Case Report

Penile Fracture: A Case Report

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Abstract:

Fracture penis during intercourse is uncommon but a real urological emergency. Most of the cases remain under reported due to the shyness to describe it. Rupture of tunica albuginea typically occur when the erect penile corpora are forced to buckle and literally "pop" under the pressure of a blunt sexual trauma. Patients typically describe immediate detumescence, severe pain, and swelling as a result of the injury. Diagnosis is usually done upon the history and clinical examination. Prompt surgical exploration and corporal repair is the most efficacious therapy for minimal complication and excellent result.

Keywords: Penile fracture, Tunica albuginea, Corpora cavernosa

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Introduction

Penile fracture is an uncommon urological emergency.[1] The tunica albuginea of either or both corpora cavernosa which provide erectile function, mainly ruptured and considered a problem. In some cases involvement of the urethra and corpus spongiosum is also possible. During erection the tunica albuginea become stiffer and thinner than when it is flaccid. For this region the injury often takes place during erection,[2] specially when the penis is forced into an angle during sexual activity.[1] Other causative factors include turning over in bed or fall out of bed onto the erect penis, forcing bending to achieve detumescence, and blunt external trauma such as kicking1. In some Middle Eastern nations many occurrence found as the result of patients 'kneading and snapping' the erect penis to achieve quick detumescence in inappropriate circumstances. An Iranian study shows that, 269 of 352 patients (76%) who underwent this procedure, also known as 'Taqaandan', experienced penile fracture.[3] The patient usually reports hearing a popping sound during sexual activity as the tunica ruptures, followed rapidly by discomfort, detumescence and significant subcutaneous bleeding, resulting in an 'eggplant deformity'.[4] As many as 20% of the cases may have urethral damage, which typically manifests as blood at the urethral meatus.[5] The diagnosis of penile fractures is usually based on their stereotypical clinical appearance.[6,7] Patient can be managed either surgically or without surgery.[8] But for Rapid functional recovery, a short hospital stay, low morbidity, and no significant long-term effects are the benefits of immediate surgery.[9,10] Here, this case report presents experience with penile fractures at a tertiary hospital of Faridpur and its prompt management procedure.

Case summary

In this case, Mr. Arun Biswas 40 years old farmer, married, non-diabetic, normotensive hailing from Jatrabari, Mokeshedpur, Gopalgonj presented with the complaints of pain in the penis which was experienced during intercourse followed by a popping sound. It was associated with swelling and black discoloration of the penis. There was no history of heamaturia, per urethral bleeding or any per urethral discharge. On general examination, he is ill looking, co-operative, average in body built, pulse-78b/min, Blood pressure 120/80 mmHg, Respiratory rate 18 breaths/min & temparature-98°F. Anemia, Jaundice, cyanosis, clubbing, koilonychia, leukonychia, dehydration, edema are absent. On systemic examination of penis and scrotum, there was swelling and black discoloration in the shaft and prepuce of the penis, a small swelling in the right side of scrotum. There was no per urethral bleeding. External urethral meatus was normal, tenderness present in the shaft of the penis. A small, firm, non tender swelling was present at surface of scrotum. Examination of other systems revealed no abnormality. Patient was clinically diagnosed as fracture penis with

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calcified sebaceous cyst on scrotum. After pre-ansthetic check-up decision for repair of tunica albuginea and corpus cavernosus muscle was taken. With all aseptic precautions under SAB on lithotomy position transverse incision was given at peno-scrotal junction then skin superficial fascia and buck's fascia was incised and there was a clotted blood found at the incision line which was removed and side of tear was found with bleeding. Then injured site was washed with normal saline and urethra was checked for any injury. So urethral catheter was placed in situ. Then tunica albuginea and corpus cavernosus muscle was repaired with 3-0 prolene by interrupted suture. Then buck's fascia was repaired with 4-0 catgut by continuous suture and skin was closed in layer. During discharge patient was advised to visit Urology OPD after 6 days for removal of catheter and avoid intercourse for 3 months.

Discussion

Many studies reveal that, Fracture penis mostly occurs in middle-aged (30 to 50 years) men.[11] In current case patient was also 30 years old. Incidence of this varies with geographical areas and a great number was reported from the Middle East and North Africa, which seems higher than in the United States and Europe.[12] Penile fracture is rupturing the tunica albuginea that is the penis's fibrous covering. Trauma during vigorous sexual intercourse or due to blunt force impact can cause this rupture.[13] Patient of this case study also experienced this condition during intercourse.

