



A case report of a proximal corporal cavernosa injury presenting with butterfly perineal ecchymosis

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ABSTRACT

This is a case of a proximal corpus cavernosa fracture presenting with scrotal edema and butterfly perineal ecchymosis sparing the penile shaft. Preoperative MRI obviated the need for circumferential incision and degloving of the penis and guided immediate incision over the area of corporal injury. The presentation, diagnostic work-up, and surgical treatment are discussed.

1. Introduction

The majority of penile fracture cases in the United States are due to traumatic coitus, most often from thrusting an erect penis into the perineal or pubic symphysis.¹ Penile fracture presentation classically includes hearing a pop or crack in the setting of traumatic intercourse, rapid detumescence, and the “eggplant deformity” which refers to the swelling and discoloration of the penial shaft deviated away from the side of the fracture. While penial fracture is an uncommon form of urologic trauma, improper treatment can lead to long-term voiding dysfunction or loss of sexual function.

2. Case presentation

A 33-year-old male presented originally to an outside hospital with penile pain, scrotal edema, and endorsement of rapid detumescence after hearing a popping noise. The patient described an episode of traumatic coitus where during attempted vaginal reinsertion he accidentally thrust his erect penis into his partner’s perineum. Scrotal ultrasound was significant for scrotal skin thickening without evidence of testicular torsion. He was transferred to an academic medical center for concern of penile fracture. He denied obstructive or irritative voiding symptoms and gross hematuria. He had been unable to achieve an erection since hearing the aforementioned sexual encounter. His history was notable for current nicotine dependence disorder and anxiety but denied past surgical history.

Physical examination was significant for bilateral scrotal tenderness

and perineal ecchymosis extending into the perineum sparing the penile shaft (Fig. 1). Urinalysis, complete blood count, and basic metabolic panel were unremarkable. A penile ultrasound was unrevealing. A pelvic MRI was obtained given the high clinical concern of a proximal fracture and to help delineate the side and location of the suspected penile fracture for surgical planning purposes. The MRI revealed an injury to the tunica albuginea overlying the crura of the right corpus cavernosum. Evidence of soft tissue swelling within and surrounding the injury as well as a hematoma extending into adjacent tissues, perineum, and right hemiscrotum was also detected (Fig. 2).

Based on the MRI confirming the presence of a proximal penile fracture, the patient was brought to the operating room for surgical repair approximately 30 hours after the injury occurred. A flexible cystoscopy was first performed which confirmed the absence of urethral, bladder, or prostatic injury. A midline ~4 cm perineal incision was made and with the use of blunt and sharp dissection, the right corporal body was identified. A Lonestar retractor was used to optimize visualization. Several rounds of saline irrigation were used to evacuate the perineal hematoma and to help delineate the anatomy and identify a 1–1.5 cm laceration of the right corporal body on the ventral surface (Fig. 3). The laceration was repaired by placing three figure of eight sutures using 3-0 polydioxanone (PDS). To test the repair and look for leaks we instilled sterile saline into the right corporal body using a 25-gauge butterfly needle but this was unsuccessful due to inability to apply a tourniquet to the corporal body to prevent outflow of saline. Electrocautery was delicately used to achieve hemostasis. A repeat cystoscopy was performed to ensure that no inadvertent urethral injury occurred during the

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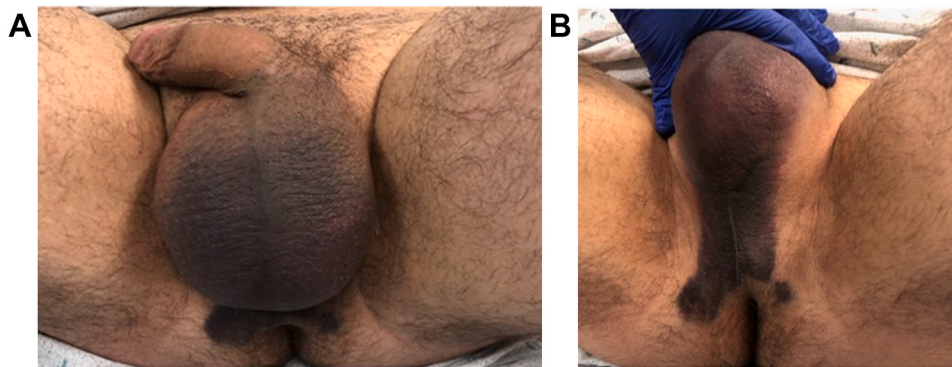


Fig. 1. A. Scrotal ecchymosis that spares the penile shaft B. Butterfly perineal ecchymosis.

