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Research Article

# One-Year Evaluation of Female Sexual Function after Mini Sling Operation in Cases of Stress Urinary Incontinence

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**Abstract**

**Background:** Stress Urinary Incontinence (SUI) is the most common form of urinary incontinence in women and is associated with high financial, social, and emotional costs. Urinary incontinence has a negative impact on quality of life; social, physiological, physical, and Sexual dysfunction is a common condition in women with pelvic floor disorders.

**Aim:** This study aimed to evaluate female sexual function after surgical repair of urinary stress incontinence using minisling technique.

The study was carried out at Suez Canal university hospital, Ismailia, on 35 female patients who had SUI.

Patients were evaluated immediately after one-year post-operative with a detailed 19-item questionnaire, the Female Sexual Function Index (FSFI).

**Results:** The midurethral sling procedure had little or no effect on female sexual function as evaluated by the FSFI.

**Keywords:** FSFI; SUI; Mini Sling

## Introduction

The International Continence Society (ICS) has described urinary incontinence as any involuntary leakage of urine [1]. Stress Urinary Incontinence (SUI) was defined in the joint statement by the International Urogynecological Association/ International Continence Society in 2010 as the "involuntary loss of urine on effort, physical exertion, or on sneezing or coughing" [2]. The prevalence of SUI among females is reported to range between 29% and 75% depending on age [3].

Although stress urinary incontinence is not a life-threatening condition, physical, social and psychological well-being of affected women can be seriously affected. SUI has negative impact on all domains of sexual function. Therefore, it is reasonable to presume that an intervention leading to the cure of incontinence will improve sexual function [4].

Mid-urethral sling procedures, are the most commonly used procedures in the surgical treatment of stress urinary incontinence in women, and they are actually preferred over traditional procedures such as Burch colposuspension [5,6].

Although sexuality is influenced by different factors, complications of Midurethral Sling (MUS) surgery (eg, tape exposure or pain) can adversely affect sexual function [4].

The aim of the current study was to evaluate sexual function following surgical treatment of stress urinary incontinence by mid urethral sling operation immediately and one year after surgery.

## Patients and Methods

After approval of ethics committee of Faculty of Medicine, Suez Canal University, the present prospective follow up cross sectional study was conducted among a total of 35 female patients with stress urinary incontinence scheduled for mid-urethral sling surgery in Obstetrics and Gynecology department of Suez Canal University Hospitals. Patients aged 20-to 60-year-old sexually active women with isolated SUI and healthy vagina were included into the study. Females with any precipitating factors (as chronic cough, abdominal mass, or pelvic mass) or previous history of repair of SUI were excluded from the study.

All patients were subjected to full history taking and examination, cystometry and uroflometry. Mid-urethral sling operation technique: Patients were prepared using standard surgical practice. Emptying the bladder was ensured before the procedure. The anterior vaginal wall was incised at the level of the mid-urethra approximately 1.0 to 1.5cm in length. The interior portion of the inferior pubic ramus was dissected bilaterally at a 45° angle off the midline creating a pathway for delivery device placement. The mesh was placed assembly onto the delivery device by placing the delivery device tip into the mesh carrier. The delivery device was inserted into the dissection pathway with placement of the carrier at a 45° angle of the midline. The delivery device was advanced towards the obturator foramen just lateral to the inferior pubic ramus until the midline mark on the delivery device is approximately at the midline position under the urethra. The carrier was then deposited by gripping with one hand and pulling the delivery device handle back with the other hand. This action deposited the carrier into the surrounding obturatorinternus muscle tissue releasing it from the delivery device. This action was repeated on the contra lateral side. Then vaginal incision was closed [7].

Sexual function was prospectively evaluated with a detailed




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**Table 1:** Baseline patient characteristics.

| Characteristics | | Number | Percentage |
|---|---|---|---|
| **Age** | Mean ± SD | 48.6 ± 10.9 | |
| **BMI** | Mean ± SD | 27.9 ± 2.8 | |
| **Parity** | NP | 6 | 17.10% |
| | P1-2 | 19 | 54.30% |
| | P3-4 | 10 | 28.60% |
| **Previous CS** | | 12 | 34.30% |
| **Menopause** | | 17 | 48.60% |
| **Previous pelvic, gynecological surgery** | | 4 | 11.40% |
| **Chronic medical illness** | | 7 | 20% |

19-item questionnaire, the Female Sexual Function Index (FSFI), including sexual desire (score range 2-10), arousal (score range 0-20), lubrication (score range 0-20), orgasm (score range 0-15), satisfaction (score range 2-15), and pain during sexual intercourse (score range 0-15), as described by Rosen et al. [8]. Arabic validated version of FSFI was used in current study [9]. Sexual function was evaluated preoperative, immediately postoperative and after 1 year. Thirty five women started the study and only 29 women completed the 1 year follow up.

