar Pratihar*, Rajeev T. P., Saumar J. Baruah, Puskal K. Bagchi, Debanga Sarma, Mandeep Phukan, Nikhil Saurabh

Department of Urology and Renal Transplant, Gauhati Medical College and Hospital, Guwahati, Assam, India

Received: 13 April 2019
Accepted: 03 June 2019

***Correspondence:**
Dr. Sarbartha Kumar Pratihar,
E-mail: psarbarthakumar@yahoo.com

ABSTRACT

Penile fracture remains a rare, under reported condition. It is defined as blunt trauma resulting in tear of tunica albuginea surrounding the corpus cavernosum during erection. Prompt diagnosis and early surgical repair are essential. Here we report a case of 37 years male with penile fracture involving both corpora cavernosum and complete urethral disruption. A 37-year-old man presented with penile injury during anal intercourse. Physical examination revealed a swollen, ecchymotic penis with dorsal angulation. Penile ultrasound showed tear in bilateral corpora cavernosa at ventral aspect with hematoma. On exploration tear in bilateral corpora with complete penile urethral disruption seen. Repair of corporal tear with end to end anastomotic urethroplasty done. He has normal voiding and sexual function at 4th months of follow up. The diagnosis of this condition is clinical, which is further augmented by high frequency sonography, which can detect exact site of the tear, also allows evaluation of penile vascularity. Evaluation of the urethra with sonography can help identify interruption of the urethral wall. As in our patient, double fracture involving corpora cavesnosa of both sides with complete urethral disruption, is rare entity. Urgent surgery with complete penile degloving is advocated and extreme care is needed not to miss any injury. Fracture of the penis is a rare surgical emergency. The diagnosis is clinical, however high-resolution sonography and colour Doppler are helpful. Early and prompt surgical intervention can restore normal voiding and erectile function to lead a healthy life.

Keywords: Complete urethral disruption, Double penile fracture, Penile ultrasound

INTRODUCTION

Penile fracture remains a rare, yet likely under reported condition. It is defined as blunt trauma resulting in tear of tunica albuginea surrounding the corpus cavernosum and rapidly expanding hematoma during erection.[1] Sometimes it can be accompanied by partial or complete urethral rupture or by injury of the dorsal nerve and vessels.[2] Tears in corporal tunica are usually unilateral; however bilateral ruptures can occur in 5-14 % cases.[3] Concomitant penile fracture with urethral rupture has been reported from 10% to 20% in all penile fracture cases.[4] Penile fracture usually occurs in men between the age of 30-40, and most commonly during sexual intercourse, masturbation, rolling over in bed, and kneading the penis to achieve detumescence.[5] The classic, "text-book" history of penile fracture is: a sudden cracking sound as the tunica tears followed by pain, rapid detumescence, swelling and discoloration of the penis with or without voiding problems.[6] Prompt diagnosis and early surgical repair are essential to ensure a successful outcome.[7] Here authors report a case of 37 years male presented to us with penile fracture involving both corpora cavernosum and complete urethral disruption.

CASE REPORT

A 37-year-old man presented with history of penile injury during anal intercourse. He gave history of sudden 'snap' sound and acute pain during anal intercourse followed by rapid detumescence, penile swelling and discoloration. Pain was aggravated while trying to urinate and went into acute urinary retention. Seven hours after the antecedent penile trauma the patient presented to emergency and evaluated by our urology team. Physical examination revealed a swollen, ecchymotic penis, swelling more on ventral aspect with dorsal angulation (Figure 1).

Figure 1: Penile swelling mostly on ventral aspect with dorsal angulation of penis. suprapubic catheter in situ.

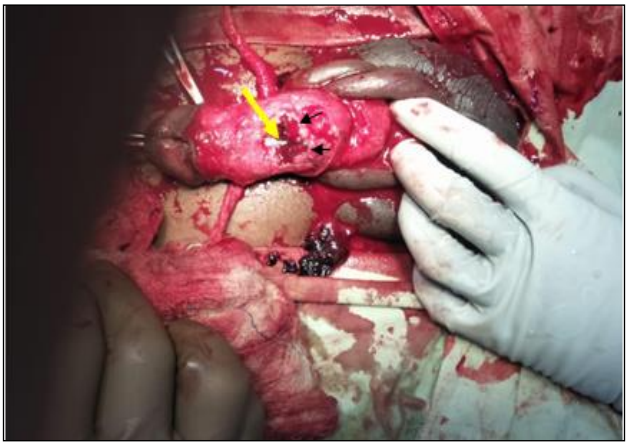

Figure 2: Intra operative picture of urethral defect bridged with foley catheter (yellow arrow) and tear in bilateral corpora (black arrow).

For acute urinary retention per urethral catheterisation was tried, but due to failure of per urethral catheterisation suprapubic catheterisation was done. Patient was subjected to penile ultrasound, which showed tear in bilateral corpora cavernosa at ventral aspect with hematoma between skin and tunica, normal colour flow of bilateral testis. A decision was taken to perform on table preoperative RGU, which showed contrast extravasation at midpenile urethra. The patient underwent immediate surgical exploration and repair of the fracture. Circumferential sub coronal degloving incision and hematoma evacuation revealed tear of the tunica albuginea of both corpus cavernosum at the ventral aspect near the midpenile region. Tear was horizontal and 9mm and 7mm in dimension (maximum dimension on horizontal plane) on right and left corpora cavernosa respectively 1.5 cm distal to the root of the penis. There was also complete urethral disruption (Figure 2).

Interrupted sutures with 2-0 polyglactin-910 (vicryl) were used to repair the rupture of both corpora. After minimal debridement and mobilization of proximal and distal corpus spongiosum the urethra was spatulated. Primary end to end tension free urethral anastomosis with PD 5- 0 was done over a 16 F indwelling foley catheter. He was discharged on 2nd post-operative day with clamped suprapubic catheter and indwelling foley catheter, which was removed 3 weeks later (Figure 3).

