

Management of Penile Fracture and its Outcome

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ABSTRACT

Objective: To describe the management and outcome of patients with penile fracture.

Study Design: Case series.

Place and Duration of Study: Department of Urology and Renal Transplantation, Jinnah Hospital, Lahore, from March 2008 to March 2011.

Methodology: Sixteen patients presenting with clinical findings / history of penile fracture were included in this study. Diagnosis was made on the basis of history and clinical findings. Surgical exploration and repair was done on the same day. In all patients, a subcoronal circumferential degloving incision was made. Rent location and dimensions management and postoperative complication were noted. Postoperatively, erection was suppressed for 4 – 5 days. All patients were discharged with advice of avoidance of sex for about 8 weeks. Patients were followed-up to 6 months.

Results: Majority of the patients (87.5%) were married and 13 (81.25%) were aged 18 – 45 years. The typical findings recorded in 100.0% patients were erection at time of fracture, detumescence, swelling and ecchymosis. Audible crackling sound and pain was present in 13 (81.25%) patients. Ten (62.5%) patients had rent in the proximal part of penile shaft and right lateral tear was present in 11 (68.75%) patients. Blood clots were evacuated and closure of rent was done with vicryl 2/0 (interrupted stitches). 100.0% patients had uneventful recovery with only 3 (18.75%) patients developed right chordae of erect penis after treatment. All (100.0%) patients were potent and without any problem of erection.

Conclusion: Penile fracture is under-reported. A trauma to erect penis is essential to cause fracture. Surgical exploration and repair is the treatment of choice.

Key Words: Erect penis. Penile fracture. Chordae. Tunica albuginea. Erectile dysfunction.

INTRODUCTION

The harder the penis is, the more vulnerable to injury it is.¹ Fracture of penis is traumatic rupture of the tunica albuginea or corpus cavernosum. Penile fracture occurs to the erect penis as a result of blunt trauma commonly during coitus or masturbation.² Although similar cavernosal lacerations to the flaccid penis have been reported as the result of gunshot trauma and sports injuries, injuries to the flaccid penis should not be regarded as fractures owing to the different nature of the injury.^{3,4} Anatomically, the flaccid penis lacks a fulcrum for snapping and contains relatively thick tunica albuginea protecting it from internal rupture under strain. Sudden blunt trauma or abrupt lateral bending of the erect penis can break the markedly thinned and stiff tunica albuginea resulting in fracture of penis. Concomitant injury to the penile urethra can occur. It can be accompanied by partial or complete urethral rupture or by injury of the dorsal nerve and vessels.⁵

Penile fracture is easily diagnosed on history and physical examination and, therefore, classified as a “first look diagnosis”. It is always embarrassing for patients

and their partners and goes unreported many times. Penile fracture has typical history of trauma to the erect penis.

Fracture is normally manifested by a cracking sound accompanied by immediate severe pain and rapid detumescence followed by swelling and widespread ecchymosis.⁶ A palpable tunical defect and a haematoma with a “rolling sign” are pathognomonic features.⁷

Penile fracture is an entity of eminently clinical diagnosis. Therefore, management of a penile fracture should not include any further investigation other than surgical exploration.⁸ However, in equivocal cases diagnostic cavernosography or MRI should be performed. Similarly, if urethral injury is suspected, pre-operative retrograde urethrography should be performed. The need for immediate surgical exploration and repair is recommended to avoid erectile failure and curvature which are typical complications of conservative treatment.⁹ Although immediate surgical repair has been recommended for fractured penis, delayed repair is possible and has been suggested in situation where accurate localization of the fracture site is clinically not evident.¹⁰ However, the time of repair from the time of injury has never been well defined although most series indicate that repair is needed as soon as the patient presents, but unfortunately due to social and personal scenario surrounding the occurrence of these events, some men may delay seeking medical help immediately. Tears of dorsal vein of penis may also mimic penile fracture.¹¹

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Received: December 17, 2012; Accepted: July 06, 2013.

The aim of this case series was to describe the findings, management and outcome of the penile fractures.

