

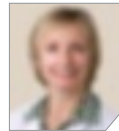


PELVIC FLOOR DYSFUNCTION

Two recent studies of overactive bladder and urge incontinence treatments address the value of behavioral management and oxybutynin's impact on cognition in the elderly



>> John P. Judd, MD
Dr. Judd is a Fellow in Urogynecology and Reconstructive Pelvic Surgery, Department of Obstetrics and Gynecology, Duke University Medical Center, Durham, NC.



>> Cindy L. Amundsen, MD
Dr. Amundsen is Associate Professor and Fellowship Director, Division of Female Pelvic Medicine and Reconstructive Surgery, Department of Obstetrics and Gynecology, Duke University Medical Center, Durham, NC.

The authors report no financial relationships relevant to this article.

IN THIS ARTICLE

6 pillars of behavioral tx for urge incontinence

page 24

Does oxybutynin accelerate cognitive decline and provoke falls?

page 27

Overactive bladder (OAB)—urinary urgency, with or without incontinence, usually with frequency and nocturia¹—is a common problem among women who seek care from an ObGyn. In fact, the condition is estimated to carry a health-care cost in excess of \$12 billion annually in the United States.²

A recent community-based survey in Norway estimated the prevalence of urinary incontinence there to be 27% in women between the ages of 65 and 69 years and 35% to 40% in those 80 years or older.³ A population-based study in the United States suggested an even higher rate of urinary incontinence here: greater than 50% in women 60 years or older, with **1)** urge urinary incontinence (UUI) predominating⁴ and **2)** the prevalence particularly high among older women who are homebound or who live in a long-term care facility.⁵

OAB can undermine quality of life in several ways: social isolation, anxiety, poor

sleep, higher risk of fracture after a fall,⁶ reduced ability to function, and poor self-perception. Despite these harmful effects, many women delay seeking care for OAB because they are embarrassed to talk about it with their physician.

Treatment by generalists is feasible—but there is a catch

It's possible to treat most patients with OAB without referral to a specialist. Two common concerns, however, may set up a roadblock to successful management: the adverse effects associated with some agents and suboptimal control of symptoms.

In this Update, we review recent findings about **1)** the potential that anticholinergic therapy has for impairing cognitive function in the older population of women and **2)** the important role that concomitant behavioral therapy plays in the long-term success of, and patients' satisfaction with, treatment of OAB.

Behavioral therapy for OAB: Is it worth all the effort?

Burgio KL, Locher JL, Goode PS. Combined behavioral and drug therapy for urge incontinence in older women. J Am Geriatr Soc. 2000;48:370-374.

The authors of this article followed a randomized clinical trial of older women that compared behavioral and drug therapy for OAB. In the trial, biofeedback-assisted



6 tenets of behavioral therapy for urge urinary incontinence

Fluid management

This first-step therapy can involve providing a handout to the patient that details techniques she can use to monitor and control her fluid intake in a manner that addresses her problem. Among such steps:

- avoiding caffeine and artificial sweeteners
- tracking her diet to identify any other bladder irritants
- limiting fluids before times she is more likely to be incontinent—during a long drive, for example, or, in the case of nocturia, after the evening meal.

Scheduled voiding

With scheduled, or prompted, voiding, the patient empties her bladder at a set interval—usually, every 1.5 to 2 hours. If nocturia, or the more severe enuresis, is a problem, the patient can be prompted by an alarm clock or (if she is institutionalized) by nursing staff. Combining scheduled voiding with fluid management principles helps the patient avoid reaching a

bladder volume at which an episode of incontinence becomes more likely.

Bladder training

This is a modification of scheduled voiding that attempts to establish a normal voiding interval in patients who have significant frequency but a small voided volume. It imposes a regimented voiding schedule that gradually (over 7 to 10 days) extends the duration between voids.

