

UNSUCCESSFUL MID-URETHRAL SLING DIVISION: An under-recognized cause of persistent obstructive symptoms or development of pelvic pain: a case series

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Background

- A mid urethral sling procedure is a standard procedure to treat stress urinary incontinence.
- Sling division is the accepted treatment to provide definitive relief of sling-induced bladder outlet obstruction.
- Voiding dysfunction following mid-urethral sling division is a well recognized complication with a variable incidence reported at 0-24%

AIM

- The aim of our case series is to capture patients with clinically significant voiding dysfunction where the decision to proceed to early sling release was operatively attempted, but whose subsequent presentation showed that the sling was not successfully divided.
- We investigate the sequelae of unsuccessful mid urethral sling division, the evolution of symptoms, and evaluate the success of further surgery (second division or removal) in the resolution of symptoms

METHODS

- A retrospective analysis was performed on all patient who underwent treatment at our institution for mid urethral synthetic sling complications between 2014 and 2023.
- Our parameters of interest include the initial symptoms, timing and nature of further management, and subsequent resolution or persistence of symptoms within this cohort.

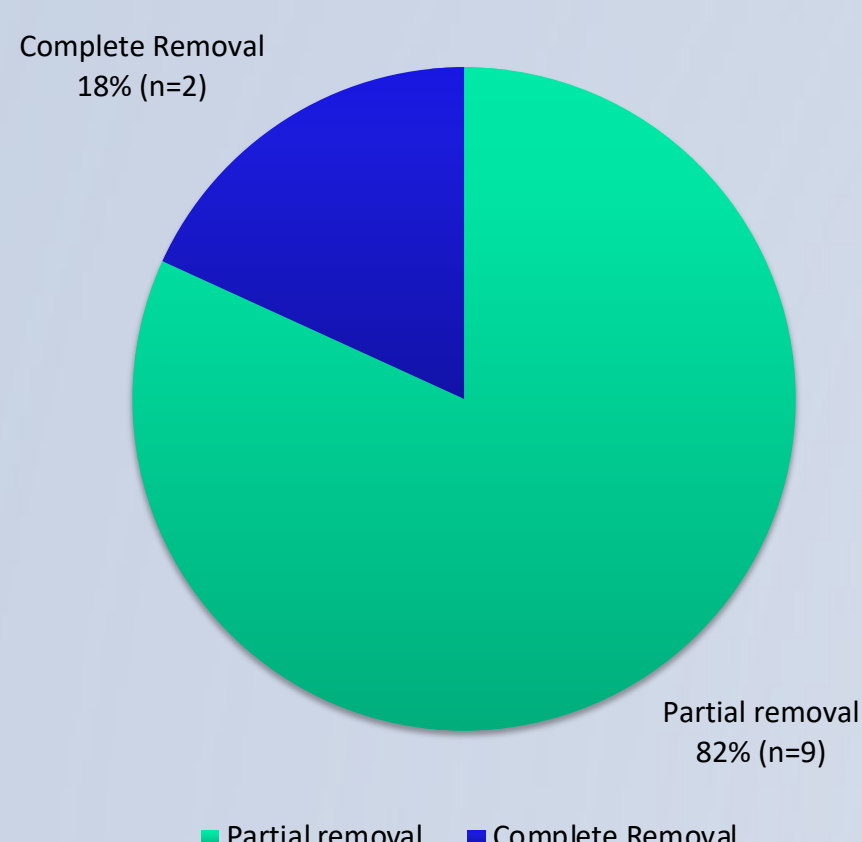
RESULTS

- 330 patients underwent treatment for urethral sling complications at our center.
- Out of these, 13 were identified as having prior mid urethral sling division prior to their presentation.
- A significant finding was that after index sling division surgery, all 13 patients were discharged from follow-up within three months.
- No patients had postoperative investigations with flow rates, transperineal ultrasound, or urodynamics prior to their re-presentation.
- All patients at re-presentation had persistent voiding and storage symptoms, which was the reason for the initial (albeit unsuccessful) division surgery.
- Subsequent transperineal ultrasound combined with operative findings showed an intact (12/13) or incompletely divided (1/13) sling.
- Table 1 below depicts median value in population of interest

Implant to first sling division (months)	Implant to second division (months)	Qmax (mL/s)	Pdet at Qmax	USS findings showing embedded sling	Median sling-pubic distance (mm)
10	92	12	32	11/15	8

- 11 patients underwent second revision surgery. Graph 1 below depicts the types of surgery and proportion of patient for each.

Patient who underwent revision surgery



RESULTS

	Symptoms related to second revision	UTI	OAB	Recurrent SUI	Pelvic pain / dyspareunia	Cystectomy	Third division/ Removal
Division/Partial removal (n=9) Total removal (n=2)	Pre	7/11	7/11		8/11		
	Post	1/11	4/11	4/11	7/11	1/11	3/11
No further surgery (n=2)				2/2	1/2		

Table 2: Summary of pre-operative and post-operative symptoms following second revision

- Of the 11 patients who underwent second revision surgery, recurrent urinary tract infections resolved in all but one.
- Of the 8 patients with pelvic pain who underwent operation, only one patient had an improvement in pain.
- Of the people with overactive bladder symptoms who underwent reoperation, only 3 had improvement of symptoms
- In regard to the two patients who did not undergo further revision surgery, both continued to have significant storage symptoms of urge and urge incontinence refractory of medication.
- One also had significant ongoing pelvic pain requiring daily analgesia. Both reported concerns about worsening or urinary incontinence as reasons for declining sling division/excision.

CONCLUSIONS

- The case series is the first from our institution to describe unrecognized, unsuccessful sling division for postoperative voiding dysfunction documented by subsequent objective radiologic and operative findings.
- The clinical course shows significant urinary and pelvic pain morbidity subsequent to the failed division, although it is difficult to ascribe causation with a retrospective lens. These findings suggest that a high index of suspicion and a low threshold for investigation should be maintained where clinical symptoms persist after a sling division.