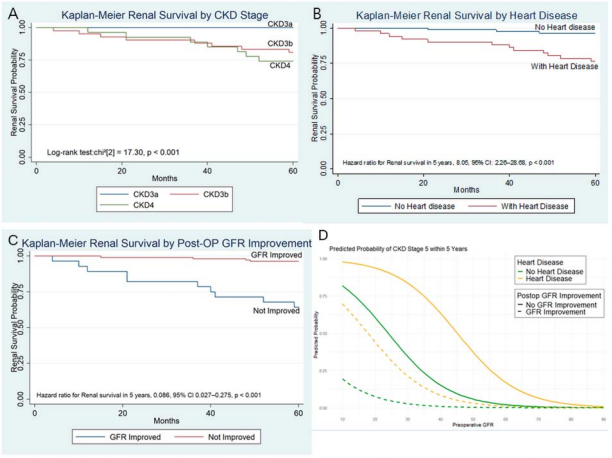
RESULTS: In the multivariable Firth logistic regression analysis, lower preoperative GFR, presence of heart disease, and lack of postoperative GFR improvement were significantly associated with progression to CKD stage 5 within 5 years. Each 1 ml/min/1.73m^2 increase in preoperative GFR was associated with a 10% reduction in odds (OR = 0.898, 95% CI 0.839−0.962, p=0.002). Patients with heart disease had markedly higher odds of progression compared with those without heart disease(OR = 9.683, 95% CI 1.912−49.037, p=0.006). Postoperative GFR improvement was strongly protective, reducing the odds by approximately 94.7% (OR = 0.053, 95% CI 0.011−0.254, p0.001).

CONCLUSIONS: In patients with CKD stage 3−4 and bladder outlet obstruction undergoing surgical treatment, renal functional recovery plays a crucial role in long-term renal outcomes. Lower preoperative eGFR and coexisting heart disease were strong risk factors for progression to CKD stage 5, whereas postoperative improvement in eGFR significantly reduced this risk.



Source of Funding: No

IP54-09

A SAFETY AND FEASIBILITY STUDY OF INTRAPROSTATIC DRUG ELUTION FOR TREATMENT OF LOWER URINARY TRACT SYMPTOMS SECONDARY TO BENIGN PROSTATIC ENLARGEMENT

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INTRODUCTION AND OBJECTIVES: Long acting paclitaxel eluting bioabsorbable implants are a novel office based intraprostatic drug elution (IPDE) therapy for men suffering from lower urinary tract symptoms (LUTS) secondary to benign prostatic enlargement (BPE). Transurethral drug coated devices have been studied previously. The aim of this study is to assess the safety and feasibility of a new IPDE long acting drug therapy for the treatment of LUTS secondary to BPE. Initial results were completed and are being reported.

METHODS: IPDE for LUTS secondary to BPE is being evaluated in a safety and feasibility clinical study at a single site in Dominican Republic. 4-12 implants of the novel IPDE therapy are delivered via minimally invasive transrectal implantation guided by transrectal ultrasound imaging in the office setting under local or conscious sedation. Key eligibility inclusion criteria include age $\geq$ 50 years, international prostate symptom score (IPSS) $\geq$ 13, peak urine flow rate (Qmax) $\geq$ 5 ml/sec and $\leq$ 15 ml/sec, voided volume $\geq$ 100 ml, post-void residual urine volume $\leq$ 250 ml, prostate volume between 30 to 80cc, and inadequate response and/or refusal of medical therapy for LUTS. Patients were required to be washed out of their BPH medications prior to treatment and are followed with phone calls at 1 and 7 days and visits at 30, 90 and 180 days post treatment with assessment of clinical pathology, uroflowmetry (Qmax), IPSS and pain visual analogue Scale (VAS). Statistical analysis is performed using paired t-test comparing to baseline.

RESULTS: IPDE dosing of eleven patients (mean age of 63 years) was performed, with mean dosing of 4 IPDE bioabsorbable implants. VAS pain levels at procedure/discharge were minimal 0.5 out of 10 with no drug or procedure related post procedure catheterization. Mean follow-up VAS pain levels were 0.5 out of 10 at 1 day, and 0.5 out of 10 at 7 days post treatment. IPSS decreased by 14 pts from baseline 90 days after treatment (p=1.4E-5) with 100% of patients showing clinically significant improvement of symptoms. No drug or procedure related adverse events have been reported to date. Further follow-up visits to 180 days are ongoing and additional treatments are planned in up to a maximum of 20 patients.

CONCLUSIONS: Treatment of LUTS secondary to BPH with paclitaxel eluting bioabsorbable implants delivered transrectally appears safe and feasible as a novel in office long acting therapy for BPE related LUTS. Preliminary results are promising with patients reporting clinically relevant LUTS symptom relief and no drug or procedure related side effects.

