

THE RESULTS OF RETROPUBIC PROSTATECTOMY, TRANSURETHRAL RESECTION OF PROSTATE AND HOLMIUM LASER ENUCLEATION; COMPARE RESULTS, AND THEN INVESTIGATE THE CAUSE OF DIFFERENT RESULTS

Hypothesis / aims of study

Of all modalities for treatment of bladder outlet obstruction due to benign prostatic hyperplasia (BPH), open prostatectomy provides the highest probability of symptomatic improvement and the lowest failure rate [1]. However, the development of a minimally invasive endourologic technique aimed at enucleating the whole prostatic adenoma (holmium laser enucleation; HoLEP) using the holmium laser has demonstrated good clinical results and the same accuracy as transurethral electrocautery resection of the prostate (TURP).

We evaluated the efficacy of a retropubic prostatectomy, TURP and HoLEP for treatment of BPH and the factors associated with the improvements in voiding symptoms.

Study design, materials and methods

We retrospectively analyzed the data of fifteen patients in each group, who were followed-up postoperatively and matched according to age, International Prostate Symptom Score (IPSS) and max flow rate (Qmax) at operation. After the operation, IPSS, Qmax and prostatic urethral shape measured by transrectal ultrasonography (TRUS) were compared with each group. The prostatic urethral shape was categorized as slit-like, cone, concave, rectangular or round shape and the presence of symmetry (Figure 1) [3].

Results

In all group, IPSS score and Qmax were significantly improved postoperatively (Table 1). In terms of prostatic urethral shape measured by TRUS, round shape and symmetry were tended to be more in the retropubic prostatectomy group and HoLEP group and cone, slit-like shape and asymmetrical shape were tended to be more in TURP group, which were not significant differences in each groups. Only significant factor associated with improvement of Qmax was the symmetry of prostatic urethra ($p < 0.001$).

Interpretation of results

Our data have demonstrated that retropubic prostatectomy and HoLEP achieved the symmetry of the prostatic urethra, which was associated with better result than the TURP for treatment of BPH.

Concluding message

Our data have demonstrated that retropubic prostatectomy and HoLEP achieved the symmetry of the prostatic urethra, which was associated with better result than the TURP for treatment of BPH.

Table 1. Patients characteristics and results after three different BPH surgery

	Open P (n=15)	TURP (n=15)	HoLEP (n=15)	p-value*
Age (yr)	62.8±6.5	65.6±4.9	65.3±7.1	0.417
Follow-up duration (month)	39.1±20.7	36.4±12.7	24.5±7.6	0.813
Preoperative PV (gm)	80.8±42.2	42.6±15.3	51.0±18.9	0.001
Preoperative PSA (ng/ml)	5.8±3.7	3.7±2.6	3.4±2.8	0.082
Preoperative IPSS	24.0±4.9	23.5±6.0	22.5±6.5	0.784
Preoperative QOL	4.3±1.0	3.9±1.3	4.3±1.1	0.596
Preoperative Qmax (ml/sec)	6.7±2.3	8.2±3.6	9.1±6.1	0.089
Resected volume (gm)	58.6±36.0	13.6±7.9	25.6±14.1	<0.001
dIPSS	19.2±5.6	11.5±6.5	13.9±9.3	0.018
dQoL	3.1±1.0	2.3±1.3	2.3±1.5	0.161
dQmax (ml/sec)	15.7±7.2	7.1±5.0	15.6±9.0	0.003

dIPSS = postop IPSS score – preop IPSS score, dQoL = postop QoL score – preop QoL score, dQmax = postop Qmax – preop Qmax

Table 2. The changes of shape in prostatic urethra after three different BPH surgery

	Open P (%)	TURP (%)	HoLEP (%)	p-value*
Shape				0.352
Not identified	-	4 (27)	1 (7)	
Slit-like	1 (7)	4 (27)	3 (21)	
Cone	1 (7)	5 (33)	-	

