101

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FACTORS AFFECTING PATIENT SATISFACTION AFTER HOLEP: A PROSPECTIVE COHORT STUDY

Hypothesis / aims of study
Transurethral resection of the prostate (TURP) has been regarded as a gold standard of treatment of benign prostatic hyperplasia. Recently, holmium laser enucleation of the prostate (HoLEP) is suggested as a new gold standard for the treatment of benign prostatic hyperplasia (BPH). Quality of life (QoL) is one of an important measurement in clinical trials and patient satisfaction with treatment is an important goal. Although perioperative outcomes including maximal flow rate, International Prostate Symptom Score (IPSS) and quality of life (QoL) scores have known previously, patient's perspectives of satisfaction has not been reported before. Herein, we investigated patients'satisfaction after HoLEP as a part of patient's perspectives.

Study design, materials and methods
From May 2012 to November 2013, 235 consecutive patients with LUTS/BPH underwent HoLEP by a single surgeon and enrolled in our prospective study. HoLEP procedure was typically performed in a setting of 80W (40Hz, 2J) with dorsal lithotomy position under spinal anesthesia. Baseline clinical data including age, PSA, uroflowmetry, transrectal ultrasonography (TRUS), International Prostate Symptom Score (IPSS) and Overactive Bladder Symptom Score (OABSS) were collected. Subjective assessment of surgical outcome was investigated with self-administered questionnaires including Treatment Satisfaction Question (TSQ), Global Response Assessment (GRA) and Willingness to Undergo the Surgery Again Question (WUSAQ) at postoperative sixth month. Our preliminary pilot study showed that the TSQ, GRA and WUSAQ were valid in BPH patients.

Results
Excluding 45 patients lost to followup, 190 patients (mean age 69.7±7.2 years) were included for the analysis. Overall response rate for the questionnaires were 97.4%. Baseline IPSS and OABSS were 18.0 (±7.9, SD), 6.1 (±3.3), respectively. Mean baseline PSA was 4.1 (±4.4) ng/mL and total prostatic volume was 70.1 (±47.1) ml. TSQ showed that most of patients (91.6%) were satisfied: 'very satisfied' in 126 (66.3%) and 'somewhat satisfied' in 48 (25.3%) men. Seven (3.7%) patients were neutral, 4 (2.1%) patients answered 'somewhat dissatisfied' and no patient answered 'highly dissatisfied' with the surgery. WUSAQ showed that 174 (70.6%) patients were willing to undergo the surgery again if they reverse the decision (132 definitely, 22 most likely, 20 likely). Eleven (5.9%) patients reported that they do not undergo the operation if they reverse the decision. Response to GRA showed that all patients had improvement (83.7% remarkable; 8.9% of moderate). A total of 4 patients (2.1%) were dissatisfied (3 patients with urinary incontinence and 1 post-micturitional dribble) (Figure).
Patient demographics including age, BMI, prostatic volume, preoperative PSA, IPSS and OABSS were not associated with the patient satisfaction (Table 1). Compared with those satisfied, neutral/dissatisfied patients had lower quality of life (QoL) in IPSS QoL score (2.3±1.1 vs. 1.0±1.2, p=0.001), higher IPSS voiding symptom (9.5±4.5 vs. 9.0±5.9, p=0.006) and more frequent episode of urgency urinary incontinence by OABSS (1.5±1.6 vs. 0.3±0.8, p=0.046) at postoperative sixth month. All patients preoperatively on CIC (n=6) or previously experienced BPH surgery (n=11) were satisfied after HoLEP.

Interpretation of results
Although there has been a few studies regarding perioperative outcomes and long-term efficacy, to our best knowledge, no study has directly addressed patient satisfaction after the surgery. The present study demonstrated that most patients were satisfied after the surgery (91.6%) and had willingness to do the surgery again if they were back to the same situation. This is partly explained by the fact that overall the outcome of HoLEP is excellent.
Of 4 dissatisfied patients, 3 patients complained of urinary incontinence at postoperative 6 months. The reason of dissatisfaction (n=4) were: atypical urinary incontinence (no pad) after surgery (n=1), persistent increased daytime frequency (8/day) with urgency urinary incontinence (no pad) after surgery (n=1), post-micturitional dribble (1 pad/day) after surgery (n=1), and stress urinary incontinence SUI (mild, no pad) after surgery with frequency and nocturia (n=1)
We would like to mention the limitations of this study. First, the current study was conducted in a single institution. Also all the surgery were performed by a single surgeon. Second, statistical analysis regarding the cause of dissatisfaction could not be performed due to very few number of dissatisfied patients. Therefore, the results may not be generalized. However, the patients responded to the questionnaires independently since the assessment was blinded to the investigator.

