

Overactive Bladder and the Definition of Urgency

By all accounts, urinary urgency is the most bothersome of lower urinary tract symptoms and it is the cornerstone of the diagnosis of overactive bladder (OAB). The definitions of urinary urgency and that of OAB, though, have been the source of some controversy and, in our opinion, are much too restrictive. It is the purpose of this article to offer a broader definition of both of these terms and to propose a grading system for urgency and a classification system for OAB. Most importantly, we propose that OAB should be considered a symptom complex, not a syndrome. A symptom complex has a differential diagnosis that should be explored in a timely fashion either before or after empiric therapy has failed. A syndrome implies that treatment should be empiric and that further diagnostic evaluation is not necessary.

The International Continence Society^{1,2} defines OAB as “urgency, with or without urge incontinence, usually with frequency and nocturia... if there is no proven infection or other etiology.” More specifically, the ICS refers to this constellation of symptoms as the

...overactive bladder syndrome... These symptom combinations are suggestive of urodynamically demonstrable detrusor overactivity, but can be due to other forms of urethro-vesical dysfunction. These terms can be used if there is no proven infection or other obvious pathology. Urge syndrome or urgency-frequency syndrome are described as synonyms of OAB.

Since urgency is the sine qua non for a diagnosis of OAB, we shall begin our discussion with its definition. In a position paper, Chapple et al.³ specifically stated that

it is important to differentiate between ‘urge’ which is a normal physiologic sensation, and urgency which we consider pathological. Central to this distinction is the debate over whether urgency is merely an extreme form of ‘urge’. If this was a continuum, then normal people could experience urgency, but in the model we propose, urgency is always abnormal.”

This distinction between urge and urgency, though, is based on the authors’ opinion, not on peer reviewed data and we respectfully disagree for several reasons. As defined, urgency is an all or none phenomena; there can be no gradations of “a sudden compelling desire to void.” In contrast, we believe that there are gradations of urgency and, to this end we have proposed a grading system,⁴ the urge perception scale (UPS), which is based on the original work of DeWachter and Wyndale.⁵ The UPS (Table I) describes the reason why a person voids. Grade 4 urgency is identical to the ICS definition, but we consider grade 3 to also be urgency and, grade 2, waiting too long, also results in urgency; albeit, in most instances, this is not due to any pathology. For example, if a person experiences the gradual onset of a strong desire to void over the course of 1 hr after his last micturition, and it gradually becomes “compelling” and “difficult to defer” and

the volume of urine in his bladder is only 60 ml, we suspect all experts would agree that sensation is pathologic and should be considered a severe symptom, yet it does not conform to the current definition of urgency (and there is no other word that conveys this meaning).

The UPS may be used in a number of ways—to grade the degree of urge that a person usually experiences prior to voiding, a method of grading each micturition (as part of a bladder diary) or as a nomenclature for describing symptoms, e.g., the patient complains of type 3 urgency.

Even the ICS Standardization document itself recognizes that urgency may be graded. In the discussion of the bladder diary, it states the “bladder diary... records the times of micturitions and voided volumes... and other information such as... the degree of urgency...” At the present time, we are aware of only one other validated instrument that is designed to grade urgency, the urgency severity score (USS).⁶ The USS grades urgency, per toilet void, as none, mild, moderate, or severe, and, by implication, supports our contention that the sensations describing the urge to void are a continuum.

The definition of OAB requires that there is “no proven infection or other pathology.” This implies that if there is an underlying pathology that causes the symptoms, the condition is not OAB. That might be acceptable if there were some other ICS sanctioned word to describe the permutations of symptoms that accompany “other pathologies,” but there is not! For example, the majority of men with prostatic obstruction have exactly the same symptoms described as OAB,⁷ but since there is “other pathology,” the term OAB does not apply. This much more than a semantic argument; it has important medical implications. If one considers OAB a syndrome as the ICS requires, it presupposes that there is no underlying pathology and no differential diagnosis to consider. But there is a differential diagnosis for these symptoms and we believe that a proper evaluation should be undertaken to discover them in a timely fashion. Most algorithms for OAB recommend a basic evaluation to consist of a focused history and examination, bladder diary, and urinalysis. A more detailed diagnostic evaluation is only recommended after treatment failure, if there is microhematuria or an obviously elevated residual urine.¹⁴

Consider the following scenario. A patient presents with OAB and has a normal urinalysis. He or she could be

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TABLE I. The Urge Perception Scale

What is the reason you usually urinate?
 Grade 0: Out of convenience? (No urge)
 Grade 1: Mild urge (can hold >1 hr)
 Grade 2: Moderate urge (can hold >10–60 min)
 Grade 3: Severe urge (can hold <10 min)
 Grade 4: Desperate urge (must go immediately)

empirically treated with behavior modification for 4–6 weeks followed by each of the six commercially available anti-muscarinics for 4–6 weeks each for a total of 7 months of unsuccessful treatment before being considered a treatment failure. Only then would a proper evaluation be done and a differential diagnosis be considered. There is, in fact, a well-known differential diagnosis for OAB symptoms, the most important of which is bladder cancer (even without hematuria) and, in our judgment, 7 months is simply too long to wait to diagnose bladder cancer. For this reason, believe that OAB should be considered a symptom complex (with a differential diagnosis) and not a syndrome.

