PENİL FRAKTÜR

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Atatürk Üniversitesi Tıp Fakültesi Üroloji AD - ERZURUM

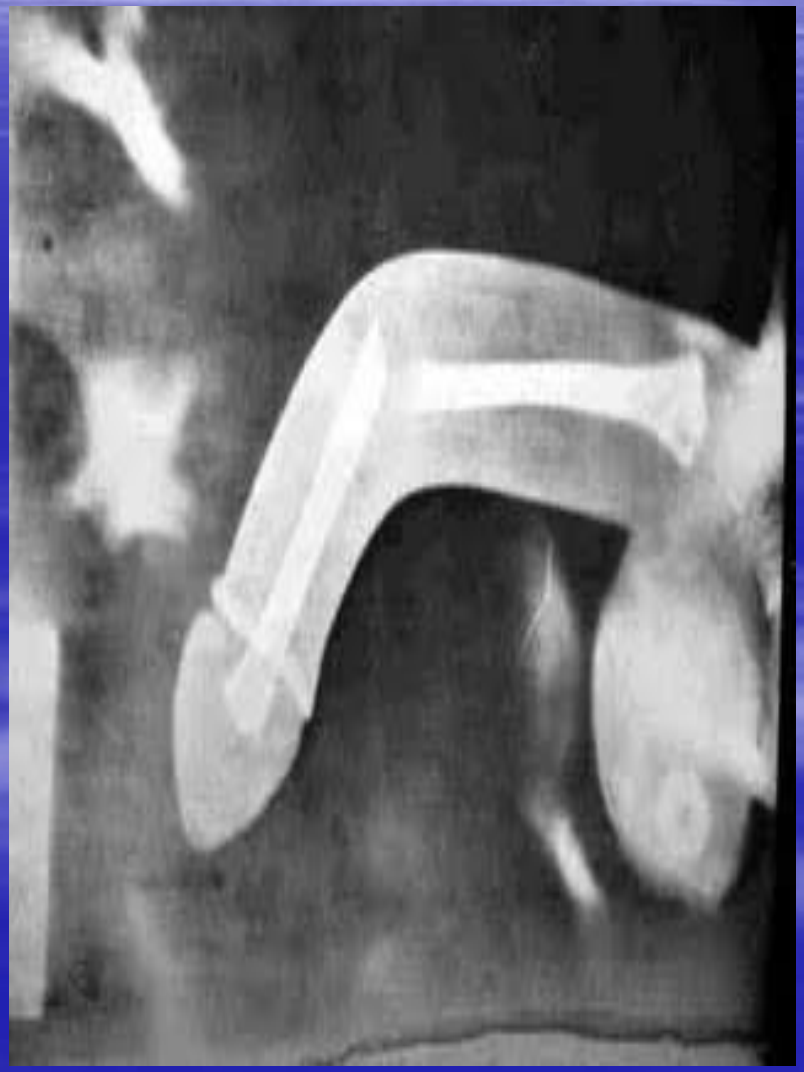
Epidemiyoloji

- Fraktür tanımı yanlıştır, gerçek olan rüptürdür.
- Ürolojik acildir.
- İlk bildirimi 1000 yıl önce yapılmıştır. (Abul Kasem)
- En geniş seriler;
  - 172 olgu ile İran'dan
  - 300 olgu ile Tunus'tan
  - 84 olgu Türiye (Erzurum)'den

  bildirilmiştir.

  (Zargooshy , El Atat, Yapanoğlu)

- En sık genç erişkinlerde görülür.



Patofizyoloji

- Ereksiyonda intrakorporal basınç 180 mm Hg kadardır.
- İntrakavernöz basınç 1500 mmHg'de tunikal kalınlık 2 mm'den 0.25-0.50'ye düşer ve rüptür gerçekleşir.
- Rüptür genellikle tek taraflı, penis köküne yakın ve ventral yerleşimlidir.
- Sağ tarafta daha sıktır (% 75)
- Bilateral rüptür % 4-10
- Spongioz cisim ve üretra rüptürü % 0-40.
- Bilateral ve ventral rüptürlerde üretral rüptür riski artar.

Etiyoloji

- Kültürlere ve cinsel alışkanlıklara göre değişir ve genellikle gerçek neden saklanır.

- **En sık:**
- Travmatik koitus
- Masturbasyon
- Ereksiyonu sonlandırmak için yapılan bükme (takadan) hareketleri bildirilmiştir.

Nadir nedenler

- At tepmesi
- Kapı çarpması
- Tuvelet oturağına sıkıştırma
- Erekte penisi pantolona yerleştirme
- Yatakta dönme

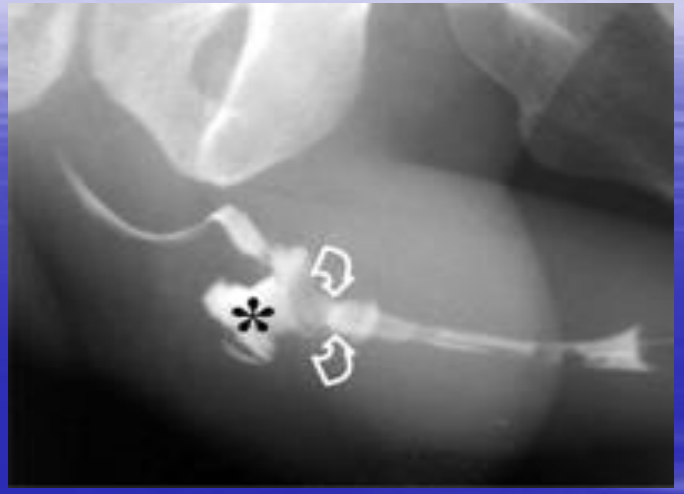
Tanı

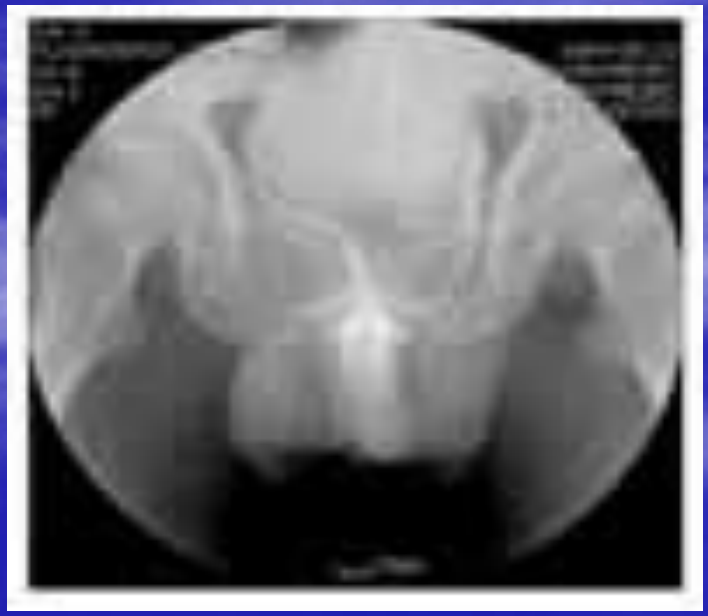
- **Altın standart anamnez ve fizik muayenedir:**
- **Ani bir kırılma sesi, ağrı ve ereksiyon kaybı tipiktir.**
- **Morarma, penil şişlik ve penil deformite (patlıcan görünümü)**
- **Penil eğrilik yırtığın aksi yönünde görülür.**
- **Buck fasyasında yırtık varsa, ekimoz ve hematom perine, skrotum ve alt abdomene yayılır (Kelebek tarzı ekimoz).**
- **Üretrada rüptür varsa, üretroraji ve miksiyon güçlüğü tanımlanır.**

Üretrografi ve kavernozografi

- **Üretra rüptürü kuşkusunda retrograd üretrografi yapılmalıdır**
  - (Yalancı negatiflik % 15).
- **Operasyondan önce üretroskopi yapılabilir.**
- **Geçmişte kavernozografi yapılmıştır. Ancak,**
  - **Yalancı negatiflik,**
  - **Enfeksiyon ve**
  - **Priapizm riski**

  nedeniyle günümüzde önerilmemektedir.
- Kavernozografi intraoperatif yapılabilir???

