345

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DOES SEVERITY OF LUTS AFFECT THE OUTCOME OF CONSERVATIVE THERAPY?

Hypothesis:
Conservative treatments and drug therapy are both effective treatments for overactive bladder (OAB), stress urinary incontinence (SUI) and mixed incontinence. Most Continence Guidelines (1, 2) recommend conservative treatment for all women as first line treatment. However, conservative treatment is resource intensive and some patients may not benefit, although there is a lack of evidence on whether treatment outcome is influenced by severity of the condition before treatment.

Aims of study
To identify factors associated with the success or failure of conservative management for OAB, SUI and mixed incontinence.

Study design, materials and methods
Retrospective review of outcomes from patients with OAB, SUI and mixed incontinence treated in a tertiary centre. Validated disease specific symptom and quality of life questionnaires (OAB-q SF, ICIQ-UI SF) and bladder diaries were used to record severity of symptoms. Patients were offered a standardised therapy: lifestyle advice, supervised pelvic floor muscle training (PFMT) and bladder training. Therapy success or failure was assessed by Patient Global Impression of Improvement questionnaire (PGI-I). Non-parametric statistical tests and ROC curves were used to analyse the data. Data are median (range)

Results
One hundred and twenty-five cases were reviewed. Outcomes were divided into: success and failure groups, where success was a response of "very much better" or "much better"
In OAB patients there were significant differences between the groups in baseline OAB-q and ICIQ-UI questionnaires and some bladder diary data (Table 1).
Table 1.

	Success group	**Failed group**	**P value**
No.	30	20	
Age	68 (37-90)	69.5 (34-86)	0.641
OAB symptom severity	30 (0-80)	80 (23-100)	**0.0001**
OAB HRQL	67 (20-101)	24 (6-58)	**0.0001**
ICIQ-UI	5.5 (0-20)	15 (0-21)	**0.002**
Urgency episodes	4 (0-12)	6 (0-11)	**0.032**
Incontinence episodes	0 (0-10)	1 (0-8)	0.180
Micturition frequency	7 (0-12)	8 (5-13)	0.102

ROC curve analysis showed these factors to have reasonable test performance statistics. However, binary logistic regression on patient reported outcome showed that only OAB HRQL score >51 was independently associated with outcome. The optimal cut off point for this score gave a sensitivity of 95% and specificity of 76%.
In patients with mixed urinary incontinence there were significant differences between ICIQ scores between the groups and urgency episodes in 24 hrs documented in bladder diaries (Table 2).
Table 2.

	Success group	**Failed group**	**P value**
No	21	29	
Age	55 (52-62)	58 (52-63)	0.6
OAB symptom severity	40 (0-80)	57 (0-100)	0.18
OAB HRQL	55 (32-94)	61 (0-91)	0.3
ICIQ-UI	11 (1-18)	15 (5-21)	**0.03**
Urgency episodes	3 (0-10)	6 (0-16)	**0.004**
Incontinence episodes	1 (0-8)	1 (0-10)	0.4
Micturition frequency	7 (4-13)	9 (4-12)	0.7

ROC curve analysis showed these factors to have reasonable test performance statistics. However, binary logistic regression on patient reported outcome showed that only ICIQ-UI score < / = 12 was independently associated with outcome. The optimal cut off point for this score gave a sensitivity of 57% and specificity of 86%.
In patients with SUI there were significant differences between ICIQ scores and incontinence episodes in 24 hrs documented in bladder diaries (Table 3).
Table 3.

	Success group	**Failed group**	**P value**
No	13	12	
Age	54 (42-72)	58 (43-80)	0.1
ICIQ-UI	11 (6-16)	13.5 (11-19)	**0.003**
Urgency episodes	1 (0-4)	2 (0-5)	0.1
Incontinence episodes	0 (0-1)	2 (0-4)	**0.004**
Micturition frequency	6 (0-8)	7 (6-8)	0.1

ROC curve analysis showed these factors to have reasonable test performance statistics. However, binary logistic regression on patient reported outcome showed that only ICIQ-UI score of < / = 13 was independently associated with outcome. The optimal cut off point for this score gave a sensitivity of 92% and specificity of 50%.

Interpretation of results
These results demonstrate baseline symptom severity can predict patient reported treatment outcomes. From the OAB data, only OAB HRQOL scores from the OAB-q were independent predictors of outcome. In the mixed and SUI groups, ICIQ-UI scores were independent predictors of outcome.

Concluding message
These data indicate that clinicians could tailor treatment pathways based on patients' specific symptom severity. Such a streamlined approach may lead to a more cost-effective use of resources and provide greater patient satisfaction by more rapid relief of symptoms. However, immediate triage to direct initial interventions warrants investigation.

References
1.   https://www.nice.org.uk/guidance/cg171
2.   http://uroweb.org/guideline/urinary-incontinence/#4