PENILE FRACTURE : ANALYSIS OF A RETROSPECTIVE SERIES IN THE UROLOGY DEPARTMENT OF FRIENDSHIP HOSPITAL IN NOUAKCHOTT

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Abstract

Fracture of the penis is a rupture of the tunica albuginea of the corpora cavernosa. It results from trauma to the erect penis, most often during sexual intercourse or masturbation. It is considered a relatively rare urological emergency.

Objective : *Our study aimed to investigate the epidemiological, clinical, and therapeutic aspects of penile fracture in the urology department of the Friendship Hospital in Nouakchott (Mauritania).*

Material and methods : *This is a retrospective, descriptive, and analytical single-center study on penile fractures, based on data collected from the hospitalization records of the urology department at the Friendship Hospital in Nouakchott (Mauritania). The study covered a 9-year period, from January 1, 2012, to December 31, 2019.*

Results : *During our study period, we recorded 10 cases of penile fracture, corresponding to an incidence of 1.1 cases per year. The average age of the patients was 34 years, with extremes ranging from 30 to 56 years. The most common reason for consultation was the classic triad: penile pain, swelling, and the patient hearing a cracking sound at the time of trauma—reported by all patients. Physical examination revealed, in 9 out of 10 cases, a hematoma and a swollen penis with deviation, giving the characteristic "eggplant deformity" appearance. Urethral bleeding was observed in only one patient. No additional diagnostic tests were required. All patients underwent emergency surgery. Surgical management consisted of exploration, evacuation of the subcutaneous hematoma, and suturing of the tunica albuginea of the corpora cavernosa. One case of urethral rupture was also identified and managed by suturing the urethra and placing a Foley catheter. The leading cause was forced manipulation of the penis. In our series, seven patients regained normal erectile function, two developed erectile dysfunction, and one patient had scar fibrosis causing a mild penile curvature, which did not interfere with sexual intercourse. No urethral strictures were reported.*

Conclusion : *Penile fracture is a relatively rare urological emergency. It primarily affects sexually active adult men and occurs when the penis is erect. The diagnosis is generally straightforward and based mainly on clinical findings. It is important to look for an associated contusion of the corpus spongiosum, with or without urethral rupture. In nearly all cases, treatment is surgical and involves evacuating the subcutaneous hematoma and suturing the tunica albuginea of the corpora cavernosa.*

Keywords : *penile fracture, corpora cavernosa, tunica albuginea, hematoma, urethral rupture, penis, Mauritania*

Introduction

Penile fracture is a relatively frequent urological emergency, corresponding to the rupture of the tunica albuginea of one of the corpora cavernosa and/or the corpus spongiosum while in an erect state. This rupture most often occurs during a "coital misstep": the penis slips out of the vagina and strikes the partner's pubic symphysis or perineum [1].

Urethral injury is more common in bilateral fractures of the corpora cavernosa and usually presents as urethrorrhagia [2]. The Middle East and North Africa are the regions where this condition is most frequently reported [3]. The epidemiological and etiological characteristics of this traumatic pathology vary depending on sociocultural factors [4].

The objective of our study was to investigate the epidemiological, clinical, and therapeutic aspects of penile fracture within the urology department of Friendship Hospital in Nouakchott (Mauritania).

Materials and Methods

This was a retrospective, descriptive, and analytically oriented monocentric study focusing on cases of penile fracture recorded in the hospitalization registers of the urology department at Amitié Hospital in Nouakchott (Mauritania). The study period spanned 9 years, from January 1, 2012, to December 31, 2019. The parameters analyzed included: Patient age, circumstances of occurrence, reasons for and timing of consultation, physical examination findings, paraclinical investigations, treatment modalities

Results

Frequency

During the study period, we analyzed 10 patient records for penile fracture, corresponding to an incidence of 1.1 cases per year.

Age

The average age of the patients was 34 years, with a range from 30 to 56 years. The most represented age group was 30–40 years, accounting for 60% of the cases.

Clinical presentation

The average delay between the fracture and consultation was 24 hours, with extremes ranging from 30 minutes to 4 days.

The most common reason for consultation was the classic triad: pain, penile swelling, and an audible cracking sound at the time of trauma, reported in 100% of the cases. Urethral bleeding (urethrorrhagia) was observed in only one patient.

Clinical examination revealed, in 9 cases, a hematoma associated with penile swelling and deviation, producing the characteristic “eggplant deformity.” Urethrorrhagia was confirmed in one case.

