

Image of an Urethral Diverticulum: A Giant Urethral Diverticulum Complicated by Acute Urinary Retention

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BRIEF HISTORY

A 35 year-old woman with acute urinary retention presented to a gynecologic clinic with a mass in the vaginal wall. Vaginal examination showed a 4 cm × 4 cm mass bulging from the distal anterior vaginal wall. Tenderness was noted on palpation. There were no obvious abnormal findings in the proximal vagina and cervix. She was thus referred to a urologic clinic for further evaluation.

CLINICAL EXAMINATION

On examination, a huge, tender mass was noted on the anterior vaginal wall and a distended bladder was found. A Foley catheter was thus placed.

IMAGING STUDY

Cystoscopy was performed and purulent discharge from a small slit was noted (Fig. 1). Magnetic resonance imaging (MRI) showed a huge diverticulum (Fig. 2).

SURGICAL INTERVENTION

The urethral diverticulum was excised through a trans-vaginal approach. Since the diverticulum was huge (Fig. 3) and a dissection plane could not be obtained, the diverticulum was opened and a large amount of purulent material was drained. The diverticulum was then successfully removed. The neck of the diverticulum was located in the

right postero-lateral aspect of the middle portion of the urethra. The urethra was repaired with enforcement with a Martius flap. The postoperative course was smooth and the Foley catheter was retained for 10 days. No complications were noted after removal of the Foley catheter.

DISCUSSION

A urethral diverticulum is an outpouching of the urethral mucosa. This condition occurs more often in women than men [1]. This disease was previously thought to be rare, but has been observed more frequently recently because of increasing awareness by physicians [2]. A urethral diverticulum can present with diverse symptoms mainly involving the lower urinary tract, including urinary incontinence, dysuria, hematuria, urethral discharge and pain on coitus. Paradoxical incontinence and stress urinary incontinence were initial symptoms in up to 62% of the patients in one study [1]. The most common physical findings are bulging and pain in the anterior vaginal wall. Urinary retention is not a usual presentation of this disease. Without awareness and a detailed physical examination, the diagnosis can be missed.

The diagnosis relies mainly on a careful physical examination. Voiding cystourethrography (VCUG) with a possible double balloon technique and transvaginal ultrasound are traditional image modalities in diagnosing urethral diverticulum. The advantages of VCUG and transvaginal ultrasound are real-time, dynamic images that facilitate interpretation. However, the diagnostic rates were reported to be 72% and 67% respectively, since other diseases such as Bartholin's gland cyst can not be well-distinguished [3]. MRI has been increasingly used for the diagnosis of a urethral diverticulum. The reported

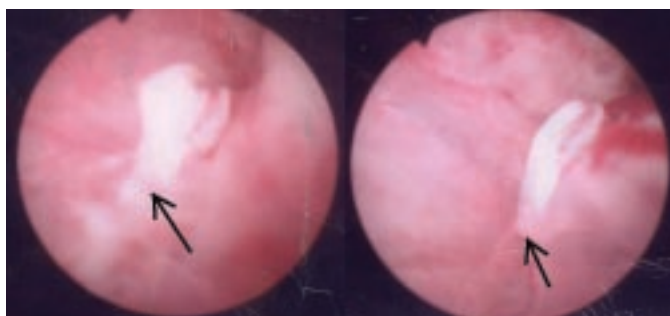


Fig. 1. Purulent discharge from a slit in the right posterior urethra (arrow) is noted during urethroscopy.

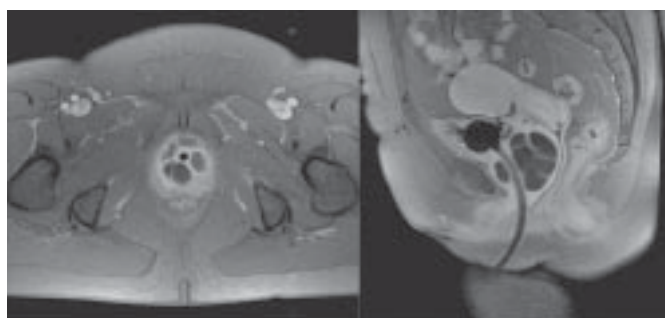


Fig. 2. Magnetic resonance imaging with a T1 FLASH 2-D sequence protocol. A circumferential urethral diverticulum is noted.

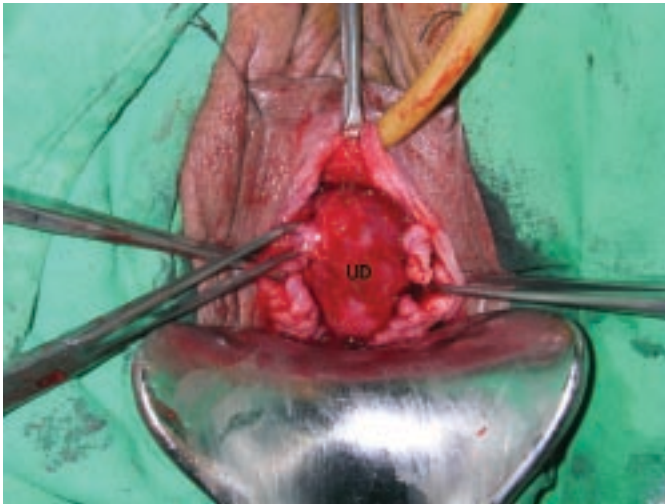


Fig. 3. The huge mass compressing the anterior vaginal wall is a urethral diverticulum (UD).

sensitivity can be 100% with sensitivities of 69% and 70% for VCUG and urethroscopy, respectively [4]. However, another report showed a

discrepancy rate of 24.4% between MRI and findings from surgical specimens [5]. The image protocol varies, but the most common protocols are T2 weighted images and high-resolution, fast spin echo sequences [6]. Care should be always taken when using MRI in diagnosing urethral diverticula.

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