

Penile fracture with disruption of both cavernosal bodies and complete urethral rupture in a 15-years-old male: Delayed surgical approach

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Abstract

Penile fracture is defined as the traumatic rupture of the tunica albuginea of the corpus cavernosa usually associated to trauma during sexual intercourse or masturbation. Historically penile fracture has been managed conservatively, but contemporary management includes early surgical exploration. The case presents a 15-year-old male who suffered a blunt penile trauma and was first managed with cystostomy and no penile exploration. Five months after trauma was submitted to definitive surgical correction of both, urethral rupture and bilateral corporal fracture. The proposed surgical technique was a diamond-shape corpora anastomosis. Surgery did well and after 3 years he presented no late complications.

Keywords

Penile fracture; corporal fibrosis correction.

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Introduction

Penile fracture is defined as the traumatic rupture of the tunica albuginea of the corpus

cavernosa usually during sexual intercourse or masturbation. In an erect penis, the tunica is exceptionally thin – as little as 0,25mm – making it more vulnerable [1]. The rupture may extend to affect the corpus spongiosum and the urethra [2,3].

The classic presentation is associated with the hearing of a cracking noise (tunica

rupture), followed by acute pain, detumescence and substantial hematoma, leading to an eggplant deformity [4]. If a fractured penis is neglected, the initial manifestations subside gradually and the patients may complain of late complications such as palpable nodule, penile curvature and erectile dysfunction [5]. Additionally, a urethral injury should always be ruled out by asking about any voiding difficulty, history of blood per meatus or hematuria [6].

The need for diagnostic investigations is doubtful and treatment options are controversial [7]. Historically penile fracture was managed conservatively, but due to relatively high morbidity of up to 30% (erectile dysfunction, plaques, painful erection, curvatures and infected hematomas), contemporary management has shown a trend towards following urgent surgical exploration and repair of the defected tunica [4].

We present a case of a 15-year-old male with nearly complete disruption of both cavernosal bodies and complete urethral rupture. This study also addressed the management and outcomes of penile fracture.

Case Reports

A 15-years-old male suffered blunt penile trauma and was primarily managed with

cystostomy and no penile exploration. Five months after trauma, he was referred to a tertiary pediatric urology center. Clinical complains included ventral curvature, painful and incomplete erection beyond the trauma site. Image investigation, performed with cystourethrogram, showed middle shaft complete urethral disruption of approximately 1,5 cm. Surgical approach was performed through a subcoronal circumferential incision and complete penile degloving. Urethral stumps complete mobilization from corpora allowed identification of the intense fibrosis responsible for nearly complete bilateral corpora transection [Fig. 1].



Fig. 1. Urethral and bilateral corporal rupture – transoperative.

An end-to-end urethral anastomosis was performed [Fig. 2].



Fig. 2. Urethral mobilization transoperatory.

In order to re-establish a patent corporal continuity and avoid more extensive dissection consequences, a side-to-side diamond-shape anastomosis was performed as follows: transverse incision in the proximal corporal stump and longitudinal incision in the distal stump [Fig. 3].

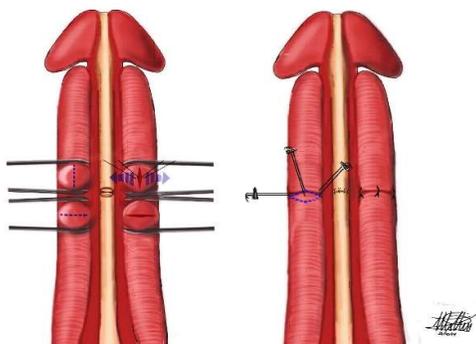


Fig. 3. Diamond-shape anastomosis propose.

During the follow up patient suffered urethral dilatation monthly. Three years after trauma presents normal urinary stream and complete painless erection. Recently performed and ultrasound that demonstrated good aspect and corporal integrity [Fig. 4].



Fig. 4. Ultrasound lately performed demonstrating corporal integrity and good postoperative aspect.

Discussion

Any penile injury should be treated as an emergency. In the past, conservative treatment was the gold standard therapy for penile fracture, which included bed rest, dressings, catheterization and ice packs for 24-48 hours. This approach was associated with high incidence of complications in addition to prolonged recovery and possible infection [1]. Most contemporary series recommend immediate surgical intervention but several studies have shown good outcome in some cases of delayed surgery [4,5]. The argument is that in the acute stage of trauma the extensive edema and hematoma may require degloving incision and extensive dissection that could injure the tissues even more. By 7-12 days the clot at the fracture site is easily palpable demonstrating the fracture exact site, allowing minimal dissection procedure [8,9].

Ateyah et al published case series showing no complications during the follow-up and successful outcome with late approach [10]. As a conclusion, they support immediate surgical intervention as the gold standard management because of outstanding functional outcome, low morbidity and short hospital stay. However, patients presented up to 7 days after injury should be managed surgically presenting comparable results with those submitted to immediate surgical repair [5].

The surgical technique consists of penile degloving through subcoronal incision. Urgent surgical repair includes evacuation of the hematoma, ligation of bleeding vessels, debridement, reconstruction of the tunica albuginea, urethral stenting or end-to-end urethral anastomosis [9,11,12]. Some surgeons argue that degloving is associated with increased neurovascular injury and skin necrosis therefore they advocate an incision in the injury site as a less invasive approach [6]. Tunical tears should be repaired with absorbable continuous interlocking or interrupted suture with buried knots. Circumcision is routinely performed on all

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uncircumcised patients to facilitate hygiene and dressings and to provide better immediate aesthetic results [13]. The use of a urethral catheter helps intraoperative dissection without harming the urethra, facilitates the application of a pressure dressing, prevent postoperative wound contamination and is unlikely to be harmful [14].

Most series describe no serious complication in surgically treated patients [5,8,9]. Long term studies show that erectile function is comparable to a control population. Some authors reported urethral strictures and urethral cavernosal fistula [14]. Prognosis is usually good and less than 10% of the patients presented permanent penile deformities [11].

Conclusion

The proposed surgical technique presented as a good technical alternative for patients with late presentation penile fracture.

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