Rectourethral fistula: a rare complication after HoLEP

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We report a rare complication of rectourethral fistula formation 6 weeks after a 70-year-old man underwent an uneventful HoLEP procedure. Cystourethrogram confirmed the diagnosis and the patient was managed conservatively with chronic indwelling catheter placement for 6 weeks. After this, his symptoms resolved completely and a repeat cystourethrogram showed marked resolution of the fistulous tract. The cause of the fistula formation is believed to be due to a delayed thermal or infectious reaction. Post-procedure follow up is necessary in all patients to monitor for complications that do not arise immediately after surgery.

Key Words: rectourethral fistula, complications, HoLEP

Introduction

Holmium laser enucleation of the prostate (HoLEP) is a safe and effective treatment for urinary outflow obstruction caused by benign prostatic hyperplasia (BPH). While HoLEP is a well-tolerated procedure, known complications include capsular perforation, hematuria, urinary tract infection, and stress urinary incontinence.[1] We present a unique case of a patient who presented with a rectourethral fistula (RUF) 6 weeks following an uneventful HoLEP procedure with associated radiological imaging and a review of literature.

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Case report

The patient is a 70-year-old male who initially presented to our clinic for evaluation of refractory urinary retention and lower urinary tract symptoms (LUTS) secondary to BPH (IPSS 29). The patient denies any history of treatments which may have predisposed him to any peri-prostatic, prostatic or rectal fibrosis, thus leading to this complication. His preoperative TRUS volume was 65 mL. An uncomplicated HoLEP procedure was performed, with a resected prostate weight of 40 g. There were no difficulties encountered with visibility throughout the procedure, with minimal blood loss throughout the entirety of the case. There was also no endoscopic evidence of perioperative injury to any of the surrounding structures. The patient responded well to the treatment with significant improvement of LUTS (IPSS 7), in addition to an improvement of preoperative maximum flow rate (Qmax) of 3 mL/s to postoperative

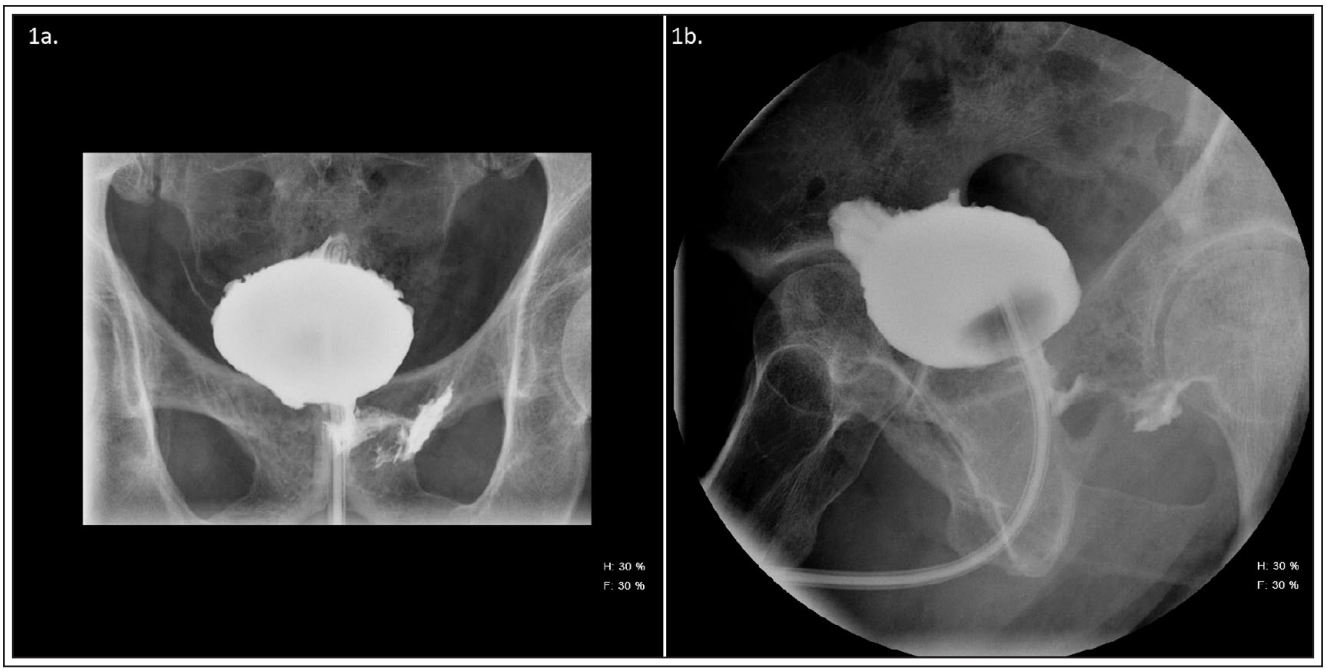

Figure 1. Cystourethrogram showed extravasation of contrast from the urethra into the rectum consistent with rectourethral fistula.

