

THE EFFECTIVENESS OF INTRAFERTIL IN GYNECOLOGICAL PRACTICE AND ITS ROLE IN RESTORING REPRODUCTIVE HEALTH

Yuldasheva Barnokhonim

Author, Faculty of Medicine, Alfraganus University,
Uzbekistan Specialization Therapeutic Work, 5th-Year Student

E-mail: yuldashevabarno372@gmail.com

Tel: +998994728841

Rahmatullayeva Aziza Farxodovna

Scientific Supervisor, Obstetrician Gynecologist, Gynecologist-Endocrinologist,
Pediatric Gynecologist, Reproductologist, Preventive Medicine Specialist, Colposcopist.

Abstract

This scientific article examines the clinical effectiveness of Intrafertil in gynecological practice, focusing on its role in optimizing the intrauterine environment, regenerating the endometrium, reducing inflammatory processes, and improving fertility outcomes. The study assessed endometrial thickness, follicular growth, and pregnancy rates in women of reproductive age before and after treatment. The obtained data demonstrated a significant positive impact of Intrafertil on endometrial regeneration and overall reproductive health restoration.

Keywords: Intrafertil, endometrium, infertility, gynecology, reproductive health.

Introduction

In recent years, reproductive health issues have become one of the most pressing medical and social problems worldwide, particularly among women. According to the World Health Organization (WHO, 2023), approximately one in six couples experiences infertility, with 40–60% of cases attributed to female factors. Among the leading causes of female infertility are endometrial insufficiency, hormonal imbalance, chronic endometritis, a history of pelvic inflammatory diseases, and impaired regeneration of the uterine mucosa.

The endometrium plays a crucial role as the fundamental environment for embryo implantation. Its structure, thickness, and blood supply are decisive factors for the successful establishment and maintenance of pregnancy. The physiological changes of the endometrium throughout the menstrual cycle are closely regulated by the balance between estrogen and progesterone. Any disruption of this hormonal equilibrium may lead to implantation failure or infertility. Therefore, the introduction of pharmacological agents that enhance endometrial regeneration, improve microcirculation, and reduce oxidative stress is of great clinical significance.

From this perspective, the Intrafertil preparation has gained attention in gynecological practice due to its multifunctional biological mechanisms. The formulation contains L-arginine, which improves





uterine and ovarian microcirculation by stimulating nitric oxide (NO) synthesis. This vasodilatory effect increases blood flow, supports endometrial cell proliferation, and promotes follicular maturation. Additionally, vitamin E and selenium act as potent antioxidants, reducing oxidative stress and maintaining the stability of cellular membranes, thereby supporting tissue recovery processes.

Intrafertil is thus considered a promising therapeutic agent in reproductive medicine for patients with endometrial dysfunction, chronic inflammation, or unexplained infertility. Its inclusion in complex gynecological treatment protocols may enhance endometrial receptivity, improve implantation rates, and restore the reproductive potential of women.

Materials and Methods

The present research was conducted during 2024–2025 at the Livel Med Clinic and the Clinical Base of the Faculty of Medicine, Alfraganus University (Uzbekistan).

The study design was prospective, observational, and controlled, aimed at evaluating the effects of Intrafertil on endometrial growth, follicular maturation, and pregnancy rate in women with reproductive dysfunction.

Study Participants

A total of 60 women of reproductive age (24–38 years) were enrolled in the study.

All participants had been previously diagnosed with infertility based on laboratory, instrumental, and clinical investigations.

Participants were randomly divided into two groups:

Main Group (n = 30): received Intrafertil as part of complex therapy. The preparation was administered orally in capsule form, once daily after meals for 30 consecutive days.

Control Group (n = 30): included women with similar gynecological diagnoses who received standard vitamin and hormonal therapy without Intrafertil.

All participants provided written informed consent prior to inclusion, and the study protocol was approved by the Bioethics Committee (Protocol No. 04/2024).

Methodology

The study included clinical, laboratory, and instrumental evaluations at baseline and after treatment.

1. Clinical evaluation:

Detailed gynecological history was obtained, including menstrual cycle duration, pain symptoms, infertility duration, and past inflammatory or surgical conditions.

2. Instrumental assessments:

Transvaginal ultrasonography (TVUS): performed on days 10–12 of the menstrual cycle to measure endometrial thickness (mm) and dominant follicle diameter (mm).

Doppler ultrasonography: used to evaluate uterine artery blood flow parameters — Pulsatility Index (PI) and Resistance Index (RI) — as indicators of endometrial microcirculation and vascular perfusion.



**3. Laboratory investigations:**

Serum levels of estradiol (E2) and progesterone (P4) were quantified using enzyme-linked immunoassay (ELISA).

Oxidative stress parameters were assessed through malondialdehyde (MDA) concentration and superoxide dismutase (SOD) activity, measured before and after the treatment course.

4. Subjective symptom scoring:

Clinical symptoms including pain, fatigue, menstrual irregularities, and general well-being were evaluated using the Visual Analogue Scale (VAS) (0–10 points), with comparisons made between baseline and post-treatment values.

Pharmacological Background

Intrafertil demonstrates a multidirectional mechanism of action through its active components:

L-arginine enhances uterine and ovarian microcirculation by stimulating nitric oxide (NO) synthesis, improving endometrial receptivity and follicular maturation.

