Our 8 Years Experience on Penile Fractures: The Diagnosis and Treatment

Penil Fraktür Tanı ve Tedavisinde 8 Yıllık Deneyimimiz

Penile Fracture / Penil Fraktür

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Bu makale 1-4 Haziran 2011 tarihinde Mersinde yapılan 9.Ulusal Androloji Kongresinde 19 olguluk seri ile poster olarak sunulmuştur.

Özet

Amaç: Bu çalışmada amacımız penil fraktürün tanı ve tedavi yaklaşımındaki deneyimimizi sunmaktır. Gereç ve Yöntem: Son 8 yıl içinde kliniğimize peniste aniden gelişen şişkinlik ve ağrı nedeniyle başvuran hastaların kayıtları incelendi. Yaşları 16 ile 45 arasında değişen toplam 30 hastanın klinik bilgileri retrospektif olarak değerlendirildi. Tüm hastalar acil servise penisteki şişlik ve ağrıyı takip eden 10 saat içinde başvurmuşlardı. Bulgular: Başvuran bu hastaların 28'inde penil fraktür, 2 olguda ise penil fraktürü taklit eden dorsal ven rüptürü gözlendi. Penil fraktür etyolojisindeki en sık nedenler cinsel ilişki ve penis ereksiyonunu sonlandırmak için penisin elle bükülmesi olarak tesbit edildi. Tüm olguların tanısı hasta hikayesi ve fiziki muayene ile konuldu. Olguların 28'i cerrahi olarak, 2'si ise dorsal ven rüptüründen dolayı dorsal ven ligasyonu ile tedavi edildi. Son 5 olgu hariç diğer vakalarda 18.7 ay (8-28 arası) takip süresince erektil disfonksiyon veya penil kurvatur gözlenmedi.
Tartışma: Penil fraktür olgularında konservatif yaklaşımı önerenler olduğu gibi daha hızlı iyileşme, hastanede kısa kalış süresi,daha az morbidite ve uzun sürede daha az penil kurvatur gelişmesi nedeniyle cerrahi tedaviyi öneren otörler çoğunluktadır.

Anahtar Kelimeler

Penil Fraktür; Penil Dorsal Ven Rüptürü; Tedavi

Abstract

Aim: The purpose of this study to present our experience with diagnosis and treatment management of penile fracture. Material and Methods: Patients who were admitted our clinic with complaints of sudden penile swelling and pain during 8 years were screened. Clinical information of 30 patients aged between 16 and 45 retrospectively analyzed. The patients had applied to emergency room during the first 10 hours following penile swelling and pain. Results: Penile fracture was detected in 28 patients and dorsal penile vein rupture mimicking penile fracture was detected in 2 patients. The most common etiologies of penile fracture were coitus and manually bending the penis for detumescence. Diagnoses were made based on history and physical examination. The treatment was surgical in 28 cases with subcoronal circumferential degloving incision and 2 patients were treated with vein ligation due to dorsal vein rupture. Erectile dysfunction or penile curvature were not detected (except the last five cases) during a mean follow up of 18.7 months (range 8-28). Discussion: Although conservative treatment options were adviced, many authors prefer surgery because of the rapid recovery, short hospitalization duration, less morbidity and less penil curvature during the long term period.

Keywords

Penile Fracture; Dorsal Vein Rupture;Treatment

DOI: 10.4328/JCAM. 837 Received: 22.10.2011 Accepted: 02.12.2011 Published Online: 01.10.2012 J Clin Anal Med 2012;3(4):430-432
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Introduction

Penile fracture is a pathology characterized with tunica albuginea rupture together with corpus cavernosum usually during sexual intercourse. This rare entity may occur mainly during sexual intercourse[1-3] and also during masturbation[4,5] falling onto erect penis or as the result of manipulations of erect penis. Of all injuries, 38-50 % occurs during sexual intercourse.[2]

At the time of the fracture, the patient typically hears a loud cracking noise associated with loss of erection, penile pain and swelling.[6,7] Penile rupture is seen together with urethral injury in 10-20% of cases. In this case, urethral bleeding, hematuria and difficulty of urination may be seen.[7-9]

Penile dorsal vein rupture developing during sexual intercourse is also a rare entity causing a clinical view similar to penile fracture. This condition should be considered in differential diagnosis.[10]

Material and Method

Patients who were admitted to our clinic with complaints of sudden swelling and pain of the penis during recent 8 years were screened. Clinical information of 30 patients aged between 16 and 45 retrospectively analyzed. The patients had admitted to the hospital during the first 10 hours following penile swelling and pain Penile fracture was detected in 28 patients and dorsal penil vein rupture mimicking penile fracture was detected in 2 patients. The treatment was surgical in 28 cases with subcoronal circumferential degloving incision. Bladder catheterization was routinely performed. The tear in the tunica albuginea was then closed with 4.0 interrupted polyglactine sutures 2 patients was treated with vein ligation due to dorsal vein rupture.

