

VEZİKO RETERAL REFL 

Do.Dr.M.Seluk Silay, FEBU, FEAPU
İstanbul Medeniyet  niversitesi, ocuk  rolojisi BD,  roloji ABD



SUNU PLANI

Giriş-Epidemiyoloji

Tanı

Tedavi-konservatif

Tedavi-STING

Tedavi-Cerrahi

Sonuç



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GİRİŞ

► İdrar yolu enfeksiyonu

► Renal skar

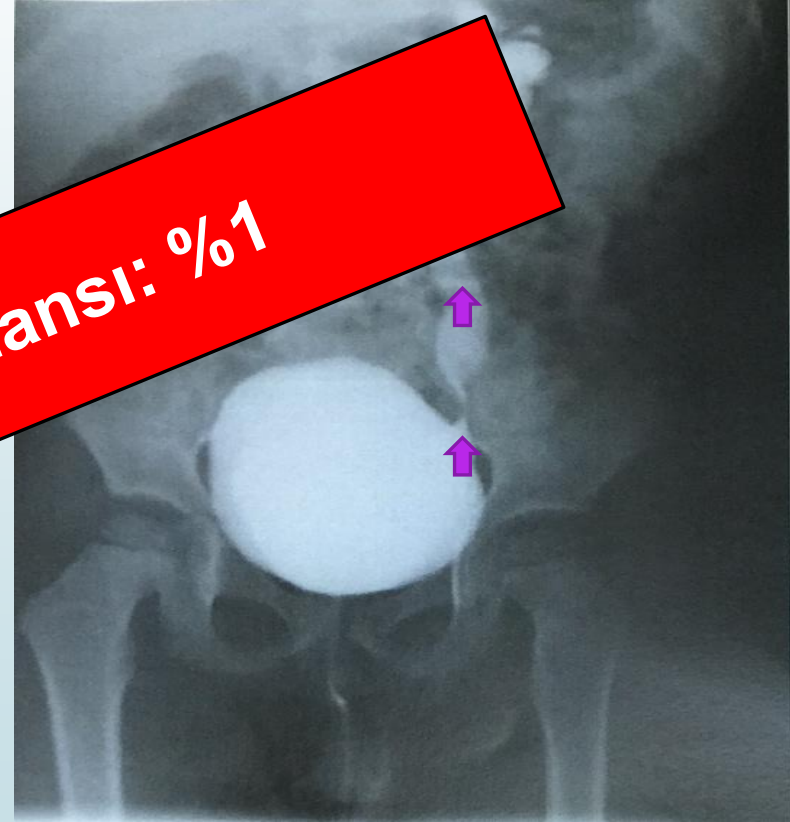
%10

► Hipertansiyon

► Böbrek yetmezliği

%10-20

VUR insidansı: %1



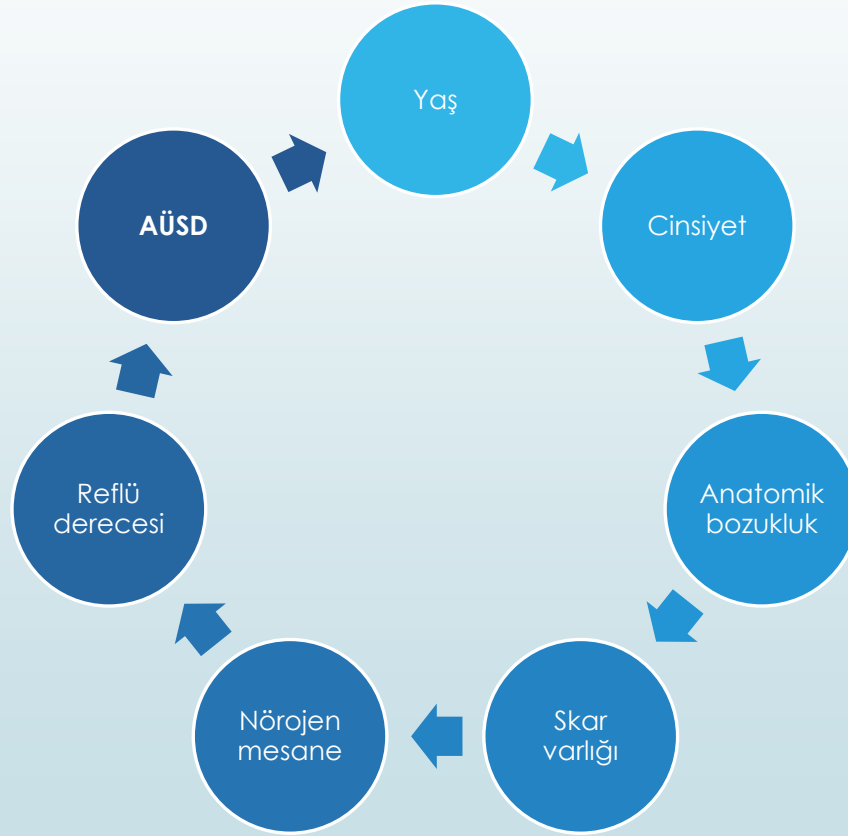
GİRİŞ

VUR

Prostate
Ca



RİSK FAKTÖRLERİ



SPONTAN REZOLÜSYON

<1 yaşı

Düşük evre (1-3)

