Managing urinary incontinence in the elderly

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Disclosure statement

Consultant, speaker and received honoraria from Pfizer, Astellas, Allergen, Watson and Ferring Pharmaceuticals
Learning Objectives

- To describe the evaluation of urinary incontinence (UI) in community-dwelling older adults
- To describe evidence-based management of the major subtypes of UI
- To discuss when to refer and who to refer to in the management of UI
- To compare and contrast the approach to UI in community-based older adults with those living in long-term care facilities
Mrs. S., 84 years old

- Urinary incontinence x 5 years, lives in a residence, uses a walker
- Leakage with urgency, 10x/day, 4x/night, occasionally while coughing
- Type 2 diabetes, hypertension, chronic venous insufficiency, chronic pain due to osteoarthritis in hands and knees, history of falls, very mild cognitive impairment, insomnia
- Drinks two cups of coffee and one cup of tea per day
- Medication:
  - Metformin and rosiglitazone for diabetes control
  - Nifedipine XL
  - Furosemide 20 mg po bid
  - Ibuprofen prn for arthritis pain
  - Lorazepam 0.5 mg po qhs for insomnia
What type of incontinence does Mrs. S. have?

A. Stress incontinence
B. Urgency incontinence
C. Mixed incontinence
D. Functional incontinence
E. Multifactorial incontinence
Mr. G., 81 years old

- UI x 6 months post-prostatectomy for prostate cancer, followed by radiation therapy
- Previously was active and well, in good health
- 6-8 episodes of incontinence per day with change in position, cough, lifting heavy objects, during long walks.
- Drinks 2 beers/day
- Medication
  - ACE inhibitor for high blood pressure
  - ASA after an angioplasty in 2007
- Now he is depressed and no longer leaves his apartment for fear of leaking in public and because of the odour
What type of incontinence does Mr. G. have?

A. Stress incontinence
B. Urgency incontinence
C. Mixed incontinence
D. Functional incontinence
E. Multifactorial incontinence
Mrs J., 91 years old

- Was living with her daughter, but recently admitted to long term care because of functional decline and worsening incontinence
- According to her daughter, Mrs J had worn pads for many years because of occasional episodes of urine loss
- One week ago there was a sudden change in Mrs J’s condition: she began losing her balance when walking, had difficulty dressing herself, could no longer prepare her meals, and leaked urine with urgency day and night every 2 hours
- Diabetes x 30 years poorly controlled, CVA x 9 months ago
- Her dose of hydrochlorothiazide was increased two weeks ago to better control her blood pressure
What type of incontinence does Mrs. J. have?

A. Stress incontinence
B. Urgency incontinence
C. Mixed incontinence
D. Functional incontinence
E. Multifactorial incontinence
Mr. R., 86 years old

- Resident in long term care, Alzheimer’s dementia, MMSE 14

- New urinary incontinence x 2 months, seems to be related to progressive cognitive and functional deficits

- Leakage occurs with sensation of urinary urgency, en route to the toilet

- At night, he wets his bed

- Donepezil 10 mg daily was started 3 months ago

- Walks with a walker, takes acetaminophen prn for arthritic pain, vitamin B12, and pantoprazole
What type of incontinence does Mr. R. have?

A. Stress incontinence
B. Urgency incontinence
C. Mixed incontinence
D. Functional/multifactorial incontinence
E. Incontinence due to chronic urinary retention
Take home message #1

Incontinence is a SYMPTOM

- Like chest pain, it needs to be characterized to identify where the dysfunction or underlying cause is.
To identify the TYPE of incontinence:

1) Ask questions

- Do you leak with laughing, coughing, sneezing, while making an effort (squatting, lifting heavy objects)?

- Do you ever feel such a strong urge to void that you leak on the way to the toilet?

- Do you have trouble rising from a chair, walking?

