

## **A COMPARISON BETWEEN AIR-CHARGED AND MICROTRANSDUCER CATHETERS IN THE URODYNAMIC EVALUATION OF URETHRAL FUNCTION**

### **Aims of Study**

To compare measurements of urethral pressure profile and Valsalva leak point pressure (LPP) obtained with air-charged versus microtransducer catheters.

### **Methods**

Thirty-one women with urogynecologic dysfunction presented for multichannel urodynamic evaluation. Maximum urethral closure pressure (MUCP), functional urethral length (FUL), and LPP were measured in each patient with "air-charged" balloon circumferential pressure monitoring catheters as well as dual sensor, 8F microtransducer catheters. MUCP and FUL were obtained using a mechanical puller arm moving at 1 mm/s. The LPP was measured at maximum cystometric capacity with the abdominal sensor placed in the vagina. Statistical analyses included 2-tailed student t-tests and Pearson correlations of MUCP, LPP, and FUL values obtained with both catheter types.

### **Results**

The MUCPs measured with the two catheters were moderately correlated ( $r = 0.442$ ). Mean MUCPs obtained with the air-charged versus microtransducer catheters were statistically different ( $43.4 \pm 16.2$  cm water versus  $54.5 \pm 23.9$  cm water, respectively;  $p = 0.009$ ). However, 30/31 (96.8%) patients had MUCP measurements greater than 20cm water with both catheters. The LPP measurements obtained with the catheters correlated well ( $r = 0.655$ ), and were not statistically different ( $49.9 \pm 20.7$  cm water with the air-charged versus  $57.3 \pm 27.5$  cm water for the microtransducer;  $p = 0.23$ ). The measurements of mean FUL were also not statistically different ( $2.54 \pm 0.67$  cm with the air-charged versus  $2.32 \pm 0.62$  for the microtransducer;  $p = 0.17$ ).

### **Conclusions**

Overall, air-charged and microtransducer catheters yield similar information when evaluating urethral function. Regarding clinical decision-making, the difference in MUCP values obtained with the two catheters was relevant in only a small percentage (3.2%) of patients.