METHODOLOGY

This observational study was conducted at the department of urology and renal transplantation, Jinnah Hospital / Allama Iqbal Medical College, Lahore, from April 2008 to March 2011. All patients presented at accident and emergency department with clinical features of penile fracture were included.

Detailed history was taken and physical examination was performed and recorded on predesigned proforma. Diagnosis was made on the basis of history and clinical findings. Surgery was planned. Patients were counseled and informed written consent was taken. Surgical exploration and repair was done in all patients on the same day. In all patients, a subcoronal circumferential degloving incision was made. Rent location and dimensions were noted, blood clots evacuated and closure of rent was done with vicryl 2/0 (interrupted stitches). Water tight closure was confirmed at the end of repair by artificial induction of erection by 0.9% saline solution. The skin was approximated with 3/0 catgut. Foley catheter was passed which was removed on the next day, pressure dressing was applied. Post-operatively erection was suppressed for 4 – 5 days. All patients were discharged on the third postoperative day with advice of avoidance of sex for about 8-weeks after checking the wound which was found to be healthy. All patients were followed upto six months, during which history was taken regarding erectile activity, painful erection, sexual performance, presence of nodule/plaque and angulation followed by physical examination of penis.

Findings were described as frequency percentages.

RESULTS

Fourteen (87.5%) patients were married and 13 (81.25%) were of the age 18 - 45 years, which is the age of peak sexual activity. The typical findings recorded in all (100.0%) patients were erection at the time of fracture, rapid detumescence, swelling and ecchymosis (skin haematoma). Audible crackling sound and pain was present in 13 (81.25%). Twelve (75%) of the patients presented in less than 24 hours (Table I).

Ten (62.5%) patients had rent in proximal part of the shaft of penis while 6 (37.5%) had rent in the mid of the shaft of penis. Eleven (68.75%) patients had right lateral tear and 5 (31.25%) had left lateral tear. Size of the rent ranged from 0.5 – 2.5 cm and all patients had unilateral tear (Table II). Surgical exploration and repair was done in all patients.

All patients had uneventful recovery with variable side deformity of curvature of penis on erection which was recorded in only 3 patients (18.75%) but it did not

Table I: Demographic and clinical parameters.

	Number of patients	Percentage
Marital Status		
Married	14	87.5%
Unmarried	2	12.5%
Age (years)		
18 – 30	5	31.25%
31 – 45	8	50.0%
46 – 55	3	18.7%
Duration of presentation		
< 24 hours	12	75%
1 – 3 days	4	25%
Erection at time of trauma	16	100%
Audible crackling sound	13	81.25%
Detumescence	16	100%
Pain	13	81.25%
Swelling + ecchymosis (skin haematoma)	16	100%

Table II: Site and direction of rent.

	No of patients	Percentage
Site of rent		
Proximal	10	62.5%
Middle	6	37.5%
Distal	None	0%
Direction of rent		
Right lateral	11	68.75%
Left lateral	5	31.25%
Ventral	None	0%
Dorsal	None	0%
Associated urethral injury	None	0%

interfere with sexual intercourse and was not alarming for patients and their partners. All patients were potent and without any problem of erection or sexual performance. All patients were followed upto 6 months and no major adverse outcome was noted.

DISCUSSION

Penile fracture, even though uncommon, is a urological emergency that may have devastating physical and psychological consequences.¹ Erection converts the safe, flaccid penis into a vulnerable organ. Penile fracture is the rupture of tunica albuginea as a result of trauma to erect penis. It is hidden or under-reported because of social embarrassment. Even if it is reported to physician, it remains undiagnosed or mismanaged.¹² Predisposing factors include excessive force at intercourse or manipulation, fibrosclerosis of the tunica albuginea or chronic urethritis. Cause may be different from region to region depending upon socio-cultural characteristics, masturbation habits and indulgence in sexual activities. The most frequent reported mechanism of trauma is unphysiological bending of the erect penis during sexual intercourse or masturbation.¹³ In the western society, the most common cause is over-enthusiastic sexual intercourse. Of those, women on top position resulting in impact against female pelvis or

