

## TRANSURETHRAL RESECTION OF PROSTATE FOR LARGE BENIGN PROSTATIC HYPERPLASIA: A COMPARATIVE STUDY WITH OPEN PROSTATECTOMY

### Hypothesis / aims of study

Open prostatectomy have been considered primarily when the prostate volume is quite large (eg. more than 75g). However, with the development of surgical skills and instruments, transurethral resection of prostate (TURP) can be an alternative. We assessed the feasibility of TURP in patients with large benign prostatic hyperplasia (BPH) by comparing the efficacy of TURP with that of open prostatectomy, retrospectively.

### Study design, materials and methods

From January 2000 to March 2005, a total of 54 BPH patients with a prostate larger than 75cc in volume on transrectal ultrasonography (TRUS) were underwent operative management in our hospital. Among these patients, 26 patients underwent TURP (Group T) and 28 patients underwent suprapubic prostatectomy (Group O). Group T was subclassified Group T-1 (prostate volume 75-100cc, n=12) and T-2 (prostate volume >100cc, n=14). In the same way, Group O was divided into Group O-1 (n=9) and O-2 (n=19). Operative time, time to catheter removal, hospitalization and complications were compared. Operative results were evaluated at 12 months postoperation by comparing preoperative and postoperative International Prostate Symptom Scores (IPSS), maximal flow rates (Qmax), post void residual (PVR),

### Results

	Prostate volume TRUS 75-100cc			Prostate volume TRUS >100cc		
	Group (n=9)	O-1Group (n=12)	T-1 P-value	Group (n=19)	O-2Group (n=14)	T-2 P-value
TRUS (cc)	84.4	82.5	0.325	122	112.1	0.055
Resection weight (g)	73.5	28.0	<0.001	89.7	31.3	<0.001
IPSS (pre)	21.2	21.2	0.982	24.4	22.1	0.091
IPSS (post)	12.0	11.9	0.947	12.5	14.0	0.100
ΔIPSS	9.2	9.3	0.946	11.9	8.1	0.006
Qmax (pre)	7.9	8.1	0.874	5.9	6.4	0.475
Qmax (post)	20.9	21.4	0.736	21.2	19.1	0.104
ΔQmax	12.9	13.3	0.835	15.1	12.6	0.033
PVR (pre)	106.0	68.6	0.224	103.7	65.6	0.020
PVR (post)	18.8	19.5	0.877	21.1	19.1	0.055
ΔPVR	87.1	49.0	0.243	85.4	39.5	0.008

Table 1. Preoperative and postoperative results

	Group (n=28)	O Group T (n=26)	P-value
Operative time (min)	125.3	72.3	<0.001
Time to catheter removal (days)	12.42	4.86	<0.001
Hospitalization (days)	13.92	5.26	<0.001
Complications (n)	9	10	0.513
Bleeding requiring transfusion	2	0	
Urinary tract infections	2	5	
Urethral stricture	1	5	
Incontinence	2	0	
Wound Infection	2	0	
TUR syndrome		0	

Table 2. Comparison of operative time, time to

catheter removal, hospitalization and complications between groups

#### Interpretation of results

There were no significant differences in preoperative IPSS, Qmax and PVR between Group T-1 and O-1 and between Group T-2 and O-2. Although  $\Delta$ IPSS,  $\Delta$ Qmax and  $\Delta$ PVR were improved in the Group O-2 than T-2, there were no statistically significant differences between Group T-1 and O-1. The mean operative time, time to catheter removal and hospitalization were shorter in Group T than Group O. Postoperative complication rates were similar Group T with Group O. In Group T, there were no TUR syndrome but urinary tract infections and urethral stricture were common than Group O. However, Group O had higher incidences of severe complications included bleeding requiring transfusion, incontinence or wound infection.

#### Concluding message

Commonly open prostatectomy is considered when the prostate volume is greater than 75cc. If enough resection is performed, TURP is a valuable non-invasive surgical method with respect to absence of incision, effective symptom improvement and short hospitalization in symptomatic BPH patient who has a prostate volume less than 100cc.

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**HUMAN SUBJECTS: This study was approved by the The ethics committee of Kyungpook National University Hospital and followed the Declaration of Helsinki Informed consent was not obtained from the patients.**