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FIRST POST-VOID RESIDUAL URINE VOLUME FOLLOWING HOLMIUM LASER ENUCLEATION OF THE PROSTATE: PREDICTOR OF DE NOVO URINARY INCONTINENCE

Hypothesis / aims of study

Transient urinary incontinence may occur in up to 44% of patients after holmium laser enucleation of the prostate (HoLEP). However, there are few published data concerning the factors associated with de novo urinary incontinence (UI). The aim of this study was to investigate the associated factors of de novo UI after HoLEP.

Study design, materials and methods

Our study included 95 patients who underwent HoLEP. Enrolled patients were divided into two groups according to the presence of UI. Independent t test was used to compare between two groups. Logistic regression was performed to analyze a correlation between de novo UI and other factors such as age, prostate volume, retrieved tissue weight, operative time, and the first post-void residual (PVR) urine volume immediately after removing postoperative urethral catheter. Urethral catheter was removed after bladder instillation with a 200 ml normal saline via urethral catheter, and PVR urine volume was estimated immediately after the first postoperative self-voiding. All definitions of UI corresponded to recommendations of the International Continence Society.

Results

After HoLEP, 34 patients (35%) had de novo UI, most of which resolved within 1-6 months; 27 had stress UI, 4 had urgency UI, and 3 had mixed UI. Age and PVR urine volume were significantly higher in UI group than non-UI group (74.97 ± 7.37 vs 71.60 ± 7.75 years, $P = 0.042$; 91.58 ± 79.39 vs 32.37 ± 34.52 ml, $P < 0.001$). In a logistic linear regression analysis, only PVR urine volume was an independent predictor of de novo UI after HoLEP ($P = 0.001$). The most optimal cut-off value of PVR urine volume for predicting de novo UI was defined as 38.5 ml in the receiver operating characteristics curve analysis (sensitivity, 70.6%; specificity, 72.1%; AUC, 0.794; $P < 0.001$).

Interpretation of results

About one-third of patients might undergo de novo UI following HoLEP, and most of them might have been resolved within 1-6 months. High PVR urine volume after removal of postoperative urethral catheter is associated with de novo UI after HoLEP.

Concluding message

High PVR urine volume after removal of postoperative urethral catheter could be used a practical tool to predict the de novo UI after HoLEP.

Disclosures

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