

Transurethral ventral buccal mucosa graft inlay for treatment of distal urethral strictures: international multi-institutional experience

Abstract

Purpose: To critically evaluate a multi-institutional patient cohort undergoing single-stage distal urethral repair using a novel transurethral buccal mucosa graft inlay urethroplasty technique (TBMGI).

Methods: A retrospective multi-institutional review of consecutive patients with fossa navicularis (FN) strictures treated with a single-stage TBMGI technique at 12 institutions from March 2014-March 2018 was performed. Patient demographics, stricture characteristics, clinical and patient-reported outcomes were analyzed. The primary outcomes were stricture recurrence and complications. Secondary outcomes were change in maximum urinary flow rate (Q_{max}), PVR, and changes in IPSS, SHIM and global response assessment (GRA) questionnaire responses. Descriptive statistical analysis was used for evaluation of outcomes.

Results: Sixty-eight men met inclusion criteria. Median age and stricture length were 60 years (IQR 48-69) and 2 cm (IQR 2-3), respectively. Most common stricture etiology was lichen sclerosus (34%). Median operative time and EBL were 72 min (IQR 50-120) and 20 mL (IQR 10-43), respectively. Fifty-seven men completed ≥ 12-month follow-up. At a median follow-up of 17 months (IQR 13-22), 54 patients (95%) remained stricture-free. Median Q_{max} improved from 5 to 18 mL/s ($p < 0.0001$), PVR 76-21 mL ($p < 0.0001$), and IPSS 15-5 ($p < 0.0001$); IPSS-QOL score: 5-1 ($p < 0.0001$). SHIM score did not significantly change following repair (median 22-21

p = 0.85). On GRA assessment, a majority of men reported "marked" (64%) or "moderate" (28%) overall improvement. No patient developed fistula, glanular dehiscence, graft necrosis or chordee.

Conclusions: This novel minimally invasive transurethral urethroplasty technique is feasible and has demonstrated generalizable outcomes in a multi-institutional cohort with varying etiologies.

Keywords: Buccal mucosa graft; Distal urethral stricture; Fossa navicularis stricture; Lichen sclerosus; Urethral reconstruction; Urethroplasty.

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