

BLADDER OUTLET OBSTRUCTION VERSUS POWER CONSUMPTION PROCESS – SIMILAR IN URODYNAMICAL PARAMETER BUT DIFFERENT IN THERAPY

Hypothesis / aims of study

Urodynamical and videourodynamical examinations are the gold-standard in diagnosing complicated dysfunction of the lower urinary tract. However based on the complex anatomy as well as neurology similar symptom complexes can be caused by different pathologies which need partly contrary treatment regimes.

Bladder outlet obstruction (BOO) is one major cause of voiding dysfunction in men. Several internationally acknowledged nomograms categorize the grade of subvesical obstruction with consecutive decompensation of the detrusor, mostly resulting in increase in detrusor pressure, post void residual and decrease in maximum voided volume and stream rate.

Despite these facts there are still entities which are not covered by these examinations, causing similar urodynamical outcome which are named as power consumption process (PCP).

Study design, materials and methods

We retrospectively analyzed all 4435 videourodynamical examinations in 3850 patients in our centre, which were examined in the time period of 07/2001 till 12/2012. All examinations were performed in a standardized manner. These parameters were analyzed: Age of patient at presentation, main diagnosis, fluoroscopic morphology of the lower urinary tract, maximum cystometric capacity (ml), maximum voided volume (ml), micturition time (s), stream rate (ml/s), post void residual (ml), detrusor pressure at maximum flow (cmH₂O), IPSS, LQI. The results were compared to the patient population with the urodynamical diagnosis BOO.

Results

We identified 138 patients (3,6% of the whole patient population) with power consumption processes, consisting of 35 (25,4%) women and 103 (74,6%) men. The diagnosis of PCP were diagnosed in similar age with respect to BOO (women: 60,7 yrs vs. 55,8 yrs, men: 62,2 yrs vs. 66,3 yrs). There were no significant differences according to the following parameters: maximum voided volume, stream rate, post void residual, maximum cystometric capacity, detrusor pressure at maximum flow, IPSS and LQI in men and women.

With respect to morphological changes we observed in female patients in 48,6% of these cases a vesicorenal reflux, in 20% a relevant diverticula and bladder descensus in 25%.

In men we observed relevant diverticula in 76,7% and a vesicorenal reflux in 27,2%.

Interpretation of results

Based on the data, PCP showed very similar results in urodynamical parameters such as maximum voided volume, stream rate and detrusor pressure as well as in patient's subjective parameters such as IPSS, LQI, micturition frequency, nocturia compared to BOO. Only by using videourodynamics, these patients could be identified and were assigned to a different treatment regime. This data show that there are no differences between PCP and BOO with respect to subjective (IPSS, LQI) and objective parameters. Furthermore with respect to the total number of patients with BOO (n=1411) in comparison to the number of patients with PCP (n=138), this study showed that 10% of patients suggestive for BOO have a different diagnoses resulting in different treatment, which can only be observed by the fluoroscopical part of the videourodynamic. This study underlines the necessity of videourodynamic in a proper diagnostic approach and the relevance of this new entity.

Concluding message

PCP is a relevant entity in bladder dysfunction and must be considered as differential diagnosis in conventional urodynamics suggestive for BOO.

Disclosures

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