Diagnosis and multidisciplinary management of bladder endometriosis:
A case report

Diagnóstico y manejo multidisciplinario de endometriosis vesical: reporte de caso

Roberto Albinagorta Olórtegui1, Vicente Paul Ramos Barrientos2, Alexis Alva Pinto3

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ABSTRACT
Bladder endometriosis is a rare medical entity, diagnosed by clinical and imaging procedures. Transvaginal ultrasound is the first line technique for diagnosis. The treatment is laparoscopic, with good results. We present the case of a patient with this pathology, with multidisciplinary surgical approach and satisfactory evolution in the control of the disease.

Key words: Endometriosis, Ultrasonography, Laparoscopy, Cystectomy.

RESUMEN
La endometriosis vesical es una entidad médica poco frecuente, que se diagnostica mediante procedimientos clínicos y de imágenes. La ecografía transvaginal es la técnica de primera línea para el diagnóstico. Su tratamiento es laparoscópico, con buenos resultados. Presentamos el caso de una paciente con esta patología, con abordaje quirúrgico multidisciplinario y evolución satisfactoria en el control de la enfermedad.

Palabras clave. Endometriosis, Ultrasonografía, Laparoscopia, Cistectomía.

INTRODUCCIÓN

Deep endometriosis is defined as the presence of lesions that infiltrate more than 5 mm in depth below the surface of the peritoneum, or that compromise and distort the bowel, bladder, ureters, or vagina(1-3). Bladder endometriosis (BE) consists of the presence of endometrial glands and stroma in the detrusor muscle, with the base and dome of the bladder being the most frequently affected locations(4). The incidence of endometriosis of the urinary tract varies between 0.3% - 12% of patients with endometriosis, with 70% - 85% of cases corresponding to BE.

Once considered a very rare pathology, it is increasingly accepted that BE is probably underdiagnosed due to the non-specific symptoms that accompany it, such as dysuria, urgency, increased urinary frequency, suprapubic pain, bladder tenesmus, incontinence and hematuria, simulating other urological conditions such as recurrent cystitis, interstitial cystitis or chronic urethral syndrome. This non-specific presentation and insidious onset can considerably delay diagnosis, resulting in increased morbidity and erroneous treatments(2,5-7).

Transvaginal ultrasound (TVU) is the first-line technique for the diagnosis of BE, due to its low cost, high availability and safety profile, as it does not use ionizing radiation(5). In most cases it does not require complementation with other imaging techniques to make the diagnosis(8,9). In recent years, the International Deep Endometriosis Analysis (IDEA) group has published a consensus document(10) to standardize the ultrasonographic evaluation of the pelvis in women with suspected deep endometriosis. This publication is currently a guide to the systematic evaluation of the anterior and posterior compartments of the pelvis that allow the diagnosis and mapping of deep endometriosis lesions using TVU.
The treatment of BE is controversial. Being a rather rare condition, it is practically unfeasible to perform randomized studies. The type of treatment may depend on several factors, such as age, fertility expectancy, extent of the disease, severity of urinary symptoms, presence of other pelvic lesions and the degree of menstrual dysfunction. Treatment may be medical, surgical or a combination of both\(^5\). In this work we present our experience in the diagnosis and management of a case of BE using a multidisciplinary approach, with satisfactory results for disease control.

**Clinical case**

The 34-year-old patient was attended in a first consultation with an illness of approximately 6 months, characterized by pollakiuria, hypogastric pain, dyspareunia and mild dysmenorrhea. Physical examination revealed ill-defined pelvic pain, without palpable masses. A conventional TVU showed a 7 cm bilobated cystic formation in the right ovary, a 4 cm cyst with internal echoes in the left ovary and an intramural myoma. A urine culture was requested, the result of which was negative. Laparoscopy was performed finding severe endometriosis, obliterated posterior cul-de-sac, bilateral ovarian endometriomas and a possible endometriotic bladder lesion. Surgical wedge removal was performed on both ovaries and release of adhesions. Postoperatively, treatment with GnRH analogue was indicated for 3 months.

