



## Tension-free vaginal tape-obturator for the treatment of female stress urinary incontinence: A Case Report

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### Abstract

**Objective:** To explore the clinical efficacy of tension-free vaginal tape-obturator (TVT-O) in the treatment of female stress urinary incontinence (SUI).

**Methods:** A 48 years-old female patient complained involuntary leakage of urine since 2009, she did not seek any treatments for 10 years. In April 2019, she was admitted to Department of Urology of our hospital for treatments.

**Results:** The symptoms of involuntary leakage of urine was successfully treated by TVT-O

**Conclusions:** Our case demonstrates the necessity of TVT-O in the treatment of female SUI.

**Keywords:** Stress urinary incontinence, tension free vaginal tape –obturator, quality of life

### Introduction

A 48 years-old female patient complained involuntary leakage of urine on effort or exertion, or on sneezing or coughing 10 years ago. The symptom of leakage of urine had been aggravated in the last year, and at least 4 urine pads should be used every day. In April 2019, she was admitted to Department of Urology of our hospital. Bladder cough induction test was positive and bladder neck lifting test was negative during physical examination, and one hour urine pad test was 35g. The illness state was evaluated with ICI-Q-SF (the Questionnaire Short Form of the International Urinary Incontinence Advisory Committee and I-QOL (incontinence quality of life).

Urodynamic examination showed that the detrusor muscle was stable during the storage period and no overactivity of detrusor muscle could be found. The maximum urinary flow rate (Q<sub>max</sub>) was 32ml/s and residual urine volume (PVR) was 40ml. She was treated with TVT-O successfully. After 6 weeks postoperative follow-up, the I-QOL score showed that the quality of life of patient increased significantly, the ICI-Q-SF score indicated that the symptoms of urinary incontinence were significantly improved (Figure 1). Q<sub>max</sub> was 29ml/s and PVR was 0ml (Figure 2).

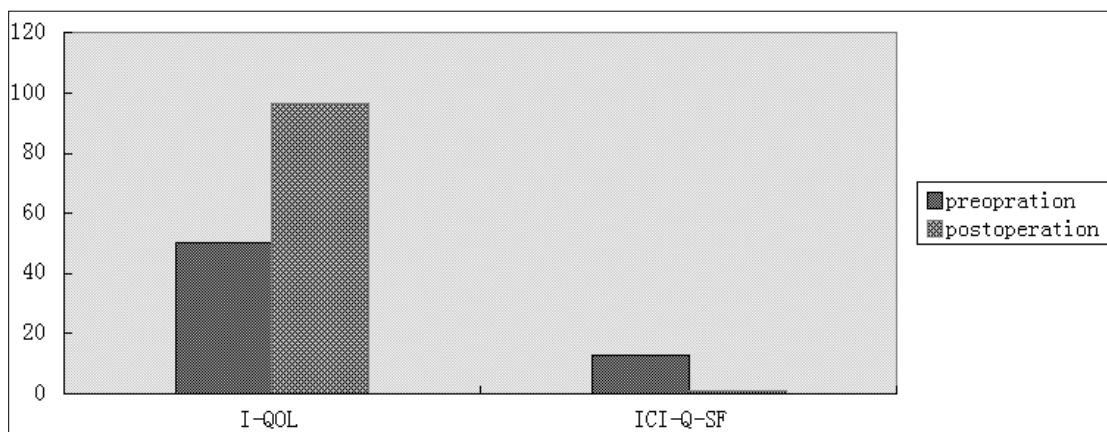
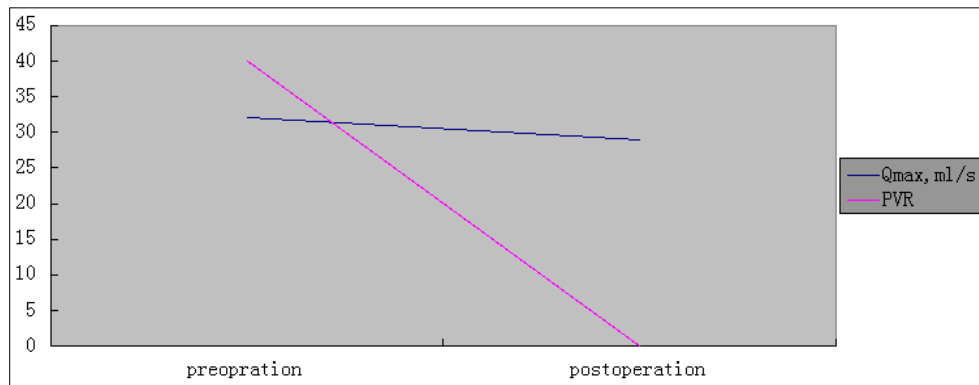


Fig 1: Improvement in I-QOL and ICI-Q-SF compared to baseline



**Fig 2:** Improvement in Qmax and PVR compared to baseline

## Discussion

The definition of SUI is that abdominal pressure increases even when resting, bladder neck and urethra cannot maintain certain pressure and then urine outflows<sup>[1]</sup>. Stress incontinence is one of the common diseases of postpartum and old women<sup>[2]</sup>. It is not threatened to life, but reduced patient's quality of life. Clinical symptoms will appear whenever there is a small action, for instance, cough, sneeze, laugh, taking heavy things, running. The hypothesis of "hammock" for pressure conduction was described by De Lancey<sup>[3]</sup>. It was proposed that the closure of urethra depends on the transmission of pressure. The treatment of female SUI should be focused on the reconstruction of supporting structure and the middle urethra is the key during operation. Many non-invasive and minimally invasive operations have been produced on this basis. The most widely used surgical methods are TVT (tension-free vaginal tape) and TVT-O. The procedure of TVT is simple by the reconstruction of hammocks through the reinforcement of pubic urethral ligament and other supporting structures. But surgical complications of TVT such as bladder perforation and urinary retention were also reported<sup>[4]</sup>. TVT-O was designed on the basis of TVT<sup>[5]</sup>. The nerve injury of bladder urethra and obturator vessel was avoided by TVT-O and the safety and effect of operation was similar to that of TVT<sup>[6]</sup>.

## Conclusion

Our study has demonstrated that TVT-O has the characteristics of good curative effect, high cure rate, small trauma and quick postoperative recovery. It is an ideal operation for the treatment of female SUI at present.

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