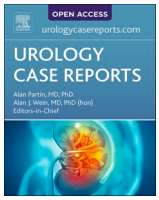
Urology Case Reports 54 (2024) 102713

Contents lists available at ScienceDirect

Urology Case Reports

journal homepage: www.elsevier.com/locate/eucr



Endourology

Adult onset urinary retention caused by a prolapsing ureterocele

Kole P. Akula [a,*], Susan Talamini [b]

[a] University of Texas San Antonio Health Sciences Center, San Antonio, TX, USA
[b] Urology San Antonio, San Antonio, TX, USA

A B S T R A C T

Preoperative cystoscopy is imperative in anticipation of a bladder outlet procedure. This case highlights a now catheter dependent middle aged gentleman who was referred for treatment of urinary retention. He was found to have a prolapsing ureterocele causing obstruction. This was managed with a transurethral ureterocelectomy utilizing the Moses laser which resulted in a precise and bloodless resection. He is now voiding with out issue.

1. Introduction

Urinary retention is a condition that is most commonly caused by benign prostatic hyperplasia and urethral strictures in men. We encountered a rare case of a prolapsing ureterocele that presented with retention at the age of 53. There are no clear guidelines pertaining to the management of adult ureteroceles. We describe an effective manner to perform a transurethral ureterocelectomy utilizing the Moses laser.

2. Case presentation

A 53 year old gentleman presented to the clinic in urinary retention. He reported severe obstructive lower urinary tract symptoms with an AUA symptom score of 30 and quality of life of 6. A month prior to referral, he had a foley placed in the emergency room for urinary retention. He has since failed multiple trials of void. He denied any gross hematuria. He denied any other urologic history or history of urologic surgery. His creatinine was at his baseline and urinalysis was only notable for few white blood cells. Noncontrasted CT was without hydronephrosis and only notable for what appeared to be bladder stones.

He opted for cystoscopy in the operating theater as he did not feel he could tolerate cystoscopy with sedation alone. Cystoscopy noted an unremarkable anterior and posterior urethra with no evidence of stricture, obstructing prostate or primary bladder neck obstruction. He had a large right ureterocele prolapsing into his bladder neck (Fig. 1). A retrograde pyelogram revealed that the ureterocele was filled with stone (Fig. 2).

After discussing the findings as well as treatment options he was scheduled for a transurethral ureterocelectomy. He then underwent an uneventful transurethral resection of the ureterocele with a 550 nm Moses laser fiber. The Moses laser facilitated a precise and bloodless resection of the ureterocele and allowed us to perform a cystolitholopaxy with out marked retropulsion of the stone.

Since his procedure he is emptying his bladder with out issue.

3. Discussion

This case highlights the importance of cystoscopy in the workup of lower urinary tract symptoms.[1] In rare cases unexpected findings such as these change a patients treatment path. In more common cases, discrimination between a urethral stricture and benign prostatic hyperplasia is important for surgical planning. Even if the patient has obstruction from benign prostatic hyperplasia alone, the shape of the prostate may help drive treatment options such as the case of a large, protruding, median lobe.

We also demonstrate the benefit of the Moses laser in this case. Moses is a technology which offsets two beams of holmium laser. The first beam creates a bubble in the water, while the second beam travels through the air bubble impacting the medium on the other side. Moses has had demonstrably reduced stone retropulsion and typically leads to better hemostasis due to the way it interacts with tissue.[2,3]

The Moses laser allowed us to use one instrument to perform the ureterocelectomy and cystolitholopaxy. Additionally, we believe that this modality allows the operator to separate the ureterocele from the bladder wall with ease. Holmium lasers produce less tissue charring than Thulmium allowing the surgeon to pinpoint the fibers holding the ureterocele to the bladder. (Fig. 3). As mentioned previously, the Moses technology was also helpful to perform the cystolitholopaxy with minimal retropulsion.

* Corresponding author. Department of Urology, 7703 Floyd Curl Drive Mail Code 7845 San Antonio, Texas, 78229-3900, USA.
E-mail address: akula.kole@gmail.com (K.P. Akula).

https://doi.org/10.1016/j.eucr.2024.102713
Received 15 March 2024; Accepted 17 March 2024
Available online 18 March 2024

