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CASE REPORT

A Rare Case of the Bladder Endometriosis and Overview of the Literature

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ÖZET

Endometriozis, endometriyal bezlerin uterus boşluğunun dışında yer aldığı kronik ve bening bir hastalıktır. İzole mesane tutulumu, derin infiltre pelvik endometriozisin bir parçası olarak mesane endometriozisi bileşeni olan nadir bir durumdur. Görüntüleme ve pelvik muayene ile açıklanamayan dizüri, üriner semptomları olan olgularında mesane endometriozisi akılda tutulmalıdır. Manyetik rezonans görüntüleme tanıyı desteklemek için kullanılabilir. Bu olgu sunumunda mesane endometriozisi olan iki hasta değerlendirildi. Ameliyat sonrası patolojik inceleme ile kesin tanı konan hastalara gestagen preparatları ile konservatif tedavi uygulandı. 3-6 ay sonraki takibinde ultrasonografik görüntülerde ve semptomlarda nüks izlenmedi. Nadir görülen ve geç tanı alan bir klinik olması nedeniyle klinisyenlerin dirençli üriner sistem semptomları, varlığında mesane endometriozisini akılda tutmaları gerekmektedir.

Anahtar kelimeler: Endometriozis, İnfertilite, Mesane endometriozisi, Sistoskopi, Uterus,

ABSTRACT

Endometriosis is a chronic, non-cancerous condition characterized by the growth of endometrial tissue outside the uterus. Isolated involvement of the bladder is rare and often part of a broader deep infiltrating pelvic endometriosis. Bladder endometriosis should be considered in cases of unexplained dysuria and urinary symptoms not clarified by imaging or pelvic examination. Magnetic resonance imaging can be used as a diagnostic aid. This case report presents two patients diagnosed with bladder endometriosis postoperatively. Conservative treatment with gestagen preparations was administered. After 3-6 months of follow-up, ultrasonography and symptom assessment showed no recurrence. Clinicians should be aware of bladder endometriosis as a potential cause of persistent urinary symptoms, given its rarity and often delayed diagnosis.

Keywords: Endometriosis**,** Infertility**,** Bladder endometriosis, Cystoscopy, Uterus

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INTRODUCTION

Endometriosis is a chronic condition where endometrial-like tissue grows outside the uterus. While it affects 3-37% of women of reproductive age, involvement of the urinary tract is rare, occurring in 0.3-12% of cases, with the bladder being the most common site (1). Misdiagnosis with cervical malignancy can occur.

Bladder müllerianosis is a complex condition where the bladder lining contains elements similar to the endometrium, cervix, or fallopian tubes (1). Bladder ulcers and malignancies can mimic this condition, delaying diagnosis (2). Unlike endometriosis, which primarily affects women of reproductive age, müllerianosis can occur in women aged 20-50, and rarely in postmenopausal women on estrogen therapy (1).

Medical treatment is generally the first-line approach for bladder endometriosis. This approach can effectively manage pain associated with pelvic endometriosis while reducing the risk of surgical complications. However, medical treatment may need to be continued until menopause and may not be equally effective in all patients (3).

Hormonal therapy is planned for patients whose symptoms do not improve with nonsteroidal anti-inflammatory drugs. Combined estrogen-progestin oral contraceptives, progestin-only contraceptives, and gonadotropin-releasing hormone agonists have been shown to reduce symptoms (4).

Surgical treatment is planned for patients who do not respond adequately to medical treatment, cannot adhere to treatment, or wish to avoid chronic medication. The surgical approach varies depending on the location and depth of the lesion. Shaving is preferred for superficial lesions, while full-thickness resection is preferred for deeper infiltrations. Nerve-sparing surgical techniques are used in the presence of nerve involvement. However, injuries to sensitive organs such as the bladder or ureter can prolong the treatment process and increase the risk of complications (5).

In these cases, two patients with bladder endometriosis who used dienogest after surgery were evaluated. According to the protocol of our institution, all the patients treated at our center are requested to give informed, signed consent prior to their treatment and follow-up for the anonymous utilization of their medical records.

CASE PRESENTATION

The first patient was a 34-year-old woman with secondary infertility following a cesarean section (C/S) stillbirth. Her medical history included laparoscopic gastric bypass, inguinal hernia, and a previous C/S. She reported dysuria during menstruation, dysmenorrhea, and chronic pelvic pain. Cervical tenderness and a barrel-shaped cervix were noted on pelvic examination. Cervical cytology was negative for malignancy. Serum CA-125 level was 30.4 U/mL.

Ultrasound demonstrated a 35 mm mass between the bladder and uterus on the anterior uterine wall. MRI confirmed a 35x24

mm lesion on the anterior bladder wall. Laparotomy revealed a 4x5 cm nodule extending from the rectus fascia to the pubis, which was resected. Intraoperative cystoscopy identified a 3 cm bladder dome lesion, which was biopsied. Histopathology confirmed endometriosis.

