

CLINICAL AND URODYNAMIC VARIABLES ASSOCIATED WITH FEMALE BLADDER OUTLET OBSTRUCTION.

Hypothesis / aims of study

Diagnosing bladder outlet obstruction (BOO) is difficult in women, not only symptoms seem unreliable, but also the urodynamic criteria are still under debate. We searched for symptoms alone, symptom complexes and urodynamic findings that could lead to the diagnosis of female BOO.

Study design, materials and methods

A total of 315 women that underwent an urodynamic study for lower urinary tract symptom (LUTS) evaluation were included. All patients completed a LUTS questionnaire and a free flow measurement with evaluation of post-voided residual. Subsequently cystometry and pressure-flow studies were performed followed by urethral profilometry. Patients with incomplete questionnaires or unsuitable urodynamic study were excluded. Patients who increased significantly the abdominal pressure during voiding (> 15 cm H₂O) were also excluded, rendering 217 patients suitable for evaluation. Bladder Outlet obstruction was classified according to Shafer monogram, considering grade 1 as obstructed.

Results

Individual symptoms and urodynamic parameters are shown on table 1 and 2. We didn't find any association of symptoms that could distinguish patients with obstruction.

Table 1.

Categorical variables	BOO		P (Chi square)
	No n (%)	Yes n (%)	
Dribbling	30 (21,7)	18 (28,1)	0,37
Hesitancy	10 (7)	4 (5,8)	0,5
Nocturnal enuresis	19 (13,6)	10 (14,7)	0,49
Incomplete voiding	42 (29,4)	23 (33,8)	0,31
Straining	8 (5,6)	6 (8,8)	0,27
Urgency	67 (45,3)	34 (50)	0,31
Slow stream	19 (13,6)	6 (9,2)	0,26
Frequency	122 (83,6)	58 (84,1)	0,54
Nocturia	73 (50,3)	43 (66,2)	0,02
Stress incontinence	68 (48,2)	15 (24,2)	0,001
Detrusor overactivity	58 (39,2)	38 (55,1)	0,02
Post voiding contractions	48 (32,4)	15 (21,7)	0,07

Table 2.

Continuous variables	BOO		P (Man-Whitney U Test)
	No Mean ± SD	Yes Mean ± SD	
Age (years)	58,2 ±12,5	55,2±11,9	0,085
Qmax (ml/s)	22,3±11,8	17,4±8,1	0,017
Maximum urethral pressure (CmH ₂ O)	60,9±21,6	79,3±32,1	<0.001
Pressure transmission ratio (%)	36,6 ±29,8	32,4±30	0,745
Bladder capacity (ml)	448,9±128,3	426,7±135,8	0,306
Post voiding residual (ml)	15,1±61,4	56,5±123,4	<0,001

Interpretation of results

Voiding symptoms seem to be unrelated to an increase in bladder outlet resistance. Although not statistically significant a trend can be drawn favoring storing symptoms like nocturia and absence of stress incontinence as possible clinical predictors of female bladder outlet obstruction. The urodynamic findings associated with obstruction were increased post void residual volume, maximal urethral pressure and existence of detrusor overactivity, that was observed in over 50% of obstructed patients.

Concluding message

No symptom alone and no association of symptoms is predictive of female BOO. Unlike men, symptoms that may suggest obstruction are in the storing rather than voiding range. Maximum urethral pressure measurement could further help identify female patients with BOO.

Disclosures

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