

This retrospective study demonstrated that the ventral BMG urethroplasty is a feasible and successful treatment for FUS.

Outcomes are mostly comparable between the VO and VI techniques, yet the ventral inlay technique was linked to a greatly shortened operative time.

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Outcomes of Female Ventral Buccal Mucosal Graft Urethroplasty: A Comparison of Onlay and Inlay Techniques

AIMS OF STUDY

To present the outcomes of ventral buccal mucosal graft (BMG) urethroplasty and compare ventral onlay (VO) and ventral inlay (VI) techniques in the treatment of female urethral stricture (FUS).

STUDY DESIGN, MATERIALS AND METHODS

The data collected prospectively and reviewed retrospectively.

Failure criteria:

- A maximum urinary flow rate (Qmax) of <12 mL/s,
- Inability to calibrate the urethra with a 12Fr catheter,
- Requirement for any secondary intervention (including urethral dilation)

Table-1. Preoperative data and peroperative results of all patients

	All patients (n=25)
Age, mean±SD	50 ± 8.1
BMI, mean±SD	24.3 ± 3.6
ASA score, n (%)	
• ASA-1	15 (60)
• ASA-2	9 (36)
• ASA-3	1 (4)
Smoking status, n (%)	
• Never smoker	14 (56)
• Ex smoker	3 (12)
• Active smoker	8 (32)
Etiology, n (%)	
• Iatrogenic	11 (44)
• Idiopathic	11 (44)
• Infection/inflammation	3 (12)
History of urethrotomy, n (%)	4 (16)
History of dilatation, n (%)	25 (100)
Number of dilatations, median (IQR)	2 (1-4)
Preoperative UFM, Qmax ml/sec, mean±SD	7.2 ± 2.4
Preoperative PVR, mL Median (IQR)	60 (40-120)

Stricture location, n (%)	
• Distal	13 (52)
• Midurethral	9 (36)
• Proximal	2 (8)
• Panurethral	1 (4)
Operation time (minutes), median (IQR)	60 (46-93)
Hospital stay (day), median (IQR)	3 (2-3)
Foley catheter removal day, mean±SD	16.3 ± 3.1
PO 3 rd month Qmax ml/sec, median (IQR)	19.5 (17-24)
PO 3 rd PVR, mL mean±SD	37 ± 20
Bleeding requiring transfusion	0 (0)
PO De-novo stress incontinence, n (%)	0 (0)
PO UTI, n (%)	1 (4)
PO wound infection, n (%)	1 (4)
PO fistula, n (%)	0 (0)
Donor site morbidity, n(%)	
• Bleeding	0 (0)
• Infection	1 (4)
• Hyper granulation tissue	1 (4)
• Long-term difficulty with mouth-opening	2 (8)
Follow up time (months) Median (IQR)	24 (20-32)
Overall success rate	80%

Table-2. Comparison of preoperative characteristics and peroperative results

	Ventral onlay n=11	Ventral inlay n=14	P value
Age, mean±SD	49 ± 8.8	51 ± 9.9	0.618*
BMI, mean±SD	24 ± 2.7	25 ± 3.7	0.301*
Smoking status, n (%)			0.877***
• Never smoker	6 (54.5)	8 (57.1)	
• Ex smoker	1 (9.1)	2 (14.3)	
• Active smoker	4 (36.4)	4 (28.6)	
Etiology, n (%)			0.924***
• Iatrogenic	5 (45.5)	6 (42.9)	
• Idiopathic	5 (45.5)	6 (42.9)	
• Infection/inflammation	1 (9.1)	2 (14.3)	

History of urethrotomy, n (%)	3 (27.3)	1 (7.1)	0.288****
Number of dilatations, median (IQR)	1 (1-3)	2 (1-4)	0.052**
History of urethroplasty, n (%)	0	1 (7.1)	0.56****
Stricture location, n (%)			0.076***
• Distal	8	5	
• Midurethral	1	8	
• Proximal	1	1	
• Panurethral	1	-	
Stricture length (cm), median (IQR)	2 (1.5-2.75)	2 (1.5-2)	0.432**
Preoperative UFM, Qmax ml/sec, mean±SD	6.6 ± 1.6	7.5 ± 2.7	0.417*

Preoperative PVR, mL Median (IQR)	45 (27-135)	60 (50-100)	0.679**
Operation time, (minute), median (IQR)	95 (90-130)	49 (42-55)	<0.001**
Hospital stay (day) median (IQR)	2 (2-3)	3 (2-3)	0.821**
Foley catheter removal day, mean ± SD	16 ± 3	16 ± 2	0.921*
Complications, n(%)			0.44****
• UTI	1 (9%)	-	0.183****
• Wound infection	2 (18%)	-	
• Fistula	-	-	
• De-novo stress incontinence	-	-	
Success n, (rate)	8 (72.7)	12 (85.7)	0.378****
Follow up time (months), median (IQR)	18 (12-24)	19 (15-28)	0.231*

CONCLUDING MESSAGE

Female urethral stricture disease can be treated effectively and safely by ventral BMG urethroplasty. Ventral onlay and ventral inlay techniques provide comparable outcomes. These techniques can be recommended for FUS patients that seek definitive outcomes.