

Urodynamics in Male LUTS



When Are They Necessary and How Do We Use Them?

Lindsey Cox, MD^{a,*}, William I. Jaffe, MD^b

KEYWORDS

- Urodynamics • Benign prostatic enlargement • Benign prostatic obstruction
- Lower urinary tract symptoms • Transurethral resection of the prostate

KEY POINTS

- There is no effective method of diagnosing benign prostatic obstruction (BPO) other than pressure flow urodynamics (PFUDS).
- The outcomes for surgical outlet reduction are worse for patients who do not demonstrate outlet obstruction on PFUDS.
- Patients with male lower urinary tract symptoms (MLUTS) prefer a shared problem-solving and decision-making model when evaluating treatment strategies.

INTRODUCTION

Lower urinary tract symptoms (LUTS) are a frequently encountered constellation of symptoms that consist of deviations from the usual storage and emptying functions of the lower urinary tract. The term *male lower urinary tract symptoms* describes an older male presenting with LUTS and implies no particular cause of these symptoms. This index patient has been depicted as a middle-aged or elderly man (often >50 years) with bothersome dysfunction of urinary storage, voiding, and/or the postmicturition period that often consists of a combination of frequency, urgency, nocturia, as well as hesitancy, weak stream, and feeling of incomplete emptying. Because an enlarged prostate gland that causes obstruction of the urinary outflow is the most likely cause of these symptoms, the term *benign prostatic hyperplasia*

(BPH) has historically been attached to these symptoms. More recently, the terms *benign prostatic enlargement* (BPE) and *benign prostatic obstruction* (BPO) have largely taken the place of BPH, a term limited to the histologic proliferation of smooth muscle and epithelial cells in the prostate gland. It is difficult to define what characterizes clinically significant MLUTS, but patient-reported bother certainly plays the central role in clinical decision making. Because bother, prostate size, and urodynamically proven outflow obstruction are not always well correlated, it is not possible to make assumptions that LUTS occurring in men are explained by BPO caused by BPE. Therefore, the identification of causes of non-BPO MLUTS is a key component of each step of the evaluation of these patients. For the purposes of this article, all patients who present like the index patient are considered: with bothersome MLUTS without known cause, but

Disclosures and Conflicts of Interest: None.

^a Female Pelvic Medicine and Reconstructive Surgery, Department of Urology, University of Michigan, 3875 Taubman Center, 1500 East Medical Center Drive, SPC 5330, Ann Arbor, MI 48109-5330, USA; ^b Division of Urology, Department of Surgery, Perelman Center for Advanced Medicine, University of Pennsylvania, West Pavilion, 3rd Floor, 3400 Civic Center Boulevard, Philadelphia, PA 19104, USA

* Corresponding author.

E-mail address: lmennen@med.umich.edu

Urol Clin N Am 41 (2014) 399–407

<http://dx.doi.org/10.1016/j.ucl.2014.04.009>

0094-0143/14/\$ – see front matter © 2014 Elsevier Inc. All rights reserved.

statistically likely to be caused by BPO. Although the focus is on the role of urodynamics (UDS) in adding value to the evaluation of the patient with MLUTS suggestive of BPO, the value of UDS in identifying other causes of LUTS is also considered.

Describing the epidemiology and natural history of the problem of MLUTS is somewhat complicated by the way in which MLUTS is defined because of the use of data from studies of patients with BPH. There are biases present when extrapolating data from clinical trial populations, and testing for BPE, BPO, or histologic BPH would be invasive and costly; therefore, prostate and/or outlet obstruction is not necessarily the cause of LUTS in all patients in these calculations. It is reasonable to examine the efficiency and effectiveness of care for patients with MLUTS by starting with the evaluation of an undifferentiated symptomatic index patient, not the patient with definitive MLUTS with BPO. It is accepted that MLUTS is a common problem that deserves our attention. In the United States, moderate to severe LUTS was approximated to occur in 6.7 million of the 27 million men aged 50 to 79 years in the year 2000.¹ In the United Kingdom between 1992 and 2001, the prevalence of LUTS in a general practice population was around 3.5% for men in their 40s, increasing to greater than 30% for men older than 85 years.² In Sweden, a population study of 40,000 men aged 45 to 79 years showed 18.5% of men having moderate symptoms and 4.8% having severe LUTS.³ Wei and colleagues¹ also note that the significant variation in the management of patients with MLUTS is a concern for the quality of care for this condition.

The focus on when UDS is necessary in MLUTS and how it is used boils down to the value that these studies add for shared decision making with patients and for determining the effectiveness of therapy. Educating patients on the various tradeoffs within treatment choices helps meet the objectives for treating MLUTS: improving patients' quality of life by relief of bothersome symptoms, avoiding morbidity, and potentially slowing disease progression. Ideally, each individual could be accurately diagnosed, the outcomes of conservative management or active treatments could be predicted, and the chance of success could be maximized while minimizing adverse events, costly repeat evaluations, re-treatment, and failures—thus theoretically improving both patient and provider satisfaction. Avoiding the morbidities of BPO including acute or chronic urinary retention, the need for catheterization, and the attendant problems therein, urinary tract infections (UTIs), obstructive uropathy, and urinary calculi

should also be considered benefits of appropriate treatment. The authors' objective is to define the role of UDS in the current diagnostic algorithm and treatment of MLUTS in general, and especially MLUTS that is nonneurogenic, not associated with malignancy or other comorbid conditions, and not caused by infection, trauma, medications, radiation, or surgery.

Clinical guidelines are a valuable source of aggregated data and current expert opinion on the evaluation and treatment of MLUTS. The American Urological Association (AUA) and has published updated guidelines in the past 3 years that discuss the role of UDS in the diagnosis and workup of MLUTS, especially in the context of BPO.⁴ The AUA/SUFU (Society of Urodynamics, Female Pelvic Medicine and Urogenital Reconstruction) Guidelines on Urodynamics in Adults also addresses this issue.⁵ In addition, the 6th International Consultation on Urologic Diseases (ICUD) consensus document was developed in 2005 and later summarized by Abrams and colleagues⁶ providing the basis for many of the subsequent algorithms. It is useful to examine these guidelines and review the evidence that led to their adoption so that one can apply these guidelines to the appropriate populations in practice. These guidelines characterize the specific index patient to which they apply, and understanding when UDS is recommended and also where patients come to intervention points with multiple options in an algorithm, or fall off the algorithm altogether, can help define when urodynamic evaluations provide value.

The 6th International Consultation on New Developments in Prostate Cancer & Prostate Diseases took place in 2005, and the consensus document on "Male Lower Urinary Tract Dysfunction: Evaluation and Management" was published in 2006 and summarized by Abrams and colleagues⁶ in 2009. The guidelines on "Evaluation and Treatment of Lower Urinary Tract Symptoms in Older Men" delineate a basic evaluation of the index patient including history, assessment of symptoms and bother, physical examination and digital rectal examination, urinalysis, serum prostate-specific antigen levels, and frequency-volume charts. For patients considering active treatment, the panel also recommends symptom quantification with validated questionnaires (I-PSS, ICIQ-MLUTS, and DAN-PSS-1), flow rate recording, postvoid residual (PVR), prostate imaging via ultrasonography, upper tract imaging and endoscopy under certain circumstances, and pressure flow studies (PFSs), which are recommended before invasive therapy in men with a maximum urinary flow rate (Q_{max}) greater than 10 mL/s. The argument made is that flow rates above this level raise suspicion

Download English Version:

<https://daneshyari.com/en/article/4275181>

Download Persian Version:

<https://daneshyari.com/article/4275181>

[Daneshyari.com](https://daneshyari.com)