Volume 2, Issue 12, December 2024 ISSN (E): 2938-3765

MEDICAL, BIOLOGICAL, AND SOCIO-HYGIENIC RISK FACTORS IN THE DEVELOPMENT OF BREAST TUMOR DISEASES

Guzal Toshmatova Adilkhodjaevna
Environmental Hygiene, Tashkent Medical Academy, Tashkent,
Uzbekistan Tashkent Medical Academy, Farobi Street, House No. 2,
Olmazor District, Tashkent City, Republic of Uzbekistan, 1070018
Phone: +998909076379., E-mail: g.toshmatova@yahoo.com

Abstract
The results of our study demonstrated that the increased risk of developing benign breast tumor diseases is closely associated with medical and biological factors. The most significant factors include: late onset of menarche (ages 15–17); delayed childbirth; artificially terminated pregnancies; lack of breastfeeding or short-term breastfeeding; the presence of comorbidities (inflammatory diseases of the genital organs, liver, gallbladder, and bile ducts, as well as various thyroid diseases); irregular sexual activity; excessive body mass index (BMI); genetic predisposition; and breast trauma. Early identification of risk factors enables the effective organization of preventive measures to reduce the incidence of breast tumor diseases.

Keywords: Mastopathy, menarche, breast tumor diseases, risk factors.

Introduction

In recent years, an increase in the frequency of breast diseases has been observed. Various pathologies of this organ occur in approximately 25% of women under the age of 30 and in 60% of women over the age of 40. Among reproductive-age women, one of the most common benign breast diseases is mastopathy [1]. According to various researchers, up to 40% of women of childbearing age suffer from mastopathy [2].

Breast tumor diseases are multifactorial, with causes linked to genetic factors, environmental influences, and women's lifestyles. Early identification of risk factors leading to the development of this pathology enables the effective implementation of preventive measures. This underscores the relevance of this study.

Objective of the Study:

To provide a hygienic assessment of the role of medical and biological risk factors in the development of breast disease—mastopathy.

Research Object and Materials:

The objects of the study included data on breast pathologies and related disease cases among women residing in Tashkent City, based on information from the city oncological dispensary over the past five years (2019–2022). Observations were conducted on 100 women (30 aged 20–29, 30 aged 30–39, 20 aged 40–49, 10 aged 50–59, and 10 aged 60 and older).

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

The diagnosis of breast tumor diseases was established based on subjective conditions, results of objective examinations (visual inspection, palpation, ultrasound of the breast), and a detailed anamnesis. To study the health of women with mastopathy, it is essential to analyze the pathogenesis of the syndrome, its specific course, and the functional capabilities of the body. In addition, women's lifestyles, dietary habits and quality, rest patterns, and psychological conditions must also be considered. For this purpose, a questionnaire survey designed by the staff of the "Hygiene of Children, Adolescents, and Nutrition" department was used to study the social conditions of women and the medical and biological risk factors contributing to the development of breast tumor diseases.

Results and Discussion:

In the 19th century, menarche in girls occurred at around 17 years of age, and menopause in women developed at about 40 years of age. In the current era, these processes now occur at approximately 12–14 and 50–52 years of age, respectively [3,4]. The survey conducted among the women under observation in our study revealed that about one-third of those suffering from mastopathy experienced delayed menarche, beginning at 15–17 years of age. Additionally, 52.1% of women reported a menstrual cycle duration of 30 days.

The female body is naturally designed for multiple pregnancies (five or more) and extended breastfeeding. When this does not occur, a large amount of the female hormone estrogen accumulates in the body, including in the breasts. This often leads to breast pain, particularly in the second half of the menstrual cycle [5,6]. Among the women under observation, 60.9% reported that their breast pain was related to their menstrual cycle, while the remaining women experienced constant breast pain.

According to contemporary scientists, reproductive factors remain the most significant risk factors for the development of mastopathy. For instance, women who never had children or had their first child after the age of 30 face nearly identical and significantly higher risks of developing breast tumor diseases [7,8]. Among the women observed in our study, 49.1% had their first child between the ages of 20–29, while 4.73% reported having their first child at age 30 or older. Women who become mothers at age 30 or later are subjected to prolonged exposure to significant levels of estrogen, which increases the risk of developing breast tumor diseases.