Asemptomatik tanı



BAŞVURU

İdrar yolu enfeksiyonu

- %30-50 VUR

Antenatal hidronefroz

- %16 VUR



GENETİK

Kardeş reflüsü

- %27 VUR

Ebeveyn-Çocuk

- %35 VUR

Tek yumurta ikiz: %80



CİNSİYET

- İYE: Kız > erkek
- Erkek daha yüksek evre VUR
- Erkek spontan rezolüsyon fazla

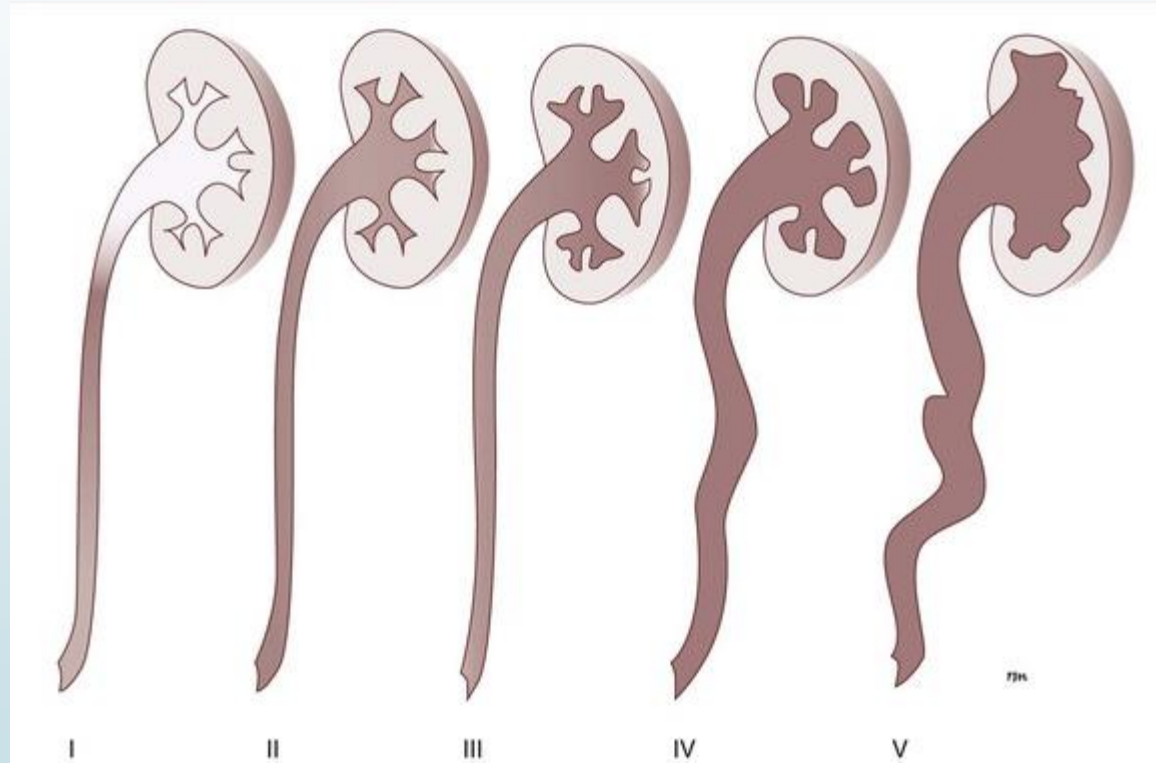


Alt üriner sistem disfonksiyonu

- AÜSD hastaların %40-60 VUR
- VUR hastaların %34ünde AÜSD
- Skarlaşma riski daha fazla
- Tedaviye AÜSD'ndan başla



VUR EVRELEMESİ



VUR EVRELEMESİ



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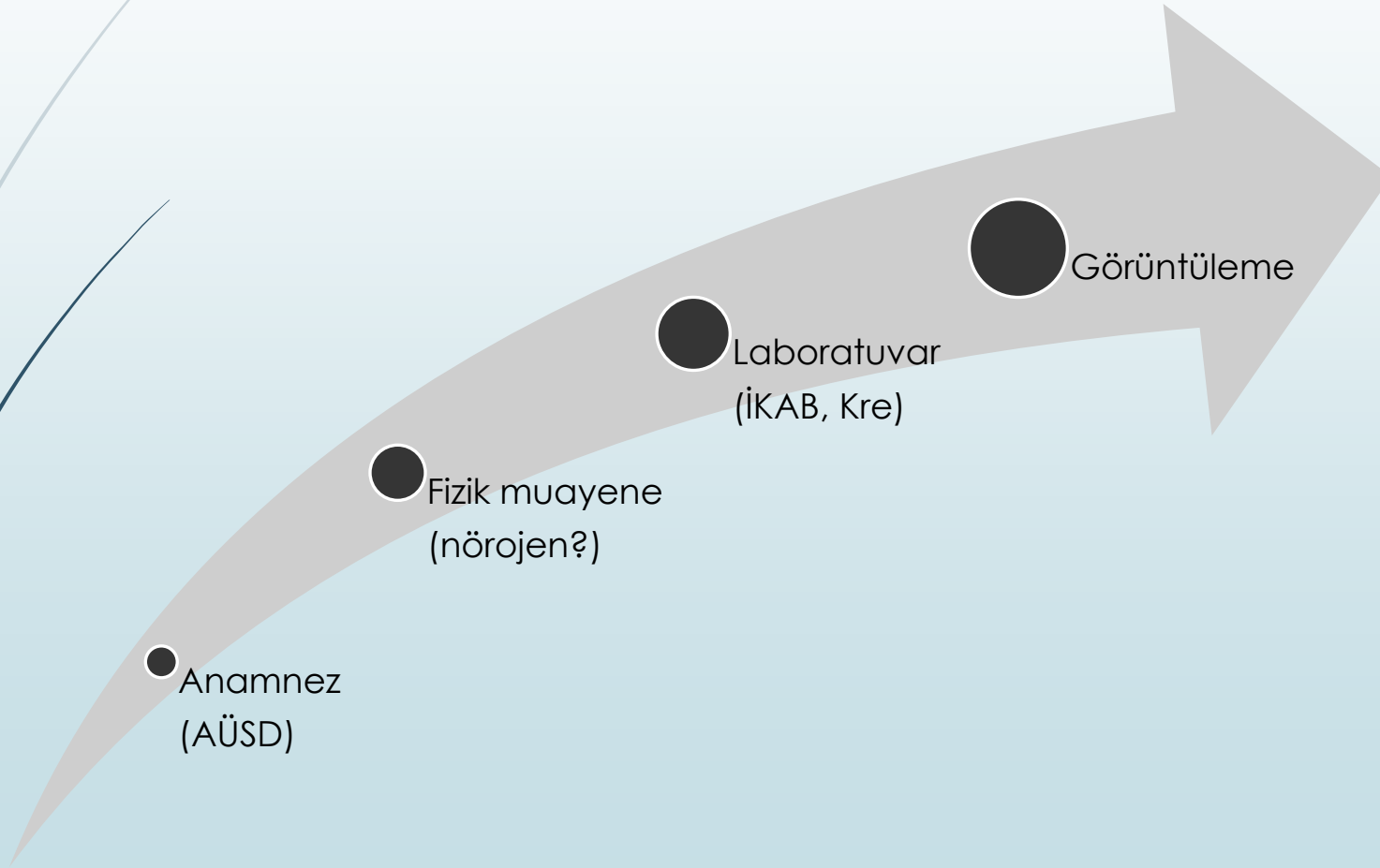
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TANI