2) Use a bladder diary

Mrs. S’s bladder diary

<table>
<thead>
<tr>
<th>Time</th>
<th>DRINKS</th>
<th>TRIPS TO THE BATHROOM</th>
<th>DID YOU FEEL A STRONG URGE TO GO? (yes, no)</th>
<th>Urine leakage</th>
<th>Circumstances of urine leakage</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 a.m.</td>
<td>½ glass water</td>
<td>200 ml</td>
<td>yes</td>
<td>✓</td>
<td>On the way to the bathroom</td>
</tr>
<tr>
<td>7:00 a.m.</td>
<td>1 cup tea, ½ glass juice</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00 a.m.</td>
<td>1 glass water</td>
<td>75 ml</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00 a.m.</td>
<td>1 glass water</td>
<td>150 ml</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30 a.m.</td>
<td></td>
<td>75 ml</td>
<td>no</td>
<td>✓</td>
<td>Coughing</td>
</tr>
<tr>
<td>12 p.m.</td>
<td>1 cup tea, 1 glass milk</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 p.m.</td>
<td></td>
<td>100 ml</td>
<td>yes</td>
<td>✓</td>
<td>Running water, washing dishes</td>
</tr>
<tr>
<td>2:30 p.m.</td>
<td>½ glass water</td>
<td>150 ml</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:30 p.m.</td>
<td>1 cup tea</td>
<td>250 ml</td>
<td>yes</td>
<td>✓</td>
<td>Coming home from the store</td>
</tr>
<tr>
<td>5 p.m.</td>
<td>1 cup tea</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 p.m.</td>
<td>1 glass water</td>
<td>125 ml</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 p.m.</td>
<td>1 glass cola</td>
<td>125 ml</td>
<td>yes</td>
<td>✓</td>
<td>On the way to the bathroom</td>
</tr>
<tr>
<td>8 p.m.</td>
<td></td>
<td>100 ml</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 p.m.</td>
<td>1 glass water</td>
<td>150 ml</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midnight</td>
<td></td>
<td>300 ml</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 a.m.</td>
<td>Don’t know</td>
<td></td>
<td></td>
<td>✓</td>
<td>While asleep</td>
</tr>
<tr>
<td>3:30 a.m.</td>
<td>½ glass water</td>
<td>300 ml</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 a.m.</td>
<td></td>
<td>300 ml</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>11 cups (2625 mL)</td>
<td>11 daytime voids/4 nighttime voids. Vol 2400 mL</td>
<td>13 Urgency episodes</td>
<td>6 incontinence episodes</td>
<td></td>
</tr>
</tbody>
</table>
Take home message #2

Once you’ve identified the type of incontinence, you can look for the underlying CAUSE(s)

- Pathology outside the bladder
  - Comorbidity
  - Polypharmacy
  - Brain
  - Arms and legs

- Pathology in the bladder, surrounding nerves or pelvic floor muscles
Differential diagnosis of stress incontinence

- **Men:** post-prostatectomy
- **Women:**
  - Internal sphincter deficiency
  - Obesity
  - Family history (collagen disorder)
  - Weak pelvic floor muscles (external sphincter)
  - Pelvic surgery
  - Pelvic radiation
  - Urethral dilatation
  - Vesico-vaginal fistula
- **Certain medications**
Differential diagnosis of urgency incontinence

- **Bladder irritation**: urinary tract infection, polyp, bladder cancer, nephrolithiasis, inflammatory cystitis (*hematuria present*)
- **Central nervous system**: Neurodegenerative conditions (Parkinson’s disease, multiple sclerosis), normopressure hydrocephalus, CVA, tumour, dementia
- **Spinal cord lesion**: Stenosis (higher than S2), paraplegia, spinal cord tumours, metastases
- **Polyuria**: hyperglycemia, hypercalcemia, diabetes insipidus, excessive fluid consumption, alcohol or caffeine consumption, nocturia due to fluid redistribution or sleep apnea
- **Idiopathic**: Idiopathic detrusor overactivity
- **Medication**
Underlying cause of incontinence due to incomplete bladder emptying

**Impaired bladder contractility (detrusor underactivity):**
- Peripheral neuropathy
- Cauda equina syndrome
- Idiopathic detrusor underactivity
- Post-urinary tract infection in bedbound elderly
- **Medications**

**Obstruction:**
- Urethral obstruction caused by severe prolapse in women
- Prostatic obstruction in men
- Urethral stricture
Mechanisms through which polypharmacy can cause or exacerbate UI

- Increase urine production
- Interfere with sphincter function (alpha receptors, HRT)
- Interference with cerebral control of micturition
- Cholinergic antagonists or medications that increase cholinergic stimulation
Which of the following statements is false concerning medication use in the elderly?

