

Superficial Dorsal Vein Injury/Thrombosis Presenting as False Penile Fracture Requiring Dorsal Venous Ligation

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ABSTRACT

Introduction. Conditions mimicking penile fracture are extremely rare and have been seldom described.

Aim. To describe a patient with false penile fracture who presented with superficial dorsal vein injury/thrombosis managed with ligation.

Methods. A 33-year-old male presented with penile swelling and ecchymosis after intercourse. A penile ultrasound demonstrated a thrombosed superficial dorsal vein but also questionable fracture of the tunica albuginea. As the thrombus was expanding, he was emergently taken to the operating room for exploration and required only dorsal venous ligation.

Results. Postoperatively, patient's Sexual Health Inventory for Men score was 23, and he had no issues with erections or sexual intercourse.

Conclusion. Early exploration of patients with suspected penile fracture provides excellent results with maintenance of erectile function. Also, in the setting of dorsal vein thrombosis, ligation preserves the integrity of the penile tissues and avoids unnecessary complications from conservative management. **Rafiei A, Hakky TS, Martinez D, Parker J, and Carrion R. Superficial dorsal vein injury/thrombosis presenting as false penile fracture requiring dorsal venous ligation. Sex Med 2014;2:182–185.**

Key Words. False Penile Fracture; Penile Fracture; Superficial Dorsal Vein Thrombosis; Dorsal Vein Ligation

Introduction

Penile fracture is defined as a tear in the tunica albuginea of the corpus cavernosum. This occurs as a result of trauma to the erect phallus. Patients routinely report hearing a snap or cracking noise, which is followed by immediate pain and detumescence [1]. Swelling and bending of the penis ensues thereafter. Surgery is the first line treatment for management of true penile fractures. Even after repair of penile fracture, complications include Peyronies disease, erectile dysfunction, fistulas, and infections [1].

Conditions mimicking penile fracture are rare and have been seldom described. Generally, they have been described as bleeding within the soft tissues of the penis with intact tunica albuginea. False penile fracture accounts for 5% of the patients operated on with presumed diagnosis of penile fracture [1]. False penile fracture patients present similarly to “true” penile fracture patients; however, these patients typically do not describe hearing the snap and maintain the ability to continue intercourse. Additionally, long-term after the inciting event, the patient classically maintains his ability to achieve penile tumescence. The

management for false penile fracture varies. No long-term complications have been reported after surgical exploration of false penile fractures. Conservative management has also been described for managing false penile fractures. However, there are reports of complications after conservative management including infections and erectile dysfunction.

In this article, we present a patient with false penile fracture who presents with superficial dorsal vein injury/thrombosis managed with ligation.

Case Presentation

A 33-year-old male presented to our emergency department with penile swelling and ecchymosis after intercourse. Patient remembered an awkward angulation of his penis during intercourse, resulting in brief period of penile pain. He was able to maintain his erection after the inciting event and continued intercourse until climax. Neither the patient nor his partner reported hearing a snapping or popping sound. He noted pain, swelling, and ecchymosis 30 minutes after climax and presented to emergency department. He denied any hematuria or other voiding symptoms.

On examination, he was noted to have edema and ecchymosis from the penile base to coronal sulcus, but only involving the dorsal aspect of the shaft. He had a palpable dorsal cord-like structure under the midshaft. No other obvious deformities or bends were noted. The ecchymosis was contained only to the dorsal penile shaft (Figure 1). His urine analysis was negative for blood, nitrites, or leukocytes. Due to the unusual presentation, a penile duplex ultrasound was performed that showed dorsal vein thrombosis with overlying proximal vein dilation and hematoma with questionable cavernosal injury (Figure 2). After a few hours, the patient had progression of edema and ecchymosis with enlargement of the cord-like structure on the dorsal aspect of his penile shaft. At that point in time, decision was made to explore the area and empirically plan for ligation of the injured/thrombosed dorsal vein. Informed consent, including permission for intraoperative photography, was obtained prior to going to the operating room.

Surgical repair involved a subcoronal degloving incision and dissection of the dartos. This revealed a large thrombosed dorsal vein, which began to have brisk bleeding once the clot plugging the injury site was washed away. The vein measured 0.4 cm in diameter and 4.5 cm in length. There

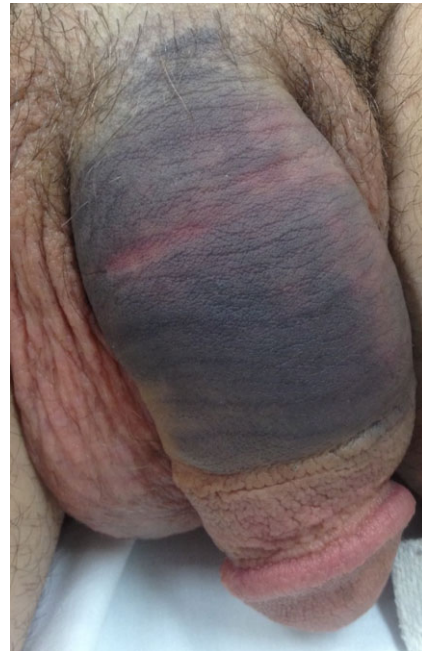


Figure 1 Physical exam demonstrating edema and ecchymosis from the penile base to coronal sulcus, but only involving the dorsal aspect of the shaft.