perineum resulting in lateral bending is most common. The reverse cow-girl position is notorious in the aetiological causes of penile fracture. The pathogenesis involves the women bending the erect penis ventrally beyond the tensile strength of tunica albuginea causing its fracture. In the Middle East countries, the common cause is physical manipulation of the penis to remove erection.¹⁴ Penile fracture that results from masturbation comes from forcibly hiding erection without care. Rarely, it may occur while turning over in bed on to erect penis. The rupture of tunica albuginea occurs due to its marked thinning from a resting thickness of 2 to 0.25 – 0.5 mm on erection together with the associated marked short-term pressure increases (Intra-cavernosal pressures exceeding 450 mmHg), which approach or exceed the tunica tensile strength during acute abrupt loading or bending of the erect penis.²

Acute onset of pain, audible clicking/cracking sound followed by immediate detumescence, swelling and ecchymosis during sexual intercourse is nothing but penile fracture until or unless proved otherwise. In penile fracture, there is a typical butterfly pattern ecchymosis. Rolling sign can be demonstrated in fractured penis which is the movement of penile skin over the organized haematoma at the site of rupture of tunica albuginea.

The gross appearance of a fractured penis is often summarized as an "eggplant deformity" which refers to the combination of localized penile swelling, discoloration and deviation toward the opposite side of fracture.¹⁵

False penile fracture is a condition that resembles the true penile fracture. Non-specific dartos bleeding, avulsed superficial dorsal vein are causes of false penile fracture. The absence of snap and gradual detumescence, both of which are the distinguishing factors that suggest false penile fracture differentiating from the true penile fracture but are not specific, so exploration is necessary. Surgical repair of penile fracture was first described by Fetter and Gartman in 1936.¹⁶

Surgical intervention is safe and effective. It restore erectile function and association with lesser complications so highly recommended.^{12,13,17,18}

Early conservative treatment with cold applications, pressure dressings, catheterization, anti-inflammatory drugs, antibiotics and erection suppressing drugs is associated with high morbidity. Non-operative treatment results in penile deformity and erectile dysfunction. Pulsative haematoma (pulsative diverticulum) is a very rare and early complication of conservatively treated penile fracture.¹⁷ Sometimes false penile fractures require venous ends ligation.

Immediate surgical repair is recommended for better functional outcome avoiding potential complications and

is associated with a low incidence of late complication.^{12,19,20} When surgery has to be performed at an early stage when penis is grossly swollen, most surgeons routinely repair the torn tunica albuginea and corpus cavernosum via a degloving circumcoronal incision.²¹

The justification for such extensive exposure is to have complete access to all the three corporal bodies, as well as neurovascular bundle.²¹

However, it is well known fact that vast majority of patients have a small unilateral tear of the corpus cavernosum.^{22,23} Only a small percentage has urethral injury. In fact, in the largest series published on this subject, only 5 of 300 patients had evidence of urethral injury.²³

Surgery consists of evacuation of haematoma, curettage and repair of the rent with absorbable suture in tunica albuginea. A direct incision accurately over the defect gives optimum exposure with less tissue trauma and can be performed under local anaesthesia, as a day case-surgery. Drugs have been advocated for spontaneous erection suppression postoperatively.

Abstinence from all sexual activities for 6-8 weeks is recommended after surgical repair of the fractured penis.²⁴ Penile fracture is sometime associated with urethral disruption which needs repair and value of retrograde urethrography in assessing urethral injuries in patients with penile fracture is highly stressed.

The use of cyanoacrylic glue is recommended in cavernous surgery due to its haemostasis, adhesive and anti-inflammatory properties.²⁵

CONCLUSION

Penile fracture is a true urological emergency. Awareness of the mode of trauma and clinical features is required for diagnosis. Prompt surgical exploration and repair of rent in tunica albuginea is ideal for its management. The procedure is simple with minimal morbidity even in delayed cases. The 'time lag' factor needs not to be considered in planning the treatment of penile fracture.

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