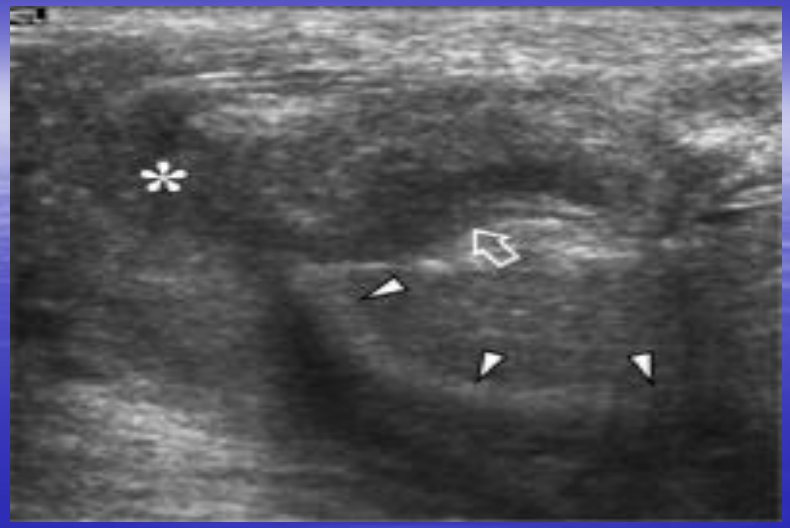


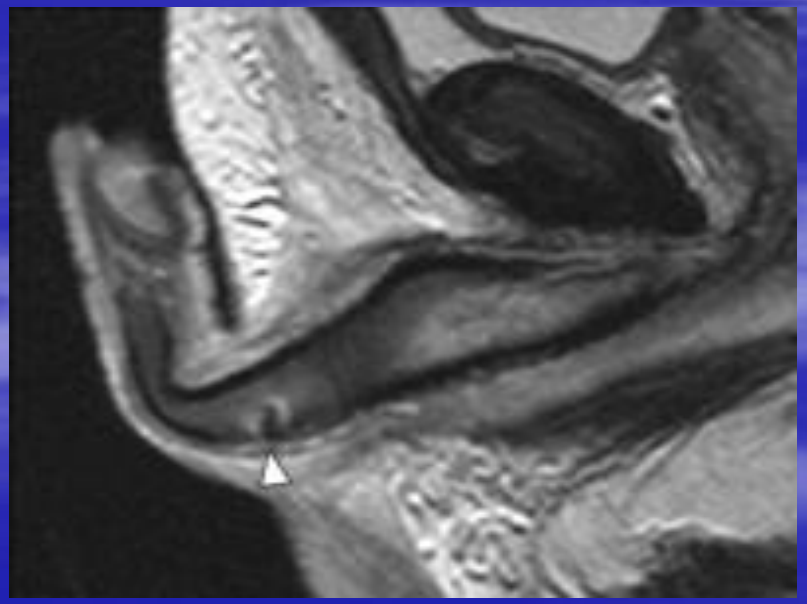


Penil US ve MRG

- Penil US ve MRG yapılabilir.
- Ancak tanıya fazla bir katkı sağlamaz.
- Cerrahiyi geciktirir ve
- Gereksiz maliyet oluşturur.

- Bilimsel çalışma amaçlı yapılabilir.





Ayırıcı tanı

- **Tunikal yırtık olmadan dorsal ven rüptürü:**
  - **Olgu sunuları var**
  - **En geniş seride 9/17 (% 52.9) yalnızca venöz yırtık var.**
    - ***Bar-Yosef Y, 2007***
  - **Kliniğimizde 4/42 (% 9.5) dorsal ven rüptürü var. Ancak hepsinde tunikal yırtık da mevcut.**
    - ***Yapanoğlu T, J Sex Med, 2009***

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Case Report

Superficial Dorsal Vein Rupture Imitating Penile Fracture

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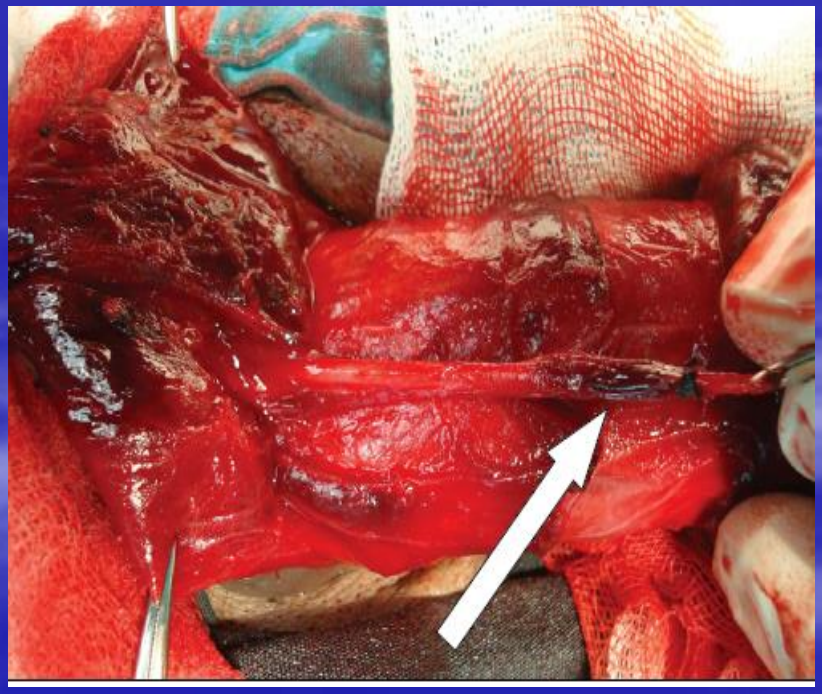
Department of Urology, Okmeydani Training and Research Hospital, Istanbul, Turkey



False Penile Fracture: Value of Different Diagnostic Approaches and Long-term Outcome of Conservative and Surgical Management

Ahmed El-Assmy, Hossam S. El-Tholoth, Mohamed E. Abou-El-Ghar, Tarek Mohsen, and El Housseiny I. Ibrahiem

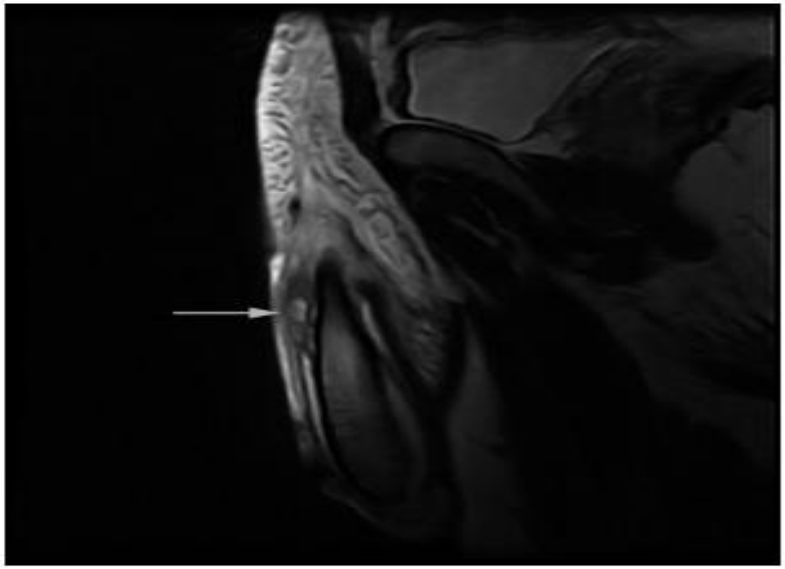


Figure 1. Reformatted sagital oblique T2-weighted MRI of penis showing left corpus cavernosum with intact tunica albuginea. There is a small subcutaneous hematoma of mixed hypo- and hyperintense signal intensity anterior to the corpus cavernosum (*arrow*).

