Female Urinary Incontinence

Molly Heublein, MD
Assistant Professor Clinical Medicine
UCSF Women's Health Primary Care

Disclosures

I have nothing to disclose.

Objectives

- Review the problem
- Feel confident with office diagnosis of urge versus stress incontinence
- Feel confident with first line treatments
- Be aware of new developments/options for referral

Which is most true?

A. I have diagnosed and treated less than 5 patients with incontinence
B. I regularly diagnose and treat patients with incontinence but I feel unsure about my practice
C. I diagnose and treat regularly and feel confident with my practice
Female Urinary Incontinence

- An estimated 20 million American women struggle with urinary incontinence - around 50% of middle aged women, and 75% over the age of 75\textsuperscript{1}
- Projected costs for urge incontinence alone: $76.2 billion in 2015 in the US\textsuperscript{2}
- It leads to lower quality of life scores
- Urge incontinence increases risks for fractures and falls\textsuperscript{3}
- It really is a primary care problem!

If we don’t ask, they won’t tell

- “Do you have any bothersome leakage of urine?”
- Asking about bothersome symptoms increases treatment rates 15% in the elderly\textsuperscript{1}

Female Urinary Incontinence

- Transient
- Chronic
- Urge
- Stress
- Mixed
- Overflow
- Functional

Female Urinary Incontinence

- Transient
- Chronic
- Urge
- Stress
- Mixed
- Overflow
- Functional
Urge Incontinence/Overactive Bladder (UI/OAB)

- Detrusor muscle contracts more frequently/ at lower stimulatory threshold and leakage occurs
- Women feel the urge to urinate, but lack control to hold it until the ideal time.
- Frequency and nocturia can occur

Stress Incontinence (SUI)

- Sphincter/pelvic floor weakness gets overwhelmed by increased abdominal pressure and leakage occurs
- Symptoms occur with cough, sneeze, laugh, exercise, or change in position.

Mixed Incontinence

- Both stress + urge
- Focus on treating the more bothersome symptoms

The basics....

Jan is a 66 year old overweight female with hyperlipidemia and low back pain who complains of urinary leakage for several years, recently worsening. She leaks a few times per day and wears pads most of the time. She's pretty bothered by her symptoms and wants to know what can be done to help.
Female Urinary Incontinence

- Transient
- Chronic
  - Urge
  - Stress
  - Mixed
  - Overflow
  - Functional

Jan reports that she usually leaks when she laughs or coughs. She has cut back on aerobic exercise because jogging makes her leak too. She gets up to urinate once per night, and in the day, goes every 2 hours.

Question: What is the next best step?

A. Refer Jan for post void residuals and urodynamic testing to evaluate the cause of her incontinence
B. Diagnose her with urge incontinence
C. Diagnose her with stress incontinence
D. Order an MRI of her back to make sure her back pain and urinary incontinence is not cauda equina syndrome

Feel confident in your office diagnosis!

- Basic questions have fair to good sensitivity and specificity in differentiating causes of incontinence
- Post void residual are not needed
- Neurologic testing adds little in a relatively healthy outpatient without known neurologic disease
- Urodynamic testing does not improve outcomes for conservative treatments (and it is controversial for surgical options)
The Sensitivity and Specificity of a Simple Test To Distinguish between Urge and Stress Urinary Incontinence

<table>
<thead>
<tr>
<th></th>
<th>UI</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>0.75 (0.68-0.81)</td>
<td>0.86 (0.79-0.90)</td>
</tr>
<tr>
<td>Specificity</td>
<td>0.77 (0.69-0.84)</td>
<td>0.60 (0.51-0.68)</td>
</tr>
<tr>
<td>+ Likelihood ratio</td>
<td>3.29 (2.39-4.51)</td>
<td>2.13 (1.71-2.66)</td>
</tr>
<tr>
<td>- Likelihood ratio</td>
<td>0.32 (0.24-0.43)</td>
<td>0.24 (0.16-0.35)</td>
</tr>
</tbody>
</table>

Audience Question:

Jan is diagnosed with stress incontinence, and treatment is initiated. The most effective initial treatment based on high quality evidence to suggest for her is:

A. Tolterodine (Detrol) once daily
B. Mirabegron (Mybetriq) once daily
C. Pelvic floor muscle training
D. Intravesicular OnabotulinumtoxinA (Botox) injections
Pelvic Floor Muscle Training

- Stress, urge and mixed all show >50% reduction in incontinence episodes compared to no treatment, number needed to treat 3 (NNT 6 for full continence)¹
- Give a “Kegels Prescription” or refer to pelvic physical therapy. Handout available at: http://campuslifeservices.ucsf.edu/dmx/PatientEd/SDOBG0030.pdf

Lifestyle modifications

- Fluid management
- Consideration of dietary factors
- Timed voids
- weight loss and exercise reduce incontinence episodes in obese women (NNT 4)¹
- Bladder diaries alone can improve symptoms significantly

Pharmacologic Options: Stress

No FDA approved treatments
- off label duloxetine showed trend toward improvement
- off label vaginal estrogens show trend toward improvement

But neither has proven statistical significance
Pharmacologic Options: Urge

Isabel is a healthy 70 year old woman. She had struggled with daily urge incontinence. She complains that she gets little warning before she gets a strong feeling of needing to pee, and sometimes can’t make it to the bathroom. Regular kegels, fluid management, and timed voids helped reduce her leakage to about 5 episodes/day. She is still bothered enough to want to try more treatment. What is the next best choice for therapy?