Pelvic floor-muscle exercises

The focus here is on using pelvic-floor muscles to prevent incontinence. The muscles are strengthened by having the patient perform **Kegel exercises** (named for Arnold H. Kegel, MD, who, in 1948, recognized the role of pelvic floor-muscle rehabilitation in the treatment of incontinence). The exercises involve simultaneous **1)** contraction of the pelvic and periurethral musculature and **2)** relaxation of other muscles, including abdominal muscles, which can increase pressure on the bladder.

Once the patient learns to perform Kegel exercises, she can use them to suppress urgency: Instead of hurrying to the bathroom when urgency arises, she is encouraged to sit down, relax, and contract the pelvic-floor muscles repeatedly until the urge to void diminishes. Once it does, the patient proceeds to the toilet to void normally.

Pelvic exam

By self-exam, the patient can identify and familiarize herself with her purposeful contractions of the pelvic-floor musculature and thereby strengthen those muscles with effective exercise.

Biofeedback

Direct feedback about contractions of the pelvic-floor muscles—by a display of data on a gauge or computer monitor, gathered using an intravaginal or anorectal sensor or probe—allows a patient who is exercising those muscles to better target her efforts and maximize their effectiveness.

behavioral training (comprising anorectal biofeedback, urge strategies, pelvic muscle biofeedback, and practitioner-directed review with optimization) was compared with treatment with oxybutynin, between 2.5 and 15 mg/day. Both biofeedback-assisted behavioral therapy and the drug regimen were found effective, although neither treatment provided an entirely satisfactory result for all patients. (For a brief description of what constitutes behavioral treatment, see “6 tenets of behavioral therapy for urge urinary incontinence.”)

Second phase of the trial. To determine if treatment satisfaction could be enhanced, the investigators performed a modified crossover study to determine whether combination therapy—biofeedback-assisted be-

havioral training **plus** oxybutynin—added any benefit over treatment with behavioral therapy or drug therapy alone. Eligibility was determined by age (55 years or older), demonstrated UUI for at least 3 months, and incomplete dryness or incomplete satisfaction with the outcome of 8 weeks of single-intervention treatment (with either treatment) during the initial phase of the trial.

This subgroup was offered an additional 8 weeks of combination therapy. The primary outcome measure was a reduction in the frequency of episodes of incontinence episodes as recorded by subjects in a bladder diary.

Of 197 women who participated in the original randomized clinical trial, 35—27 who completed drug therapy and 8 who



completed behavioral treatment—elected to receive combination therapy. Those 35 subjects did not differ in any of the multiple baseline variables; mean age was 69.3 years (standard deviation [SD], ±7.9 years).

Among subjects originally assigned to behavioral therapy alone, overall reduction in incontinence increased from a mean of 57.5% to a mean of 88.5% after combined therapy ($P = .034$). Subjects originally assigned to drug therapy alone demonstrated an improvement from 72.7% reduction in incontinence to a mean 84.3% overall reduction with combined therapy ($P = .001$).

These data suggest that combined therapy can be more effective than behavioral therapy or drug therapy alone. The impact of this study is limited, however, by the relatively low percentage (12.7%) of patients who had received behavioral therapy and chose to add drug therapy, compared with the 41.5% who moved from drug therapy alone to add behavioral therapy.

Furthermore, subjects were self-selected: They chose to continue with an additional 8 weeks of therapy after their initial suboptimal outcome. It is possible that some subjects who were neither totally continent nor completely satisfied with initial therapy chose not to continue with the crossover segment of the trial because it posed too great a burden or because they were discouraged with the initial degree of improvement.

Generalizing these results to all older women with UUI is difficult. The authors point out, however, that, in practice, patients may be more likely than not to choose combination therapy in the hope of shortening

the duration of medical therapy. Although it isn't known whether providing combination therapy from the outset would have yielded better outcomes than either single therapy did, the authors hypothesize that initial combination therapy may result in greater improvement because patients have a high level of motivation and expectation of improvement at the beginning of treatment.

