Self-induced Penile Fracture Associated With Urethral Rupture

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Fracture of the penis is a relatively uncommon condition that is most likely under-reported. It commonly results from excessive force applied to the long axis of the penis in the erect state causing rupture of the tunica albuginea of the corpus cavernosum during masturbation, sexual intercourse, or penile manipulation. Immediate surgical exploration is the treatment of choice in most cases to maintain good erectile function. Concomitant total or incomplete urethral and corpus spongiosum ruptures are even rarer and are usually repaired surgically together with the penile fracture. When the penile fracture and urethral lesions are small, they may be treated conservatively. This is sufficient to preserve good erectile function. We report such a case in an adult who bent his erect penis while sleeping, presented with massive urethral bleeding, and was managed conservatively.

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1. Introduction

Penile fracture is a rare injury usually resulting from direct trauma to the erect penis during sexual intercourse, or less commonly during penile manipulation. It typically presents with clinical signs and symptoms of a hematoma. The presence of a penile deformity and pain assists in its diagnosis without the need for any further investigation. Urethral rupture, either total or incomplete, is a rare occurrence that has been reported together with penile fracture. In most cases, immediate surgical intervention is the treatment of choice, with good return of erectile function. When the penile fracture and urethral lesions are minimal, treatment may be conservative and produces good functional erectile results.

2. Case Report

We report a rare case of a 36-year-old Vietnamese contract worker who woke up one morning with a pool of blood on his perineum. The patient claimed to have subconsciously bent his erect penis towards his right side and rolled over it in his sleep, as he customarily did with early morning erections. Upon further consultation, the patient admitted having the habit of bending his penis during every erection to minimize the bulge in his perineum. He also claimed to hear an audible popping sound each time he bent his penis. Gross oozing of blood from the urethral meatus with a dark discoloration of the ventral area of the penis was noted during the examination (Figure 1). Right-side deviation of the detumescent penis with a small hematoma was observed on the left penile base. There was no associated pain upon palpation. The patient claimed no previous history of hematoma or swelling. No other medical consultations were sought with regard to his penile condition.

Urethrocystoscopy was performed, which showed a 0.3-cm mucosal rupture of the bulbous urethra at the 11 o’clock position, with no visible oozing (Figure 2). The bladder and prostate were normal. An F16 silicone Foley catheter was inserted, and surgical exploration was recommended. The patient refused any surgical intervention and was treated conservatively. After the swelling...
subsided, he was discharged on the 7th day, and the Foley catheter was removed.

The patient returned to the clinic after 1 week claiming good early morning erections. He had no difficulty maintaining normal grade 4 rigid erections, but he complained of a left penile base consolidation and minimal discomfort during erections. Right-sided penile curvature was still evident in the flaccid state. The patient voided urine spontaneously. No hematuria was found on urinalysis. On clinical follow-up after 2 months, the patient claimed to have good penile erections. Repeat urethrocystoscopy was performed which showed a complete and nicely-healed urethral mucosa (Figure 3).

3. Discussion

Fracture of the penis is a relatively uncommon condition that most likely often goes unreported.1–3 The most common mechanism is acute bending of the erect penis in an attempt to achieve detumescence. The vulnerability of the erect penis is explained by thinning of the tunica albuginea from 2 mm when the penis is flaccid to 0.5 mm or even 0.25 mm when erect,4 and by preexisting fibrosclerosis and inflammation of the tunica.5 The fracture results from excessive force applied to the long axis of the penis in the erect state causing rupture of the tunica albuginea of the corpus cavernosum during masturbation, sexual intercourse, or penile manipulation. De Rose et al. suggested that the habit of bending the erect penis as a method to achieve detumescence in unsuitable situations might lead over time to structural abnormalities that alter the mechanical properties of the tunica causing it to become less resistant to expansion.5

Figure 1 Oozing of blood is seen from the urethral meatus with hematoma and swelling on the ventral side of the penis.

