

# Rare Case of Bladder Endometriosis in a Post-hysterectomy Patient

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## ABSTRACT

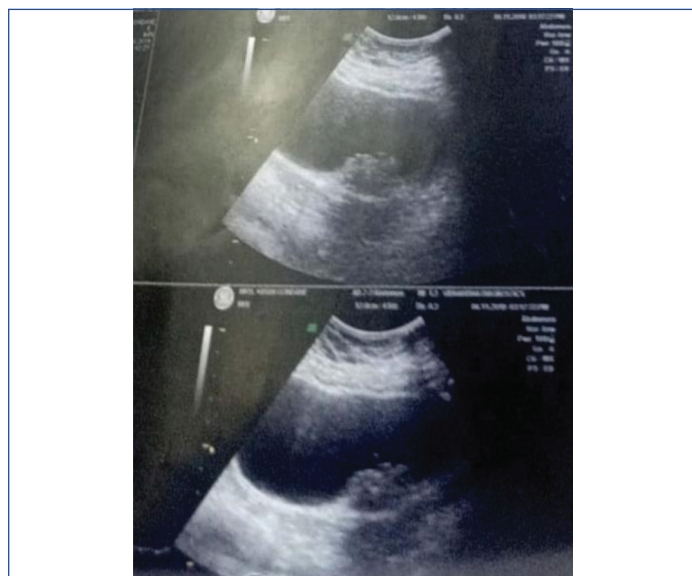
Bladder endometriosis, a rare but well-known condition with a high risk of morbidity, affects the bladder. A 43-year-old woman presented with a history of recurrent cyclical discomfort during urination. The patient had undergone a non descent vaginal hysterectomy to address the same symptom. Upon examination, a nodule was discovered between the bladder and vaginal vault. The diagnosis of bladder endometriosis was confirmed through cystoscopy and an Magnetic Resonance Imaging (MRI). The nodule was removed via transurethral resection, and histology confirmed it as endometriosis. After 12 months of follow-up, the patient's postoperative symptoms had completely resolved. Hormonal therapy was initiated, and there were no residual urinary symptoms, chronic pain, or cyclical pain. Women reporting urinary symptoms, particularly those with a history of pelvic surgery, should undergo evaluation for bladder endometriosis. The diagnosis of bladder endometriosis should be considered in women experiencing dysuria and bladder discomfort. A high index of suspicion is required to establish the diagnosis.

**Keywords:** Bladder nodule, Cystoscopy, Urinary symptoms

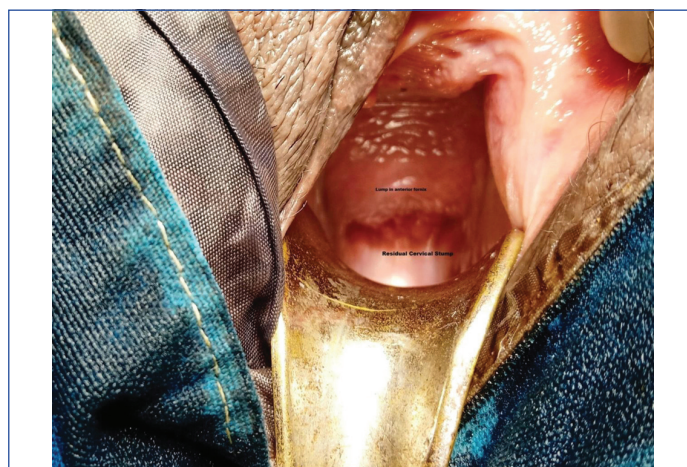
## CASE REPORT

A 43-year-old Para 2 Living 2 (P2L2) presented to the Outpatient Department (OPD) with complaints of recurrent cyclical pain during urination for almost five years. The patient did not have a history of blood in her urine or abdominal pain. Five years ago, patient underwent a non descent vaginal hysterectomy to relieve pelvic pain. However, the pain became cyclical and gradually increased over time. The history and general examination were otherwise unremarkable. On per speculum examination, a cervical stump and a nodule protruding into the vagina, anterior to the stump, measuring 2-3 cm in size, were observed. Per vaginum examination revealed that the nodule had a firm to hard consistency and originated between the bladder and the vaginal vault. It was fixed to the vaginal mucosa and had an irregular outline. The cervical stump felt adherent to the anterior vaginal wall. The urine report indicated the presence of only a few pus cells upon microscopy, and after a culture was performed, *E.coli* was found. The antibiotic sensitivity report determined the appropriate antibiotics for treatment. Ultrasonography showed a 2-3 cm mass behind the bladder in the region of the vault [Table/Fig-1].

Cystoscopy revealed a 2-3 cm mass in the trigonal area that extended into the bladder. The bladder mucosa above the mass was intact. Pelvic MRI confirmed bladder wall endometriosis and residual cervical stump. Both ovaries appeared unremarkable. With proper informed risk consent, transurethral resection of the mass was performed. Both ureteral openings were identified and found to be normal and patent. The rest of the urinary bladder was unremarkable [Table/Fig-2-6].



