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Author(s):

Virtanen HS, MD, Ph.D, Kiilholma P, MD, Ph.D

Double Spacing

Institution
City
Country

Turku City Hospital, Department of Gynecology, Finland

Double Spacing

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LETTERS)UROGYNECOLOGIC ULTRASOUND AND TVT-PROCEDURE
- A PILOT STUDY WITH 10 INCONTINENT WOMEN**Aims of Study**

The aims of the study were firstly to test the suitability of a new diagnostic tool for stress urinary incontinence - a modification of urogynecologic ultrasound and, secondly, to evaluate the safety and efficacy of TVT (tension-free vaginal tape) for the surgical treatment of stress urinary incontinence.

Materials & Methods

10 consecutive women (mean age 61 years) with symptoms of stress urinary incontinence were enrolled. Mean BMI (body mass index) was 27 kg/cm² and the women had on the average of 2.3 vaginal deliveries. The patients were examined prior to and on the average of 10 weeks (range 7-14) after the operation with perineal ultrasound. Aloka SSD-2000 and Hitachi EUB-405 real-time scanning machines with sector scanner. A frequency of 3.5 Mhz was used for transducers of both machines. An upright coughing test at standing test to objectively demonstrate urinary leaking was performed every time. Such ultrasound parameters as bladder filling pre- and postoperatively, descending of uv-junction (uretrovesical junction) at Valsalva pre- and postoperatively, elevating of uv-junction when constricting pelvic muscles pre- and postoperatively, PUV (posterior urethrovesical) -angle both at rest and Valsalva pre- and postoperatively, and the change in degrees. Moreover, the funneling of vesical neck was ultrasonographically studied pre- and postoperatively.

The operative procedures were performed according to previously described by Ulmsten et al. Local anesthesia was used in all operations.

Results

All ten women with symptoms of stress urinary incontinence exhibited clear objectively documented urinary leakage with coughing at upright position with the mean preoperative bladder filling of 244 ml. Postoperatively all women were symptomfree with no urinary incontinence. Cough test with the mean postoperative bladder filling of 226ml was negative in all the patients. The mean uv-junction rotatory descending detected by ultrasound was preoperatively significantly greater (16.0mm) than postoperatively (6.9mm) ($P < 0.05$). With straining the mean widening of PUV-angle was preoperatively significantly greater (48°) than postoperatively (20°) ($P < 0.05$). The mean preoperative PUV-angle itself at rest (118°) was greater than postoperative one (109°). Moreover, preoperative ultrasound detected the funneling of vesical neck in all the women preoperatively but no funneling was present at postoperative examination.

All ten patients were doing well at the time of follow-up examination. They demonstrated no special urinary symptoms. No postoperative hematomas, infections, bladder, urethral or ureteral perforations or lacerations had been encountered.

Conclusions

Based on these results, we conclude that TVT is a safe and effective ambulatory procedure for surgical treatment of genuine stress urinary incontinence. Moreover, urogynecological perineal ultrasound examination at rest and at Valsalva including uv-junction rotatory movement measurement, PUV-angle measurement as well as verifying preoperative vesical neck funneling, gives a strong support to an anamnestic diagnosis of genuine stress urinary incontinence, so to avoid urodynamics.