

## LATERAL URETHROPEXY: NOVEL NATIVE TISSUE PROCEDURE FOR FEMALE STRESS URINARY INCONTINENCE

### Introduction

Polypropylene mesh mid-urethral slings are currently considered the surgical gold standard of care for females with stress urinary incontinence (SUI) by the Society of Urodynamics and Female Pelvic Medicine and Urogenital Reconstruction and the American Urogynecological Society. Overall patient satisfaction can be up to 88% at 2 years postoperatively (1). The use of a synthetic mesh is not without risks. The Trial of Mid-Urethral Sling study in 2001 showed that the rate of adverse events in women undergoing retropubic slings can be up to 37% and 30% for trans-obturator slings. Fourteen percent of those events can be serious (2). One element of urethral continence is the mobility of the lateral support - the lateral vaginal attachments to the arcus tendineus fascia pelvis (contiguous with the support of the anterior vaginal wall). This video discusses the concept of a "lateral urethropexy", restoring lateral support of the urethra to the obturator membrane with permanent suture.

### Design

The video was recorded with consent of the involved patient using a Karl-Storz VitCom sterile, high definition intraop camera mounted to the table. The procedure uses a braided permanent suture (2-0 Ticron, establishing tension-free support of the serosa of the mid urethra to the lateral vaginal sulcus and the corner of the obturator membrane (at the junction of the inferior pubic ramus and the pubic symphysis, where a transobturator tape would normally be passed. The video is accompanied by a retrospective review of prospectively collected data: ICIQ F LUTS, IIQ 7, PUF, physical exam findings, subjective incontinence, physical exam and urodynamic data.

### Results

- Twelve patients have undergone lateral urethropexy in our practice since 2013. Four were excluded due to short follow-up (less than 2 months) since either lateral urethropexy or follow up transurethral injection. Three of these complained of stress incontinence and were recommended to have either pelvic floor physical therapy or transurethral injection.
- The final number of patients was 8. The average age was 63. All patients presented with SUI as a component of initial symptoms. Two had undergone prior mesh sling take-down, with anterior prolapse repair in one. Five of the patients presented with anterior wall prolapse with a mean cystocele grade of BW 2.5 requiring concurrent repair. One had index SUI. All patients had urethral hypermobility on pre-operative exam, average angle 39.
- The mean follow-up time was 11.5 months. After lateral urethropexy alone, 5/8 patients reported they were 100% better. One was 90%, one 30%, and one not better. At 11.5 months, the mean ICIQ Question 11 score ("Does urine leak when you are physically active, exert yourself, cough or sneeze"?) decreased from 2.6 to 1.0 ( $p = 0.004$ , 2-tailed T test). The mean Question 11 bother score decreased from 7.3 to 1.4 (scale 0 to 10,  $p = 0.03$ , 2-tailed T test). Urethral hypermobility improved from 39 to 14 ( $p$  value = 0.0002).
- Of the patients 6/8 were completely dry with respect to stress urinary incontinence. One of the 6 had required transurethral injection with calcium hydroxylapatite (Coaptite®) post urethropexy. Of the two wet patients, one was 90% better and one still wet (failing transurethral injection with calcium hydroxylapatite and undergoing neurological workup). There were no Clavien III or higher complications. 2 patients had clinically significant post-operative urinary retention which improved within one week.

### Conclusion

Lateral urethropexy is an alternative to mid-urethral sling in the appropriate patient with urethral hypermobility. At one year follow up the majority of patients in this pilot study were continent without complications. Transurethral injection can be counselled as a 2<sup>nd</sup> stage procedure if correction of the hypermobility alone is not sufficient. The avoidance of mesh may render this procedure a more palatable option for patients contemplating intervention for stress urinary incontinence. Theoretically the suture should be completely removeable, unlike a mid-urethral sling. None of our patients required removal. Overall tolerability, ease of performance, and continence rates are encouraging. Prospective studies with technique modification are underway.

### References

1. Richter HE et al. N Engl J Med 362:2066–2076.
2. Nager C et al. Female Pelvic Med Reconstr Surg 20:123–125.

### Disclosures

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