Overactive Bladder:
Fighting the Urge

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Joan's case

Joan is a 61-year-old G3P3 who presents with urinary incontinence which has been present for two to three years. It has gotten particularly worse over the past 18 months.

Joan says she wears a pad all the time, which she wets daily, and explains she can't "hold it" on the way to the bathroom.

Her urinary frequency during the day is hourly and she voids four times during the night. She's also had annoying urgency, as well as a couple episodes of enuresis over the past six months. In addition, she had two urinary tract infections in the past four months.

Review of systems is significant for hypertension. Current medications include:

- hydrochlorothiazide,
- metoprolol, and
- olanzapine.

Joan's fluid intake consists of five cups of coffee and two alcoholic beverages per day. She smokes half a pack of cigarettes daily. Over the past two years, she has gained 20 lbs.

Overactive bladder (OAB) affects approximately 16% of the middle-aged and elderly populations and is a leading public health problem.[1-3]

Primary caregivers can screen patients in an initial workup (history, focused physical exam, urinalysis, and post-void residual) to differentiate reversible causes of urinary incontinence (UI) from other causes requiring specialized testing.

Treatment based on a presumed diagnosis by history and screening tests may be initiated. If treatment fails, or a diagnosis cannot be reached, the next step is to refer the patient for urodynamic tests to clarify the diagnosis and direct further management. Effective treatment is based on a combination of:

- pelvic floor exercises,
- bladder retraining,
- fluid management, and
- anticholinergic medication.

Table 1

Reversible conditions that cause or contribute to UI

- **Conditions affecting the lower urinary tract:**
  - Urinary tract infection
  - Urethritis
  - Atrophic vaginits/urethritis
  - Pregnancy/vaginal delivery
  - Stool impaction
- **Drug side-effects**
- **Increased urine production**
  - Metabolic (hyperglycemia, hypercalcemia)
  - Excess fluid intake
  - Volume overload
- **Impaired ability or willingness to reach washroom**
  - Delirium
  - Chronic illness, injury, or restraint that interferes with mobility
  - Psychologic

UI: Urinary incontinence

Table 2

Helpful questions in the evaluation of OAB

1. Do you ever have such a strong need to urinate that, if you don't reach the washroom, you will leak?
2. If "yes" to #1, do you ever leak before you reach the washroom?
3. How many times during the day do you urinate?
4. How many times do you void during the night after going to bed?
5. Have you wet the bed in the past year?
6. Do you develop an urgent need to urinate when you are nervous, under stress, or in a hurry?
7. Do you ever leak during or after sexual intercourse?
8. How often do you leak?

OAB: Overactive bladder

What is the prevalence of OAB?

The prevalence of OAB increases with age. European population survey results indicate that up to one in five people over 40, and up to 50% of people over 75 have OAB. Women are twice as likely as men to suffer from this condition and the prevalence increases significantly in institutionalized individuals compared with community dwellers.[4-7]

What causes OAB?

OAB is a term commonly used to refer to the triad of urinary frequency, urgency, and urge incontinence. The new International Continence Society definition of urinary urge incontinence is the complaint of involuntary leakage of urine accompanied by or immediately preceded by urgency.[8] Patients may initially present with urinary frequency and urgency before they actually experience episodes of urge incontinence.

Reversible causes of OAB are listed in Table 1.

A small proportion of OAB is attributable to upper motor neuron disease, such as stroke, Parkinson's disease, or multiple sclerosis. However, the vast majority of patients have idiopathic OAB, which is a very treatable condition.

How is OAB diagnosed?

A focused urinary history may suggest a diagnosis of OAB. Symptoms such as sensory urgency, urge incontinence, diurnal and nocturnal frequency, and enuresis are all associated with OAB. Helpful ques-

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tions in evaluating UI in women are shown in Table 2.

