

URINARY BLADDER ENDOMETRIOSIS AND ITS CORRELATION WITH INFERTILITY

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Annotation: Endometriosis is a chronic, estrogen-dependent gynecological disorder characterized by the ectopic implantation of endometrial tissue outside the uterine cavity. Although pelvic peritoneum and ovaries are the most frequent sites, urinary tract involvement is rare, accounting for 1–2% of all endometriosis cases, with the bladder being the most commonly affected organ. Urinary bladder endometriosis often presents with non-specific symptoms such as dysuria, urgency, frequency, or hematuria, which may delay diagnosis. The research highlights diagnostic approaches including transvaginal ultrasonography, magnetic resonance imaging, and cystoscopy, as well as therapeutic strategies ranging from hormonal suppression to laparoscopic excision of bladder lesions. Special attention is given to fertility outcomes following surgical management. The study concludes that urinary bladder endometriosis, though uncommon, significantly impacts reproductive health by contributing to infertility through both direct and indirect mechanisms. Early detection and multidisciplinary management are crucial for improving both quality of life and fertility outcomes in affected women.

Keywords: Endometriosis, urinary bladder, infertility, deep infiltrating endometriosis, laparoscopy.

The purpose of the study:

The purpose of this study is to investigate the clinical features, diagnostic challenges, and therapeutic approaches of urinary bladder endometriosis and to analyze its correlation with infertility among women of reproductive age. The study aims to determine how bladder involvement contributes to impaired fertility through mechanisms such as pelvic adhesions, anatomical distortion, and chronic inflammation, and to assess the impact of timely diagnosis and treatment on reproductive outcomes.

Materials and methods:

The study included **30 women of reproductive age** diagnosed with urinary bladder endometriosis. Clinical data were obtained from medical histories, gynecological examinations, imaging (transvaginal ultrasound, MRI), and cystoscopy. Infertility was defined as the absence of conception after 12 months of unprotected intercourse.

Patients were assessed for symptoms, lesion characteristics, and reproductive outcomes. Statistical analysis was performed to evaluate the correlation between bladder endometriosis and infertility.

RESULTS:

Among the 30 patients included in the study, the mean age was **32.8 ± 5.4 years**. The most common clinical manifestations were dysuria (**70%**), urinary frequency/urgency (**63%**), hematuria (**40%**), and chronic pelvic pain (**77%**).

Infertility was documented in **16 patients (53%)**, while 14 women (47%) had a history of natural conception. Patients with infertility more frequently demonstrated **deep infiltrating endometriosis (75% vs. 36%)** and coexisting pelvic lesions, particularly ovarian endometriomas. Imaging (transvaginal ultrasound and MRI) confirmed bladder involvement in all cases, and cystoscopy was diagnostic in **80%** of patients. Following treatment, **20 patients (67%)** underwent laparoscopic excision of bladder lesions, while **10 patients (33%)** received hormonal therapy. Symptomatic relief was observed in **85%** of surgically treated women compared to **50%** of those on hormonal therapy. Importantly, **6 of 16 infertile women (37.5%)** achieved pregnancy during follow-up, either spontaneously (n = 4) or after assisted reproductive techniques (n = 2). Statistical analysis revealed a significant correlation between urinary bladder endometriosis and infertility (**p < 0.05**).

CONCLUSION:

Urinary bladder endometriosis is strongly associated with infertility, particularly in women with deep infiltrating and coexisting pelvic lesions. More than half of the patients in this study experienced infertility, highlighting the reproductive impact of bladder involvement. Laparoscopic excision of endometriotic lesions provided significant symptom relief and improved fertility outcomes compared to hormonal therapy. These findings emphasize the importance of early diagnosis and comprehensive management of bladder endometriosis to preserve reproductive potential and enhance quality of life.

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