

**A COMPARATIVE STUDY BETWEEN TENSION FREE
VAGINAL TAPE (TVT), TENSION FREE VAGINAL TAPE
OBTURATOR (TVT-O) AND BURCH COLPOSUSPENSION
IN MANAGEMENT OF PATIENTS WITH GENUINE STRESS
URINARY INCONTINENCE**

Thesis

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M.D degree **in Obstetrics and Gynecology**

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٢٠٠٧

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ABSTRACT

Urinary incontinence is a major problem that affects a big sector in the female population. Genuine stress incontinence is one of its causes. The proper diagnosis of this problem is important. The best way to diagnose and objectively evaluate this problem is by a combination of history, physical examination and the use of some urodynamic studies.

The striking need for less invasive, simpler and cheaper methods for correction of the anatomical conditions causing stress incontinence has led to the development of several minimal invasive methods such as transobturator tape and tension free vaginal tape (TVT) & tension free vaginal tape obturator (TVT-O) procedures. The aim of this study was to evaluate (TVT) & (TVT-O) as new procedures in the treatment of female stress incontinence and to compare the efficacy of them with the conventional Burch colposuspension.

Forty Five women suffering from genuine S.U.I. were included. 10 women underwent (TVT), and 10 women underwent (TVT-O) and, 10 women underwent the classic Burch. All patients were assessed clinically and by urodynamic studies preoperatively, third day postoperatively, and six months postoperatively.

Results showed that (TVT) & (TVT-O) are a safe and effective, minimally invasive procedures. Success rate is 86.9%for (TVT) & 93.3% for (TVT-O) after 6 months follow-up. They have a short operative duration (50.5 ± 9.6 min.)for (TVT) & (46.1 ± 9.1 min) for (TVT-O) , reduced risk of complications and cure rate comparable to the classic Burch colposuspension.

Keywords:

Incontinence, stress, genuine, urodynamics, (TVT), (TVT-O) and Burch colposuspension.

LIST OF CONTENTS

| Title | Page No. |
|--|----------|
| Introduction..... | ١ |
| Aim of the Work..... | ٤ |
| ○ Anatomy of the Female Lower Urinary Tract..... | ٥ |
| ○ Neuroanatomy and Physiology of Female Micturation..... | ٢٨ |
| ○ Neurological Control of Micturation..... | ٢٩ |
| ○ Epidemiology of Stress Urinary Incontinence..... | ٣٨ |
| ○ Pathophysiology of Stress Urinary Incontinence..... | ٥١ |
| ○ Evaluation of Urinary Incontinence in Women..... | ٦٨ |
| ○ Management of Genuine Stress Urinary Incontinence..... | ١٠٦ |
| Patients and Methods..... | ١٦٩ |
| Results..... | ١٩١ |
| Discussion..... | ٢٢١ |
| Summary..... | ٢٣٣ |
| Conclusion..... | ٢٣٦ |
| Recommendations..... | ٢٣٨ |
| References..... | ٢٣٩ |
| Arabic Summary | |

LIST OF TABLES

| Tab. No. | Title | Page No. |
|-------------|---|----------|
| Table (١): | Hypotheses concerning function of the urinary continence mechanism elements. | ٢٧ |
| Table (٢): | Classification of SUI..... | ٤٦ |
| Table (٣): | Reversible causes of urinary incontinence | ٥٠ |
| Table (٤): | Commonly used drugs that can influence bladder function..... | ٥٠ |
| Table (٥): | UPP measurements | ٩٤ |
| Table (٦): | Urine flow rate measurements | ١٠٤ |
| Table (٧): | Suggested test for women with lower urinary tract dysfunction based on suspected diagnosis | ١٠٥ |
| Table (٨): | Comparison the patient demography in the ٣ groups. | ١٩٣ |
| Table (٩): | Description the duration of the disease of the patients in the ٣ groups in years. | ١٩٤ |
| Table (١٠): | Showing the results of stress test in all groups before surgery. | ١٩٥ |
| Table (١١): | Description of the operative time in the ٣ groups in minutes. | ١٩٦ |
| Table (١٢): | Description of the hospital stay in the ٣ groups in days. | ١٩٧ |
| Table (١٣): | Description of the rate of complications in the ٣ groups. | ١٩٨ |
| Table (١٤): | Description of the operative blood loss (in ml) in the ٣ groups..... | ٢٠٠ |
| Table (١٥): | Comparison of postoperative catheter duration (in days) in the ٣ groups..... | ٢٠١ |
| Table (١٦): | Comparison of the results of preoperative cystometry in the ٣ groups | ٢٠٢ |
| Table (١٧): | Comparison of the preoperative urethral pressure profile & leak point pressure in the ٣ groups: | ٢٠٣ |
| Table (١٨): | Comparison the preoperative Uroflowmetry in the ٣ groups | ٢٠٤ |