In addition to a focused urinary history, medical, surgical, gynecologic, and obstetric histories should be obtained. Bowel habits should be evaluated, as chronic constipation has been associated with voiding dysfunction and urgency. Previous radiation to the pelvis and/or previous retropubic or vaginal surgery can play a role in the patient's symptoms.

Assessment of the patient's medications will yield information on the function of the detrusor and urinary sphincter mechanism. It may be possible to alter a patient's medications to achieve a therapeutic effect and avoid side-effects on the urinary tract. Table 3 is a list of common medications that can affect lower urinary tract function.

Table 3

Medications that can exacerbate UI

Type of medication	Lower urinary tract effects
Diuretics	Polyuria, frequency, urgency
Caffeine	Frequency, urgency, diuresis
Alcohol	Sedation, impaired mobility, diuresis
Alpha-adrenergic blockers	Sphincter relaxation with urinary leakage
Beta-adrenergic blockers	Sphincter contraction with outflow obstruction
Sedative-hypnotics	Depressed central inhibition of micturition

UI: Urinary incontinence

A thorough physical exam should be carried out, including:

- neurologic assessment of the vulva and perineum;
- gynecologic exam to rule out atrophy, prolapse, and pelvic masses; and
- rectal exam to rule out fecal impaction.

Post-void residual urine should be measured and sent for urinalysis, culture, and sensitivity.

How is OAB treated?

Once transient causes of incontinence have been ruled out and the presumptive diagnosis of OAB is more suspect, a trial of anticholinergic therapy may be undertaken. However, it is important to educate patients about:

- pelvic floor exercises,
- bladder retraining with timed micturition and double voiding, and
- lifestyle changes that may significantly improve their symptoms.

Kegel exercises may be taught in the office during pelvic exam or by instructing the patient to try squeezing her muscles to avoid passing gas. Several sets of Kegels should be performed throughout the day. Kegels can help to control the flow of urine, as well as improve bladder capacity.

Bladder retraining with timed micturition and double voiding is another adjunct to treatment. A slow, but steady improvement in symptoms is usually achieved. Patients should be warned that, since the problem did not develop acutely, overnight success with these therapies is not expected.

Anticholinergic medications, particularly those specific to the M3 detrusor receptors, play an important role in managing OAB. Patients often ask if they will need to remain on anticholinergic therapy for life. Although OAB is a chronic condition, the adoption of

Table 4

Indications for consultation and/or specialized testing in patients with UI

- Uncertain diagnosis
- Treatment failure
- Inconsistency between symptoms and clinical findings
- Patient unsatisfied with extent of treatment success
- Multiple medications with lower urinary tract side-effects
- Recurrent urinary tract infection
- Voiding dysfunction
- Previous anti-incontinence surgery, radical pelvic surgery, or pelvic radiation
- Severe pelvic prolapse or moderate, but symptomatic prolapse
- Abnormal post-void residual urine
- Neurologic condition, such as multiple sclerosis, stroke, Parkinson's, spinal cord injury
- Fistula
- Urethral diverticulum
- Non-infectious microscopic hematuria

UI: Urinary incontinence

healthy lifestyle choices (such as ensuring a good neutral fluid intake, avoiding caffeine and smoking, limiting alcohol, and maintaining ideal body weight) may yield enduring improvements in these symptoms and give patients a greater sense of control. Prior to initiating medications, the patient's current medications should be reviewed and contraindications, such as glaucoma, should be identified.

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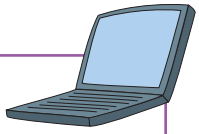

1. The Canadian Continence Foundation: *www.continence-fdn.ca*
2. The International Continence Society: *www.continet.org*
3. The International Urogynecological Association: *www.iuga.org/home.php*

What about urodynamic testing?

Any diagnosis of UI based on clinical data alone leaves a margin of uncertainty. If the risk of continued treatment is low and cost is contained, sophisticated testing may not be warranted. However, situations may arise where consultation and/or urodynamic testing should be considered (Table 4). Dx

References

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