EURASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES
Innovative Academy Research Support Center
UIF = 8.3 | SJIF = 5.995 www.in-academy.uz

MORPHOLOGICAL EXAMINATION OF BREAST CANCER PATIENTS

Mirakhmedova Sohiba Sohibnazarova
Bukhara State Medical Institute named after Abu Ali ibn Sino, Uzbekistan
https://www.doi.org/10.5281/zenodo.10548461

ARTICLE INFO

Received: 15th January 2024
Accepted: 21th January 2024
Online: 22th January 2024

KEY WORDS

Mammary gland, cancer, clinic, treatment.

ABSTRACT

Breast cancer (breast cancer) occupies a leading position in the structure of oncological diseases among the female population in all economically developed countries. Since 1985, KBS has been ranked first in the structure of malignant tumors in women worldwide. Over the past decade, the incidence has increased by 17.9%. Despite a fairly high level of early diagnosis, almost 700 thousand new cases of CBS are registered annually in the world, and in the CIS countries - more than 50 thousand cases.

Breast cancer (breast cancer) is the most common cancer among women. It makes up about 20% of the structure of cancer incidence in the female population. Breast cancer is the only tumor that affects women all over the world equally.

The incidence of breast cancer tends to increase steadily in all member countries of the World Health Organization. Taking into account the trend of gradual aging of the world's population, the increase in the incidence of breast cancer is about 1.5% per year.

In 2018, more than 1,500,000 new cases of breast cancer were diagnosed worldwide, and over 500,000 women died from the disease. A similar situation is observed in most developed countries of the world. The highest incidence of breast cancer is in the industrialized countries of North America, Australia, Western and Northern Europe. Breast cancer is spreading increasingly in developing countries, due to further urbanization and the adoption of a Western lifestyle (physical inertia, overweight, late first birth, reduction in the number of births and duration of breastfeeding). Thus, more than half (53%) of new breast cancer cases and 70% of deaths disproportionately occur in developing economies, where 82% of the world's population lives.

According to the forecasts of the International Association for Cancer Research, by 2030 the number of breast cancer cases will amount to 2,100,000 people.

In Uzbekistan, as well as in most countries of the world, breast cancer occupies the 1st place in the structure of cancer morbidity and mortality from malignant neoplasms in women. The incidence of breast cancer in our country increases by 1-2% annually. Every year, 6,500 new cases of this disease are diagnosed.

According to the National Cancer Registry, the highest incidence of breast cancer among women is observed in women over 60 years of age. At the same time, the most dangerous age period of time, when the risk of getting breast cancer is the highest, is the age of 50-80 years.

Of particular concern are the threatening trends of breast rejuvenation. Cases of the disease are significantly more frequent in young women starting from the age of 30. Thus, over the past 10 years in Uzbekistan, the incidence of breast cancer in women aged 19 to 39 years has increased by 35 %

In Uzbekistan, every fourth to fifth woman is diagnosed with breast cancer at stage III-IV every year. Due to the untimely treatment of women by oncologists-mammologists, the effectiveness of specialized (oncological) treatment is significantly reduced.

In this regard, the annual mortality from breast cancer is almost half of the annual incidence among women in Uzbekistan.

At the same time, in the United States, the annual mortality rates among American women in relation to the annual incidence are 3 times lower than in Ukraine. According to the National Cancer Institute, it is possible to cure breast cancer, however, if it is detected at an early stage: at stage I – in 95% of women, at stage II – in 80% of women, and at stage III only 50% of women.

As the European experience shows, found in the early stages of breast cancer (0-I-II) in approximately 90% of women is curable.

World experience also shows that the detection of a tumor in the mammary gland before its clinical manifestations allows for organ-preserving and reconstructive plastic surgery for breast cancer and provides a 20-year survival rate in 92%-98% of patients.

The disease also occurs in men. The male population accounts for 0.9%-1.7% of the total number of breast cancer cases (the ratio of women and men is 135:1).

Breast cancer: causes and risk factors

Breast cancer is a complex heterogeneous disease resulting from the interaction of genetic and non-genetic risk factors (FR) and characterized by uncontrolled growth of altered cells.

Risk factors for breast cancer can be grouped into 4 groups:

- family history (hereditary cancer);
- reproductive (endocrine FR);
- FR of the environment and lifestyle;
- FR associated with breast tissue pathology.

The tumor often develops from the epithelial cells of the ducts and/ or lobules of the mammary parenchyma. With age, the number of cases of breast cancer increases.

