

TVT AND TOT IN MINIMAL INVASIVE TREATMENT OF THE URINARY STRESS INCONTINENCE IN WOMEN

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Abstract: Prospective evaluation of indication, techniques and results by using minimal invasive anti-incontinence treatment: retropubic tension free vaginal tape (TVT) and transobturator tape (TOT) in female patients with urinary stress incontinence (SUI). 156 female patients (p) suffering from SUI were referred for corrective surgery in the Urology Department Sibiu between 2005-2010. Diagnosis algorithm consisted of: clinical examination, echography, urine examination and uroculture, serological examination, bladder diaries completed by the patients for 7 days and questionnaires UDI-6 (Urogenital Distress Inventory) and IIQ-7 (Impact Incontinence Quality of Life). There were excluded patients suffering from SUI associated with medium and severe urgency and those with urogenital prolapse 2nd and 3rd according POP (Pelvic Organ Prolapse) classification. Surgical treatment consisted of TVT for 34 p and TOT for 122 p. The overall operative time was 23,1 minutes, on average 30,8±9,3 (media±standard deviation) minutes for TVT and 15,4±4,7 minutes for TOT. Immediate and long term continence based on clinical examination and bladder diaries was good. The SUI cure rate was 98,07% (153p/156p). Postoperative satisfaction rate illustrated by TSS questionnaire was 86,35% (137p/ 156p). Both TVT and TOT are efficient and safe techniques for surgical treatment of SUI in the case of selected patients, having a positive influence on the quality of life. Short hospital stay, minimal surgical trauma, fast postoperative recovery and social-professional integration justify the use of minimal invasive techniques. The advantages of TOT are: the lower risk of bladder lesion and short operative time.

Cuvinte cheie: incontinență urinară de efort, tratament minim invaziv, TOT, TVT

Rezumat: Evaluarea prospectivă a indicației, tehnicii și rezultatelor obținute prin tratamentul minim invaziv de fixare a bandelei suburetrale în varianta TVT (tension free vaginal tape) retropubiană și TOT (transobturatorie) la pacientele cu IUE (incontinență urinară de efort). În perioada 2005-2010 în Clinica Urologie Sibiu au fost operate 156 paciente (p) cu IUE. Algoritm diagnostic a constat în: examen clinic, ecografic, examen de urină, urocultură, examen bioumoral, calendar micțional completat de pacienți timp de 7 zile și chestionare de calitate a vieții UDI-6 (Urogenital Distress Inventory) și IIQ-7 (Impact Incontinence Quality of Life). Au fost excluse pacientele cu IUE care aveau asociat imperiozitate micțională medie și severă din cadrul sindromului de vezică hiperactivă și prolaps urogenital grad II și III conform clasificării POP (Pelvic Organ Prolapse). Tratamentul chirurgical a constat în TVT la 32 de paciente și TOT la 122 de paciente. Timpul operator mediu a fost de 23,1 minute, în medie de 30,8±9,3 (media±deviația standard) minute pentru tehnica TVT și de 15,4±4,7 minute pentru tehnica TOT. Continența postoperatorie imediată și la distanță a fost bună, obiectivată prin examen clinic și calendar micțional. Cura IUE în lotul studiat a fost 98,07% (153 paciente / 156 paciente). Rata satisfacției postoperatorii evaluată prin chestionarul TSS (Treatment satisfaction scale) a fost de 86,35% (137 de paciente). TVT și TOT sunt metode eficiente și sigure de tratament ale incontinenței urinare de efort la pacientele selecționate, cu impact pozitiv asupra calității vieții. Durata mică a perioadei de spitalizare, trauma operatorie minimă, recuperarea postoperatorie și integrarea socioprofesională rapidă a pacientelor justifică folosirea acestor tehnici minim invazive. Avantajele TOT sunt date de riscul scăzut al perforațiilor vezicale și de timpul operator scăzut.

INTRODUCTION

TVT is a well known method used in the treatment of SUI. This technique using a Prolene tape was first described by Ulmsten in 1995 and it was widely world accepted as an easy-to-learn, safe and efficient technique in treatment of SUI. The minimal surgical trauma, the high cure rate and lower rate of the complications made it the most commonly used surgical treatment for SUI. Common complications of the classical treatment such as blood loss, pelvic and abdominal lesions, de

novo urgency, dyspareunia or urethral lesions are rare in TVT era (1,2,3,4,5). The TOT technique was first described by Delorme in 2001. His aim was to avoid retropubic space in order to prevent bladder injuries and blood loss following TVT. (6)

THE AIM OF THE STUDY

Prospective evaluation of indication, techniques and results by using minimal invasive anti-incontinence treatment: retropubic tension free vaginal tape (TVT) and transobturator

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tape (TOT) at female patients with urinary stress incontinence (SUI).

