References

1. Muir, R. Q. Novel Advances in Our Understanding of Sex-Dependent Control of Blood Pressure / R. Q. Muir, J. Xu, A. D. Medcalf, J. L. Pluznick // Annu. Rev. Physiol. – 2025. – Vol. 87.
2. Sex-Specific Differences in the Pathophysiology of Hypertension / H. Zhang [et al.] // Biomolecules. – 2025. – Vol. 15, № 1. – P. 143.
3. Sex differences in blood pressure regulation and hypertension: renal, hemodynamic, and hormonal mechanisms / E. R. Drury [et al.] // Physiol. Rev. – 2024. – Vol. 104, № 1. – P. 199-251.
4. Demirci, M. Aging and sex differences in salt sensitivity of blood pressure / M. Demirci, J. M. Afolabi, A. Kirabo // Clin. Sci. (Lond). – 2025. – Vol. 139, № 2. – P. 199-212.
5. Sex differences in sympathetic activity and pulse wave velocity in adults with chronic kidney disease / M. G. Zanuzzi [et al.] // Am. J. Physiol. Renal Physiol. – 2024. – Vol. 326, № 4. – P. F661-F668.

ENDOMETRIOSIS AS ONE OF THE MAIN PROBLEMS IN PATIENTS WITH INFERTILITY

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Background. Endometriosis is defined as the growth of endometrial-like tissue in places other than the uterus, often on the pelvic peritoneum and ovaries. When these tissues are found on the myometrium, this is called endometriosis interna or adenomyosis. Endometriosis is benign, but it is locally invasive and can disseminate widely, thus spreading to distant areas (sometimes even to the lungs or orbital tissue. Bleeding from these distant areas outside of the uterus is known as vicarious menstruation. It is observed that cyclic hormones stimulate growth but continuous hormones suppress it. This can be explained by the fact that endometrial lesions contain aromatase which allows the lesions to bypass the stabilizing control of progesterone and continue to grow. But continuous enzymes create a suppressed state by deprieving the endometrial lesions of the cyclic signals the need to grow and bleed, thus leading to their inactivation [1].

Infertility is a relatively common symptom in around 30% to 50% of patients with endometriosis. There no single cause for this, but rather a complex of both biochemical and mechanical reasons including: distorted anatomy of the pelvis, adhesions, scarred fallopian tubes, inflammation, altered immune system functioning, anovulation, changes in the hormonal environment, impaired implantation (for example; due to progesterone resistance), and altered egg quality [2].

The three most common types of endometriosis are peritoneal endometriosis, ovarian cysts (chocolate cysts) and nodules of deeply infiltrating endometriosis in the gut or vaginal–rectal septum [2].

Treatment of endometriosis is a complex of both pharmacological, surgical methods. Symptoms associated with the presence of foci of endometriosis including pain complaints of varying severity and location, and problems with getting pregnant determine treatment requirement. The choice of treatment is made depending on the age of the patient and her desire to procreate, and the form of endometriosis [3].

Proper diet and lifestyle also play an important role in this choice.

Drug treatment is often used in women in their reproductive years aimed to ward reducing or eliminating pain, inhibiting further development and regression of endometrial foci and restoring fertility. It is necessary to do a clinical exam before beginning pharmacotherapy. We may use non-steroidal anti-inflammatory drugs, hormonal contraceptives, danazol, analogues and gonadoliberin (GnRH)–gonadoliberin agonists and antagonists, selective progesterone receptor modulators, aromatase inhibitors [2-3].

Surgical treatment can be sparing or radical. Sparing treatment is performed on teenage patients and women of childbearing age planning to become pregnant. Radical surgery is carried out in patients who do not plan pregnancy or those who continue to have pain despite the pharmacotherapy used. Laparoscopy is the recommended surgical technique for the treatment of endometriosis, regardless of its stage. However, surgery can cause complications that affect the functions of the gastrointestinal, urinary or sexual tract when removing DIElesions.These include rectal fistula (0,3-2%), intestinal stenosis (2%), and bladder atony (4-6%) [2-3].