Most cases of breast cancer (70-80%) occur sporadically (sporadic breast cancer), due to abnormalities in the genome of somatic cells. Hereditary or germinal mutations occur in germ cells or a fertilized egg and are characterized by the highest probability of developing breast cancer (hereditary breast cancer).

Up to 5-10% of all breast cancer cases in women and 4-40% of breast cancer in men are associated with an inherited mutation in one highly penetrant predisposition gene (BRCA 1, BRCA 2, TP 53, PTEN, CDH1).

Hereditary mutations are distinguished by vertical transmission from the mother or father, the young age of the disease, the autosomal dominant type of inheritance and the development of tumors of other localizations in parallel.

Clinical and morphological forms of breast cancer

The clinical manifestations of malignant neoplasms of the breast are diverse. According to the form of tumor growth, nodular and diffuse breast cancer are distinguished.

The most common nodular form of breast cancer, which manifests itself as a palpable node of dense consistency, without clear boundaries and painless. As the tumor grows, the following symptoms may appear on the skin of the breast: lemon peel, nipple retraction, folding, orange peel (a rather late symptom).

The diffuse form of breast cancer is divided into five clinical forms (edematous infiltrative, mastitis-like, erysipeloid (erysipeloid), carapace and lymphangoitic), each of which has its own course characteristics and characteristic specific symptoms.

- In particular, edematous infiltrative breast cancer is characterized by an increase in skin temperature, a dense consistency of the neoplasm, and skin thickening can be determined on ultrasound.
- With erysipelas-like breast cancer, multiple nodules are visually detected on the surface of the breast, which spread to the skin of the chest wall and neck. The neoplasm is marked by rapid metastasis to regional lymph nodes and distant organs.
- For the mastitis-like form of breast cancer, a characteristic feature is breast enlargement in volume. It happens because the tumor is growing rapidly, and pink spots (lymphangitis) and an increase in skin temperature can be visually detected on the skin in the area of the neoplasm.
- The carapace-like form of breast cancer got its name because of the lesion of the skin of the breast in the form of a shell. A characteristic feature is the bright red color of the skin at the location of the malignant neoplasm.

Paget's cancer is clinically manifested as a lesion of the skin of the nipple or parenchyma (ducts) of the breast in a nodular form. In the vast majority of cases (65%), the first symptom of the disease is itching, burning and/or erosion of the nipple with the formation of a crust. In 25% of patients, these symptoms are accompanied by palpable nodular formation in the mammary gland. And only in 10% of patients, the first symptom is the appearance of a tumor in the mammary gland.

- The first symptoms of latent (occult) breast cancer are enlarged axillary lymph nodes affected by metastases, while the tumor in the breast itself is not clinically manifested. This is often the cause of incorrectly established diagnoses, as a result of which the patient can be treated for another disease, and she gets to the mammologist-oncologist already at the stage of metastasis development.

The effectiveness of specialized (combined and complex) treatment and prognosis for breast cancer depends on the stage at which the disease was detected. Therefore, if any alarming symptoms are found in the mammary gland, you should immediately contact an oncologist.

Treatment

Modern approaches in combined, complex and other types of specialized treatment of women with breast cancer provide multidisciplinary consultations, which include: oncomammologists (oncosurgeons), chemotherapists (clinical oncologists), radiation oncologists and specialists in the field of clinical and instrumental, laboratory and oncopathomorphological, molecular genetic diagnostics.

This approach makes it possible to develop a program of specialized (oncological) treatment in each case of the disease, which will be as effective and gentle as possible.

Therefore, the oncologist is faced with the task not only to do everything possible to increase the life expectancy of these severe patients, but also to preserve and improve their quality of life during and after treatment.

The best results in the treatment of breast cancer can be achieved by comprehensive and combined treatment programs, which include:

- Surgical treatment
- Radiation therapy
- Drug treatment (chemotherapy)
- Radiosurgical treatment of benign and malignant tumors, solitary and multiple breast cancer metastases on the CyberKnife system

Qualitatively, and accordingly, effective treatment of breast cancer includes four main approaches.

Treatment of primary operable breast cancer

Despite the rapid development of technologies in medicine, the main method of breast cancer therapy remains surgical removal of malignant neoplasm and tumor-damaged surrounding breast tissues / removal of the entire breast and regional lymph nodes in the axillary region.

Modern breast cancer surgery makes it possible to achieve the required clinical effect without significant visual defects in the early stages of the disease. Methods of organ-preserving and reconstructive plastic surgery, silicone expanders and endoprostheses are used.

