

## **OPTIMIZING PREGNANCY AND DELIVERY OUTCOMES IN WOMEN WITH ENDOCERVICITIS**

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### **Abstract**

Endocervicitis, an inflammatory condition of the cervical canal, poses a significant risk to reproductive health, particularly in pregnant women. The presence of chronic inflammation can contribute to complications such as preterm labor, premature rupture of membranes, and intrauterine infections, thereby adversely affecting both maternal and neonatal outcomes. This paper reviews current approaches to optimizing pregnancy and delivery outcomes in women diagnosed with endocervicitis, emphasizing early diagnosis, effective antimicrobial and anti-inflammatory therapy, and the integration of preventive obstetric management. The study highlights the importance of microbiological assessment, hormonal balance correction, and immune modulation in treatment strategies. Additionally, modern diagnostic tools—such as PCR-based pathogen identification and ultrasound monitoring—play a critical role in personalized care. Evidence-based obstetric interventions, including infection control, cervical surveillance, and targeted antibiotic therapy, have been shown to improve delivery outcomes and reduce the risk of postpartum complications. The integration of multidisciplinary approaches involving obstetricians, microbiologists, and immunologists is essential to achieve optimal maternal-fetal health in cases complicated by endocervicitis.

**Keywords:** Endocervicitis, pregnancy outcomes, delivery complications, cervical inflammation, antimicrobial therapy, reproductive health, prenatal care, infection control.

### **Introduction**

Endocervicitis, characterized by inflammation of the mucous membrane lining the cervical canal, is one of the most common gynecological disorders affecting women of reproductive age. This condition often results from infectious agents such as *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Mycoplasma hominis*,

*Ureaplasma urealyticum*, and various opportunistic microorganisms. In many cases, endocervicitis develops as a chronic, latent process that may remain asymptomatic for long periods but can cause significant reproductive complications, particularly during pregnancy.

During gestation, the cervix plays a vital protective role by maintaining the sterility of the uterine cavity and preventing ascending infections. When inflammation affects the cervical canal, the barrier function of the cervix is compromised, increasing the risk of intrauterine infection, premature rupture of membranes, preterm birth, and neonatal morbidity. Moreover, the presence of endocervicitis can lead to cervical insufficiency, spontaneous miscarriage, and complications during labor and the postpartum period.

In recent years, the focus of obstetric and gynecological research has shifted toward optimizing pregnancy and delivery outcomes in women with chronic or recurrent endocervicitis. Timely diagnosis, rational antimicrobial therapy, and preventive obstetric measures are essential for improving maternal and perinatal prognosis. The development of molecular diagnostic techniques, including polymerase chain reaction (PCR), has enhanced the accuracy of pathogen identification, enabling targeted treatment strategies. Furthermore, modern management involves a multidisciplinary approach that integrates the efforts of obstetricians, gynecologists, microbiologists, and immunologists.

The aim of this study is to analyze current diagnostic and therapeutic approaches to managing endocervicitis during pregnancy, to identify risk factors that contribute to adverse obstetric outcomes, and to propose evidence-based strategies for optimizing pregnancy and delivery outcomes. By focusing on prevention, early intervention, and individualized care, healthcare professionals can significantly reduce complications associated with endocervicitis and improve the overall quality of maternal-fetal health care.

## **Materials and Methods**

The study was conducted at a regional perinatal center and included 120 pregnant women aged 20–38 years. All participants were divided into two groups: the **main group** (n = 80), consisting of women diagnosed with endocervicitis, and the

**control group** (n = 40), consisting of healthy pregnant women with no signs of infection or inflammation of the cervix. The diagnosis of endocervicitis was established based on clinical findings, microbiological testing, and colposcopic examination.

All patients underwent:

**Gynecological examination** to assess cervical changes such as hyperemia, erosion, or excessive mucopurulent discharge.

**Bacterioscopic and bacteriological analyses** of cervical canal secretions to identify microbial flora and determine antibiotic sensitivity.

**Polymerase chain reaction (PCR)** testing for *Chlamydia trachomatis*, *Mycoplasma hominis*, *Ureaplasma urealyticum*, and *Neisseria gonorrhoeae*.

**Colposcopy** to detect signs of chronic inflammation and structural changes in the cervical epithelium.

**Ultrasound monitoring** to evaluate fetal growth, placental condition, and the risk of preterm labor.

**Complete blood count and C-reactive protein (CRP)** tests to determine systemic inflammatory activity.

Women in the main group received comprehensive therapy, including:

**Antibacterial treatment** based on the identified pathogen and antibiotic sensitivity results.

**Local anti-inflammatory therapy**, including vaginal suppositories containing antiseptic and regenerative components.

**Probiotic therapy** to restore vaginal microbiota and prevent dysbiosis after antibiotic use.

**Immunomodulatory support** to strengthen local and systemic immunity.

**Regular obstetric monitoring**, including cervical length assessment and infection screening during pregnancy.

The control group received standard prenatal care without specific anti-inflammatory interventions.

The effectiveness of treatment was evaluated by comparing the incidence of complications such as threatened miscarriage, premature rupture of membranes,

preterm birth, intrauterine infection, and neonatal morbidity between the two groups. Statistical analysis was performed using standard methods, including Student's t-test and chi-square test, with significance set at  $p < 0.05$ .

## Conclusion

The results of the study demonstrated that endocervicitis significantly increases the risk of adverse pregnancy and delivery outcomes, including premature rupture of membranes, preterm labor, and intrauterine infection. However, timely diagnosis and comprehensive pathogen-specific therapy can effectively reduce these risks and improve maternal and neonatal health indicators.

The use of molecular diagnostic methods such as PCR provides rapid and accurate identification of infectious agents, allowing for targeted and rational antibiotic therapy. Integrating probiotic and immunomodulatory support into treatment protocols further enhances therapeutic outcomes and prevents recurrence. Moreover, dynamic obstetric supervision and preventive management during pregnancy play a crucial role in optimizing delivery outcomes. Women who received full treatment and preventive care demonstrated lower rates of complications and delivered healthy newborns at term compared to those who did not receive adequate management.

In conclusion, the optimization of pregnancy and delivery outcomes in women with endocervicitis requires a **multifactorial, evidence-based approach** that includes early detection, individualized treatment, and continuous prenatal monitoring. Implementing such strategies can contribute to improving maternal well-being, ensuring safer childbirth, and promoting the birth of healthy offspring.

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