

## Management of 14 hours penile fracture: A case report



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### ABSTRACT

**Introduction:** Penile fracture is a rare urological emergency that needs immediate repair. It is usually caused by trauma in its origin, whether during sexual intercourse, exotic self-inflicted, fall, or vehicle-related. Tunica albuginea and/or corpus cavernosa are severed, it can sometimes be accompanied by rupture of the urethra. Immediate surgical repair should be done as soon as possible to prevent further complication.

**Case Presentation:** A 52 years old male comes with swelling and severe pain on his penis 14 hours following sexual intercourse with his

partner. No blood in the external meatal nor hematuria was present, and there were no abnormal passing of urine complained. Immediate repair of the corpus cavernosum was performed. The penis was degloved and the corporal tear was closed using absorbable suture. 8 hours following surgery, the patient had a morning erection and no early signs of complication observed.

**Conclusion:** Immediate surgical repair should be presented after penile fracture was diagnosed. Emergency surgical repair can preserve voiding and sexual function.

**Keywords:** emergency, fracture, penile, surgical, tunica albuginea.

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### INTRODUCTION

Penile fracture is a rare urological emergency with an incidence of 1 in 175,000. It is caused by blunt injury to erected penis that leads to traumatic rupture of the tunica albuginea and/or corpus cavernosa.<sup>1-3</sup> The most common cause of penile fracture is hitting an erected penis to the perineum or symphysis pubis during vigorous sexual intercourse.<sup>1-4</sup> Penile fracture can be associated with urethral rupture, and dorsal vein injury.<sup>1-5</sup> Early surgical intervention is associated with fewer complications compared to conservative management.<sup>5</sup> Complication due to penile fracture includes erectile dysfunction, penile curvature, and pain during erection.<sup>1,3,5,6</sup>

### CASE SUMMARY

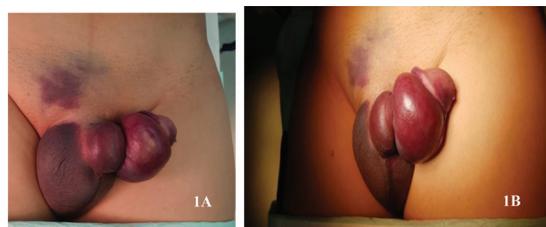
A 52 years old male came with swelling and severe pain in his penis 14 hours following sexual intercourse with his partner. He had sexual intercourse and during that time the penis slipped out of the vagina and hit the partner's perineum. He heard a snapping sound right before the incident, followed by a detumescence of the penis.

Physical examination revealed an ecchymosis, swelling, angulation to left side of the penis, and a penile hematoma extended to the suprapubic area. No blood in the external meatal nor hematuria was present, and there was no abnormal passing of urine complained (Figure 1A & 1B). In this case,

diagnosed of penile fracture was confirmed by a history and a physical examination.

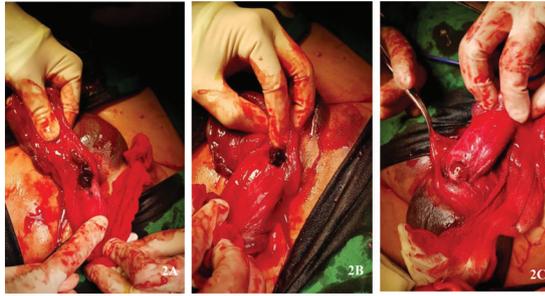
Immediate repair of the corpus cavernosum was performed within 2 hours after admission. The penis was degloved with circumferential incision. Surgical exploration revealed the peri-cavernosum hematoma near the base left side of penile (Figure 2A). The hematoma was evacuated, and it has shown a 2-cm transversal defect in the left corpus cavernosum ventrally with active bleeding (Figure 2B and 2C). Corpus cavernosum was repaired with 5-0 prolene interrupted sutures. One drainage had been placed to prevent blood clot at postoperative time. Due to swelling of the penile foreskin and the glans, we performed circumcision in this patient.

