# CIRCUMFERENTIAL SUBCORONAL DEGLOVING INCISION FOR THE MANAGEMENT OF PENILE FRACTURE

**Mir Alam Jan, Haris Hamid**

## ABSTRACT

**Objective:** To evaluate the clinical presentation and outcome of the treatment of penile fracture.

**Materials and methods:** Forty eight patients of penile fracture were admitted in our unit from January 2013 to December 2014 and were included in this study. Detailed history and thorough Physical examination was done. The operative plan consisted of immediate exploration though subcoronal circumferential incision. Data analysis was performed to obtain descriptive statistics.

**Results:** The mean age was 31 years. Causes of fractures were manipulation in 40 (80.33%) cases, sexual maneuver in 5 (10.41%) cases and rolling or fall on bed in 3 (6.24).The average interval from time of injury to presentation was 21 hours. All the patients presented with the typical clinical picture of a cracking sound at the time of injury, pain, rapid detumescence, and penile deformity. One patient had associated urethral injury. In all the patients the tunica albuginea weas promptly repaired by circumferential degloving incision. All the patients were sexually active at three months follow-up interval.

**Conclusion:** Common clinical presentation were snapping or popping sound, sudden penile pain, detumescence and penile deformity. Tunica albuginea repair using subcoronal circumferential incision gives excellent results in both sexual and voiding functions.

**Key words:** Penile fracture, Tunica albuginea.

## INTRODUCTION

Penile fracture is defined as rupture of the tunica albuginea secondary to blunt trauma to the erect penis. Tunica albuginea becomes very thin during erection and hence venerable to trauma[1]. When angular or compressive force is applied to the erect penis, the intracavernosal pressure increase and if this pressure is more than the tensile strength of tunica albuginea then it leads to penile fracture.

The usual etiological factors are blunt trauma during sexual intercourse, secondary to rolling in bed, masturbation, unconscious nocturnal penile manipulation or fall on to erect penis[2]. Clinically the patient usually recalls hearing a cracking sound followed by a rapid detumescence and severe penile pain followed by hematoma formation, swelling and penile deformity[3]. Urethral bleeding associated with penile fracture indicates associated urethral injury and should be investigated with a retrograde urethrogram[4]. Though the diagnosis of penile fracture is mainly clinical, cavernosography, ultrasonography and MRI have all been used in doubtful cases[5].

The true incident of penile fracture is not known. It is probably an underreported trauma in the literature[6].

We present our experience of 48 cases of penile fracture managed in our department in the last two years.

Department of Urology LRH Peshawar Pakistan.

**Address for Correspondence:**
**Dr. Haris Hamid**
Junior Registrar Department of Urology LRH Peshawar
E-mail: harishamid@hotmail.com
Cell: 0333-9212262

## MATERIALS AND METHODS

This study duration was 2 years i.e. all the patients of penile fracture presenting to our unit from January 2013 to December 2014 were included in this study. Patients with other co-morbid diseases, having prior history of penile surgery were excluded from the study. All the patients were admitted in our unit. Detailed history and thorough physical examination was performed on all the patients. All the data was collected on a structured performa. All those cases in which there was history of hematuria, underwent a retrograde urethrogram. All patients underwent surgery under general anesthesia. A 16 french urethral catheter was passed in all the cases after the induction of anesthesia. A circumferential subcoronal degloving incision was used. Hematoma was drained and the defect in tunica albuginea repaired with viacryl 3/0. Skin incision was closed with viacryl rapide 2/0. Non-sticky pressure dressing was applied. All the patients received post-operative antibiotics and analgesics. Urethral catheter was removed on 1st post-operative day and patients were discharged on 2nd postoperative day. All the patients were followed regularly upto 3 months post surgery.

## RESULTS

During the study period, 50 patients of penile

fracture presented to us, out of which 48 met the set criteria and were included in the study. The mean age of our study group was 31 years. The most common etiology was self manipulation, followed by accidental trauma during intercourse as shown in table 1. All the patients reported to hear a cracking sound at the time of trauma and severe penile pain with rapid detumescense.

6 patients gave history of blood at the urethral meatus. A retrograde urethrogram was done in these

**Table 1: causes of penile fracture.**

| Causes | No of patients | Percentage |
|---|---|---|
| Manipulation | 40 | 83.33 |
| Sexual intercourse | 5 | 10.41 |
| Fall/rollover on erect penis | 3 | 6.24 |

cases which revealed extravasation in one case. Urethral injury was managed by primary closure of the defect after freshening of its margins over a urethral catheter.

Average time between the occurrence of injury and hospital presentation was 21 hours with a range of 3 to 240 hours. In all the cases the trauma site was distal to the attachments of suspensory ligament. In all the cases, the tear was unilateral and transverse.

No patient had any significant postoperative complications except the one with urethral trauma. He developed urethral stricture 2 months following repair and was treated with internal optical urethrotomy. Average hospital stay was 2 days with a range of 1 to 4 days. 8 patients were lost to followup while the remaining were regularly followed in outpatient department. At the end of 3 month followup interval, all patients were able to sustain good erection. 2 patients complained of painful erection and three patient developed mild penile curvature. All three were able to have normal vaginal intercourse.