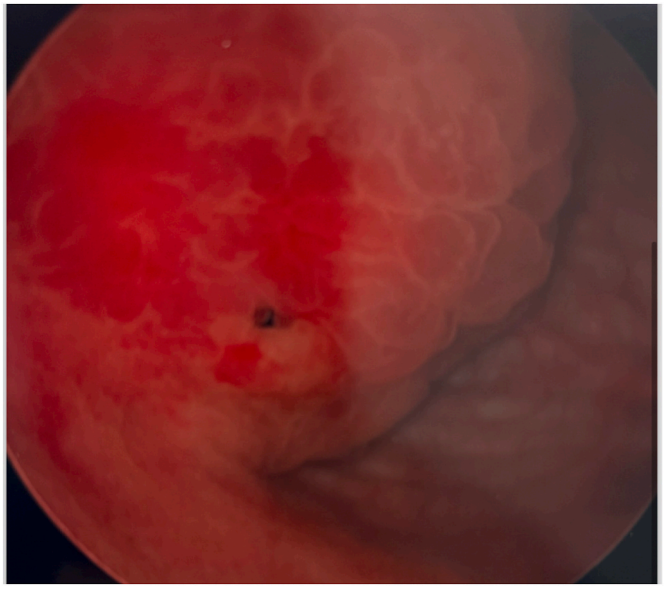


Fig. 1. Right ureterocele.

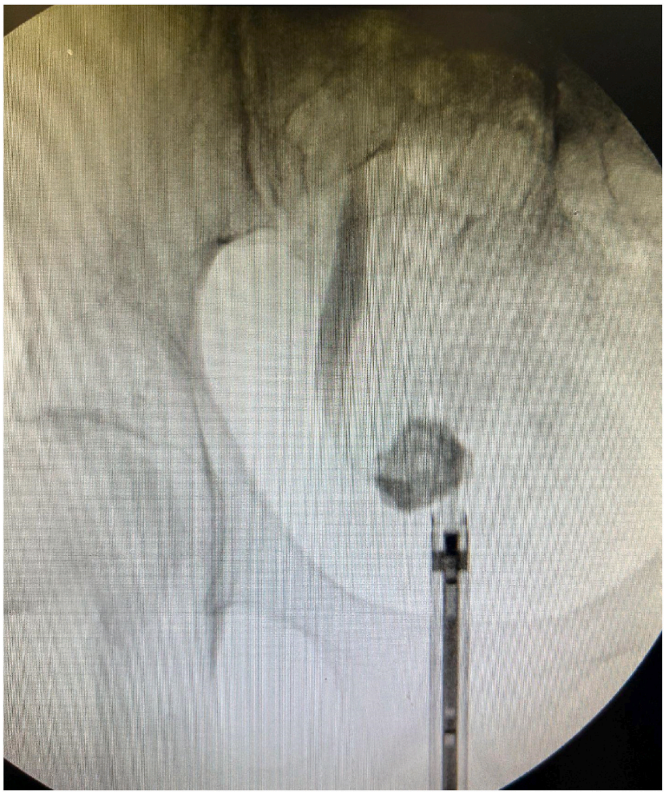


Fig. 2. Right Retrograde Pyelogram noting a stone filled ureterocele.

4. Conclusions

Preoperative cystoscopy is essential in the workup of urinary retention. Generally in order to assess for stricture, and shape of the prostate in men. However there are more rare entities such as a prolapsing ureterocele requiring a different surgical plan. Use of the Holmium laser allowed us to perform a pinpoint resection that was bloodless, with good visualization of the plane between the bladder and the ureterocele. The Moses technology was helpful in performing a large cystolitholopaxy with minimal retropulsion.

Fig. 3. Resected ureterocele.

Consent

Informed consent was obtained from the patient to publish this case.

CRediT authorship contribution statement

Kole P. Akula: Conceptualization, Writing – original draft, Writing – review & editing. **Susan Talamini:** Conceptualization, Writing – review & editing.

Declaration of competing interest

Neither of the authors have financial disclosures that are relevant to this case report.

References

1. Sandhu JS, Bixler BR, Dahm P, et al. Management of lower urinary tract symptoms attributed to benign prostatic hyperplasia (BPH): AUA Guideline amendment 2023. *J Urol*. 2023. https://doi.org/10.1097/JU.0000000000003698, 10.1097/JU.0000000000003698.
2. Elhilali MM, Badaan S, Ibrahim A, Andonian S. Use of the Moses technology to improve holmium laser lithotripsy outcomes: a preclinical study. *J Endourol*. 2017 Jun;31(6):598–604. https://doi.org/10.1089/end.2017.0050. Epub 2017 Apr 25. PMID: 28340540; PMCID: PMC5467131.
3. Nevo A, Faraj KS, Cheney SM, et al. Holmium laser enucleation of the prostate using Moses 2.0 vs non-Moses: a randomised controlled trial. *BJU Int*. 2021 May;127(5):553–559. https://doi.org/10.1111/bju.15265. Epub 2020 Nov 1. PMID: 33025749.