Long-term Functional Success and Patient-Reported Outcomes after One-Stage Buccal Mucosal Graft Urethroplasty (BMGU) for Female Urethral Stricture

(AUTHOR ET AL., 2024)

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Background

- Female urethral stricture (FUS) causes chronic lower urinary tract symptoms.
- Traditional treatments: dilation, intermittent catheterization, or staged reconstruction.
- One-stage BMGU is increasingly used as definitive therapy.
- Limited data on long-term functional and patient-reported outcomes.

Study Objective

- Evaluate long-term functional success after one-stage BMGU.
- Assess patient-reported outcomes: satisfaction, QoL, continence.
- Identify complications and predictors of failure.

Study Design

- Retrospective multicenter cohort study.
- Inclusion: adult females with FUS undergoing one-stage BMGU.
- Follow-up: mean 5.2 years (range 2–10 years).
- Outcomes: functional success, patient-reported questionnaires, complications.

Patient Selection

- Total patients: 102 adult women.
- Mean age: 52 years (range 28–78).
- Stricture etiology: idiopathic 60%, iatrogenic 30%, traumatic 10%.
- Mean stricture length: 1.8 cm (range 0.8–3.5 cm).

Surgical Technique Overview

- One-stage BMGU performed under general/regional anesthesia.
- Buccal mucosal graft harvested and tailored to urethral defect.
- Ventral or dorsal placement based on anatomy.
- Single-stage closure with urethral stent for 2–3 weeks.

Outcome Measures

- Functional success: patent urethra, no dilation.
- Urinary flow: Qmax and PVR.
- Patient-reported: UDI-6, IIQ-7, QoL.
- Complications: incontinence, fistula, graft donor morbidity.

Follow-Up Protocol

- Clinical exam + uroflowmetry at 3,6,12 months then annually.
- Flexible cystoscopy if recurrence suspected.
- Patient-reported outcomes collected at 12 months and last follow-up.
- Mean follow-up: 62 months.

Functional Outcomes: Success Rate

- Overall functional success: 91% (93/102).
- Mean Qmax increased 7.2 → 18.5 mL/s.
- Mean PVR decreased 110 → 18 mL.
- 9 patients required secondary intervention.

Long-Term Patency

- Patency rates stable: 95% at 2 yrs, 91% at 5 yrs.
- Recurrences mostly within first 12 months.
- No significant difference based on graft placement.

Patient-Reported Outcomes

- 88% reported improved urinary symptoms and QoL.
- UDI-6 and IIQ-7 improved 65–70% from baseline.
- Minimal post-op urinary incontinence (<5%).
- High patient satisfaction.

Continence and Sexual Function

- Stress incontinence: 3% de novo, 2% pre-existing persisted.
- Sexual function not significantly affected.
- No urethrovaginal fistula reported.

Donor Site Morbidity

- Buccal harvest complications minimal: transient pain 15%, numbness 10%.
- No long-term oral dysfunction.
- Patients resumed normal diet within 3 days.

Complications

- Early post-op: UTI 8%, mild hematuria 5%.
- Late: recurrence 9%, managed with dilation or redo BMGU.
- No graft loss or severe complications.

Predictors of Failure

- Short stricture length (<1 cm) not predictive.
- Multiple prior urethral surgeries slightly higher recurrence.
- Ventral vs dorsal placement not predictive.

Comparative Outcomes

- Compared to staged repairs: similar long-term patency.
- One-stage BMGU: faster recovery, fewer hospital visits.
- Cost-effective and high patient satisfaction.

Clinical Implications

- One-stage BMGU is safe and durable for FUS.
- High functional success with sustained patency.
- Excellent patient-reported outcomes support QoL benefits.

Limitations

- Retrospective design, potential selection bias.
- No randomized control group.
- Some patient-reported outcomes missing.
- Results mainly from high-volume centers.

Recommendations

- One-stage BMGU should be first-line in suitable patients.
- Patient counseling: excellent long-term outcomes.
- Encourage standardized reporting for multi-center comparisons.

Conclusion

- One-stage BMGU yields >90% long-term functional success.
- Sustained improvements in urinary flow and patient satisfaction.
- Low complications, minimal donor-site morbidity.
- Versatile, safe, patient-centered approach.