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Title (type in CAPITAL LETTERS)	STRESS URINARY INCONTINENCE AND ITS DIAGNOSTIC TESTS

Aims of Study

The International Continence Society defines stress urinary incontinence (SUI) as a symptom, a sign and a condition (1). The symptom is the patient's complaint of involuntary loss of urine with physical activities. The sign is the observation of urine loss from the urethra immediately upon increasing abdominal pressure. The condition is the involuntary loss of urine that occurs when intravesical pressure exceeds maximal urethral pressure in the absence of detrusor activity. This study examines the diagnostic values of cough test, urethrocytoscopic funneling and multi-channel urethral pressure profile (UPP) study as applies to the symptom of SUI.

Method

A retrospective review of history, physical examination, urethrocytoscopic and multi-channel dynamic urethral pressure measurement at Mount Sinai Hospital urogynecology unit from July to December 1988 inclusively is currently on-going. The patient's symptom of involuntary urine loss associated with physical activities and/or increased abdominal pressure was correlated with the signs of positive cough test (cough) during physical exam, positive urethrocytoscopic funneling (funnel), and presence of negative pressure transmission on dynamic multi-channel UPP (Neg UPP). The patients were grouped into those with symptoms of SUI only and those with SUI and urge incontinence (mixed incontinence). The control or disease negative group included those who underwent tests for other indications (urge incontinence, recurrent UTI's and urethral polyps). At present, 145 patients records with urethrocytoscopic exams have been reviewed and of these, 66 had multi-channel urodynamics. Since latent SUI can be found in patients with prolapse alone, the eight patients with prolapse but no complaints of urinary incontinence were excluded from this analysis.

Results

Table-1 Correlations of symptom with cough and funnel tests (n= 137)

	Symptoms of SUI (19)	Symptoms of Mixed Incontinence (84)	Urge & Others (33)
Cough +	10	57	4
Test -	9	27	29
Funnel +	17	76	10
Test -	2	8	23

Table-2 Correlation of symptom with neg UPP (n= 66)

	Symptoms of SUI (10)	Symptoms of Mixed Incontinence (42)	Urge & Others (14)
Neg UPP +	5	32	4
UPP -	5	10	10

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Table-3 Diagnostic Values of Tests in patients with genuine SUI

	Cough	Funnel	Negative UPP
Sensitivity (%)	53	89	50
Specificity (%)	88	70	71
Positive Predictive Value (%)	71	63	55
Negative Predictive Value (%)	76	95	66

Table-4 Diagnostic Values of Tests in patients with mixed Urinary Incontinence

	Cough	Funnel	Negative UPP
Sensitivity (%)	88	89	76
Specificity (%)	68	70	71
Positive Predictive Value (%)	93	88	89
Negative Predictive Value (%)	52	74	50

Conclusions

The diagnostic tests performed differently between those with genuine SUI and those with mixed symptoms. There was no diagnostic test that yielded high specificity and sensitivity in our population. As an initial test, the cough test was poor at ruling out SUI. Diagnosis based on the cough test alone runs the risk of missing SUI. In this setting where a positive diagnosis may lead to surgical treatment, serial testings may be useful since none of the individual tests was highly specific. This testing strategy maximizes specificity and positive predictive value so one is more confident that positive test results represent the disease and the treatment is indicated. Caution is to be used when applying this test strategy since there is an increased risk that SUI will be missed.

References

1. Abrams P, Blaivas JG, Stanton SL, Andersen JT. The standardization of terminology of lower urinary tract function. Scand J Urol Nephrol 1988; 114:5-19.