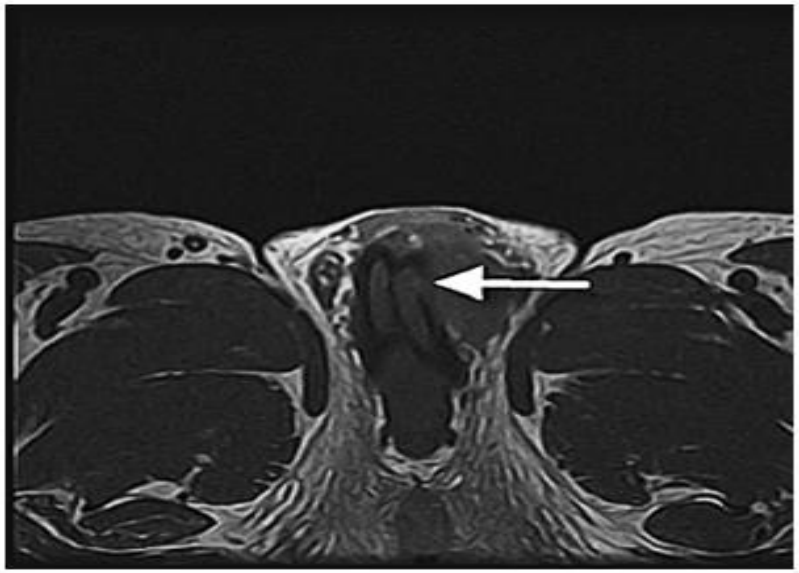


Figure 2. Axial T1-weighted MRI of penis showing left subcutaneous hematoma of intermediate signal intensity and adherent to the adjacent corpus cavernosum with a defect at the adjacent tunica albuginea (*arrow*).

False Penile Fracture: Value of Different Diagnostic Approaches and Long-term Outcome of Conservative and Surgical Management

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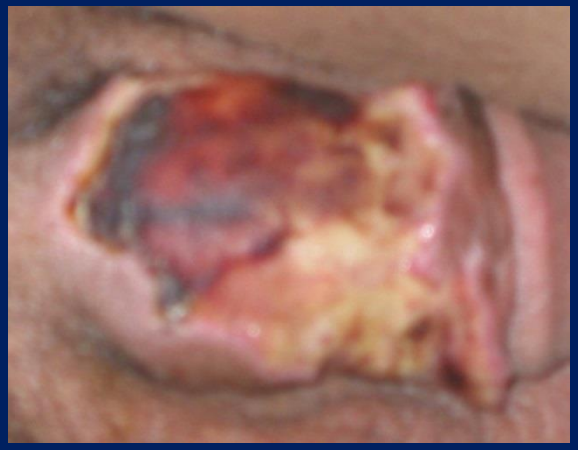
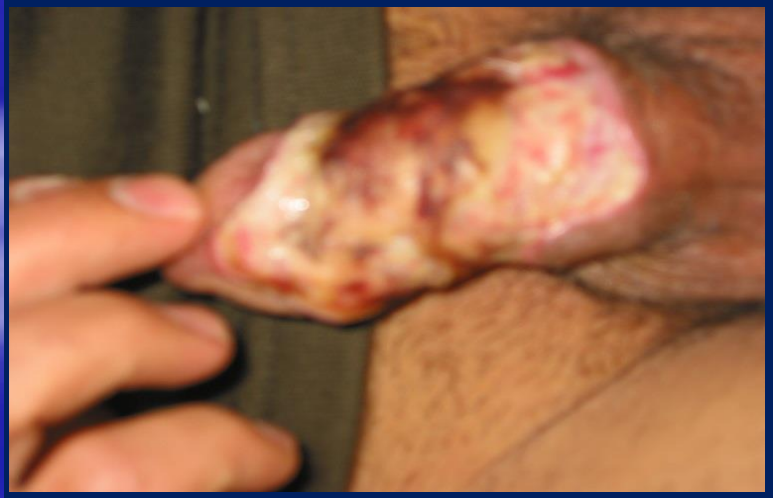
- **Toplam 17 olgu**
  - **9 olgu:** Dartos kanaması
  - **5 olgu:** Dorsal ven rüptürü
  - **3 olgu:** Konservatif tedavi yapıldığı için patoloji?
- **Preoperatif penil US % 50 yanlış pozitif sonuç vermiş.**
- **Penil MR % 100 intakt tunika göstermiş:**
  - **MR pahalı olduğu için,**
  - **Zaman alıcı ve cerrahiyi geciktirdiği için,**
  - **Ancak 3/17 olguda konservatif yaklaşım yeterli oduğu için.**

Penil MR rutin olarak önerilmemektedir.

Penil violasyon: Ayırıcı tanıda akılda tutulmalı

- Kliniğimizden bir olgu





Tedavi

- 1. Konservatif yaklaşım
- 2. Erken cerrahi
- 3.Gecikmiş cerrahi

Konservatif yaklaşım: Cerrahi tedaviden daha invazif?

- Literatür zayıf
- Kliniğimizde 5/54
- TU Foley
- Sargı
- Soğuk kompres
- Antibiyotik
- Antiinflamatuar
- Antiandrojen?
- Sedasyon

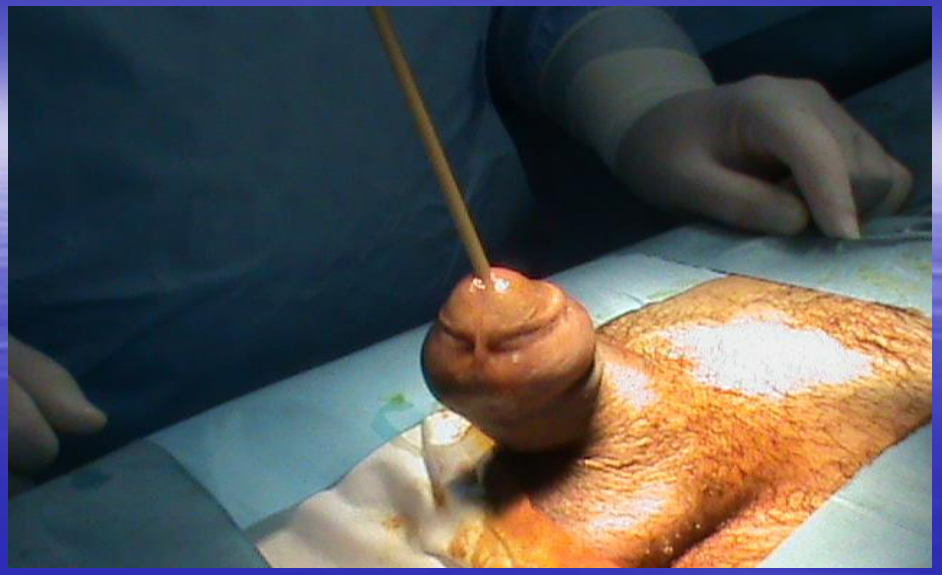
- Hastanede kalış süresi uzun (ort: 14 gün)
- Komplikasyon oranı yüksek (% 80)
  - Hematom artması
  - Hematomun enfekte olması
  - Apse formasyonu
  - A-V fistül
  - Penil eğrilik
  - Penil nodül
  - ED

