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Overcoming the Learning Curve: A Single Institution Review of HoLEP Complications and How to Manage Them

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MP29-13 OVERCOMING THE LEARNING CURVE: A SINGLE INSTITUTION REVIEW OF HOLEP COMPLICATIONS AND HOW TO MANAGE THEM

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1. Introduction and Objective

- HoLEP has emerged as a size-independent endoscopic gold standard for the treatment of BPH.
- Despite its advantages, it requires a steep learning curve and its practice is often limited to academic medical centers.
- We believe a review of common HoLEP complications and their management may further its adoption.

2. Methods/Materials

- We performed a comprehensive retrospective chart review of patients who underwent HoLEP, primarily by a single surgeon, between 2013 and 2020 at our institution.
- We assessed for 16 complications related to HoLEP and Clavien-Dindo classification grade II and above.

3. Results

Variable	Mean (Standard Deviation)
Age	71 (8)
BMI	27.9 (4.9)
Duration of HoLEP	139.6 minutes (91.6)
Preoperative Gland Size	107.5 mL (62.9)
Weight of Prostate Enucleated	64.6 g (49.8)

Table 1: Patient Demographic Data

HoLEP has a low incidence of complications, most are low grade and managed easily. Our review offers realistic expectations of pertinent complications that may arise.



	Category of Complication	Number of Patients	Percentage
1	Conversion to Open Surgery	19	2.3%
2	Capsular Perforation	5	0.6%
3	Undermining of Bladder Neck	13	1.6%
4	Seminal Vesicle Injury	1	0.1%
5	Ureteral Orifice Injury, Bladder Perforation, or Rectal Injury	0	0.0%
6	Blood Transfusion	23	2.8%
7	Operative Intervention for Bleeding (e.g., Clot Evacuation/Fulguration)	19	2.3%
8	Non-operative Intervention for Bleeding	8	1.0%
9	Meatal Stenosis	12	1.5%
10	Urethral Stricture	35	4.3%
11	Bladder Neck Contracture	7	0.9%
12	Persistent Stress Urinary Incontinence	11	1.3%
13	Un-enucleated Adenoma	11	1.3%
14	Infection/Urinary Tract Infection	39	4.8%
15	Persistent Retention	6	0.7%
16	ICU Admission	17	2.1%

Table 2: Complications and Rates

3. Results (cont.)

- 820 patients included
- The procedure was completed in 99% of patients
- The average length of follow up was 1.7 years.
- 13.2% of patients had prior outlet surgery.
- The most common complication was infection (4.8%). There was a transfusion rate of 2.8%. Stricture rates were 1.5% for meatal stenosis, 4.3% for urethral stricture, and 0.9% for bladder neck contracture.
- Stress urinary incontinence (SUI) immediately following surgery was common, but transient in most patients.
- Persistent SUI, defined as lasting greater than 1 year, was 1.3%.
- 2.1% of patients required ICU admission (over half of which were due to fluid overload and/or associated electrolyte imbalances) and almost all of whom were transferred out of the ICU within 24 hours.
- Clavien-Dindo complication rates were 1.8% for grade II, 2.0% for grade III, and 2.1% for grade IVa. There were no patient deaths.

4. Conclusion

- There is an overall low incidence of complications associated with HoLEP and most are low grade and managed easily.
- As a high-volume referral center for HoLEP, the patients we operate on represent the full range of surgical complexity and our review offers realistic expectations of pertinent complications that may arise.
- With this knowledge, we hope there may be a shift in the urology community towards further implementing this effective and safe surgery for patients.

Grades	Definition	Number of Patients	Percentage
I	Any deviation from the normal postoperative course without the need for pharmacological treatment or surgical, endoscopic and radiological interventions. Allowed therapeutic regimens are: drugs as antiemetics, antipyretics, analgesics, diuretics, electrolytes, and physiotherapy. This grade also includes wound infections opened at the bedside.	N/A	N/A
II	Requiring pharmacological treatment with drugs other than such allowed for grade I complications. Blood transfusions and total parenteral nutrition are also included.	15	1.8%
III	Requiring surgical, endoscopic, or radiological intervention	16	2.0%
IV	Life-threatening complication (including CNS complications) requiring IC/ICU-management	-	-
IVa	Single organ dysfunction (including dialysis)	17	2.1%
IVb	Multi-organ dysfunction	0	0.0%
V	Death of a patient	0	0.0%

Table 3: Clavien-Dindo Complications and Rates