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Fatton B[1], Triopon O [2], Amblard J[3], Jacquetin B[3]
1. Universty Hospital of Clermont-Ferrand - Urogynecology Unit / FRANCE, 2. Universty Hospital of Clermont-Ferrand, 3. University Hospital of Clermont-Ferrand

RESULTS OF TVT-O (TRANS VAGINAL TAPE OBTURATOR) IN THE TREATMENT OF STRESS URINARY INCONTINENCE WITH INTRINSIC SPHINCTER DEFICIENCY: A RETROSPECTIVE STUDY OF 36 PATIENTS

Hypothesis / aims of study

The purpose of this study is to assess the efficacy of TVT-O (non-absorbable monofilament polypropylene tape – Gynecare, Sommerville, NJ, USA) used by a transobturator passage inside-out according to the De Leval technique (1), in the treatment of stress urinary incontinence (SUI) with intrinsic sphincter deficiency (ISD).

Study design, materials and methods

This retrospective study included 36 patients with urodynamic SUI diagnosed as having ISD. ISD was defined as a maximum urethral closure pressure [MUCP] at rest < 30 cm H2O. Preoperative evaluation included medical history, gynaecologic examination, complete urodynamic evaluation, micturition diary, routine ultrasonography and quality of life (QOL) assessment (Contilife). Preoperatively all patients demonstrated leakage during cough test (bladder volume of 250 ml). No patients had a fixed urethra. All patients had a positive mid urethra test. Postoperative investigations included a specific urinary disorders questionnaire, a clinical examination by an independent urogynecologist reviewer, complete urodynamic evaluation, one-hour pad test and validated QOL assessment (Contilife). Pre and postoperative urodynamic investigations included a free flow rate, a filling cystomanometry with provocative tests and pressure flow studies. Urethral pressure profilometry was performed according to the standards recommended by the International Continence Society (ICS). Urodynamic stress incontinence and detrusor overactivity were defined according to the recommendations of ICS. Voiding dysfunction was defined as a maximum flow rate of less than 10 ml/second or a post-void residual volume of greater than 100 ml.

Results

Mean age was 64.4 years. Eight patients had a previous history of prolapse and/or SUI surgery. According to Ingelman Sunberg classification, 3 patients reported stage I SUI, 28 patients stage II SUI and 5 patients stage III SUI. Preoperatively, 24 women (67%) complained of urgency with or without urge incontinence, 5 of whom having an overactive bladder on urodynamics. Sixteen patients (44.5%) had a MUCP < 20 cm H2O [Group 1] and 20 patients (55.5%) had a MUCP between 20 cm and 30 cm H2O [Group 2]. No patients had a significant pelvic organ prolapse. Three skilled surgeons performed all the procedures. Surgery was performed under spinal anaesthesia in 97% of cases. No patients had concomitant procedure at the time of TVT-O. All patients received a peroperative intravenous antibiotic prophylaxis. Mean operating time was 15 min. We reported no peroperative complication. A Foley catheter was placed for 24 hours after surgery. After the removal of the catheter, the micturition occurred in 100% of the patients. Complete emptying occurred in 92% at the first micturition. Intermittent catheterization was necessary 2 days in 1 patient and 3 days in 2 patients.
The mean follow-up was 16.4 months [range 12-24]. At the follow-up evaluation, 24 patients (67%) were objectively and subjectively cured, 2 patients described an improved but persistent SUI, 2 patients described mixed UI and 8 patients were cured for SUI but had persistent urge incontinence. No patients had de novo urge incontinence. No severe persistent micturition disorders occurred. No patient complained of pain. One a visual analog scale from 1 (bad) to 5 (excellent) using to score their QOL, 21 patients (58%) chose “5”, 6 patients (17%) “4”, 6 patients (17%) “3” and 3 patients (8%) “2”. Postoperatively all parameters of QOL questionnaire were significantly improved.
Postoperatively, 56% of the patients in the Group 1 were dry. Three patients had a positive one-hour pad test (20 g for 2 patients, 30 g for 1 patient). One patient described a persistent pure SUI, 2 patients complained of mixed incontinence and 2 others patients had an persistent urge incontinence. Success rate for SUI was 81% in Group 1.
In the Group 2, 75% of the patients were cured for any leakage. One patient had a positive one-hour pad test (130 g) and was a failure. Four others patients were cured for SUI but had persistent urge incontinence. Success rate for SUI was 95% in Group 2.

Interpretation of results

According to previous reports, TVT-O is a safe procedure [1], which appears to be effective in the management of SUI with ISD. Currently, there are some evidence of effectiveness of TVT in SUI with ISD [2,3]. But TVT procedure is known to provide some peroperative complications such as bladder damage or retropubic haemorrhage, and also postoperative micturition disorders or de novo urgency. Such morbidity seems to be avoided with the use of TVT-O.

Concluding message

TVT-O device is an adequate surgical procedure for the treatment of women with SUI and ISD with urethra hypermobility. This technique provides a significant improvement of QOL. Objective and subjective results at one-year follow-up are similar to the results provided by TVT with a decreased complications rate. Nevertheless, we need randomized controlled studies to compare more accurately efficacy and postoperative complications of the two procedures.

1 - Eur Urol (2003), 44: 724-730
2 - Int Urogynecol J (2001) (Suppl 2): S12-S14
3 - Int Urogynecol J (2005), 7: 1-5

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