

Case Report

Contralateral Fracture of the Penis with Concomitant Urethral Injury – Report of a Rare Case

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ABSTRACT

Penile refracture is a rare urological emergency, more so on the side contralateral to the previous fracture. A 55-year-old male was referred 70 hours after sudden detumescence during sexual intercourse, with a history of blood at the urethral meatus. The patient had had a fracture of the penis four years previously. Examination revealed ecchymosis and swelling of the proximal shaft and purulent discharge from a laceration in the penile skin over the proximal corpora. Ultrasonography revealed laceration of the right tunica albuginea and corpus cavernosum. Exploration revealed scar tissue at the site of the previous operation on the left side and a fresh laceration, 1cm in size, in the right corpus cavernosum in the mid shaft, and a urethral defect of 0.5 cm. The patient had normal erections post-operatively and no complications at 6 months follow-up. On literature review, anecdotal cases of contralateral refracture of the penis were found. High suspicion, prompt diagnosis and expedient surgical management are essential for a good outcome with minimal complications.

Key Words: Contralateral fracture penis, urethral injury.

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INTRODUCTION

The first documented report of penile fracture is credited to an Arab physician in Cordoba more than 1000 years ago. Since then, there have been various reports with more than half of the cases occurring in the Middle East^{1,2}. However, penile refracture is not so common and only five cases were found on review of the English literature, the first one being reported in 1983²⁻⁸. Three previous cases had been reported up to 2003⁷.

We herein report a case of refracture of the penis involving the contralateral corpus cavernosum. A thorough Medline literature review revealed only one such previous case². Late diagnosis and delayed repair pose a risk of impotence due to infection and cavernosal fibrosis.

CASE REPORT

A 55-year-old male was referred 70 hours after experiencing sudden detumescence during sexual intercourse, with a history of blood at the urethral meatus. There was a past history of surgical treatment for fracture of the penis four years previously, characterized by a cracking sound during intercourse, associated with pain, swelling and detumescence of the penis.

Examination revealed a swollen, tender penis with hematoma and ecchymosis of the proximal shaft, more on the right side (Fig.1). There was purulent discharge from a laceration in the penile skin over the proximal corpora. The scar of the previous surgery could be palpated in the left part of the distal shaft. No disruption in the continuity of the



Fig. 1: Swelling and ecchymosis in a case of refracture of the penis. There was purulent discharge from the urethral defect.

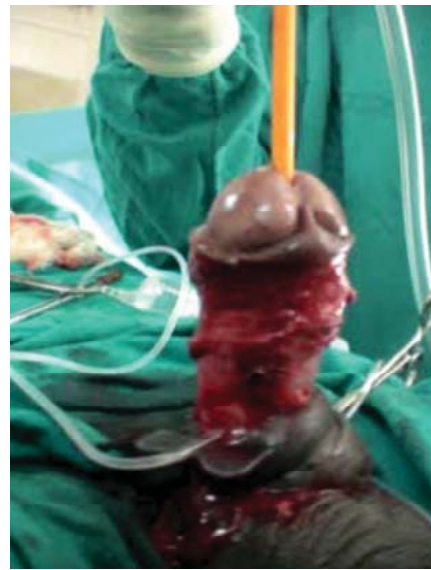


Fig. 2: Intra-operative view showing degloving of the penile shaft. Note the scarry tissue from the previous surgery

tunica albuginea of the corpora cavernosa could be palpated. Ultrasonography revealed laceration of the tunica albuginea of the right corpus cavernosum.

The patient was operated under general anesthesia. A circum-coronal incision 0.5 cm proximal to the coronal sulcus was made and the shaft degloved (Fig. 2). There was scar tissue at the site of the previous operation in the left corpus cavernosum of the distal shaft. Meticulous dissection was performed to identify a fresh laceration of 1 cm in the transverse plane in the right corpus in the mid shaft. After evacuation of the hematoma it was seen that the tear was in the tunica albuginea with partial involvement of the right corpus cavernosum extending to the ventral aspect of both the corpus spongiosum and the urethral mucosa in the mid-penile shaft region. There was a urethral defect of 0.5 cm that was repaired with 4-0 polyglactin 910 (Vicryl®) sutures. The tunica albuginea was repaired with non-absorbable 5-0 polypropylene (Prolene®) interrupted inverted sutures.

