Penile fracture in a child presenting at teaching hospital in South-Western Uganda: a case report

Article *in* African Journal of Urology · November 2024

DOI: 10.1186/s12301-024-00461-y

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Penile fracture in a child presenting at teaching hospital in South-Western Uganda: a case report

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Abstract

Introduction and importance Penile fracture refers to the traumatic rupture of tunica albuginea in an erect penis. It is relatively uncommon and represents a urological emergency once it happens, necessitating immediate surgical intervention to prevent long-term complications. This condition presents a surgical challenge in both diagnosis and treatment due to the few urology specialists in our setting. We present a case of penile fracture surgically managed in a resource-limited setting with an excellent outcome.

Case presentation We present a 15-year-old male admitted to our teaching hospital with a 12-h history of onset of pain, progressive swelling, and an audible pop sound that preceded turning in bed on an erect penis. He, however, denied a history of masturbation. A penile ultrasound scan was done, which confirmed a tear of Tunica albuginea. Penile exploration was done, which revealed a tear in tunica albuginea that was repaired successfully. The patient recovered well with no complications.

Clinical discussion A penile fracture is a rare surgical emergency. Successful outcomes hinge on timely diagnosis, proficient surgical repair, and comprehensive postoperative care. A penile fracture is a clinical diagnosis in the hands of an experienced surgeon.

Conclusions Findings of this case report highlight the importance of raising awareness among health workers and the general public about this rare condition, and the treatment options available in our less resourced setting.

Highlights

- Penile fracture due to turning in bed on an erect penis is a very rare condition; it is under reported due to the fear and shame associated with the condition.
- Even in resource-limited settings, a clinical diagnosis and a penile ultrasound scan are enough to make a diagnosis.
- Early presentation and timely operative management are always associated with good outcomes.

Keywords Penile fracture, Case report, Less resourced setting

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1 Introduction

A penile fracture is a rare traumatic urological emergency of the penis, with a global incidence of 1 in 175,000 [1]. Studies done in Iraq show that the mean age is around 28 years [2]. This condition happens as a result of traumatic rupture of the tunica albuginea that surrounds the corporal cavernosa [2]. These cases of penile fracture are underreported, and this could be explained by the fact that, out of shame, patients with penile fracture may delay or even fail to seek medical attention, hence leading to future complications such as erectile dysfunction [3]. In the USA, studies showed that sexual intercourse was the most common mechanism of injury at 46%, followed by forceful bending of the penis at 21%, masturbation at 18%, and rollover of an erect penis at 8.2% [4]. Studies done in Nigeria show that self-manipulation of the erect penis was the commonest cause, with turning in bed being the least cause, and rupture of the tunica albuginea was found to be commonly located on the right side [5]. This fracture of the penis is commonly associated with urethra trauma, especially when both corpora cavernosa are injured; therefore, preoperative retrograde urethrogram studies should be performed [6]. Most patients present with a history of popping, cracking, or snapping sounds with immediate detumescence [7].

Penile fracture is a clinical diagnosis based on history and clinical examination; however, diagnostic cavenorgraphy, penile ultrasound in experienced hands, or magnetic resonance imaging can act as adjuncts to a supporting diagnosis [8]. Studies show that patients with penile fractures who are managed conservatively had a significantly higher incidence of complications compared to those managed surgically [9]. Good outcomes were at 59% in those treated conservatively, compared to 92% in those treated surgically [10]. Studies showed that early presentation after injury, which is within 24 h, had better outcomes compared to late presentation (30 h to 7 days after injury) [11]. We present a case of penile fracture in a 15-year-old male diagnosed and surgically managed at Regional Referral Hospital in a resource-limited setting and has been reported in line with the SCARE 2023 criteria [12].

