

# Severe Coital Accident: A Rare Case of Simultaneous Fracture of the Penis and a Complete Urethral Rupture at the University Hospital of Bouake

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## Abstract

Cavernous body fracture is a rare urological emergency. Its association with complete rupture of the urethra remains exceptional. This is a report of simultaneous penile fracture and complete rupture of the urethra following a misstep in coitus. It is about a 41-year-old young adult, admitted to the surgical emergency department of the University Hospital of Bouaké on March 2, 2020 for penile pain associated with acute retention of urine. The clinical examination confirmed the diagnosis of a corpus cavernosa fracture associated with a ruptured urethra. The patient underwent cystostomy, right cavernorrhaphy and urethrorrhaphy. The postoperative follow-up was straightforward and the patient was discharged from the hospital on D3 postoperatively. The urethral catheter was removed on D21 postoperatively. With a follow-up of 1 year, the patient presents a good erection and does not report any voiding disorder.

## Keywords

Fracture, Penis, Urethral Rupture, Cavernorrhaphy, Urethrorrhaphy

## 1. Introduction

Penile fracture is a tear in the albuginea of the corpora cavernosa of varying

depth and extent [1]. It is a urological emergency par excellence and its main aetiology is coital malpractice during sexual intercourse. The diagnosis is clinical and is evoked by a coital cracking, penile pain, immediate detumescence, swelling and deviation of the penis. It is a rare condition and its association with a complete rupture of the urethra is an exceptional event. Complications of penile fracture are severe, ranging from erectile dysfunction, fibrosis of the corpora cavernosa and penile discolouration to permanent sexual impotence [1] [2]. Conservative non-operative treatment limited to uncomplicated cases has led to an equally good outcome as surgical treatment [3]. Other authors advocate surgical repair from the outset as the outcome was clearly superior to the non-operative method in the management of penile fractures [4]. While surgical treatment is controversial, for penile fractures with complete urethral injury, the literature provides very little detail. We present a rare case of simultaneous fracture of the penis and complete urethral rupture with the aim of assessing the effects of immediate surgery on the patient's sexual and voiding prognosis.

## 2. Observation

Mr. K. A, 41 years old, married and father of three children, was referred to the surgical emergency room of the University Hospital of Bouaké on March 2, 2020, for penile swelling following a coital misstep. The erect penis would have bumped against the perineum of his wife. This was followed by a cracking sound, pain and immediate detumescence of the penis. One hour after the trauma, the patient presented with urethrorrhagia followed by acute retention of urine with a high urinary diversion. On examination, the patient was anxious and in good general condition with stable haemodynamic constants. Examination of the urogenital system showed a patient with a cystostomy tube (CH20) draining clear urine. On inspection, there was deformity, deviation of the penis to the right and swelling from the crown to the root of the penis. The glans was unremarkable but there was a large swelling of the scrotum (**Figure 1** and **Figure 2**).



**Figure 1.** Tumefaction associated with penile deviation.



**Figure 2.** Voluminous oedema of the scrotum.

Palpation revealed a sharp pain at the fractured level at the base of the penis and in the path of the distal urethra. Examination of the other apparatus was normal. The clinical diagnosis of a simultaneous fracture of the penis and urethral rupture was made. The pre-operative emergency work-up consisting mainly of a blood count and blood grouping in the ABO and rhesus systems was normal and allowed for immediate surgical intervention seven hours after the trauma. The patient was under loco-regional anaesthesia. The procedure consisted of a circumferential incision of the penile skin 3 cm from the balano-preputial groove. It was rolled up to the root of the penis, respecting Buck's fascia. A haematoma with clots was discovered and evacuated. The fracture involved the base of the right corpus cavernosum and a tear in the albuginea opposite the lesion. There was a complete rupture of the distal urethra (**Figure 3** and **Figure 4**).

We sutured the lesion with a 3% absorbable suture in separate stitches at the level of the corpora cavernosa and the albuginea. A seal test was performed using saline. At the same time, we performed an urethrorrhaphy on a guardian catheter after excision of the edges (**Figure 5**).

Postoperatively, anti-erection treatment with diazepam 10 mg (1 cp/day), and analgesics (paracetamol 500 g  $\times$  3/day) were instituted. The postoperative course was simple. The patient was discharged from hospital on day 3 postoperatively.

The cystostomy tube was removed on day 3 postoperatively.

