SC11 Five-years outcomes following holmium laser enucleation of the prostate in 180 consecutive patients in a single center serie evaluation of peritumoral pseudocapsule characteristics: preliminary results

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Aim of the study: We assessed 5-years follow-up of functional outcomes after holmium laser enucleation of the prostate (HOLEP) for Benign Prostatic Hyperplasia (BPH) in a single center serie.
Materials and methods: We conducted a retrospective study of 180 evaluable patients treated with HOLEP between March 2008 and October 2013 performed by a single surgeon at the Department of Urology of the hospital of PRATO. We collected preoperative and postoperative data after 5 years of follow-up. Study variables included International Prostate Symptom Score (IPSS), Maximum urinary flow rate (Qmax), post-void residual urine volume (PVR). Prostate Volume and prostate specific antigen (PSA) of our population were reported. Long-term complications included re-operation rate due to regrown adenoma were also reported.
Results: Mean follow-up was 60 months. Mean ± SD preoperative IPSS score, Qmax and PVR were 22.05 ± 4.57, 6.5 ± 2.72 ml/s and 106.3 ± 71.8 cc, respectively. Mean ± SD prostate volume measured with Transrectal ultrasound was 112.7 ml ± 52.62. 5-years post operatively variables showed significant functional improvements with 4.45 ± 2.25, 33 ml/s ± 7.87 and 11.6 ± 4.78 cc of IPSS, Qmax and PVR, respectively. The Patient Global Impression of Improvement was very much better for 70% (126/180) of patients. No patients were re-submitted to surgery in this period. PSA rate dramatically decreased from 13 ng/dl ± 7.96 to 1 ng/ml ± 0 We reported no bladder-neck or urethral strictures in our serie.
Discussion: Holmium laser enucleation of the prostate represents an effective and long-term modality for men with symptomatic BPH. All studied patients mantain functional improvement at later followup with no long-term complication or reoperation rate.

SC12 Postoperative complications after holmium laser enucleation of the prostate in a high volume center with more than 15 years of experience

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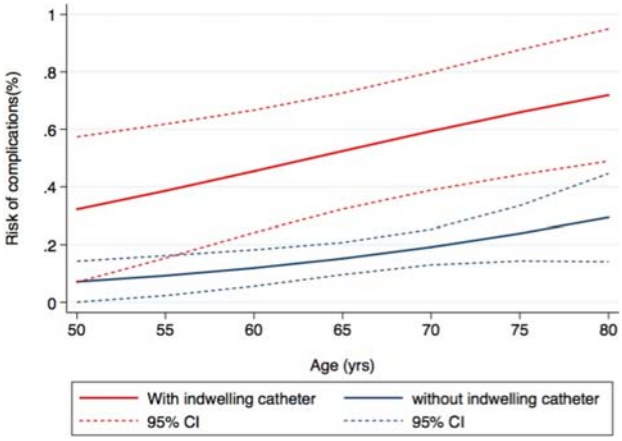
Aim of the study: Holmium laser enucleation of the prostate (HoLEP) is considered a challenging procedure with a steep learning curve limiting its widespread adoption. We investigated rates and predictors of postoperative complications in a high volume center.
Materials and methods: Data from 294 consecutive patients treated with HoLEP in 2015–2017 at a single high volume center with >15 years of experience were analysed. All patients were treated with the 100 W Ho:YAG laser device. Postoperative complications were reported following EAU guidelines recommendations on surgical complications: data were prospectively collected by phone interviews conducted by physicians up to 12 months after HoLEP. Procedure-specific complications were defined [bladder perforation; bladder neck contracture (BNC); blood clot retention; transfusion; re-surgery for hematuria; urinary retention]. Complications were graded using the Clavien-Dindo (CD) system. Ten (3.3%) patients were lost to follow-up. Logistic regression analysis tested preoperative risk factors for postoperative complications.
Results: Baseline median (IQR) age was 67 (62,71); IPSS score and prostate volume of 19.5 (13,25) and 87 (60,120) cc, respectively. Of 284, 51(18%) had indwelling urinary catheter. Median (IQR) operating time was 58(40,84) minutes. Patients were discharged 2(1, 3) days after HoLEP. Complications during hospitalization was 19%, while complications after discharge were 4.6%, with a 22% overall rate (≤12 months from surgery). Complications were graded as CD 1 [8.1%(23)], 2 [12% (35)] and 3a [1.8%(5)]. Rates of procedure-specific complications were: blood clot retention: 0.7%; blood transfusion 2.1%; re-do surgery 1.4%; bladder perforation 0%; BNC 0.7%; urinary retention 8.8%. At logistic regression analysis, older age (OR: 1.06; 95%CI: 1.01–1.11; p = 0.04) and having an indwelling catheter (OR: 6.1; 95%CI 2.47–15.3; p < 0.0001) emerged as significant risk factors for post-HoLEP complications, after accounting for CCI, anticoagulant/antiplatelet therapy, prostate volume and IPSS. Patients 70-yrs old with an indwelling catheter had a 60% probability of complications compared to 20% for same-age patients without catheter (Figure 1).



