

INFLUENCE OF BLADDER CONTRACTILITY ON SHORT-TERM OUTCOMES OF HOLMIUM LASER ENUCLEATION OF THE PROSTATE

Hypothesis / aims of study

The previous study has shown that men with and without bladder outlet obstruction (BOO) can benefit from prostatectomy [1]. It even appears that positive outcomes can be attained by transurethral resection of the prostate (TURP) in men with poor detrusor contractility regardless of obstruction grade on Schäfer nomogram [2], if a good maximal flow rate (Qmax) and low post-void residual (PVR) urine volume are attained. Up to date, there has been a scarcity of data on the influence of bladder contractility on the outcomes of Holmium laser enucleation of the prostate (HoLEP) for lower urinary tract symptoms (LUTS)/benign prostatic hyperplasia (BPH). The aim of this study was to determine the effect of bladder contractility on the outcomes of HoLEP in men with LUTS/BPH.

Study design, materials and methods

A total of 126 men who underwent HoLEP and completed 12 months follow-up were included in this retrospective study. All patients underwent a baseline evaluation with transrectal ultrasonography and urodynamic study (UDS) in addition to a general standard evaluation for LUTS/BPH including: history, digital rectal examination, International Prostate Symptom Score (IPSS), urinalysis, serum creatinine (Cr), and serum prostate-specific antigen (PSA). The outcome of HoLEP was assessed at 1-, 3-, 6-, and 12-months postoperatively using the IPSS, uroflowmetry and PVR. According to the bladder contractility index (BCI) on baseline UDS, the patients were classified as group 1 (weak BCI group; BCI < 100; n = 78) and group 2 (higher BCI group; BCI ≥ 100; n = 48). All definitions corresponded to recommendations of the International Continence Society.

Results

The mean preoperative serum PSA level, total prostate and transitional volumes were 3.7 ± 5.5 ng/ml vs. 2.9 ± 2.7 ng/ml, 51.0 ± 21.6 ml vs. 54.8 ± 20.1 ml and 24.8 ± 16.7 ml vs. 29.2 ± 19.2 ml, in the groups 1 and 2, respectively, which was not significantly different between the two groups. There was no significant difference between the two groups regarding the other baseline parameters including age, total IPSS, quality-of-life (QOL) index on IPSS, Qmax, PVR, maximum cystometric capacity (MCC), presence of detrusor overactivity (DO) or bladder outlet obstruction (BOO). The enucleated weight and enucleation ratio (enucleated weight/baseline transitional volume) were 20.0 ± 13.3 g vs. 24.5 ± 14.1 g and 0.75 ± 0.25 vs. 0.76 ± 0.32 in the groups 1 and 2, respectively, which was not significantly different between the two. According to the IPSS and uroflowmetry, the subtotal voiding symptom score, total IPSS, QOL index, Qmax and PVR improved significantly starting from 1-month after HoLEP in both groups (p < 0.01), which was not significantly different between the two groups during the entire period of follow-up. Also, the subtotal storage symptom score reduced significantly starting from 3-months after HoLEP in both groups (p < 0.01) without significant difference between the two. Furthermore, there was no significant difference in change of parameters on IPSS, uroflowmetry and PVR after HoLEP between the two groups. In terms of safety, there was no difference in the incidence of complications such as transient urinary incontinence (12.8% vs. 12.5%) and urethral stricture (1.3% vs. 2.1%) between the two.

Interpretation of results

Reducing BOO might help restore bladder function with time and possibly prevent bladder dysfunction progression, although the evidence for a direct link among BPH, BOO, and LUTS is not convincing yet [3]. In the present study, no difference was found in the outcomes of HoLEP according to the degree of bladder contractility. Although virtually the studies evaluating the efficacy of HoLEP in men with weak bladder contractility are few, our data suggest that even the patients with weak bladder contractility may benefit from HoLEP for LUTS/BPH.

Concluding message

Our data indicate that the voiding and storage symptoms can improve significantly starting from the early postoperative period after HoLEP, irrespective of the presence of decreased bladder contractility. Although the weak bladder contractility did not affect the short-term outcome after HoLEP, longer follow-up studies with a larger cohort are necessary to confirm these findings.

References

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