The OAB symptom complex can be caused by one or more of the following conditions: detrusor overactivity, sensory urgency, low bladder compliance, and polyuria. Sensory urgency is a term, abandoned by the ICS, that refers to an uncomfortable need to void that is unassociated with detrusor overactivity. Conditions causing and/or associated with OAB are diverse as depicted in Table II.^{15–17} In patients with OAB, diagnostic evaluation should be directed at early detection of these conditions, because in many instances the symptoms are reversible if the underlying etiology is successfully treated. A urodynamic OAB classification based on the presence of detrusor overactivity, patient awareness, and ability to abort the involuntary contraction was recently proposed.¹³ They defined four types of OAB. In type 1, the patient complains of OAB symptoms, but no involuntary detrusor contractions are demonstrated. In type 2, there are involuntary detrusor contractions, but the patient is aware of them and can voluntarily contract his or her sphincter, prevent incontinence, and abort the detrusor contraction. In type 3, there are involuntary detrusor contractions, the patient is aware of them and can voluntarily contract his or her sphincter and momentarily prevent incontinence, but is unable to abort the detrusor contraction and once the sphincter fatigues, incontinence ensues. In type 4, there are involuntary detrusor contractions, but the patient is neither able to voluntarily contract the sphincter nor abort the detrusor contraction and simply voids involuntarily. This classification system serves two purposes. First, it is a shorthand method of describing the urodynamic characteristics of the OAB patient, e.g., the patient has type 3 OAB. Second, it provides a substrate for therapeutic decision making. For example, a patient with type 1 and 2 OAB exhibits normal neural control mechanisms and, at least theoretically, is an excellent candidate for behavioral therapy. It is likely that over time (with or without treatment), an individual patient can change from one type to another.

In summary, we believe that urgency should be redefined as “a compelling desire to void that is difficult to defer” and that urgency should be graded. OAB should be considered a symptom complex, not a syndrome. As such, there is a differential diagnosis that should be evaluated unless a short course of empiric therapy is effective.

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TABLE II. Causes of OAB

I. Neurogenic
 Supraspinal Neurological Lesions
 Stroke
 Parkinson's disease
 Hydrocephalus
 Brain tumor
 Traumatic brain injury
 Multisclerosis
 Suprasacral Spinal Lesions
 Spinal cord injury
 Spinal cord tumor
 Multiple sclerosis
 Myelodysplasia
 Transverse myelitis

II. Non-neurogenic
 Bladder outlet obstruction
 Men—prostatic & bladder neck obstruction, stricture
 Women—prolapse, post-surgical, urethral diverticulum, primary bladder neck, stricture
 Bladder infection
 Chronic cystitis—radiation, chemical, inflammatory
 Bladder cancer
 Bladder stones
 Foreign body

III. Idiopathic

REFERENCES

- Abrams PH, Blaivas JG, Stanton SL, et al. Standardisation of lower urinary tract function. *NeuroUrol Urodyn* 1988;7:403–26.
- 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. *NeuroUrol Urodyn* 2002;21:167–78.
- Chapple CR, Artibani W, Cardoza LD, et al. The role of urinary urgency and its measurement in the overactive bladder symptom syndrome: Current concepts and future prospects. *BJU Int* 2005;95:335–40.
- Blaivas JG, Panagopoulos G, Weiss JP, et al. Validation & test-retest. *J Urol* 2007;17:199–20.
- DeWachter S, Wyndale JJ. Frequency-volume charts: A tool to evaluate bladder sensation. *NeuroUrol Urodyn* 2003;22:638–43.
- Zinner N, Harnett M, Sabounjian L, et al. The overactive bladder-symptom composite score: a composite symptom score of toilet voids, urgency severity and urge urinary incontinence in patients with overactive bladder. *J Urol* 2005;173:1639–43.
- Fusco F, Groutz A, Blaivas JG, et al. Videourodynamic studies in men with lower urinary tract symptoms: A comparison of community based versus referral urological practices. *J Urol* 2001;166:910–3.
- Hebjorn S, Andersen JT, Walter S, et al. Detrusor hyperreflexia: A survey on its etiology and treatment. *Scand J Urol Nephrol* 1976;10:103–9.
- Resnick NM, Yalla SV, Laurino E. The pathophysiology of urinary incontinence among institutionalized elderly persons. *N Engl J Med* 1989;320:1–7.
- Nitti VW, Tu LM, Gitlin J. Diagnosing bladder outlet obstruction in women. *J Urol* 1999;161:1535–40.
- Romanzi LJ, Groutz A, Heritz DM, et al. Involuntary detrusor contractions: Correlation of urodynamic data to clinical categories. *NeuroUrol Urodyn* 2001;20:249–57.
- Chou ECL, Flisser AJ, Panagopoulos G, et al. Effective treatment for mixed incontinence with a pubovaginal sling. *J Urol* 2003;170:494–97.
- Flisser AJ, Wamsley K, Blaivas JG. Urodynamic classification of patients with symptoms of overactive bladder. *J Urol* 2003;169:529–33.
- Agency for Health Care Policy and Research Urinary Incontinence Guideline Panel. 1992. *Urinary Incontinence in Adults: Clinical Practice Guidelines* (AHCPR publication #92-0038). Rockville MD: US Dept of Health and Human Services.
- Blaivas JG. The neurophysiology of micturition: A clinical study of 550 patients. *J Urol* 1982;127:958–63.
- Schepferman CG, Griebing TL, Nygaard IE, et al. Resolution or urge symptoms following sling cystourethropexy. *J Urol* 2000;164:1628–34.
- Segal JL, Vassallo B, Kleeman S, et al. Prevalence of persistent and de novo overactive bladder symptoms after the tension-free vaginal tape. *Obstet Gynecol* 2004;104:1263–9.