A. ACE inhibitors and alpha-blocking agents can cause or exacerbate stress UI

B. Sulfonylurea oral hypoglycemic agents (i.e. glyburide), beta blockers and narcotics can all cause pedal edema and contribute to nocturia

C. Antihistamines can cause impaired bladder emptying and have been shown to increase sedation, indirectly contributing to nocturnal enuresis

D. Loop diuretics are associated with urinary urgency and frequency
Causes of UI in the elderly

Healthy, Active, Autonomous, not frail

Multiple chronic conditions, living in the community, 1-10 medications, some disability but relatively autonomous, pre-frail

Multiple cumulative deficits and medication, home or long term care, dementia, frail

UI etiology and management same as in mid-life

UI etiology may extend beyond the lower urinary tract, look for other contributing factors

UI etiology and management multifactorial, NOT at all the same as in mid-life

Dubeau et al. N & U 2010;29:165-178
Mrs. S., 84 years old – multifactorial incontinence

- Urinary incontinence x 5 years, lives in a residence, uses a walker
- Leakage with urgency, 10x/day, 4x/night, occasionally while coughing
- Type 2 diabetes, hypertension, chronic venous insufficiency, chronic pain due to osteoarthritis in hands and knees, history of falls, very mild cognitive impairment, insomnia
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  - Nifedipine XL
  - Furosemide 20 mg po bid
  - Ibuprofen prn for arthritis pain
  - Lorazepam 0.5 mg po qhs for insomnia
Physical exam

- Difficulty getting up from a chair, undresses slowly
- Slow gait
- 2+ bilateral pedal edema
- Mini-mental cognitive exam 26/30
- Sacral innervation intact
- No vaginal prolapse, moderate atrophy
- Weak pelvic floor muscles
- Positive stress test in the upright position
- Post-void residual urine volume 45 mL
- Renal function normal
- Urinalysis positive, culture shows E. Coli x 10^5 cfu/ml
Take home message #3

No need to refer!
- 95% of cases can be managed in primary care

REFER to a urologist or urogynecologist
- Only if hematuria in the absence of infection (cystoscopy to rule out bladder cancer)
- Only if female patient with pure stress incontinence who is contemplating surgery
- Only if male patient in whom you suspect a prostate problem requiring surgery (urodynamics may be required)
- Complex neurological patients (consider neurology consult)
How would you treat Mrs. S’s incontinence?

A. Start by reducing her dose of furosemide, taper lorazepam, D/C rosiglitazone, substitute nifedipine, prescribe elastic stockings

B. Eliminate caffeinated beverages, Treat bacteriuria

C. Substitute acetaminophen, physiotherapy or heat for arthritis pain to improve her mobility

D. Recommend pelvic floor muscle exercises and bladder retraining

E. All of the above
## What is the evidence?

<table>
<thead>
<tr>
<th>Treatment strategy</th>
<th>Level of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiotherapy for stress and urgency incontinence</td>
<td>Level 1 evidence: Women who perform pelvic floor muscle exercises are more likely to improve incontinence</td>
</tr>
<tr>
<td>Weight loss</td>
<td>Level 1 evidence: Loss of 7-8% of initial body weight reduces incontinence by up to 50%</td>
</tr>
<tr>
<td>Bladder retraining for urgency incontinence</td>
<td>Level 1 evidence: Bladder retraining is as effective as drug therapy in older women for reducing urgency incontinence</td>
</tr>
<tr>
<td>Antimuscarinic therapy for urgency incontinence</td>
<td>Level 1 evidence: In older adults, antimuscarinic agents decrease incontinence by 1 episode more per day compared to placebo, and can achieve dryness in 1/10 individuals</td>
</tr>
<tr>
<td>Prompted voiding in patients with mild-moderate dementia</td>
<td>Level 1 evidence: Improves incontinence with or without associated exercise program in targeted individuals</td>
</tr>
<tr>
<td>High caffeine intake (&gt;400mg/d)</td>
<td>Level 2 evidence: Association with urge UI (OR 2.4; 95% CI 1.1-6.5). Replace with non-caffeinated beverages</td>
</tr>
<tr>
<td>Comprehensive geriatric assessment (all of the above plus medication adjustment and attention to functional factors)</td>
<td>Level 4 evidence: 25% of patients have symptom resolution and 50% report improvement in symptoms</td>
</tr>
</tbody>
</table>