LIST OF TABLES (Cont...)

| Tab. No. | Title | Page No. |
|-------------|--|----------|
| Table (١٩): | Comparison of the results of ٣ rd postoperative day cystometry in the ٣ groups | ٢٠٥ |
| Table (٢٠): | Comparison of the ٣ rd postoperative day urethral pressure profile in the ٣ groups | ٢٠٦ |
| Table (٢١): | Comparison of the ٣ rd day postoperative Uroflowmetry in the ٣ groups | ٢٠٧ |
| Table (٢٢): | Comparison of the results of ٦ month postoperative cystometry in the ٣ groups | ٢٠٨ |
| Table (٢٣): | Comparison of the ٦ month postoperative urethral pressure profile in the ٣ groups | ٢٠٩ |
| Table (٢٤): | Comparison of the ٦ month postoperative Uroflowmetry in the ٣ groups | ٢١٠ |
| Table (٢٥): | Comparison between preoperative & ٣ rd day postoperative and ٦ month postoperative urodynamic parameters in group (A) | ٢١١ |
| Table (٢٦): | Comparison between preoperative & ٣ rd day postoperative and ٦ month postoperative urodynamic parameters in group (B) | ٢١٣ |
| Table (٢٧): | Comparison between preoperative & ٣ rd day postoperative and ٦ month postoperative urodynamic parameters in group (C) | ٢١٥ |
| Table (٢٨): | Stress test on the ٣ rd postoperative day in the ٣ groups: | ٢١٧ |
| Table (٢٩): | Stress test ٦ month postoperative in the ٣ groups | ٢١٨ |
| Table (٣٠): | Cure rate on the ٣ rd postoperative day in the ٣ groups | ٢١٩ |
| Table (٣١): | Cure rate ٦ month postoperative in the ٣ groups | ٢٢٠ |

LIST OF FIGURES

| Fig. No. | Title | Page No. |
|---------------------|---|----------|
| Figure (١): | Schematic diagram of the trigonal musculature within the bladder base and urethra (sagittal section)..... | ٩ |
| Figure (٢): | Horizontal section of female urethra | ١٥ |
| Figure (٣): | Cross section of the bladder and urethra to show relationship of smooth and striated muscles around the urethra | ١٥ |
| Figure (٤): | Diagrammatic representation showing the component parts of the internal and external sphincteric mechanisms and their locations..... | ١٦ |
| Figure (٥): | Schematic representation of the support of the urethra | ٢٥ |
| Figure (٦): | Schematic presentation of the levator ani muscles The U shaped space represents the hiatus through which the urethra and vagina passes | ٢٥ |
| Figure (٧): | Peripheral pathway of the female lower urinary tract | ٣٣ |
| Figure (٨): | Diagram of reflex pathways during bladder filling..... | ٣٦ |
| Figure (٩): | Diagram of reflex pathways during bladder voiding | ٣٧ |
| Figure (١٠): | Hammock hypothesis. Intra-abdominal pressure is transmitted to the urethra and bladder neck, closing the outlet as it gets compressed against the supports of the pubocervical fascia and anterior vaginal wall | ٦١ |
| Figure (١١): | Bonney's test for stress incontinence..... | ٧٥ |
| Figure (١٢): | The Q-tip test | ٧٧ |
| Figure (١٣): | Filling cystometry | ٩١ |
| Figure (١٤): | Voiding cystometry..... | ٩٢ |
| Figure (١٥): | The cystometrogram of a normal bladder with an inhibitable terminal contraction. | ٩٣ |
| Figure (١٦): | The urethral closure pressure profile of a normal patient..... | ٩٦ |

LIST OF FIGURES (Cont...)

