

## PREDICTORS OF IMPROVEMENT IN STORAGE SYMPTOMS AT 3-YEAR AFTER 120W GREENLIGHT HIGH PERFORMANCE SYSTEM LASER FOR BENIGN PROSTATE HYPERPLASIA

### Hypothesis / aims of study

Storage symptoms are considered to be more bothersome to men than voiding symptoms. In men with BPH, storage symptoms can arise from maladaptive modification of bladder structure/function induced by bladder outlet obstruction (BOO) or independently of BOO. Recent literature suggested that postoperative storage symptoms after laser prostatectomy were generally more common than after transurethral prostatectomy (TURP). However, there have been a scarcity of studies on long-term (3-year) surgical outcomes of the 120W GreenLight High Performance System photoselective vaporization of the prostate (HPS-PVP) for storage symptoms and on predictors of improvement in storage symptoms at long-term follow-up after HPS-PVP. The purpose of this study was to investigate the long-term outcomes of HPS-PVP for storage symptoms in men with BPH and to identify the predictors of improvement in storage symptoms at long-term follow-up visit after HPS-PVP.

### Study design, materials and methods

A total of 228 men, who underwent HPS-PVP for BPH and in whom complete 3-years follow-up data were available, were included in this retrospective study. Baseline evaluation included history, physical examination, the IPSS, serum PSA, transrectal ultrasonography (TRUS) and multichannel video urodynamics. Surgical outcomes of HPS-PVP were evaluated at 1-, 3-, 6-, 12-, 24-, and 36-months after surgery, using the IPSS, uroflowmetry with post-void residual urine volume, and serum PSA. Improvement of storage symptoms was defined as reduction by  $\geq 50\%$  of subtotal storage symptom score of the IPSS after surgery compared to baseline.

### Results

Table 1 showed the baseline characteristics. Subtotal voiding symptoms score, subtotal storage symptoms score, total IPSS, QOL index, Maximum flow rate and PVR, significantly improved beginning from 1-month after surgery. Urgency score of the IPSS significantly improved starting from 3-months after surgery. The percentage of patients with postoperative improvement of storage symptoms at 1-, 3-, 6-, 12-, 24-, and 36-months were 25.5%, 34.2%, 33.9%, 41.1%, 40.8% and 37.1%, respectively. The mean serum PSA at 3-years after HPS-PVP was decreased by 44.3% compare to baseline. On logistic regression analysis, higher urgency score of the IPSS ( $\geq 3$  vs.  $\leq 2$ ), lower baseline maximum flow rate, higher BOO index ( $\geq 40$  vs.  $< 40$ ) and the absence of detrusor underactivity on baseline urodynamics were significantly associated with improvement of storage symptoms at 3-years after HPS-PVP. Multivariate analysis revealed that the higher urgency score and the absence of detrusor underactivity was the independent predictors of improvement of storage symptoms at long-term follow-up after HPS-PVP.

### Interpretation of results

Our data indicate that the improvement of storage symptoms after HPS-PVP can be maintained at long-term follow-up.

### Concluding message

The present study suggests that the higher urgency score of the IPSS and the absence of detrusor underactivity on baseline urodynamics can be the independent predictors of improvement of storage symptoms at long-term follow-up after surgery.

### Disclosures

**Funding:** None **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** IRB of SMG-SNU Boramae Medical Center **Helsinki:** Yes **Informed Consent:** No