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Trends in incidence, molecular diagnostics, and treatment of patients with breast cancer in Kazakhstan, 2014-2019

Relevance: *Globocan reported 4,390 new breast cancer cases and 1,654 deaths from breast cancer in the Republic of Kazakhstan (RK) in 2020. Molecular diagnostics of breast cancer includes the determination of Hormone Receptor (HR), HER2, and Ki-67 status to detect patients with HR-positive tumors and administer effective treatment.*

Methods: *This observational study included a retrospective analysis of incidence, molecular diagnostics, and treatment regimens in women with a confirmed breast cancer diagnosis aged 18 years old and older, registered in the RK Electronic Registry of Cancer Patients (ERCP) from 1 January 2014 till 31 December 2019.*

Results: *In the study period (2014 to 2019), the number of breast cancer cases registered annually has doubled. The incidence increased by 46.9%. The share of locally advanced and advanced forms of breast cancer has decreased. The proportion of Luminal type A (HR+/HER2-) among newly diagnosed patients ranged from 17.9% to 30%. Chemotherapy and endocrine therapy with goserelin, buserelin, leuprorelin, and fulvestrant are standard first- and second-line treatments for HR+ breast cancer. Since fulvestrant indications have been expanded, more than 50% of patients with HR-positive advanced breast cancer receive fulvestrant as the first-line therapy.*

Conclusion: *Breast cancer incidence growth and a decrease in the share of locally advanced and advanced breast cancer cases in the RK could be attributed to increased coverage of eligible women aged 40 to 70 with breast cancer mammographic screening. Although international guidelines support the administration of hormone therapy with or without targeted therapy in women with HR-positive, HER2-metastatic breast cancer, upfront use of chemotherapy remains common in the RK even in the absence of visceral crisis. The use of CDK4/6 inhibitor palbociclib in combination with hormone therapy has become routinely available since 2019.*

Keywords: *breast cancer incidence, HR-positive HER2-negative metastatic breast cancer (HR+/HER2-mBC), endocrine therapy (ET), CDK4/6 inhibitor, palbociclib.*

Introduction: Female breast cancer has presently outperformed lung cancer and is the leading cause of cancer incidence worldwide in 2020 based on the GLOBOCAN estimates. The estimated breast cancer incidence is 2.3 million new cases out of 19.3 million cancer cases worldwide in 2020 or 11.7% of all cancer cases. Deaths from breast cancer annually amount to 685000 (6,9% of all cancer deaths) [1].

Breast cancer incidence rates are 88% higher in developed countries than in developing countries (55.9 vs. 29.7 per 100,000). However, the mortality rate in developing countries is 17% higher than in developed countries (15.0 vs. 12.8 per 100,000) [1]. Findings from epidemiological studies attribute higher incidence rates of female breast cancer to higher reproductive and hormonal risk factors (early age of menarche onset, later age of menopause cessation, fewer number of children, the postponement of childbearing, less breastfeeding, oral contraceptives, hormone therapy in menopause) and lifestyle risk factors (alcohol intake, obesity, physical inactivity), and increased detection in mammographic screening [2]. Low survival rates are generally attributable to late-stage at diagnostic. Previous studies in Western countries demonstrated an increasing incidence of estrogen receptor-positive cancer and decreasing rates for estrogen receptor-negative cancers associated with growing epidemy of obesity and the impact of widespread mammographic screening [3-5].

In the Republic of Kazakhstan (RK), the incidence of breast cancer has been increasing steadily year by year to reach 37.1 per 100,000 women in 2020 [6]. The age-standardized mortality rate has decreased to 13.6 per 100,000 women. According to Globocan, 4,390 new breast cancer cases were registered, and 1654 women died in 2020 [6]. Reliable data on breast cancer epidemiology in the RK is available from the Kazakhstan National Cancer Registry published yearly, but data on biomarker testing is not included there [7]. A retrospective study on breast cancer incidence and mortality in Kazakhstan in 1999-2013 showed that 45,891 new breast cancer cases were registered over the study period, and 20,122 women died [8]. However, the limitation of this study was that the authors did not calculate the incidence and mortality rates for each year and did not show the trends. One explanation is that an electronic register of incidence was not available at the time of the study. Another study on breast cancer incidence and mortality showed a trend for 2009-2018 but included two major cities of Almaty and Nur-Sultan only. These two cities account for no more than 20% of all cases and do not represent the whole population [9]. All studies published have different methodologies, and the results are not comparable. The priority of breast cancer issue for Kazakhstan is high due to the following reasons: high prevalence among the female population of reproductive and working age, late detection of the disease, high level of neglect after diagnosing, the availability of new treatment that affects the survival, and high mortality rates compared to the developed countries.

Mammographic screening for breast cancer was implemented in 2008 to decrease breast cancer mortality via early detection and effective treatment. Based on the WHO recommendations, population-based mammography screening in Kazakhstan was introduced for women aged 50 to 69 at average risk of breast cancer and provided free of charge every two years; since 2018, the eligibility age was extended to 40-70 years [10]. Primary prevention of breast cancer remains a challenge. In the early years of the screening program, less than 500,000 women underwent mammography screening annually; existing disparities in the screening coverage in urban and rural areas demonstrate the existing inequalities in access to care. Nevertheless, today up to 30% of breast cancer cases are diagnosed through screening, 90-95% of them – at early stages [7].

