Voiding Function and Dysfunction, Bladder Physiology and Pharmacology, and Female Urology

Re: Underactive Bladder, Detrusor Underactivity, Definition, Symptoms, Epidemiology, Etiopathogenesis, and Risk Factors

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Abstract available at http://www.ncbi.nlm.nih.gov/pubmed/28221218

Editorial Comment: This article is as good as it gets with respect to a short, understandable, well referenced summary of various aspects pertaining to the latest "buzz word category" among lower urinary tract dysfunction enthusiasts, underactive bladder. As a definition, the authors propose "a symptom complex suggestive of detrusor underactivity, which is usually characterized by prolonged urination time with or without a sensation of incomplete bladder emptying, usually with hesitancy, reduced sensation on filling and a slow stream." They point out that the symptoms are often indistinguishable from those caused by other lower urinary tract dysfunctions. They cite studies showing that for patients with nonneurogenic lower urinary tract symptoms undergoing urodynamic studies the prevalence of detrusor underactivity (in my opinion a poorly defined urodynamic concept) is 9% to 28% in men less than 50 years old and 48% in men over age 70 years. In "older" women data are cited for a prevalence ranging from 12% to 45%. The "cause" can be either neurogenic, myogenic or a combination, or idiopathic. The authors cite the urodynamic definitions of projected isovolumetric pressure and bladder contractility index, which broadly classify at least men with a value of less than 100 as having weak bladder contractility. That is quite a range, and I suspect that there is a big difference between individuals at both ends of the spectrum.

Currently these parameters seem to be utilized only for men, and different authors have proposed different parameters to define the entity of detrusor underactivity in women. Unfortunately there has been little discussion or exposition as to exactly what this designation, either symptomatic or urodynamic, means in an individual patient. Does it place restrictions or caveats with respect to pharmacological or surgical management of overactive bladder, bladder outlet obstruction, stress urinary incontinence and various gradations of urinary retention? What is the natural history of this in men and women along various points of the spectrum of this condition? The urodynamic definition for men and women and the methodology to determine this have to be sharpened, and the pertinent questions alluded to need to be a focus of discussion for the terms describing this entity to have real meaning.

Alan J. Wein, MD, PhD (hon)

Re: Perioperative Complications of Conduit Urinary Diversion with Concomitant Cystectomy for Benign Indications: A Population-Based Analysis

E. T. Brown, D. Osborn, S. Mock, S. Ni, A. J. Graves, L. Milam, D. Milam, M. R. Kaufman, R. R. Dmochowski and W. S. Reynolds

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Editorial Comment: This interesting article from Vanderbilt examined a representative sample of patients undergoing urinary diversion for benign indications identified from the Healthcare Cost and Utilization Project Nationwide Inpatient Sample from 1998 to 2011. Note that this summary report concerns only the individual hospital stay, and a followup study is planned to evaluate readmission data at long-term followup, which would be especially important in this group of patients. There were 15,717 records for urinary diversion identified, 4,247 with cystectomy and 11,470 without. The most common indications were neurogenic bladder, irradiation cystitis, interstitial cystitis and fistula. The raw complication rate was 35% for urinary diversion with vs 30.6% without cystectomy. However, after multivariate logistic regression cystectomy was associated with an odds ratio of 1.23. The following were associated with a postoperative complication: obesity (OR 1.48), pulmonary circulatory disease (OR 2.03), drug abuse (OR 2.10), weight loss (OR 2.35), and fluid and electrolyte disorders (OR 1.61). The most common type of complication was gastrointestinal (16.2% in the cystectomy group and 14.7% in the noncystectomy group). The rate of urinary complications was 6.3% with cystectomy and 6.7% without. "Other infections" were noted in 6.6% of the cystectomy group and 5.2% of the noncystectomy group. Although the cystectomy group appeared marginally worse in terms of complications that occurred during the operative hospitalization, it would be interesting to see what happens to the noncystectomy patients following the procedure and equally interesting to hear how the bladders in these patients are being followed.

Alan J. Wein, MD, PhD (hon)

Suggested Reading

Neulander EZ, Rivera I, Eisenbrown N et al: Simple cystectomy in patients requiring urinary diversion. J Urol 2000; **164:** 1169.

Re: Best Practice Policy Statement on Urodynamic Antibiotic Prophylaxis in the Non-Index Patient

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Editorial Comment: This article details the results of a best practice policy panel convened by the Society of Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction on the use of antimicrobial prophylaxis during urodynamic testing, with special attention for patients that fall outside the definition of an index patient. Recommendations were formulated based on a review of the literature from 1996 through 2014 for adult patients and the expert opinions of the panel. Levels of evidence were assigned based on the Oxford scale, and this grading was used to guide final recommendations. In all there are 19 recommendations dealing with various situations but the authors wisely add at the end, "The decision to use antimicrobial prophylaxis in urodynamic studies, and the selection of agent and dosing, can start with guidelines presented in this document. The appropriate use of antimicrobial prophylaxis in an individual patient requires consideration of not only these guidelines, but a comprehensive evaluation of the patient's specific circumstances and the provider's clinical judgment."

All who do urodynamics or supervise them should read this article. A summary of pertinent points are as follows: 1) all patients should be screened for symptoms of infection and undergo dipstick urinalysis; 2) in patients with a symptomatic infection urodynamics should be delayed until the patient completes treatment; 3) the first choice for prophylaxis is a single oral dose of trimethoprim-sulfamethoxazole before urodynamics with alternative antibiotics chosen in case of allergy or intolerance; 4) individuals who do not require routine prophylaxis include those without diabetes, those without relevant genitourinary anomalies, those with prior genitourinary surgery, those with a history of recurrent infection, postmenopausal women, patients who were recently hospitalized, and patients with cardiac valvular disease and nutritional deficiency or obesity; 5) periprocedure