ORIGINAL PROF-632

FRACTURE OF PENIS

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ABSTRACT

PURPOSE: Fracture of penis is a rare urological emergency and has been reported infrequently. By this study we want to demonstrate the proper and early surgical management of this condition as to reduce the complications. **MATERIAL & METHODS:** Between March 1993 to Dec 2000, 20 patients underwent an emergency operation about 1-36 hours after penile fracture. **RESULTS:** Functional results were excellent in all patients. **CONCLUSION:** To avoid serious complications, immediate surgical intervention is recommended.

KEY WORDS: Penis, Penile Fracture, Rupture of the deep dorsal vein.

INTRODUCTION

Fracture of penis is an acute condition. It usually occurs due to rupture of corpus cavernosum and/or spongiosum[1]. Sometimes it may present with rupture of deep dorsal vein only[2].

Fracture of penis commonly occurs during sexual intercourse, masturbation, nocturnal unconscious manipulations and fall on ground with erect penis[3].

The events and findings following this injury are characteristic and include a cracking sound accompanied by immediate pain, rapid detumescence, swelling and echymosis and deviation of penis to contra lateral side[4]. Rare entities like rupture of deep dorsal vein and/or superficial dorsal vein may lead to the presentation, similar to the rupture of corpus cavernosum, therefore it should be considered in the differential diagnosis of acute penis. The need for immediate exploration is emphasized in order to avoid erectile failure and chordee, which are typical complications of conservative management[5,6].

We present our experience in 20 patients with fracture of penis, who immediately under-went surgical exploration after their arrival at the hospital.

PATIENTS & METHODS

This study was conducted at JPMC Karachi and CMCH Larkana during March 1993 to Dec 2000. Twenty patients were seen with the complains of painful penile swelling and echymosis (Fig-1), bending of penis on either side and sudden loss of erection following one or other form of sexual act. The age range was 19-40 years with mean age 24.7 years. The etiology in our series is almost similar to other investigators(Table I)[3,11].

In this series, 12 patients presented with left sided injury, 7 with right sided injury and one was patient diagnosed as the rupture of deep dorsal vein.

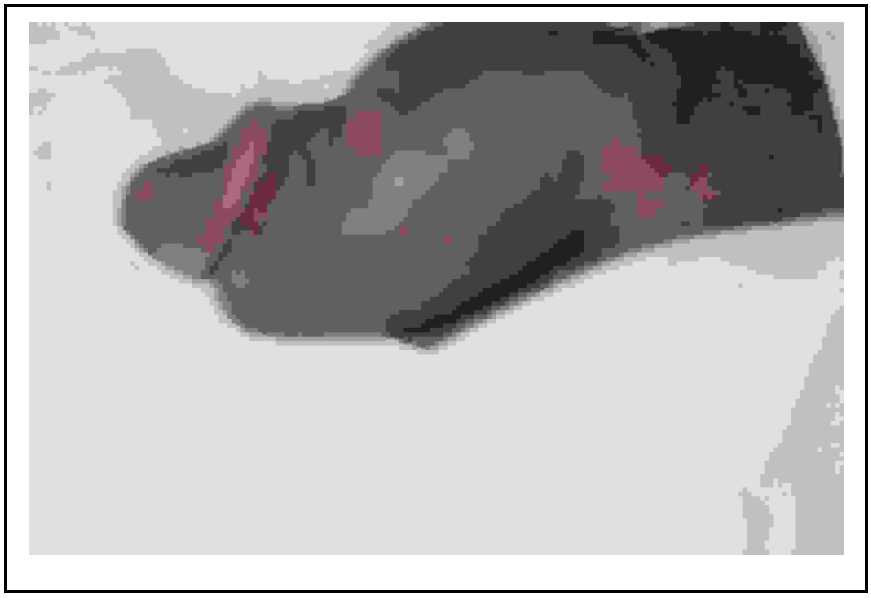
Table-I. Aetiology

Aetiology	No of patients	%age
Sexual intercourse	15	75
Masturbation	2	10
Forceful bending of penis	2	10
Fall on ground with erect penis	1	5

Table-II. Side of the injury

Side	No of patients	%age
Left sided	12	60
Right sided	7	35
Dorsal aspect (rupture of the dorsal vein)	1	5

Patients were brought to hospital about, 1-36 hours after the incident. None of our patient presented with bleedings at the external urethral meatus and difficulty in micturation, which excluded urethral injury. This observation is comparable with EI Sherif et al[7], who also reported no concomitant urethral injury in their series. Therefore, urethrography was not considered in any patient.