Mrs. S: 6 month follow up

- Urinary incontinence much improved

- Current medication:
  - Metformin 750 mg bid
  - Bisoprolol 5 mg qd
  - Furosemide 10 mg qd
  - Acetaminophen 500 mg prn

- Still complains of urinary urgency 6x/day and 3x/night with leakage half the time
Drug therapy for urgency incontinence
Drug therapy for urgency urinary incontinence

Two targets:

- Reduce the strength and frequency of bladder contractions during the voiding phase
  - Antimuscarinic agents
  - Botulinum toxin

- Enhance bladder relaxation during the bladder storage phase
  - Beta₃ receptor agonists (Mirabegron recently approved in Canada)
Neurologic Innervations and the Micturition Reflex

**SYMPATHETIC (Beta)**
- Located throughout the bladder, more densely populating the dome and less dense in the trigone

**PARASYMPATHETIC (Cholinergic)**
- Located throughout the “body” of the bladder, trigone and bladder neck

- Mirabegron (agonist)
- NAd
- \(\beta_3\)-adrenergic receptor
- Antimuscarinics (antagonist)
- \(M_2/M_3\) muscarinic receptor
- Detrusor smooth muscle
- (Relaxation)
- (Contraction)

References:
## Choice of pharmacologic therapy

**antimuscarinic agents**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oxybutynin</strong></td>
<td>Immediate release (Ditropan®) 2.5 to 5 mg BID-TID. Extended release (Ditropan XL ®): 5 to 30 mg daily. Oxytrol® patch: 3.9 mg twice weekly. Gel form (Gelnique®): 1 g qd</td>
<td>Central nervous system adverse effects have been described with the immediate release form of oxybutynin 5 mg bid or tid. The immediate release form also has the highest rate of dry mouth (60%). The patch and gel have the lowest rate of dry mouth (&lt;10%). Metabolized by CYP 3A4</td>
</tr>
<tr>
<td><strong>Tolterodine</strong></td>
<td>Immediate release (Detrol®): 1 to 2 mg BID. Extended release (Detrol LA®): 2 to 4 mg daily.</td>
<td>Rare cases of confusion, dizziness and drowsiness, tachycardia have been reported. Potential drug-drug interactions via the CYP2D6 and 3A4 system</td>
</tr>
<tr>
<td><strong>Fesoterodine</strong></td>
<td>(Toviaz®) 4 to 8 mg daily</td>
<td>A prodrug that is converted to 5-HMT that does not require initial activation by the CYP450 system. Appears safe and effective in the elderly.</td>
</tr>
<tr>
<td><strong>Darifenacin</strong></td>
<td>(Enablex®) 7.5 to 15 mg daily</td>
<td>More bladder selective. No effect on memory testing. Metabolized by the CYP450 system. Safe and effective in the elderly.</td>
</tr>
<tr>
<td><strong>Solifenacin</strong></td>
<td>(Vesicare®) 5 to 10 mg daily.</td>
<td>More bladder selective. Potential for drug-drug interactions, tachycardia, and constipation.</td>
</tr>
<tr>
<td><strong>Trospium chloride</strong></td>
<td>Immediate release Trosec ® 20 mg BID.</td>
<td>Shown to have low central nervous system penetration. Must be taken in the fasting state. In patients with a creatinine clearance &lt;40 ml/min, prescribe 20 mg daily only of the immediate release form. Contraindicated in patients with a creatinine clearance &lt;30 ml/min.</td>
</tr>
</tbody>
</table>
Side effects of antimuscarinic therapy

Only 30-40% of patients persist with antimuscarinic therapy at one year because of side effects!

- Dry mouth and constipation most common

- Dry eyes and blurry vision
- Dry mouth
- Tachycardia
- Dyspepsia
- Constipation
- Urinary retention

Dizziness, effect on memory
What about in the Frail Elderly?

