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Oncology

An isolated bladder endometriosis misdiagnosed as a bladder tumor

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A B S T R A C T

Urinary bladder endometriosis as a part of deep infiltrating pelvic endometriosis is well known, but isolated bladder involvement is very rare. A 36-year-old woman, who had two cesarean sections, was complaining of dysuria, frequency and burning micturition. MRI showed a tissular mass probably originating from the cervix and suggestive of a sarcoma. Cystoscopy identified a nodular bluish retro trigonal mass, which was completely resected. Histopathological examination was consistent with a bladder endometrioma. The patient had a conservative treatment based on estrogen-progesterone combination. After three months' follow-up, ultrasound and cystoscopy were performed showing no signs of recurrence.

Introduction

Endometriosis is defined by the presence of functionally active endometrial glands and stroma outside the uterine cavity. It affects around 10% of women of reproductive age. Ovaries, ovarian fossa, uterosacral ligaments, rectovaginal septum, and Douglas' Pouch are the most common sites for endometriosis. Urinary tract involvement is rare and accounts for approximately 1% of women with endometriosis.[1] Bladder endometriosis (BE), defined by the presence of endometriosis in the detrusor muscle, is the most frequent type of urinary tract endometriosis, occurring in 70–85% of cases. The diagnosis is usually misleading and mimicking recurrent cystitis. A better knowledge of this entity could help the physicians to highly suspect the diagnosis and avoid prolonged morbidity. We report a rare case of isolated bladder endometriosis misdiagnosed initially as a bladder tumor.

Case presentation

A 36-year-old woman was referred to our department after being seen by many physicians for recurrent cystitis with no evidence of bacterial growth in her urinalysis. The patient was married for 14 years and had 3 children. She had two cesarean sections with the last one being performed 6 years back. Her chief complaints were dysuria, frequency and burning micturition. These symptoms were not influenced by her regular menstrual cycles. There was no history of hematuria. On physical examination, she had a body mass index of 29 kg/m^2, her cesarean scar was solid with no particularities. The genital examination showed a normal cervix and vagina. There were no uro-genital prolapses or urinary incontinence during coughing effort. Laboratory investigations were normal in particular urinalysis. Abdominal ultrasound revealed a round hypoechogenic mass measuring 20 mm in diameter budding from the urinary bladder trigone with signs of extension to the cervix. We performed magnetic resonance imaging (MRI) that showed a heterointense mass measuring 45× 35 mm probably originating from the cervix and extending to the posterior wall of the bladder trigone suggestive of sarcoma, and there were no other pelvic lesions (Fig. 1). Cystoscopy identified a nodular bluish retro trigonal mass. Complete transurethral resection of the lesion was carried out and a dark chocolate-like content came out this lesion during resection. Histopathological examination was consistent with a bladder endometrioma (Fig. 2).

We offered a surgical segmental bladder resection to the patient to guarantee complete removal of the endometrioma and minimize recurrence but the patient refused it. She was then treated with an estrogen-progesterone combination. After three months' follow-up, ultrasound and cystoscopy were performed showing no signs of recurrence.

Discussion

Bladder endometriosis (BE) is defined as the ectopic presence of endometrial tissue, glands, and/or stroma that invade the detrusor muscle and/or other planes of the bladder wall. The base and the dome are the most frequently affected sites. It can present as a primary lesion in women who have not previously undergone gynecological surgery or may be secondary to pelvic surgery, essentially after a Cesarean section,

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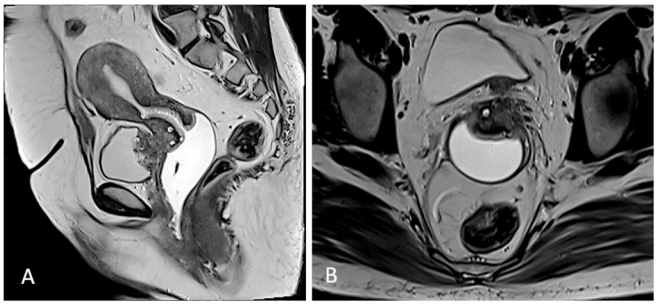

Fig. 1. Magnetic resonance imaging: (A) sagital and (B) oblique T2-sequence showing a tissular heterointense trigonal lesion measuring $45 \times 35 \times 32$ mm with loss of fat planes between anterior myometrium and trigonal bladder serosa, there were no other pelvic lesions.

