

Original Article
Clinical Investigation

One hundred cases of Rezum water vapor thermal therapy for benign prostatic hyperplasia: Real-world data at a single institution in Japan

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Abbreviations & Acronyms

BCD = bladder neck-coliculus distance
BPH = benign prostatic hyperplasia
HoLEP = holmium laser enucleation of the prostate
IPSS = International Prostate Symptom Score
LUTS = lower urinary tract symptoms
MIST = minimally invasive surgical therapies
OABSS = Overactive Bladder Symptom Score
PVol = prostate volume
PVR = post-void residual
 Q_{max} = peak flow in uroflowmetry
QoL = quality of life
TURP = transurethral resection of the prostate

Objective: The objective of our study was to assess the efficacy of Rezum, a minimally invasive surgical treatment, for patients with lower urinary tract symptoms related to benign prostatic hyperplasia (BPH) in real-world clinical practice at a single institution in Japan.

Materials and Methods: We conducted a prospective study involving 100 patients who underwent the Rezum procedure between October 2022 and February 2024. We analyzed patient backgrounds that are compliant with Japanese regulations and assessed descriptive outcomes such as symptom scores, peak flow in uroflowmetry, post-void residual (PVR) volume, and prostate volume (PVol). These data were collected at 1 and/or 3 months postoperatively.

Results: On average, 4.7 water vapor injections were administered during the Rezum procedures, with a mean operative time of 6.3 min. Patients experienced significant relief in symptoms, with reductions of 55% in International Prostate Symptom Score, 53% in quality of life score, and 30% in Overactive Bladder Symptom Score. There was also a significant decrease in mean PVR volume (50% reduction) and PVol (27% reduction). Among the subgroup of 23 pre-interventional catheter-dependent patients, 91% achieved catheter independence.

Conclusion: Our single-center analysis demonstrates that Rezum is an effective and safe minimally invasive therapeutic option for patients with BPH. This promising novel technique can be particularly beneficial for patients at an augmented risk of bleeding or those considered high risk for anesthesia.

Key words: BPH, Japanese, LUTS, MIST, Rezum.

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Received 23 April 2024;
accepted 30 July 2024.
Online publication 26 August
2024

INTRODUCTION

Benign prostatic hyperplasia (BPH) is a prevalent and chronic condition among elderly men, often leading to lower urinary tract symptoms (LUTS) that significantly impact their quality of life (QoL).^{1,2} The incidence of LUTS and benign prostate obstruction is notably high, with prevalence rates escalating globally due to increasing life expectancies, reaching up to 83% in individuals aged 80 and above.³⁻⁵

Bladder outlet obstruction, stemming from BPH, is a common cause of LUTS, exacerbating health-related QoL. Surgical intervention becomes necessary when medical treatments fail or are discontinued due to adverse effects, with early surgical intervention recommended to prevent irreversible damage to bladder function.

Historically, transurethral resection of the prostate (TURP) has been the standard surgical treatment for BPH-related LUTS. However, TURP is associated with considerable perioperative morbidity rates, including postoperative complications such as urethral stricture and incontinence.²

In recent years, various minimally invasive surgical therapies (MIST) have emerged, aiming to reduce surgical morbidity and improve patient outcomes.⁶ MIST offers promising