

Female Urethral Diverticulum Containing a Giant Calculus

A CARE-Compliant Case Report

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Abstract: Urethral diverticula with calculi have a low incidence as reported in the literature. Diverticulum of female urethra is rare, often discovered due to associated complications. We report a case of diverticulum of the female urethra containing giant calculi in a 62-year-old multiparous woman. She consulted with our office due to dysuria and a hard, painful periurethral mass in the anterior vagina wall. The diverticulum was approached surgically by a vaginal route, and local extraction of the calculi and subsequent diverticulectomy successfully treated the condition.

Diagnosis of a complicated diverticulum can be easily achieved if one possesses a high degree of clinical symptoms.

(*Medicine* 94(20):e826)

INTRODUCTION

Urinary stones are rarely seen in the urethra and are usually encountered in men with urethral stricture or diverticulum. Urethral diverticula can present in many ways, including recurrent urinary tract infections (UTIs), dysuria, increased urinary frequency, urgency, and hematuria. In addition to causing the symptoms above, diverticula also can be complicated with stones or malignancy, both of which can lead to bladder outlet or urethral obstruction. Stone formation has been reported to occur in 1% to 10% of patients with urethral diverticula.¹ Urinary stasis and chronic infection have been identified as the causes of calculi formation within urethral diverticula. The case of a woman with a giant calculus in a urethral diverticulum is reported.

CASE REPORT

A 62-year-old woman was first seen in the Urology Clinic complaining of a 1-year history of constant lower abdominal pain, dysuria, and dyspareunia. This was concomitant with repeated urinary infections. She also noted an increase in the volume of the vaginal wall that coincided with an increase of

pain in this area. She was on no home medications. We decided to further evaluate her recurrent infections. Written informed consent was obtained from the patient for the publication of this case report and any accompanying images.

The general patient examination was normal, but a focused genital examination revealed a large mass of approximately 4 cm near the urethra. Firmness was present in her rectal vault. Her abdomen was soft but mildly tender. She denied any costovertebral angle tenderness. When compressing the urethra, leakage of purulent discharge from the meatal orifice was noted. A kidney, ureter, bladder X-ray showed a giant calculi (Figure 1), and cystoscopy revealed an extrusion of the posterolateral distal urethra. On admission, vital signs were all normal and laboratory tests demonstrated microscopic pyuria (20–30/high power field).

The decision was made to perform a surgical extraction of the calculi and diverticulectomy. Spinal anesthesia was used for surgery. Before initiating the procedure, a Foley 20 probe was placed to isolate the urethra. A 2-cm incision was made in the median vaginal wall. The diverticulum was punctured by electrocautery and dissected with periurethral tissue, which allowed total removal of the calculi (Figure 2). A tagged 3-0 with silk suture was used to retract the diverticulum while extracting the calculi. Diverticulectomy was performed using a 3-layer closure. The operation lasted 35 minutes (Figure 3).

After surgery, the Foley catheter was kept in place for 7 days. Oral antibiotic therapy with ciprofloxacin was added and continued for 24 hours to prevent recurrent or persistent UTIs. The patient is doing well at 1-month follow-up.

DISCUSSION

The estimated prevalence of urethral diverticula in adult women is between 0.6% and 6%, and associated stone

Editor: Mohamed A BakyFahmy.

Received: February 6, 2015; revised: April 1, 2015; accepted: April 6, 2015.

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ZhiLong Dong and Hanzhang Wang contributed equally to this work. This work was supported by grant from Institute of Urology Projects in the Second Hospital of Lanzhou University.

The authors have no conflicts of interest to disclose.

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ISSN: 0025-7974

DOI: 10.1097/MD.0000000000000826



FIGURE 1. Radiograph showing giant calculi in a 60-year-old woman.



FIGURE 2. Stone removed from the urethral diverticulum.



FIGURE 3. The diverticulum with stone.

formation is reported in 1.5% to 10% of cases.² The cause of diverticula remains largely unknown and ranges from congenital to traumatic (instrumentation, childbirth) to infectious causes. The formation of abscesses and these may rupture into the urethral lumen, forming the diverticula.³ The quality of life of patients who have a diverticulum (especially with calculi) may be significantly disturbed because of complications such as dysuria, dyspareunia, UTI, and postvoid dribbling.

Any patient with lower urinary tract symptoms that have proved to be unresponsive to traditional treatment should be suspected of having a urethral diverticulum. In patients with urethral diverticula, cystourethroscopy may show the ostium in only 30% of patients. This finding may be due to inflammation or a small urethral lumen.⁴ Other ways to confirm a diagnosis of urethral diverticula are voiding cystourethrogram, intravenous pyelography, and ultrasonography. Presumably, a stone should also be visualized within the diverticula by one of these diagnostic modalities.

The issues that remain focus on determining symptomatic relief by conservative therapy, assessing satisfactory long-term treatment of diverticulum, and determining the possible benefit from surgical excision. However, the confirmation of number, site, and size of the diverticulum is important before operation to prevent complications such as urethral stricture, urethro-vaginal fistula and incontinence due to injury of sphincter.⁵

Diagnosis of a complicated diverticulum can be easily achieved if one possesses a high degree of clinical suspicion.

Thus, this diagnosis should be considered in the case of recurrent UTIs, hematuria, and dysuria, as well as in patients with masses felt on pelvic examination. Surgical approach with litholapaxy followed by diverticulectomy may reduce subsequent development of urethrovaginal fistula formation.

ACKNOWLEDGMENTS

The authors thank Professor Zhiping Wang, Institute of Urology, Second Hospital, Lanzhou University, for his surgery consultation.

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