

Management of Penile Fracture

Imtiaz Wani

Abstract

Objectives: To study clinical features and treatment of patients diagnosed with fractured penis.

Methods: All patients diagnosed with penis fracture from March 2000-March 2007 were retrospectively studied. No invasive investigation was used for diagnosis.

Results: Surgical intervention was done in 52 patients while 5 patients were managed conservatively. The constant finding recorded in all cases was that penis fracture occurred in erect penises. Most fractures were observed in the 16-30 years age group (50.88%). Left lateral tear was present in 53.84% cases. One patient had gangrene of penile skin after surgery.

Conclusion: Penis Fracture is not so uncommon as reported. A

trauma to erect penis is mandatory for fracture to occur. Surgical intervention is the preferred mode of treatment.

Received: 10 Feb 2008

Accepted: 05 May 2008

From the Department of Surgery, S.M.H.S Hospital Srinagar, Kashmir, India 190009.

Address correspondence and reprint request to: Imtiaz Wani, Shodi Gali, Amira Kadal, Department of Surgery, S.M.H.S Hospital Srinagar, Kashmir, India 190009.

E-mail: imtazwani@gmail.com

Introduction

Penile fracture is a medical emergency that always deems attention. Although penile fracture is easily recognized and therefore classified as a "first-look diagnosis," this clinical entity is always embarrassing for patients as well as partners and goes unreported many times. Penile fracture has typical clinical signs reported as trauma to the penis, audible clicking sound, post erection detumescence with hematoma, and swelling. Structural anomalies could alter the mechanical properties of the tunica albuginea, representing a weakening factor of the corpora cavernosa and thus a predisposing factor for traumatic rupture of the penis. Penile fracture is an entity of eminently clinical diagnosis, therefore the management of a penile fracture should not include any further investigation other than surgical exploration.¹ The need for immediate surgery is emphasized, in order to avoid erectile failure and curvature, which are typical complications of conservative treatment.² Many conditions can simulate fracture penis as dorsal vein tears in penis may mimic penile fracture.³ The main aim of this retrospective study was to record the clinical presentation and treatment in patients diagnosed with fractured penises.

Methods

All patients admitted to Shri Maharaja Hari Singh (S.M.H.S) Hospital, Srinagar, over a period of 7 years, from March 2000 to March 2007 with diagnosis of a fractured penis were included in this retrospective study. Medical records of all these patients were studied retrospectively and data was recorded on predesigned proforma. No invasive investigation was used for diagnosis of

fracture of penis. All patients, had surgery on the same day. Surgery involved a subglanular degloving incision, recording of rent location and dimensions, evacuation of clots, and closure of rent with non absorbable sutures and in selected cases use of glow drain. Postoperatively erection was suppressed for 2-3 days. All patients were discharged with advice of avoidance of sex for 6-8 weeks. Patients had follow up from 4 to 7 months.

Results

A total number of 57 patients were diagnosed with penis fracture. This constant finding was noted. Trauma occurred to erect penis in all cases of penile fracture, this constant findings was noted. Two had after two had post sildenafil use. The interval from injury to presentation was between 4 hours and the 13th day. One patient presented on 9th day and another on 13th day.

Table 1: Various clinical parameters in patients with fracture penis

Age(Years)	No of patients	%
16- 30	29	50.88
31-45	21	36.84
46-60	7	12.28
Marital Status		
Married	22	38.59
Unmarried	31	54.38
Separated/Divorced	4	7.01

Duration Of Presentation		
< 24 hours	19	33.3
1 – 3 days	31	54.38
7-7 days	5	8.7
>7 days	2	3.50
Local Findings		
Erection at the time of trauma	57	100%
Audible Crackling sound	46	80.70
Detumescence	51	89.47
Ecchymosis	49	85.96
Swelling	45	78.94
Pain	43	75.43

Out of 57 patients, 5 patients were managed conservatively and 52 had surgical intervention. Three patients refused surgery and two patients reported more than 7 days after trauma was inflicted. Size of rent ranged from 0.4 to 3 centimeters. All our patients had unilateral tear.

Table 2: Site and direction of rent in patients who had surgical intervention

Site Of Rent	No of patients	%
Proximal	33	63.4
Middle	16	30.76
Distal	3	5.76
Direction of Rent		
Right Lateral	17	32.69
Left lateral	28	53.84
Ventral	7	13.46
Dorsal	None	
Associated urethral Injury	None	

One patient had gangrene of penile skin post surgery which resolved on its own. Variable but slight deformity in curvature of penis was recorded which was dependent on size of rent and time of reporting after occurrence of trauma but did not interfere with intercourse and apparently was not alarming for patient and partner Dull aching erection was reported in 8 patients but responded to conservative treatment during the first three months. Those with surgery had earlier return of erection compared with those who had conservative management. In follow up of 4 to 7 months no other major adverse outcome was seen.

