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THE CORRELATION OF VOIDING VARIABLES BETWEEN NON-INSTRUMENTED UROFLOWMETERY AND PRESSURE-FLOW STUDIES IN WOMEN WITH PELVIC ORGAN PROLAPSE

Introduction: To better understand the correlation between non-instrumented uroflowmetry (NIF) and pressure-flow studies (PFS) in women with pelvic organ prolapse (POP), we conducted a prospective supplementary study to the Colpopexy And Urinary Reduction Efforts (CARE) study.
Methods: We enrolled 298 women with stage II-IV POP into this prospective study; 151 women randomly selected from subjects enrolled in CARE had no stress urinary incontinence (SUI), defined as "never" or "rarely" responses to six MESA questions (coughing hard, sneezing, lifting, bending, laughing, and walking briskly or jogging) and 147 women were recruited specifically for this supplementary study because they had prolapse, were planning urodynamic studies and **did** have symptoms of SUI. Each woman underwent a standardized Pelvic Organ Prolapse Quantification (POP-Q) examination and NIF and PFS in a seated position using the CARE protocol. Pressures were measured using external water transducer catheters ≤ 8 French. The bladder was filled with saline or sterile water at 50 ml/min. The prolapse was not reduced to void. We used Spearman's rank correlations to assess the degree of correlation between the two voiding studies.
Results: The median age was 61 years with a median parity of 3. Eighty percent of women had stage III or IV POP. Overall, peak flow rate (Qmax), average flow rate (Qavg) and post-void residual (PVR) were poorly correlated but significant (r values 0.31, 0.35 and 0.13) between NIF and PFS studies. When the analysis was restricted to women whose NIF and PFS voided volumes were within 25% of one another, the peak and average flow rate correlations improved moderately ($r=0.52$, $p<0.0001$, $n=56$; $r=0.57$, $p<0.0001$, $n=54$). When both NIF and PFS voided volumes are > 150cc, correlations in Qmax and Qavg between the two studies improve marginally but are significant ($r=0.39$, $p< 0.0001$, $n=135$ and $r=0.41$, < 0.0001, $n=129$). Low but significant correlations in Qmax and Qavg between NIF and PFS are noted when the maximal vaginal descent is < 2 cm ($r = 0.39$, $p =0.0042$, $n=52$ and $r=0.33$, $p=0.019$, $n=51$) and between 2 cm and < 4 cm ($r = 0.29$, $p=0.02$, $n=91$ and $r=0.42$, $p<0.0001$, $n=85$).
Conclusion: Correlations In Qmax and Qavg between NIF and PFS in women with POP are overall poor. Modest improvements are found when both voided volumes are within 25%, are > 150cc and when the maximal vaginal descent is less than 4cm. Obstruction nomograms that use variables from both studies may not be generalizable to women with POP.

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