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Importance of Mammography in Breast Cancer Diagnosis in Poland

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ABSTRACT

Introduction: Breast cancer is the most frequently diagnosed malignancy in women, being the leading cause of death in this group. In Poland, despite an increase in the incidence, there is an insufficient level of participation in screening.

Objective: To analyse the role of mammography in breast cancer diagnosis and assess its impact on mortality and early detection of cancerous lesions in Poland.

Methodology: Statistical data from Polish and international databases, such as the National Cancer Registry and GLOBOCAN, and scientific literature available on online platforms were analysed.

Results: Mammography significantly contributes to the early detection of breast cancer, which improves prognosis. In Poland, the percentage of women participating in screening programmes is 27%, one of the lowest in Europe. Planned changes from 2025 may increase the effectiveness of prevention.

Conclusions: It is necessary to increase public awareness, intensify prevention campaigns and develop modern diagnostic and therapeutic methods in order to reduce mortality and improve the quality of life of patients.

Keywords: breast cancer, oncology, Poland, mamography, breast cancer diagnosis

Introduction

Breast cancer is the most common malignancy in women and one of the leading cause of death in this group. In recent years, there has been a significant increase in the incidence of this cancer, particularly among women aged 50-65 years. In 2020, 2.26 million new cases of breast cancer will be diagnosed worldwide [1].

In Poland, more than 22,000 new cases of breast cancer are diagnosed each year, of which of which approximately 7 000 patients die. Every day, 60 women find out about their disease disease and 19 of them die. In 2022, 25,000 new cases, which represents a significant increase compared to 2020 and the beginning of the 21st century. The mortality rate was 35 per 10,000 women in 2022, a decrease compared to earlier years, probably related to improvements in diagnosis and treatment.

The increase in the incidence rate may also be the result of better accessibility to testing and increasing public awareness. In Poland, breast cancer is the first cause of deaths among young women (20-44 years), which places the country at the top of the ranking of countries of the European Union with the highest breast cancer mortality rate [2].

Risk factors include age over 50, genetic mutations, late onset of menstruation, late menopause, increased breast density, family history, history of radiation, previous use of diethylstilbestrol, hormone therapy, and stimulants. The increase in incidence can also be linked to deteriorating environmental and lifestyle conditions.

The World Health Organisation (WHO) recommends mammography as a primary screening test. In Poland, breast cancer prevention is based on mammography, performed every two years in the 45-74 age group. Early detection of changes allows rapid implementation of appropriate treatment.

Aim of the study

The aim of this study is to present the importance of mammography in the diagnosis of breast cancer in breast cancer in Poland.

Methodology

We analysed data from scientific publications available online, mainly through the through the PubMed platform. Search phrases included: ‘mammography’, “breast cancer in Poland” and “breast cancer in European Union countries”. Data on Polish patients came from publicly

available sources, including the National Cancer Registry and the GLOBOCAN database. Projections for cases until 2040 were based on global demographic data.

Results

Breast cancer is the most commonly diagnosed cancer in women in the European Union countries [3]. In 2020, it accounted for 13.3% of all new cancer cases and nearly 30% of cancers diagnosed in women. In Poland, breast cancer is responsible for 25% of cancer incidence and 16% of cancer deaths among women.

Incidence rates increase linearly with age, reaching a peak in the group of 40-59 years of age and then decelerate at the age of 60-70 years. A similar trend was observed for mortality rates, which increase from the age of 35 age and peak at age 80. The disease affects women of all ages, which demonstrates its prevalence.

Discussion

Breast cancer among women is the most common cancer in residents of the European Union.Breast cancer is estimated to account for 13.3% of all new cancer cases diagnosed in the European Union countries in 2020. Breast cancer accounts for almost 30% of new cases among women with cancer.

In Poland, breast cancer accounts for one-quarter of cancer incidence in women and ⅙ of cancer deaths. Incidence rates increase linearly with age from 40 to 59 years. A deceleration in the rate can be seen between the ages of 60 and 7o where a decrease in incidence is noticeable after the age of 70. With regard to mortality rates, the increase is also linear, but at an earlier age from 35 to 80. The mortality rates increase linearly with age from the age of 35 to the age of 80, and the incidence and mortality rate can be seen to include young, middle-aged and elderly patients, meaning that women of all ages are affected.

