Female Urology "Potpourri"

~ Brian J. Flynn, MD

Female Urology/Urogynecology Potpourri

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Urinary Tract Infections (UTIs) in Women

Perspectives in Urology 2009

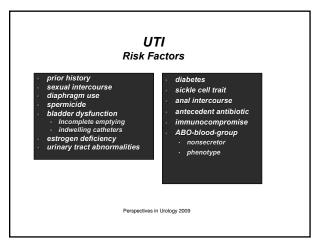
UTI Introduction

8 million visits to health care providers annually *
lead to more than 1 million admissions
more than \$1.6 billion annually in health care dollars
wide spectrum of disease from mild cystitis to lifethreatening urosepsis

* Gupta K, et al: Ann Intern Med 2001

LUTI Epidemiology • female predominance: 30:1° • 50% of females will have a UTI • 50% will have a recurrent infection • most common infectious complication in pregnant women • bacteriuria more likely to develop into pyelonephritis (28% v. 1.4%) • UTIs more common in male neonates and infants • males > 50 have incidence similar to age matched females • Foxman B: Am J Med 2002

UTI Pathogens Hospital acquired Community acquired Staph. saprophyticus S. Saprophyticus Proteus mirabilis Klebsiella Klebsiella Citorbacter Enterococcus faecalis Serratia P. aeruginosa S. epidermidis Candidia Perspectives in Urology 2009



UTI Treatment Considerations - goal - Eradication /sterilization of the urinary tract - treatment must consider - extent of patient's illness - past history of disease - patient's urologic status - other disease states - local susceptibility patterns - most experts prefer bacteriocidal agents

UTI Asymptomatic Bacteriuria

- generally does not require screening or treatment except in pregnancy
- risk of subsequent pyelonephritis in pregnancy increases to 28% treatment does not decrease incidence of positive follow-up cultures and may increase resistance no treatment is indicated until the patient becomes symptomatic

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UTI Acute Uncomplicated Cystitis

Short Course

- Extended Course
- acute symptoms lack of systemic symptoms duration < 48 hours
- infrequent recurrence availability for reliable f/u
- male, older
- systemic toxicity concomitant diseases
- recurrence nosocomial
- tract abnormalities
- lack of follow-up

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UTI Acute Uncomplicated Cystitis

- duration of treatment
 Single dose v. Jay v. longer
 Single dose v. Jay v. longer
 Single dose v. Jay v. lost favor as recent evidence suggests lower
 cure rates and higher recurrence
 3 day regimen is generally preferred in relatively healthy adults
 can treat empirically without culture results in appropriate candidates

* Clin Infect Disease 1999;29:745

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UTI Acute Uncomplicated Cystitis

- Single-dose treatment
 TMP/SMX DS x 2 tablets
 Ciprofloxacin 500 mg x 1
 Fosfomycin x 1 dose
 Three day treatment
 TMP/SMX DS BID

- Ciprofloxacin 250 mg BID*
 Other Beta-lactams
 Longer course may be used

* Clin Infect Disease 1999:29:745

UTI Complicated Cystitis

patients predisposed to recurrent infection or treatment failure anatomic or functional factors

anatonic or indicatoria factor.
DM, pregnancy
h/o pyelonephritis
men > 50 years of age
urine culture necessary
oral fluoroquinolone 1st line
10-14 day course

* Clin Infect Disease 1999;29:745

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UTI

Recurrent: Same or organism or different*

symptomatic UTI that follows clinical resolution of an earlier UTI

common in post-menopausal women

residual urine

changes in microflora

college women

27% experience at lest 1 Cx proven recurrent UTI within 6 months of tx

* Orenstein R, et al: Am Fam Physician 1999

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UTI

Prophylactic/Suppressive/Self-Start ABX Therapy

If a women experiences > 3 UCx proven UTIs/year

Options

postcoilal abx therapy if occurs following sex

self-start (3-day) therapy if no causal relation

suppressive abx therapy if more severe infections

Suppressive abx therapy x 3 -6 months, stop then re-asses

Nitrofurantoin 50 mg daily

Bactrim DS ½ tablet daily

TMP 100 mg daily

Norfloxacin 200 mg daily

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Vulvovaginal Candidiasis 'Vaginal Yeast Infection'