Figure 3: Postoperative day 2 status, healthy wound.

Suprapubic catheter was removed 1 week later on normal voiding per urethra, with acceptable maximal urinary flow rate of 24 ml/second with minimal post void residual urine at post op 3rd month follow up. He has normal voiding and sexual function at 4th months of follow up.

DISCUSSION

Fracture of the erect penis is an uncommon but emergent urological condition.[8] Activities causing trauma to the erect penis like masturbation, self-manipulation, coitus and rolling over in bed can result in fractures. Use of pharmaceutical agents which enhance the duration of erection, pre-existing urethral or periurethral infections and injuries to the penis increase the chance of penile fractures.[9] One reason for the increased risk of penile fracture is that the tunica albuginea stretches and thins significantly during erection: in the flaccid state it is up to 2.4 mm thick; during erection it becomes as thin as 0.25

to 0.5 mm. Bitsch et al, and De Rose et al, proposed that an intracorporal pressure of 1500 mmHg or more during erection can tear the tunica albuginea.[10,11]

The diagnosis of this condition is clinical suspicion, which is further augmented by high frequency sonography (7.5 MHz–12.0 MHz), which can detect the exact site of the tear as a disruption of the thin linear echogenic tunica albuginea and show evidence of associated haematoma, also allows evaluation of penile vascularity.[12] Evaluation of the urethra with sonography can help identify interruption of the urethral wall. In the absence of external penetrating traumas, an indirect sign of urethral injury is the presence of air in the cavernosal bodies.[13] Tears of the tunica albuginea are usually unilateral and transverse; however bilateral ruptures can occur in 5-14% cases.[3,5] As in our patient, double fracture involving corpora cavesnosa of both sides with complete urethral disruption, is rare entity. The mechanism of complete urethral disruption with corporal tear has not been well studied, but generally reflect extensions of a ventral tear across the midline to involve the corpus spongiosum. Urgent surgery with complete penile degloving is advocated and extreme care is needed not to miss any injury.[14] Urgent surgical intervention was undertaken with repair of corporal tears and repair of urethral injury. Recent literature advocates surgical treatment for penile fracture and/or urethral injury as soon as possible as this appears related to fewer complications and better outcomes.[3,15]

CONCLUSION

Fracture of the penis is a rare surgical emergency. The diagnosis is clinical, however high resolution sonography and color Doppler are helpful in delineating the site and extent of injury. Degloving of the entire penis and a meticulous search for multiple fractures is recommended. Early and prompt surgical intervention can restore normal voiding and erectile function to lead a healthy life.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Mydlo JH, Hayyeri M, Macchia RJ. Urethrography and cavernosography imaging in a small series of penile fractures: a comparison with surgical findings. Urology. 1998;51(4):616-9.
2. Haas CA, Brown SL, Spirnak JP. Penile fracture and testicular rupture. World J Urol. 1999;17(2):101-6.
3. El-Assmy A, El-Tholoth HS, Mohsen T, el Ibrahiem HI. Long term outcome of surgical treatment of penile fracture complicated by urethral rupture. J Sex Med. 2010;7(11):3784-8.
4. Bertero EB, Campos RSM, Mattos Jr D. Penile fracture with urethral injury. Braz J Urol. 2000;26(3):295-7.
5. Koifman L, Barros R, Junior RA, Cavalcanti AG, Favorito LA. Penile fracture: diagnosis, treatment and outcomes of 150 patients. Urology. 2010;76(6):1488-92.
6. Jordan GH, Gilbert DA: Male genital trauma. Clin Plast Surg. 1988;15(3):431-42.
7. Sharma MB, Singh TS, Khumukcham S, Chito T, Sharma BB. Fracture of the penis-report of seven cases. J Indian Med Assoc. 2011;109(1):45-6.
8. Boncher NA, Vricella GJ, Jankowski JT, Ponsky LE, Cherullo EE. Penile fracture with associated urethral rupture. Case Rep Med. 2010;2010:791948.
9. Kachewar SG, Kulkarni DS. Ultrasound evaluation of penile fractures. Biomed Imaging Interv J. 2011;7(4):e27.
10. Bitsch M, Kromann-Andersen B, Schou J, Sjøntoft E. The elasticity and the tensile strength of tunica albuginea of the corpora cavernosa. J Urol. 1990;143(3):642-5.
11. De Rose AF, Giglio M, Carmignani G. Traumatic rupture of the corpora cavernosa: new physiopathologic acquisitions. Urology. 2001;57(2):319-22.
12. Bhatt S, Kocakoc E, Rubens DJ, Seftel AD, Dogra VS. Sonographic evaluation of penile trauma. J Ultrasound Med. 2005;24(7):993-1000.
13. Bertolotto M, Mucelli RP. Nonpenetrating penile traumas: sonographic and Doppler features. AJR. 2004;183(4):1085-9.
14. Summerton DJ, Campbell A, Minhas S, Ralph DJ. Reconstructive surgery in penile trauma and cancer. Nat Clin Pract Urol. 2005;2(8):3917.
15. Raheem AA, El-Tatawy H, Eissa A, Elbahnasy AH, Elbendary M. Urinary and sexual functions after surgical treatment of penile fracture concomitant with complete urethral disruption. Arch Ital Urol Androl. 2014;86(1):15-9.

Cite this article as: Barua SK, Pratihar SK, Rajeev TP, Baruah SJ, Bagchi PK, Sarma D, et al. Double penile fracture with complete urethral disruption following anal intercourse: a case report. Int Surg J 2019;6:2602-4.