Ilmiy tadqiqotlar va ularning yechimlari jurnali
Aoka guvohnoma № 323759 ISSN: 3060-4818

FERTILITY OUTCOMES IN WOMEN WITH ENDOMETRIOSIS: A REVIEW OF NATURAL CONCEPTION AND ASSISTED REPRODUCTIVE TECHNOLOGIES

Jo'raqulov Jaloliddin ,Haydarova Gulchiroy,Abdumurodov Otabek,Alimova Zulayho
[1]Department of Obstetrics and Gynecology, Samarkand State Medical University

Abstract

Endometriosis is a chronic inflammatory disease strongly associated with infertility. This review summarizes current evidence regarding fertility outcomes in women with endometriosis, focusing on natural conception and assisted reproductive technologies (ART). Disease severity, age, ovarian reserve, and duration of infertility significantly influence reproductive success. While spontaneous conception remains possible in mild disease, IVF provides higher pregnancy rates in women with moderate-to-severe endometriosis. Early diagnosis and individualized treatment strategies are essential for optimizing reproductive outcomes.

Introduction

Endometriosis affects approximately 10% of reproductive-age women and up to 50% of infertile women. The disease is characterized by the presence of endometrial-like tissue outside the uterine cavity, leading to chronic inflammation, pelvic pain, and impaired fertility. Understanding fertility outcomes is important for selecting the most appropriate reproductive strategy.

Pathophysiology of Endometriosis-Associated Infertility

Infertility in endometriosis is multifactorial. Mechanisms include distorted pelvic anatomy, inflammatory cytokines, oxidative stress, impaired endometrial receptivity, reduced oocyte quality, and diminished ovarian reserve. These factors negatively affect fertilization, implantation, and embryo development.

Natural Conception Outcomes

Women with minimal or mild endometriosis may achieve spontaneous pregnancy; however, fertility declines as disease severity increases. Advanced disease is associated with adhesions, endometriomas, and tubal dysfunction that reduce natural conception rates.

Assisted Reproductive Technologies

ART, particularly IVF, has substantially improved reproductive outcomes in women with endometriosis. Although ovarian stimulation may temporarily increase estrogen levels, current evidence indicates that IVF does not significantly worsen long-term disease progression in most patients.

Discussion

Treatment decisions should consider patient age, ovarian reserve, disease stage, pain symptoms, and duration of infertility. Delayed intervention may reduce fertility potential due to disease progression and ovarian aging.

Conclusion

Endometriosis remains a major cause of female infertility. IVF offers favorable outcomes for many patients, particularly those with moderate-to-severe disease. Individualized management and timely fertility treatment are essential.

Table 1. Fertility Outcomes by Disease Stage

Stage	Natural Fertility	IVF Outcome	Clinical Notes
I	High	Excellent	Minimal anatomical changes
II	Moderate	Excellent	Mild inflammatory effects
III	Reduced	Good	Adhesions and endometriomas
IV	Low	Moderate-Good	Extensive pelvic distortion

Table 2. Natural Conception versus IVF

Parameter	Natural Conception	IVF	Advantage
Time to Pregnancy	Often prolonged	Shorter	IVF
Tubal Function	Required	Not required	IVF
Cost	Lower	Higher	Natural conception
Success in Severe Disease	Low	Higher	IVF

References

1. Zondervan KT, Becker CM, Missmer SA. Endometriosis. Lancet. 2020.
2. Becker CM et al. ESHRE Guideline: Endometriosis. 2022.
3. Chapron C et al. Endometriosis and infertility. Hum Reprod Update. 2019.
4. Hamdan M et al. Impact of endometrioma on IVF outcomes. Hum Reprod Update. 2015.
5. Somigliana E et al. Ovarian reserve and endometriosis. Fertil Steril. 2012.
6. Adamson GD, Pasta DJ. Endometriosis Fertility Index. Fertil Steril. 2010.
7. Johnson NP, Hummelshoj L. Consensus on management of endometriosis. Hum Reprod. 2013.
8. Vercellini P et al. Surgery for endometriosis-associated infertility. Hum Reprod. 2009.