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PREDICTIVE VALUE OF CLINICAL EVALUATION OF STRESS URINARY INCONTINENCE: A META-ANALYSIS.

Aims of Study

To evaluate the symptom and sign of stress incontinence in predicting the presence of urodynamically diagnosed genuine stress incontinence.

Introduction

Most studies addressing this issue have focused on either the symptom of stress incontinence or the sign and both have been found inadequate for diagnosis. This study, a meta-analysis of the published data, systematically examines the value of each.

Methods

A Medline literature search was performed using the key words "urinary incontinence" and "urodynamic(s)" for publication in French or English languages between 1975 and 1998.

To be eligible, an article was required to present data by group of symptoms (stress, urge or mixed incontinence) or sign (cough stress test) of stress incontinence. Urodynamic studies (UDS) had to be done to establish a final diagnosis, with at a minimum a cystometrogram with cough provocation to uncover genuine stress incontinence (GSI) or detrusor overactivity (DO). Finally, all patients had to be accounted for in the original article.

GSI and DO were diagnosed according to the International Continence Society.

Calculation of sensitivity, specificity and predictive values were performed from 2X2 table generated with the data from the original articles, placing the symptom or sign of stress incontinence against the UDS diagnosis (gold standard).

Results

Forty-two original articles were reviewed. Twenty-one were rejected for various reasons: 2X2 tables could not be generated, symptom and/or sign of stress incontinence were not compared against UDS diagnosis, symptoms were not grouped as requested, patients were not all accounted for, definition of mixed incontinence did not include necessarily GSI.

The efficiency variables for the symptom and the sign of stress incontinence, separately, in the diagnosis of

GSI are presented in Table 1.

The positive predictive value of combining the symptom and the sign of stress incontinence was found to be between 78% and 97%, the latter if strict criteria were used (post void residual <50ml and functional capacity on diary >400ml).

Table 1. Efficiency variables for the symptom and sign of GSI.

	<i>Sensitivity</i>	<i>Specificity</i>	<i>Positive predictive value</i>	<i>Negative predictive value</i>
<i>Isolated symptom of SI in diagnosis of pure GSI</i>	48	78	63	66
<i>Isolated symptom of SI in diagnosis of GSI+</i>	42	83	83	43
<i>Mixed SI in diagnosis of GSI+</i>	91	62	79	82
<i>CST in diagnosis pure GSI</i>	52	70	59	64
<i>CST in diagnosis of GSI+</i>	57	89	92	48

Legend: SI= stress incontinence, GSI= genuine stress incontinence, GSI+= genuine stress incontinence pure or along other urodynamic diagnosis, CST= cough stress test.

Conclusions

In isolation, the symptom and the sign of stress incontinence are poor predictors of the presence of GSI, either pure or in combination with other UDS diagnoses, in addition of having a high false positive rate (one minus the specificity). The mere presence of stress urinary symptom on history (either alone or with other symptoms) is however a better screening test for the presence of GSI, with a sensitivity of 91%.

The sign of stress incontinence has a reasonably high specificity (89%) but poor sensitivity. However, if the symptom and the sign of stress were combined, as in clinical practice, this should produce a good "test" for the diagnosis of GSI, as one of the published studies [1] seems to suggest.

Reference

1. Videla FL, Wall LL. Stress incontinence diagnosed without multichannel urodynamic studies. *Obstet Gynecol* 1998;91:965-8.