O. Yanchuk T., Master student
S. Grishchuk, PhD in Eng., Prof., research advisor
J. Bereziuk, PhD in Phil., As. Prof., language advisor
Zhytomyr Medical Institute ZhRC

PREVENTIVE EXAMINATIONS OF BREAST CANCER IN THE PUBLIC HEALTH SYSTEM

Abstract. *The article analyzes the essence of the concept of "breast cancer", highlights the risk factors for cancer, identifies the principles of cancer prevention, highlights the research of modern scientists from different positions on the prevention of breast cancer.*

Key words*: breast cancer, risk factors for cancer, urbanization, organization of the health care system.*

Relevance of the problem: In 2018, 9.6 million people died from this disease in the world. Cancer is the cause of almost every sixth death in the world. About 70% of cancer deaths occur in low and middle income countries. Cancer ranks second in the structure of mortality in Ukraine and, together with cardiovascular disease, determines the level of health of the nation. A common problem is seeking medical attention in the later stages of the disease.

Cancer is a general term for a large group of diseases that can affect any part of the body. Other terms are used to denote them: malignant tumors and neoplasms. *A characteristic feature of cancer is the rapid formation of abnormal cells that grow beyond their normal boundaries and are able to penetrate other tissues of the body and spread to other organs;* the latter process is called metastasis. Metastases are one of the leading causes of death from cancer. The most common types of cancer are: lung cancer, breast cancer, colon and rectal cancer, prostate cancer, skin cancer (non-melanoma), stomach cancer.

Risk factors for cancer include: *heredity* (genetic predisposition), *viruses* (human papilloma virus, hepatitis B and C viruses, Epstein-Barr virus), *physical factors* (various types of radiation, such as ionizing, ultraviolet), *risk factors, related to lifestyle* (smoking, alcohol consumption, visiting solariums, eating junk food, overweight, insufficient physical activity), *risk factors related to the environment* (environmental pollution, pesticide treatment of agricultural products, etc.), *hormonal disorders, precancerous diseases* (adenomatous intestinal polyps, fibroids or endometriosis, pigmented keratosis, leukoplakia or skin horn, etc.), *aging*.

The purpose of the study: to analyze the negative trends in breast cancer and the basic principles of prevention.

Materials and methods: methods of theoretical analysis and generalization of scientific literature within the research issues are applied.

Results and discussion:

Among the leading localizations of the pathology were: *breast cancer* – the incidence of 38.1 per 100 thousand population; *malignant neoplasms of the skin* – the incidence of 31.9 per 100 thousand population; *melanoma of the skin* – the incidence of 7.6 per 100 thousand population; *cancer of the trachea, bronchi, lungs* – incidence of 30.4 per 100 thousand population; *colon and stomach cancer* – the incidence of 28.7 and 17.4, respectively, per 100 thousand population; *prostate cancer* – the incidence of

24.3 per 100 thousand population; *uterine cancer* – a incidence of 15.6 per 100 thousand population; *oncological diseases of other localization* – incidence 38.9 per 100 thousand population.

Breast cancer is the second most common cancer in women worldwide. About 1.7 million new cases of breast cancer are reported each year, and more than 522,000 women die from the disease each year worldwide.

In Ukraine, the incidence of breast cancer ranks first among all malignant tumors found in women, according to the Center for Public Health of the Ministry of Healthcare of Ukraine. However, this type of oncopathology affects not only women but also men.

A characteristic feature of cancer is the absence of symptoms in the early stages of the disease. Symptoms at the onset of which it is strongly recommended to be examined for cancer: seals on the body; edema; tachycardia; hair loss; loss of appetite and weight loss; prolonged cough for no apparent reason; atypical discharge and bleeding; enlarged lymph nodes; frequent infectious diseases; the presence of wounds, ulcers, erosions that do not heal for a long time; chronic fatigue and deterioration of the general condition; constant irritability and nervousness; disorders of the digestive and/or urinary systems; change in the structure and number of moles, warts, papillomas; increase in body temperature, etc. Early detection of cancer and timely care can improve the prognosis and significantly improve the lives of patients!

1. Early diagnosis, which includes three stages carried out in a complex and timely:

- outreach and access to health care;
- clinical assessment, diagnosis and staging;
- access to treatment.

2. Screening. The purpose of screening is to identify people with the disorder, which allows you to diagnose certain cancers or precancerous lesions, and a quick referral for further diagnosis and treatment. Examples of screening methods: HPV testing for cervical cancer; cytological examination for cervical cancer in middle- and high-income countries; mammography to detect breast cancer.

An important diagnostic role is played by the definition of various tumor markers: prostate-specific antigen (prostate); cancer-embryonic antigen (breast and rectum); human beta-chorionic gonadotropin; CA-125 (gonads), etc.

Cancer prevention is a rather difficult task. Primary prevention of breast cancer is related to environmental and social aspects. In countries with traditionally high birth rates, the incidence of breast cancer is low. It gives us hope that increased fertility and prolonged breastfeeding may help reduce morbidity. Some positive changes can probably be achieved through a balanced diet: limiting the consumption of animal fats, fried foods, marinades, preservatives, smoked products, foods containing methylxanthines (coffee, tea, cocoa, chocolate), increase in the diet of vegetables and fruits, others products that contain plant fiber, vitamins (primarily C, beta-carotene). In the prevention of breast cancer, the most important is the timely detection and treatment of precancerous and background diseases (secondary prevention) and well-established screening for early breast cancer. The most informative method of screening is mammography. In women at high risk of breast cancer, chemoprophylaxis is possible by prescribing antiestrogenic drugs. In some countries, surgical prophylaxis (subcutaneous mastectomy with reconstruction of the gland with endoprostheses) is used in women with a genetically determined high risk of cancer.

Conclusions and prospects for further research.

The most reliable measure for the prevention of breast cancer is a regular examination of women by a mammologist, monitoring of the condition of the reproductive system, monthly self-examination. All women over the age of 35 should have a mammogram. Timely detection of pathologies of the genital organs, hormonal imbalances, metabolic diseases, avoidance of carcinogenic factors help reduce the risk of breast cancer.

Cancer prevention is aimed primarily at eliminating carcinogenesis – the process of origin and development of the tumor. *The most effective measures for the prevention of cancer are:* abstinence from alcohol and smoking; complete healthy nutrition and normalization of body weight; physical activity; timely medical examinations. Regarding the prevention of cancers caused by viruses, it is recommended to be vaccinated against infections caused by HPV and hepatitis B virus.22

Everyone can help the body stay as healthy as possible, balanced diet, healthy weight, smoking cessation, alcohol restrictions, regular exercise and sports are important. But it should be understood that a healthy lifestyle is not a guarantee of no cancer, but a way to reduce the risk of getting sick.

Some women are at high risk for breast cancer due to hereditary factors. For example, if several close relatives (women and men) have been diagnosed with breast cancer, especially at a young age, there is a high probability of a mutation in the BRCA1 or BRCA2 genes. Appropriate tests and research will determine if there is a mutation. When confirmed, it is necessary to identify the risks of breast cancer and help reduce them.

Regular examination by a doctor will allow you to detect the tumor in time and completely cure it. "Severe disease is easy to detect but difficult to cure, and mild disease is difficult to detect but easy to cure," Hippocrates said. Therefore, if the disease is detected at an early stage, it makes it possible to perform organ-sparing operations, to avoid chemotherapy and radiation therapy, to correct hormonal parameters, to eliminate risk factors. And it gives a woman a chance for a full, long and healthy life.

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