

BREAST CANCER: A MODERN PROBLEM AND WAYS TO PREVENT IT

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Abstract

This article analyzes one of the pressing problems of modern medicine - breast cancer, its causes, risk factors and preventive measures. Based on statistical data, the prevalence of this disease and the threat to women's health are highlighted. It also considers ways to prevent breast cancer through early diagnosis, the role of screening programs, the formation of a healthy lifestyle and regular self-examination. The article also provides information on modern treatment methods - surgery, chemotherapy, radiation and hormonal therapy, and highlights the role of society and the healthcare system in overcoming the disease.

Keywords: Breast cancer, Oncological diseases, Women's health, Early diagnosis, Screening program, Prevention, Healthy lifestyle, Genetic factors, Chemotherapy, Radiotherapy, Hormonal therapy, Self-examination, Medical advice, Disease prevention, Health care system.

Introduction

Today, breast cancer is one of the most common oncological diseases among women worldwide. According to the World Health Organization (WHO), millions of women are diagnosed with this disease every year, and a significant part of them die from it. Breast cancer is becoming an urgent problem not only in medical terms, but also in social and psychological terms. Especially in developing countries, since this disease is often detected late, the results of treatment are not as effective as expected. Therefore, one of the important tasks is to prevent the disease through early detection of breast cancer, elimination of risk factors and widespread implementation of preventive measures. Research on this topic is aimed at identifying problems associated with breast cancer, analyzing treatment methods and showing ways to prevent it.

MAIN PART

1. General understanding of breast cancer Breast cancer is a malignant tumor that occurs in the breast tissue, mainly in the cells of the milk-producing ducts (ductal) or glands (lobular), resulting from the formation of malignant cells that have the property of uncontrolled division and growth. This disease can occur not only in women, but also in rare cases in men. According to medical statistics, breast cancer is diagnosed in more than 2 million women worldwide every year. Although a certain part of them has the opportunity to completely recover if diagnosed early, this





disease remains one of the factors leading to death if detected late. Therefore, the fight against breast cancer is one of the important strategic directions in modern medicine.

2. Causes and risk factors of the disease

Breast cancer is caused by various factors. These factors can be divided into the following groups:

• a) Biological factors:

• **Age: Breast cancer is most common in women over 40 years of age.**

• **Hereditary predisposition: If a first-degree relative (mother, sister) has had breast cancer, the risk of developing this disease increases by 2-3 times.**

• **Mutations in the BRCA1 and BRCA2 genes: While these genes normally fight tumor cells, their mutation increases the risk of cancer.**

b) Hormonal factors:

• Early puberty (before age 12) or late menopause (after age 55)

• Childlessness or late childbearing

• Long-term hormone therapy

c) Lifestyle factors:

• Unhealthy diet (high-fat foods)

• Alcohol consumption

• Smoking

• Lack of physical activity

• Obesity (especially after menopause)

3. Symptoms and clinical manifestations of breast cancer

Breast cancer can occur without any obvious symptoms in the early stages. Therefore, women should not be indifferent to any changes in their body. The following signs may indicate the onset of the disease:

- A hard, painless lump in the breast
- A change in the shape of the breast
- Dimpling of the skin of the breast, an “orange peel” appearance
- Retraction of the nipple or bloody discharge
- Enlargement of the lymph nodes under the armpit

If these symptoms are detected, it is recommended to consult a doctor immediately.

4. Methods for diagnosing breast cancer

The following diagnostic methods are used in modern medicine to diagnose the disease:

a) Self-examination:

Between the 7th and 10th days of their menstrual cycle each month, women can manually examine their breasts to detect any changes.

b) Clinical diagnostic methods:

• **Mammography:** A method of examining breast tissue using X-rays.

• **Ultrasound (USG):** This is the most common method for women under the age of 40.

• **Biopsy:** A procedure to remove tissue from a tumor and examine it under a microscope.





- • **MRI (magnetic resonance imaging): For more detailed information in difficult cases.**

5. Treatment methods

Breast cancer treatment is a multi-step and comprehensive process. The treatment plan is determined based on the stage of the disease, the extent of its spread, the patient's age, and their overall health.

a) Surgical treatment:

Lumpectomy: Only the part of the breast where the tumor is located is removed.

