



International Journal of Case Reports (ISSN:2572-8776)



Penile Fracture – Case Series

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ABSTRACT

Fracture of the penis is a misnomer, the cause being rupture of one or both of the tunica albuginea that covers the corpora cavernosa. It usually occurs following sexual intercourse or masturbation. Here we report 2 cases of penile fracture in our institution. Ultrasonography was done which confirmed the diagnosis. In both the cases, the urethra was intact. Exploration with evacuation of the hematoma and repair of the tunica albuginea was done.

KEYWORDS:

Penile fracture, penile trauma, corpora cavernosa rupture, penile anatomy, tunica albuginea, eggplant deformity, faux pas du coit, cavernosography

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How to cite this article:

Ann Rhoda Abraham, Narayanasami Bharath, Arcot Rekha. Penile Fracture – Case Series. International Journal of Case Reports, 2019 4:87

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INTRODUCTION:

Penile fracture is an urological emergency that needs immediate intervention. The first case was documented more than 1000 years back and about 1600 cases have been reported up to now. It occurs due to the rupture of the tunica albuginea of the corpora cavernosa. Urethral bleeding indicates urethral injury, which is seen in about 1 to 38% cases of penile fractures [1].

CASE PRESENTATION:

Case 1:

A 55-year-old male was brought to the emergency with complaints of swelling and pain of the penis after turning over the erect penis in his sleep. He denied history of sexual intercourse prior to the time of incident. There

was no abdominal pain, urinary retention or history of haematuria, hence ruling out urethral injury. Examination revealed egg-plant deformity of the penis, ecchymosis with severe tenderness on palpation [Fig 1]. The urethral meatus was not visualised and prepuce was not retractable. A diagnosis of penile fracture was made. High resolution ultrasound of the penis revealed a ruptured tunica albuginea with a tear of the corpora cavernosa on the right side [Fig 2].

Under anaesthesia, a 2.5cm rent in the postero-lateral aspect of the tunica albuginea was sutured [Fig 3] [Fig4]. Post-operatively, the patient was put on Ketoconazole to prevent erections. At follow up, he did not complain of urinary disturbances or of erectile dysfunction.



