



Case Report

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Diagnostic and management of penile fracture: A literature review

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Abstract

Penile fracture is a real urological emergency; it is underreported due to the shyness to describe it. It usually occurs during intercourse when the erect penis forcefully hits against the perineum or symphysis pubis. While imaging may be used as an adjunct to aid diagnosis, especially in equivocal cases, the diagnosis remains mostly a clinical one. Standard treatment is immediate surgical. Preferred incision to be employed is subcoronal circumferential incision with minimal complications and excellent results.

Keywords: Penile fracture, Diagnosis, Early surgical therapy.

INTRODUCTION

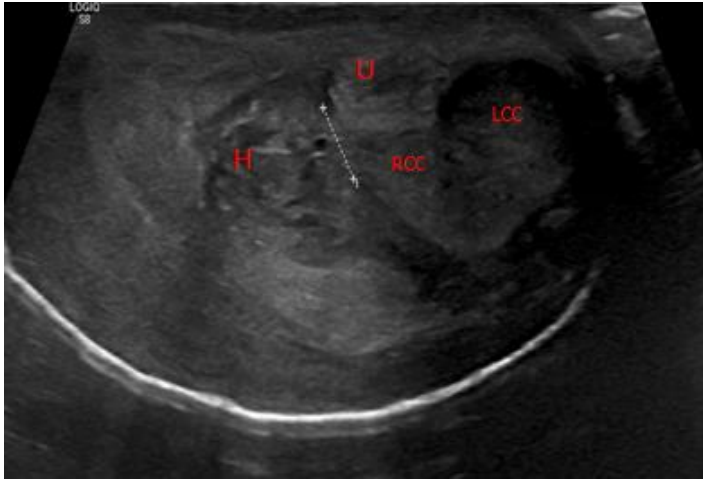
The rupture of the tunica albuginea of the corpus cavernosum defines penile fracture that occurs with the penis in an erectile position [1]. It is a relatively uncommon clinical condition that frequently causes fear and embarrassment for the patient, hypothetically resulting in delayed search for medical assistance, which can lead to an impairment of sexual and voiding functions. Its incidence is underreported and most surgeons do not have much exposure of this condition because of its rare occurrence [2, 3]. Its diagnosis is made by history and clinical examination. Although imaging may be required for better evaluation, usually it is unnecessary. It is an emergency for which surgery should be offered [4, 5]. We report a case of a man with penile fracture who presented to the hospital. The aim of this case report is to highlight the importance of Prompt diagnosis and early surgical repair, essential to ensure a successful outcome.

CASE REPORT

A 62-year-old man presented to the emergency room for acute penile pain and swelling lasting 4 hours after traumatic intercourse. He reports a sudden cracking sound, pain in the penis and rapid detumescence during sexual intercourse. On physical examination, swelling, ecchymosis and a curvature are seen. There is no difficulty in urination nor urethral bleeding or hematuria. Transversal ultrasound section finds the tear on the tunica albuginea of the right corpus cavernosum (Figure 1). An emergency exploration is indicated under spinal anesthesia. A Bladder catheterization is performed. The injury is explored through subcoronal circumferential incision under the gland, then the hematoma is evacuated and a vertical tear of 4 cm in the tunica albuginea of the right corpus cavernosum is identified (Figure 2). The urethral injury is not observed. The tear is then closed with interrupted 3/0 absorbable sutures (Figure 3). A drain is inserted next to the sutured site, the skin is sutured; (figure 4) then a compressive bandage. The edema resolved by the second post-operative day; so the drain and the bladder catheterization are removed, the patient is discharged on tablet amoxicilline + clavulanic acid 1 gramme twice daily for ten days, bicalutamide (casodex) 50mg per day for 15 days and advised to abstain from sexual intercourse for six weeks. He has been followed-up with emphasis on erection and voiding.

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U: urethra, LCC: left corpus cavernosum, RCC: right corpus cavernosum, H: hematoma

Figure 1: Transversal ultrasound section showing the tear on the tunica albuginea of the right corpus cavernosum (white line)



Figure 2: Tunica albuginea tear of 4cm identified

DISCUSSION

Penile fracture, which is defined as rupture of the tunica albuginea of the corpus cavernosum is uncommon surgical emergency. It occurs while penis is erect because tunica is thin and inflexible. The most common cause is vaginal intercourse [2, 6, 7]. Masturbation, manually bending of erect penis to achieve detumescence, homosexual intercourses, rolling over in bed onto an erect penis has been also known as causes. Penile fracture during intercourse occurs as the result of the erect penis forcefully hitting against the perineum or symphysis pubis [3, 8].

