INTERNATIONAL MULTI DISCIPLINARY JOURNAL FOR RESEARCH & DEVELOPMENT
eISSN 2394-6334 Impact factor: 8.854 Volume 13, issue 02 (2026)

EARLY DIAGNOSIS OF UTERINE AND OVARIAN DISEASES.

Andijan branch of Kokand University

Faculty of Medicine, Department of

Medical Sciences 25-08- student

Erkinova Markhabo Dilshodbek kizi

Scientific supervisor: Senior lecturer

of the Department of Anatomy,

Clinical and Pathological Anatomy.

Tojiboyeva Nargizakhon Latifjonovna

Abstract. This article discusses the early diagnosis of uterine and ovarian diseases, modern screening methods and their clinical and practical significance. In recent years, diseases of the female reproductive system, including uterine fibroids, endometriosis, cervical pathologies, and ovarian cysts and tumors, have become widespread. Since these diseases often occur in the early stages with asymptomatic or vague clinical signs, their early detection is of great medical and social importance. The article analyzes the diagnostic capabilities of ultrasound (UTT), Dopplerography, magnetic resonance imaging (MRI), computed tomography (CT), colposcopy, cytological examination (PAP-test), biopsy, and laboratory biomarkers (CA-125, etc.). In particular, the role of screening programs in the early detection of cervical cancer and the importance of tumor markers in ovarian tumors are considered separately. It is also noted that risk factors such as hormonal disorders, hereditary predisposition, inflammatory diseases, early onset of sexual life, HPV infection and reproductive factors play an important role in the development of diseases. Early diagnosis is an important factor in reducing severe complications of the disease, increasing the effectiveness of treatment and preserving the reproductive health of women. The results of the study show that regular preventive examinations and the widespread introduction of modern diagnostic technologies allow for the early detection of uterine and ovarian diseases and significantly reduce the risk of developing oncological diseases.

Keywords. Uterine pathologies, ovarian diseases, early diagnosis, screening tests, ultrasonography (UTT), PAP-test, CA-125 biomarker, endometriosis, cervical cancer, reproductive health.

Introduction. Currently, maintaining women's reproductive health is one of the most relevant areas of medicine. The increasing incidence of uterine and ovarian diseases in recent years requires attention not only as a medical but also as a social problem. These diseases have a significant impact on the quality of life, reproductive function and general health of women. In particular, cervical and ovarian tumors occupy one of the leading places in the structure of oncological diseases. In most cases, uterine and ovarian diseases do not show obvious clinical signs in the early stages or their symptoms are vague. As a result, patients seek medical attention late, and the disease progresses to a severe stage. This complicates the treatment process and increases the risk of complications. Therefore, it is important to improve and widely implement early diagnostic methods [1]. In modern medicine, ultrasound, Dopplerography, magnetic resonance imaging, cytological and histological examinations, as well as methods for