The aim of the study. To examine patients with endometriosis and infertility.

Research methods. Studying history cases of the patients with endometriosis and infertility, analysis results, gynecological and extragenital pathology, statistic methods.

Results and discussion. We have examined 75 women with endometriosis and infertility. The average age was about 33 years. In 92% cases patients suffered from extragenital pathology: thyroid diseases (34%), respiratory problems (64%), cardiovascular diseases (28%). All the patients indicated some symptoms before beginning of the periods: abdominal cramps (100%), mood swings (100%), tender breast (81,13%), abnormal vaginal discharge (71,69%), acne (58,49%), backache (45,28%). The duration of menstrual cycle was 25-28 days in 70% cases, around 29-35 days in 30% cases. In 88% cases menstruation was painful. What about the drugs to avoid the pain during menstruation in 75% cases the patients used drugs (paracetamol, ibuprofen, ketorolac) to avoid the pain. More than that most of the patients had the symptoms during menstruation: tender breasts (67,92%), bloating (88,67%), muscle aches (47,16%), joint pain (11,32%), headaches (39,62%), acne (79,24%), abdominal cramps (92,45%), diarrhea (20,75%), constipation (3,77%). The duration of the bleeding during menstrual cycle was 3-5 days (75%), 5-7 days (20%), more than 7 days (5%). The duration of endometriosis was 8 years. The duration of infertility was 6 years. We have examined that after the conservative treatment of endometriosis during a year most symptoms of menstrual cycle disorders have disappeared in 90% cases.

Conclusion. Endometriosis is a gynecological pathology that can be the reason of menstrual cycle disorders. In time endometriosis has a lot of other complications. One of them is infertility. So to save reproductive health is very important to normalize menstrual cycle, to treat endometriosis and to prevent infertility.

REFERENCES

1. Florova, M. S. Prospects of metformin in the treatment of endometriosis / M. S. Florova, M. I. Yarmolinskaya, V. V. Potin // J. Obstet. Woman Dis. – 2017. – Vol. 66. – P. 67-76.
2. Smolarz, B. Endometriosis: Epidemiology, Classification, Pathogenesis, Treatment and Genetics (Review of Literature) / B. Smolarz, K. Szyllo, H. Romanowicz // International journal of molecular sciences. – 2021. – Vol. 22, № 19. – P. 10554.
3. Surgical, Clinical, and Functional Outcomes in Patients with Rectosigmoid Endometriosis in the Gray Zone / M. Mabrouk, D. Raimondo, M. Altieri [et al.] // Journal of minimally invasive gynecology. – 2019. – Vol. 26, № 6. – P. 1110-1116.

THE MAIN PRINCIPLES OF DIAGNOSTICS OF INFERTILITY

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Background. Infertility, defined as the failure to achieve pregnancy after 12 months or more of regular unprotected sexual intercourse, affects an estimated 17,5% of the global adult population. It represents a complex condition with biomedical, psychological, and social implications. According to WHO's 2023 global report, infertility prevalence is similar across high-, middle-, and low-income countries, emphasizing that it is a universal challenge rather than a disease of affluence. Over the past decade, increasing environmental pollution, delayed age of marriage and conception, and lifestyle changes have contributed significantly to the rise in infertility rates [1].

Globally, female factor infertility accounts for approximately 40-50% of cases, male factor infertility for 30–40%, and combined or unexplained causes for the remainder. Common female causes include ovulatory disorders, tubal damage, and endometriosis. Male causes are often related to oligospermia, varicocele, or endocrine abnormalities. Lifestyle factors such as obesity, smoking, alcohol use, and stress have been repeatedly associated with reduced fertility outcomes. Environmental exposures, including pesticides, heavy metals, and endocrine-disrupting chemicals, have also emerged as significant contributors. Socioeconomic disparities continue to influence