

## IS TVT EQUAL TO MODIFIED SUBURETHRAL SLING FOR OCCULT STRESS URINARY INCONTINENCE WITH CONCOMITANT PELVIC ORGAN PROLAPSE REPAIR?

### Hypothesis / aims of study

To compare TVT with modified suburethral sling (MSS) for the treatment of occult stress urinary incontinence (SUI) in women undergoing reconstructive surgery for prolapse. We hypothesized that TVT and MSS would be equally effective in treating occult SUI.

### Study design, materials and methods

A retrospective cohort study analyzed 66 women with pelvic organ prolapse and occult SUI. Prolapse repair was concomitant with either TVT or MSS. Occult SUI was defined as a patient with no current symptoms of SUI, a negative cough stress test without the prolapse reduced, and a positive cough stress test with the prolapse manually reduced in the supine position. Cure of SUI was assessed one year after surgery by lack of objective leak of urine during cough test, and by lack of objective leak of urine during cough at urodynamics. Statistical analysis for SUI cure was by logistic regression adjusting for age, body mass index (BMI), previous incontinence surgery, and menopausal status. It was planned to also adjust for any other statistically significant baseline differences between the groups. Local research ethics board approval was obtained.

### Results

During the study period (1999-2004) 34 patients had TVT and 38 had MSS for occult SUI at the time of prolapse repair. Two TVT (6%) and 4 MSS (11%) patients were lost to follow up. The two groups were similar preoperatively aside from a larger number of women with posterior wall prolapse to the level of the hymenal ring or beyond with straining in the MSS group (76% vs 47%). All patients had anterior colporrhaphy. There were more sacrospinous vault suspensions (SSVS) (7/32 vs 32/34) and posterior colporrhaphies (34/34 vs 27/32) performed in the MSS group compared with TVT respectively. Clinical cough test showed a failure of 2/32 (6.3%) for TVT vs 1/34 (2.9%) for MSS ( $p=0.52$ ) at one year from surgery. Leak at urodynamics showed a failure of 3/32 (9.4%) for TVT vs 14/34 (41.2%) for MSS ( $p=0.04$  by logistic regression adjusting for age, BMI, previous incontinence surgery, SSVS, and posterior colporrhaphy). Subjective SUI failure was 2/32 (6.3%) for TVT vs 0/34 (0%) for MSS ( $p=0.14$ ). Post void residual volume at one year was higher for TVT than MSS (99mL vs 53 mL,  $p=0.05$ ). Subjective symptoms of urinary urgency was also higher in the TVT group compared to MSS (56% vs 24%,  $p=0.05$ ) respectively.

### Interpretation of results

Our results for TVT of 6% objective failure by cough test, 9% by urodynamics, and 6% subjectively were similar to the findings of Groutz<sup>1</sup>. This is a reassuring finding as it contradicts the 45% objective failure rate of TVT found by Pang<sup>2</sup> in patients with occult SUI. The main limitation of this study was the retrospective unblinded design. Logistic regression was utilized to adjust for all important and significant variables. The reason for the higher post void residuals may be that the TVT sling tension was greater than the MSS. Sling tension could also explain the difference in objective leak at urodynamics between the groups. If the sling tension in the TVT group was greater than the MSS, this would give better correction of SUI but worse voiding dysfunction because of increased urethral resistance.

### Concluding message

SUI cure by clinical exam and subjective assessment was similar for TVT and MSS, but urodynamics revealed a higher failure rate for MSS. Post void residual at one year was higher in the TVT group which may reflect the degree of sling tension. Both TVT and MSS do offer good cure of SUI in patients with occult SUI undergoing prolapse repair.

### References

1. Groutz A, Gold R, Pauzner D, Lessing JB, Gordon D. Tension-Free Vaginal Tape (TVT) for the Treatment of Occult Stress Urinary Incontinence in Women Undergoing Prolapse Repair: A Prospective Study of 100 Consecutive Cases. *Neurourol. Urodynam.* 2004;23:632-635.
2. Pang MQ, Chan LW, Yip SK. One Year Urodynamic Outcome and Quality of Life in Patients With Concomitant Tension-Free Vaginal Tape During Pelvic Floor Reconstruction Surgery for Genitourinary Prolapse and Urodynamic Stress Incontinence. *Int Urogynecol J* 2003;14:256-260.