There is a large geographical variation in the incidence of this cancer between countries and regions of the world. If current recommendations do not change, there are predictions that the burden of breast cancer will increase to more than 3 million new cases and 1 million deaths per year by 2040 as a result of population growth and ageing.

Since 2010, developed countries min. Europe have seen an increase in the incidence of cancer in women compared to earlier years [5]. The merit of the increased detection of tumours is due to early detection through screening. It has been noted that the tide in cancer incidence has been

correlated with the presence of environmental risk factors for cancer, which is associated with a greater number of oestrogen-receptor-positive cancers being diagnosed and obesity being the most likely risk factor [6,7].

Changes in cancer incidence as a result of screening and treatment have increased the number of women with a history of cancer to approximately 8 million patients in 2020. In the interest of patient welfare, parameters such as survival, recurrence, but also other aspects of patients' lives such as quality of life and living with disability should be studied. This accounts for 16 per cent of breast cancer deaths among the total number of cancer deaths worldwide.

In 2022, according to a WHO report, 2.3 million patients heard a breast cancer diagnosis, 670,000 patients died from breast cancer in the same year.Which accounts for 16 per cent of breast cancer deaths among the total number of cancer deaths worldwide. In 2022, the highest incidence of breast cancer worldwide is in Asia , followed by Europe and North America.

The highest number of deaths has been recorded for years in Asia, Europe and North America, In Europe, Russia, Germany and France have the highest number of cases. Poland ranks 5th among European countries. More than 70 cases and deaths occur in women over 50 years of age.

Russia, which is the leading country in Europe in terms of incidence of the disease, has since 2013 introduced periodic health checks for adults as compulsory, including mammography for women, which is carried out as a screening test for women in the 39-75 age group every three years and every two years since 2013 [7].

Second place is occupied by Germany, where citizens are able to access universal health care guaranteeing a high level of health care. The German healthcare system has provided access to preventive screening since 2005, with women aged 50 to 69 participating every two years. In Germany, screening participation is 50 per cent. In both countries, breast tumour detection concerns tumours at a very early level [8].

When comparing Poland with Russia and Germany, we definitely have fewer cases, but when comparing the number of deaths versus the number of cases, Poland has a higher mortality rate than both other countries. This result is a consequence of a well-developed prevention programme and access to medical care in both countries. It should also be noted that in all countries where breast cancer is diagnosed more frequently, expenditure on oncology is several times higher than in the Polish health service.

In Poland, breast cancer prevention includes free mammography examinations within the framework of the Population Screening Programme for the Early Detection of Breast Cancer, introduced in 2007, which is carried out every two years for patients in the age group of 50-69. From 2025, mammography will be available for younger women aged 45 and over and will be available for longer patients up to the age of 74. From next year, mammography will be carried out exclusively by digital mammography.

This examination provides a better picture of the breasts and more accurately detects changes in the breasts. The percentage of women taking part in breast cancer screening in Poland is only 27 per cent (data 2023). The geographic variation in breast cancer incidence and mortality is significant. In countries such as Germany and Russia, the better results in prevention and treatment are due to higher healthcare spending and well-developed screening programmes.

In Poland, the percentage of women participating in screening mammography is only 27%. From 2025, it is planned to extend the prevention programme to women aged 45-74 years of age and the introduction of digital mammography, which may increase the diagnostic accuracy [9].

Conclusions

Despite the increase in the number of new cases of breast cancer in Poland, there is still a high mortality rate. It is important to strengthen information campaigns that increase public awareness of risk factors and the need for screening. It is also crucial to more effectively identifying women at increased risk and developing new diagnostic and therapeutic methods Emphasising the epidemiological significance of breast cancer and ongoing research into new treatment regimens offer hope for an improvement in patients' quality of life and a reduction in mortality rates.

Disclosures

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