- ncomplicated VVC Treatments
 short courses of treatment (1-3 days) adequate for most uncomplicated cases; improved compliance
 Clotrimazole 1% cream 1 applicator intravaginally for 7-14 days
 Clotrimazole 500 mg vaginal tablet x 1 dose
 Terconazole 6.5% ointment one applicator x 1 dose
 Terconazole 0.4% cream one applicator QD x 3 days
 Terconazole 80 mg vaginal suppository x 3 days
 Fluconazole 150 mg tablet PO x 1 dose

Catheter Associated UTI (CAUTI)

Saint, S. et. al. Ann Intern Med 2009;150:877-884

Inditional Psyment*

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Hospital-Acquired Conditions Not Eligible for Additional Payment

Catheter Associated UTI (CAUTI)

- UTI is the most common hospital acquired infection
- 1 in 5 patients in the hospital receive a Foley catheter
- 1 day of catheter use = 5% increase in bacteriuria
- CAUTI costs at least \$600 and each episode of urinary tract-related bacteremia costs at least \$2800
- Short-term catheterization was defined as up to and including 14 days

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CAUTI Microbiology

- 40% E coli
- 30% Pseudomonas aeruginosa,
- 30% -gram positives, staph/strep and Candida
- the investigators did not include fungal urinary tract infections as part of their study

Wagenlehner FM et al.: Int J Antimicrob Agents 2008

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CAUTI

Recommendations for Hospitals to Address the Centers for Medicare Medicaid Services Rule Changes Regarding Catheter-Associated Urinary Tract Infection

Use only when medically indicated · retention or high risk of retention

- monitoring of urinary output
- incontinence associated with risk of skin breakdown

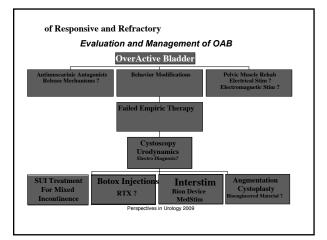
specific surgical procedures (RRP, cryo, reconstruction)

Proper insertion techniques

- training standards for insertion and managing catheters
- hand hygiene, aseptic catheter insertion, and proper maintenance by using a closed urinary drainage system
- daily review of necessity "reminders and stop orders"
- > Develop systems for removal of catheters without physician order

Saint, S. et. al. Ann Intern Med 2009

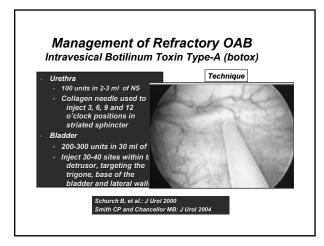
OAB Perspectives in Urology 2009

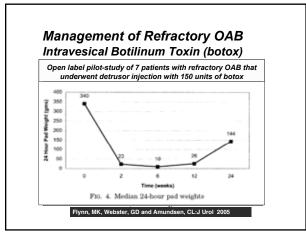


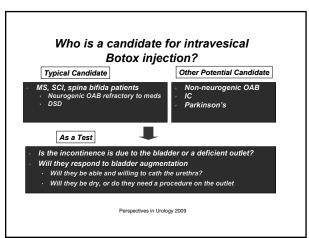
BOTOX Perspectives in Urology 2009

Some Published Uses of Botulinum Toxin Type A Occupational Dystonia Achalasia Blepharospasm Pain (muscle spasm) Cervical Dystonia Spasmodic Dystonia Essential Tremor Strabismus Headache & Migraine Hemifacial Spasm Hyperhydrosis Stroke Myofascial Pain Traumatic Brain Injury Cosmetic use is the most common application Perspectives in Urology 2009

Management of Refractory OAB Intravesical Botilinum Toxin (botox) Botox is derived from the organism C. botulinum Inhibits the vesicular neuronal blockade up to 9 mos Increasing data on the benefits of botox in patients with Non-neurogenic DO Neurogenic DO DSD Interstitial cystitis? Schurch B, et al.: J Urol 2000 Smith CP and Chancellor MB: J Urol 2004







How close are we to approval of Botox for idiopathic OAB?