A. Darifenacin (Enablex)
B. Mirabegron (Mybetrix)
C. Oxybutynin transdermal patch
D. Any of the above

![Graph showing percentages of effectiveness with Darifenacin (68%), Mirabegron (32%), and Oxybutynin transdermal patch (0%)]

Anticholinergics

- Side effects can be limiting
- Limited effectiveness- all seem to have similar effects, NNT 7-9 for improvement in UI
- NNH with side effects 7-12

- darifenacin (Enablex) ($290 branded only)
- fesoterodine (Toviaz) ($250 branded only)
- oxybutynin (Ditropan) XL ($210 branded, $100 generic)
- solifenacin (Vesicare) ($290 branded only)
- tolterodine (Detrol) ($240/mo generic, $320/mo branded)
- trospium (Sanctura) ($200/mo branded only)

Approximate monthly costs (data from uptodate.com 5/2015)
**Effects of Fesoterodine in Vulnerable Elderly Subjects**

- Anticholinergics
  - Continuation rates are only 12-40% at 1 year and 6-12% at 2 years across all drugs

**Mirabegron (Mybetriq)**
- Novel class of treatment
- NNT 12
- More favorable side effect profile
- Safe to combine with anticholinergics
- Cost is about $300/mo

**Next line therapies urge:**
Jan has tried long acting oxybutynin but experienced excessive dry mouth. She tried tolterodine but did not experience significant benefit in her symptoms. How should we next best help her:

A. Recommend the best brand of incontinence supplies
B. Refer her for percutaneous tibial nerve stimulation
C. Refer her for incontinence surgery
D. Refer her for pessary fitting
Next line therapies: UI

- Neuromodulation:
  - Percutaneous Tibial Nerve Stimulators
  - Sacral Nerve Stimulator
  - OnabotulinumtoxinA injections

- Surgery is generally NOT an option for urge incontinence

Percutaneous Tibial Nerve Stimulation

SUmiT Trial

Peters et al. Journal of Urology 2010

- Study of Urgent PC vs Sham Effectiveness in Treatment of Overactive Bladder Symptoms

SUmiT Results

Table 2. GRA improvement at 13 weeks compared to baseline

<table>
<thead>
<tr>
<th></th>
<th>No./Total (%)</th>
<th>No./Total (%)</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall bladder symptoms</td>
<td>63/110 (57.3)</td>
<td>23/110 (20.9)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Urinary urgency</td>
<td>44/103 (42.7)</td>
<td>24/105 (22.9)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Urinary frequency</td>
<td>43/103 (41.6)</td>
<td>23/105 (21.9)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Urinary urge incontinence</td>
<td>39/103 (37.9)</td>
<td>23/104 (22.1)</td>
<td>0.02</td>
</tr>
</tbody>
</table>

*Figure 1. PTNS (A) and sham (B) setup*
STEP trial

- 50 participants who benefited from the active arm of SUmiT
- Prospective monitoring
- Tapered protocol to approximately once monthly PTNS over 3 years

 Sacral Nerve Stimulators

Picture from webmd: http://www.webmd.com/urinary-incontinence-oab/ss/slideshow-overactive-bladder

Results of Sacral Neuromodulation Therapy for Urinary Voiding Dysfunction: Outcomes of a Prospective, Worldwide Clinical Study

Figure 2. GRA results by followup visit assessed using LVCF-ITT, per protocol and Bayesian estimates.
OnabotulinumtoxinA


Fig. 2 - Change from baseline in (A) daily average frequency of urinary incontinence (UI) episodes and (B) proportion of patients with a positive response (greatly improved or improved) on the treatment benefit scale in the intention-to-treat population. OnabotA = onabotulinumtoxinA.

\* p < 0.001.

Fig. 3 - Change from baseline in (A) Incontinence Quality of Life trial and domain scores and (B) Single Index Questionnaire single- and multi-item domain scores at week 12 in the intention-to-treat population. Shaded bars indicate the respective minimal important differences. OnabotA = onabotulinumtoxinA.

\* p < 0.05.
Next line options for Stress Incontinence

- Urethral Bulking Agents
- Pessary
- Surgery

Urethral Bulking Agents

Pessary for SUI

Surgical Options for SUI

- Surgical referral should be offered for fit patients with bothersome stress incontinence
- Cure rates of around 90% at 1 year
- Even in the elderly, cure rates of 55% at 5 years
Long-Term Outcomes after Stress UI Surgery
In Summary

- Urge and stress incontinence are easily differentiated in the office with simple questions
- First line therapy for both is pelvic floor muscle strengthening and lifestyle measures
- Pharmacologic options, PTNS, sacral nerve stimulators, or botox are options for UI treatment
- Consider bulking agents, pessary, or surgical referral for SUI

Questions?

References


7. Shamliyan et al. Nonsurgical Treatments for Urinary Incontinence in Adult Women: Diagnosis and Comparative Effectiveness. Comparative Effectiveness Reviews, No. 36 Minnesota Evidence-based Practice Center Rockville (MD): Agency for Healthcare Research and Quality (US); 2012 Apr. Report No.: 11(12)-EHC074-EF


