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DOES PREDICTABILITY REDUCE THE IMPACT OF URINARY SYMPTOMS ON QUALITY OF LIFE?

Hypothesis / aims of study

Previous studies have shown that patients with urge incontinence and mixed incontinence have significantly worse health related quality of life (QoL) compared to patients with stress incontinence(1). Similarly the urge component of mixed incontinence has a greater impact on quality of life than the stress component (2). The International Continence Society defines detrusor overactivity (DO) as a urodynamic observation characterised by involuntary detrusor contractions during the filling phase which may be spontaneous or provoked (3). Urodynamic stress incontinence (USI) is noted during filling cystometry and is defined as an involuntary leakage of urine during increased abdominal pressure, in the absence of a detrusor contraction.

The primary aim was to compare the degree of impairment of quality of life in women with different types of incontinence and to assess if the predictability of urinary symptoms reduces the detrimental effect on quality of life. The secondary aim was to assess the association between the height of detrusor contraction with age, ethnicity and urodynamic diagnosis.

In this study we analysed the King's Health Questionnaire (KHQ) completed by patients with a definitive urodynamic diagnosis of detrusor overactivity (DO), urodynamic stress incontinence (USI) or urodynamic mixed incontinence. We compared the impact of the quality of life in different types of incontinence. We also analysed the relationship of height of detrusor contraction to age, ethnicity and urodynamic diagnosis.

Study design, materials and methods

Women undergoing videourodynamic diagnosis between October 2008 and December 2008 were included in this study. For the purpose of this study, systolic detrusor overactivity was defined as a detrusor contraction of >15cm of water associated with urgency during the filling phase in the absence of provocation. If the same occurred after provocative measures like cough, running water or immersion of hands in cold water, it was defined as provoked detrusor overactivity. USI was assessed with a fluoroscopic cough test at maximum cystometric capacity or 500mls. If fluoroscopy revealed leaking on 1 cough without associated urgency or detrusor contraction a diagnosis of severe USI was made. Similarly a diagnosis of moderate USI and mild USI were made if leaking occurred after 3 coughs and 5 coughs respectively. Data were analysed using the Wilcoxon test, Mann-Whitney U test, Pearson's correlation, independent samples t-test, Kruskal Wallis and one way ANOVA using SPPS version 15.0.

Results

A total of 181 women were eligible for inclusion. The mean age of the women was 50.4 years (range 18–81 years). The urodynamic diagnoses are listed in the table below.

Urodynamic Diagnosis	Number	Percentage
Provoked DO	35/181	19.3
Systolic DO	15/181	8
Both systolic and provoked DO	23/181	12.7
Mild USI	18/181	10
Moderate USI	36/181	20
Severe USI	18/181	10
Mixed incontinence	36/181	20

In general patients with DO had greater impairment in QoL when compared with patients with pure USI. However this reached statistical significance in only 3 of the 9 domains of the KHQ. Unsurprisingly the women with systolic DO were more affected than ones with provoked DO and this reached significance only in the role limitations domain (p=0.015). 109 women, who were diagnosed with detrusor overactivity, were included in the second analysis. No correlation was observed between age and maximum detrusor contraction pressure (r=-0.068). Afro-Caribbean patients had the highest mean maximum pressure (49.8 cmH2O), and Asian patients the lowest (28.9 cmH20), with a highly significant difference between groups overall (p=0.008 one way ANOVA). Patients with co-existing urodynamic stress incontinence had lower maximum pressures (32.0 cmH20 versus 40.2 cmH20 p=0.045).

Interpretation of results

Detrusor overactivity, particularly systolic adversely affects QoL more than USI. This may reflect the unpredictability of urinary leakage and the need for toilet mapping restricting social activities in these women. Maximum detrusor contraction pressure shows marked variation according to patient ethnicity and urethral sphincter competence. Maximum detrusor contraction pressure shows marked variation according to patient ethnicity and urethral sphincter competence. Using a single cut-off for detrusor overactivity therefore leads to different diagnostic rates in different ethnic groups, and artificially decreases the proportion of patients diagnosed with urodynamic mixed incontinence. Afro-Caribbean women may run risk of damage to upper tract due to reflux caused by high detrusor pressures. This group of women may need aggressive treatment with anti-muscarinics and counselling towards perseverance and compliance of treatment.

Concluding message

Detrusor overactivity, particularly systolic tends to affect quality of life more than urodynamic stress incontinence. Maximum detrusor contraction pressure shows marked variation according to patient ethnicity and urethral sphincter competence.

References
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2. BJU. Int. 2003 Nov;92(7):731-5
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Was this study approved by an ethics committee?	**No**
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Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**No**