Female Acute Urinary Retention Caused by Anterior Deflection of the Cervix Which was Augmented by an Uterine Myoma

Dah-Ching Ding*, Kwei-Shuai Hwang[1]

Department of Obstetrics and Gynecology, Buddhist Tzu Chi General Hospital, Tzu Chi University, Hualien, and [1]Department of Obstetrics and Gynecology, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan.

Acute urinary retention rarely affects women of reproductive age, because it is an anatomic peculiarity. The incidence of acute urinary retention is only 7 in 100,000 persons per year [1]. The most common causes of obstructive retention are gynecologic surgery and pelvic masses. We herein report a case of acute urinary retention caused by impaction by a uterine myoma.

The patient was a 45-year-old, gravida 3, para 2, woman with regular menstrual cycles, who presented to the gynecologic clinic with a 1-year history of intermittent urinary retention. If she prolonged the time between voidings, bladder emptying became difficult. However, she always voided with a strong Valsalva maneuver and had to void every 3–4 hours to prevent urinary retention. The patient noted her first episode of urinary retention in May 2006. When she attempted to void, she was unable to initiate voiding despite standing, or using the Valsalva maneuver, suprapubic pressure or digital manipulation of the cervix. She went to the emergency room where Foley catheterization was performed, and 1,000 mL of urine was drained. She had several more episodes of retention requiring catheterization over the next 6 months.

Acute urinary retention was noted when she came to our gynecologic clinic. Physical examination revealed that her bladder was distended. Transabdominal ultrasonography indicated a retroverted uterus with a large uterine myoma which was pressing the bladder toward the abdominal wall (Figure). Bladder catheterization yielded 800 mL of clear urine. Neurologic examination was normal. No evidence of decreased sensation of the perineum or a decrease in levator muscle tone was found. Speculum examination showed that the cervix could not be visualized secondary to the anterior deflection. On bimanual examination, the uterus was the size of 12 weeks' gestation, and a large uterine myoma was located in the posterior wall. Transvaginal ultrasound revealed a posterior fibroid mass 5.7 × 4.3 cm in size.

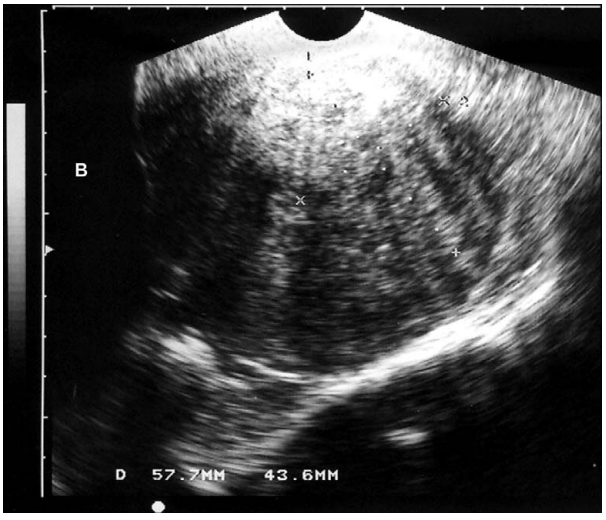

Figure. Transvaginal ultrasonography revealing a 5.7 × 4.3 cm posterior myoma compressing the lower portion of the bladder.

The patient underwent a laparoscopic-assisted vaginal hysterectomy for symptomatic uterine myoma. On postoperative day 1, she was able to void spontaneously. While in the hospital, her voids ranged from 250 to 500 mL, with a post-void residual volume of less than 50 mL as checked after the first three voids. The patient no longer required special maneuvers to void. At the 4-week follow-up, the patient had no difficulty in initiating voiding or emptying her bladder.

Obstructive urinary retention is an uncommon event in women of reproductive age without previous surgery. An impacted pelvic mass has also been described as a rare cause of urinary retention [2]. This problem can also be seen in pregnancy with an incarcerated uterus [3]. Trauma to the pelvis or perineum may cause either a hematoma or edema [4].

Correspondence to: Dr Dah-Ching Ding, Department of Obstetrics and Gynecology, Buddhist Tzu Chi General Hospital, 707, Chung Yang Rd., Section 3, Hualien 970, Taiwan.
E-mail: dah1003@yahoo.com.tw
Accepted: January 30, 2008

In one case series, six cases with acute urinary retention were reported; among them, three were caused by a uterine myoma [5]. Among the three patients, the impacted uterine myoma displaced the cervix superiorly and anteriorly, with the patient in the supine position. The resulting pressure augmented uterine impingement upon the lower part of the bladder and obstruction of the internal urethral orifice. An overdistended urinary bladder leads to intensified bladder outlet obstruction, giving rise to urinary retention [5]. In that study, the women were able to void while standing but not in a sitting or supine position [5]. In our case, urinary retention was likely due to the posterior deflection of the uterus, with the myoma causing anterior deflection of the cervix which compressed the bladder neck region. When the bladder was drained, the cervix was rotated away from the bladder neck and normal voiding could occur.

To avoid urinary retention caused by a uterine mass, the following are recommended: (1) limit fluid intake before sleep, (2) change one's position from supine to prone prior to urination, and (3) lean forward when initiating voiding. It is suggested that the Valsalva maneuver be avoided to maintain voiding [5,6].

Once urinary retention occurs, the effect caused by the mass has to be decreased to restore the urinary passage. Removing the mass is a definitive treatment to correct the causal disorder. Clean intermittent self-catheterization is also suggested before the mass can be removed [6].

Transvaginal ultrasound or magnetic resonance imaging may provide radiologic confirmation of the suspected etiology if the cervix appears to be compressing the bladder neck or urethra [7]. If a uterine myoma is strongly suspected as the etiology of urinary retention and fertility is not desired, hysterectomy is the mainstay of management. However, regardless of the uterine myoma size, a myoma in an inappropriate location will cause many urinary problems such as urinary retention.

References

1. Choong S, Emberton M. Acute urinary retention. *BJU Int* 2000;85:186–201.
2. Friedman AJ. Acute urinary retention after gonadotropin-releasing hormone agonist treatment for leiomyomata uteri. *Fertil Steril* 1993;59:677–8.
3. Feusner AH, Mueller PD. Incarceration of a gravid fibroid uterus. *Ann Emerg Med* 1997;30:821–4.
4. Curtis LA, Dolan TS, Cespedes RD. Acute urinary retention and urinary incontinence. *Emerg Med Clin North Am* 2001; 19:591–619.
5. Yang JM, Huang WC. Sonographic findings of acute urinary retention secondary to an impacted pelvic mass. *J Ultrasound Med* 2002;21:1165–9.
6. Hosokawa Y, Kishino T, Ono T, Oyama N, Momose H. Two cases of female acute urinary retention caused by an impacted pelvic mass. *Int J Urol* 2005;12:1069–70.
7. Barnacle S, Muir T. Intermittent urinary retention secondary to a uterine leiomyoma. *Int Urogynecol J Pelvic Floor Dysfunct* 2007;18:339–41.