## DISCUSSION

Penile fracture is not so rare disease. Penile fracture is a urologic emergency having physiologic and psychological consequences. There are multiple diagnostic investigations but it's mainly a clinical diagnosis. The most common cause of penile fracture in our study was sexual manipulation i.e. 83.33 % while only 10.41 % patients gave history of traumatic intercourse. It is similar to 9.5 % reported by El Sherif[7]. While most European study shows a higher percentage secondary to coital trauma[8].

Mean age of our study group was 31 years. It is similar to the age group reported in international literature[9].

The incidence of associated urethral injury is very high in western reports i.e 20-38 %. But it our series it's 2.08 %. This is probably due to the fact that majority of penile fracture in our study was secondary to sexual manipulation in contrast to western research where coital trauma was the more predominant cause of penile fracture[10]. Coital trauma is more severe than trauma caused by manipulation so it result in more frequent concurrent urethral trauma.

Though in the past many urologists believed in conservative management of penile fracture[11], it is associated with high complication rates reaching 25-53 %. Majority of urologists currently believe that early surgical repair gives best results[12]. In our study group 2 patients complained of mild penile pain during erection. They were able to attain good erection and have vaginal sex with their partners. Pain was mild and didn't needed any medication. 3 patients had mild penile curvature secondry to scarring at the site of primary injury. Both were able to have normal sexual relation and didn't needed further treatment.

Mainly two types of surgical approaches have been utilized for the repair of penile fracture i.e circumferential degloving and dorsal longitudinal incision[13]. We used circumferential degloving incision as it gives excellent exposure of the whole tunica albuginea even in the presence of big hematoma. Exact location of the tear has to be known if one wants to give dorsal longitudinal incision. To avoid a new scar, degloving incision was given above the previous circumcision incision scar. There is also a debate whether to use absorbable or non-absorbable suture for the repair of tunica albuginea. Many studies have reported the use of non-absorbable suture material but non-absorbable sutures may cause painful palpable suture knots and should be avoided[14]. In our study we used polyglycolic acid i.e viacryl 2/0 with good results.

Routine use of peroperative urethral catheterization is also controversial. In this study, all the patients were catheterized after the induction of anesthesia. It helps in avoiding urethral trauma during dissection, postoperative pressure dressing could be applied and prevented contamination of dressing by urine. Cather was routinely removed at 1st postoperative day without any complications.

Upon discharge from the hospital, all the patients were put on benzodiazepine, cimetidine and an SSRI to prevent penile erection in the first postoperative month.

## CONCLUSION

Penile fracture is a not so rare disease. It's easily diagnosed by a proper history and thorough examination. Diagnosis can be confirmed with cavernosography. Urethral injury should be ruled out with a retrograde urethrogram in suspected cases. Early surgical intervention through circumferential subcoronal degloving

incision gives excellent results i.e. earlier resumption of sexual activity with minimal complications like painful erections and chordae etc.

## REFRENCES


1. Sawh SL, O'Leary MP, Ferreira MD, Berry AM, Maharaj D.Fractured penis: a review. Int J Impot Res2008; 20:366-9.
2. Koifman I, Cavalcanti AG, Manes CH, Filho DR, Favorito LA.Penile fracture: experience in 56 cases. Int Braz J Urol 2003;29:35-9.
3. Eke N. Fracture of the penis. Br J Surg2002; 89:555-65.
4. Amal WM, Osman MM, Hammady A, Aldahshoury MZ, Hussein MM,Saleem M:Penile fracture: long-term results of surgical and conservative management. J Trauma2011, 71:491–493.
5. Abolyosr A, Moneim AE, Abdelatif AM, Abdalla MA, Imam HM. The management of penile fracture based on clinical and magnetic resonance imaging findings. BJU Int 2005;96:373-7.
6. Zargooshi J. Penile fracture in Kermanshah, Iran: the long-term results of surgical treatment. BJU Int 2003; 9:890-4.
7. El-Sherif AE, Daulah M, Allownech N, Vijayan P. Management of fracture of penis in Qatar. Br J Urol 1991;68:622-5.
8. Ekwere PD, Al-Rashid M. Trends in incidence, clinical presentation and management of traumatic rupture of the corpus cavernosum. J Natl Med Assoc 2004; 96:229-33
9. Benefelloun M, Rabii R, Bennani S, Querfani B, Jonal A, El Mrini MN. Fracture of the corpuscavernosum: report of 123 cases. Afr J Urol 2003;9:1-10.
10. Soylu A, Yilmaz U, Davarci M, Baydinc C. Bilateral disruption of corpus cavernosum with complete urethral rupture. Int J Urol 2004;11:811-2.
11. Muentener M, Suter S, Hauri D, Sulser T. Long-term experience with surgical and conservative treatment of penile fracture. J Urol 2004;172:575-9.
12. Zarin M, Haider K, Aurangzeb M, Roohhul Muqeem, Hussain I, Mujeebur Rehman, et al. Surgical treatment of fractured penis. J Surg Pak 2006;11:107-9.
13. Seftel AD, Hass CA, Brown SI. Inguinal scrotal incision for penile fracture. J Urol 1998;159:182-4.
14. Ali MZ, Swati MJ, Ali FZ, Ali MT. Fracture of the penis: a true surgical emergency. Int J Surg 2007;13:201-9.