MATERIAL AND METHOD

156 female patients (p) suffering from SUI were referred for corrective surgery in the Urology Department of Sibiu during 2005-2010. Diagnosis algorithm consisted of: clinical examination, echography, urine examination and uroculture, serological examination, bladder diaries completed by the patients for 7 days and questionnaires UDI-6 (Urogenital Distress Inventory) and IIQ-7 (Impact Incontinence Quality of Life). There were excluded patients suffering from SUI associated with medium and severe urgency and those with urogenital prolapse 2nd and 3rd according POP (Pelvic Organ Prolapse) classification. Surgical treatment consisted of TVT for 34 p and TOT for 122 p. All patients received spinal anesthesia and antibiotic prophylaxis consisting of 3 intravenous doses of Cefazolin, 2 grams each, the first dose being administered two hours before surgical procedure and the other two doses every 12 hours. We used polypropylene monofilament mesh, 40 cm long and 1 cm wide. TVT approach was an in-out technique and TOT approach was an out-in technique, the insertion of the device for placing the tape being made from the outside to the inside.

Figure no. 1. Introducing the device in TVT technique



Figure no. 2. Final aspect in TVT technique



Figure no. 3. Introducing the device through obturatory hole in TOT technique



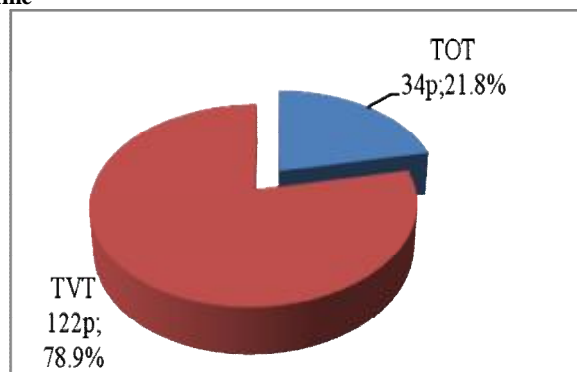
Figure no. 4. Final aspect in TOT technique



RESULTS

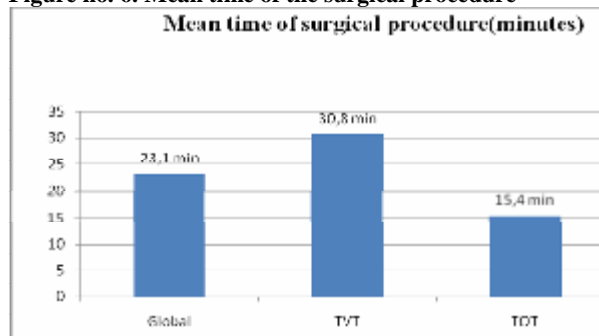
The most used surgical technique in our study was TOT: 78,9% (122 p).

Figure no.1 Patients distribution according to the operation time



The overall operative time was 23,1 minutes, on average 30,8±9,3 (media±standard deviation) minutes for TVT and 15,4±4,7 minutes for TOT.

Figure no. 6. Mean time of the surgical procedure



Post-operative satisfaction rate illustrated by TSS questionnaire was 86,35% (137p/ 156p). The overall hospitalization period was of 3,2 days, on average 3,4±1,8 days for TVT and 3,1±1,2 days for TOT. There was no statistic difference between the two techniques in what concerns the hospital stay. Immediate and long term continence based on the clinical examination and bladder diaries was good. The SUI cure rate was 98,07% (153p/156p). Post-operative satisfaction rate illustrated by TSS questionnaire was 86,35% (137p/ 156p).

DISCUSSIONS

Prospective randomised studies comparing TVT and classical colpo-suspension Burch procedure showed a similar therapeutic result. While TVT was associated with higher intraoperative complications rate, Burch procedure was

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associated with higher rate of post-operative complications and a longer period of recovery and professional integration (7-10). Common complications of TVT included bladder perforation, intraoperative bleeding, post-operative infections and intestinal lesions (11-14). Since surgical procedures surpassed the non-surgical procedures in SUI treatment (15), Delorme has made an adjustment of TVT technique in order to avoid complications, introducing TOT technique. In his technique the Prolene mesh passes through the obturator space, replacing the retropubic space (6). Post-operative published results showed good outcome in the cure of the SUI and a lower rate of intra and post-operative complications (16).

CONCLUSIONS

Short period of hospitalization, minimal surgical trauma, fast post-operative recovery and social-professional integration justify the use of the minimally invasive techniques. Both TVT and TOT are efficient and safe techniques for the surgical treatment of SUI in the case of the selected patients, having a positive influence on the life quality. The advantages of TOT are the lower risk of bladder lesion and short operative time.

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