Urine stress incontinence surgery

Complications
IUGA/ ICS Joint Report on Terminology 2010

**Stress urinary incontinence:**

the complaint of involuntary leakage on effort or exertion, or on sneezing or coughing.

• A symptom!
Urodynamic stress incontinence

The involuntary leakage of urine during filling cystometry, associated with increased intra-abdominal pressure, in the absence of a detrusor contraction.

a diagnosis
Urodynamic stress incontinence

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Nothing wrong with the bladder

• Urodynamic stress incontinence = Sphincter incompetence

i.e. The outlet opens up, but the bladder (detrusor) is not contracting.
Cystocele # USI

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USI in women

• Risk factors

vaginal birth
  – advanced age
  – chronic straining/ coughing
  – genetic
  – obesity

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Stress Incontinence Surgeries

- Vaginal
- Retropubic (MMK, Birch)
- Needle Suspension (20 modifications)
- Sling

*Always empirical!*
An ambulatory surgical procedure under local anesthesia for treatment of female urinary incontinence

Ulmsten et al.

International Urogynecology Journal.1996
Two new concepts

• Placement at midurethra.

• Placement without tension
Midurethral sling

Tension free

Vaginal

Tape

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Retropubic

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All are TVT

Retropubic
  → Down ---- up
  → Up ------ down

Transobturator
  → Outside ------ in
  → Inside ---- out

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injection can be used to treat idiopathic DO unresponsive to other therapies (GoR: C). Botulinum toxin for detrusor injections is currently being used off-label for this indication.

6.2.2.3 Voiding dysfunction.
Patients with voiding dysfunction leading to significant PVR may have BOO or detrusor underactivity. POP is a common cause of voiding dysfunction.

6.2.3 Outcome measures
Until a universal outcome tool has been established, multiple outcome measures must be used, including (1) symptoms and a separate bother questionnaire; (2) clinically important outcomes (pad use, reoperation rates, use of anticholinergics, CIC, and recurrent UTIs); (3) complications; (4) a QoL tool with minimal clinically important difference.
Complications

• Intraoperative:
  – Perforation:
    • Bladder
    • Urethra
    • Bowel
  – Injury:
    • Nerve
  – Hemorrhage
Complications

• Postoperative:
  – **Erosion:**
    • Bladder
    • Urethra
    • Vagina
  – **Voiding dysfunction:**
    • Urinary Urgency
    • Urinary retention
  – **Infection:**
    • UTI
    • Soft Tissue
  – **Pain:**
    • Dyspareunia
    • Groin pain
BLADDER PERFORATION

• SYMPTOMS

bleeding: NOT ALWAYS!
Retropubic  0.7 - 34.2%
Transobturator  0 - 3.1 %
Bladder perforation

Risk factors

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>OR</th>
<th>p Value</th>
<th>95% CI</th>
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<tbody>
<tr>
<td>Previous cesarean section</td>
<td>3.7</td>
<td>&lt;0.05</td>
<td>1.2–11.5</td>
</tr>
<tr>
<td>Previous colposuspension</td>
<td>3.2</td>
<td>&lt;0.05</td>
<td>1.2–12.7</td>
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<tr>
<td>BMI less than 30 kg/m²</td>
<td>5.9</td>
<td>&lt;0.01</td>
<td>1.7–20.6</td>
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<tr>
<td>Local anesthesia</td>
<td>5.9</td>
<td>&lt;0.001</td>
<td>2.6–13.7</td>
</tr>
<tr>
<td>Rectocele</td>
<td>6.2</td>
<td>&lt;0.001</td>
<td>2.1–17.8</td>
</tr>
</tbody>
</table>
TREATMENT

• BLADDER:
  – Remove trocar. Reinsert.
  – Leave catheter few days longer (?)