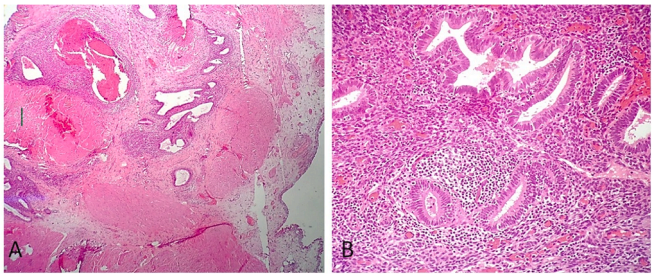

Fig. 2. Histopathological examination showing (A) transitional epithelium with endometrial glands H&Ex10 (B) endometrial glands of variable size with cytogenic chorion H&Ex40.

and less commonly after hysterectomy.

The etiology of BE remains unclear but three major theories attempt to explain its mechanism[2]: (1) Embryonal theory with BE originating from metaplasia of Müllerian remnants within the uterine-vesical area. (2) Extension of adenomyotic lesions arising in the myometrium but in most series published, no adenomyotic nodules of the uterine wall were found in association with BE making the uterine adenomyosis extension theory unlikely. (3) The migratory theory (Sampson's theory) by retrograde menstruation through the Fallopian tubes, post-pelvic-surgery seeding, and blood or lymphatic seeding is the most widely accepted hypothesis supported by the lesions distribution and a frequency of caesarean section among women with BE equal to 15%.[2] The latter theory is consistent with our case where the patient had previously undergone 2 cesarean sections.

In most cases, BE is associated with LUTS such as dysuria, frequency, gross hematuria typically during menstruation, and less frequently urgency, bladder pain, or even acute bladder retention.[3] These symptoms may worsen during menstruation or may have a noncyclical presentation. Urine cultures and cytology studies are generally negative.

Ultrasonography is fundamental in the diagnosis of BE and in planning the most appropriate treatment since it can be used to evaluate the location and the size of the nodule and to estimate the distance between the lesion borders and the ureteral orifices.[4] MRI should be regarded as a second-line imaging technique for BE assessment. It allows for better identification of the lesion and assessment of bladder wall infiltration. It potentially presents the advantage of identifying other sites of endometriosis in comparison with ultrasonography.[4]

Cystoscopy is a diagnostic procedure; it allows an estimation of the distance between the ureteral orifices and the nodule borders, which helps planning the most appropriate surgical approach. Histopathological examination after transurethral resection allows the definitive diagnosis by showing the presence of endometrial glands in the bladder wall.

Once the diagnosis of BE has been established, treatment needs to be individualized according to the patient's age, the severity of symptoms, extent of the disease, parity, and associated pelvic diseases. Clinical management can be conservative, using hormonal therapies, or surgical. For patients undergoing medical treatment, estrogen-progesterone combinations and progestogens should be preferred because of their tolerability and favorable safety that allow prolonged periods of therapy.[5] However, medical treatments usually are only palliative, and symptoms generally recur on discontinuation.[5] Surgical treatment is therefore the definitive treatment of BE. The primary goal of surgery is the complete removal of the bladder nodule, through transurethral resection of bladder, an open or laparoscopic segmental resection of the bladder.[5] Whenever possible, complete transurethral surgical resection should be performed as it is currently considered the treatment of choice.[2,3] Indeed, it would not alter the patient sexuality, has lower postoperative morbidity and would not increase the risk of urogenital prolapse later in life.[5]

Conclusion

Bladder endometriosis is rarely an isolated condition and its diagnosis is challenging. Women of reproductive age complaining of urinary symptoms, most often during the menstrual cycle, should be investigated for the presence of BE. Depending on the clinical manifestation, both urologists and gynecologists may deal with this entity, and their collaboration may be required for clinical management.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

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Declaration of competing interest

None declared.

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