

## BLADDER PERFORATION DURING TENSION-FREE VAGINAL TAPE PROCEDURE- DOES IT MATTER?

### Hypothesis / aims of study

Tension-free Vaginal Tape (TVT) is a popular minimally invasive procedure for female stress urinary incontinence (SUI). It is associated with some procedure-related complications, among which intraoperative bladder perforation is the most common (1-24%). Our study was conducted to assess the incidence, possible risk factors, perioperative morbidity and medium-term (1-4 years) outcomes of patients with this complication.

### Study design, materials and methods

440 consecutive patients (mean age 64.5; range: 35-86) were prospectively studied. 3 experienced urogynecological surgeons carried out all operations. In cases of bladder perforation we routinely leave an indwelling catheter for 3 days and administer antibiotics for a week. Postoperatively patients were scheduled for evaluation at 1, 3, 6, 12 months, and annually thereafter. All underwent urodynamics at 3-6 months postoperatively. Main outcome measures were perioperative morbidity, postoperative SUI, persistent or de novo urge incontinence and voiding dysfunction.

### Results

19 cases of bladder perforation out of 440 consecutive procedures (4.6%) occurred in our series. Neither parity, menopausal status, hormonal replacement therapy, previous hysterectomy nor previous anti-incontinence surgery were found to be risk factors for bladder perforation (Table 1). Outcome analysis was restricted to a subset of 331 consecutive patients with at least one-year follow-up (mean 30±12 months, range: 12-67 months) (Table 2). There was no difference in the outcome results between perforation versus non-perforation cases.

### Concluding message

Bladder perforation during TVT occurred in 4.6% of our patients. We did not identify any risk factor for this complication. Furthermore, bladder perforation did not affect medium-term outcome results.

Table 1

Mean ± SD or N(%)	patients with bladder perforation N=19	patients without bladder perforation N= 421
Age (years)	60.1± 6.3	64.2 ± 10.6
Parity	3.4 ± 1.2	2.6 ± 1.4
Menopause	19 (100%)	362 (86%)
Hormonal replacement therapy	8/19 (42%)	120/362 (33%)
previous hysterectomy	2 (10.5%)	80 (19%)
previous anti-incontinence surgery	1 (5.2%)	17 (4%)
concomitant urogenital prolapse surgery	11 (58%)	244 (58%)

Table 2

Mean = SD or N(%)	With bladder perforation N=16	Without bladder perforation N=315
Delayed spontaneous voiding (>7 days)	0	10 (3.2%)
Postoperative fever	0	34 (10.8%)
Vaginal erosion	0	6 (1.9%)
Persistent SUI	1 (6.3%)	21 (6.6%)

De novo urge incontinence	2 (12.5%)	24 (7.6%)
Persistent urge incontinence	2/6 (33.3%)	47/62 (76%)
Bladder outlet obstruction	0	5 (1.6%)