The second case involved a 38-year-old nulliparous woman presenting with pelvic pain and infertility. Ultrasound revealed a 6x4.5 cm uterine leiomyoma, along with 7x5.5 cm and 3.8x2.4 cm ovarian cysts. CA-125 level was elevated at 83 U/mL. Pelvic examination showed a barrel-shaped cervix and thickened parametrium. Endometrial sampling and endocervical curettage excluded malignancy. Endometrial biopsy result was proliferative endometrium, and endocervical sampling was the normal endocervical tissues. The urologist performed a biopsy of the bladder tissue to exclude malignant. During the procedure, brown material similar to the endometrioma contents was emptied through the lesion, the suspicious foci were excised, and a punch biopsy was performed from the cervical tissue. Histopathological evaluation of two biopsies from ecchymotic areas in the bladder neck demonstrated endometriotic foci characterized by friable, ecchymotic streaks and cysts (H&E stain, ×20).

Due to the deep infiltrative nature of the endometriosis, complete surgical removal was not feasible. Instead, medical treatment with dienogest (2 mg/day) was initiated for three months. Dienogest is a hybrid progestin with properties of both 19-nortestosterone and progesterone derivatives (6). It is used to alleviate endometriosis-related pain, dyspareunia, dysmenorrhea, and premenstrual pain prevent disease progression, and reduce post-surgical recurrence. Given its safety and efficacy, dienogest is our preferred treatment option (7).

Post-operative recovery was uneventful, and symptoms improved with medical management.

DISCUSSION

The pathogenesis of endometriosis remains unclear, although several theories have been proposed, including retrograde menstruation, estrogen-dependent growth, oxidative stress, inflammation, and immune dysfunction. A history of pelvic surgery and C/S is strongly associated with endometriosis of the urinary tract.

The clinical presentation, diagnosis, treatment, and outcomes of bladder endometriosis vary widely in the literature. The condition is often diagnosed during pregnancy or infertility follow-up (8). Symptoms can range from asymptomatic to urinary urgency, frequency, dysuria, or cyclic hematuria (9). Delayed diagnosis can lead to serious complications, such as silent kidney damage due to obstruction (10). Accurate diagnosis and timely treatment are crucial. Our patients presented with pelvic pain and infertility, and while cervical malignancy was considered, cyclical hematuria and urgency were absent.

There are limited studies comparing medical and surgical treatments. In one study,

approximately 60% of women with complaints due to deep infiltrating endometriosis were satisfied with medical treatment. However, the remaining patients required surgical management (11).

Medical treatment regimens that suppress estrogen have been effective in reducing pain and lesion size, but a definitive cure is not possible (11). Therefore, many new drugs have been tried for the treatment of endometriosis; however, it has been suggested that monophasic oral contraceptives or progestins be considered as first-line agents as they appear to be effective in most endometriosis patients at a low cost (12).

Laparoscopic, robotic, or cystoscopic surgeries are commonly preferred treatment options in recent years. However, for patient's ineligible for surgery, hormonal therapy is used to manage symptoms or prevent post-surgical recurrence. When comparing treatment durations with gonadotropin-releasing hormone (GnRH) analogs and combined oral contraceptives (COCs), dienogest demonstrated significantly better outcomes ($p<0.005$). Among patients initially treated with dienogest or those who switched to dienogest due to side effects or treatment failure with GnRH or COCs, symptom improvement was observed in 85.7% (6/7 cases) (13). A significant reduction in rAFS scores was observed following 6 months of consistent use, as determined by a second-look laparoscopic surgery. No relapses occurred during the subsequent 6-month drug-free period. (14). At the young age group where fertility preservation was prioritized, a low-dose estrogen regimen or combined estrogen-progesterone therapy led to symptom improvement in 92% of cases (12 out of 13) (15). Our patients were treated with dienogest alone, and no recurrences were observed in any case.

Despite a 25-35% relapse rate, LH-RH preparations were previously used as first-line treatments due to limited alternatives. However, their side effects have led to decreased use. Given the hormonal nature of endometriosis, adding hormonal therapy after surgical removal is recommended for optimal outcomes (3). We employed oral dienogest post-surgically to manage pain and prevent recurrence in our patients. Given our patients' young age and fertility desires, radical urinary tract surgery was avoided. Following surgery and dienogest treatment, symptoms resolved.

CONCLUSION

Bladder endometriosis is uncommon and should be considered in patients presenting with unexplained dysuria, infertility, or suggestive radiological findings. While treatment consensus is lacking, dienogest is a potential option to prevent post-surgical symptom recurrence and radiological abnormalities.

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