| Fig. No. | Title | Page No. |
|---------------------|--|----------|
| Figure (17): | The perfusion urethral closure pressure profile. | 96 |
| Figure (18): | Integrated urethral closure pressure profile. | 97 |
| Figure (19): | The urethral closure pressure profile in the normal female. | 98 |
| Figure (20): | Superimposed urethral closure pressure profiles in the supine, sitting, and standing positions in the normal patient. | 99 |
| Figure (21): | Superimposed urethral closure pressure profiles in the supine, sitting, and standing positions in the patient with genuine stress incontinence, characteristically there is a decrease of closure pressure and/or functional length..... | 100 |
| Figure (22): | a. Vaginal cone in position, retained by the pelvic floor; any increase in abdominal pressure will tend to push the cone out..... | 101 |
| Figure (23): | Anterior coloporrhaphy and Kelly's sutures | 106 |
| Figure (24): | Periurethral injection of collagen..... | 107 |
| Figure (25): | Placement of sutures for a Marshall-Marchetti-Krantz operation | 108 |
| Figure (26): | Placement of sutures for a Burch colposuspension operation..... | 121 |
| Figure (27): | Comparison of retropubic suspension techniques. | 121 |
| Figure (28): | Artificial urinary sphincter (AMS 800)..... | 123 |
| Figure (29): | Mechanism of action of sling procedures for stress incontinence | 125 |
| Figure (30): | The Tension-Free Vaginal Tape System consists of (clockwise from top) a rigid catheter guide, stainless steel needle introducer, and TVT device with Prolene mesh attached to stainless steel needles. | 134 |
| Figure (31): | Shows the vaginal incision and dissection..... | 134 |
| Figure (32): | Demonstrates how to introduce the curved needle and the use of the rigid catheter guide to deviate the bladder..... | 135 |
| Figure (33): | Demonstrates the orientation of the needle passers as they pass through the suprapubic incision..... | 135 |

LIST OF FIGURES (Cont...)

| Fig. No. | Title | Page No. |
|--------------|---|----------|
| Figure (୩୧): | Demonstrates the needle passers after coming up from the suprapubic incision..... | ୧୩୦ |
| Figure (୩୨): | The Tension – free Vaginal Tape obturator system | ୧୪୦ |
| Figure (୩୩): | The Female Pelvis..... | ୧୪୧ |
| Figure (୩୪): | The anatomical landmarks of the obturator foramen. | ୧୪୧ |
| Figure (୩୫): | Traditional suburethral tension-free slings | ୧୪୧ |
| Figure (୩୬): | Helical passer rotation | ୧୪୦ |
| Figure (୪୦): | Winged guide I place | ୧୪୦ |
| Figure (୪୧): | Prolene mesh in place | ୧୪୦ |
| Figure (୪୨): | Device exiting skin incision..... | ୧୪୦ |
| Figure (୪୩): | SAFYRE Sling set | ୧୦୧ |
| Figure (୪୪): | Steps of SAFYRE sling | ୧୦୧ |
| Figure (୪୫): | Components of Remeex set; varitensor | ୧୬୦ |
| Figure (୪୬): | Reveals abdominal incision | ୧୬୦ |
| Figure (୪୭): | Reveals vaginal incision | ୧୬୦ |
| Figure (୪୮): | Reveals needle passers in place. | ୧୬୦ |
| Figure (୪୯): | Cystoscopy..... | ୧୬୦ |
| Figure (୫୦): | Placement of sling and traction suture threads. | ୧୬୦ |
| Figure (୫୧): | Varitensor placement. | ୧୬୦ |
| Figure (୫୨): | Adjustment of the sling support..... | ୧୬୧ |
| Figure (୫୩): | Closure of the abdominal incision. | ୧୬୧ |
| Figure (୫୪): | Postsurgical; adjustment (a), bladder filling (b), and disconnection (c). | ୧୬୧ |
| Figure (୫୫): | Transabdominal laparoscopic retropubic suspension: accessing the space of Retzius | ୧୬୬ |
| Figure (୫୬): | Laparoscopic bladder neck suspension: placing suture in the periurethral tissue..... | ୧୬୬ |
| Figure (୫୭): | Tension free Vaginal tape steps | ୧୭୭ |
| Figure (୫୮): | Tension free Vaginal tape steps | ୧୭୭ |
| Figure (୫୯): | Tension free Vaginal tape steps | ୧୭୭ |
| Figure (୬୦): | Tension free Vaginal tape steps | ୧୭୮ |
| Figure (୬୧): | Tension free Vaginal tape steps | ୧୭୮ |
| Figure (୬୨): | Tension free Vaginal tape steps | ୧୭୮ |
| Figure (୬୩): | Tension free Vaginal tape steps | ୧୭୮ |
| Figure (୬୪): | Tension free Vaginal tape steps | ୧୭୯ |

