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ANALYSIS OF THE PROGNOSTIC FACTORS FOR OVERACTIVE BLADDER SYNDROME FOLLOWING SURGICAL TREATMENT IN PATIENTS WITH SYMPTOMATIC BENIGN PROSTATIC ENLARGEMENT

Hypothesis / aims of study
To identify the preoperative prognostic variables concerning the improvement of lower urinary tract symptoms related to overactive bladder syndrome (OAB) following a transurethral resection of the prostate (TURP) in patients with benign prostatic enlargement (BPE).

Study design, materials and methods
A retrospective review was conducted on a total of 1417 men who had undergone TURP at his hospital between January 1993 and December 2002. The therapeutic decision to perform TURP was based on both the clinical assessment and the patient's desire for surgical treatment. Prior to performing this procedure, the patients underwent basic clinical evaluations, as well as assessment of their International Prostate Symptom Score (IPSS), quality-of-life score, ultrasound estimated post-void residual, the prostate volume (PV, as estimated by transrectal ultrasound) and full urodynamics including a pressure-flow study. The treatment outcomes were assessed by an evaluation of the IPSS at 12 months after surgery. All drugs that could potentially affect the parameters had been washed out at least 2 weeks before both the preoperative and/or postoperative evaluations. A total 368 patients (mean age: 70.3±7.1 years) who had completed the preoperative evaluations and postoperative assessment at 12 months, without any of the exclusion criteria listed below, were divided into three categories based on an individual score≧3 for on urgency (157), frequency (207) and nocturia (214) in the preoperative state and enrolled into the final analysis. The exclusion criteria in the preoperative state was 1) Younger than 50 years of age, 2) A PV of less than 20 ml, 3) Neurogenic bladder dysfunction, 4) Disease with bladder outlet obstruction (BOO) other than BPE, 5) A history of prostatic and/or urethral surgery, 6) Previously diagnosed or suspected carcinoma of the prostate, 7) Known bladder neoplasm and/or stones, 8) Acute and/or chronic prostatitis. The patients were considered to have improved in terms of individual symptoms including urgency, frequency and nocturia, if each score demonstrated a ≧50% improvement over the pre-operative value at 12 months following TURP. The association between the baseline variables and the improvement in each symptom score related to OAB was then statistically analyzed using a multiple logistic regression analysis.

Results
The overall rates of improvement in terms of the symptom score on urgency, frequency and nocturia were 69% (mean±s.d. in pre-ope./post-ope.: 4.1±0.8 / 1.2±1.3), 57% (4.1±0.7 / 1.7±1.3) and 41% (3.7±0.8 / 2.1±1.1), respectively at 12 months following the TURP. A multivariate analysis suggested that the baseline degree of detrusor contractility was negatively associated with the postoperative improvement in the all symptoms relating to the OAB. Both the patient's age and their baseline value of the maximum flow rate independently influenced the improvement in score on nocturia (Table 1).

Interpretation of results
Among the symptoms related to OAB, nocturia had least symptomatic improvement following the TURP. The close relationship between the baseline detrusor contractility and the improvement of symptoms relating to the OAB was observed in patients with BPE. The age and baseline value of Qmax thus appear to be a prognostic factors for an improvement of nocturia.

Concluding message
The observation of a broad correlation between the degree of detrusor contractility and the improvement of OAB symptoms in the current analysis, suggests that a good detrusor contractility is essential for the symptomatic benefits related to OAB after the surgical relief of BOO in patients with BPE. Aging males with good urinary flow rates appear to experience a reduced improvement of long-term nocturia symptoms following the relief of BOO after undergoing TURP.

Table1

Nocturia	OR	(95% CI)	p
Age (years)	0.93	(0.88-0.98)	0.01
F-Qmax (ml/sec)	0.20	(0.05-0.84)	0.03
Contractility grade			0.02
N/W	3.00	(1.41-6.41)	
ST/W	2.56	(0.99-6.67)	
Urgency	OR	(95% CI)	p
Contractility grade			0.01
N/W	9.52	(2.60-34.5)	

ST/W	6.67	(1.34-33.3)	
Frequency	OR	(95% CI)	p
Contractility grade			0.02
N/W	3.41	(1.52-7.63)	
ST/W	2.16	(0.74-6.25)	

OR: Odds ratio

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CLINICAL TRIAL REGISTRATION: This clinical trial has not yet been registered in a public clinical trials registry.

HUMAN SUBJECTS: This study was approved by the Ethical committee of Kyushu University and followed the Declaration of Helsinki Informed consent was obtained from the patients.