

URODYNAMICS BEFORE BENIGN PROSTATIC OBSTRUCTION SURGERY – WHO WON'T MAKE THE CUT?

Hypothesis / aims of study

Pressure flow studies (PFS) are the only method that can define bladder outlet obstruction (BOO). In the absence of BOO, patients are less likely to benefit from invasive treatments. However, their recommendation is debatable. Our objective was to evaluate the proportion of patients with clinical indication of invasive treatment for lower urinary tract symptoms suggestive of benign prostatic obstruction (LUTS-BPO) who would benefit from urodynamic assessment and to identify independent factors to support this practice.

Study design, materials and methods

311 consecutive non-neurogenic patients with clinical indication of surgery for LUTS-BPO (clinical therapy failure and/or urinary retention) underwent urodynamic evaluation. They were categorized according to Schäfer nomogram (considering obstruction \geq grade II) in: BOO; normal; detrusor underactivity/acontractile detrusor (DU/AD) and BOO+DU. Clinical parameters were compared among the groups (ANOVA or Kruskal-Wallis and chi-square tests) and multivariate analyses were performed to identify independent factors associated with each group.

Results

Patients were divided as: BOO: 56.6%; normal: 2.6%; DU/AD: 9.3% and BOO+DU: 31.5%. Prostate volume was higher in group BOO compared with DU/AD ($p=0.003$) and was an independent factor associated with pure obstruction ($p=0.018$). Maximum urinary flow (Qmax) on uroflowmetry was higher in the normal group compared with the others ($p<0.001$) and was an independent factor associated with a normal PFS ($p<0.001$). Post void residual (PVR) was higher in BOO+DU (vs BOO; $p=0.003$) and lower in the normal group (vs BOO+DU and DU/AD; $p=0.003$) and was an independent factor associated with the presence of DU and BOO, compared with pure BOO ($p=0.036$). The age of patients, comorbidities and the type of clinical indication of surgery did not differ among the groups.

Group	Prostate volume (g)	Qmax (mL/s)	PVR (mL)
BOO (n=176) (mean \pm SD)	67 \pm 9	8 \pm 4	97 \pm 105
Normal (n=8) (mean \pm SD)	36 \pm 13	19 \pm 3	15 \pm 35
DU/AD (n=29) (mean \pm SD)	43 \pm 23	8 \pm 6	130 \pm 143
BOO+DU (n=98) (mean \pm SD)	53 \pm 38	7 \pm 4	135 \pm 106

Interpretation of results

In this cohort only half of the patients presented with pure BOO, which supports the clinical indication of invasive treatment for BPO. In 12% of the cases the indication was not supported by the urodynamic diagnosis and in 1/3 of the patients proceeding with surgery would require individual assessment, because of the presence of DU. High prostate volume, high Qmax and high PVR were associated with pure BOO, normality and impaired detrusor contractility, respectively.

Concluding message

About a half of the patients benefited from the urodynamic assessment before benign prostatic surgery, since the diagnosis of BOO was either not confirmed or was part of a more complex condition, due to the concomitant presence of DU. In those groups surgery was either avoided or performed after informed decision based on a lower chance of symptomatic improvement. Even though there were independent factors associated with specific urodynamic diagnosis it is not possible to foresee the different conditions. Therefore, urodynamic studies are an important tool before BPO surgery.

Disclosures

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