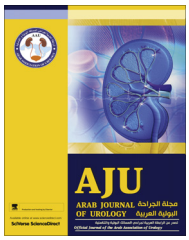
Arab Journal of Urology (2015) 13, 134–138

Arab Journal of Urology
(Official Journal of the Arab Association of Urology)

www.sciencedirect.com



VOIDING DYSFUNCTION/FEMALE UROLOGY
ORIGINAL ARTICLE

Adjustable vs. ordinary transobturator tape for female stress incontinence. Is there a difference?

Mohamed S. Elbadry [a,*], Ahmed H. Gabr [a], Alaa M. Shabaan [a], Ahmed R. Hammady [b], Tarek K. Fathelbab [a], Amr M. Abdelhamid [a], Wael Gamal Eldin [b], Mohamed Z. Eldahshoury [b], Ahmed S. Elhefnawy [c]

[a] *Urology Department, Faculty of Medicine, Minia University, Egypt*
[b] *Urology Department, Faculty of Medicine, Sohag University, Egypt*
[c] *Urology and Nephrology Center, Mansoura University, Egypt*

Received 23 January 2015, Received in revised form 10 February 2015, Accepted 13 February 2015
Available online 12 March 2015

KEYWORDS

Female;
Stress incontinence;
Transobturator;
Adjustable;
Tape

ABBREVIATIONS

TOT, transobturator tape;
TOA, adjustable TOT;
(f)(S)UI, (female) (stress) urinary incontinence;

Abstract ***Objectives:*** To determine whether there are any significant differences in complications and success rate between adjustable transobturator tape (TOA) and ordinary transobturator tape (TOT) in the treatment of female stress urinary incontinence (fSUI), as the TOA was recently introduced for the treatment of female SUI, its advantage being the ability to adjust the tape after surgery to address over- or under-correction.

Patients and methods: In all, 96 women with SUI (mean age 53 years, SD 10) were included in the study. Patients were randomised into two equal groups (group 1, TOA, vs. group 2, TOT). The operative duration, blood loss, intra- and post-operative complications, and the success rate, were compared between the groups.

Results: There was no statistically significant difference between the groups in cure rates (83% vs. 80%, groups 1 and 2, respectively) or in postoperative stay. The mean operative duration in group 2 was significantly shorter than in group 1. No intraoperative bleeding requiring a blood transfusion was recorded, and there were no bladder injuries. Postoperative adjustment of the tape was only required in three patients in group 1.

* Corresponding author at: Urology Department, Faculty of Medicine, Minia University, Minia, Egypt.
E-mail address: mohelbadry6@yahoo.com (M.S. Elbadry).

Peer review under responsibility of Arab Association of Urology.

Production and hosting by Elsevier

http://dx.doi.org/10.1016/j.aju.2015.02.006

PVR, postvoid residual urine volume; Q_{max}, maximum urinary flow rate; ALPP, abdominal leak-point pressure

Conclusions: The TOA is a safe and accurate method for treating fSUI, but with experienced surgeons there was no difference in the cure rate and postoperative outcome between TOA and TOT.

Introduction

Urinary incontinence (UI) is one of the major health problems in women. Stress UI (SUI) is the most common form of this disease and is most commonly treated surgically, aiming to render patients completely continent with no significant morbidity.

The tension-free vaginal tape was introduced by Ulmsten et al. [1] in 1996 and gained widespread popularity, but its potential complications are still a major concern. Since then there have been significant advances in the treatment of female SUI (fSUI), especially in the routes and techniques for using mid-urethral tension-free synthetic slings. More recently, the transobturator tape (TOT) technique and the single-incision mini-sling have minimised the risks when placing a sling [2].

Recent reports noted the excellent long-term effectiveness of the TOT procedure, with published surgical results of this method showing a high success rate of 80–95% [3]. The common cause for the failure of a mid-urethral sling is inaccurate placement of the sub-urethral tape or inadequate tension that is exerted on the tape [4].

In 2007, the adjustable TOT (TOA) was reported as a recent modification of the mid-urethral sling system that allows postoperative re-adjustment of the degree of tension applied during surgery [5]. As recommended by Lee et al. [6], the TOA is readjusted at 1 day after surgery, guided by the standing stress test. If urine leakage is evident, the tape is tightened by traction on one of the inguinal threads. This procedure is repeated until there is no further leakage. If there is a postvoid residual urine volume (PVR) of >100 mL or a maximum urinary flow rate (Q_{max}) of <10 mL/s, the tape is loosened by traction on one of the vaginal threads, followed by a stress test, uroflowmetry and measurement of PVR. However, when the patient is continent in all situations, with a Q_{max} of >10 mL/s, and an insignificant PVR, the threads are cut and removed. The adjustments are made under local anaesthesia [3].

The aim of the present study was to determine if there are any significant differences in the complications and success rate between the TOA and ordinary TOT in the treatment of fSUI.

Patients and methods

After receiving approval from the institutional ethics committee, the study was conducted on 96 women who presented with SUI in the urology outpatient clinic of El-Minia University Hospital, Egypt, between February 2012 and February 2013. The primary goal of the study was to compare the TOA and TOT in the management of fSUI, with the secondary goal of assessing the safety and efficacy of the TOA.

The study included women with pure SUI, but previous surgery or attempts at repair did not exclude patients from the study. All patients were categorised according to the Raz classification [7] as having urethral hypermobility. Patients were excluded if they had urge or mixed UI, had any abnormality in the contractility of the bladder, a small bladder capacity (<300 mL) or a low bladder compliance, had any neurological pathology affecting the bladder, a history of radio- or chemotherapy, antipsychotic treatment, urogenital prolapse of $>$grade I (according to the Baden and Walker classification [8]), any serious medical condition that might affect the postoperative course (bronchial asthma, diabetes mellitus, etc.) and those on anticoagulation therapy or who had active perineal or urethral lesions.

The preoperative evaluation included a detailed medical history with a special emphasis on LUTS, and a physical examination, including a general and focused neurological examination, and detailed pelvic examination. The vagina was examined with the bladder both empty (to check the pelvic organs) and comfortably full (to check for incontinence and prolapse), with the patient in the lithotomy position and repeated with the patient standing. Each patient was investigated by mid-stream urine analysis, culture and sensitivity. Positive urine cultures were treated with culture-specific antibiotics before any intervention.

Abdomino-pelvic ultrasonography was used in all patients to evaluate the kidneys and bladder, and to exclude the presence of a significant PVR. All patients had a urodynamic evaluation, using the Delphis KT system (Labories Medical Technologies, Germany), with uroflowmetry and a pressure-flow study, and a measurement of the abdominal leak-point pressure (ALPP).

Using the Raz classification [7], SUI was categorised as either anatomical, due to malposition of an intact sphincteric unit, or as intrinsic sphincter deficiency due to malfunction of the sphincter, with or without hypermobility. SUI was also graded according to the Stamey grading system [9] into grades I–III, where grade