Six months after surgery, the patient came for follow-up due to persistence of the symptoms described above. A new TVU was performed, this time using the systematic approach described by the International Deep Endometriosis Analysis (IDEA) group for ultrasonographic evaluation of the pelvis in women with suspected deep endometriosis. The examination showed the presence of hypoechoic, heterogeneous, nodular image, located in the bladder dome, measuring 24 x 16 x 18 mm, which completely infiltrated the bladder wall, with a negative signal on color Doppler flowmetry. There was no evidence of infiltration of the vesico-uterine septum, with the presence of a positive sliding sign in the anterior compartment. In addition, ultrasound findings suggestive of adenomyosis were observed in the uterus (Figure 1-2).

With these findings the patient was referred to the urologist for case management. An MRI was performed confirmed the presence of endometriotic implants in the fundus and anterior aspect of the bladder. In a first intervention, transurethral resection of the bladder tumor was performed, finding an exophytic tumor, ma-

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**Figure 1. Sagittal and axial sections of the bladder show a hypoechoic, heterogeneous, nodular image located in the bladder dome, measuring 24x16x18 mm, which completely infiltrates the bladder wall.**
Endometriosis of the urinary tract is present in slightly more than 50% of cases of deep endometriosis. While the symptoms of ureteral endometriosis are nonspecific, BE symptoms help predict its location in 70% of cases. It is even described that lesions at the base of the ureteral are more symptomatic than those affecting the bladder dome. Most of the times, the clinical picture manifests as an acute urethral syndrome with increased voiding frequency, tenesmus, burning sensation, dysuria, as well as suprapubic pain and discomfort, which coincides with the discomfort reported in the present case.

The immediate postoperative period passed without intercurrences, being discharged after 24 hours with a Foley catheter, which was removed after 2 weeks. She presented urinary tract infection by Escherichia coli BLEE, which was controlled, and the patient was discharged from Urology 6 weeks after the operation.

**Discussion**

Endometriosis of the urinary tract is present in slightly more than 50% of cases of deep endometriosis.
50% is explained by the fact that the detection rate is strongly related to the size of the lesion, with implants < 3 cm being less frequently detected by TVU\(^{(4)}\). In this case, the presence of a typical ultrasound image of heterogeneous aspect, hypoechoic, nodular, protruding from the bladder dome towards the bladder lumen and with negative signal to color Doppler, helped to confirm the suspicion of a bladder lesion found at the first laparoscopy. The same were found on MRI. It has been pointed out that MRI could have an advantage over TVU in the detection of lesions < 2 cm, especially when an endocavitary marker is used\(^{(14)}\), so it can be considered as a second-line technique for the diagnosis of BE\(^{(4,5,8)}\). Cost is the main factor against MRI, considering that in experienced hands the diagnostic accuracy of both techniques is similar; with a great advantage for TVU in its cost-effectiveness ratio, the routine use of MRI in clinical practice for the diagnosis of BE is not recommended\(^{(4,8)}\).

Since 1999, the surgical treatment proposal for BE has been partial cystectomy by laparoscopy, with excellent clinical results\(^{(15)}\). Transurethral resection is not recommended\(^{(4)}\), unless a complementary and definitive resection is performed by laparoscopy\(^{(10)}\). In the present case, we found a patient with suggestive symptomatology, but the clinical suspicion and the first ultrasound image were insufficient, since BE was not suspected in the first instance. In the first laparoscopy the lesion was observed, but the surgical equipment was not adequate for resection. With this finding, the recurrence of the symptomatology and the second ultrasound evaluation, the patient underwent adequate multidisciplinary management with optimal results for disease control. We highlight the fact that the current recommendation is that in patients with suspected endometriosis, the study should be systematically performed to rule out bladder and urinary tract involvement\(^{(10,17)}\).

**References**