The artificial termination of pregnancy significantly increases the risk of developing breast pathology. Women who have undergone three or more abortions have a 7.2 times higher risk of developing mastopathy [9,10]. Abortion halts proliferative processes in the breasts, causing tissue to develop abnormally. These regressive changes occur irregularly, and as a result, breast development may take on a pathological character.

Some indicators of obstetric history show that 10.7% of the women under study had never been pregnant. The rest had one to nine pregnancies, with two-thirds of them having between two and four pregnancies. However, not all pregnancies resulted in childbirth. More than half (53.3%) of the women in the study had undergone at least one or more artificial abortions during their lives. Approximately one-third of the women suffering from mastopathy had undergone two to four abortions. Many pharmaceutical methods are now available to prevent unplanned pregnancies. While hormone-based treatments can significantly ease women's lives, regulate calcium levels, and support the cardiovascular system, long-term use of hormonal medications over ten years has been proven to double the risk of developing breast cancer [11,12].

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

In the 19th century, women frequently gave birth and breastfed their children for extended periods. In the 21st century, however, women generally have one or two children. As a result, modern women experience prolonged exposure to significant levels of estrogen [13,14]. Among the women in the study, 11.8% had never had children, while 68.9% had two to three children. Increased prolactin levels outside of pregnancy and lactation could be a cause of various forms of mastopathy. According to the survey, approximately 8% of the women in the study had never breastfed, while 56.8% breastfed for up to 2–3 years.

Breast injuries can lead to negative outcomes. Even minor injuries, such as those caused by being jostled in a metro or bus or accidentally striking the chest with an elbow or bag, can increase the risk of developing mastopathy [15]. Among the women under observation, 60.4% confirmed having experienced breast injuries.

Some researchers emphasize that inflammation of the sexual organs, liver and biliary tract diseases, and thyroid disorders are significant causes of mastopathy. Inflammatory diseases of the sexual organs can disrupt hormonal balance in the body, and the breast area is particularly sensitive to hormonal imbalances [16]. The liver plays an essential role in breaking down excess estrogen. In liver diseases, this function is reduced, which increases the risk of developing mastopathy [17]. Our research supports this viewpoint. According to the collected data, 56.2% of the women had sexual organ inflammation, 54.4% had liver and biliary tract diseases, and 63.3% had thyroid disorders.

According to V.P. Kharchenko (1996), frequent occurrences of ARVI, angina, and pharyngitis can disrupt hormonal balance in the body. The breast area is particularly sensitive to hormonal imbalances. In line with this, we gathered information about the occurrence of upper respiratory tract infections in women with mastopathy. The analysis of the collected data showed that 55% of women suffered from upper respiratory tract diseases multiple times a year.

According to E.I. Zagrekoa (2002) and A.L. Kantzaliev (1998), hormonal imbalance in women can also result from irregular sexual activity. 54.4% of the women in the study reported having no partners, while 52.7% stated that their sexual life was irregular.

Social factors such as loneliness and the lack of stable family relationships may contribute to the development of pathological processes in the breast, as noted in the literature [18].

G.V. Goncharenko states that internal risk factors like obesity, diabetes, and arterial hypertension may also play a significant role in the development of mastopathy. The combined presence of these factors increases the risk of developing breast tumor diseases by three times [19]. Among the women in our study, 46% had a normal body mass index (BMI 18.5–24.5 kg/m2), and we observed a decline in women with a normal BMI as age increased. In the 20–29 age group, 83% had a normal body weight, while no women over the age of 60 had a normal body weight.

Researchers describe mastopathy as a multifactorial condition, influenced by genetic factors, environmental conditions, and lifestyle factors. The genetic predisposition to breast cancer is not very high, typically not exceeding 5–10%. Currently, a single gene has been identified that accounts for 60% of the development of the tumor [20,21]. To assess the genetic predisposition to breast tumor diseases, we asked the women under study, “Does your mother have a history of breast pathology?” 58.6% of the women answered “Yes.” This suggests that genetic factors also play an essential role in the development of breast tumor diseases.