Discussion: HoLEP is a safe procedure in experienced hands with less than 2% high-grade complications. Older patients with indwelling catheter deserve to be carefully managed due to a higher risk of postoperative complications.

SC13 Is holmium laser enucleation of the prostate (HoLEP) safe and effective in patients with a high comorbidity burden? Insights from two referral academic Centres

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Aim of the study: Patients with significant comorbidity burden have limited options for the treatment of benign prostatic hyperplasia (BPH). Nevertheless, surgery is often required, especially after multiple episodes of acute urinary retention. In this study, we assessed the safety as well as the perioperative and functional outcomes of HoLEP in patients with a high comorbidity burden.
Materials and methods: Data from patients undergoing HoLEP at two Italian academic referral Centres from March 2017 to January 2019 were prospectively collected. All procedures were performed by three experienced endoscopic surgeons. Charlson Comorbidity Index (CCI) score was used as measure of comorbidity. Patients were divided into two groups according to CCI (<3 and ≥3). Preoperative characteristics, functional questionnaires [IPSS, IIEF-5, OAB-q, ICIQ-sf, stress urinary incontinence (SUI), QoL], perioperative data, as well as 3 months follow-up data were collected. Study endpoints included operative

time, length of hospital stay, surgical complications and 3-mo functional outcomes.

Results: Overall, 187 patients were included in the study. Preoperative characteristics were comparable among patients between the two groups (p > 0.05) (Table 1). Notably, patients with CCI ≥3 were older [63 (IQR 59–67) vs 73 (IQR 69–77); p < 0.001] and had a significant higher use of AAT (42.1% vs 4.9%; p < 0.001). Median amount of energy delivered during HoLEP and lasing time were significantly higher in patients with CCI ≥3 compared to less comorbid patients [(141 vs 118 KJ; p = 0,016) (31 vs 36 min; p = 0.017), respectively], probably reflecting an increased need for hemostasis. As consequence, median enucleation and overall surgical time were significantly higher in the CCI ≥3 group [(45 vs 55; p = 0.026) (90 vs 95; p = 0.025), respectively]. No conversion to open prostatectomy or TURP were recorded in both groups. Intraoperative complications rate did not differ between the study groups (16.4% vs 17.4%, p = 0.77). Median time to catheter removal and hospital stay were also comparable between the two cohorts, as well the median hemoglobin drop after surgery (-0.80 vs –0.65 g/dl; p = 0,45). Early (30-days) surgical complications rate was comparable between the two groups (13.1 % vs 15.9%; p = 0.31). Transfusions were necessary in only 2 patients (1.5%) in the CCI > =3 group on post-operative day 1. There was no significant difference in the rate of postoperative bladder tamponades in the CCI ≥3 group as compared with CCI <3 (3.2% vs 4.9% p = 0.3). Similarly, late (>30-days) surgical complications were comparable between the two cohorts [4.9 % vs 7.9 %; p = 0.83]. At a 3 mo follow-up, the improvement in Qmax, IPSS, OAB and QoL scores did not differ between the two groups (all p > 0.05) (Table 2).

Variables	Charlson Comorbidity Index		*P* value
	CCI < 3 (n=61)	CCI ≥ 3 (n=126)	
Preoperative features			
Age (years) (median, IQR)	63 (59 – 67)	73 (69 – 77)	< 0.001
BMI (kg/m^2) (median, IQR)	25.8 (23.5 – 28.0)	26.0 (24.5 – 29.0)	0.878
Prostate volume (mL) (median, IQR)	100 (83 – 120)	100 (75 – 130)	0.540
Antiplatelet and/or anticoagulant therapy (n, %)	3 (4.9%)	53 (42.1%)	< 0.001
No antiplatelet/anticoagulant	58 (95.1%)	73 (57.9%)	/
Single antiplatelet therapy	2 (3.3%)	30 (23.8%)	
Double antiplatelet therapy	1 (1.6%)	5 (4.0%)	
Anticoagulant therapy	0 (0%)	14 (11.1%)	
Antiplatelet + anticoagulant	0 (0%)	4 (3.2%)	
Preoperative urinary incontinence	6 (9.8%)	15 (11.9%)	0.385
No incontinence	55 (90.2%)	111 (88.9%)	/
Urge incontinence	5 (8.2%)	12 (9.5%)	
Stress incontinence	0 (0%)	0 (0%)	
Mixed incontinence	0 (0%)	3 (2.4%)	
Overflow incontinence	1 (1.6%)	0 (0%)	
Preop Q max (mL/s) (median, IQR)	8.0 (6.4 – 9.0)	8.5 (7.5 – 10.0)	0.035
Preop Post voiding residual (mL) (median, IQR)	223 (75 – 550)	150 (100 – 300)	0.521
Preop PSA (ng/mL) (median, IQR)	5.95 (2.51 – 8.79)	4.88 (2.76 – 6.90)	0.128
Preop IPSS (median, IQR)	25 (23 – 30)	23 (20 – 27)	0.03
Preop IIEF-5 (median, IQR)	20 (17 – 22)	17 (12 – 20)	0.031
Preop OAB-q (median, IQR)	42 (32 – 52)	45 (35 – 58)	0.790
Preop ICIQ-sf (median, IQR)	0 (0 – 0)	0 (0 – 0)	0.551
Preop QoL (median, IQR)	4 (4 – 5)	4 (3 – 5)	0.635

