



APPLICATION OF ADJUSTABLE TENSION FREE VAGINAL TAPE PROCEDURE  
FOR TREATMENT OF COMPLICATED STRESS URINARY INCONTINENCE IN WOMEN –  
SHORT-TERM EXPERIENCES IN ONE VIETNAMESE INSTITUTION

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Introduction

- Over the past 20 years, there has been a revolution in surgical treatment of stress urinary incontinence (SUI) in women
- In 1996, Ulmsten described the tension-free vaginal tape (TVT) procedure. Afterward, in order to prevent potential complications of TVT, Delorme described the transobturator tape (TOT) procedure in 2001. The 2 methods TVT and TOT, also known as mid-urethral slind (MUS), are now considered the gold standard in treatment of female SUI. The long-term success rates of MUS vary between 77 and 90%.
- However, patients who have undergone MUS also encounter some problems: (1) voiding dysfunction may develop in 2.8–38% after TVT and 0 –15.6% after TOT operation and additional interventions such as intermittent catheterization, sling excision and urethrolysis may be required; (2) nearly 20% of patients undergoing MUS suffer from persistent or recurrent symptoms after surgery.
- Adjustable slings are reasonable alternatives in order to avoid or treat these two potential complications.
- In Viet Nam, we have been performed TVT since 2002, TOT since 2005, and adjustable sling since 2020.

Aim of the study

To evaluate the efficacy and safety of adjustable TVT procedure for treatment of complicated SUI in women, which has a high probability of failure if using classical methods of mid-urethral sling such as TVT and TOT.

Methods and Materials

- This is a case series study, conducted at the Department of Functional Urology, Ho Chi Minh city University Medical Center. Selected patients were complicated SUI cases in women.
- Complicated SUI means a high probability of failure if standard TVT, TOT techniques are applied, in particular if at least one of the following factors is present:
  - Intrinsic sphinter deficiency
  - Non urethral hypermobility
  - Prehistory of surgical treatment for SUI that failed.
- Technique of placing sling is according the principle of TVT (figures 1a, 1b, 1c).
- Sling used was TVA (Trans Vaginal Adjustable) of AMI company (Austria) (figure 2).
- Adjust sling tension early if the patients still have urinary incontinence or difficulty of urination (figure 3)

