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ENVIRONMENTAL INFLUENCE IN SHAPING THE INCIDENCE OF BREAST CANCER

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SUMMARY
The article examines the problem of the influence of environmental factors surrounding a person at risk of developing cancer. The carcinogenic effects of such toxic factors as occupational hazards, carcinogens contained in water, air, soil, food, food additives, and the degree of their influence on the occurrence of various types of oncological pathology are considered.
KEY WORDS: *breast cancer, risk factors, ecology, pollution.*

RELEVANCE

Breast cancer (BC) is one of the pressing medical and social problems of modern oncology. More than 1.3 million cases of the disease are recorded annually worldwide . The incidence of breast cancer tends to increase both in economic development ty (1.0-2.0% per year) and developing countries [3, 6, 19]. In 2015, the number of cases is projected to increase to 1.6 million.

In Russia and the CIS countries in the structure of oncological The highest incidence of breast cancer ranks first among the female population. Incidence of breast cancer ranges from 18-21% in Russia, Belarus, Ukraine, Kazakhstan, Uzbekistan and Kyrgyzstan, to 28-31% in Azerbaijan and Armenia. In the structure of mortality of the female population of Russia, malignant tumors of the mammary gland have the largest share (17.3%) [3, 6, 19].

According to the cancer registry of the Republican Oncology Research Center, in Uzbekistan, breast cancer is in the structure of cancer incidence takes the first ranking place. Registered in 2010 2273 patients with breast cancer were studied . The incidence per 100 thousand population was 8.1: mortality - 3.5: one-year mortality - 1.1; 46.3% of patients were admitted in advanced stages of breast cancer [12].

Characteristic features of malignant neoplasms of the mammary gland are a high growth rate, territorial and geographical uneven morbidity levels, which is associated with the diversity of socio- demographic cultural , environmental, ethnic and individual risk factors [5, 7, 21].

Negative anthropogenic factors not only become detrimental to ecological systems, but also pose a significant danger to the life and health of the population.

Currently, breast cancer is the most common hormone-dependent cancer among women worldwide. The etiology of breast cancer is multifactorial . One of the supposed factors in the increase in the incidence of breast cancer are chemicals - environmental pollutants, including those that damage the endocrine system - endocrine disruptors (ED)[2,3].

Analysis of epidemiological studies, despite their relatively small number, indicates an association between exposure to the studied substances and an increased risk of developing breast cancer in women. Moreover, these substances include not only typical EDs, but also ubiquitous carcinogens, such as polycyclic aromatic hydrocarbons, heavy metals, organic solvents (benzene) and others. However, the importance of exposure during critical periods (in utero, neonatal and young adulthood) was established when chemicals act on cell differentiation and tissue development, which can impair the development of breast tissue and lead to breast cancer in adult women. It is important to emphasize that EDs act at low dose levels, and the induced effects and patterns of their manifestation are the same in animals and humans. In this regard, experimentally proven transgenerational effects, when ED-induced diseases can be transmitted to descendants, are of particular concern [4].

PURPOSE OF THE STUDY

Analysis of literature data concerning the role of environmental pollutants of various classes in the formation of the incidence of breast cancer.

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RESULTS AND ITS DISCUSSION

The analysis of the full literature indicates numerous experimental and epidemiological studies of chemicals of different classes potentially associated with the risk of breast cancer in humans. It should be noted that in this review we limited ourselves to considering primarily publications over the past 10-15 years, which, according to many researchers, most convincingly prove the involvement of chemical pollution in population growth. Below is a description of individual groups of pollutants.

Single studies indicate an additional increase in breast cancer among women who often used insecticide repellents and pesticides in the household! indoors and outdoors, compared with those who did not use them [7].

In the last decade, chemical compounds associated with consumer goods and products have received particular attention from researchers, including byphenol A (BPA), phthalates , nonniphenols , paints and straighteners . with compounds, semi-brominated fire suppressants (retardants) [1,5].

Despite the mechanisms of carcinogenesis induced by chemical compounds in the Ministry of Health have not yet been elucidated , the experimental and epidemiological data accumulated so far already make it possible to develop and implement appropriate health measures in practice.

