Bladder endometriosis: a rare entity

Shivani Khandelwal,[1] Atul Khandelwal,[1,2] Vijayata Sangwan,[1] Parveen Kundu,[3] Sunaina Hooda,[3] Sanjeev[4]

[1]Department of Obstetrics and Gynecology, BPS Government Medical College for Women, Khanpur, Sonepat, Haryana; [2]Department of Urology, BPS Government Medical College for Women, Khanpur, Sonepat, Haryana; [3]Department of Pathology, BPS Government Medical College for Women, Khanpur, Sonepat, Haryana; [4]Department of Radiology, BPS Government Medical College for Women, Khanpur, Sonepat, Haryana, India

Abstract

The presence of functioning endometrium outside uterine mucosa is called endometriosis. Endometriosis usually involves the pelvic organs, but sometimes extra pelvic organs are also involved, such as the gastrointestinal tract, soft tissues, and urinary tract. The urinary bladder is involved in 84% of cases of urinary tract involvement, in which patients present with hematuria, menouria, and lower abdominal pain. Ultrasound and cystoscopy are important tools for diagnosis. The treatment options are both medical and surgical. Here, we report two rare cases of bladder endometriosis, who presented with atypical symptoms and were managed accordingly. If cured properly and timely, patients can get rid of this annoying disease.

Correspondence: Shivani Khandelwal, Department of Obstetrics and Gynecology, BPS Government Medical College for Women, Khanpur, Sonepat, Haryana 131305, India.
E-mail: drshivani68@gmail.com

Key words: endometriosis, bladder, haematuria, menouria, dysurua.

Contributions: all the authors made a substantial intellectual contribution, read and approved the final version of the manuscript, and agreed to be accountable for all aspects of the work.

Conflict of interest: the authors declare no potential conflict of interest.

Ethics approval and consent to participate: no ethical committee approval was required for this case report by the Department, because this article does not contain any studies with human participants or animals. Informed consent was obtained from the patient included in this study.

Patient consent for publication: obtained.

Funding: none.

Availability of data and materials: data available from the corresponding author upon request.

Received: 16 July 2024.
Accepted: 31 October 2024.

Urogynaecologia 2024; 36:335
doi:10.4081/uij.2024.335

Case Reports

A 33-year-old female, para 2, living 2 (P2L2), both vaginal deliveries, presented with chief complaints of a mass in the pelvic region for 2.5 years, heavy menstrual bleeding and intermenstrual bleeding, and lower abdominal pain for 6 months. Vitals were stable. Normal contour of the abdomen and a tubectomy scar in the suprapubic area were observed. A cystic mass was felt in the suprapubic region arising from the pelvis, more towards the right side, with a globular shape, 5-6 cm in size, with smooth surface and regular margins. The same mass was felt in the right anterior fornix. Left fornix normal per rectal mucosa mobile and no indurations were found.

Ultrasonography (USG) showed a hypoechoic lesion 5.7×5.8 cm in the myometrium posteriorly fibroid uterus. The right ovary had a cyst of 5.3×5.1 cm. The bladder lumen was echo-free, and the walls were regular. Both ureterovesical junctions were clear. Magnetic resonance imaging (MRI) revealed the diagnosis of subserosal fibroid with hydrosalpinx. So, considering it as a case of fibroid uterus with ovarian cyst, laparotomy was planned.

Preoperative findings showed the following. Abdominal muscles and omentum were adhered to the whole of the pelvic mass. The uterus, tubes, and ovaries could not be visualized separately. After dissection, a 7-8 cm size fundal fibroid was present, which was keeping the uterus retroverted. Right-sided hydrosalpinx was present at 4-5 cm with a 4 cm ovarian cyst. The bladder was densely adherent to the anterior surface of the uterus. Therefore, a urosurgeon was called. Further dissection revealed that 6-7 cm of bladder wall was thickened and firm in consistency, so wedge resection of the bladder was done (Figure 1); however, the mucosa of the bladder was normal. A bladder repair and dye test were done. Myomectomy and right salpingectomy were done. An omental biopsy was taken, and a 3.25-mg lupreolide injection was given before discharge. Histopathological examination (HPE) confirmed the diagnosis as it showed urothelial-lined tissue with the presence of an endometrial gland and stroma (Figure 2). The postoperative period was uneventful.

