Male urinary incontinence

Epidemiology

- **The main cause** of urinary incontinence in men is iatrogenic, occurring after surgical procedures or radiation therapy in the lower urinary tract.
- **Estimated incidence** after surgery for prostate cancer: 5-69%; after brachytherapy: 0-45%.
- **The risk factors for incontinence after prostatectomy** are varied:

<table>
<thead>
<tr>
<th>Related to the patient</th>
<th>Related to the surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at diagnosis</td>
<td>Prostatic volume</td>
</tr>
<tr>
<td>Comorbidity</td>
<td>Advanced tumoral staging</td>
</tr>
<tr>
<td>Previous sphincter function</td>
<td>Bladder neck obstruction</td>
</tr>
<tr>
<td>Previous bladder function</td>
<td>Lack of neurovascular bundle preservation</td>
</tr>
</tbody>
</table>

Etiology

- **Sphincteric cause**
  - Damage after prostatectomy or TURP
  - Damage after radiotherapy or brachytherapy
  - Damage after criosurgery or HIFU
  - Damage after reconstructive urethral surgery
  - Damage after pelvic floor trauma
  - Damage related to extrophy-epispadias complex
- **Bladder cause**
  - Overactive bladder
  - Reduced bladder capacity

Clinical classification of male incontinence

- **Postvoid dribbling**: common in prostate syndrome.
- **Urge incontinence**: in connection with an overactive bladder. Associated with *frequency* and *nocturia*.
- **Stress incontinence**: the most common cause is radical prostatectomy.
- **Mixed** (urgency-stress): the most common cause is radical prostatectomy.
- **Overflow incontinence**: in urethroprostatic obstructive pathologies.

Assessment

- **Voiding habits**: with a voiding diary and quality of life assessment (ICIQ-SF):
  - *Frequency* of diurnal/nocturnal urination.
  - *Time between voiding* (cause of frequency: social/severe urge/prevention)
  - *Time* that urination can be postponed after urge.
- **Incontinence severity**: *pad test*. Increases in pad weight after normal physical activity are recorded. After urethroprostatic surgery, continence is defined as a minimal escape not requiring a pad or requiring a pad only as a safeguard.
- **Medical/surgical history**: including any background and its chronological relationship to incontinence as well as drugs that affect the LUT (*sympatholytics, sympatho/parasympathomimetics, tricyclic antidepressants*).
- **IPSS questionnaire**: subjective assessment of the level of impact of prostatic syndrome.
- **Neurourological examination**:
  - *Bulbocavernosus and perianal reflex* [S2-S4].
  - *Tone and strength of the anal sphincter*: assessment of voluntary control.
  - *Sensitivity of dermatomes* from L1 to S5.
- **Abdominal examination** to rule out masses, hernias, and bladder distention.
- **Measurement of leaks** brought on by coughing or the *Valsalva* maneuver.
- **Flowmetry + measurement of residual urine** (abdominal ultrasound).
- **Cystourethroscopy**: can help assess residual sphincter activity.
- **Pressure-flow urodynamic study/Videourodynamics**.
Treatment

- **Generic conservative measures**: in most types of incontinence, recommendations include a change in dietary and behavioral habits, scheduled voiding, pelvic floor rehabilitation, and medication. This regimen should be maintained for at least 6 months after surgery. **The most commonly used drugs are**: (See chapter on Female Urinary Incontinence. Treatment)

<table>
<thead>
<tr>
<th>Antimuscarinics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Generic name</strong></td>
<td><strong>Trade name®</strong></td>
</tr>
<tr>
<td>Tolterodine</td>
<td>DETRUSITOL</td>
</tr>
<tr>
<td>Trospium</td>
<td>URAPLEX, SANCTURA</td>
</tr>
<tr>
<td>Solifenacine</td>
<td>VESICARE</td>
</tr>
<tr>
<td>Fesoterodine</td>
<td>TOVIAZ</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hormones</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Generic name</strong></td>
<td><strong>Trade name®</strong></td>
</tr>
<tr>
<td>Desmopressin</td>
<td>MINIRIN, DESMOPRESSIN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Toxins</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Generic name</strong></td>
<td><strong>Trade name®</strong></td>
</tr>
<tr>
<td>Botulinum toxin</td>
<td>BOTOX</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Antidepressants</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Generic name</strong></td>
<td><strong>Trade name®</strong></td>
</tr>
<tr>
<td>Duloxetine</td>
<td>XERISTAR, CYMBALTA</td>
</tr>
<tr>
<td>Imipramine</td>
<td>TOFRANIL</td>
</tr>
</tbody>
</table>

- **In cases of postvoid dribbling** it is recommended to make a strong contraction of the pelvic floor at the end of urination or to press on the median raphe with the fingers to squeeze out the remaining urine stored in the posterior urethra (Grade of recommendation: B).

- **Post-prostatectomy incontinence**: occurs in 5-48% of cases. Recommendations include:
  - Pelvic floor exercises: prior to and immediately after surgery.
  - Suburethral slings (ADVANCE®): for mild or moderate UI. Success rate: >60%.
  - Artificial urinary sphincter (AMS-800®): success rate 60-90%, but subject to frequent surgical revisions due to malfunction.

- **Incontinence after radiotherapy**: with an incidence of 0-19% after external therapy and 0-45% after brachytherapy. The risk is higher in cases of prior or subsequent TURP.
  - Pelvic floor exercises: prior to and immediately after radiotherapy.
  - Suburethral slings (ADVANCE®): for mild or moderate UI. Success rate: >60%.
  - Artificial urinary sphincter (AMS-800®): success rate 60-90%, but subject to frequent surgical revisions due to malfunction. Previous radiotherapy is a factor of increased risk of complications in these devices.

- **Incontinence after neo-bladder procedures**: diurnal in 15% and nocturnal in 45% of cases. Recommendations include:
  - Conservative treatment: Until 6 months after surgery.
  - Intermittent catheterization: in patients with associated high residues.
  - Artificial urinary sphincter: only in selected cases due to the added morbidity.

- **Urge incontinence refractory to drugs**: requires individualized treatment.
  - Botulinum toxin.
  - Neuromodulation.
  - Bladder extension.

- **Incontinence refractory to treatment**: requires palliative measures: collectors, sensors, pads, penile occlusive devices, etc.
Male Urinary Incontinence

Post-Prostatectomy, urge incontinence and postvoid dribbling

- Recurrent UI or complicated by: Radiotherapy
  - Radical pelvic surgery

Examination: urologic, neurourologic, and pelvic floor
- Objectivation of UI (with cough test)
- Severity of UI (voiding diary, questionnaires)
- Urodynamic test and postvoid residual urine
- Urethrocystoscopy

UI + voiding dysfunction

- Infravesical Obstruction
  - Surgery
    - Antimuscarinics
    - Alpha-blockers

- Hypoactive Detrusor

- Stress UI persistence

- Urge UI persistence

- Intercontinental catheterization

Specific treatment

- Failure

Diet: ↓ weight, ↓ fluids and caffeine
- Pelvic floor rehabilitation
- Electric stimulation
- Bladder training (if urge UI)
  - Tolterodine 4 mg/d (if urge UI)
  - Solifenacine 10 mg/d (if urge UI)
  - Fesoterodine 4-8 mg/d (if urge UI)
  - Trospium 20 mg/12 h (if urge UI)
  - Duloxetine 30-60 mg/12 h (stress UI)

Stress UI

- Mixed UI

- Detrusor Hyperactivity

- Suburethral Mesh
  - Artificial sphincter

- Neuromodulation
  - Botulinum toxin
  - Bladder augmentation

Failure

Palliative care