The patient had an uneventful postoperative period with 8 hours following surgery, the patient had a morning erection and no early signs of complication observed. The patient was discharged from hospital 3 days after the operation. During the periodic 1-month follow up the patient felt that the



**Figure 1** A & B Clinical signs of penile fracture

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**Figure 2** (A & B) Peri-cavernosal hematoma; (C) 2-cm defect in the left corpus cavernosum

erections were similar he had before the incident. The patient had no signs of pain and curvature of penile.

## DISCUSSION

Incidence and aetiology varies within different geographic area, for instance sexual related of penile fracture is more common in western Europe and America, usually during sexual intercourse (46-82%).<sup>5</sup> While in the Middle Eastern countries, the most frequent cause is reported to be forceful bending manipulation of the penile shaft also known as the practice of taqaandan (21%). Other causes are masturbation (18%), and accidental rolling over during erection (8.2%).<sup>5</sup>

Tunica albuginea is a tough, elastic, fibrous, bi-layered connective tissue that envelopes the corpus cavernosum. In flaccid state, its thickness reaches up to 2.0-2.4 mm, and during this state is nearly impossible to be injured. While in the erect state, it can be as thin as 0.25-0.5 mm and is therefore more vulnerable to injury.<sup>1,5,7</sup> Sudden bending of the erected penis resulted in raising intracavernosal pressure to around 1500 mmHg which leads to rupture of the tunica albuginea and penile fracture.<sup>5,7</sup> The most common site of injury is the base of the penis near the penoscrotal. The rupture of the tunica albuginea was unilateral and transverse in 91.24%. Urethral involvement was found in 10% of penile fracture.<sup>1</sup>

The diagnosis is based on history taking and physical examination, with more than 90% of people come with the classic symptoms of hearing sudden cracking or snapping sound, followed by immediate pain, detumescence, and a substantial subcutaneous hematoma leading to an 'eggplant deformity'.<sup>1,4,5,8</sup> Physician should be aware of urethral injury signs such as blood from the meatus, or difficulty in passing urine and retention.<sup>1,3,5</sup> When there is clinical suspicion of urethral injury, retrograde urethrography (RUG) should

be performed routinely because it is inexpensive, easy to perform, and highly accurate.<sup>1,5,8,9</sup> Usually penile fracture can be diagnosed based on clinical presentation, but in some unclear/atypical cases ultrasound (US) and MRI can be used to found the disruption of tunica albuginea.<sup>5,8,9</sup>

Surgical intervention has been shown to have better outcome and shorter hospital stay with less complication rate of erectile dysfunction, penile curvature, and penile pain on erection in comparison to the conservative management.<sup>10-11</sup> Complication of erectile dysfunction in patients who are treated with surgical and conservative management was 4% and 50%, respectively.<sup>1</sup>

The surgical approach is usually through a circumferential incision proximal to the coronal sulcus which enables complete degloving of the penis.<sup>6,7,12</sup> This approach is favoured as it gives access to better visualise the 3 corpora. Recently local longitudinal incision centred on the area of fracture or ventral longitudinal approaches is increasingly used.<sup>12</sup> During surgery, tunica and cavernosal tear are identified and repaired with absorbable 3-0 suture.<sup>13</sup> The present of urethral involvement must be confirmed and repaired with end-to-end anastomosis.<sup>12</sup>

According to Bozzini et al. early surgical repair performed < 8.23 h after admission reduces the risk of postoperative erectile dysfunction, with the mean International Index of Erectile Function (IIEF-5) score 18.64 5.671 at 1 month follow up.<sup>1</sup> In our case we performed surgical repair within 2 hours after admission, and there are no complications found until 1 month follow up.

## CONCLUSION

Penile fracture is a rare urological emergency. The diagnosis is based on history taking and physical examination with the classic symptoms of hearing sudden cracking or snapping sound, followed by sudden pain, detumescence, and deformity of the penile. Immediate surgical exploration and primary repair produce good outcome in respect of voiding, erectile and sexual functions.

## CONFLICT OF INTEREST

The author(s) declare no conflicts of interest.

## ETHICAL CONSIDERATION

The patient has received signed inform consent regarding their photograph to be published in journal article.

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## AUTHOR CONTRIBUTIONS

J.C.P., K.A.G.T., and D. contributed to the design and implementation of the study and to the analysis of the results. All authors wrote and contributed to the final version of the manuscript.

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