

Imaging of transobturator suburethral sling position, tension, twisting and its association with surgical outcome

MARTÍN MARTÍNEZ A, ORTEGA CÁRDENES I, MEDINA CASTELLANO M, PÉREZ MORALES E, FERNÁNDEZ MEDEROS A, LASECA MODREGO M, SANTANA SUÁREZ A, MADSEN CHOPPI M A, GARCÍA HERNÁNDEZ J Á, GARCÍA DELGADO R, GARCÍA RODRÍGUEZ R

Complejo Hospitalario Universitario Insular Materno Infantil, Las Palmas De Gran Canaria

Objective

To determine the correlation between tape location, tension, tape twisting and bladder neck mobility with surgical outcome after transobturator suburethral tape (TOT) placement.

Materials and methods

This is a retrospective study which included a total of 65 women who underwent TOT placement at our unit. Patients having more than one suburethral tape were excluded. A standardised medical history, physical examination and 4D translabial ultrasound were carried out and patients completed a validated questionnaire (Sandvik Incontinence Severity Index). Stored 4D TLUS volumes were analysed at a later date blinded to all clinical data. Ultrasound parameters analysed were:

- tape percentile
- tape symmetry
- sling-pubis gap (maximum Valsalva)
- sagittal tape-urethra distances at the upper end (sTUDu), centre (sTUDc), and lower end (sTUDI) of the tape at rest (1),
- axial urethral central echolucent area at the tape's level,
- the shape of the tape (2) and the tape angle in the sagittal view (3) at rest and Valsalva
- Tape twisting and bladder neck descent.
- Postvoid residual >100ml were recorded.

Results

Symptoms of stress urinary incontinence (SUI) were present in 17%, with urge incontinence (UII) in 22%, and with symptoms of voiding dysfunction in 23%. Subjective surgical outcome were: cured in 82%, better in 17% and no improvement in 2%.

Asymmetry of the tape was associated with overactive bladder ($p=0.003$), while tape shape and angle on Valsalva was associated with SUI ($p=0.044$; $p=0.048$) and UII ($p=0.017$; $p=0.022$). We found that sTUDc was associated with SUI ($p=0.027$). The shortest tape-urethral distances and sTUDI were associated with high postvoid residuals ($p=0.022$; $p=0.003$) although no associations were found with symptoms of voiding dysfunction. No correlations were found between questionnaire score (Sandvik) and subjective cure rates with ultrasound parameters.

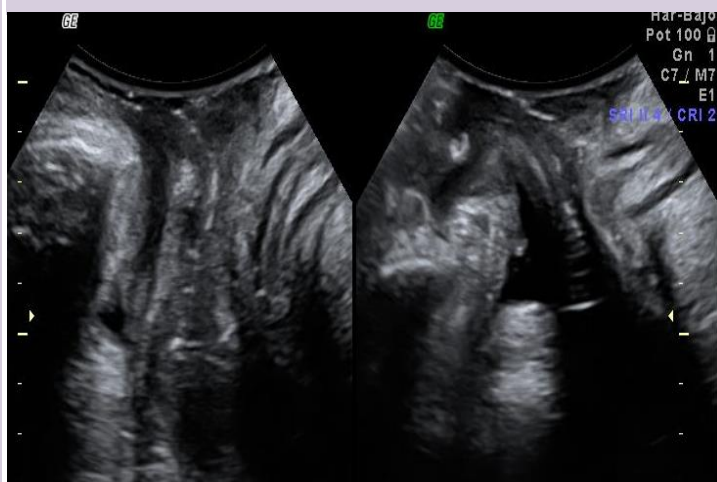


Image 1: Midsagittal view of translabial ultrasound at rest (left) and on maximum Valsalva (right).

Conclusions

Neither tape location nor tape twisting seem to affect clinical outcome as long as it is located beneath the urethra acting as a fulcrum. We found that tape tension evaluated by tape shape and tape angle on Valsalva correlated best with patient symptoms of SUI and UII, as did the sagittal tape-urethra distance centre with SUI.

The low complications and high cure rates of our study makes finding any association between ultrasound parameters described in the past with patient symptoms difficult.

References

- 1 Ultrasound Obstet Gynecol 2011; 38:210-216
- 2 Int Urogynecol J 2011; 22: 493-498
- 3 Biomed Res Int. 2015;2015:538391