Figure 1 : Swollen penis with deviation, showing the characteristic “eggplant deformity.”

Paraclinical examinations :

No paraclinical examinations were performed. The diagnosis of penile fracture was established exclusively based on clinical findings.

Treatment :

All patients underwent emergency surgery under spinal anesthesia.

The average time between admission and surgical intervention was 3 hours, with extremes ranging from 2 to 48 hours.

The surgical approach consisted of a circumferential incision, allowing complete degloving of the penis up to the site of the fracture.

Peroperative exploration revealed that the fracture was located in the proximal third in 7 cases, the middle third in 2 cases, and the distal third in 1 case. One case of urethral rupture was also identified.

Treatment consisted of evacuation of the subcutaneous hematoma followed by suturing of the tunica albuginea using interrupted 2/0 absorbable stitches. The urethral rupture was managed with urethral repair and placement of a Foley catheter.

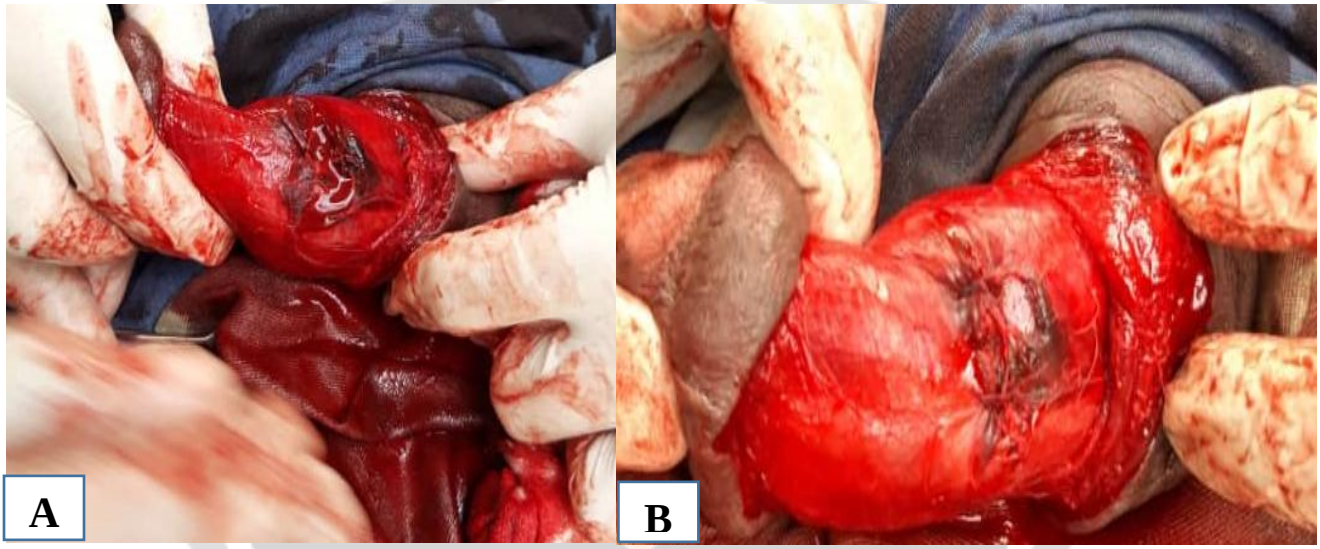

Figure 2 :

A: Circumferential incision along the circumcision scar, allowing complete degloving of the penis up to the site of the fracture.

B: Appearance of the penis after closure of the tunica albuginea tear.

Circumstances of occurrence

The most common cause was forced manipulation, reported in 5 patients, followed by a coital misstep during sexual intercourse in 2 patients. Other causes included trauma due to a change in sleeping position in one patient, while the cause remained undetermined in another.

Evolution

The average hospital stay was 24 hours, with a range from 12 to 72 hours. The urinary catheter was removed on the 15th day in the patient with an associated urethral rupture.

After a minimum follow-up of three months, seven patients had regained normal erectile function. Two cases of erectile dysfunction were identified based on assessment with the IIEF-5 (International Index of Erectile Function 5). One patient developed scar tissue fibrosis with a slight penile curvature, which did not interfere with sexual activity.

Finally, no urethral stricture was reported in the patient who underwent urethral repair following rupture.

