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Publication Summary

Water vapor thermal therapy of lower urinary tract symptoms due to benign prostatic obstruction: Efficacy and safety analysis of a real-world cohort of 211 patients

Bausch K, Zahiti L, Schrutt M, Wetterauer C, Halbeisen FS, Ebbing J and Seifert HH.
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BACKGROUND

- Transurethral resection of the prostate is the gold standard surgical treatment for lower urinary tract symptoms (LUTS) caused by benign prostatic obstruction (BPO).
- However, the demand for minimally invasive treatments is growing.
- Rezūm™ is a minimally invasive water vapour thermal therapy that has demonstrated a beneficial improvement in micturition symptoms and voiding function in a real-world patient cohort.
- Previous studies have reported on either homogeneous patient groups[1–6] or specific baseline characteristics.[7,8]

This article reports short- to long-term efficacy and safety outcomes of Rezūm therapy in an unselected real-world cohort.

METHODS

A pragmatic, observational, longitudinal cohort, single-centre study that included consecutive patients treated with the Rezūm system, following the same previously published protocol,[3,9] from January 2014 to August 2022.

211 patients
Median age: 68.0 years (IQR 61.0–77.0)

Received **Rezūm** therapy (January 2014–August 2022)

Assessed at:
Baseline, then 2 months, 6 months, 1 year, 2 years and >2 years after surgery

IQR, interquartile range

Primary outcomes

Operative efficacy:	Safety:
Maximum urine flow rate (Q_{max})	Clavien–Dindo graded[10] intraoperative and 30-day postoperative complications
Postvoid residual volume	
International Prostate Symptom Score (IPSS)	
Quality-of-life (QoL) score	

RESULTS

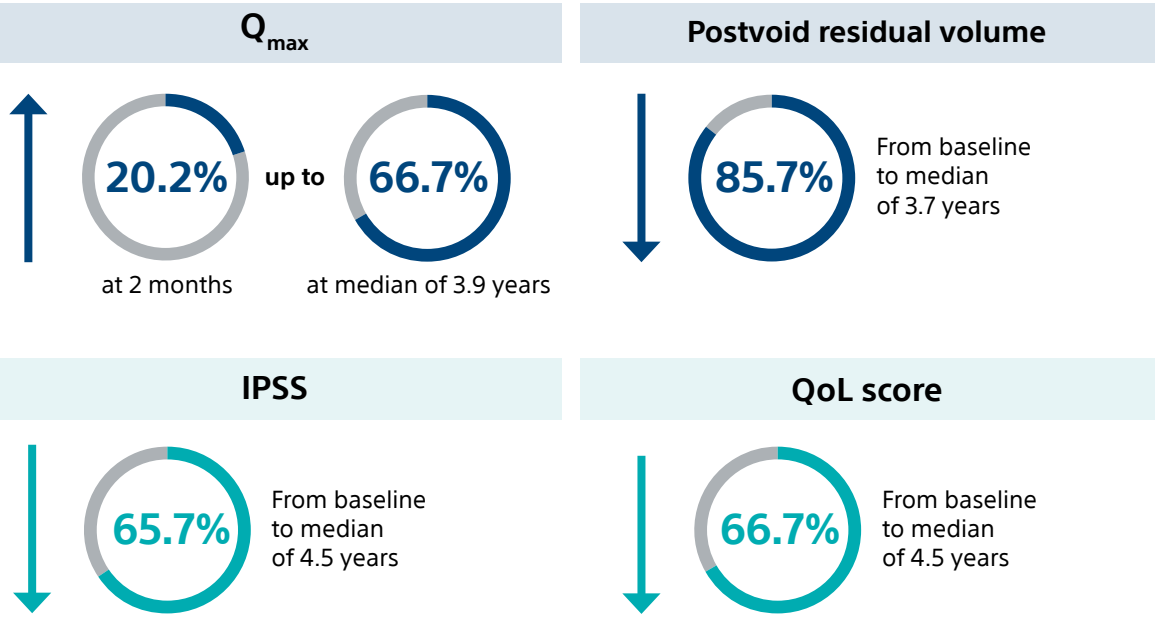
Preoperative patient characteristics

- An indwelling catheter and a prostate volume ≥80 mL were each present in 19.9% of patients; a median lobe was reported in 38.4% of patients.

Peri- and post-operative efficacy outcomes

- Operation time: median 10 min (IQR 7–16); 28.9% of patients underwent the procedure with general anaesthesia, 55.9% received analgosedation, 3.3% received spinal anaesthesia and 11.8% received local anaesthesia.
- Re-operation rate: 5.7% at a median time of 407 days.
- Number of water steam injections: median 5 (IQR 3–7).
- Length of hospital stay: median 2 days (IQR 2–3).
- Catheter removal: possible after a median of 5 days (IQR 5–7) for 195 (92.4%) patients.
  - 27/42 patients with an indwelling catheter preoperatively became catheter-free after a median of 16 days.
  - 168/169 patients with no indwelling catheter preoperatively had their catheter removed after a median of 5 days.
- Successful catheter removal rates in patients with:
  - Prostate volume ≥80 ml: 80.9%
  - Median lobe: 83.9%
  - Preoperative catheter: 65.8%

Functional outcomes following Rezūm therapy showed improvements in uroflowmetry



Safety outcomes

- Complications of Clavien–Dindo grades I or II were recorded for 11.8% (25/211) of patients following the procedure.

CONCLUSION

- Rezūm is a minimally invasive treatment option in a real-world cohort of patients with LUTS secondary to BPO.
- Micturition symptoms and voiding function improve stably over time.
- Preoperative catheterisation and the presence of a median lobe increase the risk of unsuccessful catheter removal.

LIMITATIONS

- The pragmatic observational design adds selection bias that may underestimate both positive and negative outcomes.
- There is variability in the follow-up duration; some patients have incomplete data, and outcomes may be influenced by the patients with the worst outcomes needing more frequent consultations.

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