Treatment of locally advanced breast cancer

The disease in stages II-IV is characterized by a lesion of regional lymph nodes, most often in the axillary region. Therefore, surgical treatment consists not only in the removal of a malignant tumor, but also of certain lymph nodes or groups of lymph nodes, after which radiation therapy and polychemotherapy are also used.

Treatment of metastatic breast cancer

In the treatment of metastatic breast cancer, in which metastases spread to other organs and tissues, radiosurgical treatment on the CyberKnife G4 system of solitary (single) and groups of metastases is most effective. In the presence of multiple metastases, chemotherapy is usually used.

Surgical treatment

The importance of breast preservation for the psychological, physical, social, labor and family rehabilitation of a woman with breast cancer after radical treatment is difficult to overestimate. This explains the steady trend towards a decrease in the volume of surgical

interventions for breast cancer and the development of organ-preserving operations in recent decades.

In this regard, an organ-preserving approach is currently used in the surgical treatment of breast cancer. In most cases, a lumpectomy is performed. Lumpectomy is understood as the removal of a tumor within healthy tissues without extensive excision.

Lumpectomy is performed for small tumors, favorable histological and molecular genetic characteristics of the tumor, and the absence of tumor cells at the edges of resection.

Other surgical methods for breast cancer include more complex radical resections of the breast (mastectomy) and parts of the surrounding tissues, depending on the stage of the disease, the age of the patient and the presence of concomitant diseases. Radiation therapy IMRT

Among other methods of combined and complex treatment of breast cancer, radiation therapy (radiotherapy) is used most often.

Neoadjuvant radiation therapy is used to reduce the volume of breast tumors and metastases in regional lymph nodes before surgery.

Neoadjuvant radiation therapy helps to increase the number of organ-preserving operations performed on the mammary gland.

References:

1. Беспалов В.Г. Лечение мастопатии и первичная профилактика рака молочной железы. Лечащий врач 2017;(5):88–9.
2. Васильев Д.А., Зайцев А.Н., Берштейн Л.М. Маммографическая плотность молочных желез и определяющие ее факторы в свете повышенного онкологического риска. Опухоли женской репродуктивной системы 2011;(3):15–22.
3. Высоцкая И.В., Погодина Е.М., Гладилина И.А. и др. Клиническая маммология (практическое руководство). Под ред. М.И. Давыдова, В.П. Летягина. М., 2010. С. 54–6
4. Герштейн Е.С. Биологические маркеры молочной железы: методологические аспекты и клинические рекомендации / Е.С. Герштейн, Н.Е. Кушлинский // Маммология. - 2015.-№ 1. - С.65-69.
5. Злокачественные новообразования в России в 2013 году (заболеваемость и смертность). Под ред. А.Д. Каприна, В.В. Старинского, Г.В. Петровой. М., 2015. 250 с.
6. Зотов А.С., Белик Е.О. Мастопатии и рак молочной железы. М., 2005. 112 с. 7. И.В. Высоцкая [и др.] // Опухолевые маркеры рака молочной железы / Маммология. - 2015. -№ 1. - С.61-65.
7. Тао З, Ши А, Лу С, Сонг Т, Zhang З и ва бошқ. . (2015) кўкрак бези саратони: епидемиология ва етиология. Ҳужайра Biochem Биопҳйс 72: 333-338.
8. Боссомбра К., Ашикага Т., Ўбриен П. J., Nelson Л., Скеллй Ж. ва бошқ. (2012) кўкрак бези саратонидан омон қолганларда шиш, уйқусизлик, оғриқ ва уларнинг қўл функцияси билан боғлиқлиги: ногиронлик жараёни моделига истиқбол. Кўкрак Ж 8: 338-348.

