

#432 Evaluation of the available evidence on the indication for urodynamic study in women before surgical treatment for stress urinary incontinence

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Hypothesis & Aims of study

- Urodynamics allows a functional diagnosis and can help predict surgery results in women undergoing surgical treatment for stress incontinence.
- The current recommendation of most clinical practice guidelines is that it is not necessary to routinely perform urodynamic studies before surgery for female urinary incontinence in women. However, the degree of prevalence is not high and there is no consensus in the available literature.
- Our objective was to evaluate the available evidence and to establish a position as a scientific society on the usefulness and indications of performing urodynamic studies before surgery for stress urinary incontinence in women.

Study Design

- A search was conducted using PubMed, Web of Science and Scopus databases for articles published between January 1979 and June 2023.
- Inclusion criteria were manuscripts in English with the terms "female urinary incontinence" and "urodynamics"
- The literature search found 147 studies. After eliminating duplicates and those that did not meet criteria, only 25 were included.

Results and interpretation

Main studies evaluating the usefulness of UDS before surgery for SUI

Randomized studies evaluating the usefulness of UDS before surgery for SUI

	Nager CW, et al. 2012	van Leijssen SAL, et al. 2012 (10)	Agarwal A, et al. 2014 (22)	Leandro A, et al. 2021 (23)	Serati M, et al. 2016 (14)
Type of Study	Multicenter non-inferiority randomized controlled trial	Multicenter non-inferiority randomized controlled trial	Prospective Randomized	& Retrospective	Retrospective
Primary outcome	Reduction in the score on the UDI of 70%	Clinical reduction of complaints as measured with the Urogenital Distress Inventory urinary incontinence subscale (UDI-UI) at 12 months after treatment.	Reduction in the score on the UDI	Evaluation of type of SUI as uncomplicated or complicated	Evaluation of type of SUI as uncomplicated or complicated
Intervention strategy	UDS vs no UDS before SUI surgery	UDS vs no UDS before SUI surgery	UDS vs no UDS before SUI surgery		
Inclusion criteria	Women with uncomplicated SUI	Women with SUI or mixed urinary incontinence (MUI) with predominant symptoms of SUI	Women presenting with predominantly SUI	Women with SUI derived from UDS prior to the surgical treatment	Women with SUI derived from UDS prior to the surgical treatment
Number of patients	630 (315 UDS & 315 no UDS)	59 (31 UDS & 28 no UDS)	60 (31 UDS & 28 no UDS)	792 patients	2053 patients
Notes		The trial was stopped prematurely because of slow inclusion	Patients with complicated SUI were excluded	39,5% SUI were considered uncomplicated and 60,5% as complicated SUI	36% SUI were considered uncomplicated and 64% as complicated SUI

	Nager CW, et al. 2012		van Leijssen SAL, et al. 2012 (10)		Agarwal A, et al. 2014 (22)	
	Without UDS	UDS before SUI surgery	Without UDS	UDS before SUI surgery	Without UDS	UDS before SUI surgery
Improvement on the UDI-UI	77.2%	76.9%	48 +/- 22 (Mean and SD)	34 +/- 22 (Mean and SD)	60.0% (Mean change 40)	86.7% (Mean change 50.3)
Subjective Global Improvement	82.2%	79.5%	96%	87%	ND	ND
Subjective Global Cure	ND	ND	79%	65%	ND	ND
Subjective Cure – Stress test negative	72.9%	69.4%	82%	81%	86.6%	96.7%
Subjective Global Cure – 48-hr Voiding diary	ND	ND	86%	81%	ND	ND

- MUI: Mixed urinary incontinence
- SUI: Stress Urinary Incontinence
- UDS: Urodynamics
- UDI-UI: *Urogenital Distress Inventory – Urinary Incontinence*
- ND: No described

- The conclusions of the VALUE study are related in cases of uncomplicated or pure stress urinary incontinence
- However, up to 36% of patients undergoing surgery for SUI will be cases of incontinence considered as complicated:
 - Previous anti-incontinence surgery,
 - Radiotherapy or pelvic surgery
 - Pelvic prolapse that exceeds the hymen
- The performance of a urodynamic study prior to the treatment of urinary incontinence may lead to a change in diagnostic orientation in
 - 74% of patients with complicated SUI
 - 40% in the case of uncomplicated SUI.
 - In women with pure stress urinary incontinence, the urodynamic study reported
 - 74.5% pure stress urinary incontinence
 - 10.6% overactive detrusor
 - 8% mixed urinary incontinence
 - 6.8% inconclusive
- Urodynamic study modifies the proposed treatment in:
 - 23.8% cases of complicated
 - 11% cases of uncomplicated SUI

Conclusions

- In women who consult for stress urinary incontinence, it is necessary to individualise the indication for urodynamic study prior to surgical correction.
- The urodynamic study is a complementary test within the diagnostic framework to be considered after a non-invasive study of the patient with a detailed clinical history, physical examination and other complementary tests such as a voiding diary, specific questionnaires and flowmetry with residual urine. The indication must be contextualised and integrated into the clinical context of the patient.
- We consider it necessary in cases of complicated or non-pure stress urinary incontinence. If there is no congruence between the referred symptomatology and the urodynamic results, the patient's evaluation, the diagnosis and the established therapeutic plan should be reconsidered.

References

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