- MS SCI Spina bifida

- NOAB studies completed enrollment 3-09

 An additional 12-18 months will be required before FDA approval may be anticipated, once studies completed

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Neuromodulation

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Management of Refractory OAB Sacral Neuromodulation

Introduced after the pioneering work of Tanagho and Schmidt for voiding dysfunction
Neuromodulation of the micturition reflex manages urinary symptoms through the stimulation of the afferent pelvic nerves

Therapy



Beneficial in patients with refractory OAB demonstrating a reduction in frequency, urgency, urge incontinence

Treatment modality is based on unilateral or in some cases bilateral stimulation of the sacral nerves, most commonly S3

Tanagho EA, Schmidt RA and Orvis BR: J Urol 1989 Schmidt RA, et al.: A.: J Urol 1999 Hassouna MM, et al.: J Urology 2000

How much stimulation is necessary? Unilateral vs. Bilateral

- For urge-incontinence stimulation of the S3 nerve root unilaterally is often sufficient
- For direct motor stimulation to produce micturition, bilateral stimulation of the motor roots is necessary
- For management of chronic pelvic pain, bilateral stimulation of the S3-4-5 dorsal roots is often necessary

Who do I Implant Characteristics Women respond better than men Women respond better una men Younger patients (< 65) respond better than elderly Non-neurogenic do better then neurogenics Urge, frequency and urge incont. responds better then retention Ideal Candidate Young female with urge, frequency, urge incontinence (without IC/CPP or neurologic condition) refractory to anti-muscarinics Perspectives in Urology 2009

Management of Pelvic Organ **Prolapse**

Perspectives in Urology 2009

Anatomy of Vaginal Support POP Location 1 Anterior and apex 20% Posterior only Posterior and apex Anterior compartment involved Highest failure in anterior 30-70% 2-6 compartment een et al. Obstet Gymcol 1997;89:501-506 ull et al. Am J Obstet Gymcol 1992;166:1764-1768 lley et al. South Med J 1995;385:47-596 untelsson et al. Am J Obstet Gymcol 1999;180:299-305 ull et al. Am J Obstet Gymcol 2009;183:1863-1873 beet et al. Int Urgymcol J Pelvis Pt Dysfum 2001;12:178-186

How are we doing with our current surgical procedures?

- 11.1% lifetime risk of surgery
- 29-40% patients require reoperation within 3 years^{1,2}
- 60% of the recurrences are at the same site³
- 32.5% of the recurrences are at a different site³
- ¹ Olson et al. Obstet and Gynecol 1997;89:501-506 ² Marchionni et al. J Reproduct Med 1999;44;679-684 ³ Clark et al. Am J Obstet and Gynecol 2003;189:1261-1267

Pelvic Floor Reconstructive Surgery **Use of Synthetics**

<u>Advantages</u>

- Readily available Less expensive
- Surgical "kit"
- Predictable in vivo response
- No disease transmission
- Not biodegradable

Disadvantages

- Urinary tract erosions Vaginal wall extrusions
- Graft contraction

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Management of Vaginal Vault Prolapse

Dependent on patients age, overall health and degree of physical and sexual activity ${}^{\circ}{}^{\dagger}$

Patient that is physically and sexually active with minimal comorbid conditions



Abdominal sacral colpopexy

'Older' patient that is physically inactive with some comorbidities



Polypropylene mesh reinforced pelvic floor repair and vaginal vault suspension (Total Prolift)

- Flynn, BJ and Webster, GD: Curr Opin Urol 2002
- † Amundsen, CL, Flynn, BJ and Webster, GD: J Urol 2003 Perspectives in Urology 2009

Analysis of Polypropylene Mesh Properties

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Sindy	conglisations	-							

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Reinforced Vaginal Repairs for POP "Prolapse Kits"

Consists of a transvaginal extraperitoneal SSLF accomplished by placement of polypropylene mesh in the vaginal apex, anterior (vesico-vaginal space) and/or posterior (recto-vaginal space) compartments

- Minimally invasive
 Trocar driven approach
 Vesicovaginal space
 Paravaginal space
- Pararectal space Obturator canal
- Minimal evidence
- Safety profile
- Intraoperative Postoperative



