



Urodynamic assessment of patients with stress incontinence: does it lead to better outcomes?

Melissa du Heaume¹, Robyn Leake² and Raoul Oehmen¹

¹ The University of Notre Dame Fremantle, ² Hollywood Private Hospital
Corresponding author: melissa.duhaume@gmail.com

Introduction

Urodynamic studies (UDS) are investigations that assess lower urinary tract function. UDS was routinely recommended prior to stress incontinence surgery because they were believed to improve case selection and allow for adaptation of the surgical approach by providing a more precise evaluation¹. The International Urogynaecology Association recently changed its guidelines to recommend that UDS does not need to be conducted prior to surgery for uncomplicated cases of stress incontinence. This recommendation is supported by two non-inferiority randomised control trials^{2,3}. Despite this evidence, routine use of UDS prior to stress incontinence surgery continues to be debated⁴.

Aims

Primary aim: To compare post-operative outcomes at 6 weeks in women with uncomplicated stress incontinence who received clinical evaluation and UDS versus clinical evaluation only.

Secondary aim: To explore the impact of other collected parameters on post-operative outcomes.

Methods

- Retrospective chart review of 89 women who underwent surgery for uncomplicated stress incontinence between 4 October 2010 and 7 May 2018.
- Participants were excluded if they had mixed urinary incontinence, stage 2 prolapse or higher, concurrent major pelvic surgery, previous stress incontinence surgery or missing data on outcomes.
- The primary outcomes were recurrence of stress incontinence symptoms and complications.
- Statistical analysis was performed using IBM SPSS Statistics, version 25 (IBM, Corp., Armonk, N.Y., USA)

Conclusion

- This study found no significant difference in symptom recurrence or complications at 6 weeks between women with uncomplicated stress incontinence who underwent clinical evaluation and UDS versus clinical evaluation only. Despite the small number of cases, these findings reflect current literature^{2,3} and support the recommendation by the International Urogynaecology Association.
- There was a significantly higher number of complications in patients who underwent concurrent posterior repair, but the majority were dyspareunia specifically related to posterior repair and not the tape procedure for stress incontinence.
- Our study has several limitations that should be acknowledged. There was a significant difference in age between the two groups and data was not available for BMI. As a result, these variables may have influenced the primary outcomes. Secondly, this study reflects on the experience of one gynaecologist at a private hospital in Western Australia so findings may not be generalisable. Also, the gynaecologist is experienced and clinical experience may impact on selection of suitable cases. Finally, this study employed a short follow up time.
- Further investigation is required to determine the impact of clinical experience on case selection and whether UDS affects long term post-operative outcomes.

Results

Patient Characteristics

A total of 89 women underwent surgery for uncomplicated stress incontinence with 67 undergoing clinical evaluation and UDS and 22 undergoing clinical evaluation only. Table 1 shows no significant difference in ethnicity, parity or co-morbidity between the two groups pre-operatively, but age was significant.

Table 1 – Participant characteristics by pre-operative evaluation

	Clinical evaluation and UDS	Clinical evaluation only	p value
Age-years	56.52 ±10.47	51.14 ± 9.70	0.04*
Ethnicity- no (%)			1.00
Caucasian	63 (94.0%)	21 (95.5%)	
Other	4 (6.0%)	1 (4.5%)	
Parity	2.14±1.1	2.18±1.0	0.86
Co-morbidity ¹ - no (%)			0.43
Yes	23 (34.3%)	5 (22.7%)	
No	44 (65.7%)	17 (77.3%)	

¹ Comorbidities include GORD, T2DM, peripheral vascular disease, tumour, chronic pulmonary disease, connective tissue disorder or cerebrovascular disease

Impact of urodynamics on recurrence and complications

There was no significant difference in symptom recurrence or complications between the groups.

Table 2. Impact of urodynamics on recurrence and complications

	Clinical evaluation and UDS	Clinical evaluation only	p value
Recurrence- no (%)			1.00*
Yes	4 (6.0%)	1 (4.5%)	
No	63 (94.0%)	21 (95.5%)	
Complication ¹ - no (%)			0.48*
Yes	8 (11.9%)	4 (18.2%)	
No	59 (88.1%)	18 (81.8%)	

¹ Complications include prolonged post op voiding difficulties, recurrent UTIs, intraoperative visceral injury, dyspareunia and de novo urge symptoms

Impact of concurrent surgery on complications

Participants who underwent concurrent posterior repair for prolapse had a significantly higher number of complications than those who didn't (28.0% v 8.48%, p=0.03). Concurrent cystoscopy (11.0% v 25.0%, p=0.22), hysteroscopy (0.0% v 14.6%, p=0.59) and anterior repair (25.0% v 9.2%, p= 0.08) were not found to significantly impact on the number of complications.

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