

IS TVT OPERATION THE METHOD OF CHOICE FOR PATIENTS WITH ISD?

Aims of Study

Tension-free vaginal tape (TVT) has become an important method for the treatment of stress urinary incontinence (GSI). The TVT operation was designed to support the middle and distal urethra. The surgical success rate varies from 65% to 90%. According to some studies, the lowest success rate after TVT operation is for patients with ISD (intrinsic sphincter deficiency) – in one study only 37% /1/. The conclusion was that the TVT operation is not effective for those patients suffering from ISD /1/.

The aim of our study was to evaluate the success rate of TVT operations for patients with ISD, for whom the operation was modified according to the results of detailed preoperative examination (a combination of urodynamic study, ultrasound assessment of the mobility of the whole urethra, VLPP measurements and MRI in some patients).

Methods

The prospective pilot study included 23 women with ISD (for all VLPP lower than 60cm H₂O). Before surgery patients were completely examined (urodynamics, VLPP measurements, physical examination, stress test, PWT,). Their mean age was 64 years (SD-10.4), mean BMI was 26.3 (SD-2.1.), and mean parity was 2.4 (SD-0.447). 8 patient had undergone one or more antiincontinence operations in the past (MMK, Burch procedure, vaginal wall repair, needle suspension operation). For patients with a history of retrobupic operation MRI was performed to exclude total obliteration of Retzius space (Siemens Magnetom Symphony 1.5 Tesla, with quantum gradient).

Ultrasound examination was performed before TVT procedure; the urinary bladder was filled to 300 ml with sterile saline. The measurements were taken in supine position at rest and during maximal Valsalva. For the perineal examination a curved array probe 5 (3.5) MHz was used (Acuson 128 XP 10). For all women we assessed the position and mobility of the whole urethra. Because the anatomical length of the urethra varies, measurement was performed at previously defined points. Mobility of the urethra was measured at urethrovesical junction (UVJ), 17 mm below UVJ (middle of the urethra) and one centimetre above and below this point (upper and lower third). During ultrasound examination the simultaneous measurement of intraabdominal pressure was performed with a special transrectal balloon catheter for objectivisation of Valsalva manouver. Abdominal pressure was simultaneously recorded with ultrasound signal, and the pressure was superimposed on the ultrasound picture.

Before subsequent surgery we performed a perineal examination using an ultrasound contrast medium (Levovist, Shering). We performed CDV for detection of urine leakage and simultaneous recording of abdominal pressure to detect VLPP, and we measured the position of the urethra at VLPP.

TVT procedure was modified according to preoperative assesment. For patients with obliterated Retzius space (based on MRI Fig. 3) we combined transabdominal dissection of Retzius space and TVT in one session (3 women). For all patients the placement and tension of the tape was modified according the preoperative mobility of the urethra /fig.1,2/ For patients with some mobility the tape was placed at the distal urethra. For patients with minimal urethral mobility the tape was placed in midurethra. Adjustment of the tape tension was done with Hegar dilatator inserted in the urethra to prevent overtension.

After surgery checks were performed one week, approximately 3 months and one year after surgery. During each check an ultrasound examination with simultaneous measurement of the intraabdominal pressure, stress test, PWT and - one year after surgery – an urodynamic study were performed.

Fig.1
Patient with minimal urethral mobility
at rest at VLPP

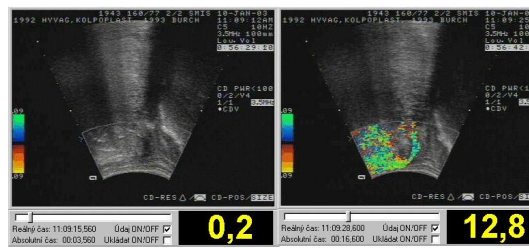
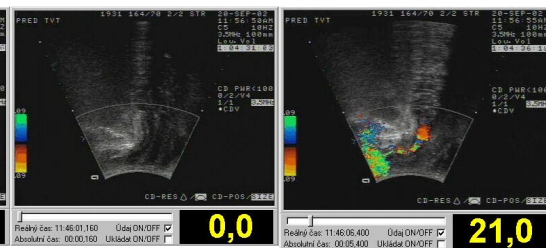
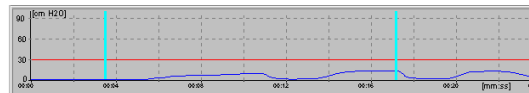


Fig.2
Patient with some urethral mobility
at rest at VLPP



Pressure profile during Valsalva



Pressure profile during Valsalva

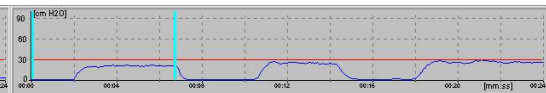
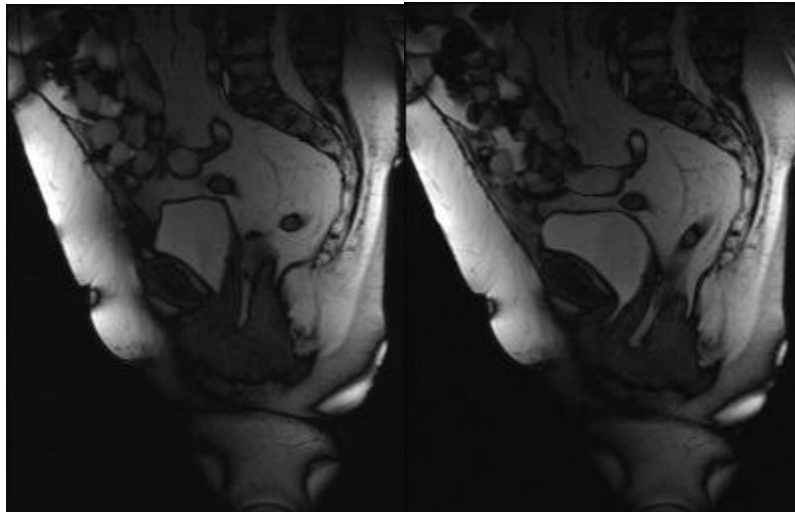


Fig.3 Patient with obliterated Retzius space – dynamic MRI (fixation of the urinary bladder to abdominal wall and symphysis)
at rest at Valsalva



Results

After one year 22 (95.6%) were stress continent. Four women had signs of urgency (17%). Most of these complications were in the group of women with minimal urethral mobility before surgery /Fig 1/. Three of this women had prolonged urinary retention up to 3 weeks after surgery (they need intermittent catheterisation) and they had repeated urinary tract infection in the first three months after surgery. In these women ultrasound examination revealed extreme funnelling of the urethra above the tape at maximal Valsalva. Funneling after surgery was present in another 12 women. During Valsalva manoeuvre the tape compresses the urethra against the symphysis. 6 months after surgery one patient reported with problems during intercourse. Examination revealed protrusion of the tape, and problems disappeared after resuture of the anterior vaginal wall.

Conclusions

These preliminary data confirm that TVT operation is also a very effective operation for those patients suffered from ISD. The high success rate is due to the individual approach taken to each of these women. Longer follow-up of these women is necessary to obtain more relevant data.

References

1. Neurourol. Urodyn.20, (1999) :419-421.

This work was supported by the Grant Agency of the Ministry of Health of the Czech Republic, grant NH 6982-3.