Overall, the state of the evidence does not support a significant association between environment and breast cancer risk. Breast cancer mortality and incidence vary slightly across the country[10]. Research on the effects of organochlorines is inconclusive; The most recent data from prospective analyzes do not confirm an association with the development of breast cancer [3]. Ionizing radiation is a known risk factor for breast cancer, but the levels to which the population is exposed are too low to cause an effect. Occupational studies of EMF exposure have been inconclusive; Users of electric blankets may face an increased risk of illness compared to non-users, but these findings require replication. Women exposed to secondhand smoke may face an increased risk of breast cancer, but there is no evidence of a dose effect, and results from studies of direct smoking are not as strong. Based on biological hypotheses, the four pollutants discussed here are considered potential risk factors for breast cancer. There may be other undetected environmental impacts that require assessment. Based on available evidence, with the exception of ionizing radiation, no environmental exposure can be confidently identified as a cause of breast cancer[8].

CONCLUSIONS

The results of the analysis confirm that the risk of breast cancer is a pressing environmental, hygienic and social problem that requires further research and solutions to issues of protecting the population from the harmful effects of chemical environmental pollutants. Thus, breast cancer is the most common form of malignant tumors among the female population, and the proven association of its increase with the influence of chemical environmental pollution throughout the world made it possible to consider the risk of developing breast cancer as a pressing and environmental problem.

LITERATURE

1. *WHO/UNEP. State of the Science of Endocrine Disrupting Chemicals. 2012: An Assessment of the State of the Science Of Endocrine Disruptors Prepared by a Group of Experts for the United Nations Environment Program (UNEP) and WHO. URL: http://www. who . int / ceh / publi -ca tions /endocrine/ en /*
2. *World Cancer Report / by ed. B. W. Stewart, C. P. Wild. Lyon: JARC Press, 2014. 630 p.*
3. *Rochefort H. Endocrine Disruptors (EDs) and Hormone-Dependent Cancers: Correlation or Causal Relationship? Comptes Rendus Biologies . 2017. No. 340 (9-10). R . 439-445.*
4. *Wael M. Abdel-Rahman, Yasser M. Moustafa , Bassa -mat O. Ahmed, Randa M. Mostafa. Endocrine disruptors and breast cancer risk- time to consider the environment. Asian Pac. J. Cancer Prev. 2012. No. 13 (12). R . 5937-5946.*
5. *Gore AC, Chappell VA, Fenton SE et al. Executive summary to EDC-2: the endocrine society's second scientific statement on endocrine-disrupting chemicals. Endocr . Rev. 2015. No. 36 (6). P. 593-602.*
6. *Rudel RA, Ackerman JM, Attfield KR, Brody JG New exposure biomarkers as tools for breast cancer epidemiology, biomonitoring, and prevention: a systematic approach based on animal evidence. Environ. Health Perspective . 2014. No. 122 (9). P. 881-895.*
7. *Rodgers KM, Udesky JO, Rudel RA, Brody JG Environmental chemicals and breast cancer: an updated review of epidemiological literature informed by biological mechanisms. Environ . Res . 2018. No. 160. R. 152-182.*
8. *Chernichenko 1.O., Balenko N.V., Litvichenko O.M., Babm V.F., Hlavachek D.O., Kondratenko O.6. I'm going to get sick from breast cancer zalozi i role smkih chlorinated organic zabrudnyuvach i in too much middle (analysis tributes l^eraturi). Dovkllya that I 'm healthy . 2019. No. 2. P. 53-59.*
9. *US EPA. Revised Chlorpyrifos Human Health Risk Assessment. Washington DC . : United States Environmental Protection Agency, 2014. URL: http:// www.regulations.gov [accessed Docket number EPA-HQ-OPP-2008-0850].*
10. *US EPA. Malathion: Human Health Draft Risk Assessment for Registration Review. Washington DC: United States Environmental Protection Agency, 2016. URL: h ttps://www3. epa . gov / pesti-cides /Mala thion -Human-Health -Dra ft - Risk- Assessmen t- for-Registration-Review.pdf.*

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11. *Rayner JL, Enoch RR, Fenton SE Adverse effects of prenatal exposure to atrazine during a critical period of mammary gland growth. Toxicol . Sci. 2005. No. 87. P. 255-266.*
12. *Mallozzi M., Leone C., Manurita F. et al. Endocrine disrupting chemicals and endometrial cancer: an overview of recent laboratory evidence and epidemiological studies. Int . J. Environ . Res . Public Health . 2017. No. 14 (3). P. 334-356.*