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## CORRELATION OF OVERACTIVE BLADDER SYMPTOM SCORE, VOIDING DIARY AND URODYNAMIC PARAMETERS IN PATIENTS WITH OVERACTIVE BLADDER

### Hypothesis / aims of study

The aim of the study is to investigate correlations of overactive bladder symptom score (OABSS), voiding diary and urodynamic parameters in women with overactive bladder (OAB)

### Study design, materials and methods

A retrospective data analysis was performed on 164 women with OAB who received urodynamic study between January 2006 and December 2011. All patients completed an OABSS questionnaire; (frequency (Q1), nocturia (Q2), urgency (Q3) and urgency incontinence (Q4)), 3-day voiding diary (documenting voided volumes and presence of urgency), and urodynamic study (UDS). Patients with OABSS total score 3 or over and urgency episode 1 or over per 1 week were included and regarded as having OAB. Patients with neurologic disease, residual urine>150ml, detrusor underactivity were excluded. The relation of OABSS, voiding diary and urodynamic parameters such as detrusor overactivity (DO), maximal cystometric capacity (MCC) were analyzed. We compared OABSS and voiding diary parameters using univariate and multivariate regression analysis. Logistic regression analysis was done to compare DO, MCC and other variables.

### Results

The mean age was 59.5±10.2 years. On OABSS, mean total score was 8.17±3.5 and symptom severities of patients were mild in 13.6%, moderate in 61.4% and severe in 25.0%. On voiding diaries, mean frequency of micturitions (MF), mean voided volume (VV) and present of urgency were 9.5±4.0/day, 173.2±75.0cc and 70.7%, respectively. MF on voiding diary was significantly associated with Q1, Q2 on OABSS (p=0.000, p=0.001). VV on voiding diary was also significantly associated with Q1, Q2, and total scores on OABSS (p=0.000, p=0.000, p=0.025). Presence of urgency on voiding diary was associated with Q2, Q4 and total score on OABSS (p=0.007, p=0.028, p=0.003). In UDS, 74.3% of patients showed DO and MCC was 359.2±115.8 cc. DO was associated with total score (OR 1.20, p=0.003), Q2 (1.62, p=0.012), Q3 (1.35, p=0.006) on OABSS, MF (1.16, p=0.013) in univariate analysis and urgency episode in voiding diary (p=0.008). The most predictive factor related to DO was MF in multivariate analysis (0.60, p=0.027, table 1). MCC showed weak correlation with VV (R=0.216, p=0.013) and inversely correlated with total score of OABSS (R=-0.396, p<0.001) and MF (R=-0.260, p=0.003).

### Interpretation of results

Mean MF, mean VV and urgency episode on a voiding diary showed significant correlations with OABSS. Higher OABSS and mean MF on voiding diary were significantly associated with presence of DO and decrease of MCC in UDS.

### Concluding message

Combined use of voiding diary and OABSS can predict results of DO in female OAB patients. Parameters of voiding diary were highly associated with OABSS. OABSS alone is a useful tool even in the absence of voiding diary.

Table 1. Logistic regression of parameters of OABSS and voiding diary according to DO

	Univariate analysis		Multivariate analysis*	
	OR (95% CI)	p	OR (95% CI)	p
<b>Age</b>	0.99 (0.96-1.03)	0.757		
<b>Voiding diary</b>				
Mean frequency of micturitions	1.16 (1.03-1.30)	0.013	0.60 (0.38-0.94)	0.027
Mean volume of micturitions	0.99 (0.99-1.00)	0.050		
Urgency episode	2.21 (0.91-5.34)			
<b>OABSS</b>				
Total score	1.20 (1.06-1.34)	0.003		
Q1 Frequency	1.17 (0.86-2.81)	0.143		
Q2 Nocturia	1.62 (1.11-2.38)	0.012		
Q3 Urgency	1.35 (1.09-1.67)	0.006		
Q4 Urge incontinence	1.16 (0.947-1.16)	0.152		
<b>UDS parameter</b>				
Maximal cystometric capacity	0.97 (0.96-0.98)	0.000	1.06 (1.03-1.10)	0.000
First sense	0.98 (0.99-1.00)	0.069		
Maximal flow rate	0.97 (0.93-1.00)	0.066		
Postvoid residual volume	0.99 (0.98-1.00)	0.346		

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