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Fracture of the penis

DİNÇEL Ç., ÇAŞKURLU T., RESİM S., BAYRAKTAR Z., TASÇI A. İ., SEVİN G.
Department of Urology, Vakıf Gureba Hospital, İstanbul

Objective Fracture of the penis is a rare condition. The fracture is easy to recognize but the treatment remains controversial. We present 11 cases with follow up that illustrate the results of surgical form of management, and we discuss the treatment of penile fracture in the light of our experience and of the current literature.

Method Between December 1991 and January 1997, eleven patients underwent emergenty operation in the first day after penile fracture. Our operative plan, consisted of immediate exploration, debridement and primary repair of the tear in the tunica albuginea.

Results Their mean age was 27 years (range 21-38 yrs). Penile fracture was due to sexual maneuvers in 8, manipulation in 2 and fall onto erect penis in one of the patients. The mean hospitalization time was 2.2 days (range 1-3 days). There was no significant early postoperative complication except wound infection in one patient. In the first month of the postoperative period, there was residual fibrosis due to nonabsorbable sutures in one patient and mild pain during coitus in another. All patients had full erection and no patient needed additional treatment.

Conclusion To avoid serious complications and preserve penile functions, immediate surgical intervention is recommended.,

Key words Penis, trauma, fracture, corpus cavernosum

Introduction

Fracture of the penis is a rare urological emergency. Although the true incidence is unknown, it is estimated as infrequent as 1 of 175 000 hospital admissions (1). One hundred and ten cases were reported in the literature, until 1983 (2). The fracture occurs when one or both corpora cavernosa are ruptured, usually during erection due to a direct trauma. There may be associated injury to the corpus spongiosum or urethra (3). In more than half of the cases, rupture occurrs during sexual intercourse (2) and the remaining are secondary to rolling over in bed (4) or kneading the penis to achieve detumescence (1). There have been other mechanisms of rupture reported previously (5).

The pathological lesion is a tear of the tunica albuginea of the corpus cavernosum or spongiosum, resulting in hematoma formation, swelling and skin discoloration (Fig. 1). Characteristically, the patient often hears a crackling sound followed by collapse of the erection and intense pain locally.

There is some controversy about the therapeutic approach of penile fracture. Treatment options that have been reported previously are immediate surgical exploration with primary closure of the tunica albuginea and nonsurgical conservative management. We herein evaluate our results about primary surgical treatment of penile fractures.

Material and Method

Between December 1991 and January 1997,11 patients were hospitalized with penile fracture among 330000 hospital admissions. Patients'age at the time of presentation ranged from 21 to 38 years, with a mean age of 27 years. We took a careful history and performed physical examination in order to get the cause of the fracture, time of the injury, extent of penile heamatoma, signs of blood at the external meatus and side of penile curvature. Urinalysis was performed in all patients. Gross hematuria was present in one patient but uretrography did not demonstrate any extravasation. At emergency operation, the penis was explored through a distal circumferential incision, followed by evacuation of the hematoma, identification of the tear and sharp debridement of the edges. To prevent inadvertent urethral damage during surgical exploration 16 F urethral catheter was placed in all patients. The tear in the tunica albuginea was unilateral and transverse in all cases, involving less than half of the circumference of the corpus cavernosum. The tear (range 7- l6 mm) was closed with 4/0 polypropylene interrupted sutures. After the lesion reperation, we performed artificial penile erection to control if there is any leakage or curvature at the lesion side (Fig. 2).

Figure 1. Penile fracture after 9 hours

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Urethra and corpus spongiosum were intact in all patients. Operations were performed in the first 24 hours after the injury. The urethral catheter was removed after 24 hours, and the patient was discharged from the hospital 1 to 3 days after the operation. The third generation cephalosporins (usually ceftriaxone) were given as a prophylactic agent. Also diazepam was used to decrease the frequency and intensity of erections.