determining tumor markers, allow for the early detection of uterine and ovarian diseases. Identification of women at risk through preventive examinations and screening programs plays an important role in diagnosing the disease at an early stage. In particular, PAP-test and HPV screening are widely used as effective methods for preventing cervical cancer [2]. Early diagnosis not only helps to detect the disease in time, but also helps to preserve reproductive function, reduce the number of invasive surgical interventions, and improve the quality of life of patients. In this regard, one of the urgent issues is the in-depth study of diseases of the female reproductive system and the development of strategies for their early detection, especially uterine pathologies, which are among the most common and frequently diagnosed diseases in clinical practice. Uterine pathologies are one of the most common groups of diseases of the female reproductive system. These include uterine fibroids, endometriosis, endometritis, hyperplasia, polyps, and cervical erosion and dysplasia. These diseases can occur at different ages and often develop under the influence of hormonal disorders, inflammatory processes, hereditary predisposition, and external factors. Uterine fibroids are widespread in women of reproductive age and can often cause menstrual irregularities, uterine bleeding, and infertility [3]. Endometriosis is manifested by chronic pain syndrome and decreased reproductive function. Cervical pathologies, in particular dysplasia and precancerous conditions, can be detected only through preventive examinations, since they are asymptomatic for a long time. Ultrasound, colposcopy, cytological examination (PAP test), and histological analysis are important in the early detection of uterine pathologies. Timely diagnosis allows you to prevent the disease from worsening, reduce complications, and prescribe effective treatment measures. At the same time, uterine diseases are often closely related to changes in ovarian function and structure, which requires an in-depth study of ovarian diseases. Ovarian diseases are one of the important pathological conditions of the female reproductive system, including ovarian cysts, polycystic ovary syndrome (PCOS), inflammatory diseases, and benign and malignant tumors. Since the ovaries play a key role in maintaining hormonal balance and controlling the ovulation process, any functional or organic changes in them affect the entire body. Ovarian cysts are often asymptomatic and are detected incidentally during ultrasound examination [4]. Polycystic ovary syndrome is manifested by menstrual cycle disorders, infertility, metabolic changes, and hyperandrogenism. Ovarian tumors, especially malignant forms, are considered a “silent disease” because they do not cause obvious clinical symptoms in the early stages. In the diagnosis of ovarian diseases, ultrasound, Dopplerography, MRI, as well as the determination of tumor markers such as CA-125, are of great diagnostic importance. Early detection of the disease allows maintaining the patient's quality of life and preventing severe complications. Therefore, the principle of early detection of the disease is of paramount importance in ovarian diseases, which necessitates the widespread use of early diagnostic methods. Early diagnosis is an important medical approach aimed at detecting uterine and ovarian diseases at an early stage, stopping the development of the disease, and preventing severe complications. Since most diseases of the reproductive system are initially asymptomatic or have vague clinical signs, they can be detected only through targeted examinations. Therefore, regular preventive examinations and the use of modern instrumental and laboratory examination methods are of great importance. Early diagnosis expands the possibilities of conservative treatment, reduces the volume of surgical interventions, and increases the likelihood of preserving women's reproductive function. In particular, the detection of oncological diseases at stages I–II significantly improves the survival rates of patients [5]. In modern medical practice, ultrasound, cytological screening, tumor markers and imaging methods are the main tools for early detection. The effectiveness of early diagnosis largely depends on the proper organization of preventive examinations among the population, and screening examinations play a special role in this process. Screening

examinations are a set of preventive diagnostic measures aimed at detecting a disease at a stage when clinical symptoms have not yet appeared. Screening programs play an important role in the early detection of uterine and ovarian diseases, as they allow identifying women at risk and diagnosing the disease at an early stage. In particular, the effectiveness of cytological examination (PAP test) and HPV screening in preventing cervical cancer has been scientifically proven. The main goal of screening is to detect the disease at an early stage through mass screening, initiate timely treatment, and reduce mortality. In ovarian pathologies, regular gynecological examinations and instrumental examinations are important. The effectiveness of screening programs depends on their systematic and regular implementation [6]. Instrumental diagnostic methods are widely used in the screening-based detection of reproductive system diseases, among which ultrasonography is of particular importance. Ultrasonography (UTT) is a modern instrumental diagnostic method that is safe, painless, and highly informative in detecting uterine and ovarian diseases. This method can be used to determine the size, structure, endometrial thickness, myomatous nodes, polyps, and ovarian cysts and tumors. Transabdominal and transvaginal methods are used depending on the clinical situation, with transvaginal UTT providing more accurate results in detecting small pathological changes. When using the Doppler mode, blood flow characteristics are assessed, which is important in the differential diagnosis of benign and malignant processes. The UTT method allows you to detect changes at an early stage, and is also convenient for dynamic monitoring. At the same time, cytological examination plays an important role in detecting cervical pathologies, which further increases the diagnostic value of the PAP test. The PAP test (Papanicolaou test) is a cytological examination method aimed at detecting cellular changes in the epithelium of the cervix, which is highly effective in detecting precancerous conditions and early oncological processes. During this examination, cell samples are taken from the cervix using a special brush and analyzed under a microscope. Regular Pap smears significantly reduce the risk of developing cervical cancer [7]. This method is especially important in detecting dysplastic changes associated with HPV infection. If early detected cellular changes are treated in a timely manner, the development of invasive cancer can be prevented. Therefore, in many countries, the Pap test is included in the mandatory preventive screening program for women. Unlike cervical pathologies, laboratory biomarkers play an important role in the early detection of ovarian tumors, in particular, the determination of the CA-125 indicator is an integral part of the diagnostic process. CA-125 is a tumor marker mainly associated with ovarian tumors, it is determined through blood and is used to monitor the disease status of patients. This biomarker can be used to differentiate benign and malignant processes, as well as to assess the effectiveness of treatment. In patients with elevated CA-125 levels, additional imaging studies, such as ultrasound or MRI, are recommended. CA-125 levels are not limited to oncological processes, but can also be altered by inflammation, endometriosis, and other diseases of the reproductive system. Therefore, it is necessary to take into account the clinical context when evaluating this biomarker [8]. This allows it to be used as an additional diagnostic tool for the early detection of endometriosis. Endometriosis is a chronic disease characterized by the presence of endometrial tissue in the tissues surrounding the cervix and ovaries, which is common in women of reproductive age. The disease can cause pain syndrome, menstrual disorders, and infertility. The early stages of endometriosis are often asymptomatic, so early detection is difficult but important. A combination of ultrasound, MRI, laparoscopy, and laboratory biomarkers is used to diagnose endometriosis. Early diagnosis of the disease increases the chances of conservative treatment, helps preserve reproductive function, and improves the patient's quality of life [9]. At the same time, the mechanism of development and risk factors of endometriosis indicate the possibility of association with other gynecological diseases, such as cervical cancer. Cervical cancer is a common oncological disease among women, and its

