

Outcomes Following Buccal Mucosal Graft Staged Urethroplasty

Introduction and Objective: Complex anterior urethral strictures provide a surgical challenge for the reconstructive urologist. Patients often present following multiple failed procedures with persistent voiding difficulty. Tissue substitution is often required for successful repair. Buccal mucosal graft (BMG) has become the tissue of choice given its excellent graft characteristics and low associated morbidity. The use of BMG in single staged urethroplasty has shown excellent success and durability, however the outcomes following its use in staged procedures for patients with extensive urethral strictures is not well documented. We present our outcomes following a staged BMG urethroplasty at a single institution.

Materials and Methods: Patients who underwent staged BMG urethroplasty between January 1, 1999 and August 8, 2011 were identified. A retrospective chart review was performed to collect clinical data including patient demographics, stricture etiology, and post-op complications following first and second stage procedures. Outcomes were assessed including durability of results, recurrence rates, and additional procedures required.

Results: Fifty-seven patients underwent a staged BMG urethroplasty during the designated time period. The average patient age was 41 years. Stricture etiology was hypospadias in 26 patients (46%) followed by lichen sclerosus in 16 patients (28%) with unknown etiology in the remaining patients. The average stricture length was 7.5 centimeters. Eighty-five percent of patients had undergone at least one attempt at a prior repair, 71% had 2 prior repairs and 48% had 3 prior repairs. Following the first stage procedure 11 (20%) patients elected not to undergo a second stage procedure. Complete follow-up was available in 42 patients (74%). There were 7 major complications (12%) including fistula development in 4 patients, penoscrotal tethering in 2 patients and meatal stenosis in 1 patient. The majority of the complications were successfully treated with an additional procedure. Three other patients required additional procedures including conversion to a perineal urethrostomy, a suprapubic tube and urethral dilation. The overall success rate was 76% defined as patients who required no further procedure at an average follow-up of 25 months.

Conclusion: Substitution urethroplasty is often necessary to treat complex anterior urethral strictures such as those seen in complex hypospadias patients and in patients with lichen sclerosus. The staged BMG is an effective treatment for these patients with acceptable complication rates. Further follow-up is required to confirm durability.