Results

When the patients were assessed in terms of etiology of trauma, the most common types of trauma were coitus and manually bending the erect penis. The types of trauma that caused penile fracture are summarized in Table 1. On the physical examination, hematoma was observed in 3 patients. In 4 patients, there was a large hematoma extending to the scrotum and pubic area. It was possible to palpate the rupture in 10 patients, but palpation was not possible in 8 patients because of large hematomas and severe pain. Injury was detected to occur during sexual intercourse in the subject with dorsal vein rupture. Diagnoses were made based on history and physical examinationin. The treatment were surgical in 28 cases with subcoronal circumferential degloving incision and 2 patients were treated with vein ligation due to dorsal vein rupture. In 15 of the 28 patients, surgical repair was performed under spinal anesthesia. The clinical findings of these 28 patients are summarized in Table 2. Erectile dysfunction or penile curvature were not detected (except the last five cases) during a mean follow up of 18.7 months (range 8-28). Tunica albuginae rupture was as a transverse tear varying between 0.5 and 3 cm (mean 1.7 cm).



Figure 1. Typical penile deformity in a patient with penile fracture.



Figure 2. Buck's fascia is also involved, ecchymosis extends to perineum, scrotum and lower abdomen in a 'butterfly like' fashion.

Table 1. Etiological factors of penile fracture according to patient reports

Etiology	Number of Patients
Coitus	13 (46.4%)
Manually bending the penis	7 (25%)
Rolling over in bed during sleep	3 (10.7%)
Masturbation	3 (10.7%)
Falling on an erect penis	2 (7.1%)
No explanation	3 (10.7%)
Total	28 (100%)

Table 2. Clinical findings of surgically repaired patients

Localization of the lesion	Number
Left corpus cavernosum	14 (50%)
Right corpus cavernosum	13 (46.5%)
Both corpora	1 (3.5%)
Length of rupture (cm)	
0.5-1	10 (35.7%)
1-2	10 (35.7%)
2-3	8 (28.5%)
Total number of patients	2 (100%)

Discussion

Penile fracture is a pathology characterized with disruption of tunica albuginea together with corpus cavernosum usually during sexual intercourse. According to hospital statistics in the United States, the incidence of penile fracture is 1/175,000.[11] In total, 1,331 penile fracture cases were reported in 183 papers between 1935 and 2001, and most were reported from countries of the Mediterranean and Middle East. Coitus as the etiological factor of penile fracture was reported in 33% and 60% of cases.[12,13] Zargooshi[14] published the largest series of penile fractures (172 cases) and reported that in 69.1% of cases, the etiological factor was manually bending an erected penis for detumescence while in 8.1% of cases, the etiological factor was coitus. The most frequent etiological factor in the present series was coitus 46.4%. The incidence of manually bending the penis for detumescence in the present series was 25%. The reported incidence of the various etiological factors for penile fracture varies because patients do not always accurately report the cause, probably due to embarrassment. Possible etiological factors other than coitus and manual bending were turning over during sleep, falling out of bed, masturbation, and being kicked by an animal. Despite the difficulty in determining the etiological factor, the diagnosis of penile fracture is not difficult. Patients complain about penile pain, deviation and ecchymotic swelling following sudden detumescence of the penis, accompanied by a cracking sound.

Penile fracture is an entity diagnosed with history and physical examination findings. Some researchers recommend ultrasonography, cavernosography and magnetic resonance imaging for preoperative detection of rupture site.[2,15,16] Nevertheless data obtained from these tests are similar to those obtained from history and physical exam.[17] However, on the other hand, there are authors suggesting that ultrasonography is an ideal technique for evaluation of penile trauma cases.[18,19] Additional tests were not used for diagnosis in our cases.

Small superficial dorsal vein and soft tissue lesions that may develop during sexual intercourse are pathologies mimicking penile fracture and differential diagnosis can be made with exploration.[10] Dorsal vein rupture are more common due to the changing sexuel fantasies. In doubtful cases, ultrasonography with color Doppler has been incorporated into the diagnosis of penile trauma, providing better diagnostic accuracy, because it allows evaluating the relationships between the hematoma and penile vascular structures. Because it is a noninvasive, low-cost, and widely available method, ultrasonography can be considered useful in the diagnostic investigation of penile trauma.[18] Among our cases, a similar entity was observed only in two cases and vein ligation was made. Such cases are rare in literature.[20-22]

Whether color change is limited to penis or not depends on preserving integrity of Buck's fascia. If Buck's fascia is healthy, hematoma or color change is limited to penis and 'eggplant deformity' develops (Figure1). If Buck's fascia is also involved, ecchymosis extends to perineum, scrotum and lower abdomen in a 'butterfly like' fashion (Figure 2). On physical examination, swelling, ecchymosed and a curvature toward the opposite site of rupture may be seen in penis due to mass effect of hematoma.

Urethral rupture is seen in 10-20% of patients with penile fracture. In this case, urethral bleeding, hematuria and difficulty in urination may be seen. In these cases, retrograde urethrography may be applied easily and routinely due to high ratio of accuracy and cheapness.[7] In our study. urethral injury did not observe.

There are different and conflicting studies and recommendations for treatment of penile fracture. There is an increasing tendency to make an immediate surgical treatment with the aim of preventing complications concerning sexual functions in case of delay of treatment[7,14,23] Complication rate of conservative approach in penile fracture is reported as 10-41% in previous studies. Thus surgical treatment is evaulated as the best option[3,14] In our study, 30 cases were surgically treated and no sexual intercourse related complications were observed on follow ups.

Penile fracture is an entity that is often diagnosed clinically. Anamnesis and physical examination are the main diagnostic tools for penile fracture. Although conservative treatment options were adviced, many authors prefer surgery because of the rapid recovery, short hospitalization duration, less morbidity and less penil curvature during the long term period. Dorsal vein rupture condition should be considered in differential diagnosis.

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