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

The Results of the analysis of the obtained data can be summarized as follows: The increased risk of developing breast tumor diseases is closely related to medical and biological factors. Among these factors, the most important risk factors for the development of mastopathy are as follows:

- Late onset of menarche (15–17 years old);
- Late motherhood; artificial termination of pregnancy; not breastfeeding or breastfeeding for a short period;
- Presence of associated diseases (inflammatory diseases of sexual organs, liver, biliary tract, gallbladder diseases, various thyroid disorders);
- Irregular sexual activity;
- High body mass index (BMI); genetic predisposition; and breast injuries.
- Thus, early identification of modifiable risk factors for the development of mastopathy allows for the effective organization of preventive measures.

REFERENCES:

1. Guray M., Sahin A.A. Benign breast diseases: classification, diagnosis, and management // Oncologist. - 2006. - Vol. 11. - P. 435-449.
2. Oncology / L. Z. Velsher, E. G. Matyakin, T. K. Duditskaya, et al. – Moscow: GEOTAR-Media, 2009.
3. Kogan I.Yu. Mastopathy (fibrocystic disease) diagnostic approaches: scientific publication. // Journal of Obstetrics and Gynecology. - St. Petersburg, 2004. - Issue 2. - P. 60-65.
4. Tagieva T.T., Volobuev A.I. The use of Mastodynon in women with fibrocystic mastopathy. // Gynecology-2000. No. 2 P. 3.
5. Khaylenko V.A., Legkov A.A., Burdina L.M. Dysplasia of the mammary gland. // Russian Oncology Journal. - 2006. - No. 1. - P. 21-24.
6. Andreeva E.N. Key aspects of the etiology and pathogenesis of fibrocystic breast disease // Russian Journal of Obstetrics and Gynecology. - Moscow, 2002. - No. 6. - P. 7-10.
7. Axel E. Theoretical foundations of the prevention and therapy of dysgormonial tumors. // Obstetrics and Gynecology. - Moscow, 2003. No. 3. P. 15-20.
8. Gabunia M.S., Bratik A.V. Risk factors for the development of benign breast diseases in the context of gynecological diseases. // Mammology. 2008. No. 2. P. 21-26.
9. Bespalov V.G. Treatment of mastopathy and primary prevention of breast cancer // Physician. - Moscow. 2007. - No. 5. - P. 88-89.
10. Makarenko N.P. Mastopathy. // Russian Medical Journal - 1999. No. 7. P. 10.
11. Mirrahimova D.T. Risk factors for the development of mastopathy in the context of gynecological diseases // Uzbekistan Medical Journal – Tashkent, 2006. No. 6. P. 79-81.
12. Alefirov A.N. Mastopathy // Medical Consultation. - Moscow, 2004. - No. 1. - P. 48-51.
13. Li L.A. Reflections of an oncologist on the meaning and content of drug treatment for mastopathy. // Russian Oncology Journal - 2003. No. 4. P. 35-38.
14. Kravets E.B. Pathology of the thyroid gland as one of the factors in the development of mastopathy: scientific publication / E.B. Kravets, E.M. Slonimskaya, V.A. Stolyarova, N.N. Trynchenkova // Bulletin of Siberian Medicine. – Tomsk, 2004. - No. 1. - P. 110-115.
15. Pletagin V.P. Mastopathy // Russian Medical Journal 2000. Vol. 8, No. 11. P. 28-34.
16. Makarenko N.P., Korzhennkova G.P. Fibrocystic disease // Modern Oncology. - 2004. - Vol. 6, No. 1. - P. 5-8.

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

17. Kharchenko V.P. The relationship between breast diseases and its radiostructural type // Mammology 2006. No. 4. P. 20-24.
18. Mustafin Ch.K. Current aspects of mastopathy treatment. // Physician. 2008 No. 3. P. 43-46.

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5