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DOES THE SEVERITY OF STRESS INCONTINENCE INFLUENCE OUTCOME FOLLOWING TVT ?

Aims of Study

Reported TVT continence rates at two years vary between 66%(1) and 86%(2) but the predictors of failure are unclear. We hypothesised that women with severe urodynamic stress incontinence (USI) have a lower TVT cure rate as they may require greater mid-urethral support. The 24-hour pad test is applicable to test this hypothesis, as it is repeatable (3) and correlates with the 24-hour urinary diary (4). Objective cure, may be defined as the return of pad test weight to within the normal range. We aimed to analyse the relationship between the severity of pre and post-operative pad test weights in women with primary and secondary (prior continence surgery) USI to determine whether severity has any prognostic significance as this has not previously been investigated.

Methods

Prior to commencing the study, the definition of "dry" on 24 hour pad test was briefly re-evaluated, using the Unit's standard absorbant pad on 19 continent women. In this small sample the upper 95th centile was 10.3g (mean value 4.8g).

A consecutive group of women with a sole diagnosis of USI and no prolapse were enrolled. Exclusion criteria were: >grade 1 cystourethrocele/rectocele, post-void residual (PVR) >100mls, peak flow rate <15mls/sec, and detrusor overactivity. A 24-hour pad test was completed during a 24-hour urinary diary, with an International Consultation on Incontinence Questionnaire (ICIQ-SF) both pre- and post-operatively at 6 weeks and again at 6 months. Correlation between pre and post-operative results was determined using Kendall's Rank Test. Cure was defined as a 24 hour pad weight gain within the 95th percentile for continent women (10.3g) in the absence of dysfunctional voiding (residual volume >100mL). Cure rate was calculated using all women as denominator, and non-returned pads considered failures. Subjective cure was defined as "never leak" on Q1 of the ICIQ-SF.

The 24-hour pad test was performed using Tena comfort mini extra® pads (SCA Hygiene Products, Sweden) which weigh 24 grams (containing 16 grams of pulp with 4 grams of absorbent powder). Five pre-weighed pads were provided per patient in a snap-lock bag to prevent evaporation. After a 24-hour period the pads were returned and the used pads weighed on the same day. Pre and post pad weights were determined using beam balance scales with accuracy to 0.1 grams (C300 Ohaus Scale).

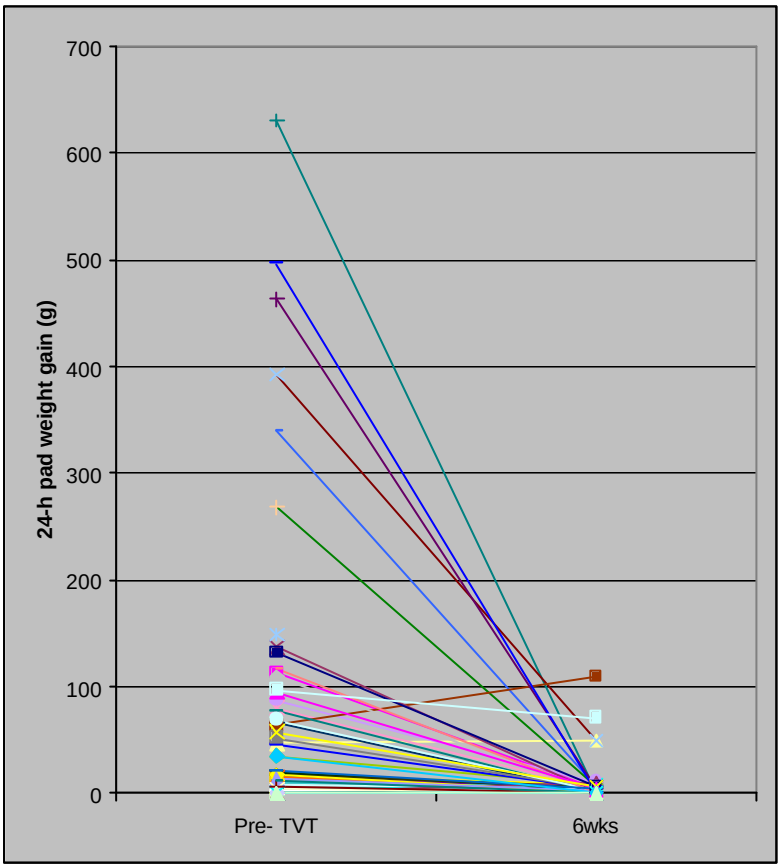
Results

Current results at 6 weeks are described, and the complete data set at 6 months is nearing finalisation. Fifty-five consenting women with USI undergoing TVT were evaluated. They were mean age 55(SD+/-11), median parity 2(SD+/-1) and mean BMI 29(SD+/-6). Forty-six women completed the pre-operative 24-hour pad test. Nineteen (35%) had undergone one or more previous continence operations. The median pre-operative pad weight for primary and secondary USI was 47g (IQR15-111) and 76g (IQR 20-120) respectively, with no significant difference (Mann-Whitney U; p=0.1).

At six-weeks only 39/55 completed the pad test. Of those who did not, 9 were cured and 2 much improved and did not want to do the test; 4 had new urge incontinence; and 1 was lost to follow-up. No patient required self-catheterisation. In one patient the PVR was 200mL but was normal 4 weeks later. The cure rate (using 95th percentile) was 60% (33/55) although of those actually tested it was 85%. There was no difference in cure rate between primary and secondary cases (Fischer's Exact P=0.49). The subjective cure rate was 20/55 (38%).

30/55 women have completed six-month follow-up thus far, of which 25 have returned pad tests. All patients cured at six weeks remained cured at 6 months. Pre-operative pad test weights did not correlate with post-operative results at 6 weeks (tau-b=0.101; P=0.43) or 6 months (tau-b 0.24; P=0.13), nor did ICIQ-SF scores (6-weeks P=0.5; 6 months P=0.9). Fig.1 shows the effectiveness of the TVT at 6 weeks regardless of pre-operative severity.

Figure 1. 24-hour pad test results pre and post TVT



Conclusion

Pad testing compliance was poor which may have lowered the cure rate, as cured patients were reluctant to perform the test. This was previously found by Hilton(5), who also found subjective cure rates to be lower than pad cure rates(5). Possibly 24-hour pad tests may miss the infrequent leakage episodes which make patients unable to say they 'never leak'.

The TVT seems to cure independently of the preoperative severity of USI, disputing the hypothesis that severity is a bad prognostic factor for TVT. Presumably therefore, heavier leakage on a 24-h pad test is not a function of worsening periurethral pathology, but may reflect greater numbers of leakage episodes, as previously suggested (4), possibly in more active women, or those with frequent coughing. However, patients with urge incontinence will also have a positive pad test leading to a worse outcome.

References

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