Source of Funding: Source of funding − Resurge Therapeutics, Inc

IP54-10

DURABILITY OF CONTEMPORARY BPH SURGERY: REAL-WORLD REOPERATION RATES ACROSS EIGHT PROCEDURES

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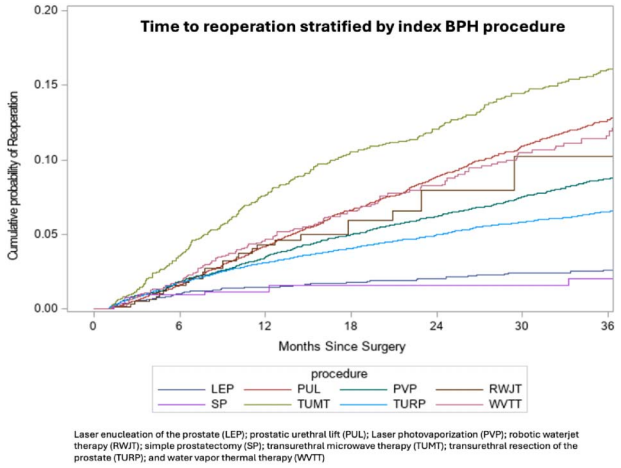
INTRODUCTION AND OBJECTIVES: Avoiding secondary or tertiary procedures for benign prostatic hyperplasia (BPH) is an important outcome for many men. Within the confines of randomized trials, many BPH procedures demonstrate low reoperation rates. Yet, in the context of a rapidly evolving clinical landscape, it is becoming increasingly critical to understand how well this translates into real-world practice. Therefore, we aimed to evaluate real-world outcomes of BPH procedures across the state of Michigan.

METHODS: Using Michigan statewide claims data, patients who underwent a procedure for BPH were identified between 2015 and 2023. Comorbidity was defined by Elixhauser score. Procedures included: water vapor thermal therapy (WVTT), transurethral resection of prostate (TURP), prostatic urethral lift (PUL), laser photovaporization (PVP), simple prostatectomy (SP), transurethral microwave thermotherapy (TUMT), robotic waterjet therapy (RWJT) and laser enucleation of prostate (LEP). To control for emergent surgeries associated with the index procedure, reoperations were defined as a subsequent BPH procedure performed at least 6 months after the index procedure. The Kaplan-Meier method was used to estimate 1, 2 and 3-year reoperation rates, while multivariable cox regression models identified predictors of reoperation.

RESULTS: Overall, 56,703 patients were included. The median age was 73 (IQR: 37 - 78) and median Elixhauser score was 3 (IQR: 1-5). The unadjusted time to reoperation was stratified by index procedure (Figure 1) and ranged from 2.6% for LEP to 16.1% for TUMT. On multivariable analysis, preoperative catheter dependence was a risk factor for reoperation (HR 1.1, 95% CI 1.0 - 1.2). Compared to TURP, TUMT (HR 2.4, 95% CI 2.2 - 2.8), PUL (HR 2.0, 95% CI 1.9 - 2.2), WVTT (HR 1.8, 95% CI 1.6-2.2), RWJT (HR 1.5, 95% CI 1.0 - 2.2) and PVP (HR 1.3, 95% CI 1.2 - 1.4) had higher risk of reoperation whereas LEP (HR 0.4, 95% CI 0.3-0.5) and SP (HR 0.3, 0.2 - 0.6) were lower.

CONCLUSIONS: Our findings provide contemporary, real-world data on reoperation risk following surgical therapy for BPH. Patient-reported outcomes, an essential measure of procedural

effectiveness, were not captured in this claims analysis. Future work should integrate these patient-centered endpoints to provide a more comprehensive assessment of surgical success.



Source of Funding: Data was provided by the Michigan Value Collaborative which is funded by Blue Cross Blue Shield of Michigan

IP54-11

QUALITATIVE ANALYSIS OF THE COMMUNICATION OF SURGICAL RISKS IN BENIGN PROSTATIC HYPERPLASIA TREATMENT CONSULTATIONS

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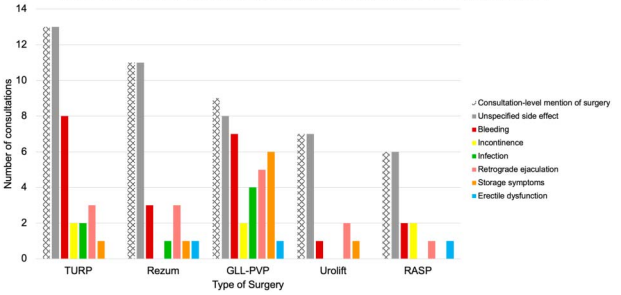
INTRODUCTION AND OBJECTIVES: Effective communication of treatment risks and side effects is essential for shared decision-making (SDM) regarding surgical options for benign prostatic hyperplasia (BPH). However, how these risks are conveyed during consultations remains unclear. We sought to qualitatively characterize discussions of surgical risks during BPH treatment consultations.