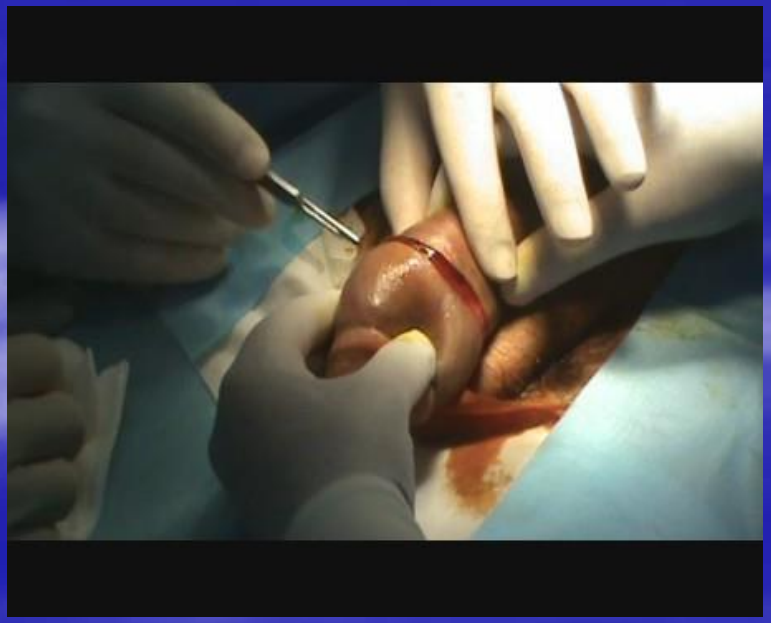
Erken cerrahi (Altın standart)

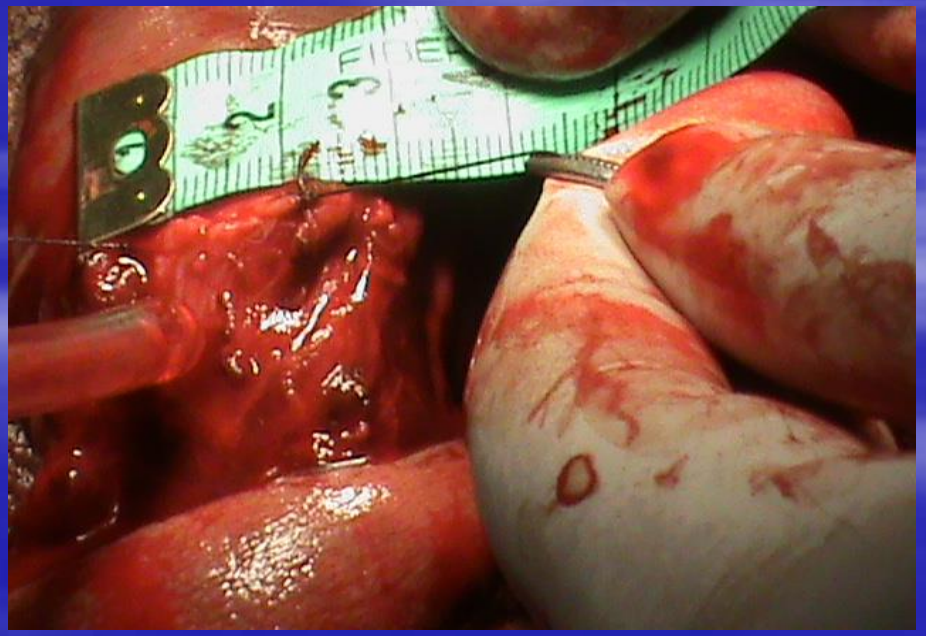
- Altın standarttır.
- Komplikasyon oranı düşüktür.
- Hastanede kalış süresi kısadır.
- Hasta ve partner memnuniyeti iyidir.

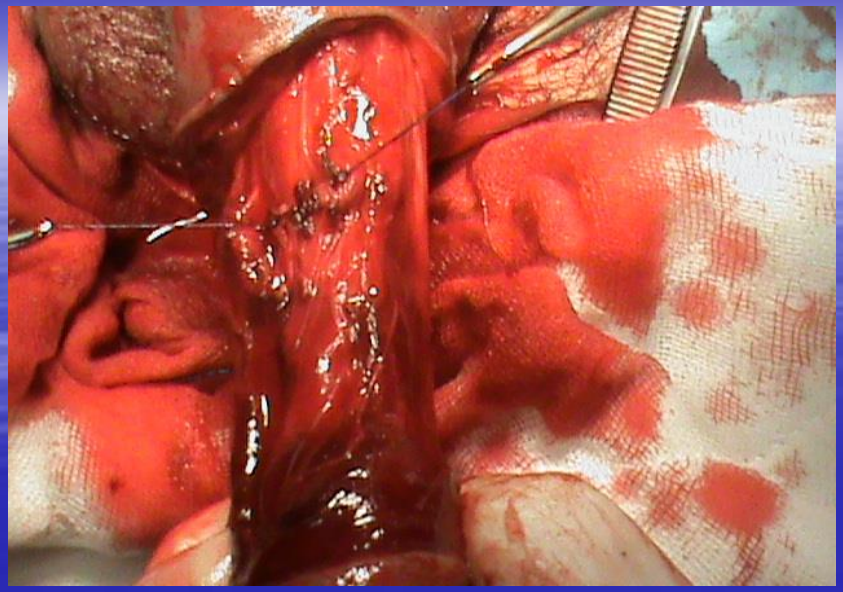
Prensipler:

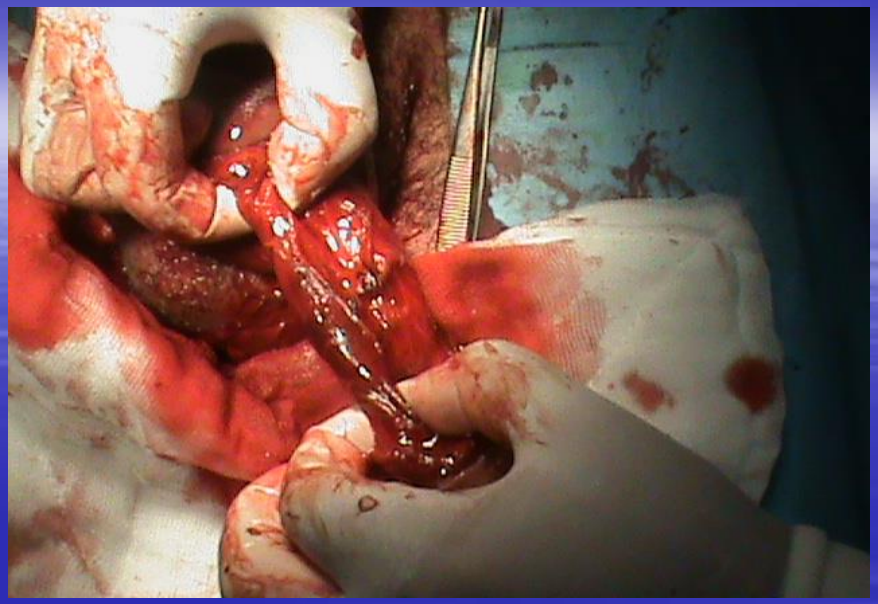
- Profilaktik antibiyotik
- TU Foley
- Lokal, spinal,epidural veya genel anestezi
  - (Genel anestezi tercih edilmeli?)
- Sirkumsizyon insizyonu ve degloving
- Hematom temizlenmesi
- Venöz, tunikal ve üretral yırtıkların saptanması
- Kanayan damarların bağlanması
- Minimal debiritman
- Tunika albugineanın absorbabl sütür (polydioxanone, polyglycolic asid) ile sütüre edilmesi
- Ürtetral yırtık varsa onarımı (3/0, 4/0 absorbabl sütür)
- Artifisiyel ereksiyon ile kurvatür ve başka yırtık alanlarının saptanması
- Penil kurvatür varsa düzeltilmesi
- Penröz dren ve hafif baskılı sargı (Koban bandajı önerilmez)

