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PREOPERATIVE VOIDING EFFICACY COULD PREDICT POSTOPERATIVE ALPHA BLOCKER USAGE AFTER TRANSURETHRAL RESECTION OF THE PROSTATE

Hypothesis / aims of study

Some patients with benign prostatic enlargement (BPE) have to take alpha blockers to control their lower urinary tract symptoms after transurethral resection of the prostate (TURP). In the present study, we tried to find out non-invasive predictors of postoperative alpha blocker usage (PAU) for more than three months after TURP.

Study design, materials and methods

From January 1st, 2011 to December 31st, 2016, patients who received TURP for BPE in our institutes were included. Those who didn't have complete preoperative evaluation, lost follow-up postoperatively, or received palliative TURP for prostate cancer were excluded. Preoperative voiding efficacy (VE), defined as voided volume on free uroflowmetry (UFR) divided by total volume (voided volume on free UFR plus residual urine on bladder ultrasound), as well as maximum flow rate (Qmax), mean flow rate (Qmean) on free UFR, serum prostatic specific antigen (PSA), prostate size estimated by transrectal ultrasound and weight of resected prostatic tissue were compared between patients with PAU and those without. Fisher exact test, Mann-Whitney U test, multiple regression analysis and receiver operating characteristic (ROC) curve were used for statistical analysis.

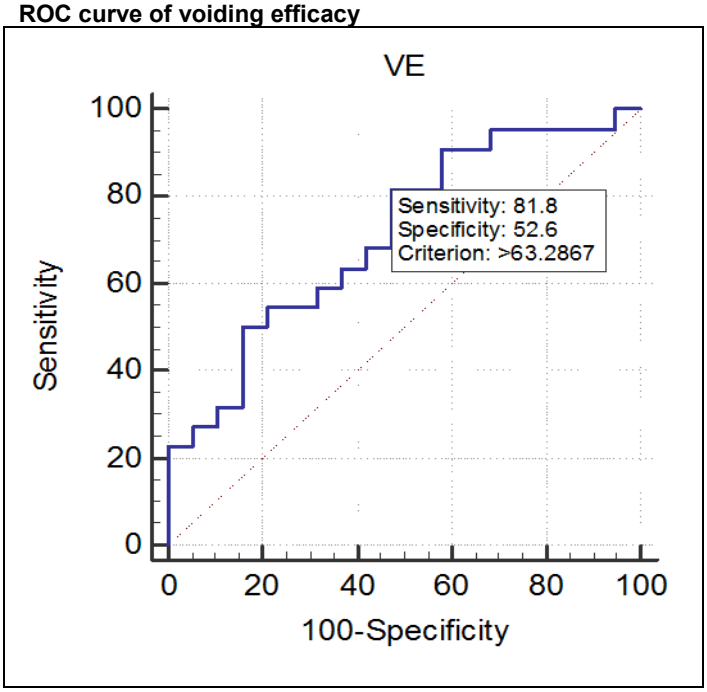
Results

There were 41 patients included for analysis, and 19 patients (46.3%) needed PAU. The demographic data were shown in the Table. Patients with PAU tended to be older ($p < 0.01$) and had worse preoperative VE (61.7% vs. 74.6%, p = 0.02). There were no statistical differences when it comes to voided volume, Qmax, Qmean, serum PSA level, prostate size and weight of resected prostatic tissue. VE remained significant after multivariate analysis (p = 0.028). A cut-off level of VE to predict PAU was less than 63.3% (AUC = 0.713, $p = 0.01$, sensitivity 81.82%, and specificity = 52.63%).

Table Demographics of patients with and without alpha-blockers use after TURP

PAU after TURP	**YES**	**NO**	***p* value**
Numbers	19(46.3%)	22(53.7%)	
Age (years)			< 0.01
< 70	7 (36.8%)	13 (63.6%)	
≧ 70	12 (63.2%)	8 (36.4%)	
Voiding efficacy (%)	61.7%	74.6%	0.02
Voided volume (ml)	168.5	191.7	0.40
Total volume (ml)	267.1	255.5	0.49
Qmax (ml/s)	10.2	12.1	0.60
Qmean (ml/s)	4.0	5.4	0.44
PSA (ng/ml)	7.02	8.72	0.89
Prostate size (cm^3)	74.81	61.46	0.19
Resected prostate (gram)	36.2	22.5	0.11

ROC curve of voiding efficacy



Interpretation of results

PAU may affect the patients' satisfaction of TURP, and should be discussed during the preoperative counselling. However, currently there are no predictive factors for this condition. PAU indicated persistent voiding symptoms, either due to persistent bladder outlet obstruction or detrusor underactivity. In the present study, worse preoperative VE (an integrated evaluation of the lower urinary tract) might result from abnormalities other than BPE, such as bladder neck obstruction or detrusor underactivity, which could not be treated solely with TURP. Thus, VE less than 63.3% can be used to predict PAU.

Concluding message

Preoperative VE less than 63.3% could predict PAU. It could help patient counselling before TURP.

Disclosures

Funding: None **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** It is a retrospective study by data collecting and analysis from existed, well-documented medical records **Helsinki:** Yes **Informed Consent:** Yes