562 frail elderly with urgency urinary incontinence, average age 75 (range 65-91) with a mean of 8-9 health conditions, 1-in-4 taking ≥ 11 meds

DuBeau et al., J Urol 2013 ePub ahead of print

Mean change from baseline in UUI Episodes/24 h

Week 4

Placebo (n=248)

Fesoterodine (n=255)

Week 12

Placebo (n=250)

Fesoterodine (n=256)

3-day diary dry-rate at 12 weeks

36% in placebo group
51% in fesoterodine 4 mg/8 mg

DuBeau et al., J Urol 2013 ePub ahead of print
Antimuscarinics and Cognition

ALL HAVE AFFINITY FOR M₁ RECEPTORS IN THE BRAIN

Oxybutynin
\[ M_3 > M_1 > M_2 \]

Fesoterodine & Tolterodine
Non-selective

Solifenacin
\[ M_3 > M_1 > M_2 \]

Darifenacin
\[ M_3 >>>>> M_1 \]

Trospium
Non-selective

NO EVIDENCE THAT ANY OF THE ANTIMUSCARINIC AGENTS CONSISTENTLY IMPAIR COGNITION EXCEPT OXYBUTYNNIN AT HIGH DOSES

No relationship between anticholinergic medication and delirium?

147 patients ≥ 65 years old admitted to hospital WITHOUT delirium

<table>
<thead>
<tr>
<th></th>
<th>Developed delirium n=33</th>
<th>Did not develop delirium n=114</th>
</tr>
</thead>
<tbody>
<tr>
<td>No new ACB medication</td>
<td>36%</td>
<td>64%</td>
</tr>
<tr>
<td>New prescription of “possible” ACB</td>
<td>20%</td>
<td>80%</td>
</tr>
<tr>
<td>New prescription of “definite” ACB</td>
<td>20%</td>
<td>80%</td>
</tr>
</tbody>
</table>

ACB = Anticholinergic Cognitive Burden (SAA + cognitive SE)

Cognitive continuum

Normal Age-related changes

Mild cognitive impairment

Dementia (Alzheimer’s, Vascular, Lewy Body)

Consistent evidence that antimuscarinics are safe

Emerging evidence that antimuscarinics are safe

One controlled clinical trial indicates that antimuscarinics do not worsen memory


Can cholinesterase inhibitors be combined with anticholinergics in patients with dementia?

Acetylcholinesterase inhibitors increase acetylcholine levels

Anticholinergic drugs decrease acetylcholine neurotransmission

Combined use of ChI with overactive bladder medications may worsen function

Change in activity of daily living score in fairly independent nursing home residents with dementia (top quartile)

In high-functioning nursing home residents, dual use of cholinesterase inhibitors and overactive bladder medications may result in greater rates of functional decline.

Many of the overactive bladder medications are metabolized by the CYP450 Hepatic Pathway.

<table>
<thead>
<tr>
<th>Therapy</th>
<th>CYP2D6</th>
<th>CYP3A4</th>
<th>Bioavailability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tolterodine</td>
<td>✓</td>
<td>✓</td>
<td>&gt;77%</td>
</tr>
<tr>
<td>Darifenacin</td>
<td>✓</td>
<td>✓</td>
<td>15-19%</td>
</tr>
<tr>
<td>Oxybutynin</td>
<td>–</td>
<td>✓</td>
<td>6%</td>
</tr>
<tr>
<td>Solifenacn</td>
<td>–</td>
<td>✓</td>
<td>90%</td>
</tr>
<tr>
<td>Fesoterodine</td>
<td>Elimination only</td>
<td>Elimination only</td>
<td>52%</td>
</tr>
<tr>
<td>Mirabegron</td>
<td>✓</td>
<td>✓</td>
<td>35%</td>
</tr>
<tr>
<td>Trosapium chloride</td>
<td>–</td>
<td>–</td>
<td>&lt; 10%</td>
</tr>
</tbody>
</table>
Pharmacological treatment algorithm for the use of antimuscarinics in the elderly

Multimorbidity/Polypharmacy

- Not frail
- Frail

ANY OF THE ANTIMUSCARINIC AGENTS*

Pre-existing constipation
- Oxybutynin patch or gel
- Mirabegron?

Pre-existing dry mouth
- Oxybutynin patch or gel

High potential for pharmacokinetic drug-drug interactions
- Trosplum chloride (CrCl)

Dysphagia or excessive polypharmacy
- Oxybutynin patch or gel

WOULD NOT USE OXYBUTYNIN IR > 10 mg/day
Mrs. S: 6 month follow up

- Urinary incontinence much improved
- Current medication:
  - Metformin 750 mg bid
  - Bisoprolol 5 mg qd
  - Furosemide 10 mg qd
  - Acetaminophen 500 mg prn

- Still complains of urinary urgency 6x/day and 3x/night with leakage half the time

- Wants to continue doing pelvic floor muscle exercises under the supervision of a physiotherapist
Percutaneous tibial nerve stimulation or sacral nerve stimulators

Preliminary evidence suggests that PTNS once weekly for 30 minutes X 12 weeks may reduce urgency symptoms.