PROLIFT System: Early Outcome Data1

Author	# Pts.	Mean Age	Site	Complications	Exposure	Length of Follow Up	"Success" (≤ Stage II)
Cosson M et.al. (France)	90	65.3	A-1 T-89	Rectal perf-1 Hemmorrhage-2 VVF-1	9 (10%) S=5 (56%)	12 mo.	74 (81.6%)
Fatton BF et.al. (France)	110	63.2	A-22 P-29 T-59	Cystotomy-1 Hematoma-2 Vd. Dysfcn6	5 (4.7%) S=2 (40%)	3 mo.	105 (95.3%)
Murphey M et.al. (USA)	89	65	A-48 P-11 T-30	Cystotomy-2	0 (0%)	5 mo.	84 (94.4%)
Hinoul P et.al. (France)	29	62	A-29	Cystotomy-1	2 (6.9%) S=N/A	6 mo.	28 (96.5%)
Withagen MIJ et.al. (Netherlands)	43	66	A-11 P-16 T-5	Cystotomy-2 Rectal perf1 Vd Dysfcn-1	2 (4.7%) S=N/A	6 mo.	35 (81.4%)

1UGA – Fatton - 2006 Abstracts all published in: Int Urogynecol J 2006;

PROLIFT System: Early Outcome Data^{1,2}

Author	# Pts	Mea n Age	Site	Complications	Exposure	Length of Follow Up	"Success" (≤ Stage II)
Groenen MJC et.al. (Netherlands) ¹	26	61	A-6 P-10 T-10	Vd.dysfcn-5	1 (3.8%) S=N/A	2 mo.	26 (100%)
Perscheler M et.al. (Austria) ¹	80	N/A	N/A	Cystotomy-2 Hematomas-2	8 (10%) S=5 (50%)	N/A	N/A
Rivera JM et.al . (USA) ²	82	63	P-19 T-63	Hematoma-1 Hemmorrhage-1	7 (11.7%) S=N/A	3 mo.	Not well defined
Compiled Data	549	64	A-109 P-85 T-256	Cystotomy- 1.7% Rectal perf- 0.4% Hemorrhagic- 1.3% Void dysfcn- 6.7%	34 (6.2%) S=12 (2.6%)	6 mo.	81.4-100%

¹ IUGA – Fatton - 2006 Abstracts all published in: Int Urogynecol J 2006;17(S.2):S212 ² AUGS 2006 Abstract published in: Int Urogyn J 2006;17(S.3):S460

NICE Review



Systematic review of the efficacy and safety of using mesh or grafts in surgery for anterior and/or posterior vaginal wall prolapse

Xueli Jia, Cathryn Glazener, Graham Mowatt, Graeme MacLennan, Cynthia Fraser, Jennifer Burr

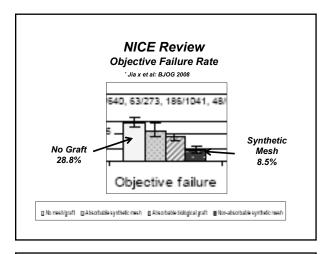
October 2007

Perspectives in Urology 2009 * Jia x et al: BJOG 2008

NICE Review

- National Institute for Health and Clinical Excellence (NICE)
- · Provides national clinical guidelines in the UK
- Examined surgical repair of vaginal prolapse using mesh
- Evaluated 446 reports 49 studies selected
- 4569 patients in total

* Jia x et al: BJOG 2008



Management of Pelvic Organ Prolapse

Mesh Complications

	Erosion rate	Dyspareunia
Amrute, 2007	2.1%	10%
Hiltunen 2007	17.3 (most asymptomatic)	
Fatton 2007	4.7	10
DeTayrac 2007	6.3	12.8
DeVita 2008	3.8	1.3
Nguyen 2008	5 (all txd in office)	Mesh 9% No mesh 16%

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Polypropylene mesh reinforced pelvic floor repair and vaginal vault suspension (Prolift)

* Flynn BJ, et al: SC AUA 2007

28 women with Stage III POP or greater treated with Prolift ± TVT in a 12 month period were evaluated