Table 1 : Preoperative features of patients treated with HoLEP

Variables	Charlson Comorbidity Index		*P* value
	CCI < 3 (n=61)	CCI ≥ 3 (n=126)	
Surgical features			
Enucleation time (min) (median, IQR)	45 (40 – 55)	55 (45 – 60)	0.026
Morcellation time (min) (median, IQR)	20 (15 – 35)	20 (15 – 35)	0.610
Overall surgical time (min) (median, IQR)	90 (70 – 110)	95 (75 – 126)	0.025
Energy adopted (kJ) (median, IQR)	118,497 (104,166 – 160,113)	141,508 (117,736 – 170,164)	0.016
Lasing time (min) (median, IQR)	31 (27 – 39)	36 (31 – 42)	0.017
Postoperative and functional features			
Catheter time (days) (median, IQR)	3 (3 – 3)	3 (3 – 4)	0.164
Hospital stay (days) (median, IQR)	4 (4 – 4)	4 (4 – 5)	0.347
Postop Q max (mL/s) (median, IQR)	24.1 (19.0 – 28.2)	21.5 (17.8 – 26.0)	0.554
Postop Post voiding residual (mL) (median, IQR)	21 (0 – 50)	30 (0 – 50)	0.675
Postop IPSS (median, IQR)	7 (2 – 9)	4 (0 – 7)	0.070
Postop IIEF-5 (median, IQR)	18 (16 – 20)	15 (10 – 20)	0.066
Postop OAB-q (median, IQR)	13 (13 – 15)	13 (13 – 18)	0.415
Postop ICIQ-sf (median, IQR)	0 (0 – 0)	0 (0 – 0)	0.845
Postop QoL (median, IQR)	1 (0 – 2)	1 (0 – 2)	0.835
Postoperative urinary incontinence	8 (13.2%)	20 (15.9%)	0.911
No incontinence	53 (86.8%)	106 (84.1%)	/
Urge incontinence	4 (6.6%)	10 (7.9%)	
Stress incontinence	4 (6.6%)	8 (6.4%)	
Mixed incontinence	0 (0%)	2 (1.6%)	
Overflow incontinence	0 (0%)	0 (0%)	
Hemoglobin drop (preop. Hb – postop. Hb) (g/dL)	- 0.80 (- 1.50 – - 0.00)	- 0.65 (- 1.90 – - 0.20)	0.458
Early (within 1 month) surgical complications according to Clavien Dindo(n, %)	8 (13.1%)	20 (15.9%)	0.313
CL. complications <2 n (%)	8 (13.1%)	18 (14.4%)	/
CL. complications >=2 n (%)	0 (0%)	2 (1.5%)	
Delayed (after 1 month) surgical complications according to Clavien Dindo (n, %)	3 (4.9%)	10 (7.9%)	0.218
CL. complications <2 n (%)	3 (4.9%)	10 (7.9%)	0.83
CL. complications >=2 n (%)	0 (0%)	0 (0%)	

Table 2: Perioperative and postoperative functional outcomes of patients treated with HoLEP

Discussion: In our experience HoLEP seems to require more energy delivery and operative time in patients with a high comorbidity burden, although it represents a safe and effective procedure for the treatment of BPH in this cohort of patients.

SC14 Partially versus totally en-bloc no-touch low-power HoLEP: Equivalent efficiency and safety

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Aim of the study: Holmium Laser Enucleation of the Prostate (HoLEP) is a safe and effective miniinvasive procedure for benign prostatic obstruction (BPO) treatment, relying on the endoscopic anatomic enucleation of the prostatic adenoma. Since 2012 we progressively modified the traditional 3-lobe technique introducing: a) the partially en-bloc enucleation of the adenoma, obtaining a single horseshoe-shaped specimen by means of a single 5 o'clock vertical incision from the bladder neck to the left side of the veru montanum; b) the no-touch approach, taking advantage of the vaporizing plasma bubble generated at the tip of the laser fiber at 2–3 mm from the tissue; c) the low-power setting, delivering less energy to the capsular plane, to minimize postoperative dysuria. The latest evolution has been the totally en-bloc enucleation, maintaining the no-touch low-power approach, with no vertical incisions of the prostatic urethra, early release of the sphincteric mucosa and late opening of the bladder neck. The aim of the present work was to compare efficiency and safety of partially and totally en-bloc HoLEP.