A second patient, a 29-year-old female, P2L2, presented with complaints of pain in the lower abdomen, dysuria, increased frequency of micturition, and urge incontinence during menses for 18 months. She had only two episodes of hematuria. USG showed a hypoechoic soft tissue shadow of 3×3.7×1.5 cm in the posterior wall of the urinary bladder. A computed tomography scan showed a well-defined hyperdense enhancing mass lesion arising from the right posterior wall of the bladder. Cystoscopy was done by a urologist: a bulbous lesion of 3×4 cm was seen at the bladder base.

Transurethral resection of the bladder tumor was done, and bladder chips were taken and sent for HPE. Subepithelial tissue of the urothelium showed endometrial glands and stroma, which confirmed our diagnosis. Three doses of the lupreolide injection were given. The patient is asymptomatic till now.

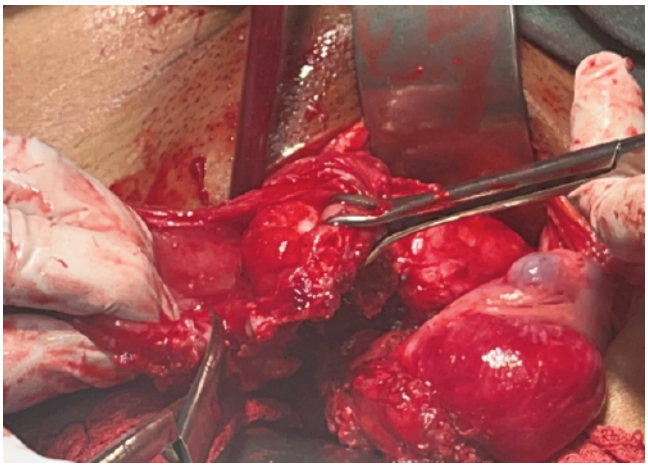

Figure 1. Wedge resection of bladder endometriosis.

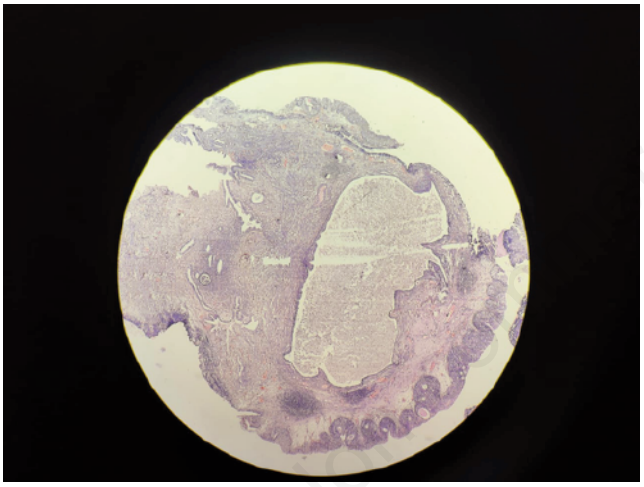

Figure 2. Histopathological examination: urothelial lined tissue-hemotoxylin and eosin stain.

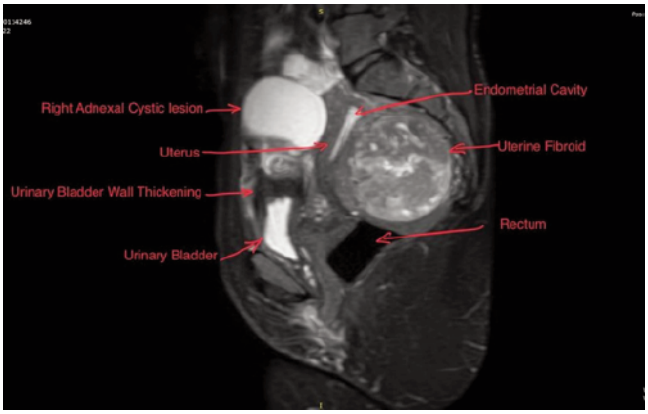

Figure 3. Magnetic resonance imaging showing bladder involvement.

