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DORSAL ONLAY BUCCAL URETHOPLASTY (DOBU) IN THE FEMALE IS DURABLE AND IS NOT ASSOCIATED WITH INCONTINENCE USING LUTS INSTRUMENTS VALIDATED IN FEMALES

Hypothesis / aims of study

Female urethral stricture is a rare but morbid condition that decreases quality of life significantly. Due to its rare nature, controversy exists regarding the optimal surgical exposure and graft material. . Many women are managed with serial urethral dilation, which is costly, painful, and seldom leads to a lasting cure [1]. Buccal mucosa has become the most popular graft material for male urethroplasty, and although it has been described in females[2,3], it has not been critically evaluated. We believe this represents the largest series of female patients using buccal mucosa having undergone the dorsal onlay buccal urethroplasty (DOBU). Compared with ventral onlay techniques, the supra-meatal approach and dorsal onlay graft may protect from fistula formation, however, there are theoretical concerns that this may lead to clitoral pain. The authors hypothesize that this technique can lead to acceptable outcomes for chronic female urethral stricture with minimal morbidity. We hypothesize that this technique will have comparable recurrence rates and no new urinary incontinence, with low post-operative scores on Lower Urinary Tract Symptom (LUTS) instruments validated in females.

Study design, materials and methods

A retrospective case series was compiled from 2009-13 identifying female subjects who underwent DOBU via suprameatal approach. All patients underwent pelvic exam, as well as supine stress test. Endpoints included recurrence of stricture verified by cystoscopy, presence of incontinence, including Urogenital Distress Inventory 6 (UDI-6), Incontinence Impact Questionnaire 7 (IIQ-7), and Quality of Life (QoL). Also included were uroflow, post-void residual, presence of urinary tract infection, pain, fistula formation, and complications from both the donor site and the vagina. Continuous variables were analyzed using paired T-test.

Results

Six subjects were identified. Preoperative characteristics appear in Table 1. Mean follow up was 18.6 months. No stress incontinence was noted pre-operatively, and none developed post-op. Mean postop UDI-6 score was 0.7 / 3 and mean incontinence impact score is 0.1 / 4. Mean QoL was 2.8 / 9. Details appear in Tables 2 and 3. No fistulas were noted. Mean stricture length was 1.2cm and mean graft length was 2.75cm. Two stricture recurrences were noted (33%) one of which required a single dilation procedure, the other required 4 dilation procedures and ultimately injection of steroid. All patients were voiding spontaneously at the last follow up visit. Mean pain score went from 3.5/10 to 0/10 on a 10 point Likert scale (p=0.075). UTIs per year went from 4.3 to 0.3 (p=0.038). Maximum voided velocity increased from 5.6 to 12.65 cc/sec (p=0.049), and mean post void residual decreased from 305 to 41cc (p=0.099). Outcomes are summarized in Table 2. No urethral or vaginal complications were reported, but 2 patients reported donor site morbidity. No clitoral anesthesia or pain was reported.

Interpretation of results

Dorsal onlay buccal mucosa urethroplasty is durable and compares favorably with other reported techniques to repair female urethral stricture. Follow up was long enough to make conclusions about durability of the technique. Morbidity is minimal and all patients reported statistically significant improvement in number of UTIs per year and Qmax.

Concluding message

Compared to ventral onlay techniques, DOBU may protect from flap necrosis and fistula formation. No new stress incontinence developed and Quality of Life metrics indicated minimal urogenital distress. Theoretical concerns that the dorsal approach may lead to clitoral pain appear unfounded. DOBU provided acceptable outcomes for chronic female urethral stricture with minimal morbidity.

Table 1 - Preoperative Patient Demographics

Age (years)	52.7
Duration of stricture (months)	218.0
Pain Score (0-10)	3.5
length of stricture (cm)	1.2
caliber of urethral stricture (Fr)	6.7
Qmax (mL/sec)	5.6
PVR (mL)	305.0
UTIs per year	4.3

Table 2 Post-Op Urogenital Distress Inventory (UDI-6) scores

How much are you bothered by:		
1. Frequent urination	1.8	/3
2. Leakage urgency	0.4	/3
3. Leakage activity	0	/3
4. Small amounts of urine leakage (drops)	0.2	/3
5. Difficulty emptying your bladder	0.6	/3
6. Pain	1	/3

Table 3 Post-Op Quality of Life / Incontinence Impact (IIQ-7)

mean QoL	2.8	/	9
Incontinence Impact Questionnaire			
Household Chores	0	/	4
Recreation	0	/	4
Attend Entertainment	0	/	4
Travel by Car	0.8	/	4
Social Activities	0	/	4
Emotional Health	0.2	/	4
Frustrated	0	/	4

References

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