Qmax of 29 mL/s. Prostate pathology returned negative for malignancy. Six weeks postoperatively, the patient presented with 3 days of urine per rectum. Cystoscopy and digital rectal exam did not reveal any obvious fistulous tract and there was no evidence of fecal matter in the bladder. The diagnosis of RUF was confirmed by a cystourethrogram which showed contrast extravasation from the urethra into the perirectal tissue, Figure 1. The patient was managed conservatively with indwelling urinary catheter placement for 6 weeks. A repeat cystourethrogram after that showed marked improvement of the rectourethral fistula, which may indicate the late phase of fistula healing, Figure 2. The Foley catheter was removed and the patient was able to void with minimal LUTS and with resolution of urine per rectum. The patient continues to follow up to the present day, 7 years after catheter removal, and has had no recurrence of this issue.

Figure 2. Repeat cystourethrogram showed marked improvement of the rectourethral fistula after 1 month of conservative management.

Discussion

In recent years, HoLEP has replaced TURP and open prostatectomy as the gold standard for surgically treating obstructive symptoms in some men with BPH.[2] A randomized control trial comparing HoLEP with TURP in 61 patients receiving treatment for BPH showed that HoLEPs had a shorter catheterization time and hospital stay as well as similar bladder obstruction relief when compared to TURP in prostates larger than 40 g.[3] The procedure is relatively safe, with a low incidence of perioperative complications and studies have shown that transient stress urinary incontinence is the most common complication.[4] Rarely, injuries due to the HoLEP procedures have been

documented. Kang et al, documented the presence of a vesicosigmoid fistula secondary to a bladder injury during morcellation.[5] There are also occasional cases reported of prostate capsule injury during enucleation of the prostate.

RUF is a rare but significant complication following treatment of prostate cancer. It is seen rarely as a result of radiation therapy or deep pelvic operations such as radical prostatectomy.[6] The incidence of patients developing RUF following multimodal treatments is 0.1%-3%.[7] Treatment for RUF usually requires surgical repair using a muscular flap, although conservative management with fecal diversion can also be an option.[8] While there has yet to be documented accounts of RUF published following HoLEP procedures, there has been literature published on RUF following transurethral surgery. Yetisir et al, documented the discovery and repair of recurrent RUF in a 75-year-old male following radiotherapy and transurethral resection of the prostate.[9] A retrospective review of 39 patients who underwent York Mason repair of RUF from 1998 to 2012 showed that 10% of RUF arose from TURP procedure.[10] To our knowledge, this is the first documented instance of a RUF developing after a HoLEP. Notably, our patient developed a fistula 6 weeks following the procedure with no complaints during the interim weeks. We believe that his RUF may be due in part to a delayed thermal or infectious reaction following the procedure. Although there may still be a possibility of some degree of unrecognized intraoperative injury that developed insidiously, this may be less likely due to the fact that the patient was asymptomatic for 6 weeks post procedure and that there was also no endoscopic evidence of injury throughout the procedure. Nevertheless, regular follow ups must be maintained for months in patients to monitor for the presence of complications that do not develop immediately following surgery. □

References

1. Placer J, Salvador C, Lorente D et al. Complications following holmium laser enucleation of the prostate (HoLEP). *Eur Urol Suppl* 2014;13;e134.
2. Michalak J, Tzou D, Funk J. HoLEP: the gold standard for the surgical management of BPH in the 21st Century. *Am J Clin Exp Urol* 2015;3(1):36-42.
3. Wilson LC, Gilling PJ, Williams A et al. A randomised trial comparing holmium laser enucleation versus transurethral resection in the treatment of prostates larger than 40 grams: results at 2 years. *Eur Urol* 2006;50(3):569–573.
4. Cho MC, Park JH, Jeong MS et al. Predictor of de novo urinary incontinence following holmium laser enucleation of the prostate. *Neurourol Urodyn* 2011;30(7):1343-1349.
5. Kang J, Jung E, Jeon Y, Park I, Lee HG. Laparoscopic repair of a vesicosigmoid fistula secondary to holmium laser enucleation of the prostate (HoLEP). *Urol Case Rep* 2017;13:22-23.
6. Harris CR, McAninch JW, Mundy AR et al. Rectourethral fistulas secondary to prostate cancer treatment: management and outcomes from a multi-institutional combined experience. *J Urol* 2017;197(1):191-194.
7. Hechenbleikner EM, Buckley JC, Wick EC. Acquired rectourethral fistulas in adults: a systematic review of surgical repair techniques and outcomes. *Dis Colon Rectum* 2013;56(3):374-383.
8. Schlussel AT, Lustik MB, Delaney CP et al. Rectourethral fistulas: a comparison of the National Inpatient Sample and the American College of Surgeons National Surgical Quality Improvement Program. *Am J Surg* 2017;213(4):723-730.
9. Yetişir F, Şarer AE, Acar HZ, Parlak O, Osmanoglu G, Karalova G. Management of recurrent rectourethral fistula by York Mason posterior transrectal transsphincteric approach. *Case Rep Urol* 2015;2015:854365.
10. Falavolti C, Sergi F, Shehu E, Buscarini M. York Mason procedure to repair iatrogenic rectourinary fistula: our experience. *World J Surg* 2013;37(12):2950-2955.