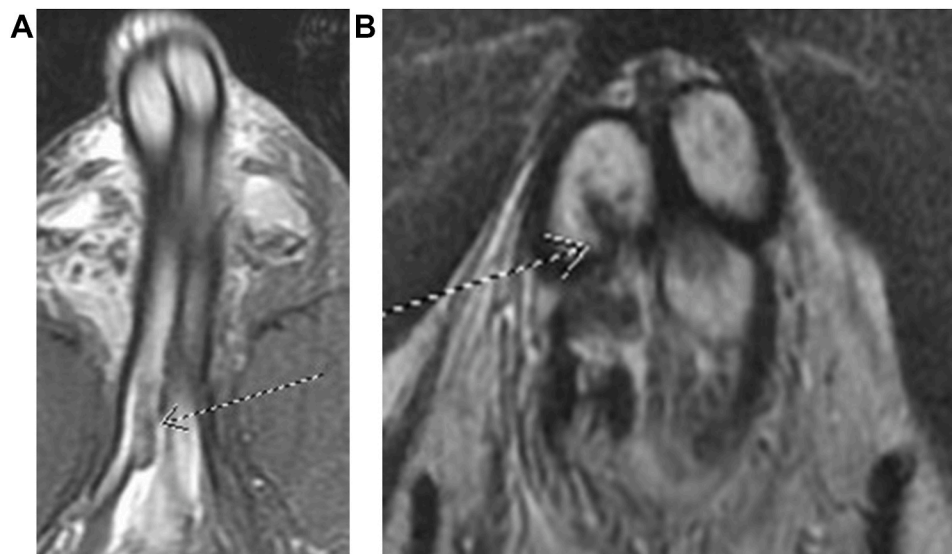


Fig. 2. A. Right-sided disruption of tunica albuginea visualized through penile MRI with arrow indicating area of corporal injury B. Cross-section of right-sided corpora cavernosal injury with arrow indicating defect.

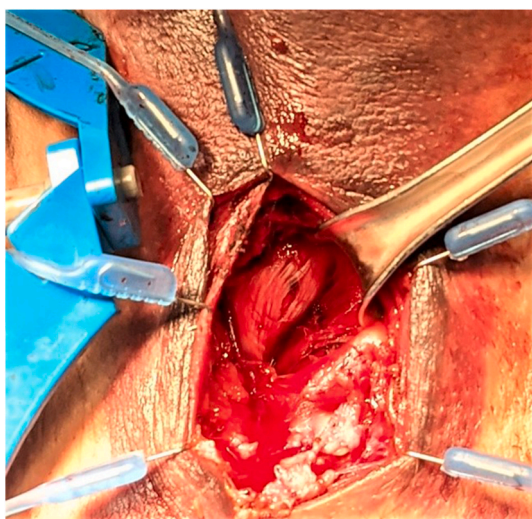


Fig. 3. Right proximal tunica albuginea rupture with blue arrow pointing to defect. (For interpretation of the references to color in this figure legend, the reader is referred to the Web version of this article.)

perineal dissection. The perineum was closed in four layers using 2-0 Vicryl suture. The perineal skin layer was closed with a running 3-0 Monocryl suture. The morning following surgical repair, the patient reported two spontaneous erections. At a follow-up appointment two months from the time of surgery, the patient reported no erectile, sexual, or urinary dysfunction.

3. Discussion

Penile fractures less commonly present with scrotal swelling and ecchymotic extravasation outside of Buck’s fascia as in the case presented. To date, there appears to be only two other case reports of proximal corporal cavernosa injury requiring a perineal approach.^{2,3} Pruthi et al. reports the insidious onset of “butterfly” perineal ecchymosis whereas Darves-Borno et al. reported an acute presentation of scrotal hematoma. These presentations along with the case reported, notably have an absence of the “eggplant” deformity.

Identification of penial injuries is critical as the literature has found that conservative management of penile fractures may lead to up to 30% of patients experiencing erectile dysfunction, penile curvature, sensory loss, dyspareunia, painful erections, urethral stricture and/or urethrocavernosal fistula compared to 4% of those undergoing operative management.^{1,4,5} Outcomes related to penial fractures involving the corpora cavernosa crura do not exist in current literature.

The perineal surgical approach for proximal corporal body fractures

differs from that of the circumferential degloving approach employed with more distal corporeal injuries. Imaging was critical to obtain preoperatively to avoid a negative degloving maneuver followed by a second perineal incision. We were able to dissect directly to the corporal injury site given the information obtained by the MRI. Dissection was difficult and not straightforward due to the extensive amount of hematoma in the soft tissues and muscle. While irrigation did help with visualization, without the MRI the risks would have been less confidence in identifying the corporal defect and the potential need to dissect to the crura of both corporal cavernosa which could have led to more short- and long-term morbidity. We recommend performing a cystoscopy prior to perineal dissection to obtain a baseline sense of the urinary tract anatomy and a repeat cystoscopy even if there is no specific concern for urethral injury because dissection difficulty and the risk of inadvertent urethral injury.

4. Conclusion

Although the mechanism of injury by which proximal and distal corporal injuries occurs appear to be similar, their presentation may differ in that proximal injuries appear to present with scrotal and/or “butterfly” perineal ecchymosis without penial involvement. In this

case, MRI imaging was useful in delineating the location and side of the corpora cavernosal injuries and informed surgical planning. Long-term outcomes following surgical correction of proximal corporal injuries have yet to be elucidated given the infrequency of this type of penial fracture.

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