INFILTRATING ENDOMETRIOSIS OF THE URINARY BLADDER MIMICS LOWER SEGMENT MYOMA OF THE UTERUS

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SUMMARY
Objective: Bladder endometriosis is a rare disease with variable symptoms. No definite treatment for this disease has been documented due to its rarity. We present a case of bladder endometriosis mimicking a lower segment uterine adenomyoma.

Case Report: A 25-year-old woman presented with the complaint of severe dysmenorrhea and suprapubic tenderness of 6 months’ duration. Transvaginal ultrasonography showed a lower segment heteroechogenic mass of the uterus. Laparoscopy revealed a mass on the posterior wall of the urinary bladder after dissection of the vesicouterine fold. Cystoscopy confirmed that the lesion was confined to the muscular layer, without involvement of bilateral ureter orifices. Partial cystectomy was performed during exploratory laparotomy. Bladder endometriosis was confirmed by pathology. The patient had an uneventful recovery. The postoperative severity of dysmenorrhea was reduced to half that experienced preoperatively.

Conclusion: Women with bladder endometriosis may have no symptoms during urination. A high index of suspicion of bladder endometriosis is necessary when a heteroechogenic mass in the anterior lower segment of the uterus is detected on pelvic ultrasound. [Taiwanese J Obstet Gynecol 2005;44(4):375–377]

Key Words: bladder endometriosis, pelvic ultrasound, uterine adenomyoma

Introduction

Bladder endometriosis was first described in 1960 as a deeply infiltrating endometriosis of the anterior pelvis [1]. Typical vesical endometriosis appears on cystoscopy as edematous, bluish submucosal lesions that are usually located posterior to the trigone or on the dome [2]. Some lesions can be large or multiple, but are more often solitary, with an average size of 1 cm in diameter [3].

Preoperative diagnosis is difficult due to the varied locations of the lesions. Most patients have bladder endometriomas that are transmural, which become intravesical endometrioma upon penetration into the bladder mucosal layer. The clinical dilemma occurs because bladder endometriosis can mimic lower segment myomas or adenomyomas [4,5]. Routine transvaginal sonography is not sufficient for the diagnosis and localization of bladder endometriosis. Magnetic resonance imaging (MRI) for the detection of deeply infiltrating endometriosis has been advocated in recent years [6]. However, laparoscopy combined with cystoscopy can help to confirm the entity of bladder endometriosis. Here, we present a patient with equivocal findings of endometriosis upon laparoscopy, with the final pathology of the biopsy proving endometriosis of the urinary bladder.

Case Report

A 25-year-old nulligravid woman complained of dysmenorrhea with a sharp sensation of pain over the suprapubic area for 6 months. She denied having dyspareunia, dysuria, hematuria, urinary frequency and urgency. The results of her urine analysis were normal.
She had never undergone any pelvic surgery. On examination, tenderness without palpable mass was noted in the suprapubic area. Transvaginal sonography revealed that the uterus measured 40 × 36 × 32 mm, combined with a lower segment mass of heterogeneous echogenicity (next to the cervical canal) measuring 54 × 44 × 36 mm (Figure 1). The serum concentration of CA125 was 88.9 U/mL (reference level, < 35 U/mL). The impression was adenomyoma of the anterior uterine wall.

Laparoscopy revealed a smooth anterior uterine serosal reflection (Figure 2A). A bulging mass, 4–5 cm in diameter, on the posterior wall of the bladder was discovered. Urologic consultation was requested and cystoscopy showed normal bladder epithelium and no involvement of bilateral ureteric orifices; however, there was a bluish swelling from the posterior bladder base causing a mound effect in the bladder (Figure 2B). Conversion to exploratory laparotomy was decided due to the uncertain nature of the uterine-vesical mass. The necrotic and rough mass was resected and sent for frozen section, which revealed benign endometriotic tissue with bladder wall infiltration. The urinary bladder was repaired with chromic sutures in two layers. There were no endometriotic lesions on the bilateral adnexae or cul-de-sac. Total blood loss was 180 mL. The final pathologic report showed that more than 90% of the lesions consisted of smooth muscle hyperplasia in the adenomyotic nodule of bladder endometriosis.

