

## Penile fracture at Tribhuvan University Teaching Hospital: a retrospective analysis

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### ABSTRACT

Fracture of the penis is rupture of the tunica albuginea and the usual cause is abrupt bending of the erect penis by blunt trauma. Trauma during sexual relation is responsible for approximately one third of all cases. The incidence of urethral injuries associated with this condition ranged from 2.0% to 38.0%. Twelve patients who presented to emergency over a period of 4 years with diagnosis of penile fracture were reviewed retrospectively. Patient's profile and all relevant data were noted from charts. The etiology of fracture was related to coital activity in 6 (50.0%) cases while other denied such act. Surgery was performed on all the patients and discharged from hospital on removal of urethral catheter. Follow up continued until restoration of normal penile function without complaint. So fracture of the penis is an injury that can be diagnosed clinically and needs emergency surgical correction for better result.

**Keywords:** Corpora cavernosa, fracture penis, tunica albuginea, TUTH.

### INTRODUCTION

Fracture of the penis is defined as a rupture of the tunica albuginea of the corpus cavernosum.<sup>1</sup> Fracture of penis is a rare trauma but it is an urological emergency.<sup>2</sup> The usual cause is abrupt bending of the erect penis by blunt trauma.<sup>3</sup> Erection converts the flaccid penis into a vulnerable rigid organ in which the usually thick tunica albuginea (2.5 mm) becomes very thin (0.25 mm) and prone to fracture.<sup>4</sup> Angulation or compression of the erect penis shaft will result in an increase in the intracavernous pressure to levels that might exceed the tunical tensile strength and results in its rupture. This vulnerable angulation usually occurs during coitus, masturbation or nocturnal unconscious manipulation.<sup>5,6</sup> Pathologically, the lesion consists of a tear in the tunica albuginea. Bleeding will result in the formation of a hematoma, and distortion and discoloration of the penis.<sup>3</sup> There may be an associated injury to the corpus spongiosum or urethra. The extravasation of blood, urine or both may extend to the scrotum, the perineum and the inguinal region, if Buck's fascia is torn.<sup>6,7</sup> The patient may recall hearing a cracking sound followed by detumescence of the erect penis, and at times intense local pain. Hematoma, bruising and deformity of the penis then follow. A palpable tunical defect and hematoma with a "rolling sign" is usually pathognomonic features (Fig. 1).<sup>8</sup>

Fracture of the penis has been considered a rare trauma. Early reports recommended conservative management, but recent reviews advocate surgical repair as the treatment of choice. In this study, we are presenting the clinical features and experience in the management of

penile fracture seen in our hospital over the last four years.

### MATERIALS AND METHODS

This retrospective study was conducted in the Urology unit, Department of surgery of Tribhuvan University Teaching Hospital (TUTH) from January 2004 to December 2007 (four years). All the patients who were admitted with a diagnosis of fracture of the penis were identified and their records retrieved. Patient characteristics were documented, including age and marital status. The details of the clinical picture, including the activity culminating in the accident and detailed progress of symptoms until arrival at the emergency room, were noted. Findings on physical examination, investigation, results and details of management were also recorded. A standard operative management technique was adopted with all these patients: a circumferential subcoronal incision was made followed by degloving of the penis to its base. The hematoma was evacuated and the tunical tear was identified (Fig. 2). The tear was repaired with 3/0 polyglactin, while the skin was closed with 3/0 catgut. No drains were used, but a pressure dressing was applied after insertion of a Foley's urethral catheter in all the patients. Antibiotics were routinely given postoperatively. Finally, length of postoperative hospital stay, onset of any postoperative complications, and progress of patients on follow up in the outpatient were recorded.

### RESULTS

During the study period, 12 cases of fracture penis were

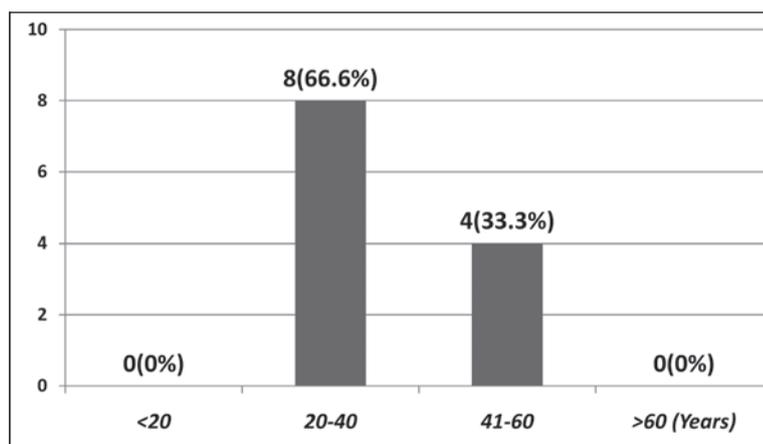


**Fig. 1.** Clinical photographs showing fracture penis with hematoma



**Fig. 2.** Intraoperative clinical photograph showing tunical defect in fracture penis

admitted and treated. The aetiology of the fracture was related to coital activity in six cases (50.0%), while the rest denied such act. The mean age of the patients was 36.0 years (range: 20 to 50 years) and 66.6% were in age group of 20-40 years (Fig. 3). Out of them, 7 patients



