

## **COMPARING STRESS URINARY INCONTINENCE OUTCOMES OF TENSION-FREE VAGINAL TAPE WITH TRANS-OBTURATOR TAPE SLING: A RETROSPECTIVE COHORT STUDY**

### Hypothesis / aims of study

To date there is only one published study comparing the tension-free vaginal tape procedure to the trans-obturator tape procedure (1). This study compares the subjective and objective stress urinary incontinence outcomes of patients who underwent either a tension-free vaginal tape (TVT) procedure or trans-obturator tape (TOT) procedure.

### Study design, materials and methods

All patients (N=198) underwent either a TVT or TOT procedure within our Division between June, 2003 and October, 2004. Indication for surgery was urodynamic stress incontinence without low-pressure urethra (max Urethral Closure Pressure > 20 cm H<sub>2</sub>O). Patients were seen in an ambulatory setting at two, six, twelve and fourteen weeks postoperatively. The fourteen-week postoperative visit included multichannel urodynamics. Both preoperative and postoperative multichannel urodynamics were performed in a consistent manner and consisted of cystometrography, static and dynamic (cough and Valsalva) urethral closure pressure profiles, and micturition studies. Stress urinary incontinence (SI) was compared subjectively and objectively using a retrospective cohort study design. Subjective outcome variables included patient reported stress incontinence at the 14 weeks post-operative urodynamics visit or, if unavailable, at the 12 weeks post-operative follow-up visit. Objective outcome variables included presence of stress incontinence on post-operative multichannel urodynamics, and post-operative urinary retention (post void residual (PVR) ≥ 50cc or urethrolisis). Statistical chi-square analysis compared subjective and objective outcomes of the two different procedures.

### Results

At baseline, the cohorts were similar with respect to age, parity, body-mass index, menopausal status, prior incontinence surgery, and any prior pelvic surgery. Also similar were preoperative subjective stress urinary incontinence (85/91 [93%] TVT vs. 98/107 [92%], p 0.73) and preoperative urinary retention (10/91 [11%] vs. 12/107 [11%], p 0.74). One hundred thirty-one patients (66%) have completed fourteen-week postoperative urodynamics. Follow-up was similar between cohorts and subjective responses were similar between patients with and patients without postoperative objective data. Among patients completing fourteen-week postoperative urodynamics, there was not a significant difference in the percent cured of stress urinary incontinence

(60/62 [97%] TVT vs. 62/69 [90%] TOT, p 0.12). Cure rates for patients completing twelve-week postoperative subjective assessment were similar between the cohorts for stress urinary incontinence (59/68 [87%] vs. 71/77 [89%], p 0.71). Concomitant surgery was similar in the cohorts with the exception of concomitant anterior colporrhaphy which was more common in the TOT cohort (63/91 [69%] vs. 91/107 [85%], p 0.008). There was no difference in either median estimated blood loss (150cc vs. 200cc, p 0.40) or major complication. However, there was significantly more post-operative retention (PVR  $\geq$  50cc) in the TVT cohort (16/62 [29%] vs. 10/69 [14%], p 0.047).

#### Interpretation of results

The TOT is similar to the TVT fourteen-weeks post-operatively in subjective and objective cure of stress urinary incontinence. Also similar were post-operative complications and estimated blood loss. The study was limited by the difference in concomitant anterior colporrhaphy. This difference could possibly mask a potentially lower cure rate in the TOT cohort. However, the difference in concomitant anterior colporrhaphy would be expected to dilute the significantly lower retention noted in the TOT cohort.

#### Concluding message

The trans-obturator tape procedure is equivalent to the tension-free vaginal tape procedure fourteen-weeks post-operatively in subjective and objective cure of stress urinary incontinence, and has less post-operative retention. Continued follow-up with the cohorts will reduce migration bias. Future work will include comparing concurrent detrusor overactivity as well as long-term follow-up of the cohorts at one year.

(1) deTayrac R, Deffieux X, Droupy S, Chauveaud-Lambling A, Calvanese-Benamour L, Fernandez H. A prospective randomized trial comparing tension-free vaginal tape and transobturator suburethral tape for surgical treatment of stress urinary incontinence. *Am J Obstet Gynecol* 2004;190:602-608.