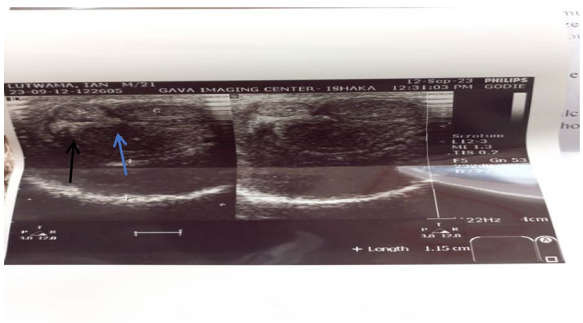

Fig. 1 Hypoechoic mass on the lateral aspect of the right corporal cavernosa shown by the blue arrow, and a tear of tunica albuginea on the same side shown by the black arrow

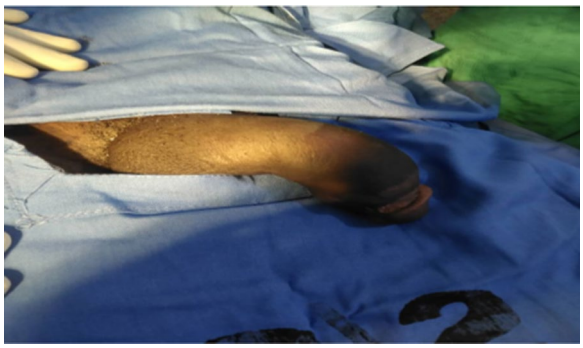

Fig. 2 Preoperative a penis that is swollen

2 Case presentation

A 15-year-old male student, not married, presented with a 12-h history of penile pain and swelling. This happened while sleeping with his hands on an erect penis, and as he turned in bed, he heard an audible pop sound followed by sudden onset of severe, sharp pain associated with progressive swelling of the penis; and however, he denies a history of masturbation. He immediately woke up, took painkillers with no relief, and decided to come to our teaching hospital for further management.

2.1 On physical examination

He was in a fair general condition, not in respiratory distress with pulse rate of 78 b/min, and a blood pressure 120/70 mmHg.

2.2 Local exam

The penis was circumcised, flaccid, tender, and swollen with no blood at the urethra meatus. The swelling was limited to the penis.

2.3 On imaging

A penile ultrasound scan revealed discontinuity in the tunica albuginea with surrounding hematoma, see Figs. 1, 2, 3 and 4.

2.4 At penile exploration

Circumferential incision was made along the circumcision scar, degloved the penis, identified the site of fracture in tunica albuginea, approximately 2.5 cm, evacuated the hematoma till the edges were clear, repaired the fracture site with pds 2/0, and closed skin incision. This

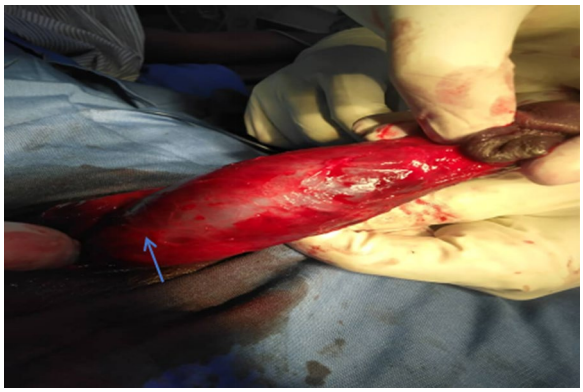

Fig. 3 Right corporal cavernosa hematoma shown by the arrow

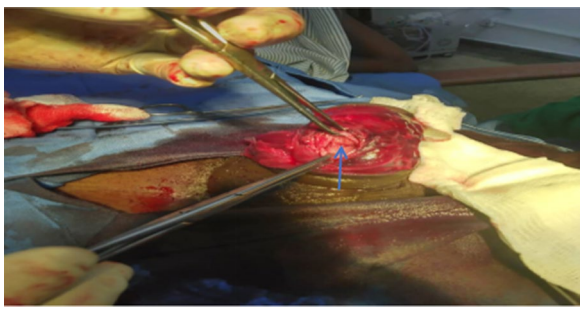

Fig. 4 Intraoperative picture showing a tear in the tunica albuginea with exposed right corporal cavernosa shown by the arrow

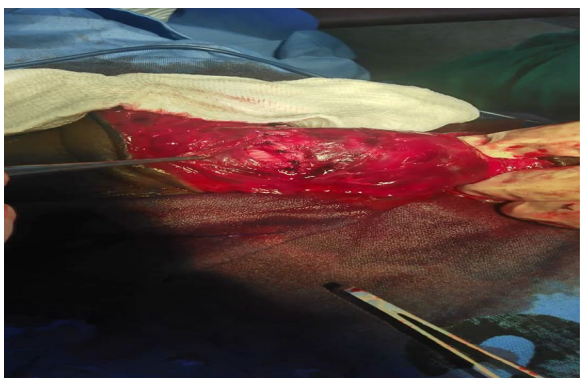

Fig. 5 Arrow shows repaired tunica albuginea

procedure was performed by a qualified urologist, see Fig. 5.