GÖRÜNTÜLEME

► Ultrasonografi

► VCUG

► DMSA

► Radyonükleer

► Sonografi

► PIC Sistografi

En az invazif, en az radyasyon!



USG (konvansiyonel)

- Üreter dilatasyonu
- Renal pelvis ve kaliksler
- Mesane duvarı
- Anatomi (dupleks sistem, üreterosel vs.)
- VUR tespit edilemez!
- İndirek bilgiler elde edilebilir
- DMSA bozuk, %66 US normal!

USG (konvansiyonel)

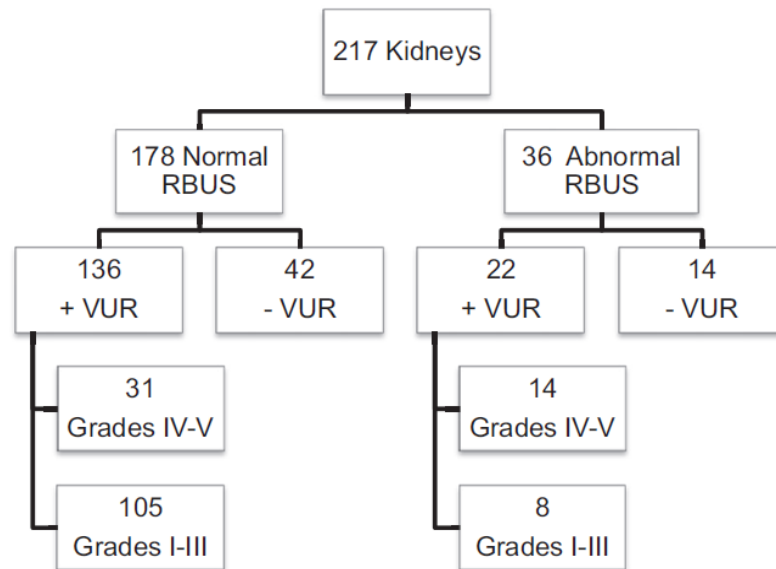


Figure 1. Patients with both renal and bladder ultrasound (RBUS) and voiding cystourethrogram (VCUG). VUR, vesicoureteral reflux.

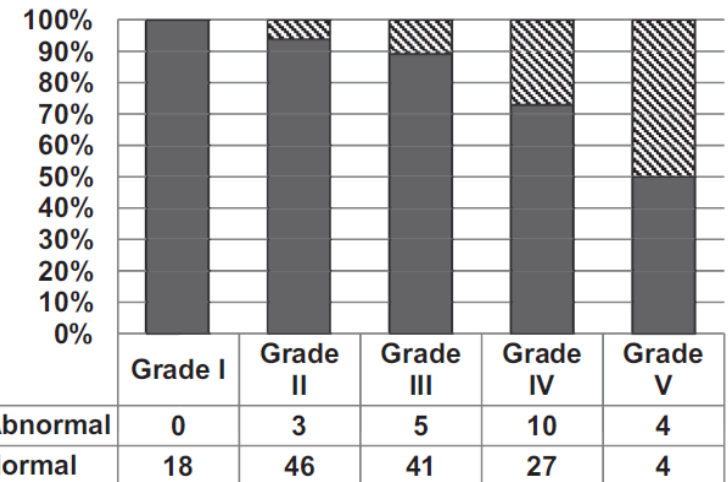


Figure 2. Initial renal and bladder ultrasound (RBUS) stratified by grade of vesicoureteral reflux (VUR).

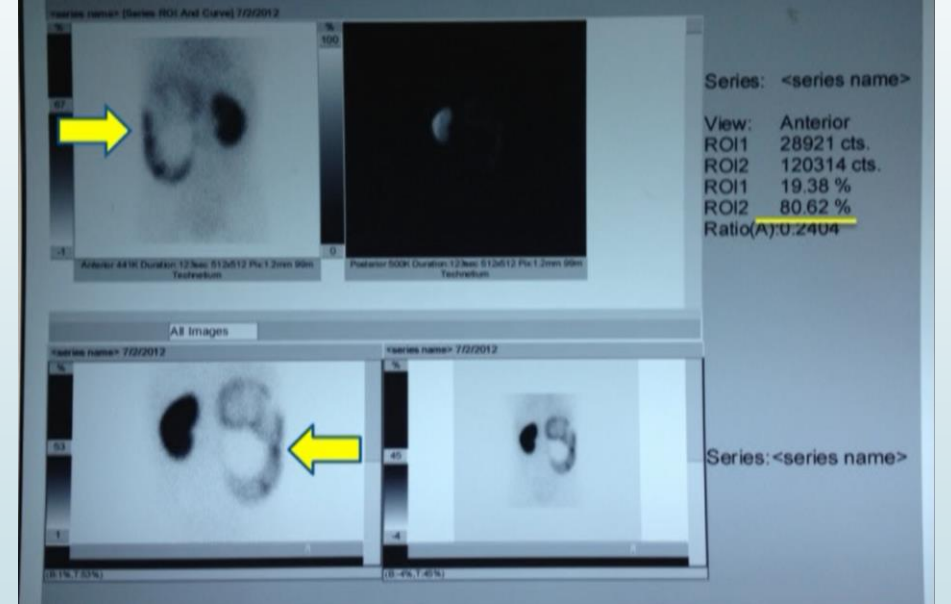
Voiding Sistoüretrografi (VCUG)

- VUR tanısında altın standart!
- Anatamik yapılar detaylı
(PUV, spinning top üretra, çama ağacı vs.)
- Transüretal/suprapubik
- Dolum ve işeme fazları
- Dezavantaj radyasyon!