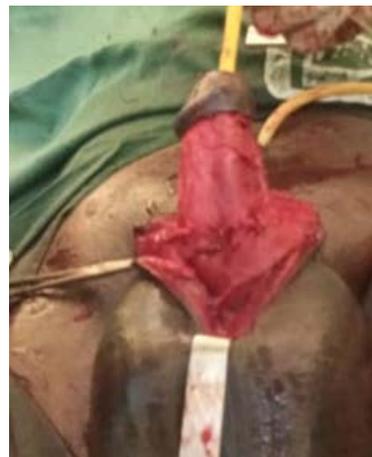
- Healing was obtained after 13 days
- Removal of the trans-ureteral bladder catheter was done after 21 days
- After 1 year, the patient reported satisfactory nocturnal erections and no urinary disorders.
- The patient reports normal sexual intercourse six months after the erection. The penis is soft, non-indurated and free of any discolouration. Retrograde urethrocytography was normal. (UCR)



**Figure 3.** Haematoma opposite the fracture site.



**Figure 4.** Total rupture of the penile urethra intubated with a follet probe.



**Figure 5.** Intraoperative view after cavernorrhaphy and uretorraphy.

### 3. Discussion

Corpus cavernosum fracture is a condition that occurs in the context of trauma to the erect penis during sexual intercourse, following a coital misstep. The diagnosis is based on the clinical symptoms which are most often evocative. This

symptomatology is summarised by a cracking sound, acute pain of the erect penis, followed by rapid detumescence, swelling with deviation of the penis on the opposite side to the fracture [5] [6]. Cavernous body fracture with urethral rupture is a rare urological emergency. Urethral rupture may be partial or complete and the incidence varies from 1% to 38% [3] [7]. However, in 50% of cases, the urethral lesion is asymptomatic and is discovered incidentally intraoperatively or even preoperatively by ultrasound. Although the ultrasound is director dependent, it is a tool that allows confirmation of the precise location of the tear in the albuginea of the corpus cavernosum and to identify the presence of concomitant urethral injury that can guide the surgeon in his therapeutic decision [2] [8]. In our case, the patient presented with typical signs of corpora cavernosa fracture and acute retention of urine and urethral bleeding. These signs allowed us to retain the diagnosis of fracture of the corpora cavernosa associated with a rupture of the urethra. In order to avoid delays in management and the cohort of complications, we made the operative indication without the performance of ultrasound. Our attitude is similar to that of several authors who support the thesis that no paraclinical examination should delay management [2] [3] [4] [6]. The treatment of corpora cavernosa fractures has always been a controversial issue. In the past, patients were recommended to undergo non-operative treatment. However, Bennani et al, in a study of traumatic ruptures of the corpora cavernosa put an end to this controversy by reporting a complication rate of 40.7% and 8.2% for non-operative and surgical treatment respectively [9]. Nowadays, several authors recommend emergency surgical repair of urethral injury associated with corpora cavernosa fracture as the only way to prevent serious complications [4] [5] [6]. Several authors report that most patients had achieved an adequate erection after emergency surgery [2] [4] [8]. Other authors go even further to say that even when seen late, surgery has also shown a satisfactory result [8] [10]. For fractured corpora cavernosa with urethral injury, bilateral rupture should also be sought intraoperatively [11]. In long-term follow-up, most patients maintained normal erectile and micturition function without complications after bilateral cavernorrhaphy and urethral repair [12] [13]. In our case, surgical treatment was adopted on an emergency basis. We performed a cavernous suture with an absorbable thread coupled in the same operation time with the repair of the urethra by a uretrorrhaphy on a guardian catheter. The postoperative result was satisfactory. Our result is in line with those of authors who have advocated emergency surgical treatment [12] [14]. Our observation also supports the evidence that emergency surgery for the treatment of corpora cavernosa fracture associated with complete rupture of the urethra is the appropriate treatment.

#### **4. Conclusion**

Corpus cavernosum fracture is a rare urological condition. Its association with a total rupture of the urethra is an exceptional event. In the presence of acute re-

tention of urine and post-coital misstep urethrorrhage, the diagnosis of urethral rupture must be evoked. Emergency surgery remains an effective therapeutic means of preserving the patient's sexual and urinary function.

### Conflicts of Interest

The authors declare no conflict of interest.

### Authors' Contributions

All authors contributed to the writing of this work. They also declare that they have read and approved the final version of this work.

### Ethical Clearance

The patient were informed and agreed to participate in the study, their anonymity was preserved.

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