

Predictive Factors for Early Recurrence Needing Repeat Procedure in Women with Stress Urinary Incontinence after Anti-incontinence Surgery

KEY FINDING

TOT sling and lower preoperative Qmax independently predict early (≤2-yr) repeat sling surgery.

Interval to repeat surgery differs sharply: 0.62 vs. 8.21 years (early vs. late) — a near 10-fold gap.

Yu-Shuang Lee, Ming-Ching Liu, Tien-Lin Chang, Wan-Ru Yu, Jia-Fong Jhang, Yuan-Hong Jiang, Hann-Chorng Kuo

Department of Urology, Hualien Tzu Chi Hospital, Taiwan
www.ics.org/2026/abstract/ Abstract No. 586

BACKGROUND

- Anti-incontinence surgery is the standard treatment for female stress urinary incontinence (SUI), achieving >90% long-term success.
- Despite its durability, a subset of patients develops recurrent SUI requiring repeat surgery.
- Predictors of early recurrence remain unclear.

PURPOSE

To identify clinical and videourodynamic predictors of early recurrent SUI requiring repeat anti-incontinence surgery

METHODS

- Retrospective single-surgeon cohort of 560 women undergoing anti-incontinence surgery for SUI (PVS vs. TOT ± colporrhaphy), 1998–2025.
- Baseline demographics and video-urodynamic study (VUDS) were assessed in all patients.

BASELINE CHARACTERISTICS

Parity ≥5 was significantly more common in the repeat-sling groups.

Subgroup	Repeat ≤2 yrs (n=17)	Repeat >2 yrs (n=30)	No repeat (n=513)	p-value
Age (years), mean±SD	62.4 ± 12.0	59.6 ± 9.8	61.5 ± 12.1	0.656
Parity <5, n (%)	11 (64.7%)	20 (66.7%)	415 (83.2%)	0.015
Parity ≥5, n (%)	6 (35.3%)	10 (33.3%)	84 (16.8%)	
Previous SUI surgery, n (%)	3 (17.6%)	7 (23.3%)	75 (15.0%)	0.372
Previous POP surgery, n (%)	4 (23.5%)	5 (16.7%)	49 (9.8%)	0.072
Hysterectomy, n (%)	5 (29.4%)	11 (36.7%)	138 (27.7%)	0.524
Menopause, n (%)	16 (94.1%)	23 (76.7%)	407 (81.6%)	0.319

BASELINE VUDS

The early-recurrence group showed markedly worse voiding function than the no-repeat group: lower Qmax, lower voiding efficiency, higher PVR, and higher BOOI, all p≤0.018.

VUDS Parameter	Repeat ≤2 yrs (n=17)	Repeat >2 yrs (n=30)	No repeat (n=513)	p-value
Qmax (mL/s), mean±SD	7.53 ± 5.86	15.53 ± 11.80	16.88 ± 9.91	<0.001
Voided volume (mL)	201.4 ± 213.4	247.7 ± 158.4	297.4 ± 159.8	0.017
PVR (mL), mean±SD	112.4 ± 129.8	76.3 ± 139.9	44.0 ± 89.5	0.003
Pdet at Qmax (cmH2O)	11.7 ± 10.3	16.5 ± 12.0	15.7 ± 11.4	0.328
Voiding efficiency	0.554 ± 0.417	0.767 ± 0.357	0.855 ± 0.254	<0.001
BOOI, mean±SD	−4.86 ± 16.3	−17.67 ± 27.5	−21.42 ± 24.4	0.018

RESULTS

- In Firth multivariable logistic regression, TOT sling and lower preoperative Qmax independently predicted repeat sling ≤2 years; PVR was not independent.

Variable	Univariable OR (95% CI, p)	Adjusted OR (95% CI, p)
TOT vs. PV	5.792 (1.696–19.783, p=0.005)	3.93 (1.03–13.10, p=0.046)
Qmax, per 1 mL/s	0.865 (0.800–0.935, p<0.001)	0.88 (0.80–0.95, p<0.001)
PVR, per 10 mL	1.042 (1.010–1.074, p=0.009)	1.02 (0.98–1.05, p=0.399)

- The interval to repeat surgery diverges sharply — just 0.62 ± 0.48 years for early failures versus 8.21 ± 4.49 years for late failures — a near-tenfold gap in timing.

