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## INTRODUCTION

- Risk of urinary retention (UR) after sling in women with detrusor underactivity (DU)/Valsalva voiding is not well established.
- Only very limited evidence that increasing outlet closure forces in those with DU would be a risk factor for urinary retention (UR).
- Urodynamics (UDS) may overestimate DU due to psychogenic inhibition and pain from urethral catheterization.
- This retrospective study examined UR after sling placement to determine if the reproduction of voiding symptoms on UDS in those with DU is predictive of UR after sling.

## METHODS

- Retrospective review of women undergoing sling placement (autologous pubovaginal sling or retropubic midurethral sling) from 2007 to 2016.
- Any patients who performed CIC pre-operatively or who underwent intentionally obstructing slings were excluded.
- Pre-operative UDS data and incontinence symptom score questionnaire (ISS) were collected.
- DU was defined as complete valsalva voiding (Pdet=0) or a Pdet of insufficient magnitude and/or duration with or without valsalva augmentation.
- Reproduction of usual voiding symptoms during UDS was queried at the time of the study.
- UR determined and defined as failed void trial requiring prolonged indwelling foley, suprapubic catheter drainage or intermittent catheterization at 1 week, 1 month and 3 months.

Patient Demographics	Post-op Retention		No Post-op Retention		P-value
Number of patients	27		50		-
Mean age in years	53.6		55.4		0.95
Mean duration symptoms in mos	51.6		43		0.44
Mean parity in mos	2.6		2.4		0.49
Mean BMI	29.4		27.3		0.43
Mean # pre-operative pads	3.6		3.5		0.88
Mean pad weight in g	199.5		154.4		0.46
	N	%	N	%	
Prior vaginal surgery	25	92.6	37	74.0	0.05*
Prior mesh sling	22	81.5	29	78.4	0.04*
Prior mesh erosion or extrusion	10	43.5	13	43.4	0.99
Pre-op anticholinergic use	11	40.7	22	44.0	0.78
Pre-op dyspareunia	21	77.8	19	38.0	0.001*
Pre-op urge incontinence	19	70.4	32	64.0	0.57

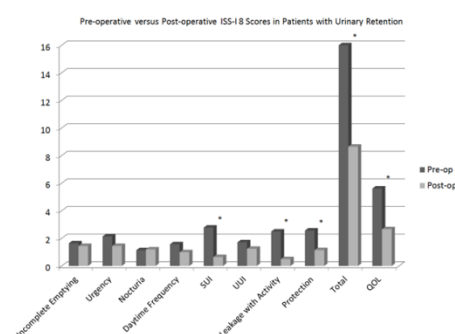
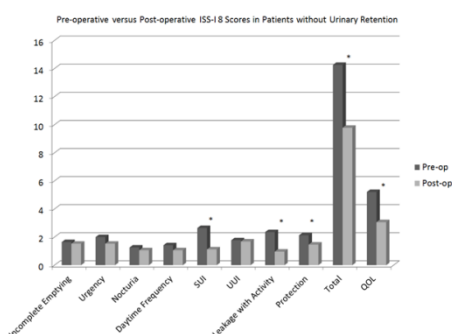
**Table 1: Patient Demographics**

## RESULTS

- 96 women had a sling procedure and 77 (80%) had preoperative UDS.
- 27 (43%) had de-novo UR post-operatively:
  - 5 (19%) at 1 week
  - 7 (26%) at 1 month
  - 15 (55%) at 3 months or longer
- 26/27 (96.3%) patients who had UR had APVS versus MUS sling.
- Patients with DU were more likely to have UR (81% vs 56%, p=0.025).
- A positive symptom score of incomplete emptying did not increase risk of UR (p=0.58).
- 63/77 (82%) patients had UDS which reproduced their voiding symptoms, 23 (37%) of whom had UR.
- There was no difference in risk of UR in patients with DU whose UDS reproduced voiding symptoms compared to those with DU/Valsalva voiding whose UDS did not reproduce symptoms (OR 0.98, CI 0.23-4.18, p= 0.98).
- Limitation: many patients were excluded/opted against sling based on counseling regarding risk of retention.

	Urinary Retention	No Retention	P value
Patients (N)	27	50	--
UDS reproduces voiding symptoms (N)	23	40	0.57
DU or Valsalva (N)	22	28	0.025*
DO (N)	5	12	0.58
LPP (avg)	92.8 cm H2O	90 cm H2O	
Pdet @ Qmax (avg)	22.9 cm H2O	18.7 cm H2O	0.32
Qmax (avg)	12.2 ml/sec	16.8 ml/sec	0.045*
Pre-study PVR	69.9 ml	36.4 ml	0.09
Post-study PVR	125.2 ml	51.6 ml	0.02*

**Table 3: Video Urodynamics Data**



## CONCLUSION

Patients with DU/Valsalva voiding on UDS have an increased risk of UR, but reproduction of symptoms on UDS or symptom score does not correlate with risk of UR in either those with DU/Valsalva voiding nor with normal bladder contractility.