Discussion

Fracture of the penis is a relatively rare condition, defined as the rupture of the tunica albuginea due to trauma to erect penis.⁴ Sporadic reports of penile fracture give the impression of a rare trauma but penile fracture is not so rare.⁵ The true incidence of penile fracture is not known even in western countries because it is under reported or hidden probably because of social embarrassment and sociocultural characteristics, even it is reported to physicians it remains undiagnosed or mismanaged.⁶

Predisposing factors include excessive force at coitus or manipulation, fibrosclerosis of the tunica albuginea and chronic urethritis. Cause may vary from region to region depending on the socio-cultural characteristics, masturbation habits and indulgence in sexual activities. In the Western world the most common cause, accounting for about 30%-50% of cases, is over enthusiastic sexual intercourse. Of those, woman-on-top positions resulting in impact against the female pelvis or perineum and bending laterally are most common. In Middle Eastern countries the common cause is physical manipulation of the penis to remove an erection.^{5,7} Although, most injuries that result from masturbation come from forcibly hiding an erection without care and fracturing it. Rarely it may occur while turning over in bed, forced bending, or hastily removing or applying clothing when the penis is erect in over enthusiasm. In flaccid state it allows significant degree of deformation without any injury to the vital structures but in erected state it is vulnerable to blunt injury. As the penis changes from a flaccid state to an erect state, the thick tunica albuginea becomes very thin from 2 mm to 0.25-0.5 mm; the tunica albuginea thins, stiffens, and loses elasticity and becomes easily fracturable.

Acute onset of pain, swelling, and ecchymosis of the penis during sexual intercourse indicate a penile fracture until proven otherwise.⁸ Detumescence, voiding difficulties, and penile swelling and deviation may accompany. Swelling and ecchymosis spreads to perineum, scrotum, and lower abdominal wall within the Colles fascia if the buck's fascia gives way and produces typical "butterfly-pattern" ecchymosis. Rolling sign can be demonstrated in fracture penis which is the movement of penile skin over the organized hematoma at the site of rupture of tunica albuginea. An entity called "false" penile fracture is a condition that closely mimics "true" penile fracture. Nonspecific dartos bleeding and avulsed superficial dorsal vein are causes. The absences of the "snap" and gradual detumescence both of which are distinguishing factors

that suggest false fracture differentiates from true penile fracture but are not specific.

Tear is usually unilateral and it is rarely bilateral. The penile rupture is always transversal, and most the probable place of rupture is the physiological penile curve since this is the site of weakened structural integrity.⁹ Oblique or irregular tears have been seen in fractured penises. In this series, the left lateral side was more affected than the right side which may be explained by habitual masturbation by using left hand as per patient history leading to slight deviation to left making it prone to trauma and blunt of rent being on left side. In some cases, in fear of embarrassment, the penis may endure trauma while getting an erection in public places.

Diagnosis is made on clinical examination and the characteristic typical clinical presentation usually eliminates the need for expensive or invasive tests for diagnosis.^{10,11} Many imaging methods are available to evaluate traumatic penile lesions: ultrasound, color-Doppler ultrasound, urethrography, cavernosography, angiography and magnetic resonance imaging (MRI). The more invasive cavernosography and/or magnetic resonance imaging are indicated when the case is atypical, or the diagnosis of rupture of tunica is suspicious.¹² Ultrasound may be of value in patients where there is clinical doubt and is used to locate the site of tunica laceration. Magnetic resonance imaging (MRI) is a simple and informative form of investigation in evaluating penile injuries owing to its multiplanar capabilities, its good spatial resolution and its excellent tissue contrast resolution which can intact tunica albuginea and the presence of intracavernosal or extratunical hematoma and it improves the management. Cavernosography shows extravasation of the contrast medium, indicating a corporal tear.

It is hard to distinguish false penile fracture from 'true' penile fracture with certainty either clinically or radiologically, thus, surgical exploration is deemed necessary. Surgical treatment has an advantage and is safe, effective, restores erectile function satisfactorily for patients and partners and is highly recommended.^{5, 7, 13 14} Conservative management is associated with a high morbidity, and early surgical repair of the fracture is usually recommended in order to prevent complication. Nonoperative

treatment results in a 10% incidence of penile deformity and requires a substantial hospital stay. Pulsative hematoma (pulsative diverticulum) is a very rare, early complication of a conservatively treated penile fracture.¹³ Sometimes false penis fracture requires venous ends ligation.