Figure 2 Ruptured urethral mucosa approximately 0.3 cm at the 11 o’clock area of the bulbous urethra, seen from different angles and distances.
Penile fracture is a serious urologic condition demanding precise determination of the severity of the lesion, and the presence or absence of concomitant urethral rupture and its location. It is a relatively uncommon urologic emergency with 1,642 cases reported up to 2001. In a review of 790 men with postcoital injuries, Eke reported urethral injuries as the most common complication occurring in 10–38% of penile fractures. In contrast, Derouiche and colleagues reported 10 cases (3.2%) of urethral rupture associated with their 312 cases of penile fracture in Tunisia. The patient typically hears a loud snapping sound associated with pain and rapid detumescence followed by penile deviation to the opposite side of the injury with ecchymoses and hematoma. Penile manipulations aimed at stopping morning erections have been reported to be the cause of penile fracture with concomitant urethral rupture. Fracture of the penis associated with urethral rupture should be highly suspected when a patient presents with a bloody urethral discharge. The most common mechanism is manipulation of an erect penis. An even rarer occurrence is the possibility of a second fracture years after the first episode.

Although penile fracture is easily recognized and can therefore be classified as a “first look diagnosis,” therapy remains controversial to date. The diagnostic procedure classically consists of history taking, a physical examination, and determination of the urinary status. The correct therapeutic approach is vital to management, as morbidity can result in long-term complications such as penile deviations, erectile dysfunction, and voiding problems. Surgical exploration with urethral repair remains the standard treatment of choice in cases of urethral disruptions. All cases in the literature concerning penile fractures associated with urethral ruptures were surgically managed. Unfortunately, some patients may refuse to undergo surgery and are therefore treated conservatively as reported by Mydlo et al. in five patients and Muenter et al. in 17 of 29 patients. All patients presented by Mydlo et al. had no immediate complications and reported erections adequate for intercourse without associated pain at 6–12 months post trauma. Muenter et al. reported 10 patients (59%) with good outcomes, while only three patients had poor outcomes with a mean follow-up period of 67 months. They suggested that conservative therapy when restricted to uncomplicated cases can lead to equally good outcomes. When conservative treatment of a penile fracture results in increased swelling and pain, surgical exploration may be warranted as reported by Cerone et al. in an isolated corpus spongiosum injury.

Our case was challenging in terms of treatment options. Because the penile fracture presented with a small hematoma and minimal rupture of the urethral mucosa, we treated the patient conservatively upon his request.

Figure 3  Urethrocystoscopy 2 months post trauma showing the completely healed urethral mucosa.
Penile fracture associated with urethral rupture

It is usually recommended to perform immediate surgical exploration in cases of penile fracture with partial or complete urethral rupture to avoid infectious short- and long-term complications including urethral stricture, a urethrocavernous fistula, and erectile dysfunction.\(^{11}\) Nonoperative treatment can be proposed when it can be ensured that the cavernous bodies are intact.\(^{15}\) However, there are reports of false penile fracture mimicked by rupture of the superficial dorsal vein that may warrant surgical exploration.\(^{15}\) Urethrocytoscopic follow-up of our patient 2 months later showed good healing of the urethral mucosa, and the patient reported good erectile function as well as spontaneous rigid morning erections. Our case shows that conservative treatment of a mild penile fracture associated with a small urethral rupture may still preserve good erectile function and allow the urethral mucosa to adequately heal.\(^{8}\) A longer follow-up time may still be required for any untoward complications.

4. Conclusions

Penile fracture with associated urethral rupture is a rare occurrence seen at emergency consultations. The occurrence of a second fracture years after a previous episode is even less common. Urethral rupture should be suspected in any case of penile fracture presenting with a bloody urethral discharge. Associated urethral rupture is an even less likely occurrence that makes treatment options more challenging for the urologist. The gold standard of treatment for penile fracture consists of emergency surgical repair, but conservative treatment may be considered in uncomplicated cases when patient apprehension about surgery may outweigh the benefits of the surgery. In such cases, conservative treatment may still produce a good outcome.

References