The tunica albuginea can resist 1 pressures up to 1500 mmHg, markedly become thins during erection, which when combined with abnormal bending leads to excessive intracavernosal pressure making it susceptible to transverse lacerations of the proximal shaft.[14] Traumatic penile rupture might link to histologic changes in the tunica albuginea like fibrosclerosis and cellular infiltrates which enhance complication.[15] Location, severity, and presentations influence patient. Commonly involves the tunica albuginea, causing sudden pain, swelling, and deformity, often accompanied by a snapping sound during sexual activity or trauma.[16] The patient of this case also gave statement about sudden sever pain in penis with a popping sound followed by swelling and discoloration . If tunica albuginea of urethral extension occurs, it leads to blood at the meatus, painful urination, or urinary retention. This requires prompt evaluation to prevent complications like strictures.[17] In this current case, the sign of urethral involvement was absent. Alternatively, by corpora cavernosa involvement it can be classified as unilateral affects one side, bilateral affects both. Among them significant deformity occurs so require careful surgical repair for functional and cosmetic restoration in bilateral fracture. Correct diagnosis of fracture types and presentations is vital for accurate diagnosis and effective management.[18]

Penile fractures diagnosis is mainly based on a combination of clinical history, physical examination, and imaging studies. But, accurately prompt identification of penile fractures is typically based on clinical eye.[19] In addition, supportive diagnostic methods are often utilized to confirm the diagnosis and assess the extent of the injury. Ultrasonography is frequently employed as an initial imaging technique due to its accessibility and its ability to defects in the tunica albuginea as well as any associated hematoma or damage to adjacent structures. [20] More detailed information can also obtain through techniques such as magnetic resonance imaging (MRI) and CT scans, particularly in complex cases.[21,22] On occasions, retrograde urethrography or cavernosography might be performed when there are concerns about potential accompanying urethral or vascular injuries.[23] In this current case, diagnosis was solely based on history and clinical examination.

As regards the management of penile fractures, both conservative and surgical methods are practiced. Conservative management includes analgesics, antibiotics, and sexual abstinence, often for uncertain diagnosis or contraindicated surgery cases. Some studies suggest success in specific instances, especially with small tunica albuginea defects and no complications.[24,25] However, surgical exploration still remains the preferred approach for most penile fractures cases management. Surgery allows direct visualization and precise repair of the defect, immediate anatomical and functional restoration, reducing long-term risks. It also addresses concurrent issues like urethral injuries or hematoma evacuation.[26,27] Immediate surgical intervention, including hematoma evacuation and tunica albuginea repair, was initially recommended by Fernstrom, many studies regarding surgery show shorter hospital stays,[28] heightened patient satisfaction, and improved outcomes, including lower erectile dysfunction rates.[29] The patient of this case study also received surgical management.

The timing of seeking medical attention in management has been shown to have an impact on the outcomes of repair. Early diagnosis and prompt surgical intervention are essential for achieving optimal outcomes.[30] On the other hand, delayed presentation may result in several challenges. Prolonged delays can also result in fibrosis and scarring of the tunica albuginea, making the repair more challenging and increasing the likelihood of long-term sequelae such as erectile dysfunction and penile curvature, stricture urethra or urethra cutaneous fistula in cases of urethral tear.[31] Studies have shown that patients, who present early, within hours to a few days of injury, have better outcomes in terms of complete resolution of symptoms, preservation of erectile function, and cosmetic appearance.[31] This patient also receive prompt medical attention within 2 days of fracture and his outcome was remarkable.

Conclusion

Penile fracture is a rare but emergency case in department of urology. Early diagnosis with skilled eye and prompt surgical treatment can minimize patient morbidity.

References:

