

## Breaking the Silence: Clinical Insights into Penile Fracture Case Report and Review of Literature

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### Abstract

### Case Report

Penile fracture is a rare urological emergency characterized by rupture of the tunica albuginea of the corpora cavernosa, typically occurring during sexual intercourse. Prompt diagnosis and surgical management are essential to prevent long-term functional complications. We report the case of a 30-year-old man with no significant medical history who presented with acute penile pain, a cracking sound, immediate detumescence, and penile swelling during sexual intercourse. Physical examination revealed penile edema with a localized hematoma and no signs of urethral injury. Penile ultrasound confirmed a rupture of the tunica albuginea in the proximal third of the left corpus cavernosum. The patient underwent emergency surgical exploration via a circumferential subcoronal degloving incision. After evacuation of the hematoma, the tunical tear was repaired with absorbable sutures. The postoperative course was uneventful. At six-month follow-up, the patient reported normal erectile function and no penile curvature. Penile fracture is primarily a clinical diagnosis based on characteristic history and examination findings. Imaging may assist in atypical cases but should not delay surgery. Early surgical repair is associated with significantly lower rates of complications compared with conservative management. Various surgical approaches have been described, with the subcoronal degloving incision offering excellent exposure. Early recognition and prompt surgical intervention remain the cornerstone of management in penile fracture, resulting in favorable functional outcomes and a low rate of complications.

**Keywords:** Penile fracture; Tunica albuginea rupture; Urological emergency; Surgical repair; Erectile dysfunction.

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## INTRODUCTION

Penile fracture is a rare urologic emergency that involves the traumatic disruption of the tunica albuginea of the corpora cavernosa. It usually occurs as a consequence of blunt trauma to the erect penis, most often during sexual intercourse, forceful masturbation, or, less often, accidentally rolling over in bed [1].

The diagnosis is essentially clinical, and imaging studies should only be used in atypical cases or when there is a question of diagnosis.

Early surgery is the cornerstone of treatment, as it has been shown to decrease the incidence of complications, such as erectile dysfunction, penile curvature, and voiding dysfunction, by several fold [2,3].

In this article, we will describe a case of penile fracture treated in our department and discuss the diagnostic and therapeutic aspects in the context of recent literature.

## CASE PRESENTATION

We present the case of a 30-year-old man with no significant past medical history who came to the urology emergency unit with acute penile pain during sexual intercourse. The patient complained of a sudden cracking sound, followed by severe pain, rapid detumescence, and the development of penile swelling.

Physical examination revealed penile edema and tenderness with a localized hematoma that predominantly involved the proximal third of the penis shaft. There were no signs of urethral injury, such as hematuria or acute urinary retention.



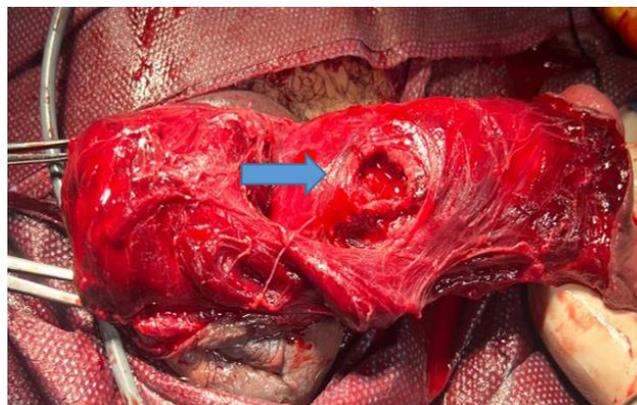
**Figure 1: Preoperative clinical aspect** A penile ultrasound was performed, revealing a break in the tunica albuginea of the corpus cavernosum in the proximal third, confirming the diagnosis of penile fracture



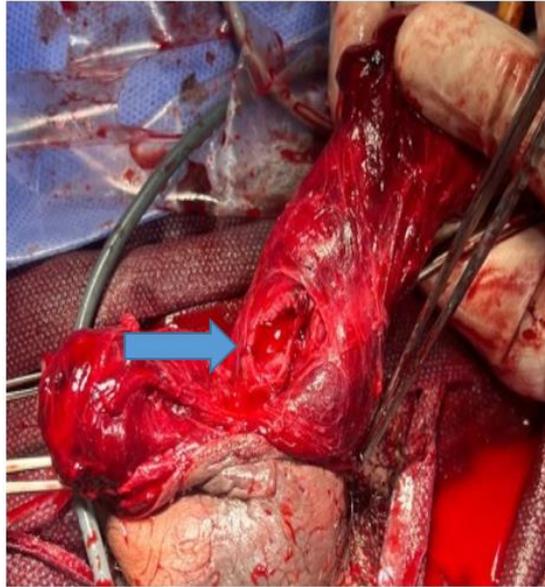
**Figure 2: Ultrasound image showing rupture of the tunica albuginea and hematoma above it**

An emergency surgical exploration was decided upon. The procedure was performed via a circumferential incision with detachment of the penis.

Intraoperative exploration revealed a longitudinal rupture of the tunica albuginea of the left corpus cavernosum in the proximal third.



**Figure 3: intraoperative view of the rupture of the tunica albuginea**



**Figure 4: intraoperative view of the rupture of the tunica albuginea**

After draining the hematoma, the tunica albuginea was sutured using separate stitches of absorbable thread.



