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Two Types of Urgency

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Aims: To determine whether urinary urgency, as defined by the International Continence Society, is an intensification of the normal sensation that occurs when micturition must be delayed once the urge to void is felt (Type 1 urgency) or a discrete, pathologic symptom different from the normal urge (Type 2 urgency). **Methods:** Forty-eight consecutive patients who complained of urinary urgency completed two different questionnaires designed to answer the question posed above. The patients were divided into two groups of 24. For the test–retest, group 1 completed questionnaire 1 twice within 3–10 days and group 2 did the same with questionnaire 2. On the second administration of the questionnaire, each subject crossed over and answered the other questionnaire. For the test–retest, since the data set is dichotomous (yes/no), the degree of agreement between the two sets of data was assessed by calculating the kappa coefficient. **Results:** There were 37 women and 11 men ranging in age from 54 to 87 years. There was no difference in age and sex between the two groups ($P = 0.19$). There was excellent agreement in the test–retest responses for both questionnaires (kappa = 1.0, $P < 0.001$). For questionnaire 1, the urge sensation was an intensification of the normal sensation in 33 (68.8%) and it was a different sensation in 15 (31.3%). Similarly, for questionnaire 2, it was an intensification of the normal urge in 34 (70.8%) and different in 14 (29.2%). The differences in patient responses between the two groups were not significant. In the crossover section, only 1 of 48 subjects changed their response, resulting in a very high degree of agreement (kappa = .95, $p < .001$). Combining the two groups, urgency was perceived as an intensification of the normal urge to void in 33/48 patients (69%), a different sensation in 14/48 (29%) and 1/48 (2%) was not sure. **Conclusions:** Urgency is comprised of at least two different sensations. One is an intensification of the normal urge to void and the other is a different sensation. The implications of this distinction are important insofar as they may have different etiologies and respond differently to treatment. *Neurourol. Urodynam. 28:188–190, 2009.*

Key words: OAB; overactive bladder; urgency

INTRODUCTION

Urgency is the cornerstone of the diagnosis of overactive bladder OAB, yet its definition remains the subject of much controversy. According to the International Continence Society (ICS), urgency is defined as "... a *sudden* compelling desire to void that is difficult to defer." Further, it has been proposed that urgency is an all-or-none phenomenon that has been likened to a light switch turned on or off. The proponents of this definition believe that urgency is a pathologic sensation that is different from an intensification of the normal urge to void.

We believe, however, that there are two types of urgency—an intensification of the normal urge to void (Type 1 urgency) and the all or none sensation just described (Type 2 urgency). Type 1 urgency is similar to the sensation that occurs when one defers urination for a long time after the urge to void is perceived, that is, a gradual urge that builds up in intensity until it becomes "a compelling desire to void that is difficult to defer." The purpose of this study is to verify the existence of these two types.

METHODS

Forty-eight consecutive patients who had urgency according to the ICS definition were recruited and completed a validation study of two different questionnaires designed to answer the question posed above. The questionnaires were developed in the following manner:

(1) Twenty consecutive patients who presented with urgency symptoms were interviewed by one of two members of the research staff (CS or JB). They were asked whether the urgency they perceived was similar to the sensation they experienced if they wait too long after feeling the urge to void or whether it was a different sensation. This process proved very difficult; many of the patients were unable to discretely describe their urgency and needed detailed explanations before they fully comprehended the question.
(2) Utilizing such feedback from patients, the investigators attempted to develop a question that captured the essence of the distinction between the two types of urge, but were unable to do so. For that reason two questionnaires (see

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Appendix) were developed that most closely approximated the questions that were understandable to the patients. Questionnaire 1 is comprised of four questions and Questionnaire 2 is comprised of 2 questions. Question # 4 in the first questionnaire is the same as question # 2 in the second questionnaire.

(3) The two questionnaires were presented to the entire expert panel (all of the authors) for review of clarity, content relevance and comprehensive coverage of all aspects of urgency types.

(4) Panel members sent in their written responses to the patient-assisted revision. These were evaluated by two of the researchers (JB and CS) who further edited the questions based on these comments.

