

## HOLMIUM LASER ENUCLEATION OF THE PROSTATE AS A PALLIATIVE MANAGEMENT FOR REFRACTORY BLADDER OUTLET OBSTRUCTION IN PATIENTS WITH ADVANCED PROSTATE CANCER

### Hypothesis / aims of study

Holmium laser enucleation of the prostate (HoLEP) is an effective and safe surgical method for managing benign prostatic hyperplasia causing severe bladder outlet obstruction (BOO). The present study aims to evaluate the safety and the postoperative outcomes of HoLEP as a palliative management in severe BOO patients with advanced prostate cancer.

### Study design, materials and methods

Data of 32 patients with advanced prostate cancer ( $\geq$  cT3) who underwent palliative HoLEP between October 2012 and March 2015 to manage severe BOO was retrospectively reviewed. Preoperative and postoperative (3 and 12 months) International prostate symptom score (IPSS) and quality of life (QoL) score, peak urinary flow rate (Qmax), postvoid residual urinary volume (PVR), and number of pads per day was compared by using repeated-measures analysis of variance to evaluate the effectiveness of palliative HoLEP. Postoperative complications were also investigated to evaluate the safety of the management.

### Results

Median age and follow-up of the patients was 70 years (58–84) and 18 months (5–28). At the time of palliative HoLEP, 87.50% (28/32) of patients were managing with androgen deprivation therapy. None of the patients received radiation therapy for prostate cancer before and after the palliative HoLEP. Preoperatively, 71.88% of patients (23/32) have experienced acute urinary retention (AUR) and the urethral catheterization was performed in 46.88% of the patients (15/32). Collapse of surgical plane within the prostate and bladder invasion was found in 46.88% (15/32) and 65.63% (21/32) of the patients, respectively. Other demographic and perioperative data of the patients are described in Table 1. IPSS, QoL, Qmax, and PVR measured at 3 and 12 postoperative months was improved significantly compared to those measured preoperatively (Table 2). Complications were low and no patient received postoperative blood transfusion. Catheter and pad free rate was 100% (32/32) and 84.38% (27/32) at last follow-up, respectively.

### Interpretation of results

Significant improvement was noted in Qmax, PVR, IPSS, and QoL at 3 and 12 months of postoperative follow-up compared to the baseline.

### Concluding message

HoLEP can be a safe and effective palliative treatment in severe BOO patients with advanced prostate cancer despite the destructed surgical plane within the prostate.

**Table 1.** Demographic and perioperative data of the patients

Number of patients (n)	32
<i>ECOG Performance status (n)</i>	
0, 1	23
2	9
Median PSA (ng/mL)	21.28 (10.12–52.28)
Median prostate volume (g)	72.27 (59.36–87.55)
<i>Clinical stage (n)</i>	
T3	18
T4	13
N1	18
M1	12
Median Enucleated weight	21 (12–36)
Median Enucleation rate (g/min)	0.8 (0.5–1.8)
<i>Complication (n)</i>	
Grade I (urinary obstruction)	3
Grade II (urethral stricture)	2

ECOG: Eastern Cooperative Oncology Group

**Table 2.** Postoperative data after palliative HoLEP

	Preoperative	Postoperative	
	(n = 32)	3 months (n = 32)	12 months (n = 29)
Median IPSS	31 (26–35)	14 (6–27)*	15 (8–29)*
Median QoL	6 (5–6)	2 (1–5)*	2 (1–5)*
Median Qmax	6.2 (1.2–11.4)	13.2 (5.3–17.3)*	12.5 (6.5–17.1)*
Median PVR	321 (55–1200)	46.2 (0–180)*	65.4 (0–196)*
<i>Number of pads/day</i>			
0	29	29	26
1	1	3	3
≥2	2	0	0

\*p<0.001 compared to preoperative results

IPSS: International prostate symptom score; QoL: quality of life; Qmax: peak urinary flow rate; PVR: postvoid residual urinary volume

#### Disclosures

**Funding:** None **Clinical Trial:** Yes **Public Registry:** No **RCT:** No **Subjects:** HUMAN **Ethics Committee:** PNUH-IRB Helsinki: Yes **Informed Consent:** Yes