was an approximately 0.5-cm rent in the proximal third of the dorsal vein (Figure 3). The thrombosed vein was dissected out and skeletonized. The vein was then ligated using 3-0 glycolide and dioxanonesuture (Biosyn, Carlsbad, CA, USA). To occlude some collateral vessels bleeding and to tack the ligated end of the dorsal vein to the bed of dissection, Omnex glue (Ethicon, San Antonio, TX, USA) was used (Figure 4). The circumcission incision was closed using 4-0 chromic

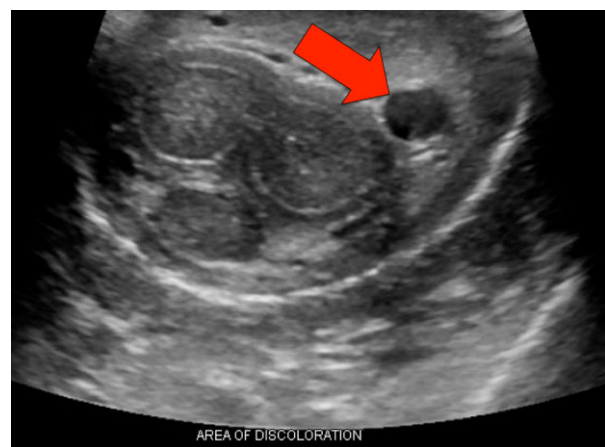


Figure 2 Red arrow showing dorsal vein thrombosis with dartos ecchymosis.

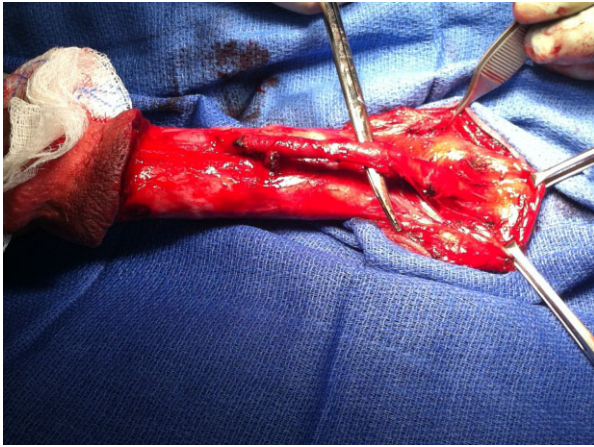


Figure 3 4.5-cm thrombosed superficial dorsal vein.

sutures in an interrupted manner. A Kerlix roll and burn netting were used to dress the phallus. The patient was subsequently discharged home the following morning in stable condition. His 4-week postoperative visit Sexual Health Inventory for Men score was 23. His incision was healed well, and he had no other issues or complications.

Discussion

False penile fractures are caused by bleeding within the soft tissues of the penis, while tunica



Figure 4 Ligated superficial dorsal vein with the use of Omnex sealant to the vessels and surrounding area.

albuginea is intact. This may be due to injury to penile dorsal artery, deep dorsal vein, superficial dorsal vein, or nonspecific dartos bleeding [2]. In the largest study of false penile fractures, Bar-Yosef et al. reported that nine out of 17 procedures done for false penile fractures had dorsal vein rupture [3]. Feki et al. reported 16 patients with false penile fracture, and 10 cases had nonspecific dartos bleeding and reported ecchymosis in the pubic and scrotal area [1]. El-Assmy et al. reported an absence of snapping sound and gradual postinjury detumescence in 88% and 17.7% of his patients, respectively [4]. Although present in false penile fractures, Bar-yosef et al. reported extensive hematoma and penile shaft deviations were more common in true penile fracture [3].

The use of imaging modalities during the workup of penile fractures has been debated extensively. Ultrasonography, with or without color Doppler, cavernosography, and magnetic resonance imaging (MRI) have all been utilized with mixed results. Ultrasonography can be helpful in localization of injury, but the accuracy of the results depends on the proficiency of the ultrasonographer [4]. However, it can give false negative results when the tear is small [5]. MRI gives the best results for soft tissue evaluation, but it is cost-prohibitive, and availability restricts its use [4,6]. Cavernosography has also been used, but the drawback is that it is an invasive procedure with increased risk of infections, allergic reaction to contrast [5–7].

Conservative management has been described for management of false penile fracture when the practitioner is certain that there are no cavernosal injuries. This includes the use of penile splinting with pressure dressing, ice packs, and analgesics [4]. Studies have demonstrated that conservative management for false penile fracture can lead to abscess formation, scar or plaque formation, and erectile dysfunction [8–10]. Surgical exploration, evacuation of hematoma, and ligation of the bleeding vessel lead to satisfactory results and preservation of erectile function in the majority of the patients with venous injury without any complications reported at this time [3].

To our knowledge, no other study has described superficial dorsal vein injury/thrombosis presenting as false penile fracture requiring dorsal vein ligation. Due to the possible complications of conservative management and in view of excellent results of surgical exploration and maintenance of erectile function, we advocate early exploration in patients with suspected false penile fracture. In

addition, dorsal vein ligation in the setting of thrombosis preserves the integrity of the penile tissues and avoids unnecessary complications from conservative management such as abscess or plaque formation.

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Conflict of Interest: The author(s) report no conflicts of interest.

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