

THE REPRODUCIBILITY OF URODYNAMIC STUDIES FOR IDIOPATHIC URINARY RETENTION

Hypothesis / aims of study

Urodynamic studies are the gold-standard to evaluate the function of lower urinary tract. Reproducibility of urodynamics was previously evaluated in the setting of spinal cord injuries, benign prostatic hyperplasia and female urinary incontinence (1,2,3). However, urodynamics reproducibility was not yet evaluated in patients with idiopathic urinary retention.

Study design, materials and methods

The aim of this observational study was to evaluate the short-term reproducibility (test-retest reliability) of urodynamics in patients diagnosed with chronic idiopathic urinary retention.

Patients with chronic idiopathic urinary retention who underwent urodynamic studies at a reference center for neurourology from December 2009 to May 2010 were included. Two trials (time 1 and time 2) of urodynamics were done in sequence (5 to 10 minutes apart), using the same infusion rate, position and technique for each patient. The following variables were collected: bladder filling at first sensation (BFFS), compliance, cystometric capacity, presence of detrusor overactivity, maximum detrusor pressure, volume voided and post-void residual volume (PVR). Paired samples T test was used for comparing means and Pearson's coefficient was used for analyzing correlation.

Results

Data of 17 consecutive patients were recorded and analyzed. There was good correlation between time 1 and time 2 measurements for all the variables studied. For the most important parameters – BFFS, cystometric capacity, maximum detrusor pressure and PVR – the Pearson's coefficient was 0.82 (p=0.006), 0.75 (p=0.007), 0.54 (p=0.03) and 0.86 (p=0.001), respectively.

Interpretation of results

Patients diagnosed with chronic idiopathic urinary retention are usually managed in reference centers for neurourology and lower urinary tract dysfunction. The diagnosis is clinical and depends on exclusion of neurological diseases and conditions which can impede bladder emptying. Urodynamics is essential in the routine approach to the patients (1,2). Unfortunately, studies to evaluate test-retest reliability of urodynamics in this setting are lacking in the literature. This observational study demonstrated good correlation between urodynamic parameters in two different measurements (5 to 10 minutes apart) in patients with chronic idiopathic urinary retention.

Concluding message

This study showed good short-term intrasubjective reproducibility of urodynamics in patients with chronic idiopathic urinary retention.

Key words

urodynamics, reproducibility, urinary retention

References

1. Rahmanou P, Chaliha C, Kulinskaya E, Khullar V. Reliability testing of urodynamics, pressure flow studies and cough leak point pressure in women with urodynamic stress incontinence with and without detrusor overactivity. *Int Urogynecol J Pelvic Floor Dysfunct.* 2008 Jul;19(7):933-8. Epub 2008 Feb 5.
2. Ho CH, Linsenmeyer TA, Millis SR. The reproducibility of urodynamic studies of neurogenic bladders in spinal cord injury. *J Spinal Cord Med.* 2000 Winter;23(4):276-83.
3. Tammela TL, Schäfer W, Barrett DM, Abrams P, Hedlund H, Rollema HJ, Matos-Ferreira A, Nordling J, Bruskwitz R, Miller P, Kirby R, Andersen JT, Jacobsen C, Gormley GJ, Malice MP, Bach MA. Repeated pressure-flow studies in the evaluation of bladder outlet obstruction due to benign prostatic enlargement. *Finasteride Urodynamics Study Group. Neurorol Urodyn.* 1999;18(1):17-24

Disclosures

Funding: NONE **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** Maimonides Hospital Ethics Committee **Helsinki:** Yes **Informed Consent:** Yes