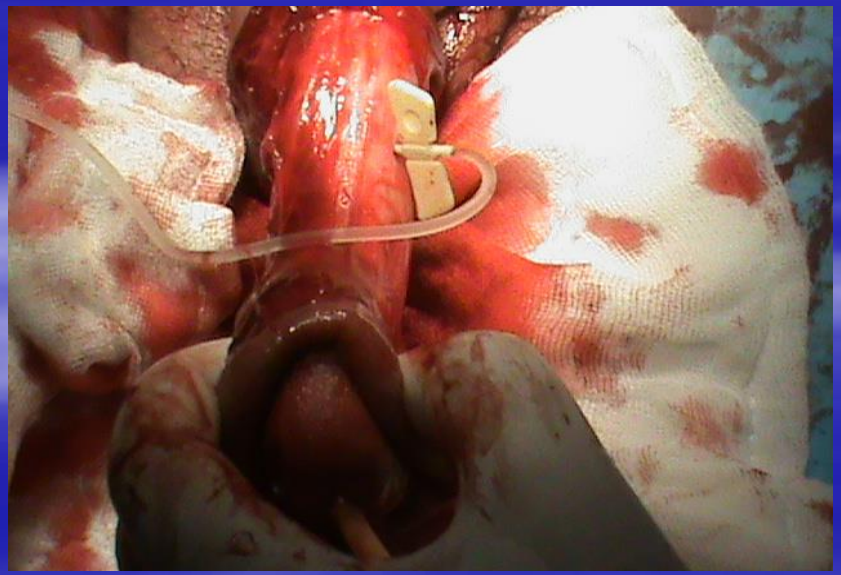


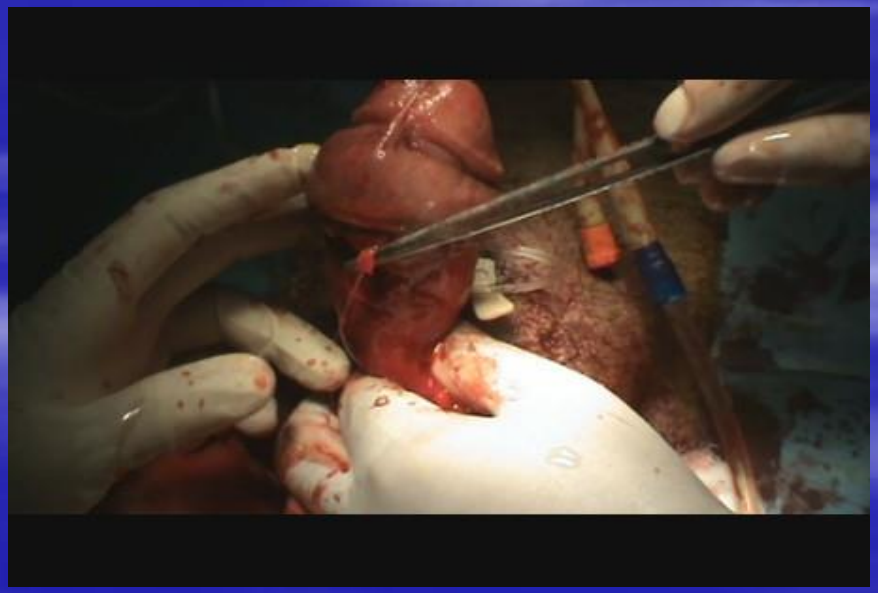


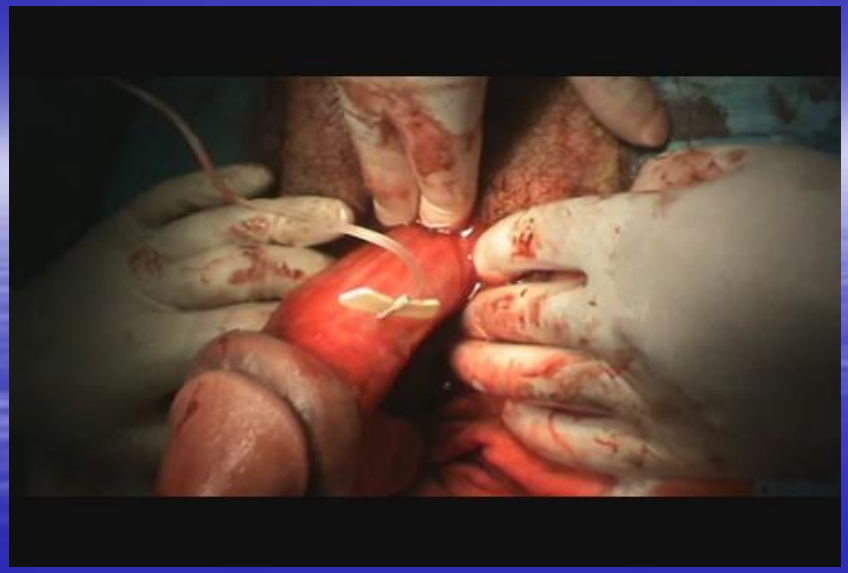


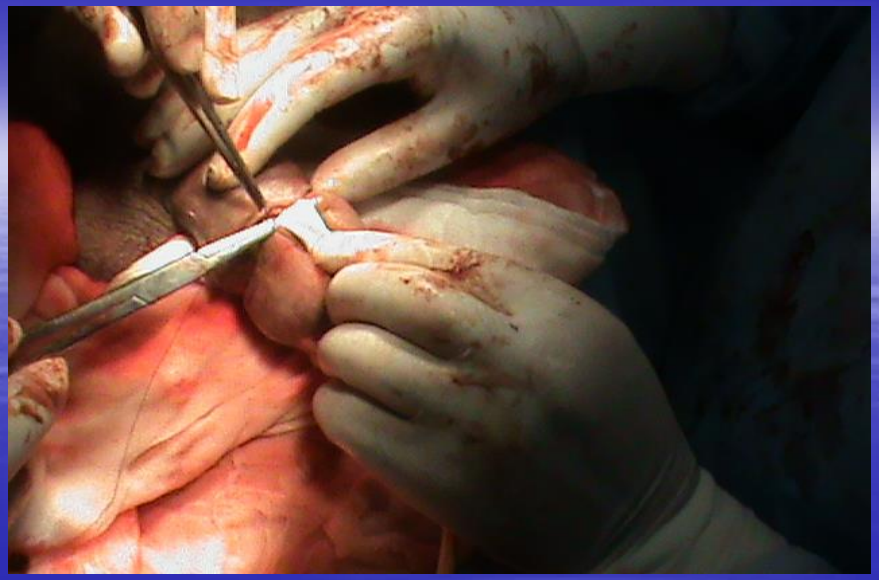


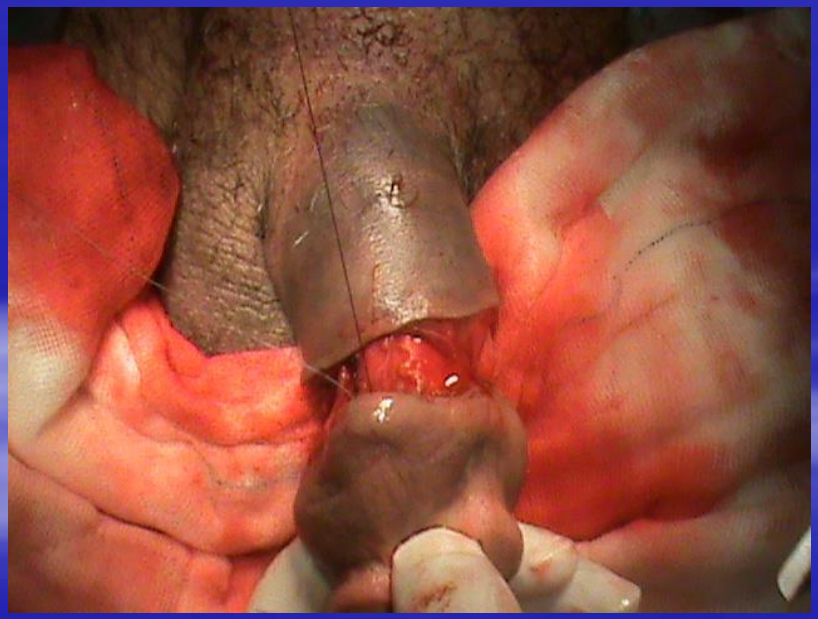


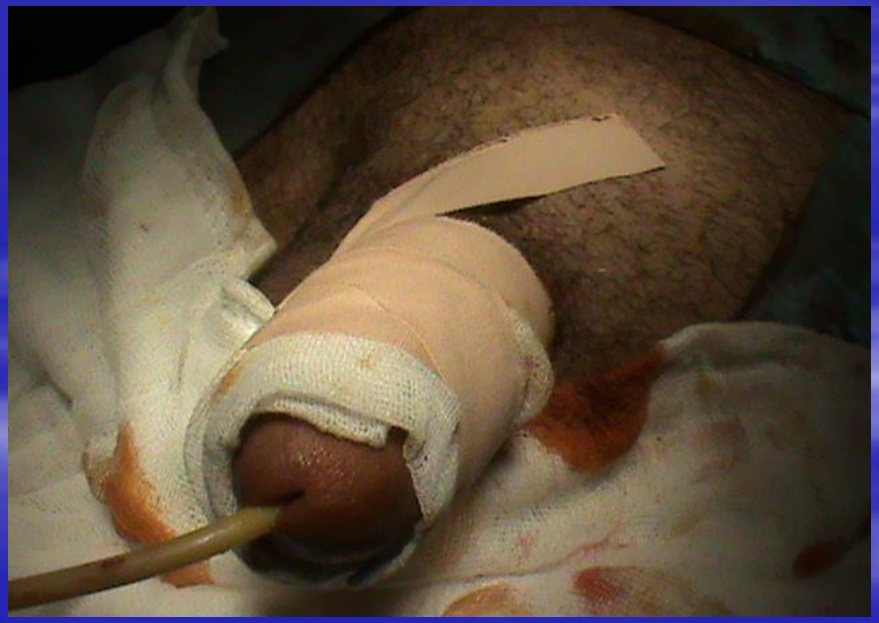


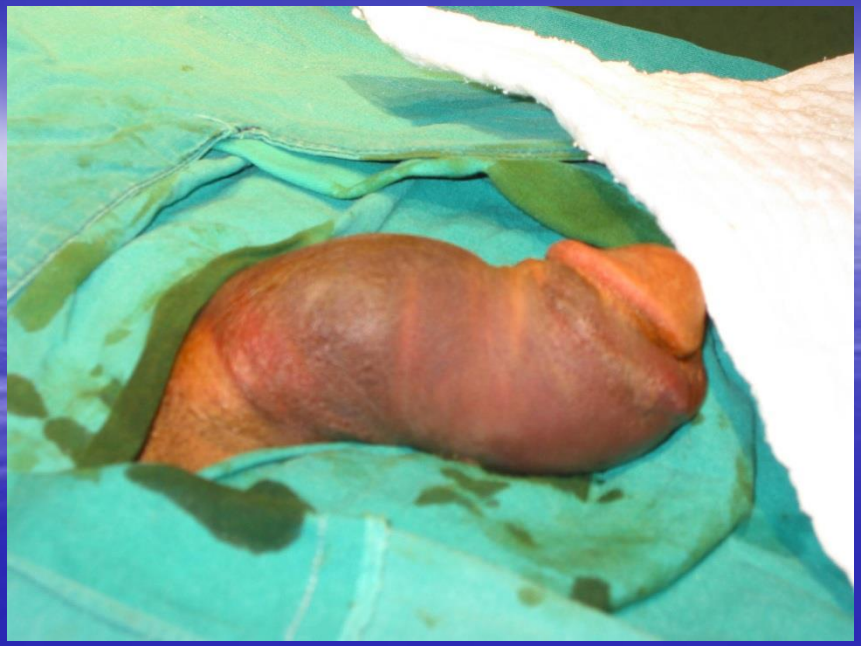


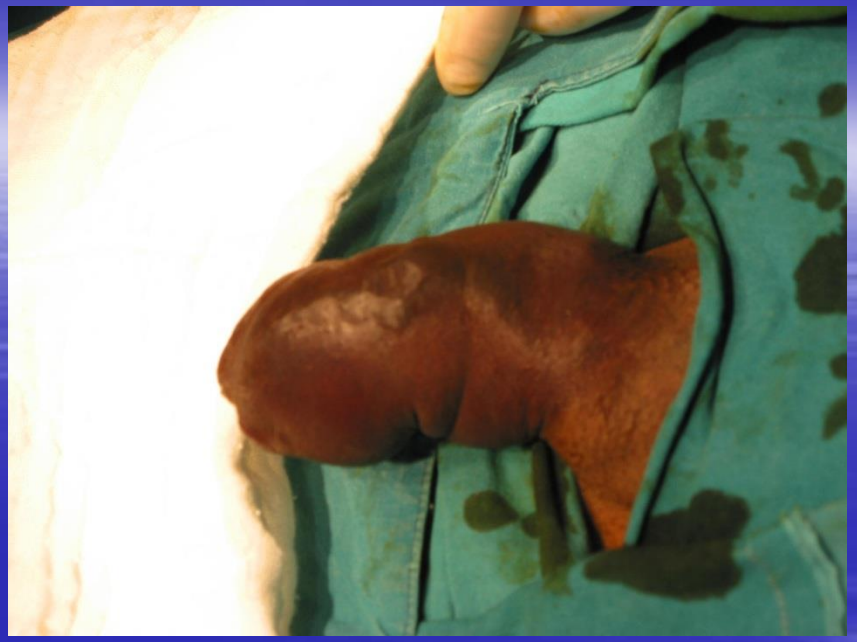


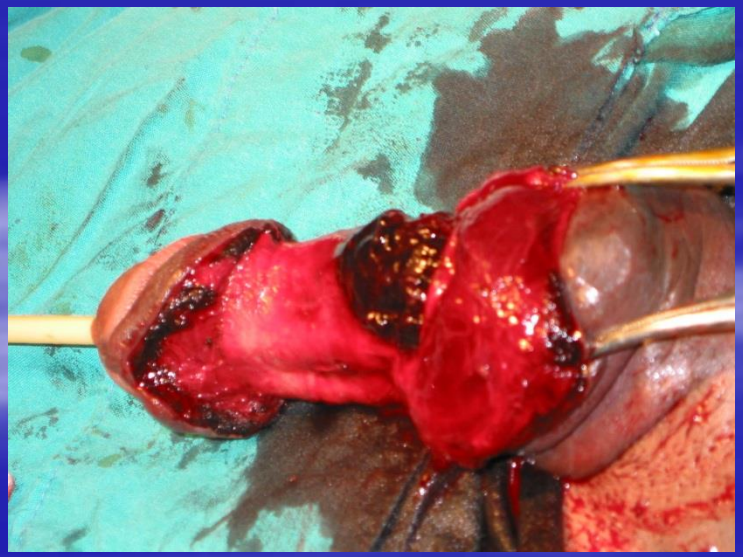


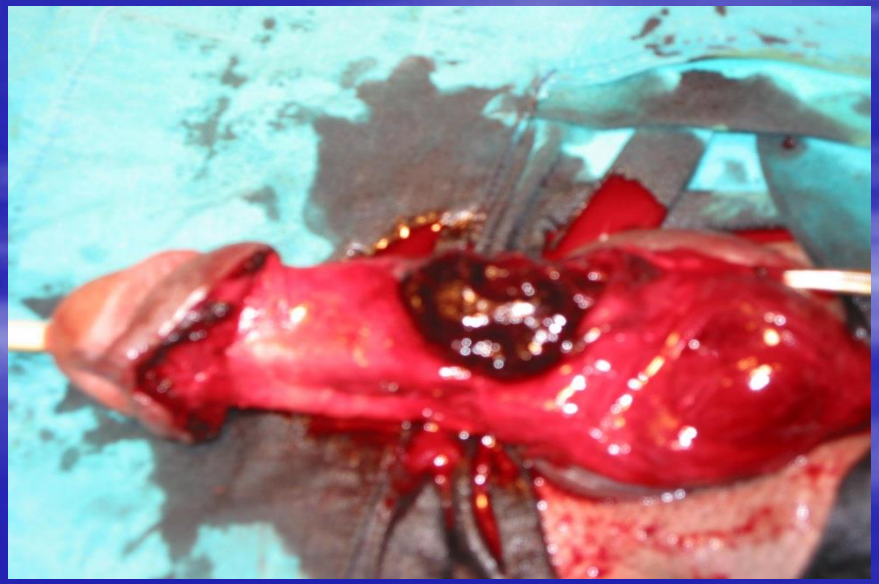


