



MODERN METHODS OF DIAGNOSTICS AND TREATMENT FOR FEMALE INFERTILITY

Ismoilova Shoiri Tulkinovna

Head of the Department of Obstetrics, Gynecology, and Neonatology
Central Asian Medical University, PhD.

Ortikova Muattar Gayratjon kizi

Clinical resident Central Asian Medical University.
Fergana, Uzbekistan.

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ABSTRACT

Infertility is a significant medical and social problem worldwide. According to the World Health Organization, approximately 17.5% of the world's adult population faces infertility, meaning approximately one in six people experiences problems conceiving. On average, 10-15% of women of reproductive age suffer from infertility, with female factors accounting for approximately 40% of the causes. This study examines the diagnosis and treatment of female infertility in the Fergana region. An analysis was conducted of 186 patients of reproductive age (20-39 years) who underwent examination and treatment in gynecological institutions in the region. The causes of infertility, the effectiveness of diagnostic methods, and the results of various therapeutic approaches were assessed. The most common causes of infertility were found to be endocrine disorders, pelvic inflammatory disease, and polycystic ovary syndrome. The results demonstrate the need for early diagnosis, comprehensive examination, and the use of modern reproductive technologies.

Introduction. Infertility is a pressing social and demographic problem worldwide. According to official statistics alone, 15% of couples worldwide (48.5 million people) are unable to conceive. In half of these cases, various disorders of the female reproductive system are the cause. This problem affects not only the women themselves and their spouses, but also impacts the overall demographic situation and the economy. Therefore, the diagnosis and treatment of infertility is a priority in modern medicine.

Infertility can be absolute or relative. In the former case, conception is completely impossible, and the condition is not treatable. It typically occurs due to severe anatomical abnormalities in the female reproductive system, such as the absence of ovaries or a uterus. Relative infertility is reversible thanks to advances in modern medicine.

Modern diagnostics of female infertility are based on pelvic ultrasound, hormonal assessment (AMH, FSH), hysterosalpingography (tubal patency), and endoscopy (laparoscopic and hystero-graphic). Treatment includes hormonal therapy, surgical restoration of tubal patency, removal of polyps/fibroids, and ART (in vitro fertilization, ICSI, and artificial insemination).

In Uzbekistan, the problem also remains relevant. According to scientific research, one in seven married couples faces infertility, and approximately 45% of infertility cases are due to female factors.

The most common causes of female infertility are polycystic ovary syndrome, pelvic inflammatory disease, hormonal imbalances, endometriosis, and tubal peritoneal factor.

In the context of Uzbekistan, the study of factors influencing the development of infertility and the improvement of diagnostic and treatment methods are of great importance for improving the demographic situation and reproductive health of the population.

Purpose of the study. To evaluate the causes, diagnostic features, and effectiveness of modern methods of treating female infertility among women of reproductive age.

Material and research methods. A clinical observational study was conducted in the Fergana maternity hospital for the study period of 2020-2025. The object of the study are 186 women of reproductive age (20-39 years old) who sought treatment for infertility.

The following treatment methods were used: drug therapy; ovulation stimulation; surgical treatment; and assisted reproductive technologies (ART).

Statistical analysis utilized descriptive statistics, mean values ($M \pm SD$), χ^2 test, and Student's t-test, with a significance level of $p < 0.05$.

Research results and their discussion. The age distribution of the patients was studied, with an average age of 29.4 ± 4.8 years. The average treatment duration was 14.6 ± 5.2 months.

The results indicate that polycystic ovary syndrome is the most common cause of infertility, consistent with international studies. Pelvic inflammatory disease, associated with the prevalence of urogenital infections, also plays a significant role.

The use of modern diagnostic methods (ultrasound, hormonal testing, laparoscopy) allows for the timely identification of the causes of infertility and the selection of optimal treatment strategies.

Assisted reproductive technologies (ARTs) proved to be the most effective treatment methods. Their effectiveness in our study was approximately 45%, which is consistent with global practice.

Conclusions:

- Female infertility remains a significant medical and social problem in the Fergana region;
- The main causes of infertility are PCOS, pelvic inflammatory disease, and tubal factors;
- Modern diagnostic methods allow for the timely identification of causes of infertility and increased treatment effectiveness;

Assisted reproductive technologies are the most effective treatment when conservative therapy fails.

Bibliography:

1. Uryupina K.V., Kutsenko I.I., Kravtsova E.I., Gavryuchenko P.A. OVARIAN INFERTILITY FACTOR IN PATIENTS OF LATE REPRODUCTIVE AGE. Medical Herald of the South of Russia. 2020;11(1):14-20. (In Russ.) <https://doi.org/10.21886/2219-8075-2020-11-1-14-20>

- 2.Андреева Е.Н., Шереметьева Е.В. Репродуктивное здоровье женщин: современные подходы. // Гинекология. 2023. №2. С. 12–18. (Gynecology)
- 3.Прилепская В.Н., Юрова М.В. Современные аспекты репродуктивного здоровья женщин. // Гинекология. 2024. №2. С. 5–10. (RCSI Journals Platform)
- 4.Агабабян Л.Р., Усманкулова Х.М. Синдром поликистозных яичников как причина женского бесплодия. // Медицинский журнал Узбекистана. 2025. №1. С. 329–334. (Медицинский журнал Узбекистана)
- 5.Umarova S., Karimov A. Reproductive health in Uzbekistan and Central Asia. // Asian Journal of Medical Sciences. 2022.
- 6.Motovilova T.M. Modern views on endometrial infertility. // Consilium Medicum. 2024. №7. (Consilium Medicum)
- 7.Morton J.S. Care A.S., Kirschenman R., Cooke C.L., Davidge S.T. Advanced Maternal Age Worsens Postpartum Vascular Function. // Frontiers in physiology. - 2017. - V.8. - P.465. <https://doi.org/10.3389/fphys.2017.00465>