Concluding message
The overall level of satisfaction after HoLEP was high. Urinary incontinence after the surgery was the most common finding in dissatisfied patients.

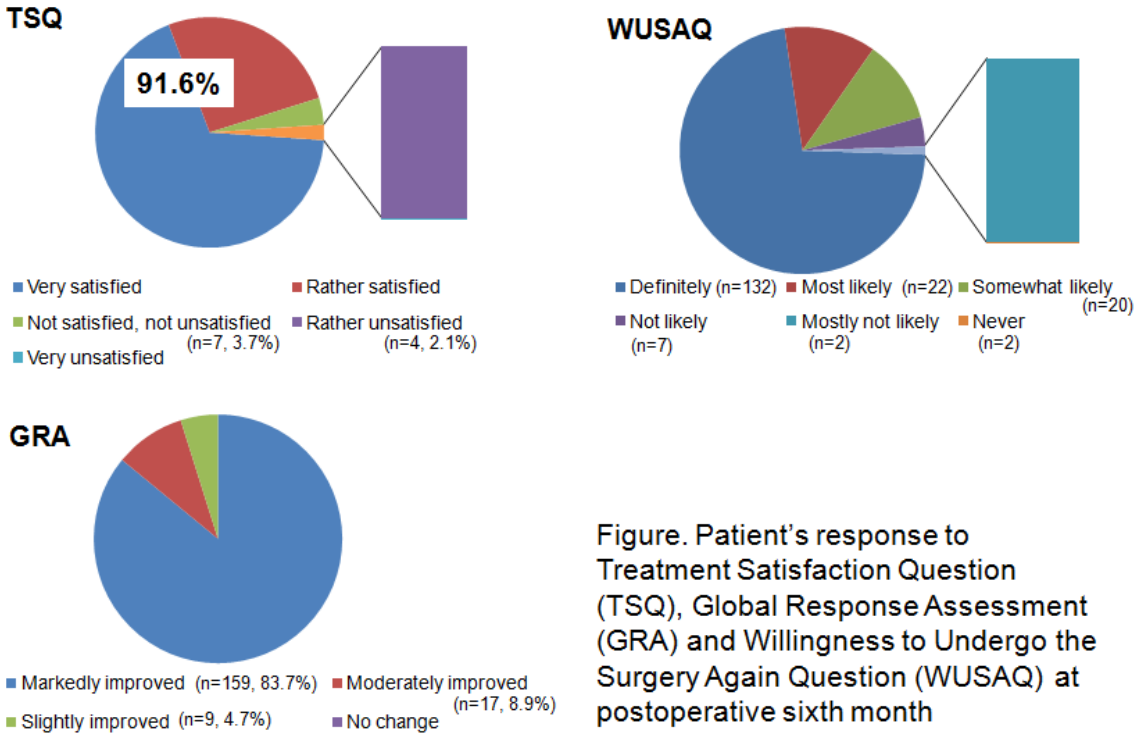

Figure. Patient's response to Treatment Satisfaction Question (TSQ), Global Response Assessment (GRA) and Willingness to Undergo the Surgery Again Question (WUSAQ) at postoperative sixth month

Table 1. Characteristics of patients according to Treatment Satisfaction Question

	Satisfied (n=174)	Neutral/Dissatisfied (n=11)	P value
Age	69.8±7.3	68.6±5.9	0.584
BMI	23.9±2.5	23.2±3.3	0.384
Preoperative total IPSS	17.7±7.8	22.5±9.6	0.056
Total IPSS at 6 mo	4.7±4.5	8.4±5.3	0.010
Preoperative IPSS-QoL	3.9±1.3	4.1±1.7	0.631
IPSS-QoL at 6 mo	1.0±1.2	2.3±1.1	0.001
OABSS at 6 mo			
OABSS1 (Frequency)	0.3±0.5	0.6±0.5	0.127
OABSS2 (Nocturia)	1.3±0.9	1.6±1.0	0.289
OABSS3 (Urgency)	0.7±1.2	1.1±1.7	0.355
OABSS4 (UUI)	0.3±0.8	1.5±1.6	0.046

Disclosures
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