Importance of this article. The investigators demonstrated that a combination of behavioral and drug therapies can provide increased effectiveness in patients for whom each treatment alone led to suboptimal satisfaction. Furthermore, by targeting women older than 55 years, the investigators were able to demonstrate this effectiveness in a group for whom pelvic-floor training may be more difficult than it is for younger women.

It will be interesting to see if future research will 1) validate these findings and 2) determine whether combined therapy can reduce the duration of drug therapy in this older population through behavioral modification and pelvic floor reeducation.

FAST TRACK

Combining an anticholinergic and behavioral therapy may treat urge incontinence more effectively than either modality alone in women who are dissatisfied with single therapy

WHAT THIS EVIDENCE MEANS FOR PRACTICE

Combining behavioral therapy and an anticholinergic medication for urge urinary incontinence may yield a superior result after either modality alone has been disappointing by the patient's account of success.

>> JOHN P. JUDD, MD, AND
CINDY L. AMUNDSEN, MD

In months ahead, look for these Updates

NOVEMBER

Osteoporosis

Steven R. Goldstein, MD

DECEMBER

Urinary incontinence

Marie Paraiso, MD, and Jhansi Reddy, MD

Does oxybutynin for UUI further erode cognition in elderly women who are cognitively impaired?

Lackner TE, Wyman JF, McCarthy TC, Monigold M, Davey C. Randomized, placebo-controlled trial of the cognitive effect, safety, and tolerability of oral extended-release oxybutynin in cognitively impaired nursing home residents with urge urinary incontinence. *J Am Geriatr Soc.* 2008;56:862-870.

Although anticholinergic therapy is modestly effective against UUI in nursing home residents, past studies have suggested that such treatment can impair, or further impair, cognition in this population—a concern that may lead to underuse. This double-blinded, randomized, placebo-controlled trial compared short-term oral extended-release oxybutynin with placebo.

Consequently, the authors sought to determine the cognitive effect, safety, and tolerability of 5 mg/day oral extended-release oxybutynin (the most commonly prescribed dosage) in cognitively impaired older nursing home residents who have UUI.

Subjects were eligible if they:

- were 65 years or older
- had UUI
- lived in a nursing home longer than 3 months
- had cognitive impairment.

Women already being treated for urinary incontinence, those who had an indwelling Foley catheter or urinary retention, and those who were bed-bound or incommunicative were excluded.

Fifty women, mean age 88.6 years (SD, ± 6.2), from 12 nursing home facilities, agreed to participate. They were further stratified based on the score of a Mini-Mental State Exam (MMSE): 13 had severe cognitive impairment (MMSE score, 5-10) and 37 had mild or moderate impairment (score, 11-23).

Subjects were randomized to 4 weeks' treatment with either 5 mg/day oral ex-

tended-release oxybutynin or one placebo tablet daily. A nurse practitioner who was blinded to randomization collected all data. The Confusion Assessment Method (CAM) algorithm, MMSE, and Severe Impairment Battery (SIB) were used to assess cognitive decline. The Brief Agitation Rating Scale (BARS) assessed agitation.

No baseline differences were noted with regard to: age; demographic, functional, and neuropsychiatric characteristics; clinical factors predisposing to delirium; and serum anticholinergic activity. Adherence was similar in the treatment (97%) and placebo (97.4%) groups.

Finding: Cognitive impairment. Treatment and placebo groups in the baseline mild-or-moderate stratum (by MMSE) showed equivalent mean changes in CAM scores at all time points. Because of the small sample size, however, CAM score equivalence could not be definitively determined for the groups in the severe impairment stratum. Evaluation of mean MMSE and BARS scores showed no significant changes between groups.

Finding: Tolerability. Excellent tolerability was noted in the treatment group: 96% of subjects completed the trial (compared with 92% of the placebo group). No difference in the rate of adverse events was noted between treatment and placebo groups; of adverse events recorded, 90% were judged "mild" by the investigators. Constipation and dry mouth were most common.

