

## EFFECT OF TRANSOBTURATOR TAPE PROCEDURE (TVT-O) ON URODYNAMIC CONTINENCE INDICES

### Hypothesis / aims of study

Our clinical investigation focused on a new urodynamic measurement procedure. The measurement is called the urethral retro-resistance pressure. This test of the urethral function based on the retrograde infusion of sterile fluid against a closed sphincter, in this way, we obtained the pressure to achieve and maintain an open urethral sphincter. The curve plateau represents the pressure at which the open sphincter is maintained. This method eliminates the need for a urethral catheter thereby avoiding the introduction of a catheter-induced systemic artifact during the measurements. Urethral retro-resistance pressure may be a useful measure that can provide an assessment of urethral function associated with stress incontinence. Assuming the severity of incontinence has a relationship to degree of urethral dysfunction, one would expect lower pressure values to correspond with higher severity and vice versa.

Aim of the study is to compare the parameter of urethral function - urethral retro-resistance pressure in women before and after TVT obturator procedure, which are fully continent and without voiding difficulties after surgery.

### Study design, materials and methods

This investigation included 42 patients with genuine stress incontinence without intrinsic sphincter deficiency. Multichannel urodynamic testing and three consecutive urethral retro-resistance pressure measurement was performed preoperatively (visit 1). Urethral retro-resistance pressure procedure was performed in a semi – lithotomy position. Then anti-incontinence surgery was carried out by means tension free vaginal tape obturator (TVT-O). Four weeks after the surgery, the patient underwent again multichannel urodynamic testing and three consecutive urethral retro-resistance pressure measurements (visit 2). The requirements were a negative stress test and continence. Subjects completed the Incontinence Impact Questionnaire preoperatively and postoperatively. Exclusion criteria: 1) intrinsic sphincter deficiency, 2) prior history of genuine stress urinary incontinence surgery, 3) any degree of anterior wall prolapse.

### Results

The mean age was 61±6 and the body mass index (BMI) was 28±4. Urethral retro resistance pressure values were normally distributed. The mean urethral retro-resistance pressure at visit 1 was 68.7 cm H<sub>2</sub>O (n = 42). The mean urethral retro-resistance pressure at visit 2 was 69.9 cm H<sub>2</sub>O this was not statistically significant. The within-subject standard deviation of urethral retro resistance pressure at visit 1 was  $\square \square \pm \square \square$  cm H<sub>2</sub>O and at visit 2 was  $\square \square \pm \square \square$  cm H<sub>2</sub>O (Wilcoxon t.). Subjects showed an 86.8% improvement in their Incontinence Impact Questionnaire score.

### Interpretation of results

The urethral retro resistance pressure measurements shows there was no statistically significant difference in the urethral retro-resistance pressure measurement from visit 1 to visit 2.

Several authors have reported the urodynamic effects of traditional incontinence operations like a Burch colposuspension, Stamey bladder neck suspension and TVT. In these studies there was a significant increase in active pressure transmission to the urethra but no significant change in resting urethral closure pressure.

### Concluding message

This study demonstrates that the success rate of TVT-O in the treatment of genuine stress incontinence is not associated with a statistically significant change of urethral retro-resistance pressure. In the future we would be interested in urethral retro-resistance pressure measurements in patients with voiding difficulties (urinary outflow obstruction) after minimal invasive anti-incontinence surgical procedures.