Prolapse Outcome

Prolapse was cured in 27 of 28 patients (Stage 0-I prolapse) · 1 rectocele following anterior implant only

Continence Outcome

SUI cured in 13 of 13 patients that underwent TVT · 5 of 12 that did not undergo TVT developed de novo SUI

· 2 of 3 urethrolysis patients remained dry

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Polypropylene mesh reinforced pelvic floor repair and vaginal vault suspension (Prolift)

* Flynn BJ, et al: SC AUA 2007

All patients were discharged within 24 hours of surgery All patients returned to normal activity, with the exception of heavy lifting, in < 7 days

Complications

Convalescence

No urinary tract erosions, bowel, ureteral, vascular or nerve injuries

1 patient with delayed bleeding required replacement of vaginal pack for additional 48 hours

2 vaginal mesh extrusions noted with in 3 months of surgery

Local excision of mesh and multi-layer closure performed
 No recurrent extrusion

Incidence of vaginal erosion following anterior prolapse repair with polypropylene mesh

Single vs. double layer vaginal wall closure

Terlecki RT and Flynn BJ et al: AUGS 2009

75 cases of mesh reinforced anterior repair (anterior Prolift™) for cystocele performed by a BJF (2005-2008) were analyzed

Closure	Mean age (y)	Prior Repair (%)	Prior Hystx (%)	Mean LOS (d)	Mean DOC (d)	Mean F/U (mos)
SL	65	42	64	1.0	1.8	25
DL	63	59	67	1.2	2.8	10

Comparison of mesh extrusion rate following a single layer vaginal wall closure (n = 39) v. double layer closure (n = 36)

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Full-Thickness Vaginal Incision

- Identify the true
 vesicovaginal and
 rectovaginal spaces
 Consensus of experience- full
 thickness leads to lower
 extrusion rates
- 3-5 cm length with effort to keep incisions small Avoid the apex transverse incision

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Incidence of vaginal erosion following anterior prolapse repair with polypropylene mesh Single vs. double layer vaginal wall closure Terlecki RT and Flynn BJ et al: AUGS 2009

Outcome							
Closure	POP Cure (%)	Erosion (#, %)					
SL	97	6/39 (15%)					
DI	97	0*					

All vaginal wall extrusions were on the anterior incision

- · 2 healed after office excision
- 4 required multiple OR excision, reclosure of vaginal incision

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What to do with the opposite compartment? **Concomitant Repairs**

Anterior/Posterior Compartment

Prolapsed

Significant apical prolapse, large enterocele

No prolapse in opposite compartment –No consensus

- Treat with standard repair Reinforced repair in lesser compartment
- Leave untreated if asymptomatic

Perineal body

Not advisable to treat asymptomatic perineal relaxation If symptomatic and there is laxity

repair separately "distal" to the mesh Perspectives in Urology 2009

What to do with the urethra? Concomitant TVT

SUI Surgery

- Sling if

 History of SUI

 UDS evidence of SUI with prolapse reduced

 Stage Ill or IV cystocele and no prior sling

 Stage patient if

 No history or UDS evidence of SUI

 Prior successful sling in patient with large cystocele

 No SUI in patient with posterior or apical prolapse only

 Bladder incomplete emptying/retention in patient ± prior sling

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Management of Complications of SUI and Prolapse Surgery

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Complications What could happen?



Intraoperative

Hemorrhage

Bowel injuries

Bladder and Urethral injuries

Ureteral Injuries

Postoperative

- Fistula
- Urinary retention

- Osteitis Pubis Infection Voiding dysfunction
- Failures

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Vaginal Wall Extrusion and Urinary Tract Erosion Incidence

Vaginal wall mesh extrusion occurs in 0.5 - 3% of patients and is usually amenable to tranvaginal partial mesh excision †‡

Urinary tract erosion is a more severe complication (< 1%) and may be treated with endoscopic or open partial excision

* Bemelmans BLH and Chapple, CR: Cur Opin Urol Urol 2003 † Meschia M, et al: IntUrogynecol J Pelvic Floor Dysfunct 2001 ‡ Giri SK, et al: Urol 2007