Main outcome measures are changes of FSFI domains and total score postoperatively (immediately and after 1 year).

### Statistical analysis

Gathered information was processed using SPSS version 25 (SPSS Inc., Chiago, IL, USA). Quantitative data was expressed as means ± SD while qualitative data was expressed as number and percentages (%). Paired t test was used to test significance of difference for quantitative variables and chi square was used to test significance of difference for qualitative variables. A probability value (p-value) <0.05 was considered statistically significant.

## Results

Mean age of studied female patients was estimated to be 48.6 years old with mean BMI 27.9Kg/m$^2$. Previous CS was reported among 34.3% of studied patients. About half of the studied patients were menopause (48.6%). 11.4% of the women have been subjected to previous pelvic or gynecological surgery (Table 1).

Comparing pre and postoperative FSFI showed that there was no statistically significant change postoperatively whether immediately or after 1 year (Table 2). It was estimated that 12/35 patients (34.3%) had sexual dysfunction with FSFI ≤ 26.55 preoperatively and 11/29 patients (37.9%) 1 year postoperatively with no statistically significant difference.

## Discussion

Previous studies have shown that sexual dysfunction was more prevalent in women with urinary incontinence or lower urinary tract symptoms than in a general, healthy female population not complaining of urinary symptoms [10-15].

The effects of surgical treatment for SUI on sexual function are variable [16]. Improvements in sexual function following vaginal surgery are mostly due to the cessation of incontinence during intercourse, whereas worsening sexual function is believed to be caused by dyspareunia following perineorrhaphy [17]. There are few randomized studies in the literature that have analyzed the impact of SUI surgery on female sexual function. The overall evidence is not sufficiently high for a comparison among all surgical types [18].

Lemack and Zimmern reported that sexually active women did not appear to be affected by a vaginal suspension procedure for urinary incontinence [19]. Shah et al. Prospectively evaluated the impact of a distal urethral polypropylene sling on sexual function, and reported neither a negative effect nor significant improvement in sexual function aspects compared with the preoperative baseline values after placement of polypropylene mesh [20].

Jang et al., [17] have consistently showed that total scores of the FSFI were not significantly different preoperatively and 36 months postoperatively.

Inconsistently, Kim et al., [21] identified improvement in sexual function among their patients and stated that the solution of incontinence was strongly associated with improvement in sexual activity.

Other possible sources for postoperative sexual dysfunction must be considered. There is constant concern regarding the possibility of interfering with vaginal sensitivity resulting from the fact that the principal site of innervation is the location for incision in midurethral sling procedures. Psychological changes due to fear of dyspareunia, altered sensation, diminished lubrication, and orgasmic dysfunction have been suggested as potential contributors to postoperative sexual

**Table 2:** Pre and postoperative FSFI among studied patients.

| FSFI | Preoperative (n=35) | Immediately Postoperative (n=35) | 1 year postoperatively (n=29) | p-value |
|---|---|---|---|---|
| **Desire** | 4.3 ± 1.4 | 4.8 ± 1.9 | 3.9 ± 1.8 | 0.1 (NS) |
| **Arousal** | 5.5 ± 2.6 | 5.3 ± 2.1 | 5.1 ± 2.7 | 0.8 (NS) |
| **Lubrication** | 3.9 ± 1.3 | 3.2 ± 1.8 | 3.5 ± 1.6 | 0.2 (NS) |
| **Orgasm** | 3.4 ± 1.2 | 4.1 ± 1.9 | 3.9 ± 1.4 | 0.2 (NS) |
| **Satisfaction** | 5.9 ± 2.7 | 5.3 ± 2.2 | 4.6 ± 2.5 | 0.1 (NS) |
| **Pain** | 3.8 ± 1.3 | 3.4 ± 1.9 | 3.2 ± 1.7 | 0.3 (NS) |
| **Total score** | 25.4 ± 3.9 | 26.1 ± 4.1 | 24.8 ± 3.5 | 0.4 (NS) |
| **Patients with sexual dysfunction (FSFI ≤ 26.55)** | 12 (34.3%) | 12 (34.3%) | 11 (37.9%) | 0.8 (NS) |

NS: no statistically significant difference.

dysfunction [22].

## Conclusion and Recommendations

It can be clearly stated that the midurethral sling procedure had little or no effect on female sexual function as evaluated by the FSFI. The midurethral sling procedure for urinary incontinence does not appear to positively or negatively affect overall sexual function. Women undergoing treatment of SUI with midurethral sling procedures should be informed not to expect neither a deleterious effect nor a significant improvement regarding their sexual function after midurethral sling procedures.

## Limitation of the Study

The main limitation of the study is small sample size. Another limitation is that there is no control population and the midurethral sling procedure wasn't compared with another surgical technique (non-randomized study).

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