



Rectal Mucosa Graft Take in Staged Urethroplasty

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When an oral mucosa graft is not a viable option for urethroplasty, colonic mucosa grafts have served as a promising alternative since described by Igor A. Thyrmos in 1902.¹ In previous studies, colonic mucosa graft retrieval required sigmoid resection²⁻³ which limited adoption of this technique. We previously described the success of a minimally-invasive transanal endoscopic microsurgical technique of rectal mucosa graft harvest for urethroplasty.⁴ Here, we pictorially demonstrate the take of a transanal endoscopically harvested rectal musosa graft used in a 2-stage anterior urethroplasty (to our knowledge, the first such 2-stage procedure) with 6 months of follow-up. UROLOGY 127: e1–e2, 2019. © 2019 Elsevier Inc.

A 61 year-old man with lichen sclerosus presented with an 18-cm panurethral stricture from the membranous urethra to the meatus with a segment of complete obliteration in the mid-penile urethra. The patient underwent a dorsal onlay urethroplasty with a 13 × 2 cm buccal mucosa graft and a first-stage Johanson urethroplasty of the penile urethra due to insufficient oral mucosa graft length for substitution. Despite excellent voiding and a widely patent urethra on cystoscopy and voiding cystourethrogram, the patient strongly preferred terminal meatus reconstruction.

At 10 postoperative months, the patient therefore underwent a first-stage urethroplasty of the penile urethra with a 5 × 3.5 cm rectal musosa graft (RMG) harvested by transanal endoscopic microsurgical (TEM) technique (Fig. 1) as previously described.⁴ Under proctoscopic vision via the TEM operating system, the

posterior midline rectal mucosa is hydrodissected with a submucosal injection of saline and epinephrine, then harvested using monopolar diathermy beginning 2 cm above the dentate line and extending proximally. The rectal mucosa harvest site was left open to heal by secondary intention. The RMG had excellent take, and no significant contracture or lichen sclerosus was noted at the time of the second-stage urethroplasty 9 months later (Fig. 2). Voiding cystourethrogram demonstrates a widely patent urethra at 3 postoperative months (Fig. 3). He reports a superb cosmetic result, excellent voiding, good erectile function, and no bowel dysfunction at 6 postoperative months. These sequential images demonstrate the appearance of a successful staged RMG urethroplasty and further support the staged utilization of RMGs harvested by TEM technique when oral mucosa grafts are not possible.

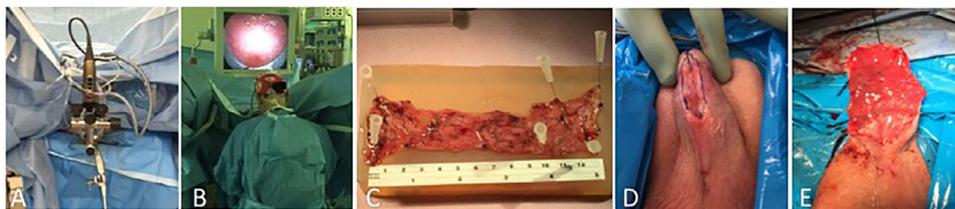


Figure 1. Intraoperative images of transanal endoscopic microsurgical (TEM) rectal mucosa graft harvest technique (A-C), and first-stage anterior urethroplasty with rectal mucosa graft (D, E).

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Figure 2. First-stage anterior urethroplasty with rectal mucosa graft at 5 days postoperative (A), and 9 months postoperative (B).

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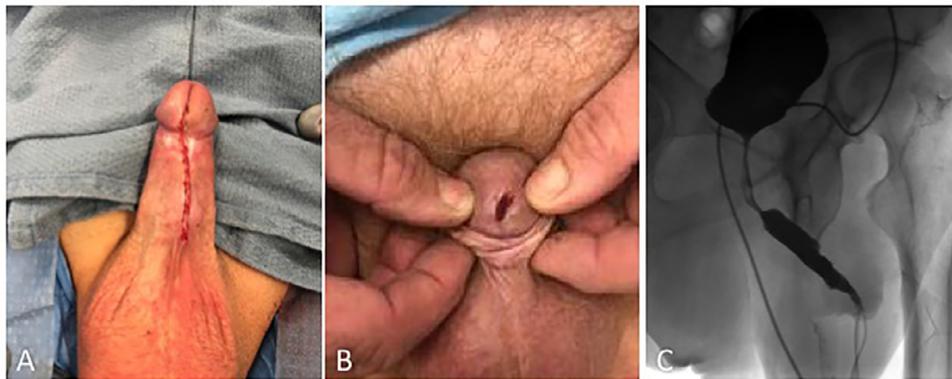


Figure 3. Second-stage anterior urethroplasty with rectal mucosa graft intraoperatively (A), and at 6 postoperative months (B); and voiding cystourethrogram (VCUG) with widely patent urethra at 3 postoperative weeks (C).