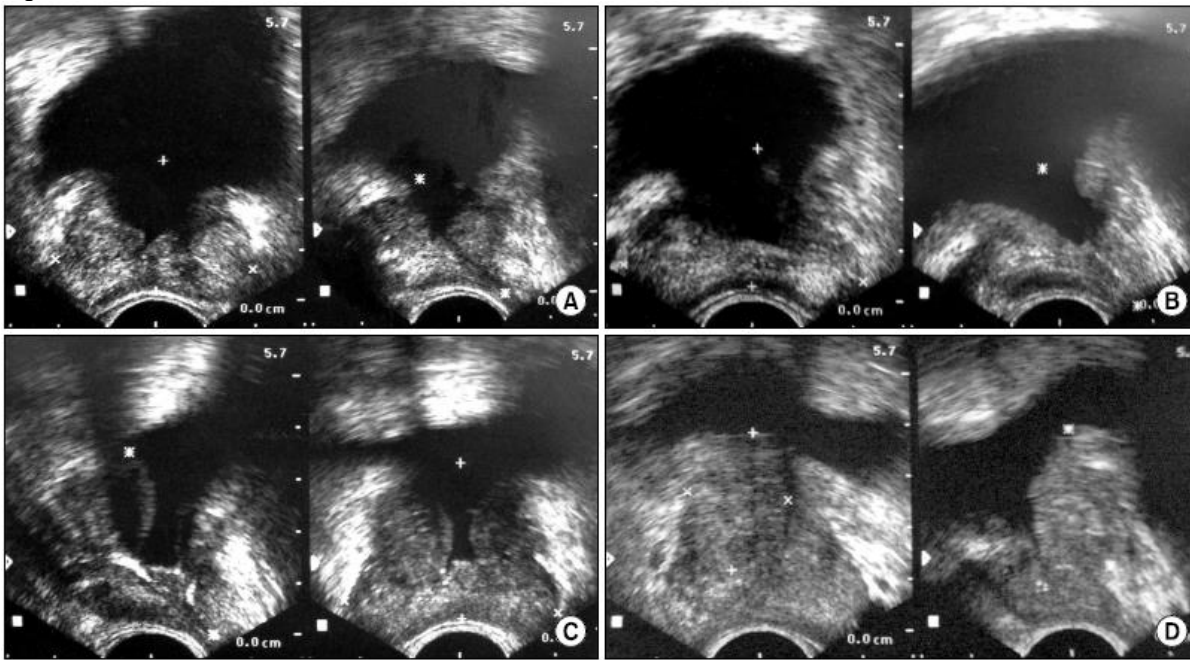
Concave	4 (27)	-	2 (14)	
Rectangular	3 (20)	1 (7)	3 (20)	
Round	6 (40)	1 (7)	6 (40)	
Symmetry				0.002
Symmetry	15 (100)	6 (40)	12 (80)	
Asymmetry	-	9 (60)	3 (20)	

Table 3. Comparisons of outcomes according to the symmetry of prostatic urethra

	dIPSS (mean±SD)	dQOL	dQmax (ml/sec)
Symmetry (n=33)	16.3±7.7	2.8±1.3	15.1±7.9
Asymmetry (n=12)	10.8±7.1	2.2±1.3	6.5±5.3
P value*	0.043	0.189	<0.001

dIPSS = postop IPSS score – preop IPSS score, dQoL = postop QoL score – preop QoL score, dQmax = postop Qmax – preop Qmax

Figure 1. Transrectal ultrasonography. (A) Prostatic urethra is round and symmetric (B) Prostatic urethra appears rectangular shape (C) Prostatic urethra is concave and symmetric (D) Prostatic urethra has slit-like and asymmetric appearance due to regrowth of adenoma



References

1. Tubaro A, de Nunzio C. The current role of open surgery in BPH. EAU–EBU Update Series 2006;4:191–201.
2. Toohar R, Sutherland P, Costello A, et al: A systematic review of holmium laser prostatectomy for benign prostatic hyperplasia. J Urol 171: 1773–1781, 2004.
3. Sung Woo Park, Moon Kee Chung. The Results of Retropubic Prostatectomy and Transurethral Resection of Prostate; Compare Both Results, and then Investigate the Cause of Different Results. Korean J Urol 2004;45:309-314

Disclosures

Funding: NONE **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** retrospective study **Helsinki:** Yes **Informed Consent:** No