

# Our experience of sling operative correction of stress incontinent in women of Uzbekistan

## Summary

Stress urinary incontinence (SUI) occurs in 38-45% of women and with increasing age reaches 60%. In recent years, synthetic materials have been used for surgical correction.

**Purpose:** Is to conduct a comparative evaluation of the effectiveness of urethropexy with prolene tape with anterior and posterior colpoperineolevatoroplasty in the correction of stress urinary incontinence.

**Materials and methods:** The results of plastic surgery with a free synthetic loop made of Prolene - TVT-O for stress urinary incontinence in 54 patients are presented. The comparison group consisted of 30 patients who underwent typical front and rear colpoperineorrhaphy.

**Results:** Normal urination function was restored 1 day after surgery. Blood loss, the course of the postoperative period, and the length of hospital stay were almost identical in both groups. There were no complications for 5 years (100%) in the main group.

**Conclusion:** Sling surgical correction is an effective and reliable method of treating stress incontinence in women.

**Keywords:** stress urinary incontinence, women, sling surgical correction

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## Introduction

Stress urinary incontinence in women is one of the most common and difficult problems in modern urology and gynecology. According to European and American scientists, about 38%-45% of the female population aged 35-60 years report symptoms of involuntary urine discharge.<sup>1-5</sup> SUI in Uzbek women occurs in 30% of women.<sup>6</sup>

There are more than 200 ways to correct urinary incontinence. The incidence of complications and relapses after surgical treatment ranges from 6% to 51%. Recently began to use a sling interference with the use of synthetic materials. The main advantages of these operations are their low invasiveness and atraumatic.<sup>7-12</sup> Pelvic organ prolapse (POP) and urinary incontinence stress (SUI) in women - occur in 50-75% of women after childbirth, the disease is of a combined nature - in 70-80% of stage III-IV cystocele cases it is combined with urinary incontinence stress.<sup>13</sup> In the review of,<sup>4</sup> there are indications that prolapse of the genitalia organs usually coexist with SUI in 20%. In every second woman over 45 years of age, involuntary urine release is observed in combination with genital prolapse.<sup>7</sup> Pelvic prolapse and stress incontinence reduce the quality of life of patients by 64%.<sup>14</sup>

The purpose of this study is to compare the effectiveness of urethropexy with prolene tape with anterior and posterior colpoperineolevatoroplasty in the correction of stress urinary incontinence.

## Materials and research methods

The results of plastic surgery with a free synthetic loop made of Prolene - TVT-O (Tension-free Vaginal Tape) for stress urinary incontinence over the past 5 years in the gynecological department of the Republican perinatal center in 54 patients are presented. The average age of patients was 49.5 years. These were mainly residents of the city-79,% and the rest-housewives-57.4%, who had 3 births and more-59.3%. All patients were examined, which included: collecting a history, filling out a diary of urination for 7 days, gynecological

examination in mirrors - checking the symptom of a cough push, diagnosis of prolapse of the genitals, ultrasound of the kidneys and bladder (elimination of organic pathology, volume of residual urine), small pelvic ultrasound by vaginal sensor at rest and when strained, general blood test, biochemical blood test, coagulogram, general urine analysis, urine sowing with microbial number, bacteriological examination of cervical mucus, bacterioscopic, bacteriological methods for assessing the condition of vaginal microflora. RW, HIV/AIDS, hepatitis B, C. ECG, echocardiogram, lower extremity vein dopplerometry, and therapist consultation were performed. In all patients there was a lowering of the anterior and posterior walls of the vagina of 2-3 degrees, failure of the pelvic floor muscles, and stress incontinence of the urine. A typical operation of anterior and posterior colperineoleuroplasty and TVT-O were performed. The operation was based on the TVT-O technician in the modification of J. De Laval.<sup>15</sup> The operation was performed using specially designed tools and a device with two needles connected to a 45cm-long and 1.1cm-wide Prolene tape enclosed in a plastic case. By conducting needles paraurethral, paravesical through the pelvic diaphragm and the fascia of the rectus abdominis muscle out through the skin above the womb, and cut off the tape recorded in the area of the mid urethra with no tension. The operation was performed under cerebrospinal anesthesia. The comparison group consisted of 30 patients who underwent typical front and rear colpoperineorrhaphy. It's about age, place of residence, the social situation and parity of births did not reliably differ from the main group.

## Results

It was established that the average age of patients with stress incontinence was 49 years (from 34 to 80years). Most women with SUI were aged 40-49 years (53,7%), 50-59 years - 20,4% and at the age of 60-80years-18,5% (Table 1). 16 (29,6%) patients were postmenopausal. Dispensary observation averaged 7 years (2 years - 15years). Residents of the city dominated -43 (79,6%), 11(20,4%) women were from the village (Table 1). Professional

employment: employees were 33,3% (18), pensioners–9,3% (5), the rest - housewives 57,4% (31) (Table 1). Births through natural birth pathways were in all women (100%). The number of births in the history (Table 1): 2-in 35,2% (19) women, 1 birth-in 5,6% (3) women, 3 births or more–59,3% (32) women. 11 (20,4%) women had a history of gynecological surgery (Table 2): hysterectomy–5,6% (3), salpingectomy–5,6% (3), vaginal plastics–3,7% (2), cervical pathology–5,6% (3). During the investigation, the following somatic diseases were most often identified (Table 2): lower extremity varicose disease –77,8% (42), hypertensive disease–22,2% (12), heart disease–14,8% (8), gastrointestinal tract disease-13% (7), obesity 2-3 degree-y 14,8% (8). 40 (74,1%) women, the occurrence of urinary incontinence was associated with traumatic, complicated labor ruptures, childbirth with a large fetus 14 (25,9% ), 11 (20,4%) women with gynaecological operations, 12 (22,2%) -with the onset

