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Kociszewski J[1], Surkont G[2], Wlazlak E[3], Dunicz-Sokolowska A[4], Kuszka A[1], Suzin J[5], Viereck V[6], Marciniak W[1]
1. *Department of Gynecology and Obstetrics, Evangelisches Krankenhaus, Hagen-Haspe Germany,* ***2.*** *1st Department of Obstetrics and Gynecology, Medical University of Lódz, Madurowicz Hospital, Poland,* ***3.*** *1st Department of Obstetrics and Gynecology, Medical University of Lódz, Madurowicz Hospital, Poland,* ***4.*** *1st Department of Obstetrics and Gynecology, Medical University of Lódz, Madurowicz Hospital, Poland,* ***5.*** *1st Department of Obstetrics and Gynecology, Medical University of Lódz, Madurowicz Hospital, Poland,* ***6.*** *Department of Gynecology and Obstetrics, Cantonal Hospital, Frauenfeld Switzerland*

TVT RESULTS IN STRESS URINARY INCONTINENT WOMEN WITH INTRINSIC SPHINCTER DEFICIENCY - PELVIC FLOOR ULTRASOUND EVALUATION

Hypothesis / aims of study

Data concerning the influence of ISD (intrinsic sphincter deficiency) and urethral mobility on post operative results are controversial. There are data which suggest that in incontinent women with urodynamically detected ISD and hypomobile urethra cure results after tape placement are the worst. It is not known which of these factors have greater influence on effect after TVT. The aim of the study was to evaluate the influence of urethral mobility, tape localization and profilometry result in the outcome after TVT placement in women with stress urinary incontinence and ISD.

Study design, materials and methods

Forty five women met the inclusion criteria for this analysis. All women had MUCP (maximal urethral closure pressure in profilometry) =<20 cmH2O. In 43 women TVT was performed according to the standard technique used in our departments with the incision starting at 1/3 ultrasonographically measured urethral length (1/3 formula). In 2 patients, due to a very small urethral mobility, the operation was done according to 1/2 formula (the same as in TVTO placement in our departments). Pelvic floor ultrasound was performed under standardized conditions (1) using vaginal probe 5-9 MHz. Urethral length, linear urethral dorsocaudal movement (LUDM), longitudinal urethral tape localization (LUTL) and distance between hypoechoic urethra and tape (DHUT) were measured, among others (1, 2). Before and 6 months after TVT, patients were submitted to a complete urogynecologic examination in agreement with routine department protocol. For this analysis patients were divided into 2 groups: cured and not cured. Incontinent women after procedure (not only those who had no effect but with improvement as well) were included in not cured group.

Results

From 43 patient operated in accordance to 1/3 formula, 37 were cured (86%). Results are summarized in table 1. 2 patients with very small urethral mobility operated in accordance with 1/2 formula were cured.

Table 1. Profilometry results and pelvic floor ultrasound characteristics of urethral mobility and TVTO localization in cured and not cured women operated in accordance with 1/3 formula

	cured			not cured		
	1	2	3	1	2	3
DCU (mm)	1,0	-0,7	3,2	4,85	-1,6	7,6
LUDM	12,25	3,8	20,8	10,0	1,1	11,9
DHUT (mm)	3,55	2,9	5,0	6,4	5,2	7,4
MUCP cmH2O	15	10	20	15	8	20

* - DCU - distance from centre of urethral length: "-" - shift to bladder base, "+" - shift to external urethral orifice, ** - MUCP - maximal urethral closure pressure in profilometry
1 - median, 2 - 10th percentile, 3 - 90th percentile

Interpretation of results

Our results suggest that in analysed group of patients urethral mobility and tape localization had the influence on cure results, but profilometry did not (MUCP in the range between 5 and 20 cmH2O). In women with good urethral mobility, especially hypermobility, suboptimal tape localization (a little too big DHUT and/or DCU) may not end up with incontinence. Tape which is not localized optimally in women with small urethral mobility usually cannot warrant continence. If urethral mobility is very small, even TVT is than nearly not moving to bladder neck, (like it is typical for TVTO). In these cases it seemed to be reasonable to do procedure like in TVTO placement: according to 1/2 formula (this formula we use in our departments in TVTO procedures). In these cases tape had to be placed under urethra with a little bigger tension than usual (nearly to cause post-void residual).

Concluding message

Our results suggest that urethral mobility and tape localization have the main influence on continence results after TVT in stress urinary incontinence women with ISD. In all cases we should try to achieve optimal tape localization. Less mobile urethra is a big challenge - especially in this case tape must be very optimally placed. In our opinion individually planned operation, based on preoperative pelvic floor ultrasound (urethral length and its mobility), may be helpful to optimize tape placement. We have impression that it is important in all cases, but extremely important in less mobile urethra. In women with very small mobility to obtain good result after TVT placement it may be reasonable to use formula 1/2 instead 1/3. We found no influence of profilometry result on cure among women with MUCP =<20 cmH2O.

References

1. Kociszewski J, Rautenberg O, Perucchini D, Eberhard J, Geissbühler V, Hilgers R, Viereck V. Tape functionality: sonographic tape characteristics and outcome after TVT incontinence surgery. Neurourol Urodyn. 2008;27(6):485-90.
2. Viereck V, Nebel M, Bader W, Harms L, Lange R, Hilgers R, Emons G. Role of bladder neck mobility and urethral closure pressure in predicting outcome of tension-free vaginal tape (TVT) procedure. Ultrasound Obstet Gynecol. 2006 Aug;28(2):214-20.

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What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**No**
This study did not require ethics committee approval because	**Since all study patients underwent routine investigations and introital US was used for quality assurance purposes, the study was exempted from formal Ethics Committee approval by the Institutional Review Board of the University of Göttingen, Germany. Nevertheless, all patients were informed about the study and consented to participate.**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**