

# Unexpected encapsulated hematoma after Rezum therapy: First outcome of an emerging therapy

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## ABSTRACT

Rezum therapy is an emerging minimally invasive treatment for BPH. Complications of Rezum are underreported in the literature. We report a case of a 61-year-old male patient who presented to ED two months after Rezum with hematuria and clot retention. US showed prostate size of 315 g with cystic changes. The patient was managed with TURP and unexpectedly showed big contained hematoma below the bladder neck which was evacuated with adequate hemostasis.

## 1. Introduction

Lower Urinary Tract Symptoms (LUTS) are a group of symptoms with diverse aetiologies. Benign Prostatic Hyperplasia (BPH) is commonly prevalent in men as they age. Symptoms include weak stream flow, intermittency, straining to void, urgency and in some extent urinary retention. Moreover, Nocturia is the most common prevalent symptom.<sup>1</sup> Management includes behavioural therapy, medical, minimally invasive, and surgical management. Despite that monopolar Transurethral Resection of Prostate (TURP) is considered the gold standard approach to patients with BPH, its associated complications necessitate alteration of approach to minimally invasive methods such as Rezum. It is a minimally invasive procedure that uses thermal energy created by radiofrequency of water vapor thermal therapy at nearly 103 °C confined to the transition zone.<sup>2</sup> In this paper, we report a rare, yet an interesting outcome of Rezum in a patient presented 10 weeks after the procedure with a prostate size in Ultrasound (US) of 315 g. The patient underwent TURP and a huge encapsulated hematoma was recognized and evacuated.

## 2. Case presentation

A 64-year-old male with a past medical history of diabetes (HbA1c = 8.9%) and BPH. He had been taking alfuzocin for LUTS but without

benefit. Uroflowmetry study was 11 ml/s for a total of 330 ml of urine. Prostate specific antigen level was 2.5 ng/ml with a prostate size in Ultrasound (US) of 88 g. The patient decided to go with the Rezum option as treatment of LUTS and the procedure was uneventful. Urine culture was sterile prior to the procedure and he was discharged on quinolone for five days.

Two months later, he presented to the emergency department with complaints of hematuria that was associated with clots, dysuria, and then acute urinary retention. The patient denied any history of fever. Physical examination revealed suprapubic tenderness and dullness which was managed abruptly by bladder decompression. Laboratory workup was significant for a high White Cell Count (WBC) count: 24 x 10<sup>9</sup>/L, C-Reactive Protein (CRP) level of 2 mg/L, Renal Creatinine of 90 mmol/L. US was done for him and demonstrated, surprisingly, a huge prostate size of 315 g with cystic changes (Fig. 1). Intravenous fluid and antibiotics were the initial management.

We speculated that this could be an abscess formation or hematoma so diagnostic cystoscopy was done under general anaesthesia. Intraoperatively, a huge encapsulated swelling was recognized below the bladder neck (Fig. 2A). Therefore, TURP was the next step. After initial resection, the hematoma was recognized and evacuated completely (Fig. 2B). Next, TURP was carried out in the classical manner with adequate hemostasis. The patient tolerated the procedure well and was discharged the

*Abbreviations:* LUTS, lower urinary tract symptoms; TURP, Transurethral resection of prostate; BPH, Benign prostatic hyperplasia; US, Ultrasound; TRUS, Transrectal ultrasound.

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next day.

### 3. Discussion

Lower urinary tract symptoms are widely prevalent in men who usually required either medical, minimal invasive, or surgical treatment. Although TURP is the current standard in treatment of enlarged prostate, its complications, for example, bleeding, clot retention and transurethral resection syndrome mandate to look for another less invasive therapy. As a result, the trend is toward minimally invasive therapy such as Rezum. It has advantages of its applicability in the clinic and in patients who do not tolerate general anaesthesia. Rezum procedure uses thermal energy created by radiofrequency of water vapor thermal therapy at nearly 103 °C confined to transition zone which eventually leads to cell death and subsequently shrunken of the gland.<sup>2</sup>

To the best of our knowledge, there are no reported cases of prostatic hematoma following Rezum procedure. However, prostatic hematoma was described in the literature occurring after other procedures. For example, Petroski and their colleagues reported a case of serious and severe haematochezia five days following a transrectal ultrasound-guided (TRUS) prostate biopsy which required blood transfusion. An Anoscopy revealed active pulsatile bleeding from the anterior rectal wall, which was the site of biopsy. Accordingly, the patient was managed with digital compression for 45 minutes in which bleeding stopped.<sup>3</sup> This patient did not require imaging studies or invasive intervention. A clinician should guide their management based on the overall clinical assessment of the patient. A thorough history and physical examination steer the way to proper management without unnecessary investigations. Another comparable study described a patient who presented 6 h post TRUS biopsy with large intraprostatic hematoma and active bleeding which was evident in an enhanced CT scan. Eventually, he was managed successfully with embolization.<sup>4</sup>

