

Introduction

- Mid-urethral slings (MUS) have been effective in the treatment of stress urinary incontinence (SUI)^{1,3,4}, however, **these procedures have recognized complications**^{2,5,6}
- These complications can occur early and are easily recognized, but **their late occurrence is often underdiagnosed** and may result in complex care.^{2,6}

GOAL: To evaluate MUS complications occurring 10+ years after MUS placement and their management and outcomes after sling removal.

Methods

- IRB-approved study.**
- Prospectively** collected dataset of women undergoing sub-urethral sling release (SSR) at our tertiary care urology clinic reviewed by a third party (ES) not involved in the care of these patients.
- Inclusion criteria:** women who had SSR at least 10 years following MUS placement and a minimum follow-up of 6 months after SSR.
- Exclusion criteria:** neurogenic patients, those who underwent additional procedures at times of SSR (which could have affected their symptom outcome), and those who have died or had psychiatric issues precluding a reliable phone update.
- DATA** collected (EPIC): Demographics, past medical/surgical history, MUS operative note, presenting symptoms, pre-SSR evaluation, peri-operative complications, and post-SSR symptoms with validated questionnaires, and additional testing when indicated to determine changes compared to their initial presentation or new symptoms developed after the SSR procedure.
- For those not seen in the past 2 years, a **standardized phone interview** using validated questionnaires was performed.

Results

- N=58, Mean age: 65 ± 10.5 years.
- Average time from MUS to SSR removal: **16.7 ± 3.9 years.**
- At presentation, 90% of patients reported pain, 86% dyspareunia, 69% recurrent UTI, 52% SUI, and 53% urge urinary incontinence.
- 9 patients were reached by phone and 4 were lost to follow up
- SSR resulted in** resolution of pain in 50% of patients, dyspareunia in 50%, recurrent UTI in 60%, SUI in 29%, and UUI in 35%, for each respective initial symptom (**see Table**).
- Some patients reported de novo pain (3%), UTIs (2%), SUI (9%) or UUI (7%).
- 7% required additional surgery** for UI or persistent pain-related issues (e.g., macroplastique injections, fascia lata slings).

Baseline Symptoms and Post-SSR Changes	
Baseline Symptoms (n=58)	n
Pain	52 (90%)
Dyspareunia	50 (86%)
Recurrent UTI	40 (69%)
SUI	30 (52%)
UUI	31 (53%)
Multiple Symptoms	48 (83%)
Post-SSR	n
Pain	26 (50%)
Dyspareunia	25 (50%)
Recurrent UTI	24 (60%)
SUI	9 (29%)
UUI	13 (35%)
De novo pain	2 (3%)
De novo UTIs	1 (2%)
De novo SUI	5 (9%)
De novo UUI	4 (7%)
Additional Surgery Required	4 (7%)

SSR Procedure Steps ²

A. tape causing compression of urethra

B. carefully peel tape from underneath urethra

C. residual tape

patent lumen

1: Vaginal incision to access MUS (blue fibers)

2: MUS excised sub-urethrally

Conclusions

- This study documents late occurrence of complications after MUS placement; therefore **pelvic floor reconstructive surgeons should continue to monitor these patients over time.**
- These long-term risks should be shared with patients considering a MUS procedure.
- Our study is limited by the lack of baseline information on the severity of their SUI since they were all referred to us from outside practices.
- Further research should identify which patients are most at risk for experiencing these long-term complications following MUS placement.

Selected References

1. Carter P, Fou L, Whiter F, et al. Management of mesh complications following surgery for stress urinary incontinence or pelvic organ prolapse: a systematic review. *BJOG: Int J Obstet Gy.* 2020;127(1):28-35. doi:10.1111/1471-0528.15958

2. Dillon BE, Gurbuz C, Zimmern PE. Long term results after complication of “prophylactic” suburethral tape placement. *The Canadian Journal of Urology.* Published online 2012.

3. Helström L, Nilsson B. Impact of vaginal surgery on sexuality and quality of life in women with urinary incontinence or genital descentus. *Acta Obstet Gynecol Scand.* 2005;84(1):79-84. doi:10.1111/j.0001-6349.2005.00668.x

4. Olsen A, Smith V, Bergstrom J, Colling J, Clark A. Epidemiology of surgically managed pelvic organ prolapse and urinary incontinence. *Obstetrics & Gynecology.* 1997;89(4):501-506. doi:10.1016/S0029-7844(97)00058-6

5. Shakir NA, Wang C, Singla N, et al. Multidimensional outcomes of suburethral synthetic midurethral sling removal. *World J Urol.* 2020;38(8):2005-2012. doi:10.1007/s00345-019-02987-1

6. Wang C, Christie AL, Zimmern PE. Synthetic mid-urethral sling complications: Evolution of presenting symptoms over time. *Neurourology and Urodynamics.* 2018;37(6):1937-1942. doi:10.1002/nau.23534