

1-Stage Repair of Obliterative Distal Urethral Strictures With Buccal Graft Urethral Plate Reconstruction and Simultaneous Onlay Penile Skin Flap

Joel Gelman* and William Sohn

From the University of California-Irvine, Irvine, California

Purpose: When penile skin is available, onlay flap reconstruction is an excellent choice for 1-stage repair of complex hypospadias and strictures involving the glans, fossa navicularis and penile urethra. When the urethra is deficient circumferentially, tube flaps are an option but there is a high failure rate. We report our 8-year experience with 1-stage reconstruction using a dorsal buccal mucosa graft to reconstruct the deficient urethral plate with repair completed using an onlay penile skin flap.

Materials and Methods: A total of 12 patients with a mean age of 42.8 years (range 16 to 77) underwent dorsal buccal grafting with ventral skin flap repair. Buccal mucosa was quilted to the penile ventral corpora to reconstruct the dorsal urethral aspect. Most surgeries included buccal graft reconstruction of the glans and fossa navicularis. Onlay penile skin flap repair was then performed to complete the reconstruction.

Results: All 12 patients were free of disabling chordee or urethral stricture disease at a mean 39-month followup (range 7 to 96). In 1 patient a small urethrocutaneous fistula developed, which was repaired. In another patient a fistula and medium caliber fossa navicularis narrowing developed with associated chordee, which were successfully repaired.

Conclusions: Dorsal buccal grafting with ventral flap reconstruction appears to be an excellent option to repair circumferential urethral deficiency when penile skin is available, especially when chordee correction with distal urethral plate reconstruction is required.

Key Words: urethra, urethral stricture, mouth mucosa, hypospadias, reconstructive surgical procedures

STRICTURES of the fossa navicularis and penile urethra are often amenable to reconstruction with a fasciocutaneous skin flap as an onlay when penile skin is available.¹⁻³ However, in certain complex cases an inadequate urethral plate or an obliterative defect prevents onlay repair since there is a circumferential defect. Examples include stricture disease after hypospadias surgery associated with a ventrally displaced opening and severe chordee, which is best treated with division of the urethral plate.

This increases effective ventral penile length but creates an equal length of complete urethral deficiency.

Treatment options include a tube flap urethroplasty and staged repair. However, tube flaps are associated with a high complication rate compared to onlay repair.⁴ Staged repair requires repeat surgery and in our experience achieves an inferior glans and fossa appearance compared to onlay flap repair, during which glans wings can be developed and reapproximated ventrally.

Abbreviations and Acronyms

AUA-SS = American Urological Association symptom score

VCUG = voiding cystourethrogram

Submitted for publication January 26, 2011.
Study received institutional review board approval.

* Correspondence: 333 City Blvd. West, Suite 1240, Orange, California 92668 (telephone: 714-456-2951; FAX: 714-456-7263; e-mail: jgelman@uci.edu).

A dorsal buccal mucosa graft with a simultaneous penile flap as an onlay can serve as a 1-stage alternative approach in these complex cases. In 2001 Morey first described this technique.⁵ In 2 of the 4 study patients a buccal graft was used to augment the urethra. In the other 2 patients tissue transfer was used to repair the entire circumference of the affected urethra. In these 2 cases with a mean 21-month followup (6 and 36, respectively) there was no stricture recurrence or postoperative chordee.

We describe our experience with the treatment of 12 patients who underwent circumferential tissue transfer repair with dorsal buccal grafting and an onlay ventral flap.

MATERIALS AND METHODS

Institutional review board approval was obtained before the preparation of this article. A total of 12 patients with a mean age of 42.8 years (range 16 to 77) underwent dorsal buccal grafting with ventral skin flap repair from January 2003 to September 2009. Three patients with untreated hypospadias and medium caliber stricture disease requested correction of disabling chordee. Three patients born with hypospadias underwent prior surgeries that were complicated by stricture disease and ventral displacement of the urethral meatus. A review of the operative dictations revealed that they did not previously undergo flap surgery, which would have created a high risk of ischemia with dorsal flap elevation. Physical exam-

ination revealed sufficient dorsal skin redundancy. Two patients had recurrent obliterative strictures involving the urethral meatus and in 1 who sustained Foley catheter trauma a scrotal abscess developed, resulting in an 11 cm stricture of the penile/bulbar urethra with an area of obliterative stricture disease (see [table](#)).

