VIDEO ARTICLE
Functional Urology

Doi: 10.4274/jus.galenos.2025.2025-1-11
J Urol Surg

Staged Urethroplasty in a Patient with Urethral Stricture Following Female to Male Transgender Surgery

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Abstract

Complications of urethral reconstruction are common in patients who have undergone female to male transgender surgery. Patients may develop urethral strictures and fistulas, which lead to repeated surgery. Our aim was to present a case of staged buccal mucosal graft urethroplasty in a patient who developed urethral stricture after gender-affirming surgery from female to male.

Keywords: Functional urology, general urology, reconstructive urology

Introduction

Urethral reconstruction complications are common in female to male transgender surgery. In the long term, patients may develop urethral strictures and fistulas, which may lead to repeated surgeries (1). Endoscopic techniques can be used in patients with short segment stenosis. Skin flaps, free mucosal grafts, and skin autografts are used to treat complications in urethral defects and long urethral strictures (2). We aimed to present staged buccal mucosal graft (BMG) urethroplasty in a patient who developed urethral stricture after female-to-male transgender surgery.

Case Presentation

A 26-year-old patient with no known comorbidities underwent female-to-male transgender surgery (mastectomy + urethra prefabrication), by the plastic surgery and reconstruction team. Radial forearm free flap was used for phalloplasty and neourethral reconstruction. After the 12th postoperative month, the patient had a history of multiple surgeries due to separation between the neourethra and the native urethra, and development of a fistula from the neourethra to the skin. The patient underwent percutaneous suprapubic cystostomy catheter placement for preoperative urethral preparation. After that, staged urethroplasty was planned. During the 1st stage of urethroplasty and perioperative examination of the patient in high lithotomy position it was observed that the external meatus was 1 cm ventral to the tip of the penis and stenotic in the constructed penile tissue. The urethra was completely contracted up to the level of the anastomosis site with the native urethra. The native urethra was exposed and patency was confirmed with a Foley catheter. Scar tissue on the urethral bed in the neophallus was cleaned and prepared for placement of the BMG. The length of the prepared urethral bed was measured to be 12 cm, and grafts were taken from bilateral buccal mucosa, each measuring 12 cm in length and 2 cm in width. The buccal mucosa grafts were sutured continuously to the healthy ventral bed with 4/0 monofilament absorbable suture after defatting and fenestration. The procedure was completed after the application of a sterile pressure dressing. The patient was discharged on postoperative day 4 without any complications. The patient's catheter was removed on postoperative week 4, and a second stage was scheduled for 6 months later.

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Received: 20.01.2025 **Accepted:** 19.02.2025 **Epub:** 18.04.2025

Cite this article as: Bozkurt O, Sinirsiz C, Demirdöven K, Sarıkaya AE, Özer MS, Atalmış SE, Geyik A, Demirdöver C, Şen V, Esen AA. Staged urethroplasty in a patient with urethral stricture following female to male transgender surgery. J Urol Surg. [Epub Ahead of Print]

During the second stage of urethroplasty, in the high lithotomy position, an incision was made with a lateral margin of approximately 1 cm for tubularization of the urethral bed created with the BMG in the neophallus. A 12-Fr Foley catheter was passed through the proximal native urethra into the bladder. The neourethra was tubularized over the catheter with 4/0 monofilament absorbable suture. After tubularization of the urethra, reconstruction of the vaginal cuff was performed. Subcutaneous and skin tissues were sutured in line with anatomical layers, and the procedure was completed after sterile pressure dressing. The patient was discharged on postoperative day 4 without any complications. The patient's catheter was removed in the 4th postoperative week, and no complications occurred in the follow-up. The uroflowmetry performed at the 6th post-operative month, showed a maximum flow rate of 16 mL/sec (Video 1).

Discussion

Urethral fistula and urethral stricture are still the most common complications of phalloplasty and often require revision surgery. Urethral strictures may present either as short strictures at the anastomosis between the native and neourethra or as long urethral defects along the entire urethra. Fistula and stricture rates in the postoperative period vary by technique, from 5 to 60.3% and 2 to 56%, respectively (1). Short segment strictures can be treated with endoscopic methods or single-stage urethroplasty, while two-stage urethroplasty is preferred, especially for long segment complicated strictures (2,3). With the use of oral mucosal grafts, success rates have reached 80% (4). Current series report excellent efficacy of multi-stage repair of complex anterior urethral strictures with acceptable long-term recurrence rates in the range of 0-18% (5).

Conclusion

In conclusion, staged BMG urethroplasty is a successful treatment option for the management of complex urethral strictures. We believe that performing the procedure in a multidisciplinary team in experienced centers will increase success rates and decrease complication rates.

Video 1.

Ethics

Informed Consent: Written informed consent was obtained from the patient.

Footnotes

Authorship Contributions

Surgical and Medical Practices: O.B., C.S., K.D., A.E.S., S.E.A., C.D., V.Ş., A.A.E., Concept: O.B., C.S., Design: O.B., C.S., Data Collection or Processing: C.S., Analysis or Interpretation: O.B., C.S., Literature Search: C.S., M.S.Ö., A.G., V.Ş., Writing: O.B., C.S., A.E.S.

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declare that they received no financial support for this study.

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