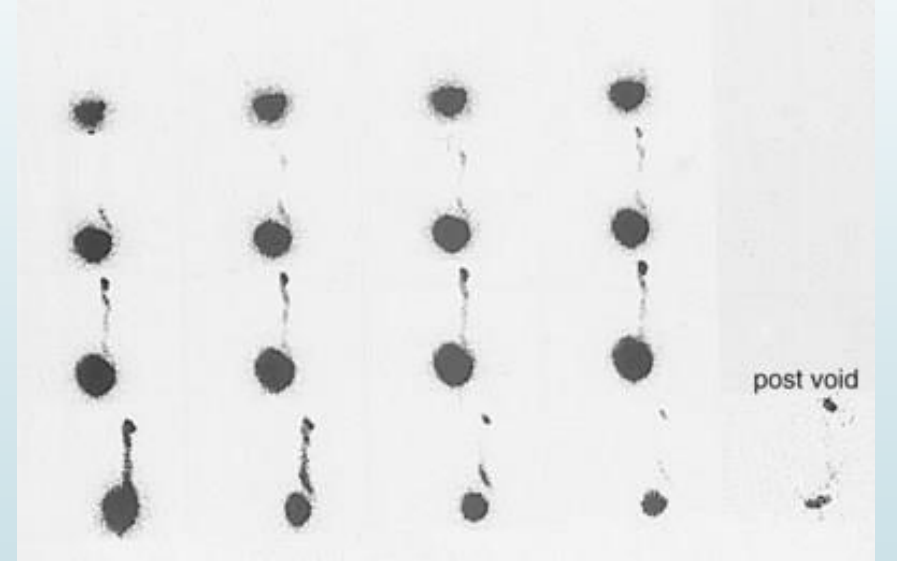
DMSA (DiMercaptoSuccinicAcid scan)

- Böbrek hasarında altın standart!
- m-Tc99-DMSA iv enjeksiyon
- Ant, posterior ve oblik görüntüler
- Ateşli enf sonrası 6 ay
- Skar tanı ve takibi



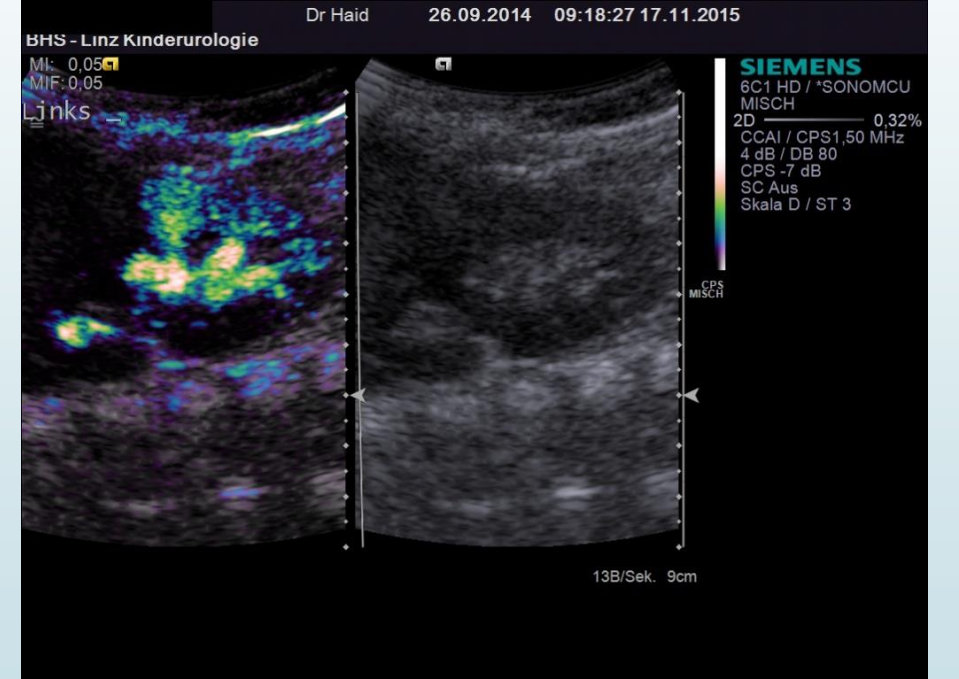
Radyonüklid sistografi

- VUR tanısında alternatif
- Transüretral Tc99m
- Radyasyon daha az
- Mesane ve üretra anatomisi ↓
- Direk veya indirek uygulanabilir