A urinary catheter was placed for 7 days. The patient was discharged without voiding difficulty. She experienced much improvement in dysmenorrhea during the first menstruation postoperatively. There was no recurrence of the sharp suprapubic pain, and serum CA125 was 22.3 U/mL 2 months after the operation.

**Discussion**

Urinary bladder endometriosis, although uncommon, is being reported in the literature with increasing frequency [3–5], but there are still few reports of this entity. In our case, the patient did not complain of any genitourinary symptoms such as menouria. Usually, women with bladder endometriosis present with symptoms identical to those of interstitial cystitis, such as suprapubic pain, lower back pain, dysuria, urinary urgency, urinary frequency, hematuria, and urospasm. Our patient experienced sharpening suprapubic pain, which indicated possible pelvic endometriosis. However, the pelvic examination revealed a normal-sized uterus and no cul-de-sac nodularity. It was difficult to detect

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*Figure 1. Transvaginal sonography showed a heterogeneous mass, measuring 54 × 44 × 36 mm, suggesting lower segment adenomyoma within the uterus (which measured 40 × 36 × 32 mm). There is some continuity between the uterus and the mass (arrow).*

*Figure 2. (A) Laparoscopic photograph shows a smooth anterior uterine serosal reflection. (B) Anatomic sketch showing the position of the swelling at the posterior base of the bladder. B = bladder; M = invisible bulging mass measuring 4–5 cm in diameter; U = uterus.*
any anterior pelvic endometriotic nodules by vaginal examination.

Endometriotic lesions of the urinary bladder are usually diagnosed by cystoscopy. Preoperative MRI study of urinary bladder endometriosis can reveal the specific entity of vesicouterine reflection and offer better imaging of suggested urinary bladder endometriosis than two-dimensional pelvic sonography [6]. However, three-dimensional pelvic ultrasound in a longitudinal view of the uterus with a distended bladder can show the infiltration of the bladder endometriosis and may be more cost-effective than MRI during clinical management.

A recent study of the pathogenesis of urinary bladder endometriosis showed that bladder endometriosis may originate intraperitoneally in the vesicouterine pouch or subperitoneally in the vesicovaginal septum, which is associated with adenomyosis [7]. In our case, as the uterus was of normal size and had a normal surface, the bladder endometriosis is more likely to have originated from the implantation of regurgitated endometrial cells from metaplasia of the Mullerian remnant of the vesicouterine septum, rather than from adenomyosis.

The treatment of deeply infiltrating endometriosis is individualized. However, no large serial studies have been conducted to compare the therapeutic efficacy of medical or surgical therapy. Patient age, severity of symptoms, overall distribution of endometriosis, desire for reproduction, and size of the vesical lesion should be considered in order to determine the most appropriate therapy for urinary bladder endometriosis [8].

The surgical options for pelvic endometriosis include electrocoagulation, segmental resection of endometriotic nodules, and laparoscopic presacral neurectomy. It has been reported that deep infiltrating endometriosis varies in size and morphology. Some researchers have proposed that bladder endometriosis must be considered as bladder adenomyosis and should be resected extramucosally [4]. Alternatively, partial cystectomy can be performed using laparoscopy [8–10]. Although laparoscopy avoids the morbidity of laparotomy and provides better visualization of the extent of bladder resection, it offers a desirable approach only in patients with endometriotic lesions that have been diagnosed as bladder endometriosis preoperatively. In our patient, the lesions were embedded into the uterine serosa and the posterior wall of the urinary bladder. Due to the uncertainty regarding the nature and extent of the mass, it seemed more appropriate to dissect the nodule by laparotomy. This reminds us that deeply infiltrating endometriosis may not be detected by laparoscopy. If bladder endometriosis is suggested, intraoperative bimanual examination is important. Exploratory laparotomy may offer suitable management of infiltrating bladder endometriosis.

Partial cystectomy is the treatment of choice for patients with bladder endometriosis. Most researchers reported no recurrence at the urinary tract or functional urologic symptoms after operation and follow-up of 2 years [11,12]. In partial cystectomy, bilateral ureteral orifices should be carefully spared. Urologists should be consulted to reconstruct the bladder in patients with diffuse endometriotic lesions and with bladder trigone involvement. We present this case to help clinicians become aware that urinary bladder endometriosis may occur with different morphologies. Surgical treatment needs to be individualized to the patient and combined with skillful technique to result in optimal clinical outcomes.

References