LIST OF FIGURES (Cont...)

| Fig. No. | Title | Page No. |
|---------------------|--|----------|
| Figure (٦٥): | Tension free Vaginal tape obturator steps | ١٨٠ |
| Figure (٦٦): | Tension free Vaginal tape obturator steps | ١٨١ |
| Figure (٦٧): | Tension free Vaginal tape obturator steps | ١٨٢ |
| Figure (٦٨): | Tension free Vaginal tape obturator steps | ١٨٣ |
| Figure (٦٩): | Tension free Vaginal tape obturator steps | ١٨٤ |
| Figure (٧٠): | Tension free Vaginal tape obturator steps | ١٨٤ |
| Figure (٧١): | Tension free Vaginal tape obturator steps | ١٨٤ |
| Figure (٧٢): | Tension free Vaginal tape obturator steps | ١٨٥ |
| Figure (٧٣): | Tension free Vaginal tape obturator steps | ١٨٥ |
| Figure (٧٤): | Insertion of suburethral TVT-٠ | ١٨٦ |
| Figure (٧٥): | Comparison the patient demography in the ٣ groups..... | ١٩٣ |
| Figure (٧٦): | Description the duration of the disease of the patients in the ٣ groups. | ١٩٤ |
| Figure (٧٧): | Showing the results of stress test in all groups before surgery. | ١٩٥ |
| Figure (٧٨): | Description of the operative time in the ٣ groups..... | ١٩٦ |
| Figure (٧٩): | Description of the hospital stay in the ٣ groups. | ١٩٧ |
| Figure (٨٠): | Description of the rate of complications in the ٣ groups..... | ١٩٩ |
| Figure (٨١): | Description of the operative blood loss (in ml) in the ٣ groups..... | ٢٠٠ |
| Figure (٨٢): | Comparison of postoperative catheter duration in the ٣ groups | ٢٠١ |
| Figure (٨٣): | Comparison of the results of preoperative cystometry in the ٣ groups..... | ٢٠٢ |
| Figure (٨٤): | Comparison of the preoperative urethral pressure profile & leak point pressure in the ٣ groups | ٢٠٣ |
| Figure (٨٥): | Comparison the preoperative Uroflowmetry in the ٣ groups..... | ٢٠٤ |
| Figure (٨٦): | Comparison of the results of ٣ rd postoperative day cystometry in the ٣ groups..... | ٢٠٥ |
| Figure (٨٧): | Comparison of the ٣ rd postoperative day urethral pressure profile in the ٣ groups | ٢٠٦ |
| Figure (٨٨): | Comparison of the ٣ rd day postoperative Uroflowmetry in the ٣ groups..... | ٢٠٧ |

LIST OF FIGURES (Cont...)

| Fig. No. | Title | Page No. |
|--------------|---|----------|
| Figure (٨٩): | Comparison of the results of ٦ month postoperative cystometry in the ٣ groups..... | ٢٠٨ |
| Figure (٩٠): | Comparison of the ٦ month postoperative urethral pressure profile in the ٣ groups..... | ٢٠٩ |
| Figure (٩١): | Comparison of the ٦ month postoperative Uroflowmetry in the ٣ groups..... | ٢١٠ |
| Figure (٩٢): | Comparison between preoperative & ٣ rd day postoperative and ٦ month postoperative urodynamic parameters in group (A)..... | ٢١٢ |
| Figure (٩٣): | Comparison between preoperative & ٣ rd day postoperative and ٦ month postoperative urodynamic parameters in group (B)..... | ٢١٤ |
| Figure (٩٤): | Comparison between preoperative & ٣ rd day postoperative and ٦ month postoperative urodynamic parameters in group (C)..... | ٢١٦ |
| Figure (٩٥): | Stress test on the ٣ rd postoperative day in the ٣ groups..... | ٢١٧ |
| Figure (٩٦): | Stress test ٦ month postoperative in the ٣ groups | ٢١٨ |
| Figure (٩٧): | Cure rate on the ٣ rd postoperative day in the ٣ groups..... | ٢١٩ |
| Figure (٩٨): | Cure rate ٦ month postoperative in the ٣ groups..... | ٢٢٠ |