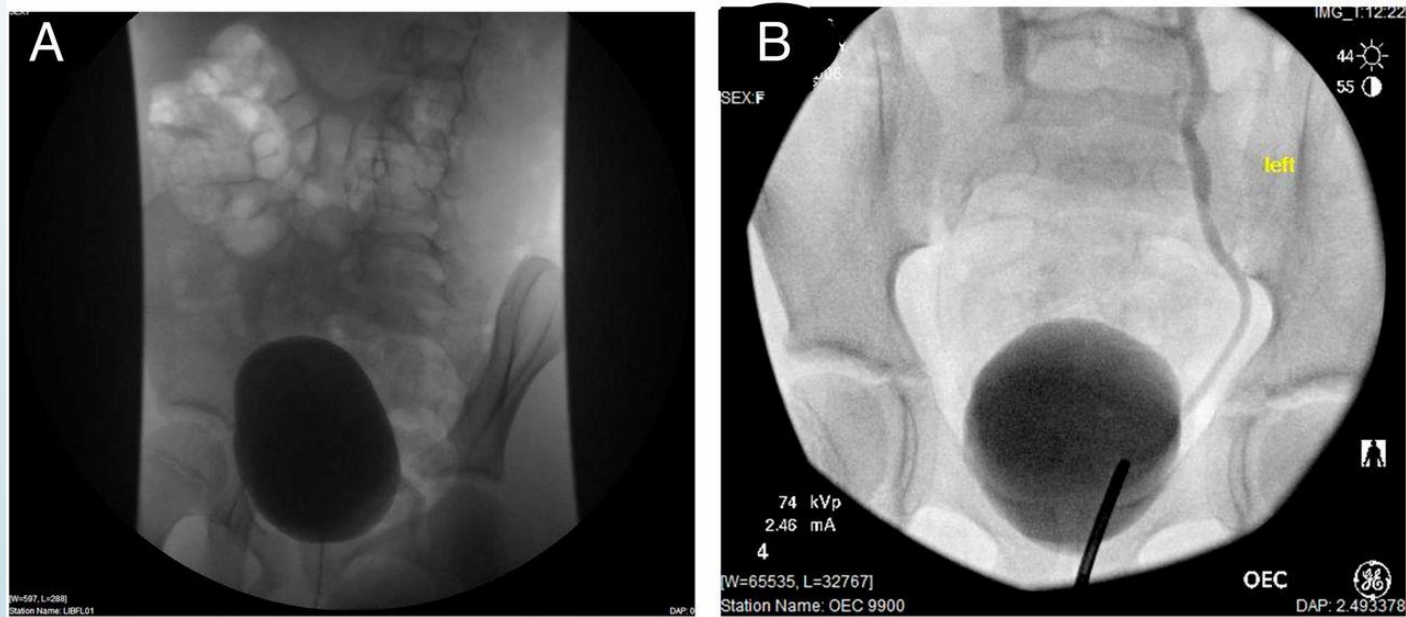
Voiding sonoürografi

- Kateter veya suprapubik
- SonoVue (sulfur hexafluoride)
- Kişi bağımlı, teknik olarak zor
- Posterior üretrada VCUGdan kötü
- Kızlarda takip için önerilir!



PIC Cystography

(positioning irrigation of contrast)



Özel klinik durumlar (EAU)

Prenatal hidronefroz

- Doğum sonrası 1. hafta US
- Klinik yoksa USG ile takip
- HN ve VUR arasında ilişki yok!
- VCUG önerilen durumlar;
 - Bilateral yüksek derece HN
 - HN ve duplex sistem
 - Üreterosel
 - Üreter dilatasyonu
 - Anormal mesane bulgular

Kardeş reflüsü

- VUR riski artmış
- Aile bilgilendirilmeli
- USG önerilebilir.
- USGde patoloji varsa veya semptomatikse VCUG?
- Tuvalet eğitimi sonrası tarama

Özel klinik durumlar (EAU)

Ateşli İYE ile başvuru

- 0-2 yaş arası ateşli İYE = VCUG
- Top-down: Önce DMSA
- DMSA (-): VCUG çekme
- >%50 gereksiz VCUG engelliyor

AÜSD eşlik eden VUR

- AÜSD varsa İYE ve skar riski fazla
- Önce AÜSD tedavi et!
- Üroflow-PMR, gerekirse Ürodinami
- Videoürodinami

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AVRUPA ÇOCUK ÜROLOJİSİ KILAVUZLARI

Guidelines on Paediatric Urology

S. Tekgöl (Chair), H.S. Dogan,
E. Erdem (Guidelines Associate), P. Hoebeke, R. Kočvara,
J.M. Nijman (Vice-chair), C. Radmayr,
M.S. Silay (Guidelines Associate), R. Stein,
S. Undre (Guidelines Associate)



European Society for Paediatric Urology



European
Association
of Urology

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AMAÇ

► Böbrek fonksiyonları



► Hayat kalitesi



TEDAVİ-EAU KILAVUZLARI

- Konservatif (CAP)
- Endoskopik tedavi (STING)
- Cerrahi (açık, lap, robot)

1. EAU/ESPU guidelines 2016

Table 8: Management and follow-up according to different risk groups

Risk Groups	Presentation	Initial treatment	Comment	Follow-up
High	Symptomatic male or female patients after toilet-training with high-grade reflux (grades IV-V), abnormal kidneys and LUTD	Initial treatment is always for LUTD with CAP; intervention may be considered in cases of BT infections or persistent reflux	Greater possibility of earlier intervention	More aggressive follow-up for UTI and LUTD; full re-evaluation after 6 months
High	Symptomatic male or female patients after toilet-training with high-grade reflux (grade IV-V), abnormal kidneys and no LUTD	Intervention should be considered	Open surgery has better results than endoscopic surgery	Post-operative VCUG on indication only; follow-up of kidney status until after puberty
Moderate	Symptomatic male or female patients before toilet-training, with high-grade reflux and abnormal kidneys	CAP is the initial treatment. Intervention may be considered in cases of BT infections or persistent reflux	Spontaneous resolution is higher in males	Follow-up for UTI/hydronephrosis; full re-evaluation after 12-24 months
Moderate	Asymptomatic patients (PNH or sibling) with high-grade reflux and abnormal kidneys	CAP is the initial treatment. Intervention may be considered in cases of BT, infections or persistent reflux		Follow-up for UTI/hydronephrosis; full re-evaluation after 12-24 months
Moderate	Symptomatic male or female patients after toilet-training, with high-grade reflux and normal kidneys with LUTD	Initial treatment is always for LUTD with CAP. Intervention may be considered in cases of BT infections or persistent reflux	In case of persistent LUTD, despite urotherapy, intervention should be considered. The choice of intervention is controversial	Follow-up for UTI and LUTD, kidney status; full re-evaluation after successful urotherapy
Moderate	Symptomatic male or female patients after toilet-training with low-grade reflux, abnormal kidneys with or without LUTD	Choice of treatment is controversial. Endoscopic treatment may be an option. LUTD treatment should be given if needed		Follow-up for UTI, LUTD, and kidney status until after puberty
Moderate	All symptomatic patients with normal kidneys, with low-grade reflux, with LUTD	Initial treatment is always for LUTD with or without CAP		Follow-up for UTI and LUTD
Low	All symptomatic patients with normal kidneys, with low-grade reflux, with no LUTD	No treatment or CAP	If no treatment is given, parents should be informed about risk of infection	Follow-up for UTI
Low	All asymptomatic patients with normal kidneys with low-grade reflux	No treatment or CAP in infants	If no treatment is given, parents should be informed about risk of infection	Follow-up for UTI