METHODS: We audio-recorded, transcribed, and qualitatively analyzed 21 outpatient BPH consultations across six urologists at a tertiary academic center. Utilizing an open-coding approach, coders (AHT, MPM) extracted and analyzed physician quotes related to the discussion of surgical risks from consultation transcripts. Frequencies of risk mentions were then summarized at the consultation level and stratified by procedure type, including transurethral resection of the prostate (TURP), GreenLight laser photovaporization (GLL-PVP), Rezūm, UroLift, and robotic-assisted simple prostatectomy (RASP).

RESULTS: Surgical options were discussed in 15 consultations. The most frequently mentioned risks across procedures were bleeding (73% of consultations) and infection (60%), followed by retrograde ejaculation (53%), storage symptoms (53%), incontinence (40%), and erectile dysfunction (33%). Nonspecific references to “surgical risks” without detail occurred in 47% of consultations. Communication patterns varied substantially across five common BPH treatment surgeries (Figure 1). Bleeding was most often mentioned in GLL-PVP (78%) and TURP (62%) discussions, but less commonly in RASP (33%), Rezūm (27%), and UroLift (14%). Retrograde ejaculation was mentioned in TURP (23%), GLL-PVP (56%), Rezūm (27%), UroLift (29%), and less frequently in RASP (17%). Incontinence and infection were inconsistently discussed (0-44%), storage symptoms appeared mainly in GLL-PVP (67%), and erectile dysfunction was rarely addressed ($\leq$17% across procedures).

CONCLUSIONS: There is substantial variation in how surgical risks are communicated to patients considering BPH procedures. Even among high-frequency side effects such as bleeding, discussions were inconsistent across surgery types. These findings suggest risk communication in benign urology lacks standardization, which can affect meaningful patient participation in SDM.

Figure 1. Frequency of Surgical Risk Discussion by Treatment Type at a Consultation Level



Source of Funding: NIH grants TL1 DK132768 and U2C DK129496

IP54-12

REAL-WORLD 3-YEAR OUTCOMES OF REZŪM WATER VAPOR THERAPY IN MEN WITH LARGE (≥80 ML) PROSTATES: A MULTI-CENTER STUDY

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INTRODUCTION AND OBJECTIVES: In men with prostate volumes greater than 80 cc, traditional surgical interventions have historically offered the highest efficacy and durability. However, these procedures are often associated with prolonged operative times and extended catheterization. Rezūm Water Vapor Therapy is a minimally invasive alternative that utilizes radiofrequency-generated convective water vapor energy delivered through a retractable needle under cystoscopic guidance. This study aims to present the prospective, multi-center outcomes of the largest real-world cohort of patients with prostate volumes $\geq$80 ml treated with Rezūm therapy.

METHODS: This study involved a prospective International Rezum registry database, which collated information from two high-volume centers between April 2019 and August 2025. Baseline medical histories, uroflowmetry (Qmax, PVR), and validated questionnaires (IPSS, IPSS QoL, BPHII, IIEF-15, MSHQ-EjD) were recorded. The main outcomes assessed included symptom scores, functional improvement, and safety at baseline,6, 12, 24 and 36 months.

RESULTS: A total of 321 patients with a mean age of 68.7 years (range 47.6–92.7) and prostate size $\geq$80 ml were treated with Rezūm. The median prostate volume was 107 ml (interquartile range 91–125.0 ml), with 254 patients (80.7%) exhibiting a median lobe. A history of urinary retention was noted in 107 patients (33.6%). On average, 13.4 injections ($\pm$3.9) were administered per procedure, which lasted an average of 7.1 minutes ($\pm$10.1). The IPSS improved from 21.7 (n=257) at baseline to 9.9 at 12 months (n=121), 9.1 at 24 months (n=107), and 8.4 at 36 months (n=30). The IPSS quality of life (IPSS QoL) score decreased from 4.5 (n=257) at baseline to 1.9 at 12 months (n=121), 1.6 at 24 months (n=83), and 1.6 at 36 months (n=30). The BPHII decreased from 7.4 at baseline (n=215) to 2.4 at 6 months (n=86), 2.2 at 24 months (n=45), and 2.1 at 36 months (n=25). At baseline, the maximum urinary flow rate (Qmax) was 8.1 ml/s (n=231), increasing to 14.6 ml/s at 6 months (n=45), 14.5 ml/s at 24 months (n=36), and 10.8 ml/s at 36 months (n=8). Post-void residual (PVR) volume at baseline was 144.3 ml (n=231), decreasing to 48 ml at 12 months (n=110), 50.8 ml at 24 months (n=44), and 74.4 ml at 24 months (n=9). There was no significant difference noted in sexual function as measured by IIEF and MSHQ.