Discussion

Bladder endometriosis is defined as detrusor muscle invasion by endometriotic tissue. Invasion can be partial thickness or full thickness. It usually develops in the bladder base and dome rather than in the extra abdominal space.[1,2] Urinary tract involvement accounts for only 1% of patients with endometriosis, out of which the bladder is involved in 84%, the ureter in 10%, the kidney in 4%, and the urethra in 2% of cases.[3] Patients may present with frequency, urgency, pain in the suprapubic area, dyspareunia, dysuria, and hematuria. Cyclical hematuria is present only in 20-35% of cases.[4-7]

According to its origin, bladder endometriosis may be classified as primary (of spontaneous origin) or secondary (related to an iatrogenic lesion occurring after pelvic surgery, such as cesarean section or hysterectomy).

In our case report, the first patient had a history of tubectomy, and intraoperatively the tubectomized tube had hydrosalpinx and was adherent to the bladder on the anterior surface of the uterus. It appears as if the disease extended to the bladder through the site of tubectomy, as the bladder was involved externally while the bladder mucosa was healthy. However, in the second case, there was no history of surgery, suggesting it was of spontaneous origin. Both cases required urological intervention and a multidisciplinary approach.

Radiological modalities like USG and MRI (Figure 3) are of help, but cystoscopy is a magical tool for its diagnosis.[4,8] In our case, it was present as yellowish-white bullous lesion at the bladder base. Definitive diagnosis is by histopathology, which shows the presence of chronic inflammatory infiltrate, columnar to cuboidal cells, along with endometrial cells. The aim of treatment is to give the patient a better quality of life. It can be achieved by expectant, medical, or surgical methods. For asymptomatic patients, a conservative approach is hormonal, of which lupreolide is a good option.[6,9,10] Surgical modalities are transuretheral resection and partial cystectomy.[6] The treatment of choice is endoscopic resection of the lesion.

Conclusions

With better diagnostic modalities, we need to raise the index of suspicion in symptomatic patients to diagnose the disease at an early stage and do optimal preoperative planning for surgery.

References

1. Fedele L, Piazzola E, Raffaeli R, Bianchi S. Bladder endometriosis: deep infiltrating endometriosis or adenomyosis? Fertil Steril 1998;69:972-5.
2. Guerriero S, Codous G, van den Bosch T, et al. Systematic approach to sonographic evaluation of the pelvis in women with suspected endometriosis, including terms, definitions and measurements: a consensus opinion from the International Deep Endometriosis Analysis (IDEA) group. Ultrasound Obstet Gynecol 2016;48:318-32.
3 Kinkel K, Frei KA, Ballevguier C, Chapron C. Diagnosis of endometriosis with imaging: a review. Eur Radiol 2006;16:285-98.
4. Maccagnano C, Pellucchi F, Rocchini L, et al. Diagnosis and treatment of bladder endometriosis: state of the art. Urol Int 2012;89:249-58.

5. Leonardi M, Espada M, Kho RM, et al. Endometriosis and the urinary tract: from diagnosis to surgical treatment. Diagnostics 2020;10:771.
6. Westney OL, Amundsen CL, McGuire EJ. Bladder endometriosis: conservative management. J Urol 2000;163:1814-7.
7. Jones EC, Gleave ME, Andreou C. Urinary bladder endocervicosis: a case report and review of the literature. Can J Urol 1996;3:206-10.
8. Pérez-Utrilla Pérez M, Aguilera Bazán A, Alonso Dorrego JM, et al. Urinary tract endometriosis: clinical, diagnostic, and therapeutic aspects. Urology 2009;73:47-51.
9. Fedele L, Bianchi S, Montefusco S, et al. A gonadotropin-releasing hormone agonist versus a continuous oral contraceptive pill in the treatment of bladder endometriosis. Fertil Steril 2008;90,:183-4.
10. Roberti Maggiore UL, Ferrero S, Candiani M, et al. Bladder endometriosis: a systematic review of pathogenesis, diagnosis, treatment, impact on fertility, and risk of malignant transformation. Eur Urol 2017;71:790-807.