

Authors: SK Chu, BTH Wong

Institution: Division of Urology, Department of Surgery, Queen Elizabeth Hospital

Title: ROLE OF URODYNAMICS IN FEMALE STRESS INCONTINENCE: AN ANALYSIS OF 68 CASES

Aims of Study:

To study the reliability of various urodynamic parameters in the diagnostic evaluation and classification of female stress urinary incontinence (SUI).

Methods:

The urodynamic records of 68 consecutive women with SUI, aged 33 - 82 (mean 55) years, who had undergone multichannel video urodynamic study between May 1998 and March 2001 were reviewed. All patients had a free uroflowmetry with post void residual (PVR) estimation, followed by synchronous fluoroscopy with cystometry and pressure flow evaluation.

A cohort of 10 patients in the series subsequently underwent surgical treatment - the pubovaginal sling procedure utilising rectus fascia, combined with anterior vaginal wall suspension. Their postoperative voiding function was further evaluated.

Results:

Video urodynamic study revealed 68 patients had genuine stress incontinence (GSI): Type I - 12 (18 %), Type II - 37 (54 %), Type III - 5 (7 %), mixed Type I + III - 2 (3 %), and mixed Type II + III - 12 (18 %). Only 8 (12 %) patients had coexisting detrusor instability.

49 / 68 (72 %) patients voided with normal pattern at uroflowmetry, with mean Qmax 22.8 (range 10.1 - 50.1) ml/sec and mean PVR 27 ml. Yet 26 of these 'normal' voiders could not produce recordable or significant (Max Pdet > 15 cmH₂O) detrusor contraction during pressure flow evaluation, indistinguishable from the other 19 / 68 (28 %) patients with straining pattern at uroflowmetry.

Among the cohort of patients post surgery, 8 / 10 patients could not elicit significant Pdet rise during micturition before operation. 9 patients voided with PVR consistently less than 50ml within 5 days after resuming micturition post operation, and demonstrated significant detrusor contraction at follow-up urodynamic assessment.

Only 40 (59 %) patients successfully performed valsalva leak point pressure (VLPP) test:

<u>Type</u>	<u>No. of patients</u>	<u>No. measured</u>	<u>Range (cmH₂O)</u>
I	12	4	78 - 135
II	37	26	50 - 155
III	5	3	26 - 64
I + III	2	1	58
II + III	12	6	44 - 179

Other patients encountered difficulties in following instructions to perform Valsalva manoeuvre. Intra- and inter-observer variation in defining the exact moment of urinary leakage could translate into inconsistent or unreproducible data.

Conclusions:

Video urodynamic study readily provided fluoroscopic diagnosis and classification of GSI. Intrinsic sphincter deficiency was a significant etiological component in women with GSI. VLPP had limited value as an independent tool for classification due to variability and overlap of values. Also, uroflowmetry correlated poorly with postoperative voiding function. Failure to demonstrate significant detrusor contraction at preoperative cystometry should not be interpreted independently to preclude surgery.

Source of funding: Hospital Authority, Hong Kong SAR