• URETHRA
  – Do not put the mesh

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Bowel Injury

*Previous Pelvic Surgery
Pre-op CT with contrast*

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Hemorrhage

• Paraurethral vessels
• Paravesical plexus
• Large vessels: femoral

How to avoid:

– 1. Maintain contact of the introduced needle with the posterior wall of the pubic bone.
– 2. Do not twist the wrist
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Complications

- Postoperative:
  - Erosion:
    - Bladder
    - Urethra
    - Vagina
  - Voiding dysfunction:
    - Urinary Urgency
    - Urinary retention
  - Infection:
    - UTI
    - Soft Tissue
  - Pain:
    - Dyspareunia
    - Groin pain

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Bladder Erosion etiology

- Excessive tension
- Missed perforation
- Infection
- Initially inserted submucosally

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PRESENTATION

• Infections
• Urinary symptoms
• Bladder stone
• Pain

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Bladder “Erosions”

After lithoclast
TREATMENT

• to remove as much of the the sling as possible

• Transurethral

• Percutaneous+ Transurethral
  
  Trocar/Forceps/scissors

Open surgical

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Urethral Perforation/Erosion

- Early Recurrent stress incontinence.
- Irritative voiding
- “Splashing”
Urethral erosion

When discovered late postop:

Can be managed with endoscopic rx or scissors,
Vaginal Erosion

• Symptoms:
  – Asymptomatic
  – Vaginal discharge
  – Vaginal pain
  – Vaginal stone
  – Hisparunia
Hispareunia

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Mesh exposure
(erosion)

• < 2% (BJU 2006)

• Etiology
  – Brand
  – Thin flap dissection
  – Buttonhole in transobturator
  – Menopause
Mesh exposure Management

- ? Estrogen and antibiotics
- Dissection and coverage (clinic?)
- Excision

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De novo Urinary Urgency

- TVT = 5.9-25%  TOT = 2.1-15.6%
- Urethral Obstruction: Irritation
  - Anterior vaginal prolapse
- Unrecognized pelvic hematoma

*Post void residual not always high*

*Treatment: Temporary Antimuscarinics*
Urinary Retention

• Retropubic: 7.8-19.7% / Transobturator: 1.5-15.6%

• Causes:
  – Predisposing factors: low BMI
  – Location & Tension of Tape
  – Incorrect patient positioning
Correct positionning
Urinary Retention Treatment

— CSIC

— Dilatation: 1st 2 days??
Female urethral dilation

Tony Bazi · Gael Abou-Ghannam · Raja Kauli

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Female Urethral Dialation

Conclusions

• The value of UD in treating female urethral stricture disease, a rather rare entity, has not been consistent between studies. On the other hand, UD is a well-recognized risk factor for stricture development. Experience with BoNT/A suggests that the latter is recently often resorted to when failures with traditional management of pediatric neurogenic bladder is encountered.

• The value of UD as a conservative treatment for voiding dysfunction following TVT is doubtful. Nevertheless, advocates point to such intervention in the very early postoperative period when the tape is still unfixed, as the dilation procedure would actually stretch a presumably occlusive tape.

• UD is not an innocuous procedure. Complications include infection, incontinence, and—most importantly—development of urethral strictures necessitating surgical intervention.

Bazi et al. IUJ 2013

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Urinary Retention/Voiding dysfunction
Treatment

– Tape release

– Simple Tape lysis
TVT and Obstruction

- Multicenter – 600 patients
- 17 (2.8%) obstructed requiring take down
- Mean time 64 days (6-228 days)
  - Simple midline incision
  - 100% success for spontaneous voiding
- Mean follow up 13 months
- 1 urethral injury

If within 10 days consider “loosening” sling

_Urology 58:697_
Tape loosening
Early Tape Mobilization

• 59 out of 61 had restoration of normal micturition

• At 6-month follow-up visits
  – 58 (95.1%) women were still cured of SUI,
  – 3 were incontinent
  – No additional voiding dysfunction occurred

Early Tape Mobilization

• Open vaginal suture line
• The sling is identified and hooked with a right-angle clamp
  
  *downward traction on the tape will usually loosen it (1-2 cm)*

• Reapproximate vaginal wall
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Sling Lysis

- Inverted U or midline
- Isolation of sling
- Incision of the sling
- Closure of mucosa
Sling excision

recurrent USI only 1:4

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Sling excision

• Critical to identify and cut or loosen sling

• Urethrolysis without cutting TVT fails

• Chronically can become a tight band
Pain

• Groin &/or Thigh Pain:

  – TVT VS TOT = 1.5% VS 16%

  – ? Nerve injury
Nerve Injury

- Transobturator
  - Aberrant obturator branches.....AND ALL THE MUSCLES

- Retropubic
  - Pudendal, ilioinguinal, and iliohypogastric nerve branches.

