

MIXED URINARY SYMPTOMS: WHAT DO THEY REALLY MEAN?

Hypothesis / aims of study

Mixed urinary incontinence is the major symptom of incontinence in the community and the hospital setting (1). There have not been any large studies investigating patients with mixed urinary symptoms and their urodynamic diagnoses. This study defines the urodynamic diagnoses for mixed incontinence in a large hospital population.

Study design, materials and methods

Women with lower urinary tract symptoms referred to a tertiary urogynaecology clinic were studied. On referral all women were sent a urinary symptoms questionnaire, quality of life questionnaire (King's Health Questionnaire) which was completed prior to their appointment. All the women were investigated using a standardised protocol. After uroflowmetry, the urinary residual was drained and measured and the bladder filled, through a 12 F filling catheter, with room temperature X-ray contrast medium (Isopaque Cysto 100mg/mL) or saline at 100 ml/min. Fluid filled 4.5F catheters were used to measure the intra-vesical and rectal (abdominal) pressures. The filling catheter was removed when the patient developed a strong desire to void or 500 ml had been infused into the bladder. Provocative manoeuvres were employed with the woman standing: the woman coughed once, three and five times with maximal effort to detect any incontinence of urine. Other provocative tests such as running water (turning the tap on) or washing hands into the cold water were used. Finally the women were seated for the pressure-flow study which was performed in private.

The women were classified as having mixed urinary incontinence symptoms if they admitted to stress and urge incontinence on the symptom questionnaire. Women were classified as having urodynamic mixed incontinence if they were found to have detrusor overactivity and urodynamic stress incontinence during the urodynamic test.

Results

Overall 3338 women underwent urodynamics of whom 82% (2737) were incontinent of urine. Mixed urinary incontinence was reported in 1624 (49%) of all the women who underwent urodynamics. The diagnoses for this group are shown in Table 1 with 715 (43%) of women having detrusor overactivity.

Diagnosis	Numbers (%)
Pure urodynamic stress incontinence	665 (42%)
Pure detrusor overactivity	414 (25%)
Urodynamic mixed incontinence (DO/USI)	299 (18%)
No diagnosis	248 (15%)

Table 1: Overall urodynamic diagnoses for mixed urinary incontinence symptoms

The groups of women with mixed urinary incontinence were divided into stress predominant mixed incontinence 464 (29%), urge predominant mixed incontinence 248 (15%) and equal severity of stress and urge incontinence 912 (56%). The urodynamic diagnoses for these groups are shown in tables 2, 3 and 4.

Diagnosis	Numbers (%)
Pure urodynamic stress incontinence	297 (64%)
Pure detrusor overactivity	49 (11%)
Urodynamic mixed incontinence (DO/USI)	83 (18%)
No diagnosis	35 (7%)

Table 2: Urodynamic diagnoses of stress predominant mixed urinary incontinence

In the stress predominant mixed group there were 28% who had some detrusor overactivity, in the urge predominant mixed group there were 67% who had some detrusor overactivity.

Diagnosis	Numbers (%)
Pure urodynamic stress incontinence	44 (18%)
Pure detrusor overactivity	117 (47%)
Urodynamic mixed incontinence (DO/USI)	248 (15%)
No diagnosis	46 (19%)

Table 3: Urodynamic diagnoses of urge predominant mixed urinary incontinence

In the group with equal severity of urge and stress incontinence had 46% with some detrusor overactivity.

Diagnosis	Numbers (%)
Pure urodynamic stress incontinence	322 (35%)
Pure detrusor overactivity	249 (27%)
Urodynamic mixed incontinence (DO/USI)	172 (19%)
No diagnosis	169 (18%)

Table 4: Urodynamic diagnoses of equal urge and stress mixed urinary incontinence

From the study group of 3338, there were 428 women who had mixed urodynamic incontinence of whom 235 (55%) had stress and urge incontinence symptoms. 82 (19%) had stress incontinence symptoms only and 27 (6%) had urge incontinence symptoms only.

Interpretation of results

64% of those with predominant stress incontinence in mixed urinary incontinence have urodynamic stress incontinence whereas 67% of those with predominant urge incontinence in mixed urinary incontinence have detrusor overactivity. 46% of women with equal severity of urge and stress incontinence have detrusor overactivity. This may explain the results seen in symptomatic mixed incontinence studies. Urodynamic mixed incontinence is a much smaller group who mainly (55%) have both urge and stress incontinence.

Concluding message

The relative severity of mixed urinary incontinence symptoms distinguish between different urodynamic groups. Urge predominant mixed urinary incontinence have mainly detrusor overactivity and those with stress predominant mixed urinary incontinence mainly have urodynamic stress incontinence. This may explain why pharmacological studies with urge or stress predominant mixed urinary incontinence have been so successful.

1. Neurourol Urodyn. 2002;21(1):30-5.