

## **Abstract**

**Purpose:** To investigate whether CD73 had a role in the pathogenesis of polypoid endometriosis.

**Methods:** Our study included 15 cases of polypoid endometriosis, which were diagnosed between 2005 and 2019. Clinical findings were gathered from archive files of relevant clinics and pathology reports. All glass slides were re-examined for confirmation of the diagnosis and the detection of additional microscopic findings. An immunohistochemical examination was performed using anti CD73 antibodies in 15 cases of polypoid endometriosis, and also in a control group that contained 9 cases of endometrial polyps and 9 cases of ovarian conventional endometriosis.

**Results:** In addition to standard gynecologic operations, major non-gynecologic procedures had to be performed in 7 cases. In two cases, the surgical team comprised only general surgeons, and a misdiagnosis of carcinoma was made during the frozen section in one case. The majority of the cases displayed gross polypoid lesions that measured 0.7-13 cm. The most common sites were the ovary and rectosigmoid colon. Microscopically, all lesions exhibited a fibrovascular stroma reminiscent of endometrial stroma, whereas glandular features varied. Immunohistochemical examinations revealed a significant loss of CD73 expression in the stroma of polypoid endometriosis in contrast to the control cases, which retained stromal CD73 expression ( $p < 0.0001$ ).

**Conclusion:** Both pathologists and surgeons performing abdominal surgeries should be aware of polypoid endometriosis because it mimics malignancy with its clinical, gross, and microscopic features. We also conclude that loss of stromal CD73 expression, due to its effect on the extracellular ATP/adenosine balance, may contribute to the pathogenesis of this rare form of endometriosis.