Dorsal Onlay Urethroplasty Using Buccal Mucosa graft or Penile Skin Flap for Management of Long Anterior Urethral Strictures: A Prospective Randomized Study

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Objective: The aim of this randomized study is to compare the outcomes of dorsal onlay urethroplasty using buccal mucosa graft or penile skin flap in the repair of long anterior urethral strictures.

Patients and Methods: In this prospective study 37 patients with anterior urethral strictures were randomized to undergo buccal mucosa dorsal onlay (19) or penile skin flap (18) urethroplasty. Operative time, hospital stay, short and long-term complications, recurrence rates, and patient satisfaction were compared between the 2 groups.

Results: The number of patients with pendulous, bulbar and bulbopendulous strictures as well as mean stricture length and mean follow-up were comparable between the 2 groups. Mean operative time was significantly higher in the penile flap vs. the buccal mucosa graft group. In the penile flap group 3 patients had superficial penile skin necrosis, 1 had extensive skin loss and required skin grafting, and 2 had penile torsion. In the buccal mucosa group 6 patients had minor oral morbidity in the form of perioral numbness and increased salivation which settled by 4 weeks after surgery. Troublesome post-voiding dribbling was significantly more in penile flap group than in buccal mucosa graft group. In the buccal mucosa group 84.2% and in the penile flap group 66.7% said they would recommend this procedure to another patient (p = 0.001). The success rate in the buccal mucosa (89.5%) and penile flap (83.3%) groups was similar (p > 0.05).

Conclusions: Dorsal onlay buccal mucosa graft and penile skin flap urethroplasty provide similar success rates. Compared to buccal mucosa, penile flap procedures are technically complex, associated with higher morbidity and less preferred by patients.