

THE RELATIONSHIP BETWEEN UROFLOWMETRY MEASURED URINARY HESITANCY TIME AND URGENCY GRADE IN WOMEN WITH OVERACTIVE BLADDER

Hypothesis / aims of study

Urgency is a key symptom in the diagnosis of overactive bladder (OAB). Accurate measurement of urinary urgency is important in the diagnosis of OAB and to quantify improvement. Various methods are recommended to assess urinary urgency with most based on individual perceptions. To diminish subjectivity in measurement, we evaluated the relationship of uroflowmetry parameters with urinary urgency in women with OAB.

Study design, materials and methods

Between April 2011 and September 2012, 132 consecutive female patients with lower urinary tract symptoms (LUTS) were prospectively enrolled. Individuals with a history of taking medications known to affect bladder function were excluded. All enrolled patients completed the uroflowmetry with delay time to voiding (T2V). After urination was complete, patients were asked whether they experienced any urinary hesitancy or urgency at that time.

Results

Mean patient age was 53.1 years, and 102 of 132 patients reported some degree of urinary urgency. T2V decreased with increase in urgency. The optimal urgency cut-off value for T2V was 6.3 sec (AUC 0.827, Sensitivity 80%, Specificity 71%) for individuals with OAB. Several uroflowmetry parameters showed a significant correlation with urinary urgency, and of these T2V had the meaningful correlation coefficient for individuals with OAB. Regardless of the voided volume. There was no significant correlation between presence of urinary hesitancy and T2V

Interpretation of results

T2V may be helpful to distinguish urinary urgency in women with OAB. There is also a significant difference in T2V when comparing OAB and non-OAB. According to our results, like our initial theory, T2V in women who did not have decreased urine flow would be related with urinary urgency rather than hesitancy. Both Qmax and T2V were positively correlated with urinary urgency according to our results. However, we generally knew that urine flow rate is highly dependent on the volume voided. Therefore we should evaluate the relationship between voided volume and both parameters. Our results also show that Qmax was highly correlated with voided volume. However, delay time did not depend on voided volume.

Concluding message

We believe that T2V would be helpful in the diagnosis and determination of scale of urinary urgency in women with OAB. For individuals with OAB, less than 6.3 sec of T2V would indicate urinary urgency. Additionally, we suggest that T2V would be associated with urinary urgency rather than hesitancy in women.

Table 1. Demographic and Uroflowmetry Variables of Patients (n = 132)

