

PRESENTING SYMPTOMS AND MANAGEMENT OF COUGH-INDUCED DETRUSOR CONTRACTIONS

Hypothesis / aims of study

Urinary incontinence associated with coughing is generally classified as stress urinary incontinence. However, in some women, coughing may trigger an immediate involuntary detrusor contraction, resulting in urine leakage. It may be difficult to distinguish between true stress urinary incontinence and cough-induced detrusor contractions based solely on symptoms. Treatment for stress urinary incontinence in women who actually have cough-induced detrusor contractions may result in unnecessary surgery and unsatisfactory results. Identification of variables associated with a urodynamic diagnosis of cough-induced detrusor contractions may be useful in deciding which women with symptoms suggestive of stress urinary incontinence require further evaluation before initiating treatment.

The aims of this study were to describe:

- variables associated with a urodynamic diagnosis of cough-induced detrusor contractions
- presenting symptoms of women with cough-induced detrusor contractions
- treatment outcomes of women with this condition.

Study design, materials and methods

All cases of cough-induced detrusor contractions were identified from a retrospective chart review of all multi-channel urodynamic evaluations performed at the division of urogynecology between 2003 and 2005. Cough stress tests were performed during urodynamic testing at 300 cc of bladder filling. Cough-induced detrusor contractions were defined as a rise in detrusor pressure (> 20 cm H₂O) without an associated rise in abdominal pressure within 1 second of a cough. Leakage of urine associated with cough-induced detrusor contractions occurred throughout the duration of the contraction. Diagnosis of coexisting stress urinary incontinence was made when leakage was also observed with coughing in the absence of a detrusor contraction. On the other hand, when spontaneous detrusor contractions were observed unrelated to a cough, the diagnosis of coexisting detrusor overactivity was made. Additional data recorded included demographic variables, past medical history, findings on examination as well as treatment modality and outcome.

Results

Of 617 women who underwent urodynamic evaluation, 14 were diagnosed with cough-induced detrusor contractions. The mean age of these predominately postmenopausal subjects was 59.4 years (range 49-72). Mean parity was 3.1 (range 0-6). Three subjects (21.4%) had undergone previous prolapse or incontinence repair. Three more subjects had neurologic conditions.

Presenting complaints were: prolapse symptoms (N=2), stress urinary incontinence (N=3), urge urinary incontinence (N=2), and mixed urinary incontinence (N=7). On initial exam, 6 (42.9%) subjects had a positive cough stress test. The clinical diagnosis of stress urinary incontinence or mixed urinary incontinence was made in 13 (92.9%) subjects. The diagnosis of cough-induced detrusor contractions alone was made based on urodynamic testing in 8 (57.2 %) women. In addition, 3 (21.4%) subjects had cough-induced detrusor contractions and stress urinary incontinence and 3 had cough-induced detrusor contractions and detrusor overactivity. Of the 6 subjects who had a positive cough stress test on initial exam, 3 had cough-induced detrusor contractions and stress urinary incontinence and 3 had only cough-induced detrusor contractions.

All subjects were treated conservatively with behavioral management. Ten subjects additionally received anticholinergic therapy. One woman with concomitant stress urinary incontinence underwent placement of a tension-free vaginal tape and one was fitted with a continence ring. Both were dry at the time of follow-up. A third woman with concomitant stress urinary incontinence desired no additional treatment. Five women with advanced pelvic organ prolapse underwent reconstructive surgery without continence repair. All were dry or improved at the time of follow-up. Overall, at the time of follow-up, 8 subjects were dry and 6 were substantially improved and satisfied with the treatment result.

Interpretation of results

Incontinence due to cough-induced detrusor contractions was not associated with any presenting symptom or clinical finding. Based on symptoms and physical exam alone, most subjects with cough induced detrusor instability would have been diagnosed as having stress urinary incontinence and treated as such. However, treating cough-induced detrusor contractions as detrusor overactivity resulted in good symptomatic control, thereby avoiding surgical intervention for most subjects.

Concluding message

The majority of women diagnosed with cough-induced detrusor contractions had symptoms consistent with a clinical diagnosis of stress or mixed urinary incontinence. Treatment of cough-induced detrusor contractions as detrusor overactivity resulted in improvement or cure in all women.

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