**Figure 5: View after fracture repair**

The postoperative course was uneventful, with no immediate complications. The patient returned for a follow-up consultation after two weeks with favorable clinical progress, marked by the absence of pain and good healing. He was seen again after six months and no erectile dysfunction was reported.

## DISCUSSION

Penile fracture is a rare urological emergency that occurs almost exclusively in the erect position, when the tunica albuginea of the corpora cavernosa is significantly thinned and susceptible to mechanical injury. With erection, the thickness of the tunica albuginea decreases from 2 mm in the flaccid state to less than 0.5 mm, thereby decreasing its resistance to bending and torsional forces. A sudden increase in intracavernosal pressure beyond the tensile strength of

the tunica albuginea results in its rupture, thereby causing penile fracture [4].

In Western studies, sexual intercourse is the most frequently described cause of penile fracture, accounting for 30-60% of cases [5,6]. This usually occurs during forceful thrusting during sexual intercourse, when the erect penis is suddenly dislodged from the vagina and forcefully strikes the perineum or pubic symphysis of the partner. Certaines positions sexuelles sont particulièrement à risque, notamment la position de la partenaire au-dessus (« woman-on-top »), dans laquelle le contrôle du mouvement est réduit pour l'homme et la force d'impact potentiellement plus importante.[7]

Diagnosis of penile fracture is essentially clinical, based on a careful history and physical

examination. The typical presentation is marked by a triad of symptoms: an acute cracking sound, penile pain, and immediate detumescence. A rapidly developing subcutaneous hematoma with swelling usually gives rise to the characteristic “eggplant deformity,” which is highly suggestive and often pathognomonic for penile fracture [5,6].

Evaluation for associated urethral injury is also critical, as it has been observed in 10-20% of patients. Clinical evidence includes hematuria, penile pain or dysuria, and urinary retention, and, in some cases, urine leakage from the wound. In our patient, the lack of these symptoms helped confirm the diagnosis of isolated rupture of the left corpus cavernosum [7].

Early clinical diagnosis is vital, as it enables immediate surgical repair and prevents the development of long-term functional deficits, such as erectile dysfunction and penile curvature.

Although penile fracture is usually a clinical diagnosis, imaging studies may be useful in unusual cases or to accurately identify the location of the tunical tear preoperatively. Penile ultrasound is a quick and painless procedure that can identify defects in the tunica albuginea, although its sensitivity may be decreased by penile swelling, patient discomfort, or operator expertise [8]. Magnetic resonance imaging (MRI) has better spatial resolution, which enables accurate definition of the location of the tear and the hematoma. MRI is useful when the ultrasound study is equivocal but should not be used to delay surgical repair when the diagnosis is apparent [9,10].

The controversy between conservative and surgical management of penile fracture has now been resolved. Bennani *et al.*, [11] found that complication rates were 40.7% with non-operative management, in contrast to 8.2% with surgical repair. Thus, immediate surgical repair is now regarded as the most effective means of preventing complications. Similarly, Amer *et al.*, [5] found that early surgical repair was followed by significantly lower rates of erectile dysfunction, penile curvature, fibrotic plaques, and nodules than conservative management.

Another technique was described by Nasser [12], who recommended delayed surgical repair between the seventh and tenth day after injury. The rationale for this was that the resolution of edema and hematoma would make surgical dissection easier.

In our patient, we preferred the circumferential subcoronal degloving incision, which has been widely used by many authors [13,14]. This allows excellent exposure of the corpora cavernosa and lesions, rather than a direct incision over the fracture. While this incision is more extensive, it does allow for adequate exploration with acceptable morbidity. Mahapatra *et al.*,

[15], from India, reported two cases of skin necrosis out of fifteen patients with complete penile degloving incision through this technique. Conversely, our patient showed complete cutaneous healing at the 15-day postoperative follow-up.

Several authors [16,17] suggest endoscopic realignment as the preferred treatment option in cases of isolated spongy urethral rupture.

The possible late sequelae of penile fracture include penile curvature during erection, erectile dysfunction, neurovascular damage, and voiding dysfunction due to urethral stricture from associated urethral injury.

In our case, no sequelae were found at the six-month follow-up. However, according to Mahapatra *et al.*, [15], of 18 patients followed up after penile fracture, two patients developed erectile dysfunction at three months of follow-up, one of whom showed cavernous artery insufficiency on Doppler ultrasonography. Likewise, Kpatcha *et al.*, [18] documented two patients who developed erectile dysfunction due to decreased penile rigidity and the inability to maintain erection until completion of intercourse.

## CONCLUSION

Penile fracture is a rare event, mainly occurring in young males, usually during sexual intercourse. The diagnosis is essentially clinical. Associated damage to the corpus spongiosum, with or without urethral damage, should also be evaluated. The treatment is mainly surgical and consists of drainage of the subcutaneous hematoma and primary repair of the tunica albuginea of the corpora cavernosa.

## DECLARATIONS

**Ethics approval and consent to participate:** Written informed consent was obtained from the patient for the publication of this case report.

**Consent for publication:** Written informed consent for publication of the clinical details and images was obtained from the patient.

**Declaration of interests:** The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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