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Rare Case Report: Bladder Endometriosis Presenting with Chronic Hematuria in a 34-Year-Old Female

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ABSTRACT

Bladder endometriosis (BE) is an uncommon manifestation of endometriosis, a condition traditionally characterized by the presence of endometrial-like tissue outside the uterus. This rare form of endometriosis can present as chronic hematuria, pelvic pain, and urinary disturbances, often mimicking more common urological conditions. This report describes a 34-year-old female, Rabia Owais, who presented with a six-year history of cyclical hematuria, ultimately diagnosed with bladder endometriosis following extensive imaging and histopathological evaluation. This case highlights the diagnostic challenges and the importance of considering bladder endometriosis in patients with persistent hematuria. We review current literature on this rare condition and suggest future considerations for management and diagnosis.

1. INTRODUCTION

Patient Information:

Name: Rabia Owais

Age: 34 year

Sex: Female

Marital Status: Married for 12 years

Children: Last born is 6 years old

Socioeconomic Status: Poor

Medical History:

No significant past medical history

Surgical History:

History of three previous cesarean sections (LSCS)

Clinical Presentation:

Rabia, a 34-year-old female, presented with recurrent episodes of severe hematuria lasting for six years. The hematuria was cyclical, with no permanent resolution despite repeated treatments for urinary tract infections. Her symptoms raised suspicion for a deeper, more complex pathology, prompting further diagnostic investigations.

2. INVESTIGATIONS AND RESULTS

1.Ultrasound (USS) Findings:

Left adnexal cyst (3.3 x 3.4 cm),Normal anteverted uterus,Bladder mass (3 x 4 cm) with minimal blood flow

2.Contrast-Enhanced CT Scan (KUB):

Liver: Homogenous, normal size (15.9 cm), no abnormal enhancing areas.

Kidneys: Normal size, two small renal concretions seen in the right kidney.

Bladder: A well-defined, rounded, enhancing soft tissue mass (3.4 x 3.4 x 3.6 cm) was observed on the superior surface of the urinary bladder, protruding into the lumen. This mass was closely abutting the anterior uterine wall, with suspicious loss of fat planes at one site, suggesting possible neoplastic involvement.

Lymph Nodes: Three small sub-centimetric lymph nodes along the right internal iliac vessels.

Ureter: Blind-ending bifid right ureter with no defects or plaque.

3.Histopathology Report (Biopsy):

Diagnosis: Endometriosis of the urinary bladder.

Findings: The biopsy of the resected bladder tumor revealed urothelial mucosa with benign endometrial glands surrounded by endometrial-type stroma. Immunohistochemical stains for CD10 and estrogen receptor (ER) highlighted the stromal cells.

3. DISCUSSION

Bladder endometriosis (BE) is a rare but important cause of chronic hematuria in women, particularly those with a history of pelvic pain and prior surgeries, such as cesarean sections. While the exact prevalence is unknown, BE represents a small subset of female patients with endometriosis, affecting approximately 0.3-12% of women with pelvic endometriosis.

This case exemplifies the diagnostic complexity of BE. Rabia's prolonged hematuria and ultrasound findings initially suggested a benign urinary tract pathology. However, the contrast-enhanced CT scan and biopsy results provided definitive evidence of a soft tissue mass consistent with bladder endometriosis. BE often presents with nonspecific symptoms, such as hematuria, pelvic pain, and urinary disturbances, which overlap with common urological conditions like bladder cancer, making early diagnosis challenging.

4. PATHOPHYSIOLOGY

Bladder endometriosis occurs when endometrial-like tissue, typically shed during menstruation, is found in the bladder wall. This tissue responds to hormonal changes, growing and shedding cyclically, causing inflammation and irritation. The resultant tissue changes lead to the formation of cysts, masses, and in some cases, significant fibrosis. The mechanism behind the implantation of endometrial tissue in the bladder is still unclear but is thought to involve retrograde menstruation, lymphatic, or hematogenous spread.

5. LITERATURE REVIEW

Several case reports have highlighted bladder endometriosis presenting as chronic hematuria, with some studies emphasizing its correlation with other endometrial lesions, particularly in women with a history of gynecological surgeries such as cesarean sections. A study by Vercellini et al. (2007) highlighted the connection between cesarean section scars and endometriosis, noting that surgical trauma could facilitate the implantation of endometrial cells in the bladder.

Other studies have explored various imaging modalities, with ultrasound and CT scans being the most commonly employed for initial diagnosis. However, definitive diagnosis requires histopathological evaluation of resected tissue, as seen in this case, which showed typical findings of endometrial glands within the urothelial mucosa.

The prevalence of associated lymphadenopathy in BE is debated, with some studies finding small, non-significant lymph nodes in the region, as was seen in Rabia's case. This could indicate local inflammatory changes rather than metastatic spread.

6. MANAGEMENT AND FUTURE CONSIDERATIONS

1. **Surgical Intervention:** The primary treatment for bladder endometriosis is surgical resection of the bladder lesions. In Rabia's case, transurethral resection of the bladder tumor (TURBT) was performed, which is the standard approach for removing superficial bladder endometriosis lesions.

2. **Hormonal Therapy:** Post-surgical hormonal management may be required to prevent recurrence. Common treatments include oral contraceptives or GnRH agonists to suppress ovarian function, thus preventing cyclical changes in

the endometrial tissue

3. **Follow-up and Monitoring:** Continuous follow-up is critical to monitor for recurrence, which is common in bladder endometriosis. Regular imaging and cystoscopic evaluations may be needed.

4. **Multidisciplinary Approach:** Given the complexity of BE and its association with other forms of endometriosis, a multidisciplinary team approach involving urologists, gynecologists, and endocrinologists is essential for optimal management

7. CONCLUSION

This rare case of bladder endometriosis in a 34-year-old female underscores the importance of considering less common diagnoses in women presenting with chronic hematuria and pelvic pain. The diagnostic workup, including advanced imaging and histopathological analysis, was crucial in identifying this condition. Although rare, bladder endometriosis should be considered in differential diagnoses for patients with recurrent hematuria, especially those with a history of cesarean sections or pelvic surgeries.

8. FUTURE CONSIDERATIONS

Further research is needed to better understand the pathophysiology and optimal management strategies for bladder endometriosis.

Increased awareness among clinicians about the potential for BE in women with unexplained hematuria is critical for earlier diagnosis and intervention.

Long-term follow-up is necessary to monitor for recurrence, and personalized treatment strategies based on hormonal therapy may be beneficial for preventing relapse.

9. CONSENT AND PERMISSION FOR PUBLICATION

This case report is based on the clinical evaluation and treatment of Rabia Owais, a 34-year-old female who has provided informed consent for the use of her medical information in this case report. The patient has voluntarily agreed to the publication of this case for the purpose of raising awareness among clinicians and the general public about bladder endometriosis as a rare cause of hematuria and urinary bladder growth. The patient acknowledges that her personal information, excluding identifiable details, may be used for educational purposes and to enhance clinical knowledge in the medical community. This publication aims to promote a better understanding of rare urological conditions and their management.

The patient understands that this report will be published in a high-impact medical journal, and she has given permission for the dissemination of the report for educational and awareness purposes. All necessary steps have been taken to protect her privacy and confidentiality in accordance with ethical guidelines and regulatory requirements.