

## RATE OF DE NOVO STRESS URINARY INCONTINENCE AFTER URETHRAL DIVERTICULUM REPAIR

### Hypothesis / aims of study

The most recognized complications after urethral diverticulum repair are urethrovaginal fistula, urethral diverticula recurrence, and new onset urinary incontinence. Our goal was to determine the rate of stress urinary incontinence (SUI) after urethral diverticulum repair in patients without pre-existing genuine stress urinary incontinence.

### Study design, materials and methods

A retrospective review was conducted of female patients who had undergone urethral diverticulum repair without a simultaneous anti-incontinence procedure between January 2000 and July 2005. While 50 of the 66 patients identified met criteria for this study, 16 were excluded because 14 had undergone a simultaneous anti-incontinence procedure, and 2 had undergone simultaneous urethrolisis. To determine the rate of de novo stress urinary incontinences, we pursued two primary outcomes: (1) post operative responses to the urogenital distress inventory-short form (UDI-6) and (2) the rate of subsequent procedures for the treatment of SUI.

### Results

Of the 50 female patients who underwent urethral diverticulum repair surgery, the median age was 44 (range 24 to 73). 34 (68%) were Caucasian and 16 (32%) were African-American. 29 (58%) patients had a simple diverticulum, 19 (38%) patients had a saddlebag or "horseshoe" diverticulum, and 2 (4%) patients had a circumferential diverticulum. 6 (12%) had a history of recurrent urethral diverticulum.

Median follow up was 23 months (range 3 to 67 months). 35/50 (70%) patients had completed UDI-6 results as follows: 18/35 (51%) patients reported no stress incontinence, 10/35 (29%) patients reported "a little bit," 5/35 (14%) patients reported "moderate," and 2/35 (6%) patients reported being "greatly" bothered by urinary leakage related to physical activity, coughing, or sneezing. There was also a trend toward more significant SUI in patients with more proximally located and more extensive or saddlebag diverticulum.

5/50 (10%) patients underwent a subsequent sling procedure for SUI. 3 patients underwent a sling procedure within 5-7 months, 1 was 1.5 years following, and 1 was 5 years after her diverticulum repair. Of these 5 patients, 3 patients reported no SUI, 1 patient reported being "a little bit" bothered, and 1 patient reports being "greatly" bothered by SUI.

Of patients with no preop SUI, 5/18 (27%) had de novo SUI post op. Of the 18 patients who did not have SUI preop, none had a post-diverticulum repair sling procedure. Of the 15 patients with UDI-6 results, 10 reported no SUI, 3 reported a little bit, 2 reported being moderately bothered, and 0 reported being greatly bothered.

Of patients with preop urinary leakage, 8/11 (73%) had post op SUI. Of the 13 patients with preop urinary leakage, 3 had a post-diverticulum repair sling procedure. Of the 8 patients with post op UDI-6 results, 3 reported no SUI, 2 reported a little bit, 2 reported moderate bother, and 1 reported being greatly bothered by symptoms of SUI.

### Interpretation of results

A significant determinant of postop SUI was preop SUI status. Limitation of this study include its study design as a retrospective review of a case series. In addition, question #3 of UDI-6 cannot distinguish between urinary incontinence from possible recurrent diverticulum or de novo SUI.

10% of patients who underwent urethral diverticulectomy required a subsequent post operative anti-incontinence procedure. Approximately 50% of women are found to have SUI by UDI-6, although mild, after diverticulectomy. With no preop SUI, 27% are found to have de novo SUI by UDI-6. With known preop SUI, 73% are found to have SUI by UDI-6.

Concluding message A major determinant of postop SUI after diverticulum repair was preop SUI.

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**HUMAN SUBJECTS:** This study was approved by the Cleveland Clinic IRB and followed the Declaration of Helsinki Informed consent was obtained from the patients.