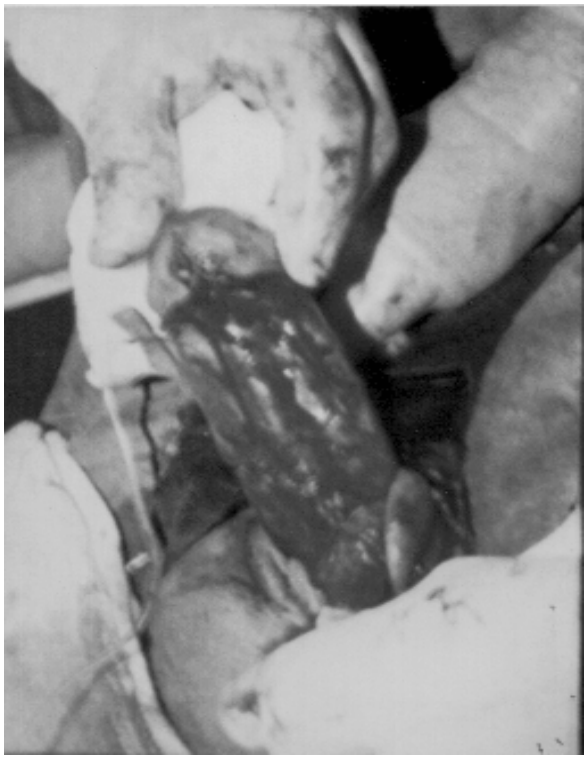

Figure 2. Artificial erection during the operation.

Results

Penile fracture was due to sexual maneuvers in 8, maniplation in 2 and fall onto erect penis in one of 11 patients. All patients reported a sharp, cracking sound with severe pain followed by immediate detumescence, rapid swelling, discoloration and deformity of the penis. No patient had micturation problem. Average time between the injury and operation was 13 hours (range 7 to 23 hours). The mean follow-up period was 21 months (range 6 to 37 months). Eight of the cavernosal ruptures were on the right side and 3 were on the left. There were no significant postoperative complications except wound infection in one patient despite prophylactic antibiotics, and the patients were discharged from the hospital 1 to 3 days after the operation. In the first month of the postoperative period, there was a residual fibrosis due to nonabsorbable sutures in one patient and mild pain during coitus in another. All patients had full erection and no patient needed additional treatment.

Discussion

Our experience also showed that penile fracture is a rare urological emergency. Most of the cases occured during sexual intercourse. Usually the penis slips out of the vagina and then is thrust against the perineum or symphysis pubis, which results in a tear of the tunica albuginea (2). Most of our cases (8/11) also occured during sexual intercourse. Other reported that most cases occured because of the forcibly and manually deflection of the erect penis (6). Although the diagnosis of the case is easy, treatment has some controversy. Presently, no long-term prospective randomized studies are available to establish whether operative or nonoperative management is the optimal treatment . But many support the necessity for immediate surgery (2,7,8,9,10). Nonoperative management is associated with a 29% complication rate (including persistent clot, angulation, infected heamatoma, penile abscess, persistent extravasation of urine and painful markedly deformed erection). However there were no significant complication precluding sexual intercourse in 26 cases managed initialy by primary repair (2). In the same review, over-all average hospital stay was 14 days in patients treated nonoperatively and 6.6 days in patients managed with an operation. It seems that, immediate surgery is necessary to prevent formation of the fibrous tissue that causes penile curvature, to achieve good results and to shorten hospital stay. Late or postponed surgery achieved less favorable results due to urinary extravasation, fibrous tissue formation, sepsis and incision of deeper intracavernous fibrotic tissue (7). Preoperative cavernosography has been recommended by some of the authors to demonstrate the site of injury and plan the surgical approach (11,12). We were able to identify the site of the injury preoperataively in all of our patients clinically, therefore none of our patients underwent cavernosography.

We did not perform retrograde urethrography unless voided urinalysis was remarkable.

Urethral injuries associated with penile fracture were reported as frequent as 22% . However we did not meet any demonstrable urethral injury with uretrography or during operations. Only one patient had gross hematuria which might be due to a mucosal injury. The surgical approach is by a subcoronal circumferential (2,13) or dorsal incision (14). We performed the circumferential subcoronal and degloved the penis to get sufficient area for reperation of the tunica albuginea and any associated conditions. As the other authors reported, there were not any significant complication precluding sexual intercourse in our patients either.

We concluded that immediate primary surgical correction of penile fractures is successful in preserving normal erections without significant complications. Furthermore, this treatment is associated with short hospital stay and rapid return of sexual function.

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Correspondence to:

Dr. Çetin Dinçel

Vakıf Gureba Hastanesi Üroloji Kliniği

İstanbul, TÜRKİYE