All patients with urethral stricture disease were evaluated preoperatively with bougie à boule calibration, pediatric rigid urethroscopy when urethral caliber was greater than 10Fr to allow scope passage, retrograde urethrogram and VCUG. Perioperative antibiotics were given the day of surgery when urine was sterile. Patients with indwelling suprapubic tubes were hospitalized the day before surgery for preoperative intravenous antibiotics.

At surgery a 16Fr suprapubic catheter was placed if not already present. A circumcising incision was made and the penis was degloved (part A of [figure](#)). The proximal urethra was incised at the proximal aspect of the stricture and spatulated until a 30Fr caliber was achieved, as measured with bougies à boule (part B of [figure](#)). Glans wings were developed when there was stricture of the urethral meatus or a ventrally displaced urethral opening. When there was a deficient groove in the ventral glans, the glans was longitudinally incised ventral.

A buccal mucosa graft was harvested from the lateral cheek area inferior to Stensen's duct and defatted. The buccal mucosa was quilted to the recipient bed along the ventral penis after pie crusting incisions were made to prevent hematoma formation between the graft and the recipient bed (part C of [figure](#)). Graft width was 15 to 18 mm. When a groove was created in the glans, the buccal graft was carried

Patient information

Pt	Age	Date	History	Surgery (cm)	Preop*/Postop AUA-SS	Complications
27	1/03	Uncorrected hypospadias, severe disabling chordee	Dorsal buccal graft (5.1), penile skin flap (7.8)	1	Fistula repair	
51	8/04	Failed hypospadias repair	Dorsal buccal graft (2), penile skin flap (4)	5/0		
34	3/07	Several failed hypospadias repairs in Russia in childhood, meatus at distal shaft + hair protruding, redundant dorsal skin	Dorsal buccal graft (5.5), penile skin flap (7), chordee + hair bearing tissue excision	−/0		
39	4/07	Several failed hypospadias repairs in childhood, less than 9Fr meatus-mid shaft stricture	Dorsal buccal graft (5.5), penile skin flap (6.5)	33/1		
51	5/07	Bicycle trauma history, greater than 30 mechanical urethral dilations, direct vision internal urethrotomy in 1998, proximal bulbar stricture, pendulous urethral stricture	Dorsal buccal graft (5.5), penile skin flap (3.5)	6/0		
22	6/07	Untreated hypospadias + chordee, less than 16Fr pendulous urethral stricture	Dorsal buccal graft (4.3), penile skin flap (6.2), chordee excision	5/0	Narrowed fossa, chordee fistula repair	
44	2/08	Recurrent mid-distal shaft stricture, multiple failed direct vision internal urethrotomies	Dorsal buccal graft (3.5), penile skin flap (8.5)	2/2		
57	4/08	Unrepaired hypospadias + ventral chordee, 18Fr meatus	Dorsal buccal graft (4), penile skin flap (6)	12/10		
77	7/09	History of traumatic Foley catheterization, subsequent scrotal abscess/fistula, 9Fr meatal stricture, obliterated proximal penile + distal bulbar urethra	Dorsal buccal graft (5), penile skin flap (11)	5		
59	9/09	Failed hypospadias repair, almost obliterated urethral meatus	Dorsal buccal graft (2.6), penile skin flap (2.6)	5/3		
37	4/10	Recurrent stricture, failed dilations	Dorsal buccal graft (6.5), penile skin flap (9.5)	21/3		
16	6/10	Failed hypospadias repair	Dorsal buccal graft (2), penile skin flap (4.1)	9/3		

* Not determined in 1 patient.

Download English Version:

<https://daneshyari.com/en/article/3865370>

Download Persian Version:

<https://daneshyari.com/article/3865370>

[Daneshyari.com](https://daneshyari.com)