

EFFECT OF MID URETHRAL SLING (TVT) SURGERY ON FEMALE SEXUAL FUNCTIONO. Ramesh¹, B. Shobha Rani², G. Ravi Prabhu³**HOW TO CITE THIS ARTICLE:**

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ABSTRACT: INTRODUCTION: Mid Urethral Slings is the main stay of therapy in the management of stress urinary incontinence in the female, we evaluated the effect of TVT on sexual function in women who are from the rural backward districts of Rayalaseema districts of Andhra Pradesh. **MATERIALS & METHODS:** 30 Women with a mean age of 44 yrs with SUI were evaluated before TVT procedure and then every 3months for 1yr for sexual health using NSF-9 questionnaire. **RESULTS:** The sexual function in all the domains including desire, frequency arousal, orgasm remained the same as before surgery in more than 80% pts. The satisfaction rate was better in pts who were leaking during sex before surgery in six out of ten patients. **CONCLUSIONS:** TVT surgery does not have any significant impact on sexual function Sexual function is not an important issue for the female beyond the age of 40 yrs in the perimenopause/ post menopause period.

KEYWORDS: Stress urinary incontinence, TVT, Mid urethral sling, Sexual function.

INTRODUCTION: Urinary incontinence is defined as the condition in which involuntary loss of urine is a hygienic or social problem. 10-25% woman in the age group of 15-64yrs report urinary incontinence [1,2,3,4]

It has a negative impact on the quality of life especially in the domains of social, physiological, physical and sexual wellbeing.[4,5,6]. Stress incontinence is defined as loss of urine associated with increases in abdominal pressure. Symptoms include loss of urine with cough, laugh, sneeze, running, walking and sexual intercourse. Coital incontinence is leakage of urine during sexual inter course.

The sexual health is affected in patients with stress urinary incontinence, but this aspect is least expressed by the Indian patients. It has been observed in various studies that incontinence has a great impact on all domains of sexual function including sexual interest, comfort during sexual act and orgasm. The Tension free vaginal tape (TVT) was introduced in 1996 and has revolutionized the surgical treatment of female SUI due to its simplicity, efficacy and minimal invasiveness. Since its introduction numerous reports confirmed its efficacy with an objective cure rate of 80% and subjective cure rate of 92%.

MATERIALS AND METHODS: In this ethical committee approved prospective observational study, all the patients who underwent the TVT procedure for SUI at our institution were included. Patients with documented SUI symptoms of grade II and grade III as per the stamey incontinence scale were selected after demonstrating SUI by the cough stress test. Grades on the stamey scale were defined as follows:

ORIGINAL ARTICLE

Stamey scale on stress incontinence:

- 0 = Dry.
- 1 = Urine leakage with vigorous activity.
- 2 = Urine leakage with minor activities.
- 3 = Urine leakage all the time regardless of the activity or position.

Urine culture was obtained in all the patients pre-operatively and any infection was treated.

Patients with mixed incontinence with predominant urge urinary incontinence (UUI), history of previous pelvic floor surgery, prolapsed of uterus and uncontrolled urinary tract infections were excluded. Patients with significant co-morbid illness like chronic obstructive pulmonary disease and coronary artery disease, who were not leading an active sexual life, were excluded from the study.

Female sexual function was assessed in the following domains: Sexual desire, Arousal, Lubrication, Orgasm, Satisfaction and pain. Sexual function was assessed using nine questions regarding sexual function in females (NSF-9) questionnaire which was constructed by Vroege^[7] in Dutch language and later described in the English literature by the Francken et al.^[8] Patients were assessed regarding urine leakage during the sexual act as well.

The NSF-9 is a standardized questionnaire that contains questions on sexual desire, frequency of sexual activity, lubrication, orgasm, pain during or after sexual activity and sexual satisfaction. We have added one question on urinary leakage during sexual activity. This questionnaire was originally developed to measuring the influence of medication on sexual functioning; however, it has also been used in treatment modalities like percutaneous tibial nerve stimulation. The severity of symptoms is quantified using a five-point Likert scale. There is no sum score and only individual scores on each question are used.

All the surgeries were performed under Spinal anesthesia using polypropylene TVT tape by the urologist. TVT technique was used. Intraoperative cystoscopy was performed in all patients. Patients were discharged after three days. At the follow-up visits, the following were assessed

1. Sexual function was assessed based on the NSF-9 questionnaire at the 3rd, 6th and 12th months then yearly.
2. SUI on the cough stress test.

The scoring in each domain of sexual function was analyzed with the corresponding post-operative score. Statistical analysis was performed using SPSS version 16.0. Non-parametric tests and the Wilcoxon signed rank test were applied because the data were not normally distributed.

RESULTS: Forty patients who underwent TVT from April 2010 to April 2015 were considered. Five patients without a spouse were excluded and five pts did not respond to the questionnaire. Hence Only 30 patients formed the study group. The age of the pts ranged from 26 to 56 years with a mean age of 44 years. Parity ranged from two (2) to six (6). Ten patients are postmenopausal and five patients are hysterectomized 5-10 years before surgery.

