

The long-term symptomatic outcome after transurethral resection of the prostate (TURP): Retrospective analysis depending on the urodynamic parameters before TURP



Naoki Wada, Junichi Hori, Gaku Tamaki, Masafumi Kita, Hidehiro Kakizaki
Department of Renal and Urologic Surgery, Asahikawa Medical University, Japan



Introduction

Transurethral resection of the prostate (TURP) is still a standard surgical procedure for patients with lower urinary tract symptoms (LUTS) suggestive of benign prostatic obstruction (BPO), while the enucleation and vaporization of prostate including HoLEP and PVP have been increasingly performed.

According to the Japanese guideline of benign prostatic hyperplasia (BPH), preoperative urodynamics including filling cystometry and pressure-flow study (PFS) are recommended to delineate BPO, detrusor underactivity (DU) and detrusor overactivity (DO). AUA and EAU guideline indicate that PFS is optional if the patient's condition does not suggest BPO.

Several previous studies showed that unfavorable urodynamic factors such as unobstruction, DU or DO before TURP could predict unsuccessful short-term outcome. In this study, we retrospectively examined the long-term outcome after TURP depending on preoperative lower urinary tract function.

Methods

We retrospectively collected the data of patients who had undergone TURP before December 2010. Patients who were evaluated by **pressure-flow study (PFS) and IPSS preoperatively** and **re-evaluated by IPSS at the minimum 7-year after TURP** were included in this study. For patients who were confirmed to be alive by the phone communication, we evaluated IPSS and the current medication by the mailing method.

Patients who received any treatments to improve voiding dysfunction including alpha-adrenergic antagonist, phosphodiesterase 5 inhibitor, 5 alpha-reductase inhibitor, cholinergic agent, re-TURP, intermittent catheterization or placement of urethral catheter during the observation period were defined as **the relapse of voiding dysfunction**.

The obstruction and detrusor contractility were judged by the Schäfer nomogram on PFS. We assessed the change in IPSS over time depending on obstruction (Schäfer grade: 3-6) vs unobstruction (Schäfer grade: 0-2) and normal detrusor contractility (Strong and normal) vs DU (weak and very weak), and analyzed the relapse rate of voiding dysfunction.

The time course of IPSS change was assessed at 1st year, 2nd/3rd, 4th/5th, 6th/7th, 8th/9th, and over 10th year after TURP, because there were some missing data of IPSS due to the retrospective nature.

Results

No. patients	39	
Age at TURP (yrs)	69.8 (56~81)	
Observation period (months)	114 (84~156)	
Preoperative prostate volume (ml)	52 (17~96)	
Preoperative IPSS	20.1 (5~32)	
Pressure-flow study		
Prostatic obstruction	III~VI	31 (79%)
	0~II	8 (21%)
Detrusor contractility	Normal	26 (67%)
	DU	13 (33%)
Detrusor overactivity	Present	17 (44%)
	Absent	22 (56%)
Relapse of voiding dysfunction	8 (21%)	
Mean time to the relapse (yrs)	4.2 (0.25~11)	
Treatment option		
α1 antagonist	5	
PDE5 inhibitor	2	
Indwelling catheter	1	

Figure 1. Kaplan-Meier estimates of the relapse rate after TURP depending on the urodynamic parameters

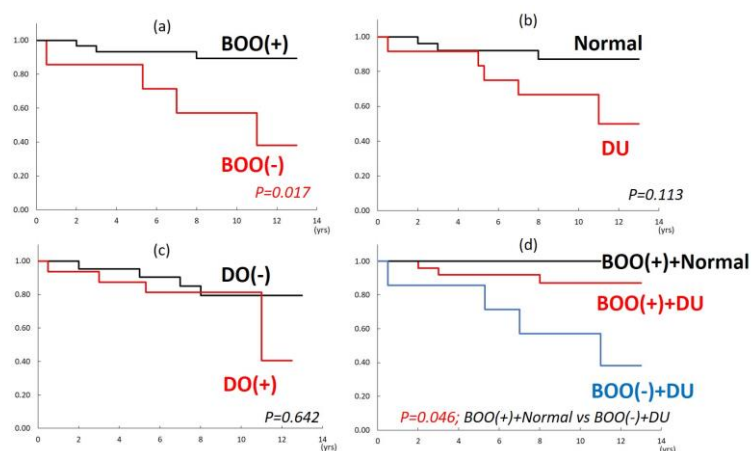
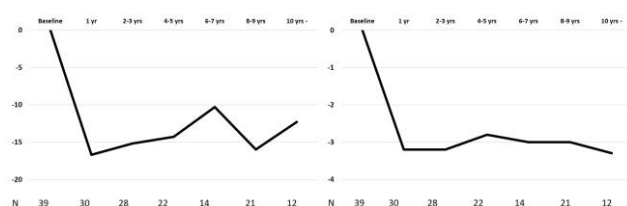


Figure 2. The time-dependent change of IPSS and QOL index (overall)



*IPSS and QOL index of patients with relapse of voiding dysfunction were excluded from the relapse point.

Figure 3. The time-dependent change of IPSS

(a): obstruction versus unobstruction (b) normal contractility versus DU

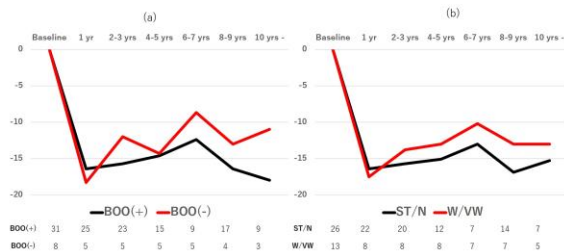
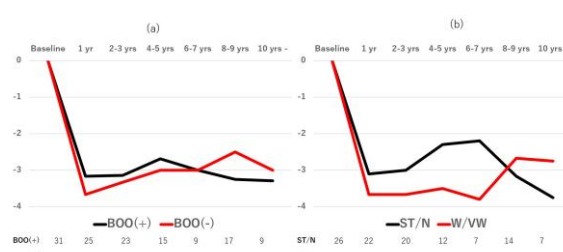


Figure 4. The time-dependent change of QOL index

(a): obstruction versus unobstruction (b) normal contractility versus DU



Interpretation

In the patients with obstruction, improvement of LUTS has been maintained during the long-term period after TURP. On the other hand, the patients without obstruction or those with DU had a higher recurrence rate of LUTS and were likely to receive any treatments to improve voiding symptoms. The mean time to relapse was 4.2 years, reflecting the good short-term and mid-term outcome even in such patients. Because TURP is a surgical procedure to remove prostatic obstruction and improve voiding symptoms, the benefit of TURP is less anticipated for the patients without obstruction. To guarantee the long-term outcome after TURP, it's necessary to determine the presence of absence of obstruction as described in the guideline of each urological association. The limitation of this study is a small sample size and retrospective nature of the study.

Conclusions

TURP is a good surgical procedure to guarantee a long-term symptomatic outcome in the patients with obstruction, while the patients without obstruction are likely to have a relapse of voiding symptom and need any additional treatments during a long-term after TURP.