

HOLMIUM LASER ENUCLEATION VERSUS BIPOLAR RESECTION FOR LARGE PROSTATE

Hypothesis / aims of study

To compare safety and efficacy of bipolar resection (BPR) vs holmium laser enucleation (HOLEP) for large prostate.

Study design, materials and methods

One hundred and forty one patients with BPH (≥ 75 gm) indicated for surgical intervention were included in this cohort study between January 2013 and November 2015. Group A (71 cases) was treated by HOLEP (Versa pulse 100W; Lumenis; Germany) using 550micron laser fibers (2J-50Hz for enucleation and 1.5J-30Hz for hemostasis). Enucleation was followed by use of morcellator (Versa cut). Group B (70 cases) was treated by BPR using bipolar resectoscope (Karl Storz) and its generator (AUTOCON® II 400 ESU). Power output was set at 5 for resection and 6 for coagulation. Preoperative criteria, operative and postoperative findings were compared between both groups using Mann-Whitney, Chi-Square, Student-t or Fisher-Exact tests as appropriate. Preoperative vs postoperative findings were compared in each group using Wilcoxon-signed rank test.

Results

Table 1. Perioperative data and postoperative outcome

	HOLEP group 71 patients	Bipolar group 70 patients	<i>p</i>
Preoperative criteria:			
Age (yrs)	66.16 ± 8.18 (39-83)	66.14 ± 7.95 (49-80)	0.985
Adenoma size	119.14 ± 48 (80-310)	100.4 ± 19.5 (75-170)	0.022*
Preoperative catheterization	23 (32.4%)	25 (35.7%)	0.677
Residual urine	119.7 ± 82.7 (12-600)	108.7 ± 39.2 (50-200)	0.864
Patients on anticoagulants	23 (32.4%)	6 (8.6%)	<0.001*
PSA	7.58 ± 12.95 (0.2-100)	5.9 ± 4.8 (0.8-24)	0.952
Operative data :			
Operative time	68 ± 30.5 (30-180)	67.71 ± 21 (25-105)	0.326*
Hemoglobin loss	0.67 ± 1.27 (0.3-3.9)	2.33 ± 1.37 (0.1-6.5)	<0.001*
Hospital stay	1.06 ± 0.23 (1-2)	3.27 ± 1.56 (2-10)	<0.001*
Catheterization time	0.52 ± 0.1 (0.5-1)	3.04 ± 1.46 (2-10)	<0.001*
Preoperative Na	139.7 ± 1.66 (136-144)	139.3 ± 3.7 (132-148)	0.441
Postoperative Na	139.2 ± 2.3 (134-144)	138.8 ± 3.9 (130-154)	0.404
<i>P</i>	0.172	0.116	
Complications	21 (29.6%)	18 (25.7%)	0.608
Bleeding	3 (4.2)	7 (10)	0.182
Blood transfusion	0	4 (5.7%)	0.058
Second look	3 (4.2%)	3 (4.3%)	1
Capsule perforation	0	2 (2.9%)	0.245
Stricture urethra	2 (2.8%)	1 (1.4%)	1
Morcellation malfunction	2 (2.8%)	-	-
Retention of urine	1 (1.4%)	0	1.0
Epididymo-orchitis	4 (5.6%)	1 (1.4%)	0.366
Stress incontinence	11 (15.5%)	9 (12.9%)	0.654
Postoperative evaluation: (6 months postoperatively)			
IPSS improvement	15.3 ± 5.48 (2-27)	14.91 ± 3.95 (5-22)	0.624
Q _{max} improvement	19.6 ± 7.21 (8.5-53)	12.25 ± 4.99 (2-25)	<0.001*
Preoperative IPSS	23.05 ± 4.1 (10-33)	24.14 ± 3.67 (16-32)	0.046
Postoperative IPSS	7.74 ± 5.05 (1-28)	9.2 ± 3.16 (4-19)	0.008*
<i>P</i>	<0.001*	<0.001*	
Preoperative Q _{max}	4.68 ± 3.89 (0-12)	4.76 ± 3.86 (0-13)	0.901
Postoperative Q _{max}	24.28 ± 6.27 (15-35)	17.01 ± 3.13 (8-25)	<0.001*
<i>P</i>	<0.001*	<0.001*	

Data are presented as number (%) or mean ± SD (range) as appropriate

* Significant

Interpretation of results

Perioperative and follow-up findings are presented in Table 1. Adenoma size and patients on anticoagulants were significantly higher in HOLEP group. Hospital stay, catheterization time and hemoglobin loss were significantly better in HOLEP group. Follow up was done for 6months in all patients. There was significant postoperative improvement in IPSS score and Q_{max} in each group. Q_{max} improvement was significantly better in Group A. There was no significant difference in postoperative complications between both groups but blood transfusion was clinically higher in group B (and near significance,

$p=0.058$).

Concluding message

HOLEP and bipolar resection are safe for treatment of large prostate. Although significantly more patients on anticoagulants and larger adenoma size were present in HOLEP group, it provided a better voiding pattern, Hb loss, hospital stay and catheterization time.

Disclosures

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