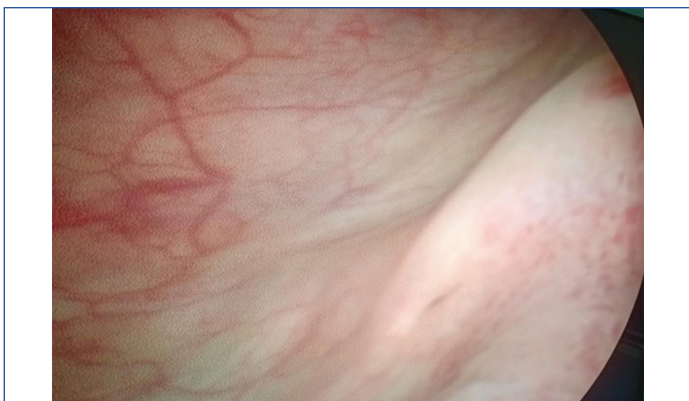
[Table/Fig-1]: Ultrasonography of urinary bladder.



[Table/Fig-2]: Nodule seen above the residual cervical stump.



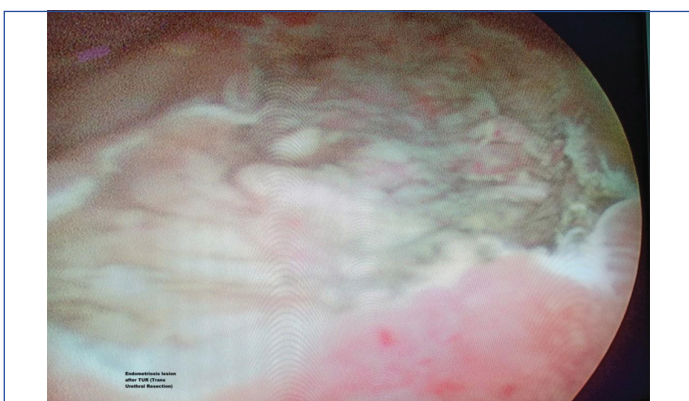
[Table/Fig-3]: Cystoscopy showing the nodule in the urinary bladder.



[Table/Fig-4]: Right ureteric orifice.

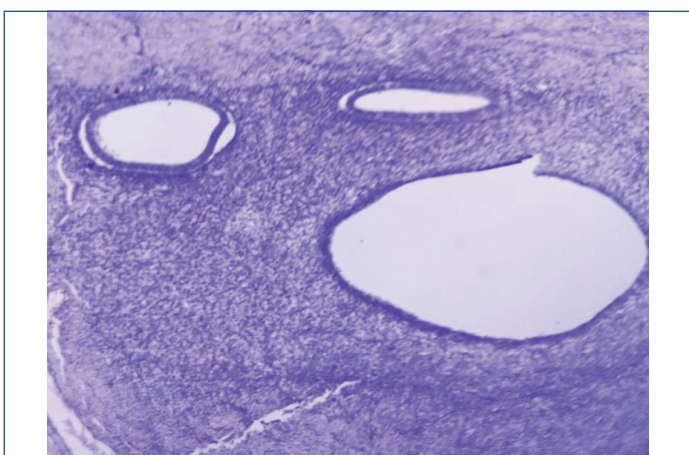


[Table/Fig-5]: Left ureteric orifice.



[Table/Fig-6]: Outcome after resection of bladder endometriosis nodule.

Histopathology of the shavings revealed bladder endometriosis [Table/Fig-7]. The patient had a comfortable postoperative period with mild haematuria for 24 hours, which subsided with intravenous infusion of 1 gm Tranexamic acid. Antibiotics were continued until the third day after the operation, as per the urine culture sensitivity report.



[Table/Fig-7]: Histopathology of the shavings revealed bladder endometriosis.

Postoperatively, the patient was started on subcutaneous injections of 3.6 mg Leuprolide acetate every 28 days for three cycles and oral Dienogest 2 mg twice daily for three months. At 3, 6, and 12 months of follow-up, the patient experienced complete remission of symptoms. Follow-up showed no mass and a normal outline of the bladder. The patient had no residual urinary symptoms and no chronic or cyclical pelvic pain.

## DISCUSSION

Endometriosis is known as an enigma. It has been referred to as 'a riddle wrapped in a mystery inside an enigma' [1]. Endometriosis is a public health disorder that affects nearly 42 million women in India, with a significant socio-economic impact [2]. Discussion and disagreement have long surrounded its diagnosis and treatment. Several theories on its possible aetiopathogenesis have been proposed and refuted over time. In fact, despite more than a century of study, the aetiology of endometriosis is still poorly understood. While significant progress has been made, there are still several significant knowledge gaps regarding endometriosis, which have hindered the development of a definitively proven treatment for this disease that profoundly affects the quality of life of countless women worldwide.