Graft Complication

CU Criteria for Simple v. Complex Graft Complications

	Simple	Complex
Mesh Type	Type 1 mesh	Type 2, 3, 4 mesh especially if mesh has been withdrawn from market
Timing to presentation	early < 6 weeks	delayed ≥ 6 weeks
Location of extrusion	suture line	remote from suture line
Depth of mesh	deep	embedded in vaginal wall, "cobblestone vagina"
Prior excisions	none	≥1
Associated inflammation	none/minim al	obvious purulence
Affected organ	vagina only	bladder, urethra, rectum

Terlecki RT and Flynn BJ: AUA update series 2010

Vaginal Wall Mesh Erosion

Predisposing Factors

Etiology

Ischemia, infection, iatrogenic

Patient characteristics

Vaginal infection

- Elderly Post-menopausal Radiation

Surgical factors

- **Button holes**
- Unrecognized trocar injury
- Hematoma, infection, would closure

Terlecki RT and Flynn BJ: AUA update series 2010

Vaginal Wall Mesh Extrusion Diagnosis

Diagnosis

High index of suspicion vaginal bleeding > 6 wks dyspareunia 'scratchy vaginal wall' partner pain on intercourse ('hispareunia')

Meticulous follow-up 6 wks, 3 mos, 1 yr and PRN ear plastic speculum



Terlecki RT and Flynn BJ: AUA update series 2010

Vaginal Wall Mesh Extrusion Prevention During Prolapse Surgery

Intra-operative

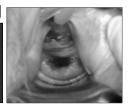
- generous hydrodissection
- transverse incisions careful tissue handling
- full-thickness dissection
- avoid button holes, trocar injury avoid incision over the vaginal cuff
- avoid concomitant hysterectomy avoid redundancy of mesh, no tension
- proper incision closure
- do not excise redundant vaginal wall

Terlecki RT and Flynn BJ: AUA update series 2010

Vaginal Wall Mesh Extrusion Initial Management

Initial Management

avoid heavy lifting antibiotics? aginal estrogen cal mesh excision or rimming" in clinic



Terlecki RT and Flynn BJ: AUA update series 2010

Vaginal Wall Mesh Extrusion Conservative Management

Retrospective review of the management of 4 vaginal wall mesh extrusions after SPARC sling in a single institution

- 2 patients presented with vaginal discharge 1 of which stated her partner had pain during intercourse

- To winch state her patine had pair uning intercourse 2 patients were asymptomatic
 Each patient was observed conservatively
 At 3 months postoperatively all 4 had complete spontaneous epithelialization over the mesh
 No patient developed had SUI, urgency or obstruction

Kobashi, KC and Govier, FE: J Urol 2003

"In my personal experience in management of more than 50 vaginal wall erosions I have seen only 1 erosion heal spontaneously."

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Vaginal Wall Mesh Extrusion Management in Prolapse Cases

Minor Extrusion (<8 weeks post-op)

- mesh non-redundant below plane of vaginal wall defect Vaginal estrogen Local mesh excision in clinic Pelvic rest, avoid heavy lifting

Large (> 2 cm), Recurrent Late Erosion (> 8 weeks)

- Excision of exposed mesh
- Raise 1 cm rim around exposed area
- Vigorous washout with bacitracin, betadine
- 2-layer closure (4-0 PDS running stitch, 4-0 PGA Mattress stitch
 - Consider alloderm for severe vaginal wall loss

Terlecki RT and Flynn BJ: AUA update series 2010

Urethral Erosion Prevention

Patient Selection

void the use of mesh in patients with XRT, infected field, neurogenics, diverticulum Occlusive slings

Urethra obstruction

Postop

Do not delay urethrolysis Avoid urethral dilation

Terlecki RT and Flynn BJ: AUA update series 2010

Urinary Tract Sling Erosion

Urethrolysis: Contemporary Outcomes

Study	No.	Туре	Management	Outcome
Kobashi et al 1999	7/34	ProteGen	Sling removal Martius (4) Delayed PVS (6)	25/34 (74%) SUI
Clemens et al 2000	6/14	ProteGen	Sling removal Urethral repair or prolonged drainage Immediate PVS (1) Delayed PVS (1)	5/6 (83%) SUI
Golomb et al 2001	1/1	Autograft	Bilateral partial excision	1/1 Dry
Amundsen et al 2003	6/6 3/3	Nonsynthetic Synthetic	Sling incision Sling removal Martius (2) Delayed PVS (1)	6/6 Dry 2/3 (67%) SUI

