Prediction of Unfavourable Symptomatic Outcome of Transurethral Prostatectomy in Patients with the Relative Indication for Operation

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A total of 48 patients with BPH were studied before and after TURP. Initial diagnostic evaluation consisted of clinical examination, IPSS, uroflowmetry, cystometry, and “pressure-flow” study. Contribution of the important urodynamic measurements for the favourable symptomatic outcome was evaluated. There was significantly better result in patients with severe symptoms preoperatively (p = 0.03), low preoperative Qmin (p = 0.03), and presence of obstruction (p = 0.004), especially in patients with normal or strong detrusor contraction. Preoperative volume of residual urine as well as detrusor instability were not important for the symptomatic outcome.

IPSS and uroflowmetry should not be treated as optional diagnostic tests. They improved the percentage of patients with an excellent symptomatic outcome from 62.5% to 90% (p = 0.04). “Pressure-flow” study is the reliable method for the achievement of excellent symptomatic outcome, but not significantly better than uroflowmetry and IPSS together. “Pressure-flow” study should be performed only in inconclusive preoperative cases.

Introduction

Benign prostatic hyperplasia (BPH) is a clinical syndrome characterized by the presence of morphological, functional and symptomatic disorders. Routine laboratory and clinical examinations are able to identify disease morphologically, but the main importance of BPH is related to the degree of functional impairment of the lower urinary tract. It is commonly believed that the symptoms of BPH are caused by narrowing of the urethra and impairment in passage of the urine. Besides that, International Consensus Committee patronized by WHO advice urodynamic investigation only in patients with uncertain preoperative findings [1]. Urodynamic investigation is thus regarded as an unnecessary procedure and is not always accepted among the clinicians.

Estimation of the outcome of the operation performed because of relative indications is not simple, but symptomatic outcome is currently recommended as the most important. The aim of the study was to evaluate predictive value of some urodynamic parameters for the symptomatic outcome of transurethral resection of the prostate (TURP).
Material and methods

A total of 48 patients with lower urinary tract symptoms and morphologically enlarged prostate, candidates for TURP were studied. After initial clinical and laboratory evaluation (blood analysis, urinalysis, transabdominal ultrasound and digital rectal examination), International Prostate Symptom Score (IPSS) testing was performed. The patients were classified in categories according to the symptom severity [2].

Uroflowmetry was performed after the patients had expressed strong desire to void. Two measurements were usually performed, and the result with higher maximal flow ($Q_{\text{max}}$), and volume voided was considered as more representative. Residual urine was measured before cystometry. Cystometry was performed with the patient in supine position. Double lumen catheter (9 F) or two catheters (6 F) were simultaneously placed for the infusion and registration line. One of them was removed before the “pressure-low” study. Rectal catheter was inserted for the registration and digital subtraction of abdominal pressure. During cystometry numerous provocative tests were performed (coughing, listening of water) and involuntary detrusor contractions were registered until the maximum cystometric capacity was reached. “Pressure-flow” study was performed according to the ICS standards. Detrusor contraction strength (defined by detrusor pressure at maximum flow $P_{\text{det,max,flow}}$) and obstruction grade according to Schaffer’s nomogram were measured. The speed of detrusor contraction (difference between premicturitional pressure and pressure before the onset of the flow divided by time) was evaluated more often than in routine “pressure-flow” study.

All patients were reevaluated 6 months after TURP. IPSS, uroflowmetry, cystometry and “pressure-flow” studies were performed in the same way as preoperatively. In all patients preoperative parameters were studied according to the postoperative symptomatic outcome. All urodynamic measurements were performed on DISA urodynamic equipment with external pressure transducers. Statistical significance measured with the Wilcoxon match paired test was 0.05. The result was considered as optimal when there was postoperative IPSS<8 (mild symptoms).

Results

The most important data about symptoms and obstruction are shown in Table 1. All patients had severe or moderate symptoms before TURP. The optimal result of TURP was achieved in 30/48 (62.5%) patients. There were 18 (37.5%) patients with moderate and severe symptoms postoperatively. This operative result was regarded as unsatisfactory. Postoperative detrusor instability was associated with unfavourable symptomatic outcome as frequently as persistent postoperative obstruction. Both of them were present in 12/18 patients with intermediate and severe postoperative symptoms after the operation. It means that 6 patients remained unclear about the origin of postoperative moderate to severe lower urinary tract symptoms.