Discussion

Penile fracture is a rare andrological emergency [5]. In our study, the incidence was 1.1 cases per year, a result similar to those reported by Kpatcha [4] and Abdoul-Karim Paré [5], who each observed an annual incidence of 1.2 cases.

However, these results differ from those reported by L. Niang et al. [6] and Touti et al. [7], who observed higher incidences of 2.5 and 2.2 cases per year, respectively. This increasing trend in various studies may be explained by the gradual lifting of certain sexual taboos, as modern men tend to be more open about their sexuality, as well as by a lack of sexual education [6].

In our series, the mean age of the patients was 34 years, with a range from 30 to 56 years. The most represented age group was 30 to 40 years, accounting for 60% of the cases.

This average age is similar to those reported by L. Niang [6], Leandro et al. [8], and Touiti et al. [7], who found mean ages of 36, 33, and 34 years, respectively. Other studies, however, report higher averages, such as Chung et al. [9] with 44 years, or lower averages, like Benjelloun et al. [10], who found a mean age of 25 years. Circumstances of Occurrence and Management

The circumstances surrounding the occurrence of penile fracture are varied [6]. In our series, forced manipulation was the leading cause, accounting for 50% of cases, followed by sexual intercourse in 20% of cases. These findings are similar to those reported by L. Niang [6], who identified forced manipulation in 52% of cases and sexual intercourse in 32% as the main circumstances.

Conversely, other studies, notably those by Kpatcha [4] and Abdoul-Karim Paré [5], reported sexual intercourse as the primary cause. Indeed, during intercourse—especially in the "woman-on-top" (Andromache) position—the penis may slip out of the vagina and strike the partner's perineum or pubic symphysis with force, thereby causing the fracture [11].

In our series, the average time between the trauma and medical consultation was 24 hours, with extremes ranging from 30 minutes to 4 days. Leandro et al. [8], in Brazil, reported an average delay of 14 hours, ranging from 2 hours to 3 weeks. Similarly, L. Niang et al. [6], in Senegal, found an average delay of 24 hours, with a range of 30 minutes to 11 days. According to Chung et al. [9], this interval may vary from 17 minutes to 7 days.

The classic triad (pain, penile swelling, and an audible cracking sound perceived by the patient) was present in 100% of the cases in our study. Urethral bleeding (urethrorrhagia) was observed in only one case. These results are similar to those reported by L. Niang [6], who also identified the clinical triad in 100% of cases and urethrorrhagia in two patients.

Urethrorrhagia is a serious morbidity marker. Without early management, the formation of a urohematoma may lead to secondary infection and suppuration. This can result in the formation of a urethrocutaneous fistula or, in more severe cases, penile gangrene, as reported in the series by Sylla et al. [12].

All of our patients underwent emergency surgery under spinal anesthesia. The average time between admission and surgery was 3 hours, with extremes ranging from 2 to 48 hours. These findings are very close to those reported by L. Niang [6], who observed an average delay of 2 hours, ranging from 45 minutes to 48 hours. This reflects the promptness with which the patients were managed.

In our series, the fracture was located proximally, near the root of the penis, in 70% of cases. This result is comparable to those in the series by Muqim [13] and L. Niang [6], where a proximal location was found in 80% of cases.

In our series, postoperative outcomes were uncomplicated in 100% of cases. The average length of hospitalization was short, estimated at 24 hours, with extremes ranging from 12 to 72 hours, as reported in other studies [7, 10].

In cases of urethral rupture, the urinary catheter was removed on the 15th day.

During follow-up, 7 patients (70%) regained normal erectile function. Reported sequelae were rare: two cases of erectile dysfunction and one case of localized cicatricial fibrosis, causing induration without affecting sexual function.

These results, obtained after surgical treatment, were satisfactory and comparable to those reported by many authors [8, 14, 15].

Conclusion

Penile fracture is a relatively rare urological emergency. It mainly affects adult men during their sexual activity. This injury occurs in an erect penis, and its diagnosis is generally straightforward, primarily relying on clinical findings. It is important to look for any possible contusion of the spongy body, with or without urethral rupture. In the vast majority of cases, the treatment is surgical. It involves the evacuation of the subcutaneous hematoma and the suturing of the tunica albuginea of the corpora cavernosa.

In our series, the results were satisfactory: 70% of patients regained normal erectile function, without curvature or fibrous plaque. Early and appropriate management in a surgical setting remains key to a good prognosis, both functionally and aesthetically.

Conflicts of Interest

The authors declare no conflicts of interest.

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