CORRELATION OF INTRAOPERATIVELY MEASURED BLADDER CAPACITY AND POST OPERATIVE RE-CATHETERIZATION AFTER HOLMIUM LASER ENUCLEATION OF PROSTATE (HOLEP)

Hypothesis / aims of study

We hypothesized that increased intra-operative bladder capacity during the operation is a risk factor for post-operative re-catheterization after HoLEP and investigated this hypothesis in a prospective observational study.

Study design, materials and methods

Between January 2010 and July 2011, we measured the intra-operative bladder capacity of the patients underwent HoLEP by a single surgeon of our institution. Urine drainage catheter was removed at the following day unless gross hematuria persisted. Then, the patient was checked whether he could void without residual urine. Catheter was reinserted if he failed to void or the residual urine volume was more than 300 mL. Pre-, intra-, and post-operative factors were thoroughly investigated and compared between the re-catheterized group (group A) and the other group (group B).

Results

Of 166 patients who underwent HoLEP, recatheterization rate was 5.4% (Table). All the pre- and intra-operative parameters including patient’s age, PSA, prostate volume, catheter indwelling duration, operation time, used laser energy, and enucleated volume were not significantly different between group A and B, except only for the median value of intra-operative bladder capacity which was 900 mL and 680 mL in group A and B, respectively (p=0.001). Intra-operative bladder capacity was the only significant risk factor for re-catheterization after surgery, adjusting for patient’s age, prostate volume, functional bladder capacity measured by voiding diary, and operation time in the multivariable regression analysis (HR=1.006, 95% CI=1.002-1.010, p=0.002). ROC curve analysis showed that cutoff value of 790 mL in intra-operative bladder capacity had sensitivity of 77.8% and specificity of 72.9% (Figure).

Table Preoperative and intraoperative variables in Group 1, 2, and total population. P values were derived from the Mann-Whitney U test.
Interpretation of results
Intra-operative bladder capacity was the only risk factor for post-operative recatheterization.

Concluding message
We speculate that the surgeon has to minimize the bladder filling capacity during the HoLEP to prevent re-catheterization after surgery.

Disclosures
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