Before surgery all the patients had at least 1 episode of SUI every day. The leakage during sexual act was observed in 10 out of 30 patients (33%). Six patients had no sex for 4 years before surgery due to lack of desire and no change was seen in them after surgery. The desire became less after surgery in 4 out of 30 patients. The frequency of sex had not changed in

ORIGINAL ARTICLE

26 out of 30 (80%) The frequency had come down in 4 out 30 patients. The arousal and orgasm were not experienced by majority of patients before surgery and it remained the same after surgery

Painful intercourse was experienced by 4 out of 30(14%) patients after surgery. Sexual satisfaction was better after surgery in patients who experienced leak in 6 out of 10 than the ones without leak during sex before surgery.

| | Desire | Frequency | Arousal | Orgasm | Pain | Satisfaction |
|--------------|---------------|------------------|----------------|---------------|-------------|---------------------|
| Neutral | 24(80%) | 26(87%) | 25(83%) | 27(90%) | 26(86%) | 20(66%) |
| Deteriorated | 06(20%) | 04(13%) | 05(17%) | 02(7%) | 04(14%) | 04(14%) |
| Improved | 00 | 00 | 00 | 01(3%) | 00 | 06(20%) |
| Z value | -1.09 | -1.09 | -1.51 | -0.73 | -1.20 | -1.09 |
| P value | 0.07; NS | 0.27; NS | 0.13; NS | 0.46; NS | 0.23; NS | 0.07; NS |

Table 1: Various elements of sexual function after TVT surgery in patients

DISCUSSION: The pathophysiology of stress incontinence was based mainly on Einhorn theory until 1980s.^[9]

The 1980 saw a change in approach inspired by Delancy Hammock theory.^[10] The TVT technique stems from a careful analysis of the physiology of female urinary continence and of the mechanisms possibly causing stress incontinence. The TVT sling introduced by Ulmstein in 1996 has gained popularity over the last decade.^[11,12] TVT tapes have revolutionized the treatment of female SUI. The subjective and objective cure rate is more than 80%.

The sexual satisfaction is a difficult parameter to study especially in our conservative society. Elzevier et al^[13] reported that incontinence surgery can have a positive and negative outcome on sexual function. In the study by Demirkesen,^[14] it was shown that sexual satisfaction was more adversely affected with mid urethral sling surgery than Burch Colpo suspension. In the study by Yeni et al^[15] both SUI and the TVT procedure negatively affected sexual function in women. Similar or slightly better results were noted in the studies of Raziye Narine^[16] (0% improvement of libido and deterioration of 15%) and Sentilhes et al^[17] (31% improvement and 10% deterioration of sexual function). In a systematic review and meta-analysis of 18 studies analyzing 1578 women about the impact of incontinence surgeries on sexual function, Jha et al^[18] reported that in just over half of all women, there was no change of overall sexual symptoms after surgery (55.5%). The same analysis also showed that for mid urethral tapes alone, there was no significant improvement of sexual function. Similar to this, our study showed a no significant negative impact on sexual function.

Bekker et al^[19] showed that women with coital incontinence had a higher improvement in sexual satisfaction after surgery compared with women without coital incontinence, and Berthier et al^[20] reported that women with coital incontinence were more likely to report improvement of their sexual function after the TVT procedure. This was similar to our study. Seung-June Oh^[6] et al reported that coital incontinence and pain during intercourse were a major symptom in patients with SUI. Ahtari et al^[21] reported that reducing UI improved overall sexual function by increasing

ORIGINAL ARTICLE

body image and self-esteem. In the study by Fredric Paul there was significant improvement in all domains of sexual function and the level of improvement is to the extent of 60-70% with regard to frequency, arousal, orgasm and pain. The mean age of patients was 42 yrs which was cited as one of the reasons for the better sexual life.^[22]

In our study about 1/3 of the patients reached menopause either in the natural course or having undergone hysterectomy. Though the mean age of our patients is 44 the sexual desire appears to have been decreased because of their rural background, socio economic problems and family issues. TVT surgery does not have any negative impact in those who are otherwise active in sexual life before surgery.

CONCLUSION: The concept of the mid urethral sling has revolutionized surgical treatment of SUI. Its minimally invasive approach and success rates have led to an increasing acceptance of the technique. The TVT procedure has no significant negative impact on sexual function.

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ORIGINAL ARTICLE

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AUTHORS:

1. O. Ramesh
2. B. Shobha Rani
3. G. Ravi Prabhu

PARTICULARS OF CONTRIBUTORS:

1. Associate Professor, I/C Professor, Department of Urology, SV Medical College, Tirupati.
2. Associate Professor, Department of Surgery, SV Medical College, Tirupati.
3. Professor & HOD, Department of Community Medicine, ACSR Government Medical College, Nellore.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. G. Ravi Prabhu,
Professor & HOD,
Department of Community Medicine,
ACSR Government Medical College,
Nellore-524001.
E-mail: raviprabhu1610@gmail.com

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