**Fig. 3.** Age distribution of patients with fracture penis

were married while five were unmarried. Clinical features, with which patients were presented, were summarized in Table-1. The time between the occurrence of the fracture and presentation varied between 2 to 24 hours (average 8.7 hours). Emergency surgical repair of the fracture penis were performed on all the patients using the standard method detailed earlier. Table-2 details the operative findings and anatomical sites of the various tunical tears.

In the immediate postoperative period, as expected, all the patients had painful erection. Intermittent erection was prevented using mild sedation (benzodiazepam). Patients were discharged from hospital on removal of the urethral catheter and ensuring spontaneous voiding. One patient was readmitted because of wound infection, for which debridement was required. The average length of

hospital stay was 3.3 days (range 2 to 8 days). Follow up continued until restoration of normal penile function without complaint. It comprised routine physical examination and inquiry for penile deformity. The average follow up periods for the patients was 1.2 months (range 1 to 4 months). All patients regained normal erection with full sexual activity within 2.3 months (range 1 to 4 months).

## DISCUSSION

The age of patients with penile fracture discussed in the literature ranges from 26 to 41 years.<sup>4</sup> The mean age in our series, 36.0 years, falls within this range. In six out of 12 patients (50.0%), the fracture incidents were related to sexual intercourse, which is similar to 58.0% reported by Nicolaison *et al*,<sup>9</sup> but varies greatly with 9.5% reported by El-Sherif *et al*.<sup>6</sup>

All cases were diagnosed clinically and diagnosis was confirmed upon exploration. Some authors advocate

**Table-1:** Clinical features

Presentation	Frequency (n=12)	Percentage (%)
Localized pain	12	100
Hematoma & Swelling	10	83.3
Immediate detumescence	8	66.6
Snap sound	6	50.0
Palpable tunical defect	5	41.6

Table-2: Operative details

Tunical Tear	Frequency (n=12)	Percentage (%)
Laterality		
Right Corpus	7	58.3
Left Corpus	5	41.7
Anatomic site		
Proximal	6	50
Middle	5	41.7
Distal	1	8.3

routine cavernosography,<sup>9,10</sup> while others discourage its use unless the diagnosis is in doubt.<sup>6</sup> Our own experience would support the latter view. Ultrasonography has also been suggested as a noninvasive alternative, but we have little experience of it.<sup>11</sup>

The incidence of urethral injuries associated with fracture of the penis ranged from 2.0% to 38.0% in different series.<sup>6,12</sup> In our study, only one patient has urethral injury (8.3%). Urethrography should be done for suspected urethral injury but we have no experience of it.

All our patients were managed by early operative intervention. The “conservative management” advocated by some workers in the past has now been abandoned by most surgeons because of its high complication rate, ranging from 25.0% to 53.0%.<sup>13,14</sup> Some authors advocate the use of direct incision for basal tears, while subcoronal circumferential incisions have been reserved for distal tears.<sup>6</sup> Others recommend the use of direct incisions for recent trauma and subcoronal for cases with large hematomas.<sup>15</sup> In our present study, all the patients had subcoronal circumferential incisions with degloving of penis. In view of the fact that the diagnosis was based on clinical findings, as well as the diversity of localization of the tear, we felt that it was preferable to expose the corpora cavernosa and repair any gaps in the albuginea which might be wider or more irregular than suggested by physical examination before surgery. Although non-absorbable suture is recommended in the repair of tunical tears,<sup>16</sup> many surgeons have reported the use of absorbable one.<sup>1,3,6</sup> In our series, we used absorbable (polyglactin) suture material in all cases without significant sequelae and we also recommend its use in future too.

The insertion of a urethral catheter perioperatively is still controversial, with some advocating its routine use,<sup>1,3,7</sup> while others prohibits such act.<sup>6,8</sup> In the current series, urethral catheter was inserted pre-operatively in all the cases, except one case that had urethral injury and postoperatively catheters were continued. The catheter helped during intraoperative dissection without

harming the urethra, facilitated the application of a pressure dressing and prevented wound contamination postoperatively. There was no obvious harmful effect observed as a result of such insertion.

There is also a lack of consensus on the need for postoperative suppression of penile erection with diazepam,<sup>1,13</sup> routinely used in some studies but declared to be unnecessary in other reports.<sup>6</sup> In our cases, the use of diazepam helped in the prevention of early painful erections.

We conclude that fracture of the penis is not a rare entity. It is easily diagnosed by a proper history and physical examination. The currently adopted policy of early surgical repair of the tunical defect seems to give excellent results with minimum postoperative complications.

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