Fig 1

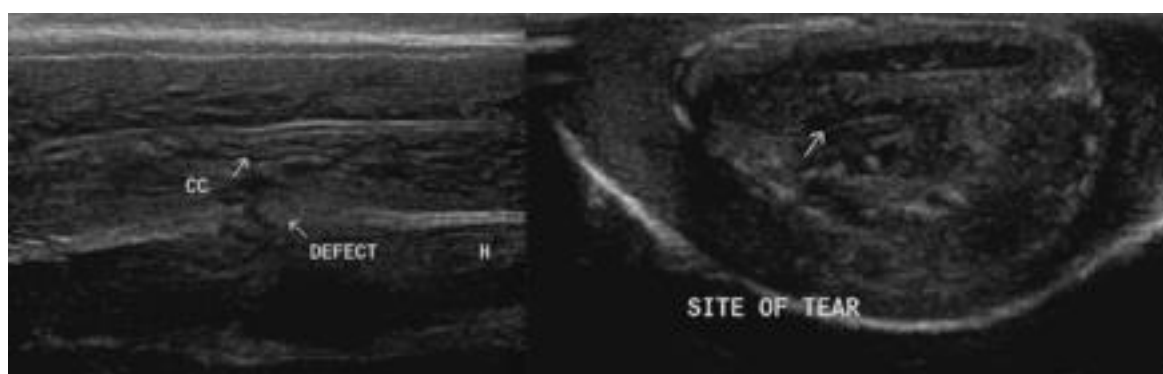


Fig 2

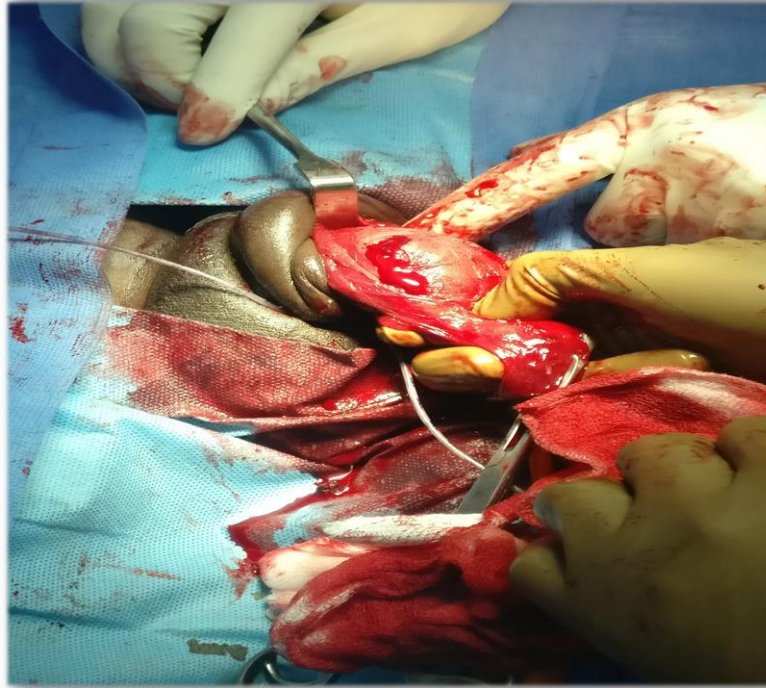


Fig 3

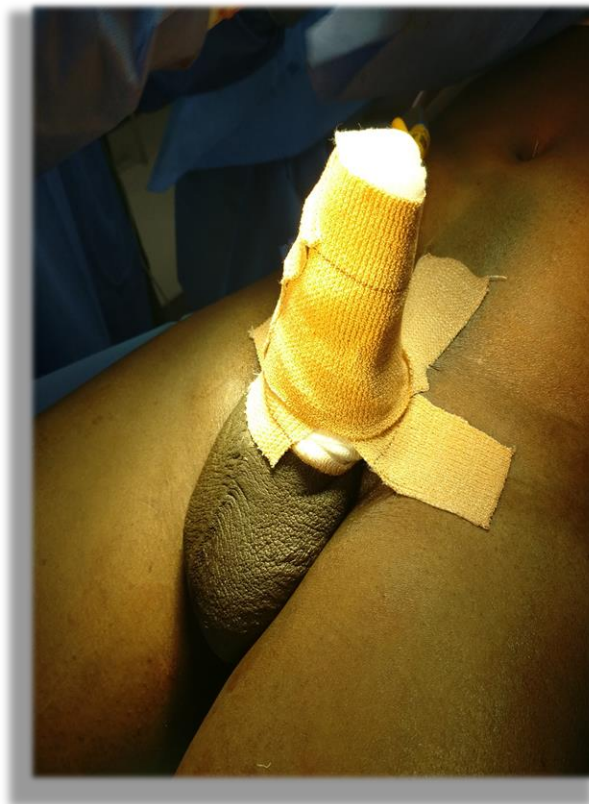


Fig 4

Case 2:

A 21-year-old male presented to the ER with severe penile swelling and pain for 5 hours with a history of masturbation prior to the onset. On examination, severe penile oedema with the

“egg-plant deformity” and ecchymosis was apparent. Associated scrotal oedema was also present. There was no evidence of blood at the external urethral meatus. A diagnosis of penile fracture was made and ultra-sound was done

which confirmed the diagnosis. Emergency exploration of the penis by a sub-coronal circumferential incision showed a rupture of the Buck's fascia with the presence of a clot on the ventro-lateral aspect of the right corpora cavernosa. The rent which was approximately 1.5cm was sutured and post-op period was uneventful. He was also started on ketoconazole for 2 weeks.

DISCUSSION:

In a meta-analysis conducted by Amer et al including 58 relevant studies with 3,213 patients, 48% cases of penile fracture were due to sexual intercourse and 39% due to masturbation and forced flexion of the erect penis [2]. "*Taqaandan*" procedure is the most common cause in the Middle Eastern region [3]. The meaning of this Kurdish word is "*to click*" and is the forceful bending of the shaft of penis to achieve detumescence. The tunica albuginea is a strong fascia which stretches and thins out to as little as 0.25mm during erection [4,5]. Tear of this tunica albuginea occurs at intra-corporeal pressures of more than 1500mmHg as stated in a study by Jack et al. Injury to the Buck's fascia is associated with the "pop/cracking/snapping sound".

Penile fracture typically presents with penile swelling, pain, ecchymoses and rapid detumescence. The deformity of the penis gives rise to the 'eggplant deformity' or 'Aubergine' sign [6]. 'Rolling sign' can also be demonstrated which is the movement of the penile skin over the region of the organized hematoma [7].

Penile fracture must be differentiated from hematoma due to tear of the deep dorsal veins of the penis. But surgical exploration is advised to rule out the associated presence of penile fractures. Blood at the external urethral meatus or voiding difficulty may indicate associated urethral injury.

Clinical diagnosis can be made with a good assessment of the history and proper examination. Modalities like USG, Cavernosography, and MRI help confirm the

diagnosis and are also specific as to the site of the tear. The use of Cavernosography is a debate of late, with reports of false negative findings [8]. Also, the dye subjects the patient to tissue reaction and corporal fibrosis.

The AUA guidelines on urotrauma specifies, "Surgeons should perform prompt surgical exploration and repair in patients with acute signs and symptoms of penile fracture. A study by El-Assmy et al found no substantial difference in recovery based on early or delayed presentation of penile fracture with subsequent surgery. However, the study also showed that early surgery was preferable to delayed surgery with fewer complications, but there was no difference in the rate of erectile dysfunction [9].

The principles of surgery for penile fracture are, to optimize the surgical exposure, evacuate the hematoma, to identify the site of injury, correct the defect in tunica albuginea and to repair the urethral injury.

The generally used incisions are directly over the defect, circumferential degloving incision and inguinal-scrotal incision.

If needed, the entire penile skin can be everted inside out for good exposure.

Meares in 1971, described the early surgical repair of penile fractures in order to reduce the complications like fibrosis and curvature. Proper dissection should be done until the hematoma within the Buck's fascia is exposed and evacuated. The site of hematoma is the site of the tunica albuginea rupture for which running or interrupted sutures can be placed. Non-apparent or incompletely sutured tunica can be identified by intra-corporeal injection of saline and subsequent artificial erection. This is the "Gitte's test" [10]. Another alternative is the use of Indigo-carmin intra-corporeally.

In case of partial urethral rupture, the management consists of either urethral suturing with catheterisation or a simple supra-pubic cystostomy. In instances of complete urethral injury, the treatment is dissection of both the bisected ends of the urethra, placement of a

transurethral catheter with extra-mucosal, tension-free, termino-terminal urethrorraphy. The catheter is kept in situ for 14 weeks after which it can be removed.

Post-operative compression bandage with erection inhibitors are given for a period of 2 weeks. Reported long-term complaints after penile fracture repair include: penile deviation, painful intercourse, painful erection, erectile dysfunction, priapism, skin necrosis, arteriovenous fistula, urethral-cavernous fistula, and urethral stricture.

CONCLUSION:

Penile fracture is a urological emergency, requiring early recognition, prompt exploration, to prevent the long term effects.

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