



185- Clinical and urodynamic findings in women with detrusor overactivity

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Introduction

Overactive bladder syndrome (OAB) is defined by the International Continence Society (ICS) and the International Urogynecological Association (IUGA) as urgency, with or without urgency urinary incontinence, usually accompanied by daytime frequency and nocturia, in the absence of urinary tract infection or other obvious pathology. Detrusor overactivity (DO) in the urodynamic observation characterized by the occurrence of involuntary detrusor contractions during filling cystometry and can be demonstrated in 44-54% of women with symptoms of OAB ⁽¹⁾, and 47% of asymptomatic women can present DO ⁽³⁾.

Few studies have attempted to associate urodynamic variables with clinical symptoms have failed to demonstrate significant relationship in patients with DO. The lack of a validated measures of DO severity tool limits the clinical value of urodynamics in the management of patients with OAB. Nevertheless, it is still not possible to derive a reliable parameter from conventional urodynamics to quantify the grade of detrusor overactivity.

The aim of this study was to evaluate the correlation between the Indevus Urgency Severity Scale (IUSS) and urodynamic findings in patients with detrusor overactivity (DO) in a urodynamic study.

Methods

The design was a retrospective observational study. It was made in a Urogynaecology referral clinic and included all patients with detrusor overactivity. All patients were assessed using the IUSS and a questionnaire on urological symptoms and were stratified in 4 groups according to de IUSS (none, mild, moderate, severe). A complete urodynamic study was performed, according to the ICS recommendations; the presence of DO was recorded. The clinical and urodynamic findings were analyzed. Chi² test for categorical variables and analysis of variance (ANOVA) for continuous variables. Statistical assessments were considered significant when P<0.05. Statistical analyses were performed using SPSS 24.00.

Results

We analyzed the results of 827 urodynamic studies. 58 patients presented DO. The results are shown on table 1 and 2.

Table 1. Comparison Between IUSS Categorized Groups and Clinical Findings

	None (n=21)	Mild (n=8)	Moderate (n=11)	Severe (n=18)	P-value
Age (mean±SD)	56.52±13.58	51.25±11.47	50.64±7.21	55±14.02	0.55
Parity (mean±SD)	4.19±2.06	4.63±3.15	3.82±2.92	4.17±2.70	0.93
Vaginal deliveries (mean±SD)	2.90±2.42	3.13±3.09	2.73±3.25	3.17±2.93	0.77
Prior surgery					
Anti-incontinence surgery n(%)	9(75%)	1(8.3%)	1(8.3%)	1(8.3%)	0.18
Prolapse surgery n(%)	6(60%)	1(10%)	1(10%)	2(20%)	0.39
Hysterectomy n(%)	6(40%)	3(20%)		6(40%)	0.14
BMI (Kg/m ²) mean±SD	28.73±4.31	25.35±3.78	29.23±4.54	28.55±3.75	0.19
Daytime frequency (mean±SD)	6.9±1.97	6.8±1.95	7.64±4.08	8.33±4.55	0.57
Nocturia (mean±SD)	1.29±1.00	1.88±1.80	1.91±0.83	3.28±2.96	0.20
OAB n(%)	0	8 (21.6%)	11(29.7%)	18 (48.6%)	<0.001
Wet n(%)	0	0	11 (27.5%)	18 (62.06%)	
Dry n(%)	0	8 (100%)	0	0	

BMI, body mass index

Table 2. Comparison Between IUSS Categorized Groups and Urodynamic Findings

	None (n=21) mean±SD	Mild (n=8) mean±SD	Moderate (n=11) mean±SD	Severe (n=18) mean±SD	P-value
UFM					
Qmax (ml/s)	20.19±11.56	25.88±9.87	24±9.31	21.18±11.21	0.56
VV (ml)	317.14±162.7	350±109.15	318.18±172.67	312.94±240.2	0.97
PVR (ml)	79.05±80.8	64.38±69.86	21.36±24.70	71.76±80.48	0.18
MUCP (cmH ₂ O)	52.71±23.46	62.50±28.59	52.18±18.48	54.65±23.33	0.76
Cystometry					
FS (ml)	108.10±26.02	133.50±40.72	87.27±28.51	102.24±31	0.017
FD (ml)	180.38±46.72	188.63±49.32	122.55±49.28	127.71±39.88	<0.001
SD (ml)	270.43±90.83	232.88±51.79	223.5±57.06	229.64±73.38	0.03
Max cystometric capacity (ml)	275.19±90.03	236.5±53.26	206±64.42	211.65±75.48	0.042
DO					
Phasic n(%)	16 (39.02%)	5 (12.19%)	9 (31.03%)	11 (37.93%)	0.56
Terminal n(%)	5 (29.41%)	3(17.64%)	2 (11.76%)	7 (41.17%)	
Compliance (ml/cmH ₂ O)	53.14±42.04	56.63±60.69	43.45±36.42	45.24±39.56	0.86
Amplitude of first IDC (cmH ₂ O)	18±15.80	24.38±13.99	17.91±21.75	28.61±21.20	0.28
Amplitude of highest IDC (cmH ₂ O)	43.76±42.05	51.75±44.59	29.73±22.79	41.56±29.91	0.59
Threshold volume for first IDC (ml)	110.24±82.68	182±74.21	91.64±73.11	122.17±88.14	0.11
USI (n=15) n(%)	4 (26.66%)	5 (33.33%)	1 (6.66%)	5 (33.33%)	0.051
Pressure flow					
Qmax(ml/s)	18.52±12.58	22.13±12.17	22±11.65	19±9.63	0.78
Pdet Qmax (cmH ₂ O)	26.62±13.47	22.14±14.73	26.27±11.57	25.38±23.14	0.94
Pdet max(cmH ₂ O)	44.57±24.78	46.14±14.75	38.27±14.80	36.44±25.31	0.63
VV	299.38±146.08	311.25±99.63	291±88.42	275.44±96.80	0.89
PVR	73.10±65.27	38±68.31	30.09±22.11	70.94±64.89	0.15

UFM, uroflowmetry; VV, voided volume; PVR, post voiding residue; FS, first sensation; FD, first desire; SD, strong desire; IDC, involuntary detrusor contraction; USI, urinary stress incontinence

Conclusions

This study identified a number of urodynamic variables with statistically significant association with the severity of OAB symptoms in patients with OAB.

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