

CORE LOWER URINARY TRACT SYMPTOM SCORE (CLSS), A USEFUL QUESTIONNAIRE FOR OVERALL ASSESSMENT OF LOWER URINARY TRACT SYMPTOMS IN WOMEN

Hypothesis / aims of study

An overall assessment of lower urinary tract symptoms (LUTS) is critical in managing LUTS at daily practice in both men and women. We have already proposed a new questionnaire, Core Lower urinary tract Symptom Score (CLSS) questionnaire, for non-disease-specific symptom assessment (1), and reported its clinical utility for male LUTS (2). The aim of this study is to evaluate its performance in female LUTS assessment.

Study design, materials and methods

This is a prospective and non-controlled study. Consecutive 243 female patients including 186 women of the first visit (age:15-91, mean age: 63.5 ± 15.4) were enrolled into this study. Patients answered three self-administered questionnaires; International Prostate Symptom Score (IPSS), Overactive Bladder Symptom Score (OABSS) and CLSS at the same occasion. IPSS contains 7 questions for incomplete emptying, daytime frequency, interruption, urgency, weak stream, straining, and nocturia (score: 0 to 5; total 0 to 35). OABSS evaluates OAB symptoms: daytime frequency (score: 0 to 2), nocturia (0 to 3), urgency (0 to 5), and urgency incontinence (0 to 5). CLSS addresses 10 important symptoms selected from 25 LUTS defined by the ICS standardization committee: daytime frequency, nocturia, urgency, urgency incontinence, stress incontinence, slow stream, straining, incomplete emptying, bladder pain, and urethral pain (score: 0 to 3 for each, 0 to 30 in total). Quality of life (QOL) aspect was measured by IPSS QOL Index (score 0: delighted, 1: pleased, 2: mostly satisfied, 3: mixed, about equally satisfied and dissatisfied, 4: mostly dissatisfied, 5: unhappy, 6: terrible). Clinical diagnoses, which were based on regular urological examinations, were OAB (63), stress incontinence (9), mixed incontinence (26), pelvic organ prolapse (34), underactive bladder (10), interstitial cystitis (28), bacterial cystitis (13), and others (18) (i.e.; urolithiasis, polyuria, and bladder diverticulum). Control subjects (42) consisted of those visiting us because of reasons other than LUTS (i.e.; urinary occult blood). Difference between these symptom scores were examined by Mann-Whitney-U test and predictability of QOL index were tested by logistic regression analysis. The QOL Index of 4 and over was defined as impaired QOL.

Results

Almost all symptom scores of the three questionnaires were significantly lower in controls. The average score of CLSS questionnaire showed variable pattern according to clinical diagnoses (Figure). Interestingly, the pattern patients with interstitial cystitis and urinary tract infection were similar. Spearman rank-correlation coefficient (r) with QOL Index was 0.50 to 0.86 for all the IPSS symptoms except for interruption, which is not included in CLSS (all $p < 0.0001$). Similar relation was observed for questions addressed by OABSS and CLSS; r was 0.69 to 0.82 for 4 symptoms (all $p < 0.0001$). All the symptom scores of three questionnaires significantly correlated with negative impact on QOL in univariate analysis ($p < 0.0001$). The multivariate analysis to find independent symptoms for predicting impaired QOL was conducted by using symptoms with correlation coefficients of 0.4 and over in univariate analysis, identifying five symptoms (nocturia, urgency, urgency incontinence, straining, and urethral pain) as the significant symptoms (Hazard Ratio; 2.16-5.1) (Table). CLSS contains all of five symptoms including urethral pain, which is not included by IPSS or OABSS.

Interpretation of results

CLSS questionnaire is capable of capturing clinically significant LUTS that may have negative impact on QOL in women.

Concluding message

CLSS questionnaire would be a concise assessment tool for evaluating LUTS without significant omissions in both men and women.

Figure: The average score of CLSS questionnaire in various diseases/conditions

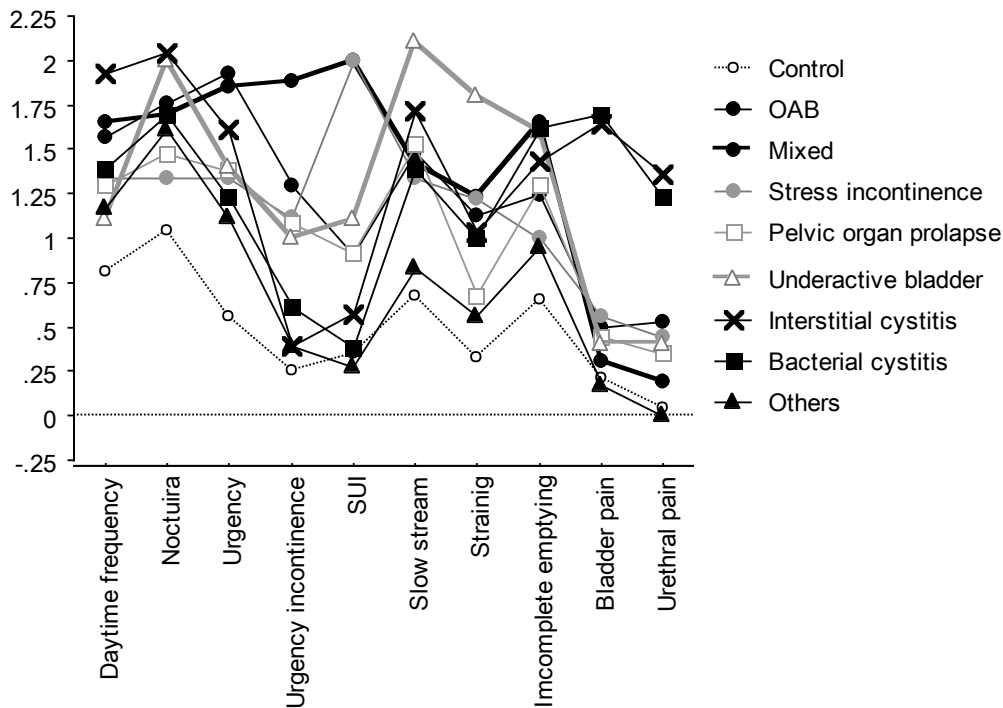


Table: Hazard ratio (HR) to predict impaired QOL (QOL Index 4 or over) by multiple logistic regression models

Variable	CLSS		IPSS		OABSS	
	HR	P value	HR	P value	HR	P value
Age						
Day-time frequency						
Nocturia					2.29	<0.0001
Urgency			2.38	<0.0001		
Urgency incontinence	4.44	<0.0001			2.16	0.0006
Stress urinary incontinence						
Slow stream						
Straining	2.49	0.0011	5.1	0.0168		
Interruption						
Incomplete emptying						
Bladder pain						
Urethral pain	3.7	0.015				

References

1. Yukio H, et.al., Core Lower Urinary Tract Symptom score (CLSS) questionnaire: a reliable tool in the overall assessment of lower urinary tract symptoms. *Int J Urol.* 2008;159:816-20.
2. Fujimura T, et. al., Clinical significance of core lower urinary tract symptom score (CLSS) for the assessment of lower urinary tract symptoms of various diseases/conditions 39th Annual Meeting of the International Continence Society, SF, USA.

Specify source of funding or grant	I do not have any conflict of interest about this study.
Is this a clinical trial?	Yes
Is this study registered in a public clinical trials registry?	No
Is this a Randomised Controlled Trial (RCT)?	No
What were the subjects in the study?	HUMAN
Was this study approved by an ethics committee?	No
This study did not require ethics committee approval because	Now under preparation for eithical committee approval
Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	Yes

