Urology Case Reports 42 (2022) 101998

Contents lists available at ScienceDirect

Urology Case Reports

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

Endoscopic management of a granuloma in a neourethra

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ARTICLE INFO

Keywords:
Phalloplasty
Obstructing granuloma
Holmium laser

ABSTRACT

Gender-affirming surgeries such as phalloplasty are becoming increasingly common. Phalloplasty is a highly complex procedure with many potential complications that often leave the patient unable to void naturally. Recently literature has focused on optimal management of such complications, but success rates remain low and further complications are often created. We report the case of a 51-year-old patient, who presented post-phalloplasty for inability to void due to an obstructing granuloma of the neourethra. The granuloma was ablated using a holmium laser and no recurrence or stricture formation has occurred at 1 year follow-up.

1. Introduction

The utilization of gender-affirming surgery in the United States has increased dramatically since 2014, when Health and Human Services lifted the exclusion of Medicare coverage for transition related surgeries, which was followed by private carriers and state insurance plans.[1] As gender-affirming surgeries have become increasingly common, so too have related complications. The radial forearm free flap (RFF) is considered the gold standard for phalloplasty.[1] The ulnar hairless part of the forearm is used to reconstruct the urethra by rolling the flap to fashion a tube-within-a-tube.[1] This highly complex procedure is understandably fraught with complications. The most common complications are urethrocutaneous fistulas and urethral strictures. Reported fistula rates range from 22 to 68%, occurring most frequently at locations with limited vascularity.[2] Strictures occur in an estimated 25–58% of phalloplasty procedures, most commonly at the junction of the phallic urethra and the pars fixa (tubularized vaginal tissue that was used to lengthen the urethra).[2]

Herein, we report a case of a 51-year-old patient who was found to have an obstructing granuloma of the neourethra. Ablation with a holmium laser was utilized to treat this granuloma and the patient has since been able to void without issue. Occurrence of an obstructing urethral granuloma status post phalloplasty has yet to be reported in the literature. We report on a minimally invasive method that was able to successfully treat this complication.

2. Case report

Mr. X is a 51-year-old transgender male with history of phalloplasty at an outside institution complicated by urethral fistula and pseudodiverticulum requiring multiple complex repairs who subsequently had been followed at our institution due to inability to void per neophallus. The patient initially underwent a phalloplasty 1 year prior and most recently underwent excision of a urethral pseudodiverticulum 2 months prior. Since his most recent surgery, his bladder had been diverted through a suprapubic tube. Capping trials of the suprapubic tube were unsuccessful. An office cystoscopy was performed and revealed an obstructing tissue mass close to the bladder neck, consistent with a granuloma.

The patient was taken to the operating room where cystoscopy again identified an obstructing pedunculated ball of inflammatory tissue coming off the left side of the proximal neourethra (see Figs. 1 and 2). Using a 1000-μm holmium laser fiber, the granuloma was ablated to its base. After ablation, the neourethra was noted to be widely patent (see Fig. 3). The patient had no postoperative complications. He was subsequently able to void per neophallus during follow-up and the suprapubic tube was discontinued 3 months postoperatively. At 12-months post-operative follow-up, office cystoscopy revealed no recurrence of granuloma or stricture.

3. Discussion

In this case, we report on the successful utilization of a minimally

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https://doi.org/10.1016/j.eucr.2022.101998
Received 28 November 2021; Received in revised form 21 December 2021; Accepted 6 January 2022
Available online 7 January 2022

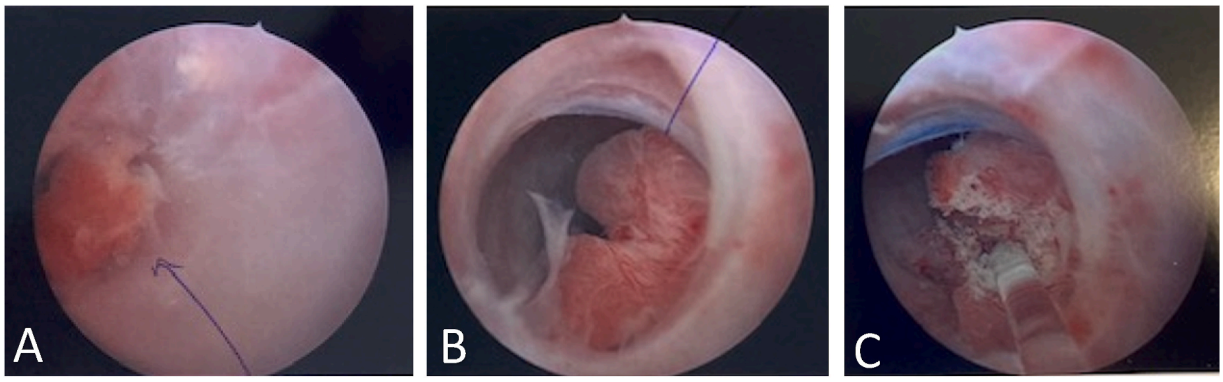

Fig. 1. Operative view visualizing a. Distal urethra and b. Bladder neck.

