Urinary Incontinence in the Geriatric Patient

Neil Baum, MD

CASE PRESENTATION
A 68-year-old African-American woman with hypertension controlled with thiazide diuretics presents for her annual examination. She has had four previous vaginal deliveries and a hysterectomy 22 years before. On the genitourinary review of systems, she reports occasional involuntarily losses of urine 4-8 times per day when she coughs, lifts, bends over, or laughs, requiring the use of perineal pads. She also has daytime urinary frequency and nocturia 3-4 times per night, which was stated in a voiding diary. The physical examination reveals atrophic vaginitis and a small cystocele. Her urinalysis was negative for glucose or pyuria. She admits that the incontinence is bothersome and would like to be treated for this condition.

DISCUSSION
Urinary incontinence (UI), the unintentional leakage of urine at inappropriate times, is a classic syndrome in geriatric medicine. It affects approximately 15 million persons in the United States, most of whom are older adults.\(^1\)

Urinary incontinence affects up to one-third of the noninstitutionalized adult population age 65 years and older, with 25-30% of these individuals having frequent UI episodes. Urinary incontinence may vary from nonsignificant to severe, causing extreme activity limitation to social isolation. Because UI impacts function, it is a primary indicator of decline in elderly persons. In addition to its social and physical impact, UI also has a significant financial impact; in 1995, the annual direct cost of UI in the United States was an estimated $16.3 billion.\(^2\)

In spite of the ubiquitous presence of UI, it is frequently not investigated by physicians caring for elderly patients. This may be a result of a patient’s embarrassment, the erroneous belief that UI is a natural consequence of aging, or a physician’s lack of knowledge regarding the treatment and management of UI.

Urinary incontinence has important medical, psychosocial, and economic implications. Medically, incontinence is associated with decubitus ulcers, urinary tract infections (UTIs), sepsis, renal failure, and increased mortality. The social implications of incontinence include loss of self-esteem, restriction of social and sexual activities, depression, and, in severe cases, dependence on caregivers. Incontinence is often a key factor in the decision to place elderly persons in nursing homes.\(^3\)

IMPACT OF URINARY INCONTINENCE ON QUALITY OF LIFE
Persons with UI report a decrease in their quality of life, including daily activities such as work, travel, social interaction, physical activity, sexual function,
and sleep. The negative impact of incontinence has been well documented in recent studies using validated questionnaires. Patients with UI were found to have a lower quality of life in social and functional domains than patients with diabetes. Data from the National Overactive Bladder Evaluation (NOBLE) program showed that men and women with UI had clinically and statistically significant lower quality of life, lower depression status, and poorer quality of sleep than did controls after adjusting for comorbid illnesses.

COMORBIDITIES ASSOCIATED WITH URINARY INCONTINENCE

Not only does UI diminish overall quality of life, but its prevalence can also create additional health problems for the individual. Studies have identified UI as a predictor of recurrent falls and fractures in the elderly. The odds ratio of a hip fracture in elderly women with UI was twice that found in the general population. Women with UI had a 26% greater risk of sustaining a fall and a 34% greater risk of fracture.

Persons with nocturia may report lack of energy, chronic fatigue, and difficulty performing daily activities. Nocturia has been shown to correlate with reduced quality of life, disturbed sleep, and poor health.

There is a strong association between depression and UI. The prevalence of depression was highest among patients with idiopathic urge incontinence (60%) and those with mixed incontinence (44%), which exceeded controls (17%), patients with stress incontinence (14%), and those with urge incontinence associated with neurologic disease (8%) or bladder outlet obstruction (33%). Patients with urge incontinence were more likely to have depression as a risk factor than controls, and in patients with idiopathic urge incontinence the relationship was the most marked.

TYPES OF URINARY INCONTINENCE

Incontinence can be divided into transient and sustained incontinence. There are three basic types of sustained UI: (1) urge incontinence, also referred to as overactive bladder (OAB); (2) stress incontinence, which results from decreased resistance in the urethra caused by malfunction of the urethral sphincter and leads to urine leakage from the bladder when intra-abdominal pressure increases; and (3) overflow incontinence, which is most common in men with obstruction and is usually a result of benign prostatic hyperplasia (BPH).

Urge incontinence is a common problem that increases in frequency and severity with advancing age. However, stress incontinence is the most prevalent form of incontinence in geriatric patients. Many elderly patients, particularly women, have “mixed incontinence,” in which urge and stress incontinence coexist.