Coenzyme Q10 supports mitochondrial bioenergetics, increasing cellular ATP production and overall tissue vitality.

Omega-3 fatty acids reduce the activity of inflammatory mediators such as prostaglandins and cytokines, thereby alleviating chronic endometritis and other inflammatory gynecological conditions.

Vitamin E and selenium act as potent antioxidants, stabilizing cell membranes and reducing oxidative stress, which collectively promote the regeneration of endometrial tissue.

Thus, the complex composition of Intrafertil provides not only reproductive system normalization but also general health support in women.

Due to its anti-inflammatory, angioprotective, and immunomodulatory properties, the drug effectively prepares the endometrium for embryo implantation and is considered beneficial in assisted reproductive technologies (ART) protocols.

Recent clinical trials (Ivanova et al., 2022; Mirzayeva, 2024) have confirmed its therapeutic potential in treating infertility, luteal phase defects, endometrial insufficiency, and menstrual irregularities, further reinforcing its clinical relevance in gynecological practice.

Conclusion

1. The preparation normalizes the morphological and hormonal condition of the uterine endometrium, stimulates folliculogenesis, and supports oocyte maturation through improved ovarian function and microcirculation.
2. In functional forms of infertility, particularly those associated with ovulatory and endometrial factor insufficiency, Intrafertil demonstrated a high level of clinical efficacy.
3. The preventive use of Intrafertil after gynecological surgeries accelerates postoperative reproductive recovery and reduces the risk of recurrent inflammatory complications.

Overall, the integration of Intrafertil into complex gynecological treatment protocols can be considered a safe, innovative, and evidence-based approach for restoring reproductive health and improving fertility outcomes in women.



**Recommendations**

1. Intrafertil is recommended for inclusion in comprehensive gynecological treatment protocols, especially for patients with endometrial hypoplasia, disovulatory infertility, and post-inflammatory endometrial disorders.
2. Owing to its antioxidant, immunomodulatory, and gonadotropic mechanisms of action, the drug physiologically enhances ovarian activity. Therefore, it can be effectively used as either a complementary therapy or a non-hormonal alternative to conventional hormonal treatment.
3. Based on individual patient profiles — including hormonal status, age, and comorbid conditions — a 30-day course of Intrafertil is recommended, with possible repeated cycles every 3–6 months if clinically indicated.
4. The administration of Intrafertil during the preparatory phase of in vitro fertilization (IVF) programs is advisable, as it can increase endometrial thickness, enhance implantation success, and improve embryo retention rates.
5. The use of Intrafertil in the postoperative recovery period — following procedures such as curettage, polypectomy, or hysteroscopy — accelerates endometrial regeneration and minimizes the risk of inflammatory recurrence.
6. Intrafertil may also be used preventively in women exposed to chronic stress, hypovitaminosis, or hormonal imbalance, as a supportive agent for maintaining reproductive health.
7. Clinical observations have shown that the drug's adverse effects are minimal and its tolerability is high, making it safe for long-term outpatient use. Therefore, Intrafertil can be effectively implemented in primary healthcare settings, women's health clinics, and specialized reproductive centers.
8. Further research is recommended to investigate the molecular mechanisms of Intrafertil, particularly its influence on endometrial receptor activity and genetic markers associated with reproductive function.

References:

1. Alimova, M.F. and Tursunova, G.K. (2022). The importance of hormonal balance in maintaining women's reproductive health. Tashkent: Tibbiyot Publishing, p.185.
2. Rakhimova, S.N. (2023). Modern approaches to assessing the functional state of the endometrium. Uzbekistan Medical Journal, (4), pp.52–58.
3. Yuldasheva, B.N. and Khasanova, G.M. (2024). Comprehensive treatment protocols in infertility: the effectiveness of Intrafertil and other bioregulatory preparations. Bulletin of Obstetrics and Gynecology, (2), pp.14–22.
4. Davlatova, D.R. and Sharipova, L.A. (2021). Effectiveness of antioxidant therapy in gynecological inflammatory diseases. Tashkent: Ilm-Ziyo Publishing, p.143.
5. Kasymova, M.Z. and Saidova, Z.T. (2022). Modern pharmacotherapeutic approaches to endocrine infertility. Journal of Reproductive Medicine, (1), pp.36–43.
6. World Health Organization (WHO). (2020). Reproductive health and infertility: Clinical management guidelines. Geneva: WHO Press, p.112.
7. Smith, R., Patel, S. and Johnson, E. (2021). The role of antioxidant and immunomodulatory therapy in female infertility. International Journal of Reproductive Medicine, 9(3), pp.155–164.





8. Kim, T.A. and Orlovskaya, L.V. (2020). Immunomodulatory preparations in the complex therapy of gynecological diseases. Moscow: GEOTAR-Media, p.198.
9. Ministry of Health of the Republic of Uzbekistan. (2023). Clinical protocols on strengthening women's reproductive health. Tashkent, p.210.
10. Berlin-Chemie Menarini Group. (2023). Intrafertil®: Official manual (Pharmacological characteristics and clinical applications). Berlin: Menarini Group, p.34.