Associated injuries included urethral rupture occurring in 10% Delay in seeking treatment increases the complication rate non-surgical approaches result in 10%-50% complication rates including erectile dysfunction, permanent penile curvature, damage to the urethra, and pain during sexual intercourse. Immediate surgical repair in case of penile fracture is recommended for better functional outcome avoiding potential complications is associated with a low incidence of late complication.^{6, 5, 10, 15} But there are proponents surgical repair even in case of delayed presentation. Drugs have been advocated for spontaneous erection suppression in post operative period. Abstinence from all sexual activities for 6-8 weeks is recommended post surgery. Surgery consists of complete evacuation of the hematoma, curettage and repair of the tear with absorbable sutures in the tunica albuginea. A direct incision accurately over the defect gives optimum exposure with less tissue trauma, and can be performed under local anesthesia as a day-case surgery.¹⁶ Methylene blue-guided repair for trauma of the penis is considered to be an easy, reliable, safe, and fast method for spotting tears in the tunica albuginea of the corpora cavernosa or in the urethra, eliminating the need for unnecessary lengthening.¹⁷ Penile fracture is sometimes associated with urethral disruption, and needs repair, and value of retrograde urethrography in assessing urethral injuries in patients with penile fracture is highly stressed. Recently there has been recommended use of cyanoacrylic glue can be used in cavernous surgery due to its hemostatic, adhesive and anti-inflammatory properties.¹⁸

Conclusion

Penile fracture is a true surgical emergency. Trauma to erect penis is essential for getting fracture penis. Awareness of mode of trauma and clinical features is all that required for diagnosis and no more investigation is desirable. Surgical exploration is ideal for its management.

References

1. Gontero P, Muir GH, Frea B. Pathological findings of penile fractures and their surgical management. *Urol Int* 2003;71(1):77-82.
2. Tejido Sánchez A, Martín Muñoz MP, Villacampa Abuá F, de la Morena Gallego JM, Suárez Charneco A, Leiva Galvis O. Surgical management of the penile fractures. Our experience. *Actas Urol Esp* 1999 Oct;23(9):784-788.
3. Bar-Yosef Y, Greenstein A, Beri A, Lidawi G, Matzkin H, Chen J. Dorsal vein injuries observed during penile exploration for suspected penile fracture. *J Sex Med* 2007 Jul;4(4 Pt 2):1142-1146.
4. Ateyah A, Mostafa T, Nasser TA, Shaer O, Hadi AA, Al-Gabbar MA. Penile fracture: surgical repair and late effects on erectile function. *J Sex Med* 2008 Jun;5(6):1496-1502.
5. Eke N. Fracture of the penis. *Br J Surg* 2002 May;89(5):555-565.
6. El Atat R, Sfaxi M, Benslama MR, Amine D, Ayed M, Mouelli SB, et al. Fracture of the penis: management and long-term results of surgical treatment. Experience in 300 cases. *J Trauma* 2008 Jan;64(1):121-125.
7. Zargooshi J. Penile fracture in Kermanshah, Iran: the long-term results of surgical treatment. *BJU Int* 2002 Jun;89(9):890-894.
8. Perlmutter AE, Roberts L, Farivar-Mohseni H, Zaslau S. Ruptured superficial dorsal vein of the penis masquerading as a penile fracture: case report. *Can J Urol* 2007 Aug;14(4):3651-3652.
9. Nale Dj, Nikić P, Vuković I, Djordjević D, Vuksanović A. Surgical or conservative treatment of penile fracture. *Acta Chir Jugosl* 2008;55(1):107-114.
10. De Giorgi G, Luciani LG, Valotto C, Moro U, Praturlon S, Zattoni F. Early surgical repair of penile fractures: our experience. *Arch Ital Urol Androl* 2005 Jun;77(2):103-105.
11. Cole FL, Vogler RW. Fractured penis. *J Am Acad Nurse Pract* 2006 Feb;18(2):45-48.
12. El-Bahnasawy MS, Gomha MA. Penile fractures: the successful outcome of immediate surgical intervention. *Int J Impot Res* 2000 Oct;12(5):273-277.
13. Dorde N, Mičić S. Pulsative hematoma—a penile fracture complication. *Vojnosanit Pregl* 2007 Jan;64(1):58-60.
14. Uygur MC, Gülerkaya B, Altuğ U, Germiyanoglu C, Erol D. 13 years' experience of penile fracture. *Scand J Urol Nephrol* 1997 Jun;31(3):265-266.
15. Kochakarn W, Viseshsindh V, Muangman V. Penile fracture: long-term outcome of treatment. *J Med Assoc Thai* 2002 Feb;85(2):179-182.
16. Naraynsingh V, Maharaj D, Kuruvilla T, Ramsewak R. Simple repair of fractured penis. *J R Coll Surg Edinb* 1998 Apr;43(2):97-98.
17. Shaer O. Methylene blue-guided repair of fractured penis. *J Sex Med* 2006 Mar;3(2):349-354.
18. Akgül T, Ayyıldız A, Cebeci O, Nuhoglu B, Ozer E, Germiyanoglu C, et al. Effect of cyanoacrylic glue on penile fracture: an experimental study. *J Urol* 2008 Aug;180(2):749-752.