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IS THE COUGH-STRESS TEST NECESSARY WHEN PLACING THE TENSION-FREE VAGINAL TAPE?

Hypothesis / aims of study

To determine if the mode of anesthesia (and the resultant ability or inability to perform the cough-stress test) used during the tension-free vaginal tape (TVT) procedure affects post-operative continence.

Study design, materials and methods

A cohort of 170 women who underwent TVT without any other concomitant surgery completed the short form of the Urogenital Distress Inventory (UDI-6) to assess their continence status preoperatively and postoperatively. The subjects completed the UDI-6 prior to their first meeting with the surgeon. Postoperatively, the UDI-6 was mailed to all subjects. If we received no response, an investigator blinded to anesthesia type attempted to contact the subjects by phone. Data from pre- and postoperative forms and patient demographics were entered into an SPSS database for analysis. Chi-square tests, t-test, and Mann-Whitney U tests were used to determine if there was an association between these data and anesthesia type during univariate analysis. A parsimonious hierarchal linear regression analysis was then performed to determine if anesthesia type was an independent predictor of continence, as measured by the UDI-Stress Symptoms subscale, after controlling for significant predictors of continence status during univariate analysis.

Results

We were able to contact 150 of the 170 women in our cohort, and 137 (81%) consented to be in the study. The median follow-up time was 32 months (18-51). Seventy-four (54%) women had the TVT placed under local analgesia and the remainder had general anesthesia. Age, BMI, race, and parity were comparable between the two anesthesia groups. Both anesthesia groups showed significant improvement from their pre-operative UDI-6 scores to their post-operative scores. When comparing the absolute change from pre- to postoperative UDI-Stress Symptoms subscale scores between the two groups, however, we found a significant difference. Mean improvement in the local group was 58.2 ($\pm$ 33.5) versus 41.7 ($\pm$ 39.4) in the general group ($p=0.03$). Linear regression analysis identified age ($ß=-0.91$, $p<0.01$) and anesthesia type ($ß=-15.11$, $p=0.03$) as independent predictors of continence ($F=6.3$, $df=3$, $p<0.01$).

Interpretation of results

Prior studies have shown that the frequency of post-operative voiding dysfunction is not associated with the type of anesthesia used during TVT placement [1]. Our study, however, suggests that the ability to use the cough-stress test under local analgesia allows for more precise placement of the TVT. This is demonstrated by the greater post-operative continence seen in the local group as compared to the general anesthesia group. The use of local analgesia during TVT was associated with a 15-point greater improvement in the UDI-Stress Symptoms subscale in the regression analysis while controlling for age.

Concluding message

Women who undergo TVT show significant improvements in incontinence severity regardless of anesthesia type. However, greater improvements in stress incontinence, as measured by the UDI-Stress Symptoms subscale, are seen when the TVT is placed using the cough-stress test under local analgesia.

References

[1] Effect of anesthesia on voiding function after Tension-free Vaginal Tape procedure (2003) Obstet Gynecol 101(4):666-70.