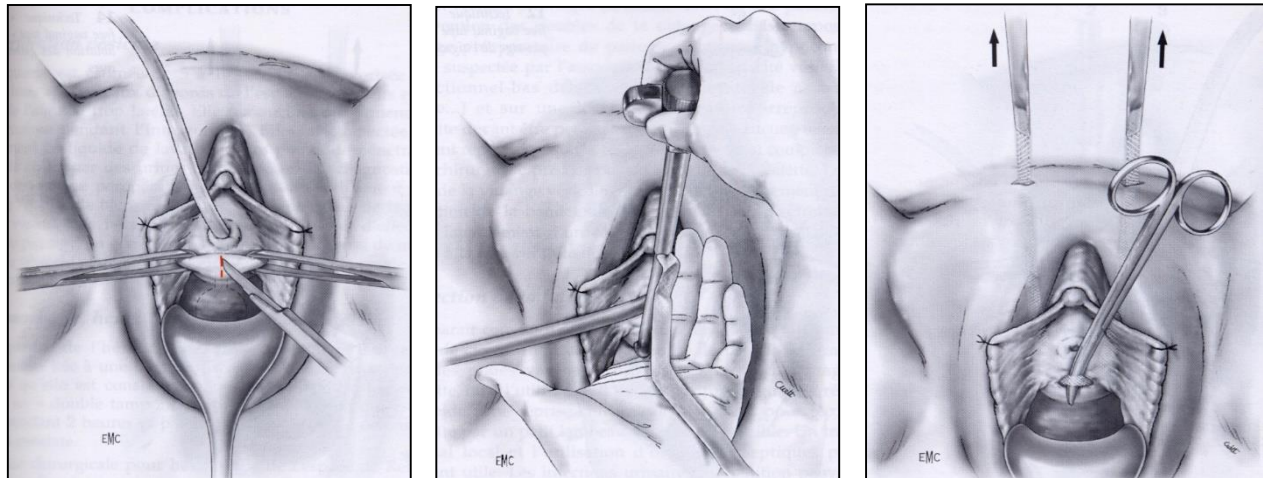


Figure 1a, 1b, 1c - TVT procedure

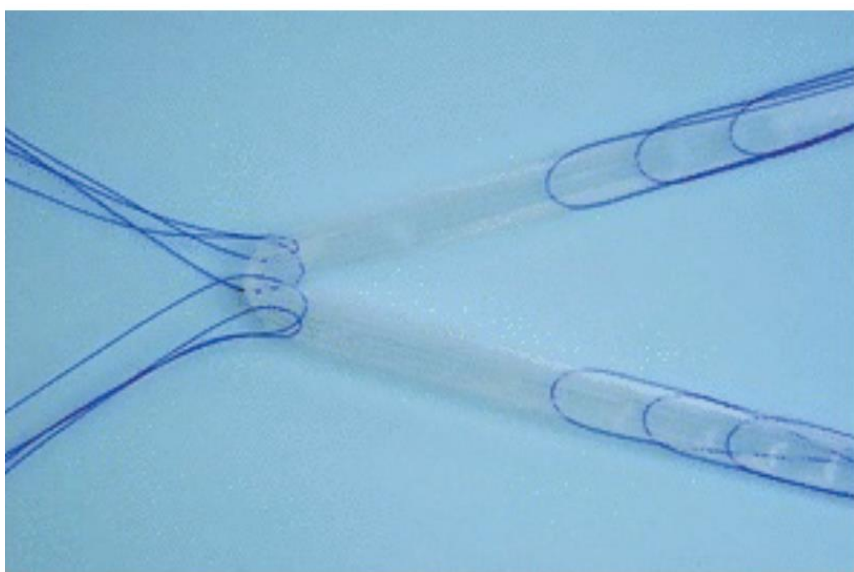


Figure 2- TVA sling

Results

- From October 2020 to December 2022, 23 women with complicated SUI were operated by adjustable TVT technique, with a mean age of 57.8 years old (min = 44, max = 78).
- Mean operating time was 42 minutes (min = 35, max = 70).
- 5 cases had to adjust the tension of sling after surgery: 5 times to decrease the tension due to difficulty urinating or urinary retention after removing the catheter, 3 times to increase the tension due to stress urinary leakage and (2 patients had to adjust 2 times, another one had to adjust 3 times) (figure 3).
- Mean follow-up was 11.9 months (min = 3, max = 28).
- At the last follow-up visit: 20/23 patients had no urinary leakage (3 of them had mild difficulty urinating) 3/23 patients had mild urinary incontinence but significant improvement, none of them showed mesh erosion.

Discussion

- The successful rate of this method is quite high (86.9%), even when applied to complicated SUI.
- We note that the action of adjustment should be done in the first week after surgery. After this time, it will be very difficult because the sling is already adhered by the fibrous tissue formation
- Comparing with the data of many other authors who also performed adjustable sling procedures, our data gave similar results (table 1)

Authors	Indication	Method of operation	Number of cases	Following up time	Successful Rate
Schmid (2010)	-Recurrent SUI after previous failed MUS	TVA	25	12	84% cured
Yoo (2010)	- ISD - Recurrent SUI after previous failed MUS	Remeex	17	12	- 82.3% cured - 17,6% improved
Giberty (2011)	ISD	Remeex	30	60,6	- 86% cured - 7% improved
Oh (2012)	ISD	TOA	33	6	- Cure rate = 75,6% - Satisfaction rate = 84%
Our results (2023)	- ISD - Urethral hypomobility - Recurrent SUI after previous failed MUS	TVA	23	12	- 86.9% cured - 13.1% improved

Table 1. Comparison with other authors.

Conclusions

- Adjustable TVT is a safe, effective, fairly easy method for treatment of complicated SUI in women, which can help to reduce failure rate compared to classical methods of mid-urethral sling.
- Our number of patients is still small and the follow-up time is not too long, so we will continue to minitor this topic to get more accurate conclusions

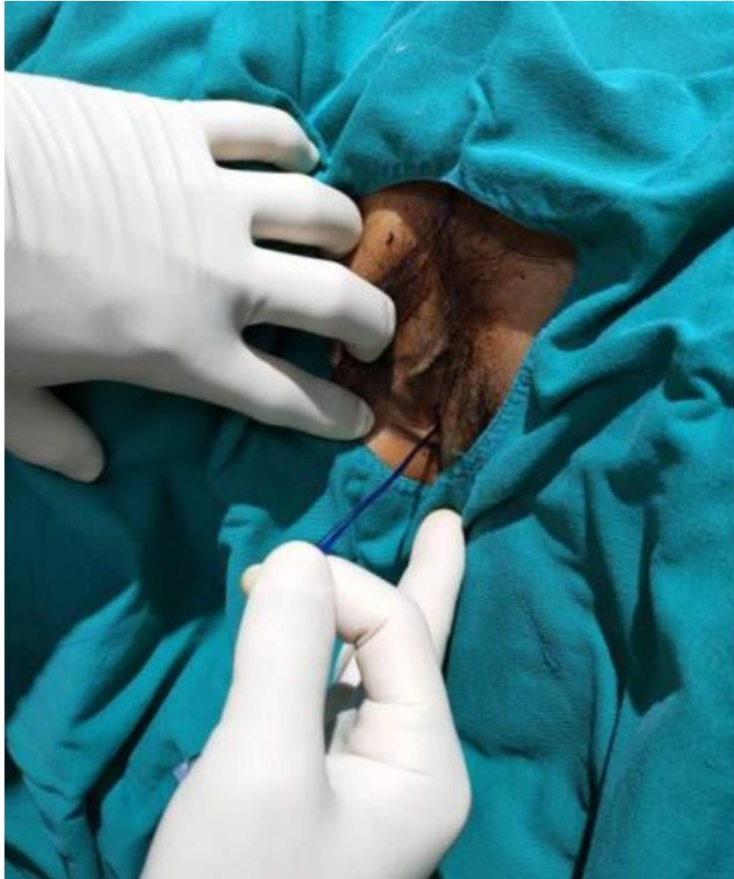


Figure 3- readjust TVA sling

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