9. Главаска-Мротек I, Сова М., Новикевич Т., Седлецкий З., Хагнер В. ва бошқ. (2017) кўкракни сақлаш операциясидан 5 йил ўтгач, беморларда оёқ ҳолати: вазиятни назорат қилиш бўйича тадқиқот. Кўкрак Бези Саратони 25: 325-333.
10. Жееван Р., Менние Ж. К., Моҳанна П. N., Ўдоногҳуе Ж. М., Раинсбурй Р. М. ва бошқ. (2016) кўкракни зудлик билан тиклаш ставкаларидаги миллий тенденциялар ва минтақавий фарқлар. Бр J Сург 103: 1147-1156.
11. Димитров Г., Баичев Г., Инков И., Димитров Д. (2017) тараққиёт ва кўкрак саратони жарроҳлик даволаш тарихи қисқача шарҳ. Халқаро жарроҳлик ва тиббиёт журнали 2: 1-10.
12. Махмудов З. А., Нечай В. V., Харибова Е. А. postnatal онтогенезнинг турли босқичларида илеоцекал бирикма деворидаги Glandular-лимфоид муносабатлар //морфология. - 2008. - Вол. 133. - йўқ. 2. - б. 85.
13. Стубблефиелд, МД, Кеоле Н. (2013) кўкрак бези саратони билан касалланган беморларда юқори тана оғриғи ва функционал бузилишлар. АМ & R 6: 170-183.
14. Уоллес С. V., Уоллес А. М., Ли Ж., Добке М. К. (2016) кўкрак операциясидан кейинги оғриқ: 282 аёлдан иборат сўровнома. Оғриқ 66: 195-205.
15. Fernandez-Лао С., Сантареро-Villanueva И., Fernandez де Лас Пеñас С., Дел Moral-Avila Р., Менҳон-Beltran С. ет ал. (2012) кўкрак бези саратонида лумпектомия ёки мастектомия операциясидан кейин бўйин ва елка мушакларидаги фаол миёфасиял тетик нуқталарининг ривожланиши ўхшаш. J Қўриқчи 16: 183-190.
16. Fischer Б., Anderson С., Браянт Ж., Марголесе Р. G., Deutsch М. ва бошқ. (2012) инвазив кўкрак бези саратонини даволаш учун умумий мастектомия, лумпектомия ва лумпектомия ва нурланишни таққослайдиган рандомизацияланган синовни йигирма йиллик кузатув. N Узбл J Мед 347: 1233-1241.
17. Ilkhomovna K. D. Morphological Features of Tumor in Different Treatment Options for Patients with Locally Advanced Breast Cancer //International Journal of Innovative Analyses and Emerging Technology. – 2021. – Т. 1. – №. 2. – С. 4-5.
18. Khodzhaeva D. I. Changes in the Vertebral Column and Thoracic Spinecells after Postponement of Mastoectomy //International Journal of Innovative Analyses and Emerging Technology. – 2021. – Т. 1. – №. 4. – С. 109-113.
19. Khodjayeva D. I. MORPHOLOGY OF IDIOPATHIC SCOLIOSIS BASED ON SEGMENT BY SEGMENT ASSESSMENT OF SPINAL COLUMN DEFORMITY //Scientific progress. – 2022. – Т. 3. – №. 1. – С. 208-215.
20. Ilkhomovna K. D. Modern Look of Facial Skin Cancer //BARQARORLIK VA YETAKCHI TADQIQOTLAR ONLAYN ILMIY JURNALI. – 2021. – Т. 1. – №. 1. – С. 85-89.
21. Ходжаева Д. И. Современные возможности ультразвуковой диагностики рака кожи лица //Вопросы науки и образования. – 2021. – №. 25 (150). – С. 21-24.
22. Aslonov S. G. et al. Modern Approaches to Oropharyngeal Cancer Therapy //International Journal of Discoveries and Innovations in Applied Sciences. – 2021. – Т. 1. – №. 3. – С. 38-39.
23. Khodjayeva D. I. MORPHOLOGY OF IDIOPATHIC SCOLIOSIS BASED ON SEGMENT BY SEGMENT ASSESSMENT OF SPINAL COLUMN DEFORMITY //Scientific progress. – 2022. – Т. 3. – №. 1. – С. 208-215.

24. Khodjaeva D. I. Magnetic-resonance imaging in the diagnosis of breast cancer and its metastasis to the spinal column //Scientific progress. – 2021. – Т. 2. – №. 6. – С. 540-547.
25. Ilkhomovna K. D. MANIFESTATIONS OF POST-MASTECTOMY SYNDROME, PATHOLOGY OF THE BRACHIAL NEUROVASCULAR BUNDLE IN CLINICAL MANIFESTATIONS //Innovative Society: Problems, Analysis and Development Prospects. – 2022. – С. 225-229.
26. Khodzhaeva D. I. Modern Possibilities of Ultrasounddiagnostics of Skin Cancer //IJTIMOIY FANLARDA INNOVASIYA ONLAYN ILMIY JURNALI. – 2021. – Т. 1. – №. 1. – С. 101-104.
27. Ilkhomovna K. D. Modern Look of Facial Skin Cancer //BARQARORLIK VA YETAKCHI TADQIQOTLAR ONLAYN ILMIY JURNALI. – 2021. – Т. 1. – №. 1. – С. 85-89.