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"STILL AN UNRELIABLE WITNESS ?" THE USE OF A NEW SCORING SYSTEM AS A PREDICTIVE TOOL FOR DETRUSOR OVERACTIVITY

Hypothesis / aims of study

Urinary incontinence is a common and distressing condition which is known to significantly impair Quality of Life (1). Women with lower urinary tract symptoms commonly present directly to primary care and management is often based on a symptomatic diagnosis alone. However, lower urinary tract symptoms only correlate with urodynamic diagnosis in 65% of cases (2) so the bladder is commonly considered to be an 'unreliable witness'. Antimuscarinic agents and bladder retraining are integral to the management of women with the overactive bladder syndrome (OAB), whereas duloxetine now offers an effective drug treatment for women with stress urinary incontinence (SUI). Consequently an accurate diagnosis is important to avoid inappropriate treatment, lack of efficacy and patient and clinician disillusionment. The aim of this study was to develop a physician administered symptom based scoring system for primary care physicians to discriminate between SUI and OAB.

Study design, materials and methods

A detailed review of the literature was performed identifying epidemiological studies documenting risk factors for OAB and the prevalence of urinary symptoms in those women with a diagnosis of OAB (3). Subsequently a simple physician administered questionnaire was developed based on patient characteristics and urinary symptoms. Patient characteristics included age, ethnicity, prior continence surgery, neurological history and nulliparity, while urinary symptoms included urgency, nocturia, nocturnal enuresis, flooding, daytime frequency, urgency incontinence, stress urinary incontinence and maximum volume voided.

Women were recruited from a tertiary referral urodynamic clinic. All complained of troublesome lower urinary tract symptoms and had a detailed urogynaecological history, during which physicians were asked to fill in a questionnaire. All women then underwent videocystourethrography using a standardised protocol in keeping with Good Urodynamic Practice. Odds ratios and 95% confidence intervals (CI) for each question were calculated and a scoring system based on the likelihood of symptoms for OAB developed.(table 1) The questions regarding age, prior continence surgery, neurological history and stress incontinence all had a 95% CI crossing zero and hence were rejected. A cut off value of 28 and above was applied as a diagnostic discriminator for detrusor overactivity. Symptom scores were compared to urodynamic diagnoses and the sensitivity, specificity and positive predictive values for the scoring system calculated.

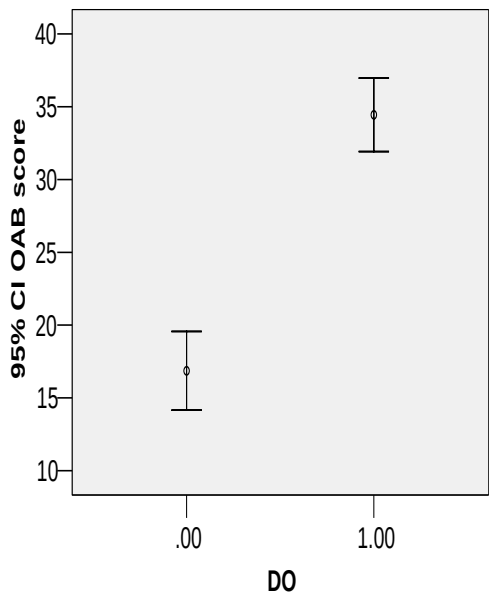
Table 1: Scoring system

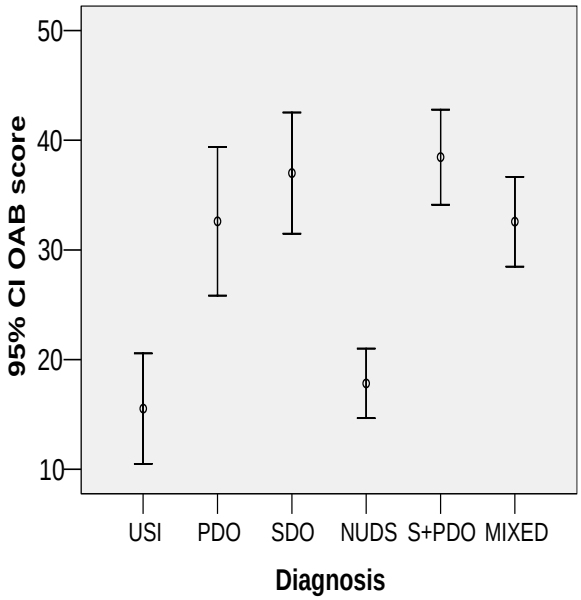
N=127	ODDS RATIO	95% C.I.	OAB SCORE
Age > 60 years	1.30	0.6 - 3.07	
Ethnicity (non Caucasian)	2.21	1.03 – 4.74	2
Neurological history	1.04	0.99 – 1.09	
Nulliparity	4.56	1.38 – 15.07	5
Prior continence surgery	1.64	0.42 – 6.43	
Urgency	10.8	3.08 – 38.14	11
Nocturia >1	5.70	2.61 – 12.56	6
Nocturnal enuresis	5.75	1.17 – 28.30	6
Flooding	5.56	2.04 – 15.16	6
Frequency >8	2.15	1.05 – 4.38	2
Urge incontinence	7.56	3.21 – 17.80	8
Stress incontinence	1.04	0.50 – 2.16	
Voided volume <300ml	9.34	4.13 – 21.1	9

Results

127 women were recruited to the study over a period of 8 weeks. Of these 28 had Urodynamic stress incontinence (USI), 36 had a normal study(NUDS),15 had provoked detrusor overactivity (PDO), 9 had systolic DO(SDO), 12 had systolic and provoked DO, 20 had mixed incontinence (DO +USI), 2 had sensory urgency and 5 had voiding difficulties, In total 56 had detrusor overactivity. Using a cut off value of 28, this scoring system was found to have a sensitivity of 89%, specificity of 77% and a positive predictive value of 77% to identify DO. 95%CI showed good separation for women with DO vs women without DO (Fig 1) indicating this would be a useful clinical test. There was also good separation of the 95% CI for those women with DO compared to NUDS and USI. (Fig 1)

Figure 1: 95%CI of people with DO vs people without DO





Interpretation of results

This study has shown that the use of this scoring system markedly increases the chances of making an accurate diagnosis of DO. This questionnaire may prove to be a useful tool in primary care enabling physicians to prescribe the right drug for the right condition. This would avoid inappropriate treatment, poor compliance and patient disillusionment in addition to improving cost effectiveness in the management of the overactive bladder.

Concluding message

This new OAB scoring system is a simple physician based questionnaire which may be used in primary care to discriminate between USI and DO. This would guide physicians towards prescribing appropriate medication

References:

1. BJOG 1997;104:1374-1379
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