



RISK STRATIFICATION AND RECURRENCE ASSESSMENT IN OVARIAN ENDOMETRIOSIS

Kuzieva Y.M.
Saidjalilova D.D.

Tashkent State Medical University
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ABSTRACT

Ovarian endometriosis is characterized by a high rate of recurrence and a potential risk of neoplastic transformation. The aim of this study was to minimize the risk of recurrence in women of reproductive age by developing an evidence-based algorithm for monitoring and management, grounded in the clinical, histological, and molecular biological features of the disease.

Background and Objective: Ovarian endometriosis is characterized by a high rate of recurrence and a potential risk of neoplastic transformation. The aim of this study was to minimize the risk of recurrence in women of reproductive age by developing an evidence-based algorithm for monitoring and management, grounded in the clinical, histological, and molecular biological features of the disease.

Materials and Methods: A retrospective analysis was conducted on medical records of 147 reproductive-aged women diagnosed with ovarian endometriosis and 28 patients with ovarian adenocarcinoma. Histological and immunohistochemical evaluation was performed in 78 and 35 cases of ovarian endometriosis, respectively. Additionally, 8 cases of adenocarcinoma were examined using antibodies against Ki-67 (a proliferation marker), Bcl-2 (an apoptosis inhibitor), p53 (a tumor suppressor protein), and hepatocyte nuclear factor-1 β (HNF-1 β). A prospective study included 90 patients. All participants underwent pelvic ultrasound with color Doppler imaging, as well as assessment of tumor markers CA-125, CA-19-9, and HE-4. Magnetic resonance imaging (MRI) was performed in 13.6% of cases when clinically indicated.

Results: Patients with recurrent ovarian endometriosis demonstrated a higher prevalence of concomitant somatic and gynecological diseases compared to those with primary endometriosis. Epithelial atypia within endometriotic lesions was identified in 41% of cases, including 6.4% with confirmed true atypia.

Regardless of the presence of epithelial atypia, endometriotic lesions of the ovary exhibited overexpression of HNF-1 β . This finding supports a possible histogenetic link between ovarian endometriosis and clear cell adenocarcinoma.

Based on the prospective data, a structured algorithm for follow-up and treatment of patients at high risk for recurrence was developed.

Conclusion: Comprehensive evaluation combining radiological findings, histological and immunohistochemical results (including Ki-67, Bcl-2, p53, and HNF-1 β expression), together with detailed patient history assessment, allows for more accurate prediction of recurrence risk and potential neoplastic transformation in ovarian endometriosis.

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