



Bladder stone secondary to prostatic urethral lift (PUL) for benign prostatic hyperplasia (BPH)

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ABSTRACT

Unlike other cavitating prostatic surgeries, prostatic urethral lift (PUL) has the advantage of being noninvasive and having fewer complications. In addition, PUL can be performed under local anesthesia and is can be performed on patients with various comorbidities. However, serious complications have been reported in some patients, so caution is required. We describe a Case of a bladder stone as a complication after PUL surgery. To our knowledge, large bladder stone following prostatic urethral lift (PUL) is a unique complication not previously described in the literature.

Introduction

Prostatic urethral lift (PUL) is a minimally invasive procedure used to improve the symptoms of benign prostatic hyperplasia (BPH). The PUL procedure achieves good functional outcomes and quality of life in the absence of major adverse events. However, cases with serious complications have been reported occasionally. We describe a previously unreported complication of PUL whereby a patient presented with gross hematuria postoperatively and was found to have a large bladder stone secondary to a displaced PUL clip.

Case presentation

A 64-year-old male patient was referred for an evaluation of hematuria. Two months prior, the patient had undergone a prostatic urethral lift (PUL) for benign prostatic hyperplasia (BPH) in the urology private clinic. He complained of hematuria and mild dysuria that started 1 month after surgery. A CT scan was performed, and a metallic object with a bladder stone attached to it were identified in the prostate (Fig. 1). As a further study, cystoscopy was performed, and 2 cm yellowish stone attached to the exposed PUL implant at the 5 o'clock position of the bladder neck was found (Fig. 2). Cystolitholapaxy using a holmium:YAG laser and transurethral excision of the lateral lobe of the prostate with an exposed implant were performed (Fig. 3). In a follow-up examination performed two months later, the patient no longer complained of discomfort such as hematuria and dysuria. No more additional exposed foreign bodies were observed on follow-up cystoscopy.

Discussion

PUL has demonstrated a unique ability to mitigate the symptoms of BPH while avoiding the adverse events associated with more invasive treatment modalities.^{1–3} The favorable safety profile of PUL makes it an appealing option for the treatment of BPH-associated LUTS (lower urinary tract symptoms) for both patients and urologists. In most previous reports, treatment-related adverse events were mild and transient. The most common adverse events correlated with PUL include dysuria, hematuria, and pelvic pain. These adverse events were resolved within the first week. In addition, PUL can be performed under local anesthesia. Therefore, it can be performed safely in patients with various comorbidities, even in patients taking antiplatelet agents.³ Cavitation prostatic surgery may be more appropriate for patients with severe LUTS and a large prostate (>100 g)¹; however, PUL would be one of the alternative treatment options for patients with relatively mild symptoms. The PUL device is a custom designed disposable cartridge. It is configured to deliver a single prosthesis that is constructed of a capsular nitinol tab and a urethral stainless steel tab bridged by a nonabsorbable suture.² Accurate positioning of the implant is the most important step in the surgery and can cause complications such as bleeding and hematoma when dislodged.² In some cases, it can lead to serious, life-threatening complications such as large pelvic hematoma requiring hemodialysis, and calyceal rupture secondary to ureterovesical junction obstruction due to a displaced implant.^{4,5}

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Fig. 1. A CT scan showed a large bladder stone attached to the implant in the prostate.

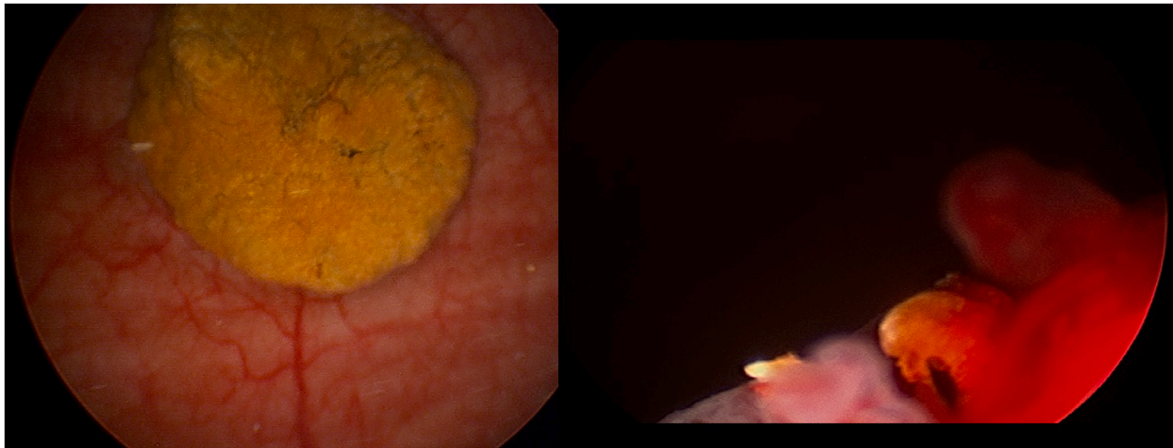


Fig. 2. The bladder stone detached from the bladder neck (Left), and the remaining small fragmented stones attached to the displaced implant in the bladder neck (Right).

Conclusion

Because candidates for PUL surgery are highly likely to be in a physical condition that is difficult to anesthetize or are likely to be patients with multiple comorbidities, meticulous control of instrument and close attention are required when performing PUL surgery.

Declarations of interest

None.

Financial conflict of interest

None.

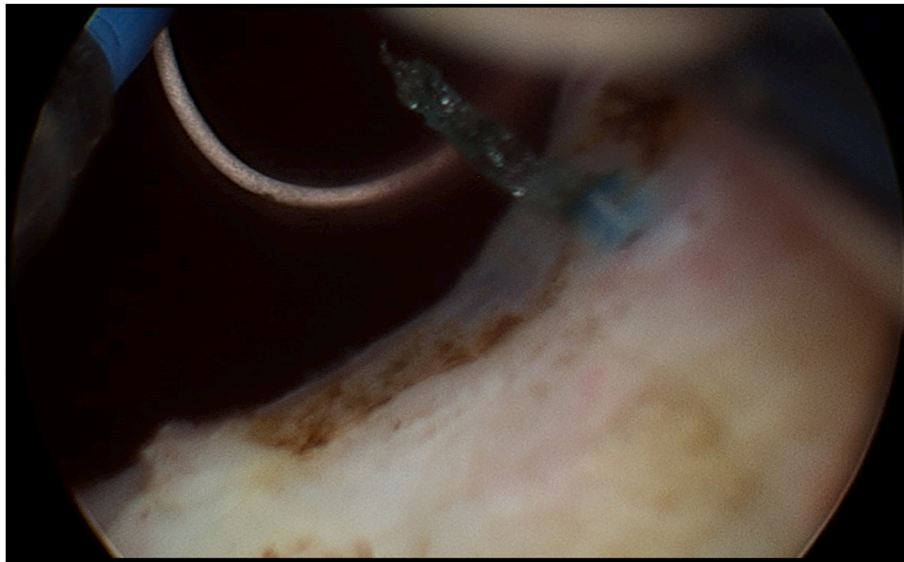


Fig. 3. Transurethral excision of the prostate with the exposed PUL implant.

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