

INFLUENCE OF THE URETHRAL CATHETER ON MEASUREMENTS OF VALSALVA LEAK POINT PRESSURE DURING URODYNAMICS

Aims of Study

The evaluation of stress urinary incontinence (SUI) often incorporates urodynamic measurements of Valsalva leak point pressure (VLPP). During urodynamic studies (UDS), a transurethral catheter is often used to fill the bladder and record pressures. We examined if the presence of a 6 Fr. transurethral catheter alters VLPP measurements during UDS.

Methods

25 consecutive women with complaints and evidence of SUI on UDS were prospectively evaluated. During UDS, VLPP was measured and compared in the presence and absence of a 6 Fr. transurethral catheter in each patient at the same bladder volume. 4 patients were excluded due to different volumes at VLPP measurements with and without the catheter, leaving 21 patients for analysis. VLPP was measured using an intra-abdominal pressure catheter. The paired t-test was used to analyze for statistical significance.

Results

Of the 21 patients, mean VLPP with the catheter was 88.4 cmH₂O and mean VLPP without the catheter was 99.9 cmH₂O ($p=0.025$). 14 of 21 women demonstrated a lower VLPP in the presence of a transurethral catheter, with a mean decrease of -21.6 cmH₂O (range -6 to -83 cmH₂O). Of these 14 patients, 8 had at least a -15 cmH₂O decrease in VLPP. 7 of 21 women demonstrated a higher VLPP in the presence of a transurethral catheter, with a mean increase of $+8.9$ cmH₂O (range $1-15$ cmH₂O). Either way, the absolute change in VLPP was significant. No patient characteristics were able to predict whether the VLPP would increase or decrease in the presence of a catheter.

Conclusions

During UDS for SUI, the presence of a transurethral catheter may significantly alter the measurement of VLPP. We found that in two-thirds of the patients, there was a decrease in VLPP with the catheter present, while in the other third, there was an increase in VLPP with the catheter. Either way, the absolute change in VLPP was significant. These differences may be taken into account when measuring VLPP in these patients.