1. Amer T, Wilson R, Chlosta P, et al. Penile fracture: a meta-analysis. Urol Int 2016; 96:315–329.
2. Eke N. Fracture of the penis. Br J Surg 2002; 89:555–565.
3. Zargooshi J. Sexual function and tunica albuginea wound healing following penile fracture: an 18-year follow-up study of 352 patients from Kermanshah, Iran. J Sex Med 2009; 6:1141–1150.
4. Ateyah A, Mostafa T, Nasser TA, et al. Penile fracture: surgical repair and late effects on erectile function. J Sex Med 2008; 5:1496–1502.
5. El-Taher AM, Aboul-Ella HA, Sayed MA, et al. Management of penile fracture. J Trauma Acute Care Surg 2004; 56:1138–1140.
6. Fergany AF, Angermeier KW, Montague DK. Review of Cleveland Clinic experience with penile fracture. Urology 1999; 54:352–355.
7. Shah DK, Paul EM, Meyersfield SA, et al. False fracture of the penis. Urology 2003; 61:1259.
8. Pruthi RS, Petrus CD, Nidess R, et al. Penile fracture of the proximal corporeal body. J Urol 2000; 164:447–448.
9. Falcone M, Garaffa G, Castiglione F, et al. Current Management of Penile Fracture: an up-to-date systematic review. Sex Med Rev 2018; 6:253–260.
10. El Housseiny II, El-Tholoth HS, Mohsen T, et al. Penile fracture: long-term outcome of immediate surgical intervention. Urology 2010; 75:108–111.
11. Ortac M, Özgor F, CaglarU, Esmeray A, SavunM, Sarılar Ö. Older age and a large tunic tear may be predictors of increased erectile dysfunction rates following penile fracture surgery .Int. J. Impot. Res. 2020; 32(2):226-231
12. El AtatR, SfaxiM, BenslamMR, Amine D, Ayed M, MouelliSB, ChebilM, ZmerliS. Fracture of the penis: management and long-term results of surgical treatment. Experience in 300 cases J. Trauma 2008; 64 (1):121-125, 10.1097/TA.0b013e31803428b3)
13. Diaz KC, Cronovich H. Penis fracture. [Updated 2022 Jul 29] StatPearls [Internet], StatPearls Publishing, Treasure Island (FL) (2022) Jan. Available from: https://www.ncbi.nlm.nih.gov/books/NBK5516
14. Bhardwaj R, Gaurav G, Alam S. Penile fracture during masturbation - a case report, J Fam. Med. Prim. Care. Nov, 2020; 9 (11) :5790-5792, 10.4103/jfmpc.jfmpc_1160_20
15. De Rose AF, GigliomM, Carmignani G. Traumatic rupture of the corpora cavernosa: new physiopathologic acquisitions, Urol2001; 57:319-322
16. Morey AF, Rozanski TA.Genital and lower urinary tract trauma. Campbell-Walsh Urology (11th ed.), Elsevier, Philadelphia, PA (2016), 2953-2976
17. Joshi M, Ranjan SK, Jain M, Kumar A. Penile fracture with urethral rupture: the feasibility of repair through penoscrotal approach, J. Emerg. Trauma Shock,2022; 15 (3) :149-151. Available from: https://doi.org/10.4103/jets.jets_154_21
18. LuiRL, Meeks JJ. Penilefracture: etiology, diagnosis, and management, Curr. Urol. Rep., 2018; 19 (8):60
19. Kasaraneni P, Mylarappa P, Gowda RD, Pervade S, Kasaraneni D. Penile fracture with urethral injury: our experience in a tertiary care hospital, Arch. Ital. Urol. Androl., Jan 1 2019;90 (4):283-287
20. Dell'Atti L. The role of ultrasonography in the diagnosis and management of penile trauma. J Ultrasound. 2016 Jan 22;19(3):161-6. doi: 10.1007/s40477-016-0195-4. PMID: 27635160; PMCID: PMC5005206.
21. Yan C, Liang BX, Huang HB, Liang HR, Zhou Z, Wang LJ, Yang ZQ, Xian SX. CT-guided minimally-invasive penile fracture repair.Int. Braz. J. Urol., Jan-Feb 2019; 45 (1): 183-186
22. Sokolakis I, Schubert T, Oelschlaeger M, KrebsM, Gschwend JE, Holzapfel K, Kübler H, Gakis G, Hatzichristodoulou G. The role of magnetic resonance imaging in the diagnosis of penile fracture in real-life emergency settings: comparative analysis with intraoperative findingsJ. Urol., Sep 2019; 202 (3):552-557
23. Morey Af, Brandes S, Dugi DD, Armstrong JH, Breyer BN, Broghammer JA, Erickson J,

Holzbeierlein SJ, Hudak JH, Pruitt JT, Reston RA, Santucci TG, Smith H. American Urological Assocation. Urotrauma: AUA guideline J. Urol., Aug 2014;192 (2):327-335

24. G. Li, H. Jiang, P. Li, et al. Conservative management for penile fractures: a systematic review and meta-analysis, Urol. J., 2020; 17 (5):469-4
25. J. Yuan, Z. Hu, B. Yang, et al. Efficacy of conservative management for penile fractures: a meta-analysis, Sex Med., 2019;7 (3):289-29
26. N. Shah, I.U. Khan, R. Aslam, A. Latif. Penile fractures: the successful outcome of immediate surgical intervention, PJMHS., Dec 31 2022;16 (12):21-23
27. Fraser M, Aboumarzouk OM, Amer T, Wilson R, Chlosta P, AlBuheissi S, Qazi H. Penile fracture: a meta-analysis, Urol. Int., 2016;96 (3):315-329
28. Fernstrom U. Rupture of the penis. Report of one operated case and review of the literature, Scand., 1957; 113:211-217
29. Yusuf M, Yogiswara N, Soebadi MA, Duarsa GWK, Wirjopranoto S. Long-term outcomes comparison of immediate and delayed surgical intervention for penile fracture: a systematic review and meta-analysis, Sexologies, Dec 1 2022; 31 (4):453-460. Available from: https://www.sciencedirect.com/science/article/abs/pii/S1158136022000858
30. Wong NC, Dason S, Bansal RK, Davies TO, Braga Can LH. Can it wait? A systematic review of immediate vs. delayed surgical repair of penile fractures, Urol. Assoc. J., Jan-Feb. 2017; 11 (1–2):53-60, 10.5489/cuaj.4032 (PMID: 28443146; PMCID: PMC54036
31. Naouar S, H. Boussaffa, S. Braiek, R. El Kamel Afr. J. Management of penile fracture: can it wait? Urol., 2018; 24 (1):56-59. Available from: https://www.sciencedirect.com/science/article/pii/S1110570417301005