Polypropylene Bladder Erosion Prevention/Diagnosis

Prevention

roid tunneling the trocar if the retropubic space is scarred culous intra-op cystoscopy (70° lens), inspect anter wall at 2 and 11 o'clock op Foley for 3 days if bladder is perforated

Diagnosis



Hematuria, bladder pain, urgency, recurrent incontinence, adherent calculus to the bladder wall

Terlecki RT and Flynn BJ: AUA update series 2010

Polypropylene Bladder Erosion Case Reports: Endoscopic Approach

Endoscopic Laser Excision

3 patients had bladder erosion due to polyproplyene mesh Eroded tape successfully excised, 355 µm holmium laser in 20 mins

Suprapubic Assisted Endoscopic Excision †

- 1 patient underwent successful endoscopic excision 5 mm suprapubic trocar, 24 Fr transurethral nephroscope
- Forceps inserted through the trocar used to stretch the tape
- Endoscopic scissors inserted through the nephroscope used to excise the tape

† Jorion, JL: J Urol 2002

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Management of Urinary Tract Erosions Synthetic Erosion

Combined Abdominal and Vaginal Explantation *

- 5 patients with polypropylene mesh erosion
 - 3 with urinary tract erosion underwent explantation <u>ALL</u> required subsequent anti-incontinence surgery

Sweat SD, McGuire EJ and Lightner DJ: J Urol 2002

Mesh Explantation and Concomitant Sling †

- 19 patients with polypropylene mesh erosion underwent explantation
- 53% had recurrent SUI
- ıs autologous or porcine dermis sling

† Starkman, JS, et al : J Urol 2006

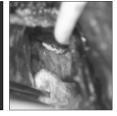


Institutional Sling Extrusion Data April 2003-Present

Vaginal Wall extrusion and urinary tract erosion

Vaginal wall extrusion/pain
retropubic tape 1 of 72 (1.4%)
TVT-0, 4 of 190 (2.1%)
TVT-S, 1 of 119 (0.8%)
Biological PVS, 0 of 60
AUS, 0 of 9

- Virinary tract erosion
 retropubic tape 1 of 72 (1.4%)
 TVT-O, 1 of 190 (0.5%)
 TVT-S, 0 of 119
 Biological PVS, 0 of 60
 AUS, 0 of 9



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2010 SUFU Abstract: MANAGEMENT OF POLYPROPYLENE MESH COMPLICATIONS (VAGINAL WALL EXTRUSIONS AND URINARY TRACT EROSIONS) AFTER SURGERY FOR SUI AND POP

39 patients that underwent mesh explantation due to recurrent vaginal wall extrusions and/or urinary tract erosions performed by BJF (2003-2009) were analyzed

treatment based upon CU algorithm for mesh complications patients classified as "simple" or "complex" graft complication simple graft complications treatment

- in office partial mesh excision
- OR excision, washout, and primary closure

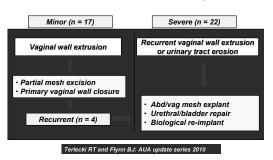
complex graft complications treatment

near total mesh excision, washout, repair of the urinary tract/vaginal wall, and concomitant placement of biological graft

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Polypropylene Mesh Complication Algorithm Location and Severity



Polypropylene Mesh Complication Algorithm

Operative Technique for Severe Graft Complication

bdominal/vaginal removal of

- mesh straps total explant of retropubic tapes, mini-slings removal of vaginal portion of TOT, prolapse mesh Urinary tract repair
- Biological re-implant · autologous RF PVS for slings · alloderm for prolapse kits 12 Fr foley (10-14 days) if urinary tract erosion



* Flynn BJ et al: SUFU 2010



Salvage Protocol

Near Total Mesh Explant, Washout, Re-implant with Biological

Step 1: EUA, cysto, DRE, procto, CT scan in complex cases Step 2: Remove eroded mesh with 1 cm ring of vaginal epithelium Step 3: Complex cases continue explanting remaining body of the vaginal mesh Step 4: Repair defects in the viscera, consider flap if a fistula is present Step 5: Cysto to asses repair, r/o urreteral injury or residual FB