of menopause, 5 (9,3%) - with severe physical exertion. During the operation, no complications were noted. The total duration of the operation was 1,8hours, of which TVT-O operations ranged from 20 to 25 minutes. Blood loss (75-100ml), the course of the postoperative period, and the length of hospital stay (3,1 day) were almost identical in both groups. In all patients, the Foley catheters was removed 10 hours after surgery. In 52 patients (96,3%), after removal of the catheters, self-urination was restored. In 2 cases (3,7%) there was a delay in urination of 2 days. At ultrasound, residual urine volume after surgery was not detected in all patients. The patients felt comfortable after the sling operation, their ability to work was restored, and their quality of life improved. No complications or relapses were observed for 5 years (100%). In the comparison group after vaginal plastic, SUI simtomas occurred after 2 years in 3 and after 3 years in 2 patients, which was 16.7%.

**Table 1** Some social indicators operated women with SUI

| Indicators                     | Main group, n=54           |           | Comparison group, n=30 |          |
|--------------------------------|----------------------------|-----------|------------------------|----------|
|                                | Plastika of a vagina+TVT-O |           | Plastika of a vagina   |          |
| Age, years                     | abs                        | %         | abs                    | %        |
| 30-39                          | 4                          | 7,4±3,5   | 2                      | 6,7±4,6  |
| 40-49                          | 29                         | 53,7±6,8  | 14                     | 46,7±9,1 |
| 50-59                          | 11                         | 20,4±12,1 | 7                      | 23,3±7,7 |
| 60 and older                   | 10                         | 18,5±5,3  | 7                      | 23,3±7,7 |
| <b>Place of residence</b>      |                            |           |                        |          |
| the city                       | 43                         | 70,6±6,2  | 23                     | 76,7±7,7 |
| the village                    | 11                         | 20,4±12,1 | 7                      | 23,3±7,7 |
| <b>Professional employment</b> |                            |           |                        |          |
| the rest - housewives          | 31                         | 57,4±6,7  | 14                     | 46,7±9,1 |
| employees                      | 18                         | 33,3±6,4  | 11                     | 36,7±8,8 |
| pensioners                     | 5                          | 9,3±3,9   | 5                      | 16,7±6,9 |
| <b>The number of births</b>    |                            |           |                        |          |
| 1                              | 3                          | 5,6±3,2   | 1                      | 3,3±3,1  |
| 2                              | 19                         | 35,2±6,5  | 9                      | 30,0±8,3 |
| 3-10                           | 32                         | 59,3±6,7  | 20                     | 66,7±8,6 |

**Note:** the difference in these groups is unreliable- $p>0,05$

**Table 2** Somatic pathology and gynecological surgery in women with SUI

| Diseases                         | Main group, n=54           |          | Comparison group, n=30 |          |
|----------------------------------|----------------------------|----------|------------------------|----------|
|                                  | Plastika of a vagina+TVT-O |          | Plastika of a vagina   |          |
|                                  | abs                        | %        | abs                    | %        |
| Lower extremity varicose disease | 42                         | 77,8±5,6 | 21                     | 70,0±8,3 |
| Hypertensive disease             | 12                         | 22,2±5,6 | 10                     | 33,3±8,6 |
| Heart disease                    | 8                          | 14,8±4,8 | 5                      | 16,7±6,9 |
| Thyroid disease                  | 7                          | 13,0±4,6 | 7                      | 23,3±7,7 |
| Obesity 2-3 degree               | 8                          | 14,8±4,8 | 7                      | 23,3±7,7 |
| Gastrointestinal tract disease   | 3                          | 5,6±3,2  | 4                      | 13,3±6,1 |
| Diabetes mellitus                | 2                          | 3,7±2,4  | 2                      | 6,7±4,6  |
| Gynaecological operations:       | 11                         | 20,4±5,4 | 8                      | 26,7±8,1 |
| Gisteretomiya                    | 3                          | 5,6±3,2  | 1                      | 3,3±3,1  |
| Salpigektomiya                   | 3                          | 5,6±3,2  | 1                      | 3,3±3,1  |
| Plastika of a vagina             | 2                          | 3,7±2,4  | 2                      | 6,7±4,6  |
| Cervical pathology               | 3                          | 5,6±3,2  | 4                      | 13,3±6,1 |

**Note:** the difference in these groups is unreliable- $p>0,05$

## Discussion

Thus, we made sure that sling surgery in patients with stress urinary incontinence using mesh implants (TVT-O) is highly effective, safe, with a short hospital stay and can be successfully used as the first line of surgical treatment for SUI. Currently, the most rational is one of the modified strategies-combined surgery with simultaneous POP surgery and urinary incontinence surgery. A recent meta-analysis confirmed a reduced risk of postoperative SUI in combined POP and UI surgery, but also showed a detrimental effect on women treated with combination surgery<sup>16</sup> The results of our study confirmed L. Lin's data that TVT is the best choice in SUI management for women with previous POP surgery<sup>2</sup> and may reduce postoperative development of stress urinary incontinence (SUI).<sup>17-19</sup>

However, the rather high cost of the synthetic tape itself with its tools significantly reduces the possibility of widespread use of this method among patients in Uzbekistan. This leads to the search for and development of new more economical methods of sling correction of SUI in women.

## Conclusion

Remote results of operations were followed by us within 5 years and have been evaluated as good. Sling surgical correction is an effective and reliable method of treating stress incontinence in women. Combined genitalia prolapse correction and SUI is an efficient and cost-effective approach.

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## Conflicts of interest

The authors confirm the absence of any other conflict of interest that needs to be reported.

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