LIST OF ABBREVIATIONS

| | |
|---------------|---|
| AI | Anatomic Incontinence. |
| ALPP | Abdominal leak point pressure. |
| ALT | Alanine transaminase . |
| AST | Aspartate transaminase . |
| ATFP | Arcus tendineus fascia pelvis. |
| ATLA | Arcus tendineus levator Ani. |
| AUS | Artificial Urinary Sphincter . |
| CMG | Multichannel Cystometrogram. |
| DI | Detrusor instability. |
| DLPP | Detrusor leak point pressure. |
| EMG | Electromyography. |
| EUS | External Urethral Sphincter. |
| FL | Functional Length . |
| GSI | Genuine stress incontinence. |
| ICS | International Continence Society. |
| ISD | Intrinsic sphincter deficiency / dysfunction. |
| IUS | Internal Urethral Sphincter. |
| IVS | Intra Vaginal Slingo Plasty. |
| LPP | Leak point pressure. |
| M.Det. | Maximum Detrusor Activity . |
| MFR | Maximum flow rate. |
| MMK | Marshall-Marchetti-Krantz. |
| MUCP | Maximum Urethral closure pressure |
| MUT | Multichannel Urodynamic Test. |
| OAB | Over active bladder. |
| PMEs | Pelvic muscle exercises. |
| PPA | Phenyl propanolamine. |
| PST | Provocative stress testing. |

| | |
|--------------|--------------------------------------|
| PTFE | Polytetrafluoroethylene (Teflon). |
| PTR | Pressure transduction ratio. |
| PVRV | Post void residual volume. |
| RV | Residual volume. |
| SUI | Stress urinary incontinence. |
| TOT | Trans Obturator tape. |
| TVT | Tension free vaginal tape. |
| TVT-O | Tension free vaginal tape Obturator. |
| UDS | Urodynamic study. |
| UI | Urinary incontinence. |
| UPP | Urethral pressure profile. |
| UTI | Urinary tract infection. |
| VCUG | Voiding cystourethrography. |

INTRODUCTION

Stress urinary incontinence is a distressing symptom that has a major impact on the quality of life. It is defined as an involuntary loss of urine, which is a social or hygienic problem, and is objectively demonstrable in 1996 the International Continence Society (ICS) adopted the term genuine stress incontinence which was defined as “Involuntary Urethral loss of urine when the intravesical pressure exceeds the maximum urethral pressure in absence of detrusor activity” (*Abram et al., 1999*).

Many different surgical procedures have been described for the treatment of urodynamic stress incontinence and there is no general agreement as to the most effective (*Karen and Paul Hlilton, 2004*).

Until recently, colposuspension has been the most popular choice for primary surgery and appears to be the most effective treatment of stress incontinence with reported cure rates of up to 96% (*Jarvis, 1994*).

During the past decade a number of new minimally invasive surgical procedures for treatment of female stress urinary incontinence have been made available for clinical use (*Carl Gustaf Nilsson et al., 2004*).

In an attempt to reduce morbidity and improve clinical outcomes with the pubovaginal sling, the TVT sling

modifications was developed. This is indicated for the primary treatment of stress urinary incontinence, as well as for recurrent stress incontinence in patients who have failed previous anti-incontinence procedures (*Riachi et al.*, ۲۰۰۲).

The TVT procedure was first described in ۱۹۹۶, as an ambulatory procedure under local anesthesia and sedation, involving insertion of a polypropylene tape suburethrally (*Ulmsten et al.*, ۱۹۹۶).

The tension-free vaginal tape (TVT) procedure for treatment of female stress incontinence has become a widely used new minimally invasive operation probably due to the fact that it has been systematically and prospectively evaluated. Numerous reports reveal high rates of cure in primary cases of stress incontinence (*Nilsson and Kuuva*, ۲۰۰۱), in recurrent cases, in cases of mixed incontinence (*Kuuva, et al.*, ۲۰۰۲), and in cases with intrinsic sphincter deficiency (*Rezapour et al.*, ۲۰۰۱).

The wide use of retro-pubic TVT has been associated with various peri-and post operative complications including bladder perforation temporary or persistent retention, pain, urinary infection, and de novo instability (*Boustead*, ۲۰۰۲).

To avoid this complications, alternate approaches with a pre-pubic (*Daher et al.*, ۲۰۰۲) or transobturator (*Delmas*,
