

## RISK FACTORS FOR RECURRENCE IN FEMALE URETHRAL DIVERTICULECTOMY: A RETROSPECTIVE STUDY OF 66 PATIENTS

### Hypothesis / aims of study

Urethral diverticulum (UD) is a relatively rare disorder, affecting 0.6-6% of women worldwide. The aim of this study was to identify the risk factors for recurrent diverticula to classify the prognosis and to instruct clinical decisions. Secondly, we aim to describe the surgical outcomes and postoperative complications in female urethral diverticula.

### Study design, materials and methods

A total of 66 patients underwent urethral diverticulectomies from Jan 2009 to Oct 2015 at our institution. Patient and diverticula characteristics were collected. Mean follow-up was 28.8 months (range: 4-85 months). Recurrence was defined as requiring a repeat diverticulectomy.

### Results

Mean age was 44.9 years. Mean duration of symptoms was 28.1 months. 7 cases had previous urethral surgeries. Mean diverticula size was 2.8 cm. Main clinical symptoms included dribbling (n=41), vaginal mass (n=41), dysuria (n=33), frequency/urgency (n=29), infection (n=24), stress urinary incontinence (SUI) (n=20), and dyspareunia (n=8). 10 cases had proximal diverticula, 10 cases had multiple diverticula and 35 cases had horseshoe/ circumferential diverticula. Postoperatively, the recurrence rate was 19.7%. Preoperative SUI disappeared in 14 cases and de novo SUI was developed in 6 cases. One case developed urethral stricture and no cases reported urinary fistula. Among 60 cases with pathological results, neoplastic change was seen in 1 case (1.7%). Besides, atypical hyperplasia (n=2) and metaplasia (n=3) were observed. Univariate analysis suggested that age, duration, follow-up, diverticula size, and diverticula shape weren't associated with surgical outcomes. Patients with multiple diverticula (p=0.032), proximal diverticula (p=0.042) and those with previous urethral procedures (p=0.004) were at risk of recurrent diverticula, confirmed by multivariate logistic regression analysis.

### Interpretation of results

In univariate analysis, we found no significant relationship between age at surgery and surgical outcome (p=0.196). There were no differences in duration (p=0.340) and follow-up (p=0.594) between success and recurrence groups. Previous urethral surgery was associated with high risk of recurrent diverticula (p=0.002). The proportions of large diverticula ( $\geq 3$  cm) in two groups were similar (p=0.948). Diverticula shape (p=0.579) had no relationship with surgical outcomes. However, trends were observed that multiple diverticula (p=0.067) and diverticula location (p=0.098) had a higher recurrent rate. Then, a multivariate logistic regression analysis was performed. The results confirmed that multiple diverticula (p=0.032), proximal diverticula (p=0.042) and previous urethral surgeries (p=0.004) were three independent risk factors influencing surgical outcomes of urethral diverticula.

### Concluding message

The surgical outcomes of urethral diverticulectomies were acceptable. Multiple diverticula, proximal diverticula and previous urethral surgery were three independent risk factors for recurrent diverticula.

### Disclosures

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