Dynamic Interaction Involved in theTension-Free Vaginal Tape Obturator Procedure

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Abstract

Purpose: We explored the static and dynamic morphological characteristics of the tension-free vaginal tape obturator procedure by ultrasound cystourethrography. Materials and Methods: From July 2005 to December 2006, 98 consecutive women who had undergone the tension-free vaginal tape obturator procedures alone or with concomitant pelvic surgery were evaluated. Preoperative and postoperative morphological assessments of lower urinary tract and tension-free vaginal tape obturator procedure tape were performed by introital ultrasound. Results: The resting and straining bladder neck angles as well as the resting tape angle gradually increased postoperatively while the resting bladder neck distance and total urethral length decreased. The vector of the tension-free vaginal tape obturator procedure tape was significantly correlated with the resting tape distance ($r = 0.55$, $p < 0.01$). The tension-free vaginal tape obturator procedure tape migrated distally with time but remained in the same position relative to the urethra (60th percentile). Concomitant pelvic surgery did not affect the position and motion of the bladder neck or tension-free vaginal tape obturator procedure tape except for mesh reinforcement anterior colporrhaphy in which the tape was displaced proximally. Postoperatively 5 types of urethral descent in relation to the tape during stress were seen. One type of vertical and 1 type of rotational urethral descent during straining were observed in women in whom surgery failed, while 2 other types of vertical and 1 of rotational descent were not associated with failure. Conclusions: The dynamic interaction between the tension-free vaginal tape obturator procedure tape and urethra depends on the proximity of the tape and the type of urethral descent.