- **Mastectomy: A procedure to remove the entire breast.**

- **Sentinel lymph node dissection: If the cancer has spread to the lymph nodes.**

b) Chemotherapy:

Special drugs are used to destroy cancer cells. This method is especially useful when the tumor has spread to other organs.

c) Radioterapiya:

The destruction of cancer cells using ionizing radiation. It is mainly used in the postoperative period.

d) Hormonal therapy:

Used against tumor cells that have estrogen and progesterone receptors. Drugs such as Tamoxifen, Anastrozole are used.

e) Targeted therapy:

Drugs that affect specific molecules in tumor cells (for example, Herceptin - for HER2-positive tumors).

6. Prevention: preventive measures

Although breast cancer cannot be completely eliminated, the risk of the disease can be significantly reduced by following certain preventive measures:

a) Healthy lifestyle:

- Rational diet
- Physical activity
- Maintaining ideal body weight
- Refraining from smoking and alcohol consumption

b) Paying attention to hormonal balance:

- Avoiding excessive hormone therapy
- Using contraceptives on medical advice

c) Participation in screening programs:

- Mammography every two years for women over 40
- Monthly self-examination
- Annual medical examination

d) For women with hereditary risk:

- Genetic testing (BRCA1/2)
- Prophylactic treatment or mastectomy





7. Psychological and social support

A diagnosis of breast cancer is not only a physical but also a psychological shock. Patients face depression, self-doubt, and social isolation. Therefore:

- Psychological counseling
- Support groups
- Constant support from family and loved ones is very important.

Modern healthcare systems have also established “survivor support” activities (cancer survivor clubs), where patients receive positive motivation to continue their lives.

8. International and local statistics on breast cancer

The figures related to breast cancer show how serious this disease is:

- According to the World Health Organization (WHO), approximately 2.3 million women are diagnosed with breast cancer every year.
- According to the Ministry of Health of the Republic of Uzbekistan, the number of women diagnosed with breast cancer has been increasing in recent years. This indicates, on the one hand, that the healthcare system is developing (i.e., more cases are being detected), and on the other hand, that insufficient attention is paid to prevention.

Conclusion and Recommendations

Breast cancer is one of the most pressing problems of modern medicine today, and it is a serious threat not only to women, but also to the health and sustainable development of society. Statistical data show that millions of women around the world are infected with this disease every year, and many of them lose their lives due to the fact that the disease is detected at a late stage. The dangerous side of breast cancer is that in the early stages of the disease it is almost asymptomatic and can be detected only through careful medical observation. That is why early diagnosis and regular preventive measures are of great importance in its prevention.

Breast cancer is associated with many causes, including hereditary predisposition, hormonal imbalance, environmental factors, unhealthy lifestyle and harmful habits. Also, a woman's reproductive activity, lifestyle and mental state directly or indirectly affect the development of this disease. Currently, medical science has various methods for detecting, treating and preventing breast cancer: mammography, ultrasound examinations, biopsy, genetic tests, modern treatment methods (surgery, chemotherapy, radiotherapy, targeted and hormonal therapy), etc. These include:

Although treatment options have developed, their effectiveness largely depends on how early the disease is detected. It is in this regard that it is necessary to adhere to a healthy lifestyle, increase women's medical literacy, undergo regular screening examinations, and form a culture of self-examination. At the same time, it is also important to develop a psychological support system to overcome the stereotypes and fears that exist in society regarding oncological diseases.

In the case of Uzbekistan, the problem can be solved by strengthening information and explanatory work on breast cancer in the healthcare system, increasing the number of modern diagnostic centers, increasing the level of training of specialists in the field of oncology, and ensuring that women living in remote areas are included in screening programs. Testing women at hereditary





risk for BRCA1 and BRCA2 genes, providing genetic counseling, and taking preventive measures when necessary are of urgent importance. Thus, breast cancer, as one of the important problems of today's medical and social life, requires constant attention and a comprehensive approach. In this regard, the active participation of state policy, medical practice, scientific research, social institutions, and civil society is an important factor. Disease prevention begins with the formation of a responsible approach to one's own health, a medical culture, and a culture of self-protection by each person.

Takliflar

- **Expand screening programs:** Establish free mammography and ultrasound examinations for women over 40 in each region.
- **Increase medical literacy:** Conduct educational events on breast cancer prevention in schools, universities, and workplaces.
- **Introduce telemedicine services:** Organize online consultations and video examinations for women living in remote areas.
- **Introduce genetic testing:** Test women with hereditary risk factors for BRCA1/2 gene mutations and take preventive measures.
- **Establish psychological support centers:** Create specialized psychological counseling centers to support patients diagnosed with cancer and their loved ones.
- **Improve the skills of medical personnel:** Organize ongoing training courses in the field of oncology.
- **Increase the number of specialized breast cancer clinics:** Open centers with high-tech diagnostic and treatment capabilities in the regions.

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