Finding: Falls. More than half—54%—of subjects in both groups experienced at least one fall during the trial or during the preceding or following 3 months. Despite this, no difference in the rate of falls between the treatment and placebo groups was noted. Furthermore, regression analysis revealed



Oxybutynin for urge incontinence did not increase the rate of falls among subjects—cognitively impaired female residents of a nursing home



no treatment or period effect on falls per month across the time of observation.

Conclusions. Treatment with 5 mg/day oral extended-release oxybutynin in older patients with some cognitive impairment is well tolerated, the study's findings suggest, with minimal risk of further cognitive decline or delirium over the short term. The potential that long-term therapy has to harm cognitive function remains, however; data on long-term treatment are needed to illuminate that area.

The authors also address the importance of dosing, especially over time, and discuss the lower potential of newer-generation anticholinergics to produce cognitive impairment.

A limited number of articles in the medical literature address anticholinergics in an older population, specifically, and only a few of those evaluated the effects of the drugs on cognitive function. By investigating patients who had an existing cognitive impairment, the authors of this article were able to target a cohort at risk of further cognitive impairment from medication use—thereby giving further weight to their findings of no significant effect.

Main strengths and limitations of the study.

The investigators used validated, standardized cognitive tests that were administered by a uniform blinded evaluator in a randomized, controlled trial. The study was limited, however, because patients were evaluated only over a relatively short period (1 month) and because the efficacy of therapy was not addressed.

Further studies of anticholinergic medications, using the same rigorous scientific approach that these investigators applied, are needed to address 1) the long-term efficacy of oxybutynin and similar agents and 2) the cognitive effects of long-term treatment in this older population. ❌

WHAT THIS EVIDENCE MEANS FOR PRACTICE

Further impairment is unlikely over the short term when a cognitively impaired nursing home patient who has urge urinary incontinence is treated with 5 mg/day oral extended-release oxybutynin.

» JOHN P. JUDD, MD, AND
CINDY L. AMUNDSEN, MD

FAST TRACK

You can prescribe oxybutynin for urge incontinence in nursing home residents who exhibit some cognitive decline with little worry that the drug will accelerate that decline significantly

References

1. Abrams P, Cardozo L, Fall M, et al. The standardisation of terminology of lower urinary tract function: report from the Standardisation Sub-committee of the International Continence Society. *Am J Obstet Gynecol.* 2002;187:116-126.
2. Hu TW, Wagner TH, Bentkover JD, et al. Estimated economic costs of overactive bladder in the United States. *Urology.* 2003;61:1123-1128.
3. Hannestad YS, Rortveit G, Sandvik H, Hunskaar S. A community-based epidemiological survey of female urinary incontinence: the Norwegian EPINCONT study. *Epidemiology of Incontinence in the County of Nord-Trøndelag.* *J Clin Epidemiol.* 2000;53:1150-1157.
4. Melville JL, Katon W, Delaney K, Newton K. Urinary incontinence in US women: a population-based study. *Arch Intern Med.* 2005;165:537-542.
5. Fantl JA, Newman DK, Colling J, et al. Managing Acute and Chronic Urinary Incontinence. Clinical Practice Guideline. Quick Reference Guide for Clinicians, No. 2, 1996 Update. Rockville, MD: US Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research. AHCP R Pub. No. 96-0686. January 1996. Available at: <http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat6.chapter.32554>. Accessed September 11, 2009.
6. Brown JS, Vittinghoff E, Wyman JF, et al. Urinary incontinence: does it increase risk for falls and fractures? Study of Osteoporotic Fractures Research Group. *J Am Geriatr Soc.* 2000;48:721-725.

We want to hear from you!

Have a comment? Drop us a line and let us know what you think.

- 1 E-mail obg@dowdenhealth.com
- 2 Fax 201-391-2778
- 3 Mail OBG Management
110 Summit Ave.
Montvale, NJ 07645

Letters should be addressed to the Editor, OBG MANAGEMENT, and be 200 words or less. They may be edited prior to publication.