

ARE URODYNAMICS USEFUL PRIOR TO SURGICAL TREATMENT FOR ADVANCED PELVIC ORGAN PROLAPSE?

Hypothesis / aims of study

Pelvic organ prolapse and lower urinary tract symptoms often coexists as they may have a similar underlying pathophysiology. Currently, it has not been possible to reach a universal consensus on the role of urodynamics before prolapse surgery in women with concomitant symptomatic or occult stress urinary incontinence. In addition, the prevalence of bladder outlet obstruction versus detrusor hypocontractility as the cause of voiding difficulty in this group of patients is not well established. The aim of this study was to identify the prevalence of urethral and bladder dysfunctions in women with advanced pelvic organ prolapse.

Study design, materials and methods

This study comprised 105 consecutive women planning surgical treatment for pelvic organ prolapse stage III and IV, according to the Pelvic Organ Prolapse Quantification (POP-Q) system, evaluated prospectively between January and December 2015. The study was reviewed and approved by Institutional Review Board and all included subjects signed informed consent before participating in the study. A standard history, an incontinence questionnaire and physical examination were completed before the urodynamic investigation. Multichannel urodynamics were performed in the supine and standing positions and the prolapse was reduced using gauze and Cheron dressing forceps. Bladder outlet obstruction was defined as maximum flow rate ≤ 12 ml/s and detrusor pressure at maximum flow > 20 cmH₂O. Urodynamics and terminology followed ICS standardisation^(1,2)

Results

The mean patient age was 65.7, mean parity 5.1 and mean body mass index 27.4. From the 105 women, 70 (66.7%) presented with prolapse stage III and 35 (33.3%) stage IV. Twelve (11.4%) women reported SUI symptoms, 17 (16.2%) urge urinary incontinence (UUI), 32 (30.5%) mixed urinary incontinence (MUI), 86 (81.9%) storage symptoms, and 62 (59.0%) voiding symptoms. During urodynamics, 36 (34.3%) subjects were diagnosed as continent, 11 (10.5%) were diagnosed as stress urinary incontinent, and 58 (55.2%) as occult stress incontinent. Only 8 (7.6%) had urodynamic demonstrated detrusor overactivity and one patient leaked during involuntary detrusor contraction. Bladder outlet obstruction (BOO) was found in 19 (18.1%) subjects. Bladder Contractility Index (BCI) was less than 100 in 33 (31.4%) patients. 18/19 (94.7%) BOO patients had weak bladder contractility, whereas only 15/86 (17.4%) non BOO patients presented hypocontractility. Patient with stage IV prolapse had increased post void residual ($p=0.021$) and increased detrusor pressure at maximum flow ($p=0.01$) when compared to stage III patient. These patients also had higher prevalence of weak detrusor, 15/35 (42.8%) versus 18/70 (25.7%). There were no correlation between voiding symptoms ($p = 0.171$) and storage symptoms ($p = 0.340$) with bladder outlet obstruction. Only 17 (16.2%) patients had normal urodynamics.

Interpretation of results

The majority of the patients (83.8%) with advanced pelvic organ prolapse presented altered urodynamics. The prevalence of urethral dysfunction was 74.3% and vesical dysfunction 39.0%. As a consequence of expected urethral folding, bladder outlet obstruction, based on higher voiding detrusor pressure and increased post void residual, was more frequent in patients with stage IV prolapse, but unexpectedly, we observed a strong association between obstruction and hypocontractility. We found high prevalences of urodynamic dysfunctions, especially in patients with stage IV prolapse, however, only postoperative follow-up will reveal whether these findings will be clinically relevant or not.

Concluding message

The prevalences of urethral and bladder dysfunctions in women with advanced pelvic organ prolapse are high and may be masked by mechanical obstruction.

References

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Disclosures

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