Schreiner et al. Urogynecol J 2010
She is very satisfied – still doing pelvic floor muscle exercises and using urge suppression techniques.

Incontinence and urinary urgency almost completely resolved (except when she drinks tea).

Nocturia 2x/night

Current medication:
- Metformin 750 mg bid
- Bisoprolol 5 mg qd
- Furosemide 10 mg qd
- Acetaminophen 500 mg prn
Mr. G., 81 years old

- UI x 6 months post-prostatectomy for prostate cancer, followed by radation therapy
- Previously was active and well, in good health
- 6-8 episodes of incontinence per day with change in position, cough, lifting heavy objects, during long walks.
- Drinks 2 beers/day
- Medication
  - ACE inhibitor for high blood pressure
  - ASA after an angioplasty in 2007
- Now he is depressed and no longer leaves his appartment for fear of leaking in public and because of the odour
- Physical exam: normal except for weak pelvic floor muscles and a positive stress test
Distribution of UI sub-types in men

- Predominance of urge UI (40-80%)
  - Confusion with irritative symptoms of BPH (frequency, urgency, nocturia)
- Mixed UI (10-30%)
- Stress UI (<10%)
  - UI post-prostatectomy
    - 1% following TURP for benign disease
    - 2-60% post radical prostatectomy for prostate cancer (median values 10-15%)
  - Underestimated by as much as 75% when surgeons are asked, rather than the patients themselves
Treatment

- 12-week trial of physiotherapy to increase pelvic floor muscle strength
- Eliminate alcoholic beverages, which may contribute to urgency
- Substitute beta-blocker for ACE inhibitor to treat his high blood pressure, to avoid cough-induced leakage

6-month follow-up: Incontinence greatly improved, occasional leakage when lifting heavy objects but is very satisfied
Mrs J., 91 years old

- Was living with her daughter, but recently admitted to long term care because of functional decline and worsening incontinence
- According to her daughter, Mrs J had worn pads for many years because of occasional episodes of urine loss
- One week ago there was a sudden change in Mrs J’s condition: she began losing her balance when walking, had difficulty dressing herself, could no longer prepare her meals, and leaked urine day and night every 2 hours
- Diabetes x 30 years poorly controlled, CVA x 9 months ago
- Her dose of hydrochlorothiazide was increased two weeks ago to better control her blood pressure
Physical examination

- Unable to complete MMSE, laughs inappropriately, refuses to answer some questions
- Sacral innervation intact
- 4/5 weakness in her left leg, left Babinski
- Frontal release signs
- Unsteady, wide-based gait
- Stress test negative

- Urogynecologic exam is normal
- Post-void residual urine volume is normal
Diagnosis and treatment

- Brain imaging reveals a new lacunar infarct in the right frontal lobe

- Diagnosis = Acute urgency incontinence due to new cerebrovascular accident (on a background history of chronic stress incontinence). Poor diabetes control.

- Treatment = Prompted voiding, increase metformin, control risk factors for stroke, lifestyle changes

- Would not be compliant with physiotherapy or bladder retraining

- Could consider antimuscarinics – no evidence
Mr. R., 86 years old

- Resident in long term care, Alzheimer’s dementia, MMSE 14
- New urinary incontinence x 2 months, seems to be related to progressive cognitive and functional deficits
- Leakage occurs with sensation of urinary urgency, en route to the toilet
- At night, he wets his bed
- Donepezil 10 mg daily was started 3 months ago
- Walks with a walker, takes acetaminophen prn for arthritic pain, vitamin B12, and pantoprazole
Mr. R. = Treatment

- Would not prescribe a cholinesterase inhibitor and an anticholinergic together

- Re-evaluate efficacy of the cholinesterase inhibitor

- Institute prompted voiding
Take home messages

- Determine the type of UI first!
- Make a list of ALL underlying contributing factors and address each one
- Try conservative management first
- If urgency incontinence and no response to conservative treatment, select antimuscarinic agent based on patient profile
Questions

Thank you!