

Bladder Endometriosis an Improbable Cause of Hematuria



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Abstract

Endometriosis is a fairly frequent gynecological condition (it affects 10-15% of fertile women) defined as the implantation of endometrial tissue outside the uterine cavity. Seldom does it affect the urinary tract, being the bladder the most frequent site of implantation. A late diagnosis may convey high patient morbidity.

Clinical case: A 27 years old woman was directed from the GP to our unit presenting suprapubic pain and urinary storage symptoms concomitant with menstruation. After a thorough physical examination and battery of tests, a bladder mass was found and resected the histology result being stromal endometrial tissue.

Discussion: Bladder endometriosis is a rare condition representing 1% of all endometriosis cases. It may be defined as primary or secondary, depending on its etiology. Patients may present cyclic urinary storage symptoms, with predominance during premenstrual period and may be asymptomatic as well. Menouria is not very common, appearing in only 20-25% of cases. It is of the utmost importance to rule out tumoral etiology by performing urinary tract ultrasound, cytology and cystoscopy. Currently the treatment is mainly surgical, eventually associated with hormonal therapy. The overall recurrence rate is about 30%.

Conclusion: The bladder is the most common affected site in urinary tract endometriosis. Urologists should know its main features in order to achieve correct diagnosis and treatment. We think a combined approach, both surgical and medical, seems to be the best course of treatment

Keywords: Endometriosis; Bladder endometriosis; Hematuria

Abbreviations: BE: Bladder Endometriosis; TUR: Transurethral Resection; GnRH: Gonadotrophin Releasing Hormone; US: Ultrasound

Introduction

Endometriosis is a fairly frequent condition defined as the presence of endometrial tissue outside the uterine cavity [1]. It is a disease that affects mainly young fertile women being extremely rare in postmenopausal individuals [2] as endometrial tissue dwells on estrogen to grow.

Locations of endometriosis are essentially the ovaries, uterosacral ligaments, fallopian tubes, cervical neck and vagina [3]. Urinary tract involvement is rare (around 1-2%), with urine bladder involvement in roughly 84% of cases.

Bladder Endometriosis (BE) can be classified as primary or secondary according to the onset type: primary BE is a spontaneously occurring disease, while secondary BE is defined as a iatrogenic lesion, occurring after pelvic surgery such as c-section [4,5]. Up to 50% of patients with BE have a history of pelvic surgery.

Nowadays BE pathogenesis is still unclear and object of debate, although three main etiologic hypothesis are supported: the Embryonal theory states that BE might originate from the Mullerian remnants [6]; the Migratory theory which postulates that products of menstruation reach the pelvis through the fallopian tubes in a retrograde fashion [4,5] and the Metaplasia theory in which metaplasia transformation of the peritoneum or vesical mucosa would be accountable for BE.

Clinical case

A 27- year- old non smoker woman was referred from the General practitioner to our unit presenting suprapubic discomfort and pain during micturition as well as urinary tract voiding symptoms for the last 4 months. The urine examination presented microhematuria while urinary citology was negative for malignant cells. CA 125 biomarker was within normal

range. During a thorough anamnesis, macroscopic hematuria was not found but the patient complained about tenesmus and catamenial urinary tract voiding symptoms without menouria. Bearing in mind Bladder Endometriosis as a possible diagnosis, a urinary tract ultrasound was requested, revealing the presence of a thickened wall on the posterior aspect of the bladder (approximately 3.5cm in diameter) which needed further investigation: flexible urethroscistoscopy described a normal urethra and a blueish non papillary, cystic type of lesion on the base of the bladder with normal ureteral openings. A gynecological evaluation by the OB-GYN unit was performed to rule out other sites of Endometriosis; a full clinical gynecological examination and a transvaginal ultrasound proved both normal. We proceeded to perform a Transurethral resection of the described lesion (TUR) being able to identify the presence of what apparently were old hemorrhage areas interleaved with sane mucosae tissue. Confirmation was obtained after microscopic tissue analysis in which endometrial stroma with the muscularis propria was identified. At the present moment the patient is asymptomatic following a gonadotrophin releasing hormone (GnRH) agonists treatment.

Discussion

To diagnose and identify a possible BE it is of the utmost importance to know the disease's manifestations and symptoms. These symptoms may vary considerably (some patients may be asymptomatic) and depend on size and location of the lesion [7-9]. As a matter of fact, the condition usually manifests itself as an acute syndrome with tenesmus, burning sensation, suprapubic discomfort and dysuria [8,9] all of which present in our patient, whilst hematuria seems to be a less frequent symptom. Menouria (hematuria concomitantly with menstruation) is not a common manifestation, appearing around in 20% of cases, usually when the mucosa is affected [10].

These symptoms are not specific of BE as they overlap other urological conditions such as cystitis or bladder carcinoma. Moreover, malignant transformation has been described in the form of adenocarcinoma or adenosarcoma, so follow up is important [11]. Extensive bladder lesions are not common, albeit 50% can be palpable as a mass on anterior fornix.

Ultrasound (US) is the first step in diagnosis of BE. It is a low cost, readily available and radiation free complementary examination. It can also be performed transvaginally, reaching a specificity value close to 100% and sensitivity around 50% [9].

Pelvic magnetic resonance and computer tomography can be especially useful as a complementary examination in complex cases of endometriosis, as they evaluate accurately the possibility of other organs being affected [2].

On the other hand, cystoscopy is a paramount test, as it usually confirms the presence of a bladder lesion and enables the urologist to perform a biopsy of the lesion to achieve histologic confirmation. BE lesions might change with the different phases

of the menstrual cycle, but they are often described as irregular and nodular, not ulcerated, with a brown to blue color array. Our patient presented a blue, cystic type of lesion, not ulcerated on the base of the bladder, being the surrounding mucosa normal [12,13].

BE treatment is a combination of both surgical and medical treatment. An accurate preoperative workup is essential for planning a correct approach. It is fundamental to rule out malignancy and to define local extension of the lesion.

TUR is usually the preferred option when the lesion is confined to the bladder or bladder wall. In this case, there is a high risk of bladder perforation if the TUR is complete and of relapse if it is incomplete and not enough depth is achieved during the procedure. Extrinsic forms of the disease, which locally affect other organs and/or peritoneum, need a more aggressive approach consisting in partial cystectomy which should be performed laparoscopically if feasible. Laparoscopy also allows simultaneous treatment of any extravesical lesions and concomitant castration with or without hysterectomy (preferable approach in patients without pregnancy desire). Small lesions can be treated using laser therapy [14].

The aim of the medical treatment is to induce regression of the endometrial tissue inside the bladder [15-17]. Different types of drugs have been classically used, essentially hormone therapy consisting in gonadotrophin-releasing hormone (GnRH) agonists and antagonists and oral contraceptives. Although these drugs may reduce or alleviate the severity of the symptoms, they are not a definitive solution; moreover, they are associated with suboptimal safety and tolerability and postpone pregnancy wishes.

In our case, after a thorough examination, endometriosis was confined to the bladder wall, so we decided to perform a transurethral resection of the lesion, with good surgical margins and depth followed by oral contraceptives for 6 months. We believe that a combined therapy, both surgical and medical, is the correct option as there is a high probability that TUR is incomplete due to the lesions' characteristics (usually transmural).

Conclusion

Bladder Endometriosis is a rare clinical condition; knowing and recognizing its symptoms is of paramount importance in order to perform a correct treatment and avoid unwanted morbidity. We think combined treatment; both medical and surgical is the correct approach to the disease. We must always bear in mind the possibility (although rare) of a malignant transformation; so a close follow up is mandatory.

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