313

Shim K[1], Seo Y[1], Heo J[1], Kyungmi Lee[2], Jungoh Lee[3]
1. Busan Veterans Hospital, 2. Busan National University Hospital, 3. Maryknoll General Hospital

CAN PRESSURE FLOW STUDY AND NON-INVASIVE STUDIES PREDICT THE CLINICAL OUTCOME AFTER TRANSURETHRAL RESECTION OF PROSTATE?

Hypothesis / aims of study

To evaluated a formula for predicting the outcome of transurethral resection of the prostate using pressure flow study (PFS), and compare the predictive value of The International Prostate Symptom Score (IPSS), maximum flow rate (Qmax), ultrasound determination of residual urine volume and prostate volume in benign prostate hyperplasia patients.

Study design, materials and methods

The records of 109 men with lower urinary tract symptoms that underwent a transurethral resection of prostate (TURP) between May 2000 and June 2004 were retrospectively analysed. The mean age of 59 years (range 47 to 78) were retrospectively analysed. Fifty-one patients underwent preoperative PFS (PFS Group) and fifty-eight patients did not (Non PFS Group). The PFSs were performed with an 8Fr suprapubic catheter. The results of the PFS were divided into two groups: obstructed and unobstructed, using an ICS nomogram, pQ slope or the minimal urethral opening pressure. Other preoperative studies were IPSS, uroflowmetry for Qmax, sonographic measurement of post void residual urine volume and prostate volume. Inclusion criteria for surgery were IPSS above 16 and Qmax below 10 ml/s. The results of PFSs were not considered to decide operation. The success was defined as Qmax above 15 ml/s, residual urine of less than 100 ml, a 50% reduction in IPSS.

Results

In PFS group, 47 cases (81.0%) were obstructed and 11 (19.0%) unobstructed. The success rates of the TURP for the obstructed and unobstructed were 92.7% and 63.6% (over all success rates 87.2%) and Non PFS group was 88.2%, respectively. The sensitivity and specificity of the PFS were 84.5 and 40.4%, respectively. The sensitivity of the maximal flow rate (< or =10ml/sec) was 85.4%, and the specificity of the prostate volume (> or =30gm) was 50.0%. We constructed receiver operating characteristics (ROC) curves using various threshold values for Qmax, residual urine and prostate volume. We selected a cut-off value for Qmax 10 or less ml/s residual urine volume less than 50ml and prostate volume of 30 gm. or greater for predictor of success. IPSS has less relation with outcomes.

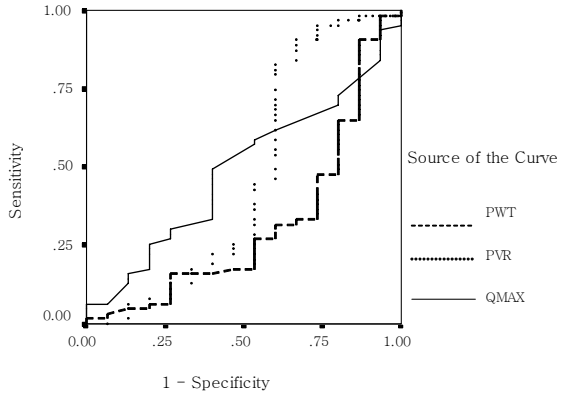

Figure. The Receiver Operating Characteristics (ROC) curve of Qmax, PVR and Pwt.
PVR: Post void residual urine (≤50ml), Qmax: Maximal flow rate (≥10ml/sec), Pwt: Prostate weight (≥30gram).

Interpretation of results

In PFS group, the obstructed cases demonstrated marked improvement compared to the unobstructed cases (92.7% vs. 63.6%, p = 0.009). The unobstructed subjects were shown that almost half of patients (48.2%) had bladder comorbidities like detrusor underactivity and detrusor overactivity. PFS provide might be predictive value of clinical improvement after TURP, and they also properly predict the poor clinical results in unobstructed patients. PFS result could be used as preoperative counsel. The success of TURP could not be accurately predicted with non-invasive methods alone because they were shown low sensitivity and specificity. According to our data as analysed with ROC curve, Qmax was most reliable study and residual urine volume and prostate volume were followed. IPSS did not

correlate with objective treatment results. A careful combination of Qmax, prostate volume and residual urine volume would be reliable for predicting result.

Concluding message

PFS is not a mandatory preoperative technique for men, with lower urinary tract symptoms, who undergo a TURP. However, it can decrease the TURP failure rate. Other non-invasive parameters like Qmax, residual urine, prostate volume can be preoperatively useful for men who undergo TURP, as long as they are applied compositely carefully.

FUNDING: NONE
DISCLOSURES: NONE
CLINICAL TRIAL REGISTRATION: This clinical trial has not yet been registered in a public clinical trials registry.
HUMAN SUBJECTS: This study was approved by the Ethics committee of Veterans Hospital Group and followed the Declaration of Helsinki Informed consent was obtained from the patients.