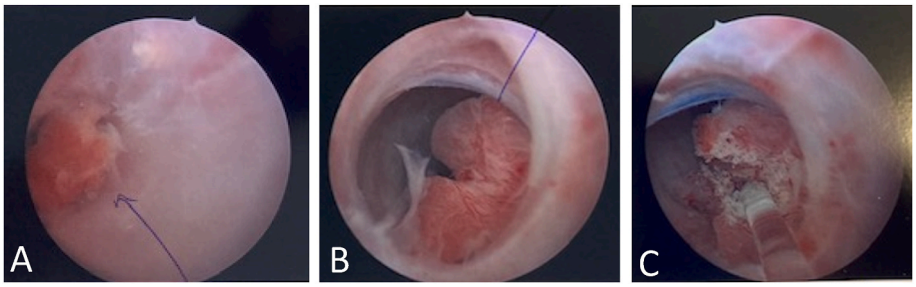

Fig. 2. a-c. Operative view of granuloma before ablation.

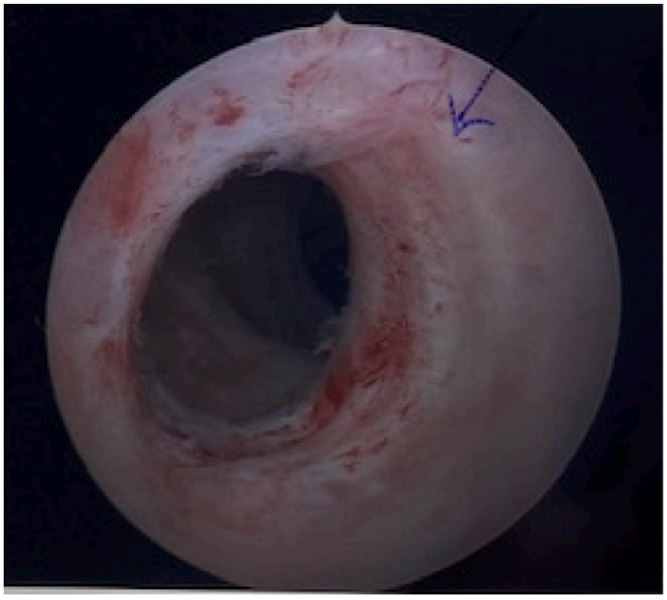

Fig. 3. Operative view after ablation of granuloma.

invasive approach to treated an obstructing granuloma in a neourethra. The literature reporting on obstructing urethral granulomas after phalloplasty is scarce. As such, it is unclear as how to best manage this complication. However, there are several well-documented approaches to correcting obstructive processes that occur after phalloplasty, the most common of which is urethral stricture formation.[3]

Treatment of strictures after phallic reconstruction is especially challenging for several reasons. First, the absence of corpus spongiosum limits the ability to use free grafts due to the lack of a well-vascularized graft bed. Furthermore, transgender patients have no foreskin, elastic penile skin, or scrotal skin, eliminating the use of preputial, penile, and scrotal skin grafts. Lastly, wound-healing problems associated with phalloplasty can result in dense local scar tissue.[3]

The most common location for post-operative obstructing lesions in phalloplasty patients is the anastomosis between the fixed and phallic part of the urethra, which forms a mucocutaneous junction.[3] This site is predisposed to fistulation in the early postoperative period, leading to excessive scarring and stricture formation. Relative ischemia at the anastomosis of native and reconstructed tissues may also play a role, especially when exacerbated by kinking at the base of the neophallus.[3]

Surgical repair via anastomotic urethroplasty is the standard approach to obstructive lesions located at the anastomosis between the fixed and phallic part of the urethra.[2] Nonsurgical options such as urethral dilation or direct vision internal urethrotomy have been trialed but have not been demonstrated effective in the long term.[1] The success rate of this procedure is approximately 58%,[2] and potential complications include scrotal swelling, scrotal ecchymosis, urinary urgency, rectal injury, urosepsis, wound tightness, scrotal numbness, urine spraying, erectile dysfunction, chordee and fistula.[2]

4. Conclusion

Presented with a patient with an obstructing granuloma of the neourethra, we opted to repurpose a minimally invasive technique for management, rather than performing an open excision of the granuloma. Our method using holmium laser ablation successfully eliminated the obstructing lesion and the patient regained his ability to void per neophallus. There has been no recurrence of the granuloma and no stricture formation at 12-months postoperatively. We conclude that holmium laser ablation offers patients a safe, minimally invasive option for treating neourethral granulomas.

Consent

Written consent was obtained from the patient for use of medical

health information and pictures.

Declaration of competing interest

The authors of this article have no conflicts of interest to disclose.

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