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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