

EXPERIENCE WITH THE SURGICAL MANAGEMENT OF FRACTURE PENIS

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ABSTRACT

Objective: To know the etiology, complications and outcome of surgical management of fracture penis.

Material and Methods: This descriptive study carried out in the surgical departments of Lady Reading Hospital Peshawar from April 2000 to March 2005. Patients with the clinical diagnosis of fracture penis were admitted and operated. All patients except those with haematuria were catheterized. Most of these patients were explored via a circumcoronal incision and the defect in the tunica of corpus cavernosum repaired with 3/0-vicryl suture. No drain was used and a light compression dressing was done in all patients. Catheter was removed on the second postoperative day. Follow up was arranged at 6 and 24 months of operation.

Results: During the study period 51 patients were operated for fracture penis. Mean age at presentation was 32 years. The commonest cause of fracture penis was manual fiddling with the organ to overcome an erection (39.2%). The incidence of associated urethral injury was 1.96% (n=1/51). The commonest mode of presentation was with a cracking sound, local pain and immediate detumescence (90%, 98% & 94% respectively). Average hospital stay was 3.4 days. Immediate postoperative complication was urinary retention in 2 patients (3.92%). Long-term complications were negligible. There was only one readmission at 6 months for urethral stricture that responded well to optical urethrotomy.

Conclusion: The commonest cause of fracture penis is manual manipulation to overcome an erection. The best treatment option is immediate surgical repair.

Key Words: Fracture Penis, Urgent Surgery, Morbidity.

INTRODUCTION

Fracture of penis is defined as the rupture of corpus cavernosum due to blunt trauma to the erect penis.¹ It presents as a sudden penile pain and detumescence during sexual activity with a tender, swollen, bruised penis on examination. Penetrating injury and injury to flaccid penis is not therefor included in this definition. Erect penis is more prone to trauma,² the commonest causes being angulation during coitus and physical manipulation of the penis to overcome an erection.³

Discoloration and swelling may extend to scrotum and suprapubic space if Buck's fascia is also torn.⁴ Only in about 2-10% of cases, the presence of hematuria warrants investigations for

rupture urethra by retrograde urethrography.^{1,5,6} Diagnosis is often made by a typical history with classical findings on physical examination. In doubtful cases, MRI,⁷ cavernosography⁸ or Ultrasonography⁹ can be helpful. Treatment is immediate surgical repair because the complication rate of conservative management is 25-53%.^{10, 11} Complications of penile fracture are penile curvature, erectile dysfunction, corporal narrowing, and pain during intercourse, high flow priapism, pseudodiverticulum and fistulae¹². Ninety percent of patients experience no problem during subsequent sexual intercourse after operation.¹³ Present study was therefore designed as to know the etiology, complications and outcome of surgical management of fracture penis.

ETIOLOGY OF FRACTURE PENIS

Etiology	No. of pt (n=51)	%age
Physical manipulation of the penis to overcome an erection (includes masturbation)	20	39.21
Reverse Coitus (women on top position)	15	29.41
Sodomy	10	19.6
Normal intercourse	3	5.88
Accidental(during sleep/intoxication)	3	5.88

Table 1

MATERIAL AND METHODS

This study was conducted in the surgical wards PGMI Govt. lady Reading Hospital Peshawar from April 2000 to April 2005. All patients with the clinical diagnosis of fracture penis were considered for the study and operated. No diagnostic investigation was needed except urinalysis, to look for hematuria, that necessitates urethrography or flexible urethroscopy, in addition to repair of the defect in tunica of corpus cavernosum for fracture penis. Indwelling folley's catheter was inserted in all patients and removed on the second postoperative day i.e. after 24 hours.

In case of small proximal hematoma, longitudinal incision over the most prominent part of the hematoma was given. In all other cases (diffuse, large or distal hematoma or when the site was not clear for any reason) a sub-coronal circumferential incision was given, with proximal degloving of penile skin. Repair of tear in tunica of corpora cavernosum was then done using 3/0 vicryl whereas the penile skin was closed by 4/0 plain catgut. No drain was used. Light pressure dressing was applied and a third generation antibiotic was continued in the postoperative period. Tab diazepam was given to all patients to minimize erection and alleviate anxiety. Follows up visits were arranged at one week, 3 months, 6 months, 12 months and 24 months.

RESULTS

During the study period 51 patients were operated for fracture penis. All patients were operated and results were compiled. The etiology of fracture penis is shown in table No 1. The age of patients ranged from 20-45 years (average 32 years). The time between the occurrence of fracture and presentation varied between 2-72 hours (average 18 hours) and the mean delay between injury and operation was 26 hours (range 6-76 hours). Regarding their marital status, 3 were married but living alone, 26 married living with wives, and 22 were unmarried. For the anatomical sites of tunical tears and hematoma see table 2. The mode of injury was such that fracture occurred in 20 patients by physical manipulation of the penis to overcome an erection (this includes masturbation), in 15 during reverse coitus, in 10 during sodomy, in 3 during normal intercourse, and in 3 accidentally/insidiously during sleep/intoxication. Their clinical presentation is shown in table 3. Haematuria was noted in 4 patients but on uretroscopy/urethrography only one had complete urethral rupture that was repaired. This patient developed urethral stricture that responded to optical urethrothomy after 6 months. Folley's catheter was removed on the second postoperative day if there was no urethral injury and patient were sent home usually on third post operative day. The hospitalization period ranged from 2-5 days (average 3.4 days). Immediate postoperative complications were urinary retention

