

## THE RESULTS OF THE TVT PROCEDURE IN WOMEN WITH PELVIC FLOOR ULTRASOUND ASSESSMENT OF URETHRAL LENGTH.

### Hypothesis / aims of study

The cure rates of anti-incontinence procedures are high: from ... to over 90%. A lot of factors seem to influence these rates: clinical characteristics of the patient, used materials and surgical technique. Recently, the positioning of the sling has been cited as a crucial factor associated with the effectiveness of the procedure. The optimal localization of the tape appears to be the border between the middle and distal portions of the urethra, that is 50-70% of the urethral length.

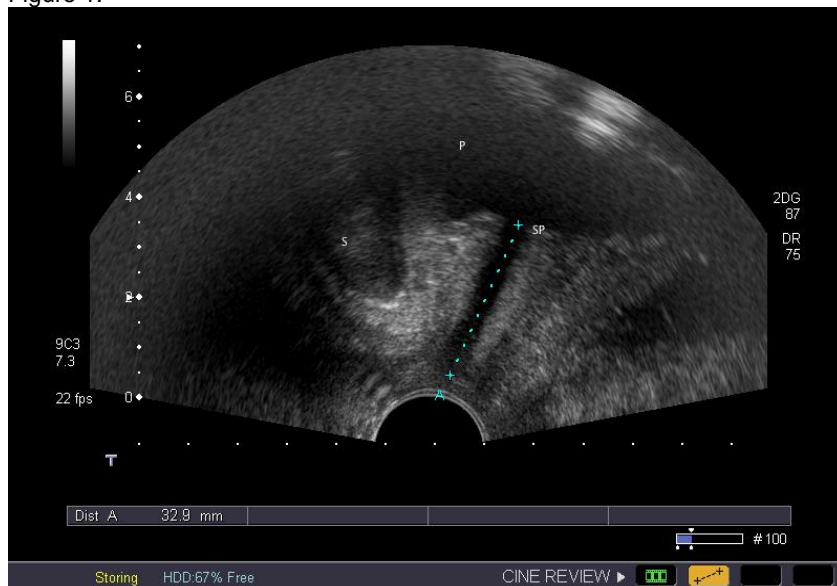
The aim of the study was to assess the effectiveness of the TVT procedure in women in whom the site of vaginal incision and sling insertion was chosen after sonographic evaluation of the urethral length

### Study design, materials and methods

57 women scheduled for the TVT procedure due to stress urinary incontinence (SUI) were included in the study. All patients underwent pre- and postoperative evaluation including: cough stress test, cystometry, UROFLOWMETRY? (badanie przeplywowo – mikcyjne), 1-hour pad test and pelvic floor ultrasound examination. Also, all women completed the Incontinence Impact Questionnaire Q7 (IIQ7). The evaluation took place before the procedure and 6 months post surgery.

Preoperative introital ultrasonography was performed in a standardized manner with the patient in a semi-sitting position and a standardized bladder-filling volume of 300 ml. The probe (a 3.6–8.3- MHz vaginal transducer with a beam angle of 160°) was placed at the level of the external urethral orifice, aligning the axis of the probe with the patient's body axis. With the length of the hypoechoic core of the urethra was measured (Fig. 1). To achieve midurethral tape positioning, the site for vaginal incision was calculated so that the distance of the distal end of the vaginal incision from the external urethral orifice was at one-third of the sonographic urethral length.

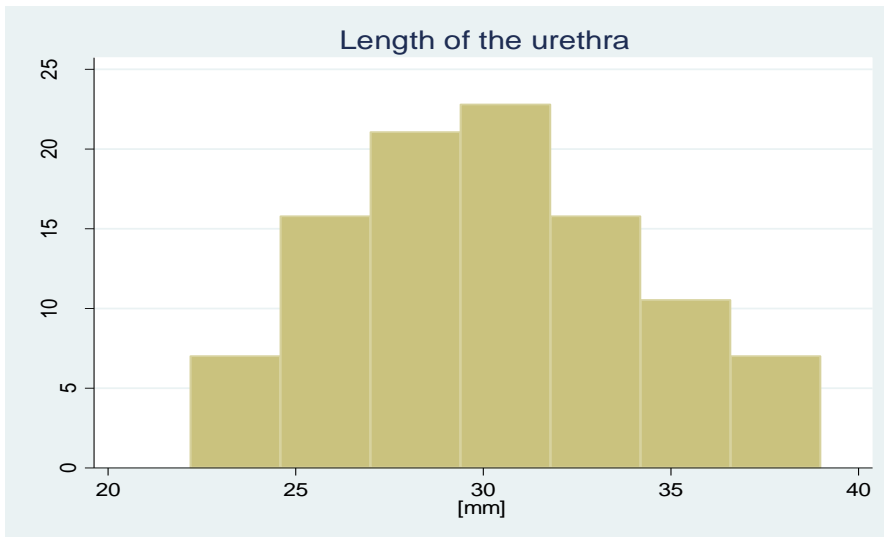
Figure 1.



### Results

The mean age of the patients was 57 (SD 9,92). The mean urethral length was 30,2 mm (SD 3,94); the longest urethra measured 39 mm, the shortest: 22 mm. The distribution of urethral lengths is shown in Fig. 2.

Figure 2.



According to the results of postoperative sonographic evaluation, the average sling position was at 65,9% (SD 7,31) of urethral length. Pre surgery, the mean pad test result was 62,26 g (SD 49,01), whereas post operation the average result was 0,32 (SD 1,14),  $p < 0,0001$ . In all women, the postoperative cough stress test was negative. The mean result of the IIQ7 was 15,33 (SD 3,33) before surgery and 0,32 (SD 1,14) post operation ( $p < 0,0001$ ).

#### Interpretation of results

Thanks to the pre-surgery sonographic measurement of urethral length by means of pelvic floor ultrasound examination, optimal positioning of the tape could be obtained in all patients, regardless of the individual urethral length. Very high cure rates were confirmed both with objective tests (cough stress test, 1-hour pad test) and with subjective methods (IIQ7).

#### Concluding message

The sonographic evaluation of urethral length indicates that a typical urethral length of 30 mm is found in the majority of the operated women, but in some of them (ca 25%), urethral length differs substantially. Pre surgery assessment of urethral length and adequate choice of the site for the sling to be inserted warrants excellent results of surgical treatment for SUI.

#### Disclosures

**Funding:** none **Clinical Trial:** Yes **Public Registry:** No **RCT:** No **Subjects:** HUMAN **Ethics Committee:** Ethics Committee of Medical University of Warsaw **Helsinki:** Yes **Informed Consent:** Yes