The symptomatology of endometriosis tends to be vague, and a high index of suspicion is needed to confirm the diagnosis. The classic triad of endometriosis is dyspareunia, dysmenorrhoea, and infertility. However, this triad often oversimplifies a complex disease that has been causing chronic pain and infertility for centuries [3]. Endometriosis is a major cause of nonmenstrual pain and infertility in women, significantly impacting their quality of life [4].

Endometriosis is traditionally classified into one of three main forms: ovarian endometriosis, superficial peritoneal endometriosis, and Deep Infiltrating Endometriosis (DIE). Bladder endometriosis is characterised by the abnormal proliferation of endometrial glands and stroma in the detrusor muscle of the bladder [5]. This condition can affect various sites within the bladder, most commonly the base and dome, with varying degrees of infiltration. Urinary tract endometriosis is present in approximately 1% of women with endometriosis, but its prevalence increases to 19-53% among patients with Erectile Dysfunction (ED) [6]. There are two types of bladder endometriosis: superficial endometriosis, which affects only the bladder surface, and deep endometriosis, which involves the bladder wall or lining. Bladder nodules often co-exist with other deep pelvic endometriosis locations, leading to a range of abdominal and urogenital symptoms that may go unnoticed by medical professionals [5]. Despite advancements in our understanding of the genetic and molecular development of endometriosis, the clinical approach to bladder lesions remains challenging and may require the use of various diagnostic tools to establish a comprehensive diagnostic work-up and guide appropriate treatment. The diagnosis is primarily made through cystoscopic exploration and histological analysis of samples obtained via electrofulguration [7]. In certain cases, hormone therapy using Danazol or a Gonadotropin hormone-releasing hormone (GnRH) agonist may be beneficial. For optimal results, the lesion should be removed via Transurethral Resection of Bladder Tumour (TURBT) or traditional surgery. Bladder endometriosis is a rare but well-recognised form of endometriosis that can occur in women who have undergone a hysterectomy.

Bladder endometriosis is a rare form of endometriosis that can occur after a hysterectomy. This case presented a diagnostic challenge due to two factors. Firstly, the patient's cervix had been left behind after a non descent vaginal hysterectomy performed at another hospital. Secondly, she had predominantly urinary symptoms even before her hysterectomy, which persisted and worsened over the past five years. These factors led us to suspect bladder endometriosis. The bladder nodule was likely densely adherent, making it impossible to access the anterior pouch and dissect

the uterine vesical fold of the peritoneum to elevate the bladder. Therefore, the surgeon decided to leave behind the cervical stump and proceed with a subtotal hysterectomy. Additionally, both ovaries were preserved, possibly due to the patient's age being under 40 years at the time of the hysterectomy. The specific symptom of cyclic urinary pain raised a strong suspicion of endometriosis. After conducting thorough research, the diagnosis of bladder endometriosis was confirmed, and the patient received appropriate treatment. The diagnosis of bladder endometriosis is often delayed because the symptoms resemble those of other bladder conditions, such as urinary tract infections and interstitial cystitis [8].

Many times, in the rush of routine office work, one tends to dismiss patient complaints and proceed with predetermined management plan. It is crucial to remember, especially when offering surgical treatment, that listening to the patient's complaints can help avoid permanent organ loss, incorrect procedures, and potential lawsuits. According to traditional medical school teaching, it is important to elicit the patient's history in their own words. The specific reason for their visit to the hospital should be carefully noted, and a management plan, including treatment options, should be discussed and documented in our notes.

Bladder endometriosis is primarily a type of DIE. Therefore, proper surgical management involves complete removal of the tissue mass. Care must be taken to avoid damaging the bladder wall, sphincters, and ureteric orifices. The patency of both ureteric orifices should be confirmed at the beginning of the procedure, and preoperative ureteral stenting may be considered in selected cases. Deep infiltrating disease can affect the ureters, leading to blockages [9]. The gold standard for diagnosing bladder endometriosis is a histopathological examination of the biopsy specimen. Treatment options for bladder endometriosis include hormonal therapy, such as oral contraceptive pills, progestins, Dienogest (a fourth-generation synthetic progestin), GnRH agonists (leuprolide acetate, Goserelin), Selective Progesterone Receptor Modulators (SPRMs),

and gestrinone. Laparoscopic surgical excision of the endometrial nodules is necessary, and in cases of extensive or recurrent disease, a partial cystectomy may be required. The prognosis for bladder endometriosis is generally good with appropriate treatment.

## CONCLUSION(S)

The purpose of presenting this case is to emphasise that the diagnosis of bladder endometriosis should be considered in women experiencing symptoms of dysuria and bladder discomfort. A high index of suspicion is necessary to reach the diagnosis. Treatment options include hormonal therapy and surgical excision of the endometrial nodules. With appropriate treatment, the prognosis is generally good.

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