BT = breakthrough; CAP = continuous antibiotic prophylaxis; LUTD = lower urinary tract dysfunction; PNH = prenatal diagnosed hydronephrosis.

TEDAVİ PLANI



Bireyselleştirilmiş tedavi



KONSERVATİF TEDAVİ



DEVAMLIL ANTİBİYOTİK PROFİLAKSİSİ (CAP)

- Her hastaya CAP gerekmez
- Tedavi süresi? (tuvalet eğitimi)
- RIVUR çalışması;
- CAP İYE sıklığını %50 azaltır!
- Skar gelişimini engellemez!
- AÜSD olanlarda CAP mutlaka!



ENDOSKOPIK TEDAVİ

Teflon (PTFE)

Collagen/chondrocytes

Polydimethylsiloxane

Polyacrilamide

**Dextranomer-
chondroitinase**

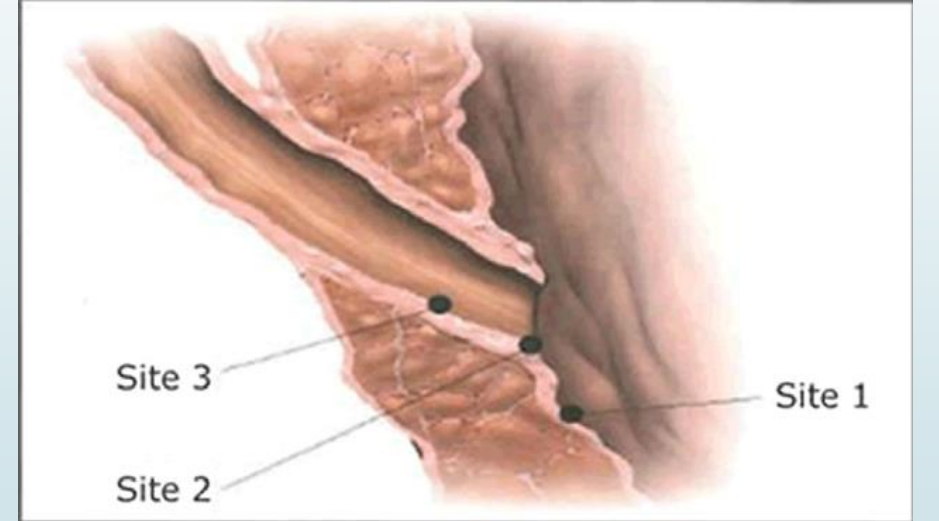
Polyacrylate/Polyalcohol copolymer

1. Biocompatible
2. Non-biodegradable

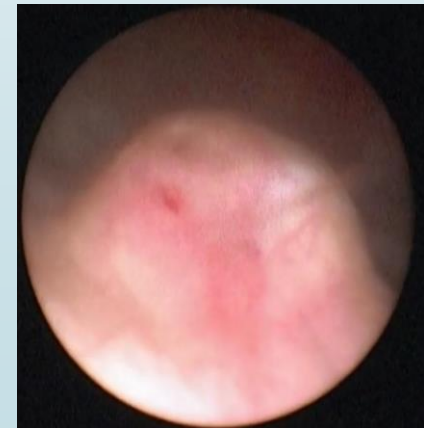
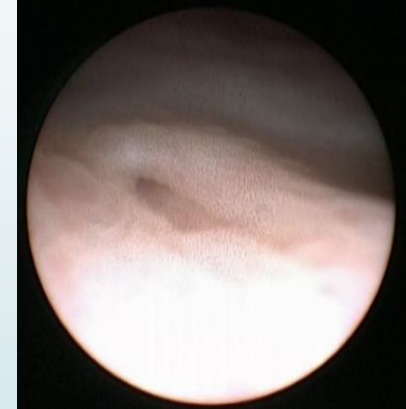


ENDOSKOPIK TEDAVİ

- Subüreteral enjeksiyon
- HIT (hydrodystension injection technique)
- Double HIT



