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ORIGINAL ARTICLE

The first Iraqi experience with the rectus fascia sling and transobturator tape for female stress incontinence: A randomised trial

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KEYWORDS

Urinary incontinence;
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ABBREVIATIONS

SUI, stress urinary incontinence;
MUI, mixed urinary incontinence;
RFS, rectus fascia sling;
TOT, transobturator tape;
PVR, post voiding residual volume;
US, ultrasonography

Abstract ***Objectives:*** To present the first experience in Iraq of autologous rectus fascia sling (RFS) procedures and transobturator tape (TOT) for treating female stress urinary incontinence (SUI), and to review the validity of the RFS in the era of synthetic tapes.

Patients and methods: From December 2004 to July 2012, 80 female patients with SUI were enrolled in the study, and randomly assigned into two types of surgery, with 40 treated by RFS (retropubic route) and 40 by TOT. The surgical results were compared between the groups and with those from previous studies.

Results: The mean operative duration was 80 min for RFS vs. 20 min for TOT. The early cure rate was 98% for RFS (with one failure due to prolonged urinary retention) and 95% for TOT (with two failures due to persistent incontinence). The early complications were mainly abdominal wound problems (20%) for RFS, and groin and upper thigh pain (13%) for TOT. The late complications were the development of postvoid residual urine (8% in RFS vs. 5% in TOT) and de novo detrusor overactivity (5% in each group). There were no vaginal or urethral erosions up to the end of the study.

Conclusions: RFS and TOT have comparable efficacy and safety in treating SUI. Nevertheless RFS, with its more invasive nature and long operative duration, should only be used when synthetic tapes are not available or not preferable.

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Introduction

Stress urinary incontinence (SUI) is an important social and health problem with a significant effect on the quality of life [1,2]. Among the various treatment options, the suburethral sling procedure has become the mainstay of surgical treatment for SUI [3]. Over the last few decades there have been several significant modifications of the sling procedure, among them is the use of different sling materials (natural & synthetic) [2,4]. Until the 1990s autologous fascial slings (rectus fascia sling, RFS, and fascia lata) were the standard options in the treatment of SUI [5]. In 1995, a sling of synthetic material was introduced to the urogynaecological field, termed the tension-free vaginal tape [6]. A few years later another procedure was also introduced, using a synthetic tape, the transobturator tape (TOT) [7]. Both have rapidly gained acceptance. The best material for a sling procedure remains controversial, because each type has its advantages and disadvantages.

In Iraq, most female patients with SUI are managed by gynaecologists. Because of the lack of a urogynaecology subspecialty in Iraq, our gynaecologists generally offer anterior colporrhaphy as the only solution available for patients with SUI and concomitant cystocele.

The present study was conducted to describe the first Iraqi experience with autologous RFS procedures and a synthetic tape procedure (TOT), as a treatment for female SUI, and to review the validity of RFS in the era of synthetic tapes.

Patients and methods

From December 2004 to July 2012 all female patients with UI who consulted the urology clinic at Al-Yarmouk teaching hospital in Baghdad were evaluated. The assessment of these patients included a careful history taking, checking the voiding diary, and a physical examination which included a general examination, a stress test in two positions (lithotomy and standing), an examination and grading of cystocele according to Swift classification [8], and a brief neurological examination.

The severity of UI was assessed according to the history, the number of pads used per day (a uniform type of pad) and the amount of leakage at the stress test (mild degree, 0–1 pad/day, a few drops of urine leaked on stress; moderate degree, $\leqslant 3$ pads/day, a small gush of urine leaked on stress; severe degree, > 3 pads/day, large loss of urine leaked on stress). Basic laboratory investigations and abdominal ultrasonography (US) were also routinely performed.

Some patients had a urodynamic evaluation when the history was inconclusive or indicated mixed UI (MUI) (SUI and urge UI). Cystoscopy was performed at the time of surgery, to exclude other pathologies in the bladder or urethra before definitive surgery, and to check for any injury in the bladder after inserting the slings.

The inclusion criteria were SUI, whether in a pure form or a major component of MUI, and body mass index of $< 30\ kg/m^2$. The exclusion criteria were a mild degree of UI, a concomitant cystocele of $>$ grade 1, active vaginal infection or UTI, neurogenic voiding dysfunction, a significant postvoid residual urine volume (PVR), other bladder or urethral pathologies and fistulae.

After evaluating >400 female patients with UI during the period of study, 80 with the main complaint of SUI fulfilled the inclusion criteria and were assigned randomly. After counselling, they were fully informed of their problem, the surgical treatment needed, the expected results and any possible complications of surgery. An informed consent was obtained from all of them and they were randomly assigned to the two types of surgery. Forty patients were treated by autologous RFS and 40 were treated by the TOT technique, using the synthetic polypropylene tape. Patients were randomised using a random-number table. Both types of surgery were performed by the same surgeon and with the patients under general anaesthesia.

Operative techniques

RFS was performed via a combined abdominal-vaginal approach, with a 12×2 cm segment of rectus fascia harvested, de-fatted and soaked in gentamycin solution before use. Two 0-nylon threads were sutured at both ends of the harvested fascial sling. After positioning the sling via a retropubic approach, the mid part of the fascial sling was fixed to the underlying periurethral fascia using 4-0 polyglactin sutures, and the two nylon threads, after passing retropubically and piercing the suprapubic part of the rectus muscle and fascia (5 cm apart), were tied together in a tension-free manner.

For TOT, a technique similar to that proposed by DeLorme was adopted [7]. In both procedures, an 18-F Foley catheter was introduced urethrally and maintained for 2–4 days, according to the circumstances of surgery (generally it was 1 day longer in the RFS group). A vaginal pack, soaked with povidone iodine, was inserted at the end of surgery and held for 1 day for sterilisation and to avoid haematoma formation.

The surgical results assessed in the two groups were the operative duration, perioperative blood loss, duration of urethral catheterisation, hospital stay, intraoperative visceral injury and cost. Blood loss was estimated by measuring blood in the aspirate container plus the difference in pack weight before and after usage.

The follow-up visits were scheduled at 1 week, 1 month, 3 months, 6 months and yearly thereafter. The primary outcome was the cure of SUI, as shown