

## AGE AND OBESITY PREDICT EARLY FAILURE OF SYNTHETIC SUBURETHRAL SLINGS FOR STRESS URINARY INCONTINENCE

### Hypothesis / aims of study

Stress urinary incontinence, the complaint of involuntary leakage on effort or exertion, or on sneezing or coughing, may affect as many as one third of middle aged women on a weekly basis. Synthetic suburethral slings have become the most common operation for these women. Unfortunately, a significant percentage of women undergo these procedures without realizing any improvement. We sought to identify factors associated with decreased efficacy.

### Study design, materials and methods

After approval from the Institutional Review Board, charts for 95 consecutive women from August 2001 thru July 2004 undergoing either SPARC or ObTape suburethral sling were complete and available for review. Patient characteristics including age, height, weight, and body mass index were collected from the chart. Follow up data was collected from the charts and phone interviews. Most patients underwent preoperative urodynamic studies and demonstrated involuntary leakage of urine with increased abdominal pressure in the absence of detrusor contraction consistent with stress incontinence. Patients were stratified into four groups: complete resolution, significant improvement, unchanged, or worsened incontinence. Comparisons among the clinical groups were evaluated using Wilcoxon rank sum tests. The duration of follow up was determined as the time from surgery to the last contact with the patient. Statistical analyses were performed using the SAS software package (SAS Institute; Cary, North Carolina) and p-values less than 0.05 were considered statistically significant.

### Results

The median (range) follow up for patients in this study was 12.1 months (2.6-37.9 months). Complete resolution was noted in 64 (67%) patients, significant improvement in 12 (13%) patients, while 19 (20%) patients remained unchanged. No patients experienced worsened incontinence. The median (range) Body Mass Index (BMI) for the three groups was 27 kg/cm<sup>2</sup> (20 - 46 kg/cm<sup>2</sup>), 28 kg/cm<sup>2</sup> (21 - 47 kg/cm<sup>2</sup>), and 32 kg/cm<sup>2</sup> (24 - 57 kg/cm<sup>2</sup>), respectively. There was a significant difference in BMI between patients who had complete resolution and those who failed (p=0.041). The median (range) ages for those who had complete resolution, significant improvement, and unchanged incontinence were 62 years (24 - 85 years), 67 years (58 - 83years), and 72 years (48 - 82 years), respectively. The difference in median ages between those who failed treatment and those who had complete resolution was 10 years (p=0.002).

### Interpretation of results

Our results suggest that older patients are a higher risk for early failure following suburethral slings. Interestingly, patients with significant improvement fall exactly in the middle between those who failed and those who completely resolved. Similarly, patients with an elevated body mass index are also at a higher risk for failure. Again, those with improvement have a higher median BMI than those who had a complete resolution of their symptoms.

### Concluding message

Age and elevated BMI correlate with failure following synthetic mid urethral slings. These two factors may impact preoperative counselling and help patients have realistic expectations related to treatment. Further, prospective studies are needed to validate these results.