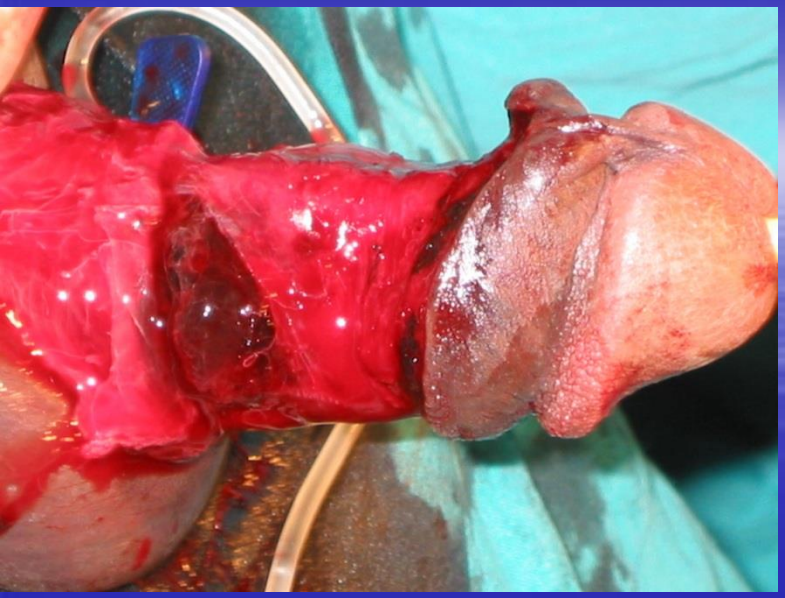


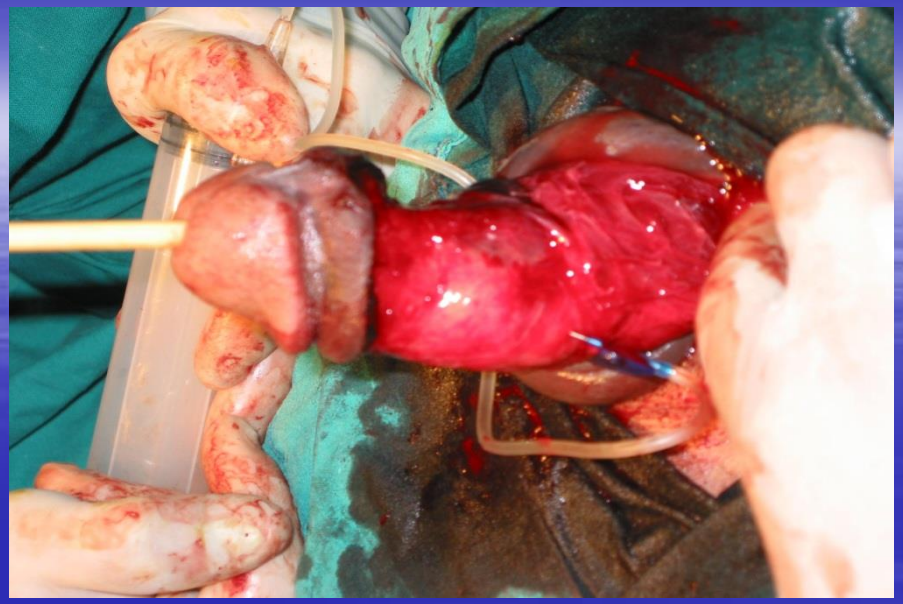


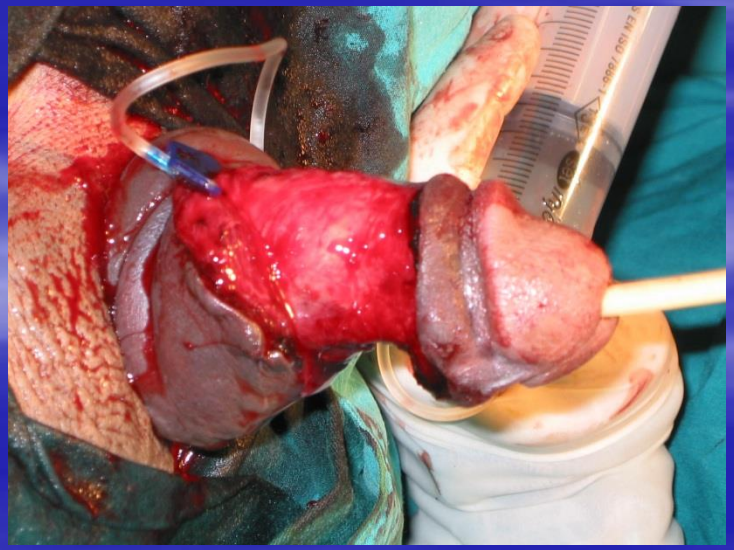












İnsizyon seçimi

- En sık sirkumsizyon insizyonu tercih edilir.
  - Orta hat
  - Peno-skrotal
  - İnguino-skrotal
  - Lateral insizyonlar
    - Doku ödemi ve hematom deglovinge izin vermiyorsa
    - Hematom penoskrotal bölgede ise
    - Buck fasyası yırtılmış ise ve
    - Gecikmiş cerrahi yapılıyor ise

    tercih edilebilir.

- Sirkumsizyon insizyonunun avantajları:
- Her üç korporal cisme rahat müdahale şansı
- Üretrayı değerlendirme ve onarma şansı
- Penil kurvatür değerlendirme ve düzeltme olanağı
- İyi kozmetik sonuçlar

Takip ve öneriler

- Üretral onarım varsa, silikonize foley 1-2 hafta kalmalı.
- Üretral rüptür yoksa TU kateter postoperatif 1. gün alınmalı.
- Postop. 1-2. günlerde taburcu.
- 1-2 hafta antibiyotik
- 6 hafta seksüel aktivite yasaklanmalı.