(5) The entire panel subsequently convened and reviewed the revised questions in detail. Disagreements were resolved by discussion amongst the entire panel until unanimous approval was obtained. We did not assess agreement amongst the panel by computing the content validity ratio because we required unanimous agreement.

The patients were divided into two groups of 24. For the test–retest, group 1 completed questionnaire 1 twice within 3–10 days and group 2 did the same with questionnaire 2. On the second administration of the questionnaire, each subject crossed over and answered the other questionnaire. Patients were assigned to groups 1 and 2 by alternating consecutive patients who presented with urgency as part of their symptom complex. Continuous variables are expressed as mean ± SD and were compared by a two-sided unpaired *t*-test. Categorical variables are reported as counts and percentages and were compared by chi square analysis. For the test–retest, the degree of agreement between the two sets of data was assessed by calculating the kappa coefficient since the data set is dichotomous (yes, the sensation of the urge to void is an intensification of the normal urge or/no, it is a different sensation). Statistical significance was defined a priori with a p value < 0.05. Data were analyzed with the use of SPSS software (version 14.0, SPSS Inc., Chicago, Illinois).

RESULTS

There were 37 women and 11 men ranging in age from 54 to 87 years. There was no difference in age and sex between the two groups ($P = 0.19$). Mean age for group 1 was 71.6 (SD 10.5) and for group 2, 75.3 (SD 8.4), but this was not statistically significantly different ($P = 0.19$). There were 21F/3M in group 1 and 16F/8M in group 2 ($P = 0.09$). A list of the diagnoses associated with urgency is seen in Table I. There were no differences in the distribution of these diagnoses between groups 1 and 2.

There was excellent agreement in the test–retest responses for both questionnaires (kappa = 1.0, $P < 0.001$). There was no difference between the two groups with respect to how they perceived the sensation of urgency. For questionnaire 1, the urge sensation was an intensification of the normal sensation in 33 (68.8%, 95% CI: 54–81) and it was a different sensation in 15 (31.3%, 95% CI; 19–46), $p < 0.01$. For questionnaire 2, it was an intensification of the normal urge in 34 (70.8%, 95% CI: 56–83) and different in 14 (29.2%, 95% CI: 17–44), $p < 0.01$. There was no significant difference in the proportion of yes/no responses between the iwo questionnaires ($p = 0.99$). In the crossover section, only 1 of 48 subjects changed their response.

In order to determine whether the degree of urgency was different between patients who experienced urgency as an intensification of the normal urge and those who perceived it as a different sensation, patients were divided into two groups. The "yes group" indicated that the urge sensation was an intensifier of the normal sensation (n = 32) and the "no group" stated that the urge sensation was different (n = 16). There was no difference between the two groups in their responses to Question 2 "Once you get the urge to urinate, how long can you usually postpone it comfortably?" (Pearson Chi-square = 6.05, $P = 0.20$).There were only 16 patients in the "no group" and some cells had less than 5 patients. Accordingly, these results should be interpreted with caution.

TABLE I. Diagnoses Associated With Urgency

Diagnosis	Number of patients (%)
Idiopathic	17 (34)
Pelvic organ prolapse	11 (22)
Stress incontinence	9 (18)
Benign prostatic enlargement	8 (16)
Neurogenic	5 (10)
Total	50 (100)

TABLE II. Demographic Characteristics of the Two Groups

	Group 1 (n = 24)	Group 2 (n = 24)	*P* value*
Age	71.6 (SD 10.5)	75.3 (SD 8.4)	0.19
Sex	21F/3M	16F/8M	0.09
Test − retest	Kappa = 1.0	Kappa = 1.0	NA
Switch	Kappa = 1.0 0/24	Kappa = .96 1/24	NA
Is urge an intensification of normal sensation?			
Yes (%), 95% CI	33 (68.8%) (54–81)	34 (70.8%) (56–83)	
No (%), 95% CI	15 (31.2%)** (19–46)	14 (29.2%)** (17–44)	0.99

Results from the repeated administration of the same questionnaire and of both questionnaires within each group.
*$P = 0.99$ for the comparison between the two groups.
**$P < 0.01$ for the comparison between yes/no responses.