- Presentation:
  - Persistent pain

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Obturator Anatomy

Vasculature
Distances
Medial branch vessel 3.1 cm (2.3-4.8 cm)
Lateral branch vessel 4.3 cm (3.0-5.3 cm)

Device to most medial vessel 1.1 cm
Device to canal 2.3 cm

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Persistent pain

• Treatment:
  – Local anesthetic +/- corticosteroid
  – SRRI.
  – GABA analog

REMOVAL!
TOT excision

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Sob +ssue infection

showing a sub-cutaneous infiltration of the right side of the vulva extended to the pubic symphysis. So, the diagnosis of perineal cellulitis was put forward and two sessions per day of hyperbaric oxygenotherapy were prescribed.

Ten days later, despite this treatment, no clinical amelioration was noticed. Consequently, another operation was performed to further the exploration of the perineal region, and to complete the drainage. This examination permitted to diagnose a vaginal erosion of 1 cm², in front of the silicon part of the tape, on the right side of the urethra (Fig. 1). A greenish purulent liquid was flowing from this ori

As tissue inflammation is used to disconnect tapes from surrounding tissues, the removal of Uratape was made easier. The whole right arm, the sub-urethral silicon portion and a part of the left arm of the tape were then removed. Finally, a partial removal was realised, and only the left trans-obturator part, which was not infected, remained. After the operation, the cellulitis rapidly diminished and Mrs P. was discharged ten days later, with an adapted antibiotherapy.

Three months later, local healing was satisfying: only a small canal remained in the right sub-urethral region, and no induration was palpable. But Mrs P reported a recurrence of her stress urinary incontinence.

3. Case no. 2

Mrs M. Liliane, 41 years old, 2 children, presented a disabling stress urinary incontinence (grade 2), requiring permanent sanitary protections. An experienced surgeon performed the treatment consisting in placing a trans-obturator sub-urethral tape Uratape (Porge`s).

After the operation, only several vaginal or urinary infections were noticed.

Seventeen months later, Mrs M was rushed to the hospital because of a 38°C hyperthermia due to sub-cutaneous and cutaneous tissue inflammation of the left part of vulva and of the origin of the thigh. So, a pelvic CT scanner was performed, confirming inflammation of cutaneous and muscular tissues in these regions. A perineal cellulitis of the left side of vulva and extended to the origin of the thigh was diagnosed. In addition, the tape appeared at the top of the infected region, giving this way an etiology to the infection. After one month of antibiotherapy targeting anaerobic bacteria, clinical and radiological symptoms did persist. So, we performed surgical exploration and drainage under general anaesthesia. A vaginal erosion of 1 cm² was detected in sub-urethral region, exactly in front of the silicon portion of the tape. Once again, removal of the tape was made easier by inflammation of surrounding tissues (Fig. 2).

Afterwards, the evolution was satisfying with an antibiotherapy targeting Streptococcus B detected in bacteriological samples. Six weeks later, a correct vaginal healing was obtained. The inflammation of the thigh completely disappeared, and no recurrence of stress urinary incontinence was noticed.

4. Discussion

Supra-pubic or trans-obturator (TOT) sub-urethral tapes are widely used by many surgeons, as such a minimal invasive technique is obviously efficient in F. Caquant et al. / European Urology 47 (2005) 108–110

Fig. 1. Right latero-urethral exposition of tape.

Fig. 2. Cellulitis of the left part of vulva, extended to the origin of the left thigh.
TVT Messed up Mesh (TVT Mum)

New article:
Stop Meshing Around
Unfortunately most of the surgeons in the UK are still putting in TVT's and removing them from others! it just doesn't make sense. Please read this article on the following link:-
www.tvt-messed-up-mesh.org.uk/stop-meshing-around.html
Summary

• Synthetic PP MUT are here to stay.

• Synthetic MUT have *unique* complications

• Patients should be adequately counseled.

*Early recognition and treatment of complications limit long term sequelae*
There is no disease or condition that cannot be made worse by surgery