Gecikmiş cerrahi: iki görüş var

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Male Sexual Dysfunction

Does Timing of Presentation of Penile Fracture Affect Outcome of Surgical Intervention?

Ahmed El-Assmy, Hossam S. El-Tholoth, Tarek Mohsen, and El Housseiny I. Ibrahiem

OBJECTIVE To assess the effect of timing of presentation of cases with penile fracture on the outcome of surgical intervention.

PATIENTS AND METHODS Between January 1986 and May 2010, 180 patients with penile fracture were treated surgically in our center. To assess the effect of timing of presentation, patients were classified into 2 groups: group I with early presentation (≤24 hours) and group II with delayed presentation (>24 hours). All patients were contacted by mail or phone and were re-evaluated. All patients were reevaluated by questionnaire and local examination. Patients with erectile dysfunction were evaluated by color Doppler ultrasonography.

RESULTS Group I included 149 patients (82.8%) and group II included 31 (17.2%). In group I, patients presented to the emergency department from 1-24 hours (mean, 11.8) after occurrence of the penile trauma. Although patients in group II presented from 30 hours to 7 days (mean, 44.7 hours). Both groups were similar regarding etiology of injury, clinical presentation, surgical findings, and incidence of associated urethral injury. Mean follow-up period for group I was 105 months, and for group II it was 113 months. After such long-term follow up, 35 (19.4%) patients had complications; however, there was no statistically significant difference between both groups.

CONCLUSIONS Cases of penile fracture with early or delayed presentation up to 7 days should be managed surgically. Both groups have comparable excellent outcome with no serious long-term complications. UROLOGY xx: xxx, xxxx. © 2011 Elsevier Inc.

Penile fracture is defined as the rupture of the tunica albuginea of the corpus cavernosum caused by trauma to the erect penis.[1] In early classic presentation, the patient reports a snap or cracking sound accompanied by immediate pain and rapid detumescence followed immediately by development of swelling and ecchymosis.[2] If a fractured penis is neglected, the initial manifestations, namely edema and hematoma, subside gradually and the patients may complain of late complications, such as palpable nodule, penile curvature, and erectile dysfunction.

The mainstay in management of penile fracture is immediate surgical intervention. Most recent studies favor early surgical repair because of the adequate functional and cosmetic results with minimal complications.[3-8] However, controversy still exists and some authors advocate delayed repair,[9-12] allowing for resolution of edema and organization of hematoma, which makes identification and repair of the tunical tear more easily. Nevertheless, delayed repair may lead to prolongation of morbidity and possibly a heavier psychological impact.

Cummings et al reported 3 cases of penile fracture that had definitive therapy delayed for periods of 24-40 hours (depending on the time of presentation). All had excellent outcome during follow-up.[9] Some authors suggested that intentional delaying of the repair for 7-12 days facilitates easy identification and repair of the torn corpus cavernosum.[10] Recently, Nasser and Mostafa reported successful outcome with this approach in 24 patients under local anesthesia, without significant complications.[11]

The reported series discussing the effect of timing of presentation of penile fracture on surgical outcome are scant, including few numbers of patients, and did not address the long-term sequelae of patients with delayed presentation. In addition, they did not compare the outcome between patients with early and late presentation.

The previously mentioned limitations led us to review our experience with 180 patients with penile fracture treated surgically at our center, among whom 31 (17.2%) had delayed presentation after 24 hours.

- **Penis derisi ödemli ve frajil olduğundan sirkumsizyon-degloving insizyonu tercih edilmemeli.**
- **7-14 gün konservatif tedaviden sonra lateral insizyonla cerrahi önerenler var.**

  Nasser Ta, J Sex Med, 2008
- **İlk 7 gün içerisinde yapılan cerrahi sonuçlarının erken cerrahi ile benzer olduğunu bildirenler var.**

  El-Assmy A, UROLOGY, 2011

Konservatif-Cerrahi karşılaştırması

ORIGINAL RESEARCH—SURGERY

Seventeen Years' Experience of Penile Fracture: Conservative vs. Surgical Treatment

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ABSTRACT

Introduction. Penile fracture is the rupture of the tunica of one or both corpora cavernosa due to direct blunt trauma to the erected penis. Partial or complete rupture of the urethra or injury to the deep dorsal vein may accompany penile fracture.

Aim. To compare conservative and surgical treatment modalities in terms of duration of hospitalization, early and late complications such as penile nodule and curvature, erectile dysfunction, and painful erection.

Main Outcome Measures. Treatment results and complications in two groups were evaluated with history and physical examination, and International Index of Erectile Function-5 Questionnaire was used for erectile function assessement.

Methods. The charts of 42 men diagnosed with penile fracture were retrospectively reviewed, and two treatment modalities were compared: conservative (Group I) and surgical (Group II).

Results. Between 1991 and 2008, a total of 42 patients with penile fracture were followed in our clinic for a mean of 18 months (range: 6–30 months). Five men who refused surgical treatment were treated conservatively, and the other 37 patients underwent surgical treatment. In Group II, the most common complication was painful erection (in 4 of 37 patients, 10.8 %), whereas in Group I, 80 % (4/5 patients) suffered complications such as wound infection, painful erection, penile nodule and curvature, and erectile dysfunction.

Conclusion. Diagnosis of penile fracture can be based on history and physical examination; diagnostic tests such as ultrasonography and magnetic resonance imaging are generally not required. Fractures must be repaired either immediately or delayed. Because management with emergency surgical repair is the most effective approach, with the lowest complication rates, surgical treatment should be preferred compared to a conservative approach. **Yapanoglu T, Aksoy Y, Adanur S, Kabadayi B, Öztürk G, and Ozbey I. Seventeen years' experience of penile fracture: Conservative vs. surgical treatment. J Sex Med 2009;6:2058–2063.**

Key Words. Penile Fracture; Surgical Treatment; Conservative Approach; Complications; Tunica Albuginea

Table 1 Patient characteristics in the two groups

	No. of patients	Mean age (years)	Hospital duration (days)	Complications	N
Group I	5	34.5	8.6	Wound infection	1
				Painful erection	1
				Penile nodule and curvature	1
				Erectile dysfunction	1
Group II	37	35.5	3	Painful erection	4
				Wound infection	0
				Penile nodule and curvature	0
				Erectile dysfunction	0

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Keys from kols: Penile fracture: Conservative versus surgical treatment by Dr. Isa Özbey

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Introduction

Penile fracture is a rare, but under-reported, crucial urological emergency. Fractures of the penis generally occur during an erection as an outcome of direct blunt trauma that bends the erect organ in an unphysiological manner, sexual intercourse (5). Nevertheless, other rare and strange causes such as turning in or falling from the bed, slamming in a door, impaling penis into a mattress, placing an erect penis into tight pants, striking a toilet seat, hitting a bedpost, falling from a tree, masturbating into cocktail shaker and the horse kick were also reported in the literature. However, patients generally fail to provide the true reason for its occurrence (1-5). We think that causes of penile fracture can vary among various cultures.

Rupture of the tunica albuginea is usually unilateral, occurring proximally near the base of

maturia or inability to urinate should alert for the possibility of concomitant urethral injury. Although hematuria, blood in the meatus, and voiding symptoms often signal a urethral injury, the absence of these features does not exclude the possibility of a urethral injury (3). The only recommended imaging modality, retrograde urethrography, should be used selectively to diagnose concomitant urethral tears that may occur in association with penile fracture. The false-negative ratios for urethrography are 15%. Careful urethroscopy prior to exploration can be made to assess of possible urethral injury (3,5).