DISCUSSION

Chapple et al.[1] in a consensus panel 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." These authors believe that urgency is like a light switch; it is either on or off and cannot be graded. This distinction between urge and urgency, though, is based on the authors' expert opinion, not on peer reviewed data. Others believe that there are gradations of urgency and that the sensation is an intensification of the normal urge to void that occurs when you wait to long once you feel the urge to void.[2–6]

DeWachter and Wyndaele[2] described a scoring system based on the "grade of sensation of bladder fullness at each micturition according to pre-defined grades of sensation."[4] We modified this slightly and termed the grading system the

TABLE III. Responses to Question 2 (Questionnaire 1): Once you get the Urge to Urinate, how Long can you Usually Portpone it Comfortably?

Response	# (%)
>60 minutes	2 (4)
30–60 minutes	6 (12)
10–30 minutes	9 (19)
<10 minutes	18 (38)
Immediately	13 (27)

urgency perception score (UPS).[2] Nixon et al.[5] described the Urgency Severity Score that 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 culminating in urgency. Finally, even the ICS document itself states that urgency may be graded. In the discussion of the bladder diary, it states "Bladder diary . . . records the times of micturitions and voided volumes . . . and other information such as . . . the degree of urgency . . ."[7]

Our data suggest that urgency is comprised of at least two different sensations. One is an intensification of the normal urge to void and the other is a different sensation. The implications of this distinction are important insofar as they may have different etiologies and respond differently to treatment. Furthermore, the fact that urgency is perceived by the majority of patients as an intensification of the normal urge to urinate, suggests that, in contradistinction to the ICS consensus report, urgency may be graded as previously described.[2,5,6]

The fact that there are at least two kinds of sensations that patients perceive as urgency needs to be explored further. One possible explanation is that patients with different diagnoses, such as benign prostatic hypertophy, pelvic organ prolapse and idiopathic perceive urgency differently, but this study was not powered sufficiently to compare different diagnoses.

There are a number of limitations to this study. Firstly, as alluded to in the methods section, it was very difficult to construct a valid questionnaire because of the complexity of the question being asked. Questionnaire 2 has been construed by some to be biased, leading the patient on, and that might influence the way a patient answers this question. Secondly, since the *P*-value comparing the two questions was 0.6, it is possible that with a larger cohort of patients, the way the question was asked might influence the response. Thirdly, there was an unequal sex distribution. Women outnumbered men by more than three to one and that might influence the results. Finally, there many too few patients in each diagnostic group to determine whether there are differences in the way patients with different diagnoses perceive urgency (such as prostatic obstruction and pelvic organ prolapse).

CONCLUSIONS

Urgency is comprised of at least two different sensations. One is an intensification of the normal urge to void and the other is a different sensation. The implications of this distinction are important insofar as they may have different etiologies and respond differently to treatment.

APPENDIX:

Questionnaire 1

These few questions are designed to help us understand more about the sensations you experience when you feel the need to urinate.

1) Do you ever experience a sudden urge to urinate that makes you want to stop what you are doing and rush to the bathroom?
   ☐ YES ☐ NO
2) Once you get the urge to urinate, how long can you usually postpone it comfortably?!
   ☐ More than 60 minutes ☐ About 30–60 minutes ☐ About 10–30 minutes ☐ A few minutes (less than 10 minutes) ☐ Must go immediately
3) If you have to wait longer and longer and need to postpone urination, for example if you are in a car or bus, does that urge make you want to rush to the bathroom?
   ☐ YES ☐ NO
4) Is the sudden urge to urinate that you experience (as described in question 1) the same as the feeling you get when you wait too long once you feel the urge to urinate?
   ☐ YES ☐ NO

Questionnaire 2

1) Do you ever experience a sudden urge to urinate that makes you want to stop what you are doing and rush to the bathroom?
   YES NO
   Normally, the urge to urinate is nothing more than a slight sensation. Sometimes when you experience that slight sensation you must delay for a very long time because you can't get to a bathroom, for example if you are in a bus or car. When that happens, the urge to urinate can get very severe and you finally feel like you must go immediately.
2) Is the sudden urge to urinate that you experience (as described in question 1) the same as the feeling you get when you wait too long once you feel the urge to urinate?
   YES NO

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