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PRE-OPERATIVE URODYNAMIC STUDIES; ARE THEY USEFUL IN PREDICTING POST-OPERATIVE MYSTERIES?

Hypothesis / aims of study

The study was aimed to revisit an age old question – Is flow rate, performed in an urodynamic setting in women prior to having a tension free vaginal tape (TVT), a good predictor of post-operative voiding problems. What is the cut-off for flow rates that should be adopted and should it be age dependent. Is there any direct relationship between poor flows and severity of voiding dysfunction postoperatively. Is there any correlation between history of poor voiding and findings of poor flow rates at flowmetry. Prior to TVT, how were women with poor flow rates managed.

Study design, materials and methods

This was a retrospective study of 87 patients who attended for urodynamic studies in a tertiary level Urogynaecology unit. Standard questionnaires were completed during first consultation and information from these questionnaires was collated. All patients had flow rates measured using the weight transducer flow meter. This was performed with spontaneous filling on arrival and after filling the bladder with filling lines at voiding cystometry. Flow rates, voided volume and post void residue were recorded in keeping with the ICS standards. Majority of the patients who had predominant stress urinary incontinence underwent TVT procedure via the suprapubic approach.

Results

Mean age of the study population was 54. 49% (43/87) of the women were postmenopausal. 91% (79/87) had symptoms of mixed incontinence, 6% (5/87) had symptoms of overactive bladder and 3% (3/87) had symptoms of stress urinary incontinence. Of these women 53% (46/87) had TVT and 5% (4/87) were awaiting TVT. These were women who were diagnosed to have predominant stress urinary incontinence during the urodynamic studies. 9% (4/46) of those who had TVT had voiding problems post-operatively. The pre-operative flow rates of these patients ranged from 13 to 16mls/s.

7% (6/87) gave history of having a poor stream and 4 of these 6 women (67%) had flows less than 10mls/s. 6% (5/87) reported that their stream was variable, and 3 of these 5 women (60%) had flow rates of less than 10mls/s. Of those who gave a history of having a good stream and no voiding problems, 21% (16/76) had flows less than 10ml/s.

3% (3/87) of women had flow rates of less than 5mls/s. These women were counselled regarding possible treatment options such as clean intermittent self-catherisation for voiding disorder post operatively, but they all opted out of getting the TVT procedure done. One patient who had a flow rate of 5mls/s and a tight urethral meatus had her meatus dilated during the TVT procedure. 5 out of 87 patients (6%) who had flow rates around 10mls/s, had TVT performed and residues checked regularly in the post-operative period.

Interpretation of results

History by itself is a fair predictor of voiding function. Women with normal voiding can still encounter voiding problems following the TVT procedure. However flowmetry is a useful tool which provides valuable information thereby helping the clinicians in counselling patients who are highly likely to have problems with retention and poor flow following the procedure. The women who had post-operative voiding problems but had normal flows pre-operatively had complete resolution of this dysfunction within 2 months (4 to 60 days).

Concluding message

Flow rate is a good predictor of post-operative voiding issues. Women with flow rates over 15mls/s were highly unlikely to have voiding problems post-TVT. This is well supported in the literature [1]. Even if they did, it was usually transient and they made a good recovery. Further larger studies are required to confirm these findings. Although there is a varied opinion in the literature [2], the importance of pre-operative urodynamic evaluation before embarking into any urogynaecological procedures, is well documented [3] and does not require any more emphasis.

References

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Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**No**