development is often associated with HPV infection and other risk factors. Since the disease is asymptomatic in the early stages, early diagnosis and regular screening programs are of great importance. Screening methods such as PAP test, HPV test, and colposcopy are highly effective in detecting precancerous conditions. Early diagnosis allows maintaining the quality of life of patients, reducing invasive treatment, and significantly reducing mortality. Therefore, it is urgent to study reproductive system diseases with a comprehensive approach and develop strategies for their early detection, including measures to strengthen reproductive health. Reproductive health is a state of general health through the normal functioning of the reproductive system of women and men, pregnancy planning, childbirth, hormonal balance and maintaining reproductive functions. Reproductive health in women depends not only on the health of organs such as the uterus, ovaries and cervix, but is also closely related to hormonal, immune and psychological factors. Early diagnosis, regular screening, preventive examinations, a healthy lifestyle, proper nutrition, stress reduction and, if necessary, timely application of treatment measures are of great importance in ensuring reproductive health [10]. At the same time, strengthening reproductive health can prevent infertility, hormonal disorders, reproductive system diseases and oncological diseases in women. Today, improving reproductive health and supporting it with advanced diagnostic and treatment methods is one of the most urgent tasks of modern gynecology and medicine.

Conclusion. Early detection of uterine and ovarian diseases plays an important role in maintaining women's reproductive health and improving the overall quality of life. Studies show that many diseases of the reproductive system, including uterine pathologies, ovarian diseases, endometriosis and cervical cancer, are asymptomatic in the early stages. Therefore, regular preventive examinations, screening programs and the use of modern diagnostic methods are necessary. Ultrasonography (UTT), PAP-test, CA-125 biomarker, magnetic resonance imaging, Dopplerography and laboratory tests are highly effective in early diagnosis, allowing to prevent disease exacerbation, reduce invasive treatment and preserve reproductive function. At the same time, it is a key factor in strengthening reproductive health, improving quality of life and reducing the risk of developing oncological diseases. Early diagnosis, regular screening, and the introduction of preventive measures in ensuring women's health serve not only to improve individual health, but also to improve the medical and social health of the entire society.

References

1. DeCherney A. H., Nathan L., Goodwin T. M., Laufer N., Roman A. S. "Current Diagnosis and Treatment: Obstetrics and Gynecology". New York: McGraw Hill, 2023.

2. Berek J. S. "Berek & Novak's Gynecology Essentials". Philadelphia: Wolters Kluwer, 2021.

3. Creasman W. T., Mannel R. S., Tewari K. S., Frumovitz M. "DiSaia and Creasman Clinical Gynecologic Oncology". St. Louis: Elsevier, 2023.

4. Rehman R., Sheikh A. "Polycystic Ovary Syndrome". Amsterdam: Elsevier, 2023.

5. Gershenson D. M., Lentz G. M., Valea F. A. "Comprehensive Gynecology." St. Louis: Elsevier, 2021.

6. Chi D., Berchuck A., Dizon D. S., Yashar C. M. "Principles and Practice of Gynecologic Oncology." Philadelphia: Wolters Kluwer, 2021.

7. Isonishi S., Kawata Y. "Molecular Diagnosis and Targeting for Gynecologic Malignancy." Singapore: Springer, 2021.

8. Layden E. A., Thomson A., Owen P., Madhra M., Magowan B. A. Clinical Obstetrics and Gynaecology. Edinburgh: Elsevier, 2022.

9. Handa W., Van Le L. "Te Linde's Operative Gynecology". Philadelphia: Wolters Kluwer, 2023.

10. Marsh C. "Reproductive and Gynecologic Health Annual Volume 2025." London: IntechOpen, 2025.