ENDOSKOPİK TEDAVİ



ENDOSKOPIK TEDAVİ BAŞARISI

- Evre I- II: %78
- Evre III: %72
- Evre IV: %51
- Evre V: %51

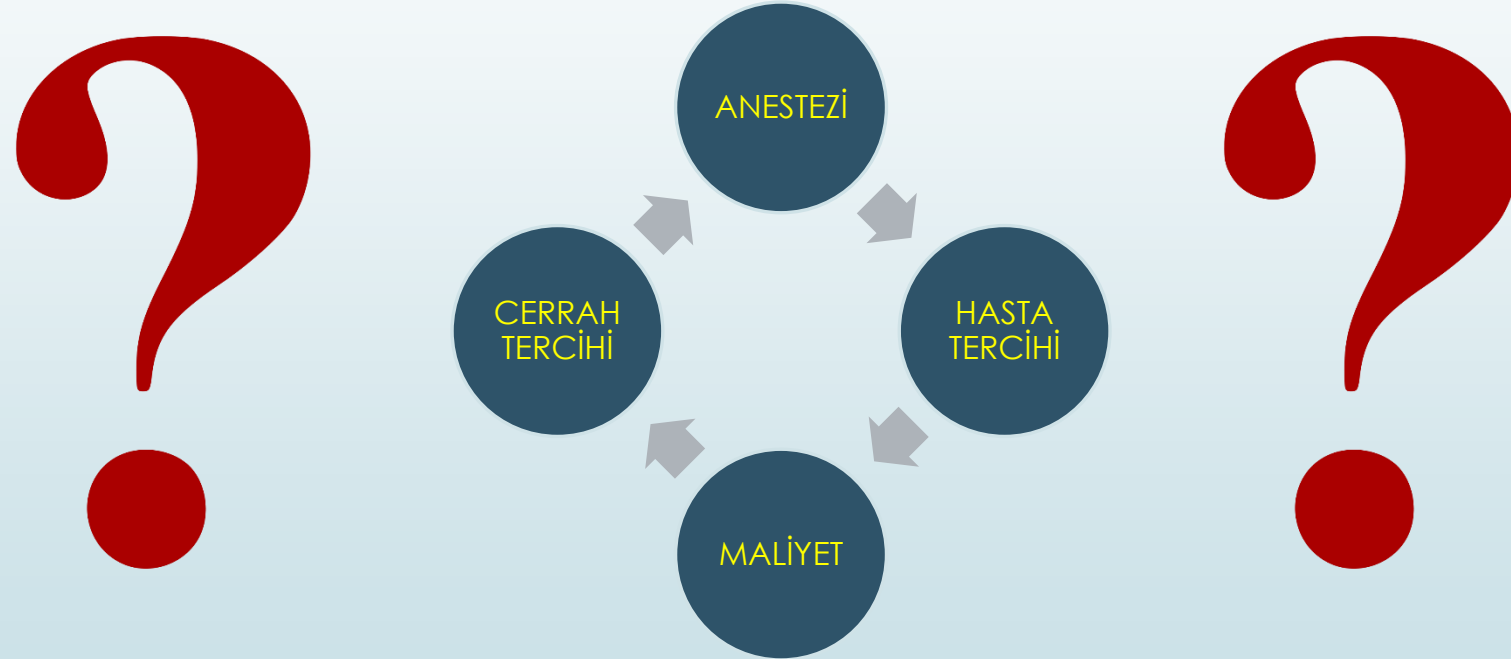
2 ve 3. enjeksiyon: %85



1. Elder et al J Urol 2006

Duplike sistem: %50
Nörojen mesane: %45-62

ENJEKSİYON KAÇ KEZ YAPALIM?



AÇIK CERRAHİ İLE BAŞARI: %95

KOMPLİKASYONLAR

- Partikül migrasyonu
- Obstruksiyon
- Hematüri
- İdrar yolu enfeksiyonu
- Biyodegradasyon



CERRAHİ TEDAVİ

► EKSTRAVEZİKAL

► İNTRAVEZİKAL

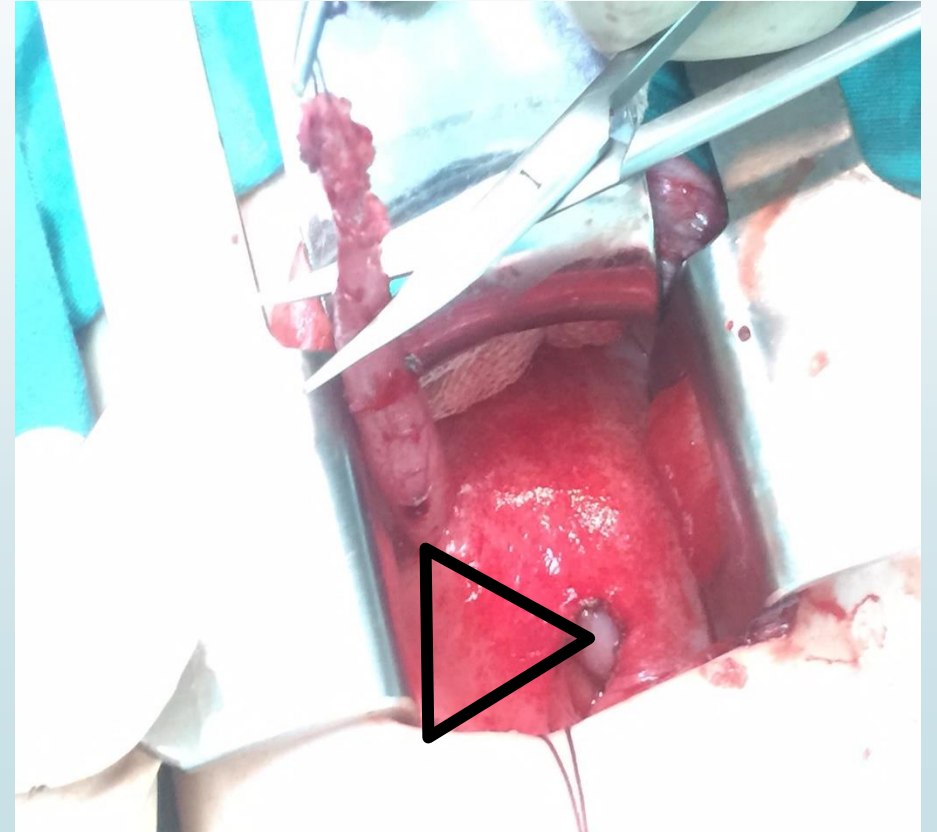
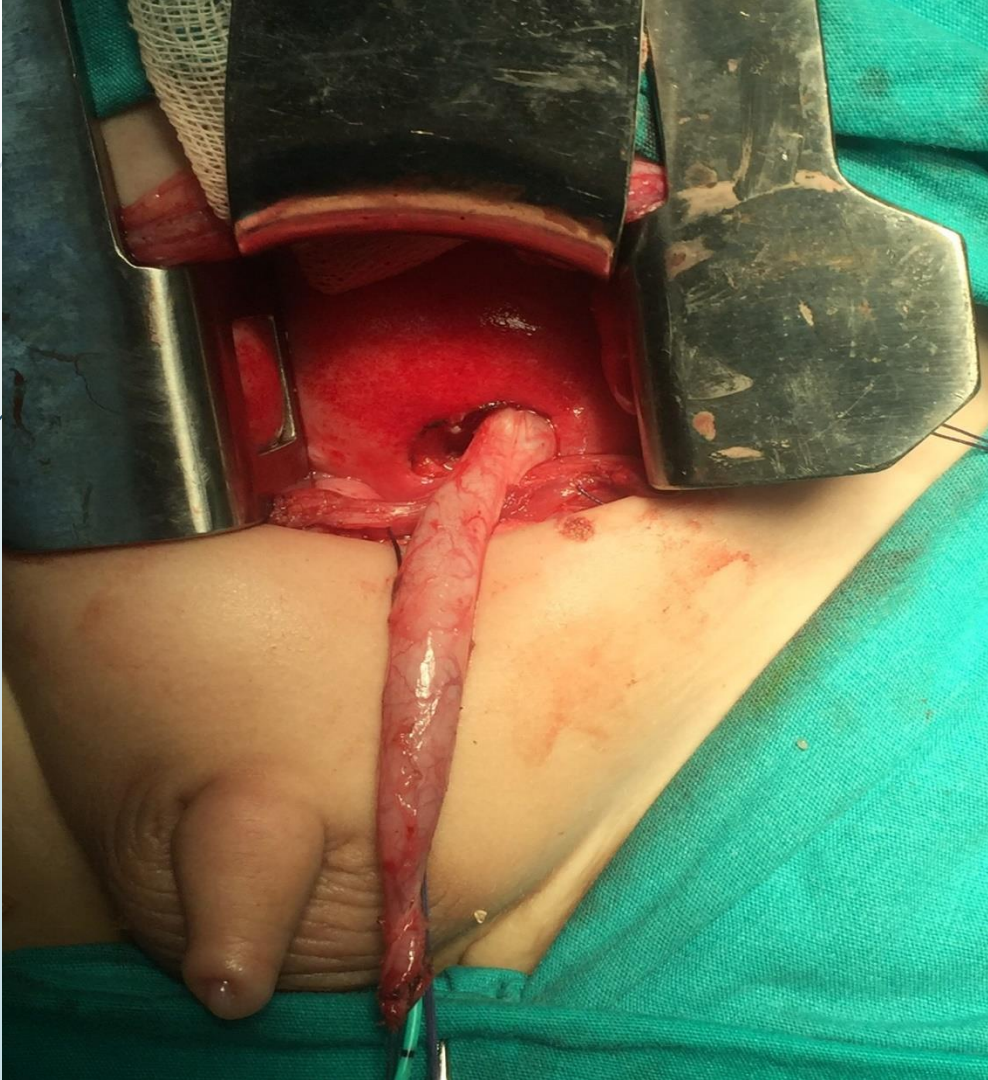
%92-98 başarı

