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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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. ١٥ women underwent (TVT), and ١٥ women underwent (TVT-O) and, ١٥ 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 ٨٦.٧%for (TVT) & ٩٣.٣% for (TVT-O) after ٦ months follow-up. They have a short operative duration (٢٠.٢ $\pm$ ٧.٦ min.)for (TVT) & (١٦.١ $\pm$ ٥.١ 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.

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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 transmation 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 ١٩٧٦ the International Continence Society (ICS) adopted the term genuine stress incontinence which was defined as "Involuntary Uretheral loss of urine when the intravescial pressure exceeds the maximum urethral pressure in absence of detrusor activity" ***(Abram et al., ١٩٨٨).***

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, ٢٠٠٤)***.

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 ٩٦% ***(Jarvis, ١٩٩٤)***.

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., ٢٠٠٤)***.

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., ٢٠٠٢).***

The TVT procedure was first described in ١٩٩٦, as an ambulatory procedure under local anesthesia and sedation, involving insertion of a polypropylene tape suburethrally ***(Ulmsten et al., ١٩٩٦)***.

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, ٢٠٠١)***, in recurrent cases, in cases of mixed incontinence ***(Kuuva, et al., ٢٠٠٣)***, and in cases with intrinsic sphincter deficiency ***(Rezapour et al., ٢٠٠١)***.

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, ٢٠٠٢).***

To avoid this complications, alternate approaches with a pre-pubic ***(Daher et al., ٢٠٠٣)*** or transobturator ***(Delmas,***