Though many authors have proposed the necessity of cavernosogram to confirm the side, site and the extent of the tear as well as to verify the initial diagnosis[8,9]. Our practice is, that if history and clinical examination are suggestive of acute fracture of penis, to go for surgical exploration. We did not carry out cavernosography.

All the patients were operated via circumferential incision; in 19 patients the tunica albugenia of corpora cavernossa in the proximal one third was ruptured but corpus spongiosum was intact. The tear in tunica was unilateral and transverse or oblique in all patients involving less than half of the circumference of corpus cavernosum. After evacuation of hematoma the tears were closed with 3/0 vicryle. While in one patient on the dorsal aspect of mid shaft a complete disruption of deep dorsal vein with associated clot was noted. The vein was ligated and clot evacuated. No other injury identified. All the patients were catherised with 16 or 18 F follys catheter for 24 hours and pressure dressing applied which were changed on first post operative day and removed on second or third post-operative day.

Pre and post-operative antibiotic cover with Ampicillin 500 mg 6 hourly parenterally for 24 hours and then per oral for five days. Along with antibiotics anti-inflammatory and analgesic were also given.

RESULTS

All the patients recovered uneventfully and were discharged on fourth or fifth post operative day except two patients who developed minor wound infection and were kept for another two or three days, till they recovered completely.

Strict follow up was observed for six months in all patients. All the patients regained early and normal sexual activity with excellent functional results. Only one patient complained of pain during coitus for two months, which also subsided with the use of analgesics. It is important to note that this patient also did not show any signs of fibrosis, plaque formation or chordee.

DISCUSSION

During erection, the tunica albuginea thins from 2mm to between 0.5 and 0.25 mm, which predisposes to tissue injury, if abnormal forces are applied[10,11]. Following the traumatic rupture of tunica albuginea, bleeding occurs leading to haematoma formation, which angles the penis to the opposite direction[12].

Rupture of the deep dorsal vein of the penis is very rare. The mechanism of injury to the deep dorsal vein is presumed to be basically same as the rupture of corpora cavernosa[2]. It is indistinguishable from the corporal rupture, therefore, should be considered in the differential diagnosis of acute penis, as the haematoma of the deep dorsal vein rupture is confined to the space beneath the Buck's fascia and thus remain within the penile shaft[1]. These findings were similar in the solitary case of deep dorsal vein rupture in our series.

Fracture of the penis is sometimes associated with urethral injury with sexual intercourse. The frequency of injury has been reported about 20-38% by Edwin & Mears[4]. No urethral injury was noted in our patients. The same was reported by EI-Sherif and Ashraf Jallu et al[13].There is also clear diversity in approach used to exclude urethral injury in penile fracture. Some investigators advocate performing retrograde urethrogram in all patients. This was not carried out in our patients and there was no untoward sequel. Therefore, present work supports the view of previous authors[1,6,7], who were of opinion that this investigation should be performed only if rupture of urethra is suspected from history of voiding difficulty, bleeding from external urethral meatus, gross or microscopic haematuria.

There is also dispute among the investigators about the role of cavernosography. Some authors strongly recommend it pre operatively to demonstrate the site of injury and help in planning the treatment guidelines[1,8,9].We have not performed cavernosography in our series. The diagnosis was based on the history and clinical findings and there was no difference between pre and post operative diagnosis. In our view, the role of cavernosography should be limited in the management of fracture of penis particularly in view of potential risks involved such as, contrast reaction, increased risk of fibrosis from extravasated contrast medium and priapism. Similar were the views of Orvis et al[15] and EI Sharif et al about cavernosography.

There is difference of opinion regarding the therapeutic approach to the rupture of the penis. Until the middle of this century, conservative therapy with ice packs initially and hot packs later, analgesics, pressure dressings, indwelling catheters and antibiotic cover was advocated[16,17,2]. More than 10% of the patients treated conservatively have experienced permanent penile deformity, suboptimal erections or pain with coitus, sepsis and prolonged duration of hospital stay was noted[13,4,14].

Now most of the workers recommend immediate surgical exploration. The aim of immediate surgery is to avoid the formation of fibrous tissue that causes penile curvature, achieve good results, shorten the hospital stay and prevent possible deformity[2,3,16,18].

Our experience also suggest an immediate exploration through circumferential incision, with evacuation of haematoma and repair of torn tunica and other associated condition e.g. ligation of deep dorsal vein if it is ruptured as all our patients in this series showed excellent results with shorter hospital stay.

In conclusion, we may say that prompt surgery allows earlier resumption of sexual activity, with less likelihood of fibrous tissue formation, chordee, painful erections, psycho-physical and social problems.

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