The patient was discharged on the second post-operative day. No medication was given for sedation. The patient had normal erections

post-operatively and no complications at 6 months follow-up.

DISCUSSION

Fracture of the penis, defined as a rupture of the tunica albuginea of the corpus cavernosum caused by an abrupt bending of the erect penis by blunt trauma, may affect one or both corpora cavernosa. It may rarely extend to the corpus spongiosum and urethra. The definition does not include penetrating trauma or injury of the flaccid penis. Angulation of the erect penis shaft during coitus, masturbation or nocturnal unconscious manipulation will result in high intracavernous pressure that may exceed the tunical tensile strength, resulting in its rupture. In the West, injury is most commonly reported during vigorous sexual intercourse, while cases from the Middle East resulted mainly from penile manipulation, involving kneading the penis to achieve detumescence.

Rupture of the tunica albuginea is usually unilateral, transverse and occurs more often in the proximal shaft and ventrally in coital injuries. The incidence of concomitant

urethral injury is 0-38% with an average of 8-10% in most series^{1,2}. Urethral injury occurs more commonly with a bilateral cavernosal tear. The age of patients with penile fracture ranges from 26 to 41 years.

The diagnosis is suggested by a cracking sound, followed by detumescence of the erect penis with intense local pain, hematoma, ecchymosis and deformity of the penis ('eggplant' or 'aubergine' sign). When Buck's fascia is disrupted, the hematoma extravasates around Colles' fascia, giving rise to the 'butterfly' pattern of ecchymosis. A palpable tunical defect and a hematoma with a «rolling sign» are usually pathognomonic. The presence of blood at the urethral meatus, gross hematuria or voiding difficulties may indicate urethral rupture, with an indication for urethrography. Diagnosis can be confirmed by cavernosography, ultrasonography or magnetic resonance imaging.

Delayed presentation may result in complications such as erectile dysfunction, penile deviation and plaques resembling those of Peyronie's disease.

Conservative therapy consisting of cold compresses, pressure dressings, anti-inflammatory agents and antibiotics has fallen into disfavor due to associated high complication rates reaching 25% to 53%⁹. Recent reviews advocate immediate surgical repair with fewer complications, shorter hospital stays, better outcome and increased patient satisfaction¹⁰.

Late complications include urethral stricture and refracture as late as two to five years follow-up². Ipsilateral refracture has been attributed to the presence of weak scar tissue at the site of previous fracture repair. The intracorporeal pressure rises to about 100 mmHg during intercourse and can rise further if the patient contracts his ischiocavernosus muscle during the activity⁷. Exposure of scar tissue to such high pressure can result in recurrent tear of the weak scar, leading to recurrent ipsilateral corporeal fracture. Ipsilateral refracture of the penis

is more likely to occur within two years of repair of the primary fracture⁷. Collagen deposition is completed by six weeks after injury. However, tensile strength of the scar tissue gradually increases for two years, due to remodeling of collagen, but never reaches that of unwounded tissue. Though non-absorbable sutures have the disadvantage of knots being palpable superficially, they are recommended, with inverted knots as they can hold the edges of the tunica together, even at high intracorporeal pressures.

Contralateral fracture can be explained with the scar tissue at the previous site acting as a source of unequal distribution of tension in the corpora leading to rupture of the contralateral side. The theory of high pressure is supported by the fact that, in our patient, it also led to urethral injury.

This case highlights the fact that during repair of penile fracture care should be taken to ensure that the corpora are equal in length during artificial erection test. Patients with fracture of the penis may require strict follow-up for the initial 6 months to examine the development of the scar and to see if there is a discrepancy in the corporal length. Also, expedient surgical management is essential for a good outcome.

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CONTRALATERAL FRACTURE OF THE PENIS WITH CONCOMITANT URETHRAL INJURY

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