Transient incontinence is uncommon in younger persons but common in the elderly, in whom it should always be considered. The reversible causes can be recalled using the mnemonic DIAPPERS (misspelled with an extra P): Delirium, Infection (symptomatic urinary tract), Atrophic urethritis and vaginitis, Pharmaceuticals, Psychiatric disorders (especially depression), Excessive urine output (eg, from hyperglycemia, excessive fluid intake), Restricted mobility, and Stool impaction. Diagnosis and treatment of the underlying cause(s) are necessary.

Drugs commonly associated with incontinence include diuretics, as in the case patient, nonsteroidal anti-inflammatory drugs, dihydropyridine calcium channel blockers, alpha-adrenergic agonists, anticholinergics, antidepressants, antipsychotics, sedative-hypnotics, antihistamines, central nervous system depressants, narcotics, alcohol, and beta-adrenergic blockers.
EVALUATION OF URINARY INCONTINENCE

The single most important aspect in evaluating patients who may have UI is to establish that no other potentially treatable cause of the symptom complex exists. At minimum, a thorough history, physical examination (which includes a pelvic exam, a digital rectal exam, and an examination of the lower abdomen to palpate the bladder above the pubic bone for evidence of overflow incontinence), and urinalysis are required before initiating therapy.

A voiding diary spanning a 48- to 72-hour duration is also often helpful to determine micturition frequency, number/type of incontinent episodes, and total urinary volume. The diary and questionnaire are helpful not only in dictating appropriate therapy, but also as an outcome tool to demonstrate responsiveness to treatment.

TREATMENT OF URINARY INCONTINENCE

Urge incontinence

The treatment for urge incontinence consists of behavior therapy with or without anticholinergic therapy. Behavioral therapy consists of timed voiding by the clock and biofeedback exercises to help the patient control the urge to void. Anticholinergic medication has been the mainstay of treatment using oxybutynin, tolterodine, trospium, darifenacin, or solifenacin. Most of these anticholinergic medications have side effects consisting of dry mouth, constipation, and blurred vision. The drugs are contraindicated in men with outlet obstruction, in patients with a history of gastrointestinal obstruction, and in all patients with narrow angle glaucoma.

Stress incontinence

Mild-to-moderate stress incontinence can be treated with Kegel exercises and bladder training. Alpha-adrenergic agonists may help the patient with very mild stress incontinence. For patients with atrophic vaginitis, topical estrogens should be used. However, this treatment option requires daily exercises for several months before results are achieved. For more severe incontinence, surgery is required to reposition the urethra and bladder neck to the normal anatomical positions. The other option for stress incontinence in female patients who cannot tolerate surgery is the use of a vaginal pessary.

Overflow incontinence

This type of incontinence can be managed initially with a Foley catheter, or the highly motivated patient can perform intermittent catheterization. Since this condition is most common in men with enlarged prostate glands, surgical relief of obstruction is usually performed with transurethral resection of the prostate or one of the minimally invasive therapies, which include transurethral microwave thermotherapy, transurethral needle ablation of the prostate, or laser vaporization of the prostate gland.

INDICATIONS FOR UROLOGIC REFERRAL

Most patients with UI can be managed by a primary care physician after a history, physical, and urinalysis is conducted. Urologic referral is indicated in patients who have failed pharmacologic management, patients who might have a neurogenic bladder (cerebrovascular accident, diabetes with peripheral neuropathy, or multiple sclerosis), patients with overflow incontinence, patients with recurrent UTIs, hematuria, azotemia, or significant anatomic defects such as pelvic prolapse. These patients usually will require imaging studies and a urodynamic assessment.

OUTCOME OF THE CASE PATIENT

The patient was found to have persistent mixed UI with both urge and stress incontinence and transient
incontinence secondary to atrophic vaginitis, which was exacerbated with the use of diuretic medication. She was treated with an anticholinergic drug, smooth muscle relaxant, tolterodine, and topical estrogens. She was also instructed to take her diuretic medication early in the morning, and to begin a program of Kegel exercises to help increase the urethral resistance in her urethral sphincter. After several months of therapy, she noted marked improvement in her UI, with a decrease in her daytime frequency, a decrease in her nocturia, and a decrease in her stress incontinence, requiring only the use of a pantyliner for social occasions.

The author reports no relevant financial relationships.

REFERENCES