279

Shim J S[1], Oh M M[1], Tae B S[1], Bae J H[1], Kang S H[1], Lee J G[1]
1. *Department of Urology, Korea University College of Medicine*

HOW CAN WE PREDICT THE PROPER TIMING OF THE HOLMIUM LASER ENUCLEATION OF THE PROSTATE (HOLEP) ?

Hypothesis / aims of study
It is known that long term partial bladder obstruction induced detrusor contractile dysfunction. Actually, persistent voiding dysfunction following the holmium laser enucleation of the prostate (HoLEP) is not uncommon. The aim of this study is to predict the proper timing of the HoLEP through variable parameters.

Study design, materials and methods
A total of 210 patients who underwent HoLEP between January 2012 and October 2016 were retrospectively reviewed. According to treatment results, the patients were divided into 2 groups (Group I – improvement in International Prostate Symptom Score (IPSS) + Qmax value > 12ml/s and PVR > 100ml; Group II – no improvement in IPSS + Qmax value ≤ 12 ml/s or PVR ≥ 100ml). The improvement of IPSS was defined as the shift between grades (severe to moderate, moderate to mild). We evaluated the predicting risk factors of voiding dysfunction following HoLEP.

Results
Mean (±SD) age of patients with group I an II was 68.8 (±6.4) and 70.6 (±4.7) years, respectively. In the analysis of subjective symptom score (IPSS subscores and total score), there were significant differences between two groups (P<0.001). Also, in the analysis of urodynamic parameters, maximum detrusor pressure, detrusor pressure at peak flow rate, compliance, bladder contractility index, bladder outlet obstruction index also showed significant differences (P<0.05). In the rogistic regression analysis, bladder contractility index and IPSS storage subscore were risk factors for voiding dysfunction following HoLEP.

Interpretation of results
Reduced detrusor contractility was associated with poor treatment results.

Concluding message
Urodynamic parameters, indicating detrusor contractility could be a good diagnostic tool for predicting voiding dysfunction after HoLEP. In addition, the relatively high symptom score could suggest better treatment results.

Table 1. Peri operative parameters according to treatment results

	Improvement group (n=171)	No improvement group (n=39)	*P* value
Age (year)	68.8 ± 6.4	70.6 ± 4.7	0.088
Prostate volume	60.3 ± 29.7	55.8 ± 30.9	0.399
Symptom duration (yr)	4.6 ± 4.2	5.5 ± 5.5	0.240
Pre surgery Qmax	10.7 ± 4.0	10.1 ± 4.6	0.356
Pre surgery PVR	64.0 ± 63.1	50.4 ± 46.0	0.206
Pre surgery IPSSv	10.7 ± 5.6	7.1 ± 5.2	0.000*
Pre surgery IPSSs	7.4 ± 3.5	4.6 ± 2.6	0.000*
Pre surgery IPSSt	18.1 ± 8.2	11.7 ± 7.1	0.000*
Urodynamic parameters			
FS	162.8 ± 66.4	148.1 ± 86.9	0.239
MBC	313.2 ± 96.5	315.9 ± 112.8	0.881
Pdetmax	78.5 ± 30.0	64.6 ± 28.4	0.009*
PdetQmax	63.3 ± 23.3	50.0 ± 23.7	0.002*
Compliance	51.4 ± 27.2	61.6 ± 28.5	0.037*
BCI	117.0 ± 27.3	100.3 ± 28.0	0.001*
BOOI	41.9 ± 26.1	29.9 ± 27.8	0.012*

Table 2. Univariable and multivariable logistic regression analysis of risk of voiding dysfunction

variables	Univariable		Multivariable	
	OR (95% CI)	P value	OR (95% CI)	P value
Age	1.052 (0.992-1.116)	0.090	-	-
Symptom duration	1.042 (0.972-1.118)	0.245	-	-
Prostate volume	0.995 (0.982-1.007)	0.398	-	-
Pre surgery IPSS v	0.882 (0.822-0.947)	0.001**	0.937 (0.858-1.022)	0.143
Pre surgery IPSS s	0.764 (0.674-0.868)	0.000**	0.738 (0.643-0.848)	0.000**
Pre surgery IPSS t	0.897 (0.851-0.945)	0.000**	0.879 (0.858-0.984)	0.346
Urodynamic parameters				
Pre surgery Q max	0.959 (0.877-1.048)	0.355	-	-
Pre surgery PVR	0.996 (0.989-1.003)	0.208	-	-
Pdetmax	0.983 (0.970-0.996)	0.011*	1.012 (0.986-1.039)	0.369
PdetQmax	0.973 (0.956-0.990)	0.002**	0.975 (0.939-1.013)	0.192
BCI	0.976 (0.962-0.990)	0.001**	0.970 (0.954-0.987)	0.023*
BOOI	0.981 (0.967-0.996)	0.013*	0.944 (0.929-1.007)	0.237

*$p < 0.05$, **$p < 0.01$

Disclosures
Funding: none **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** Korea University Institutional Review Boards **Helsinki:** Yes **Informed Consent:** Yes