

Substitute Flap-Graft Urethroplasty for Obliterative Anterior Urethral Strictures: One Stage Repair

Introduction and Objectives: Severe anterior urethral strictures often require complete substitution of affected urethral segment. We evaluated a method of combining buccal mucosa graft and penile skin flap for neourethral reconstruction in the treatment of obliterative anterior urethral strictures.

Materials and Methods: Between April 2008 and October 2011, 35 patients aged from 14 to 63 years underwent one-stage substitution urethroplasty due to a severe anterior stricture. Indications were failed hypospadias repair (24), failed urethroplasty (6) and iatrogenic stricture (5). Patients with lichen sclerosis were not considered for this procedure. Obliterative urethral segment was completely removed from the corpora cavernosa. Urethral substitution was done using buccal mucosa graft, placed dorsally and vascularized dorsal penile skin flap, transposed by button-hole maneuver and sutured with graft. Penile body skin was reconstructed using available remaining penile skin.

Results: Mean follow-up was 25 months (ranged from 5 to 47 months). Mean length of the stricture was 5.8 cm and varied from 3 to 9.2 cm. Successful result was confirmed in 30 patients by uroflowmetry and urethrography. Short stricture occurred in 3 cases and was repaired 6 months after surgery. Fistula was noticed in two cases and resolved spontaneously two months later. Partial superficial necrosis of the dorsal penile skin occurred in 4 cases and healed spontaneously.

Conclusions: Combined buccal mucosa graft and penile skin flap could be a good choice for one-stage urethroplasty in severe anterior urethral strictures. This way multi-stage urethral reconstruction could be avoided.