Step 6: Irrigate with four solutions

bacitracin 50,000 units

gentamicin 80 mg in 1 l of 0.9% NS

's strength povidine-lodine, (500 ml)

's strength H202 (500 ml)

vancomycin 1 gm and gentamcin 80 mg, in 1 liter of 0.9% NS

Step 7: Change gowns and gloves

Step 8: Implant biological material

Step 9: Close wound in 2 layers

Step 10: Premarin vaginal pack Step 11: Treat with oral abx (based on culture results) for 1 month

Terlecki RT and Flynn BJ: AUA update series 2010

Management of Mesh Complications: Vaginal Wall Extrusions and Urinary Tract Erosions Results

Convalescence

mean f/u, 14 mos. mean age, 55.5 yrs mean length of stay · simple <23 hrs · complex 2.4 days Graft Complication Resolution

Simple group, n = 17

trimming, n = 4

1 of 4 (25%) successful

OR excision/reclosure, n = 13

12 of 13 (92%) successful

Complex group, n = 22

21 of 22 (95%) successful

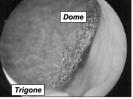
* Flynn BJ et al: SUFU 2010

Perspectives in Urology 2009

Management of Mesh Complications: Vaginal Wall Extrusions and Urinary Tract Erosions Continence Outcome

Post-operative 30 patients with data

regarding pad usage 25 of 30 (83%) dry, 0 ppd 3 required sling lysis for prolonged retention 1 required prolapse repair 1 required urethroplasty 1 required Interstim for UUI



* Flynn BJ et al: SUFU 2010

Perspectives in Urology 2009

Management of Vesicovaginal Fistula (VVF)

Transvaginal Repair of Primary and Recurrent Vesicovaginal Fistula (VVF)

Introduction

Terlecki RT and Flynn BJ et al: AUGS 2009

Transabdominal management often with the use of flaps, has been advocated for recurrent fistulae It is our practice to approach all nonirradiated primary or recurrent, VVFs via a transvaginal approach on an outpatient basis and to avoid the morbidity of a Martius flap

We aim to evaluate and compare the outcomes of transvaginal management of primary versus recurrent VVFs

Perspectives in Urology 2009

Transvaginal Repair of Primary and Recurrent Vesicovaginal Fistula (VVF)

Terlecki RT and Flynn BJ et al: AUGS 2009

31 cases (16 primary, 15 recurrent) of transvaginal VVF repair with cuff excision performed by a BJF (2002-2008) was analyzed

Etiology

open abdominal hysterectomy (23)

laparoscopic hysterectomy (2)

robotic hysterectomy (2),

transvaginal hysterectomy (2) mesh explant (1)

obstetric trauma (1)

18 prior repairs in 15 recurrent cases all at outside centers · 12 by a transvaginal approach and 6 transabominally

Transvaginal Repair of Primary and Recurrent Vesicovaginal Fistula (VVF)

Results

Parameter	Primary Repair	Secondary Repair
Patients (#)	16	15
Mean age (years)	12	42
Mean time to repair (days)	173	237
Mean fistula size (mm)	4./	3.6
Mean BMI (kg/m²)	30.8	28.8
Mean operative time (min)	157	143
Mean EBL (cc)	108	140
Mean LOS (days)	0.5*	0.1**
Mean catheterization (days)	22	21
Recurrence	0/16	0/15
Mean follow up (months)	25	30

Terlecki RT and Flynn BJ et al: AUGS 2009

Perspectives in Urology 2009



Transvaginal Repair of Primary and Recurrent Vesicovaginal Fistula (VVF)

Results

Outcome

No significant differences between the treatment groups in any of the measured parameters

No operative complications occurred in either group Dyspareunia limited to 3 patients from the primary group At a f/u of 25 (primary) and 30 (recurrent) months, no patient has had a fistula recurrence

Convalescence

5 patients observed less than 24 hours (3 social, 2 pain) 1 patient observed less than 24 hours (social)