en (cross-trigonal)

► Lich-Gregoir

► Politano Lead-better

COHEN-CROSS TRİGONAL REİMPLANTASYON



LICH-GREGOIR

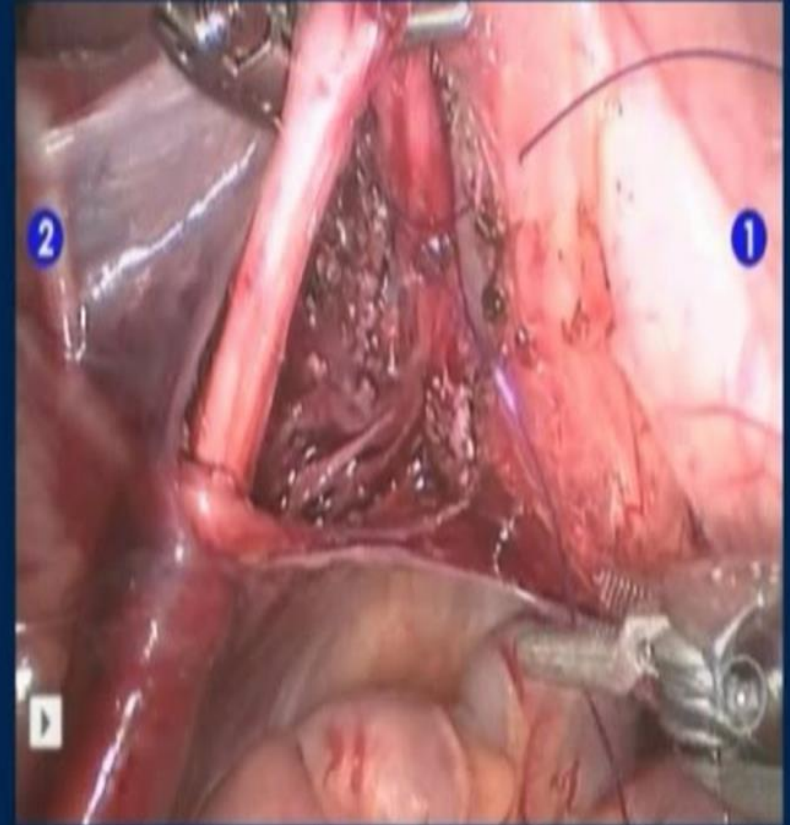


LİCH-GREGOİR

AÇIK



LAP/ROBOTİK



TEDAVİ-EAU KILAVUZLARI

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BT = breakthrough; CAP = continuous antibiotic prophylaxis; LUTD = lower urinary tract dysfunction; PNH = prenatal diagnosed hydronephrosis.

- Evre 4-5,
- semptomatik,
- tuvalet eğitimi sonrası,
- anormal böbrekler ve
- ± AÜSD



- Evre 1,2
- asemptomatik,
- Normal böbrekler
- AÜSD yok

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SONUÇ

1 yaş altı konservatif

Tekrarlayan İYE girişim düşünölmeli

Tedavide risk sınıflaması

Tedavi kararı reflü derecesine göre değil hastaya göre!!!

Cerrahi başarı yüksek