Penile fracture is largely a clinical diagnosis based on anamnesis and physical examination; the diagnosis is usually readily made based on clinical features. The patient complains about audible cracking sound, acute penile pain, followed by immediate loss of erection. The pain can

vary from soft to severe and is not proportional to the degree of injury. On physical examination, swelling, ecchymosed and a curvature toward the opposite site of the rupture may be seen in penis due to the mass effect of hematoma [3, 8-10]. The fracture can occur anywhere but it commonly localized at the base of the penis, just proximal to the peno-scrotal junction and mostly to the right side in different series [5, 9, 11]. The injury may be associated with rupture of urethra when insult is more aggressive leading to rupture of both corpus cavernosum and partial rupture of urethra evident by blood at tip of penis, inability to pass urine or an inability to catheterize patient. In this specific clinical case, some studies may be necessary, because there is a potential urethral injury [10]. There is still controversy about the need for a preoperative imaging but they should not delay surgical repair [2, 5].



Figure 3: Tunica albuginea tear sutured with interrupted absorbable sutures

There are two schools of thought regarding the management of penile fracture; one conservative management and second immediate surgical intervention. Conservative management includes anti-inflammatory drugs, ice packs, antibiotics and medicines to reduce penile erections like estrogens, antiandrogens, sedative medications and potassium bromide. This conservative approach is associated with more complications like erectile dysfunction, deformity and fibrosis [3, 8-12]. Most recent series advocate the strategy of early surgical repair of penile fracture with the aim of preventing complications concerning sexual functions and to minimize prolonged hospital stay [2, 7-16]. Therefore conservative management may lead to devastating functional, physical and psychological complications [11]. Spinal or general anesthesia is used [17]. Several incision sites have been proposed including circumcising degloving, midline peno-scrotal, inguino-scrotal, and lateral incision. The circumferential incision has gained popularity among many surgeons because it is esthetic and gives simultaneously adequate exposure for the repair of both corpus cavernosum and urethral tear [5, 18]. The penile skin is degloved proximally up to the base. During the exploration, the hematoma is evacuated with debridement of dead tissue [9]. Complications of this incision include edema due to extensive dissection, slight decreased sensations due to trauma to nerves, subcoronal skin necrosis, infections and abscess formation. These are minor complications [5]. The second most commonly used incision is directly over the site of hematoma [19]. It gives minimal trauma to the penile skin with little

edema but exposure is insufficient [17]. The common recommendation is using interrupted or running 2/0 or 3/0 absorbable sutures to close the tunical defect [6, 9]. In contrast, some authors support non-absorbable sutures, citing the fact that they hold the tunical edges together for a long time even in the face of varied intracorporeal pressure changes or in condition of unavailability of synthetic absorbable sutures or hypersensitivity of patients to them. However, foreign body granulomas, stitch sinus, and palpable knots may complicate this use of non-absorbable sutures. The problem of palpable knots may be circumvented by inverting the knots [18, 20]. Opinion is divided on the use of a perioperative bladder catheterization; some authors recommend routine catheterization at the time of surgery as this not only aids dissection but facilitates easy urethral repair in the event of a tear. Others have used it only when the injury is close to the urethra [18-21]. A number of medications, such as antiandrogens or sedatives have been used to suppress erections and some recent publications still advocate their use [22]. However, it has been argued that these may be unnecessary because postoperative pain is likely to prevent rigid erections [18]. Postoperative antibiotics, anti-inflammatory agents, erection inhibitors and compressive bandage are used as supportive treatment but they are surgeon-dependent [9, 20-22]. Postoperatively superficial wound infection, erectile dysfunction has been reported after surgical operation [4, 23]. This erectile dysfunction is usually self-limiting and resolves in 3-4 months [1, 9]. After conservative management or by negligence by the patient, cases reported erectile unrests, fibrosis, strictures, fistula formations and penile angulations [9, 16]. Follow-up is recommended to search postoperative erectile sequels or penile complications [22].

CONCLUSION

Penile fracture is a urological emergency that is often diagnosed clinically. The key to success in treatment is to achieve a rapid diagnosis based on anamnesis and a physical examination, avoid unnecessary imaging tests and perform immediate surgery exploration to reconstruct the site of injury. Preoperative imaging evaluation should be performed only in cases of suspected urethral associated injury but should not delay surgical repair. Although conservative treatment options were advised, we prefer early surgery because of the rapid recovery, short hospitalization duration, less morbidity and less penile complications.

Conflict of interests:

None declared.

Author's contribution:

Josaphat PALUKU KATSWERE: Drafted the case report. René HOUNSOU, Samson TODALEHOU, Gloire à Dieu BYABENE revisited the manuscript critically for important intellectual content. Josué AVAKOUDJO and Atef BAHLOUL: reviewed and approved the final version of the manuscript for publication.

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