**Introduction**

In the subset of patients whose BPH symptoms do not improve with medical therapy, surgical treatment constitutes the next step in management. Historically, transurethral resection of the prostate (TURP) has been the gold standard to which all endoscopic surgical modalities for BPH are compared. This technique, although efficacious, has been associated with post-hemostasis and subsequent morbidity. This includes prolonged hospital stays, higher risk of blood transfusion, increased catheterization times, and higher reoperation rates. These negative attributes of TURP have prompted the rise of newer and innovative modalities to treat BPH.

HoLEP is one of the new modalities of surgical management. This procedure uses a 2140nm wavelength laser to enucleate the adenoma of the prostate off the surgical capsule, as seen in the image below (Figure 1). The use of a laser allows for removal of a greater amount of tissue, and greater hemostasis during the procedure in comparison to TURP. Additionally, HoLEP is size independent and can be used for enucleation of larger prostates over 100g which have not been good candidates for TURP procedures.

Figure 1: Traditional TURP versus HoLEP laser operative technique

One of the most common complications with HoLEP is post-operative stress incontinence. The literature shows reported rates transient SUI in anywhere from 1-44% of patients undergoing this procedure depending on technique used. This represents one of the most common complaints affecting quality of life after the procedure, though the vast majority of cases are short lived. These complications, along with a high learning curve for the procedure, are seen as the two most prominent reasons for urologists’ failure to adopt this technique currently.

**Methods**

- A retrospective review, from an IRB approved database, of all 515 patients that underwent a HoLEP at our institution between January 2012 and December 2017 was performed.
- Transient SUI after HoLEP was defined as any leakage of urine at any time up to 3 months post-operatively.
- Patients were stratified by gland size determined by transrectal ultrasound (TRUS) and whether they were catheter dependent; either clean intermittent catheterizations (CIC) or continuous urethral drainage catheter.
- Patients were seen for follow-up at 2 weeks, 6 weeks, and 3 months post-operatively.
- Univariate analysis was performed for baseline demographics, and for pre-, peri-, and post-operative data collection.

**Study Aims**

- To uncover transient SUI complications rates associated with HoLEP procedures performed at our institution by a single surgeon.
- To identify factors that may be associated with increased risk of SUI post-operatively.
- To recognize risk factors associated with transient SUI, which will allow providers to be better able to counsel patients and hopefully reduce provider and patient frustration.

**Conclusions**

- The majority of patients (88.6%) with transient SUI fully recover their control of their bladder within the first 6 weeks after their operation.
- Major risk factors identified by our study include patients with prostate sizes greater than 100g, operative time, and preoperative catheter-dependent urinary retention. Patients in these populations have a significantly increased risk for transient SUI.
- Patients with transient SUI should be counseled appropriately to reduce frustration during their postoperative course.
- Future research includes investigation of utilizing perioperative pelvic floor rehabilitation prior to their procedure in order to hopefully reduce or eliminate transient SUI post-HoLEP.

**References**