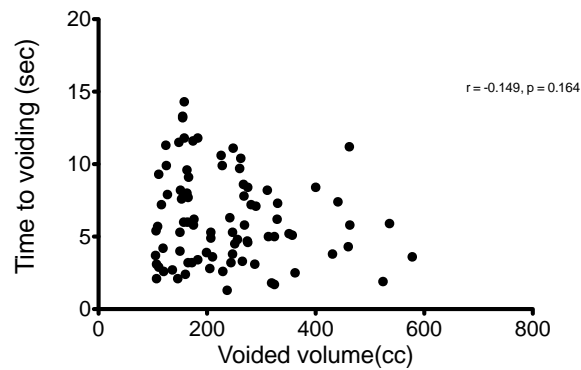
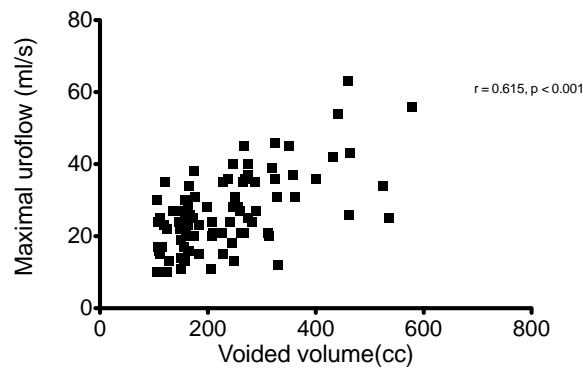
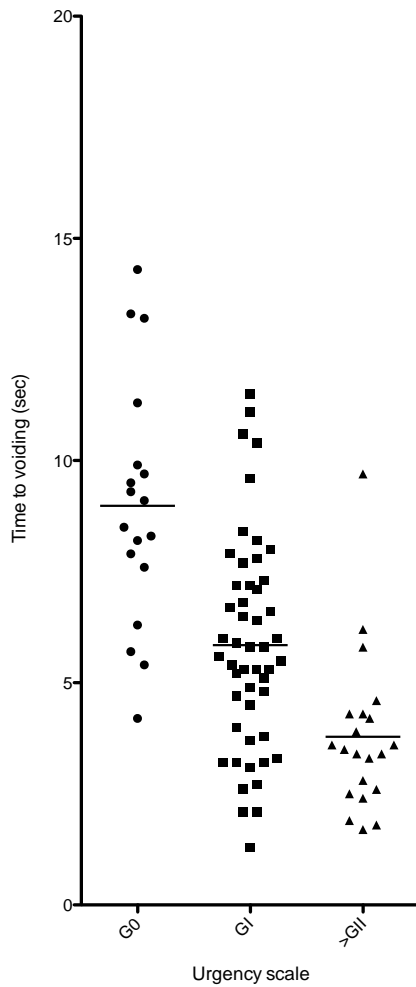
Variables	Non OAB (mean ± SD)			OAB (mean ± SD)		
	G0	G1	p	G0	G1	>G2
Dermographics						
No. patients	10	32		20	49	21
Age (years)	57.2 ± 9.7	51 ± 6.6	0.821	58.4 ± 7.1	57.3 ± 12.6	49.8 ± 13.5
No. patients with associated disease(%)						
Stress urinary incontinence	6(60%)	22(69%)		10(50%)	29(59%)	13(61%)
Urge incontinence					16(32%)	10(47%)
Nocturia without OAB	4(40%)	10(31%)				
No. patients with Associated symptom(%)						
urinary hesitancy	5(50%)	3(10%)	0.231	6(30%)	6(12%)	2(10%)
Frequency volume chart						
Maximal voided volume(cc)	395 ± 14.5	446 ± 5.7	0.082	225 ± 35.3	270 ± 133.1	230 ± 99.8
Uroflowmetry variables						
Qmax (ml/sec)	16.8 ± 5.6	33.9 ± 12.9	0.075	18.8 ± 5.4	24.2 ± 7.6	33.3 ± 12.7
VV (ml)	184.4 ± 38.9	427.5 ± 149.4	0.415	146.7 ± 45.7	213.2 ± 84.9	289.1 ± 133.5
T2V (sec)	20.2 ± 17.1	7.2 ± 7.4	< 0.001*	9.01 ± 3.1	5.8 ± 2.7	3.8 ± 2.1
PVR (ml)	23.5 ± 24.5	42.2 ± 56.0	0.175	35.9 ± 38.6	19.2 ± 30.4	55.6 ± 62.2

Table 2. Results of Analyses of Factors Affecting the presence of urgency

Variables	Non OAB		OAB	
	cc	p	cc	p
Qmax	0.436	0.048	0.7113	<0.001*
VV	0.208	0.365	-0.5725	<0.001*
RV	0.282	0.216	0.511	<0.001*
T2V	-0.441	0.009*	-0.5061	<0.001*

Figure. Distribution of time to voiding in the patients with Overactive bladder and according to the each urgency sensation scale(left), Changes in uroflowmetry parameters according to the voided volume (right)

OAB group



References

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2. Park KK, Lee SH, Kim YJ, et al. Association between urinary hesitancy symptoms and uroflowmetry measured urinary hesitancy time in men with lower urinary tract symptoms. *Neurology and urodynamics* 2011;30:578-82.
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Disclosures

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