Hiroshige et al. described a large pelvic hematoma nine days following laparoscopic radical prostatectomy when the patient reported lower abdominal pain which was associated with a drop in haemoglobin level. CT angiography exhibited active arterial bleeding requiring transarterial embolization, which successfully terminated the bleeding.<sup>5</sup>

### 4. Conclusion

Rezum is a newly developed technology in the treatment of BPH. Prostatic hematoma following Rezum has never been reported. However, it has been described well by other procedures such as TRUS biopsy or post radical prostatectomy. Management of outcomes should be guided according to patient's presentation and intraoperative finding.

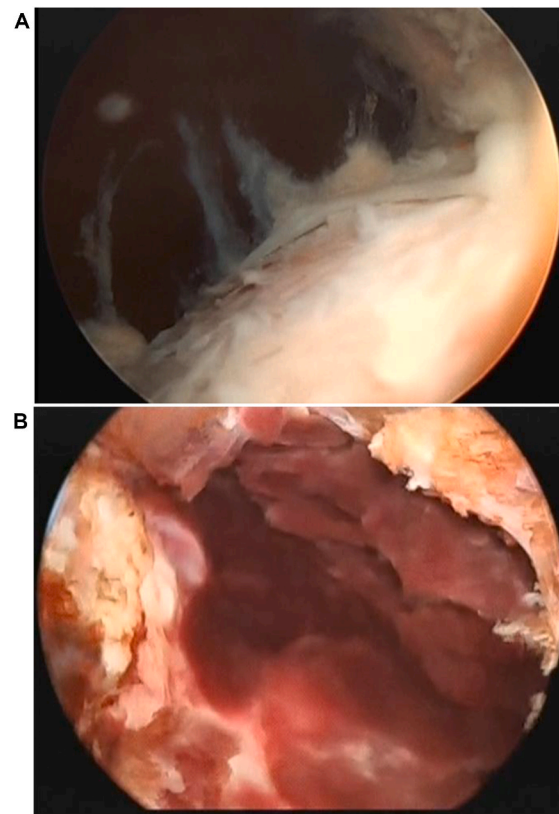


Fig. 2. Intraoperative findings. Big encapsulated hematoma (2A). Hematoma after resection (2B).

Long term follow up are encouraged to build up possible adverse effects.

### Author statement

**Saeed Bin Hamri:** Conceptualization, Methodology, Supervision. **Fawaz Alkeraithe:** Writing – original draft, editing. **Faisal Alsaleh:** Writing – original draft. **Faisal Alasmari:** Writing- original draft.

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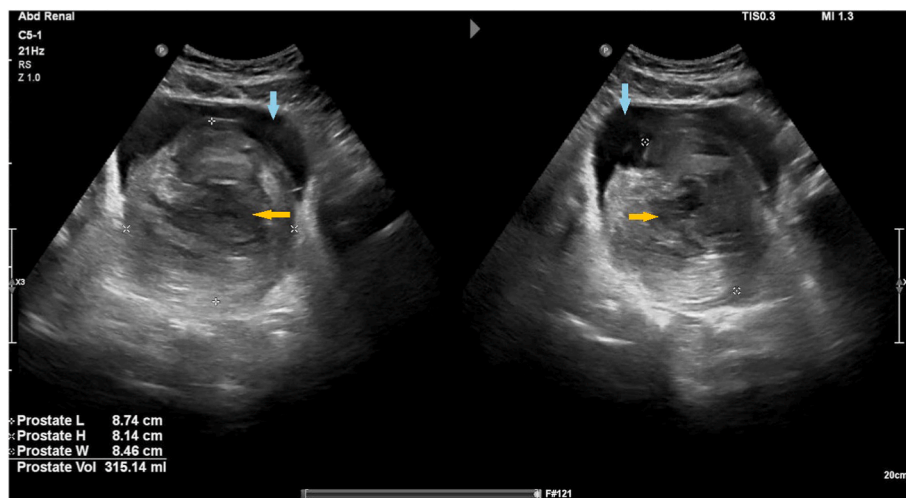


Fig. 1. Huge prostate of 315 g with cystic changes (Orange arrow), bladder (blue arrow).

### Declaration of competing interest

None.

### Acknowledgements

None.

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