2.5 On follow-up

One month post-operative, there was no evidence of penile deformity, and another follow-up was scheduled at 6 months.

2.6 Clinical discussion

Penile fracture is a very rare traumatic urological emergency with a low incidence globally [1]. Studies done by Mufti et al. in Iraq show that these injuries were commonly reported in the age group of (22–49), with a mean of 28 years; however, in our case, the patient was very young at 15 years. When it occurs in young people, its usually associated with vigorous sexual activity or masturbation, which may be the case for our patient [2]. In the USA, studies done by Moslemi et al., vigorous sexual intercourse is the commonest etiology. This is different from our setting, where the cause of penile fracture, was due to turning in bed on an erect penis [2].

Studies done in Nigeria show that manipulation of the erect penis was commonly associated with penile fracture while turning in bed was less associated with penile fracture. However, we believe that the cause of injury was a result of masturbation, which our patient denied, since it is always associated with shame. Studies done by Salako A et al. in a Nigerian teaching hospital show that the right corporal cavernosa is commonly affected in these penile fractures, and this is in line with our case report in which the same side of the penis was affected on penile exploration. In severe cases of penile fracture, where both right and left corporal cavernosa are injured, this is highly associated with urethra injury, with a patient presenting with bleeding on the urethra meatus [4]. In our case, only the right side corporal cavernosa was affected; the patient never presented with blood on urethra meatus and no clinical evidence of urethra injury; however, this could have been ruled out by performing a retrograde urethrogram, which is costly in our setting, and the patient could not manage to do the investigation being a student; and in a limited resource setting [4]. Most patients present with cracking, popping, or snapping sounds with immediate detumescence. In our case, the patient had an audible pop sound followed by immediate detumescence, hence justifying our clinical diagnosis [6].

Penile fracture is a clinical diagnosis; however, this can be supported by a penile ultrasound scan, cavernography, and MRI. In our setting, being in a less resourced setting, patients were only able to do a penile ultrasound scan, which was enough to make a diagnosis [8]. Good outcomes are associated with operative management [9], and this is similar to what was observed in our case report. Early presentation within 24 h was associated with better outcomes compared to late presentation, but in our case, the patient presented early (12 h), hence justifying the good outcomes for our case [10].

3 Conclusion

Penile fracture is a rare surgical emergency. Successful outcomes hinge on timely diagnosis, proficient surgical repair, and comprehensive postoperative care. Although penile fracture is a clinical diagnosis, a penile ultrasound scan is becoming a useful adjunct and is available in a less resourced setting. The findings of this case report highlight the importance of raising awareness among health workers and the general public about this rare surgical emergency and available surgical treatment options in our poor settings.

Acknowledgements
We acknowledge the nurses, support hospital staff, theatre staff and other care givers of the surgical department at MRRH, who participated in the care of the patient.

Author contributions
All authors made an important contribution to the work reported, whether that is in the concept design, study design, acquisition of data, analysis and interpretation of data; took part in drafting, revising or reviewing of the article carefully; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted in different cites of publication; and agree to the held responsible for all aspects of this article.

Funding
This case report did not receive any specific grant from funding agencies in public, commercial, or not for profit sectors.

Availability of data and materials
Not applicable.

Declarations

Ethics approval and consent to participate
This case report was exempted from ethical approval by the research and ethics committee.Informed written assent was obtained from the participant before study participation. Parents of the child also provided an informed written consent before enrolling their child into the study.

Consent for publication
Written informed assent and consent, was obtained from the patient and his parents, respectively, before publication of this case report and accompanying images. A copy of the written consent and assent is available for review by the Editor-in-Chief of this journal on request.

Competing interests
None.

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Received: 6 March 2024 Accepted: 20 October 2024
Published online: 26 November 2024

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