SITE OF PENILE HEMATOMA AND CORPORAL TEAR

Hematoma	No of patients (n=51)	%age	Site of tear	No of patients (n=51)	%age
Proximal	9	17.64	Right corpus	30	58.82
Mid shaft	31	60.78	Left corpus	19	37.25
Distal	5	9.80	Bilateral	2	3.92
Diffuse	6	11.76	Suspected urethral injury	4	7.84

Table 2

CLINICAL PRESENTATION OF FRACTURE PENIS

Presenting symptoms	No. of pt (n=51)	%age
Accidental(during sleep/intoxication)	3	5.88
Cracking sound	46	90.19
Local pain	50	98.04
Immediate detumescence	48	94.11
Hematoma and swelling	51	100
Hematuria (microscopic/macrosopic)	4	7.84
Palpable tunical defect	37	72.55

Table 3

in 2 patients that needed re-catheterization, wound infection in 1 patient that responded to removal of few infected stitches, dressings and first generation cephalosporin. Follow up was arranged at 6 and 24 months the complications noted are shown in table No 4. There was only one re-admission at 6 months for urethral stricture that responded to optical urethrotomy.

DISCUSSION

The usual age of presentation reported in the literature is from 26 to 41 years.^{1,4} In our study it was 32 years that fall in this range. The commonest cause of penile fracture in our study was physical manipulation of the penis to overcome an erection, (20 patients). This was followed by reverse coitus (women on top position) (15 patients) and Sodomy (10 patients). Etiology differs in different communities. In a western series¹⁴ abnormal sexual intercourse has been found to be responsible in 58% of the patient where as in Gulf States⁴ the same cause is responsible for only 9.5% of patients.

All cases in our series were diagnosed on the basis of typical history and physical findings as is done in most of the centers worldwide.^{15,16} Urinalysis was done in all patients to exclude urethral injury that was then confirmed by ascending urethrography/urethroscopy.¹⁷ This is in

accordance with the international recommendation about urethral injury with fracture penis.^{1,4,17} The incidence of urethral injury is reported to be around 20-38%.^{11,17,18} In our series it was in 1(2%) patient. Some authors advocate routine use of cavernosography^{8,19} for diagnosing fracture penis where as other do it only when the diagnosis is in doubt^{2,8} Ultrasound is said to be a better alternative.⁹

Because of the high incidence of complication rate, (up to 25-53%), conservative management of fracture penis is not recommended these days, as was practiced in the past.^{10,20,21} Prompt surgery gives better aesthetic and functional results and was adopted as a method of treatment in our study. Experience with penile and urethral surgery is important when lesion is severe or is associated with urethral injury. As a matter of fact surgical skills avoid postoperative complications such as shaft curvature, corporal narrowing or urethral stricture.^{5,12}

Surgical treatment by a sub-coronal circumferential incision is the standard incision for all fractures.^{10,20} However in small proximal tears of tunica that can be felt as a gap, a longitudinal incision laterally over the same side is easy and equally good with no short or long term complications.^{4,5} Most of the tunical tear we found

OUTCOME OF SURGERY AND COMPLICATIONS

Outcome of surgery and complication	At 6 months		At 24 months	
	No of pt (n=47)*	%age	No of pt (n=44)*	%age
Normal sexual activity with good erection	30	58.82	40	78.43
Mild penile curvature	6	11.76	1	1.96
Painful erection	5	9.80	0	
Painful nodules	3	5.88	1	1.96
Erectile dysfunction	2	3.92	2	3.92
Urethral stricture	1	1.96	0	

* Some patients lost in follow up

Table 4

were right sided and mid shaft. Longitudinal incision was used in 15 cases and subcoronal circumferential in 36. We used vicryl 3/0 for tunica repair. Both absorbable^{1,4,5,22} and non-absorbable²³ suture material are recommended in the literature with equivalent results. All of our patients were routinely catheterized before surgery which was removed on the second postoperative day. This prevents urethral injury during surgery and allows use of light pressure dressing to relieve edema and prevent hematoma formation. Its use is recommended by some^{1,13} and discouraged by others.^{6,10} We found it useful and without any complication in the short or long term. The use of diazepam was found to be useful in all of our patients as it alleviates anxiety and possibly prevents erection. Its use is favored by some¹² and discouraged by others.^{4,22} The long term results of surgery in terms of aesthetic and function were excellent with no complaints in 58.8% of patients at 6 months and 78.4% patients at 24 months. Similar findings are noted in international studies.^{15,16,24}

CONCLUSION

The commonest cause of fracture penis is violent manual manipulation of erect penis. The best treatment option is immediate surgical repair. There are virtually no long-term complications regarding aesthetic or functional aspects.

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