According to the RK national guidelines on breast cancer (2019), breast cancer diagnostics includes imaging, biopsy (histology), and molecular diagnostics [11]. Imaging tests used to diagnose cancer may include a computerized tomography (CT) scan, bone scan, magnetic resonance imaging (MRI), positron emission tomography (PET) scan, ultrasound, and X-ray, among others. A biopsy (preferably providing histology) is performed to confirm a cancer diagnosis. Biological markers (especially HR and *HER2*, Ki 67) have been routinely assessed in the RK since 2012. Other mutations detection recommended by the NCCN panel and ESMO guidelines (BRCA1/2, PD-L1, PIK3CA, NTRK fusion, MSI-H/dMMR) is not routinely available for patients enrolled in scientific projects [12, 13].

The development of CDK4/6 inhibitors has changed the therapeutic management of HR-positive metastatic breast cancer (mBC). The introduction of cyclin-dependent kinase (CDK) 4/6 inhibitors combined with endocrine therapy (ET) as the standard of care for ER-positive/*HER2*-negative mBC has changed the treatment paradigm in recent years in Western countries [12, 13]. These resulted in the inclusion of combination therapy in the RK national guidelines in 2019. However, it remains unclear how it changed the prescribers' behavior [11]. The improvement in OS in patients with HR-positive *HER2* negative mBC is primarily attributed to the use of combination therapy in both the first- and second-line settings [14]. Pivotal trials show that combination therapy provides substantially better progression-free survival and has a good toxicity profile [15-23]. These agents can be combined with an aromatase inhibitor (AI) or fulvestrant and are effective in de novo or recurrent mBC, in a first or second line, in cases of primary or secondary resistance, in postmenopausal and premenopausal women (the latter with ovarian function suppression/ablation), and in men (preferably with a luteinizing hormone-releasing hormone agonist). Of note, the combination of tamoxifen and ribociclib led to increased cardiotoxicity (arrhythmia) and should be avoided.

Although the Kazakh Institute of Oncology and Radiology (Almaty, Kazakhstan) publishes nationwide figures for breast cancer and other oncological diseases every year, only population-based data and aggregated indicators are available.

The study purpose was to collect, analyze, and discuss local epidemiology data and treatment patterns in 2014-2019 in breast cancer patients, focusing on HR+/*HER2* advanced/metastatic breast cancer in real-life settings.

Secondary objectives included:

• to retrospectively evaluate local epidemiology data (incidence, stage at diagnosis, age distribution) for breast cancer with focus on HR+/*HER2*- advanced or metastatic breast cancer;

• to evaluate the proportion of patients with HR+/*HER2*-breast cancer among newly diagnosed breast cancer cases;

• to assess current treatment patterns and physicians' preferences in this patient population (chemotherapy, endocrine therapy, endocrine therapy plus targeted therapy or targeted therapy alone);

Materials and Methods:

This observational study included retrospective analysis of data of patients with breast cancer. The data were coded to protect personal information. The RK's Electronic Registry of Cancer Patients (ERCP) was searched retrospectively for female patients diagnosed with C50.0-C50.9 ICD10 from 1 January 2014 till 31 December 2019. The pooled analysis included pre-/peri-/postmenopausal women aged 18 years old and older with a confirmed breast cancer diagnosis, who were newly diagnosed and registered in the national cancer register. Due to the non-interventional design of the registry, there are no specific exclusion criteria.

Results:

Incidence data on breast cancer between 2014-2019, with a focus on HR+/HER2- advanced or metastatic breast cancer.

Between January 2014 and December 2019, 19,908 new breast cancer cases were registered in the ERCP of the RK (Table 1). The number of breast cancer cases registered annually has doubled – from 2,495 cases in 2014 to 4,698 cases in 2019. The incidence over the six-year observation period (2014 to 2019) has increased by 46.9% (Figure 1). At the same time, the share of locally advanced and advanced forms of breast cancer decreased over time. Thus, the share of stage III breast cancer cases was 12.3% in 2014 and 8.3% in 2019, stage IV – 4.1% and 3.6%, respectively. On the contrary, the early detection rate (the share of stage I-II cases) increased from 83.6% in 2014 to 88.1% in 2019.

Breast cancer incidence was strongly related to age (Figure 2), with the highest incidence rates in middle-aged and older women. In the RK in 2014-2019, the age-specific incidence increased steadily starting from 29-34 years, more steeply – starting from 40-44 years. The highest incidence was registered at the age of 55-59 years.

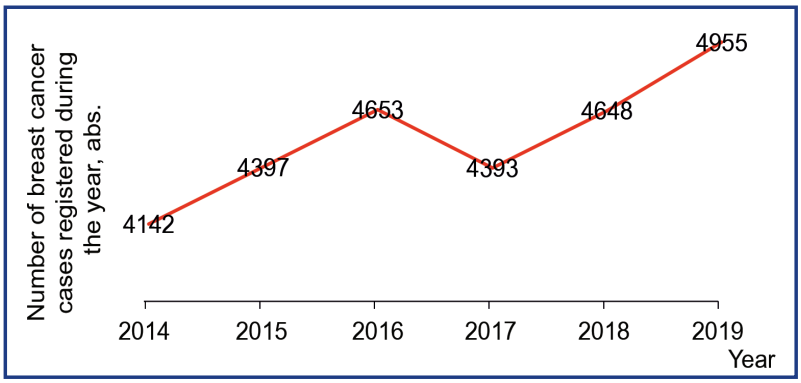

Figure 1 – Breast cancer incidence in the Republic of Kazakhstan, 2014-2019

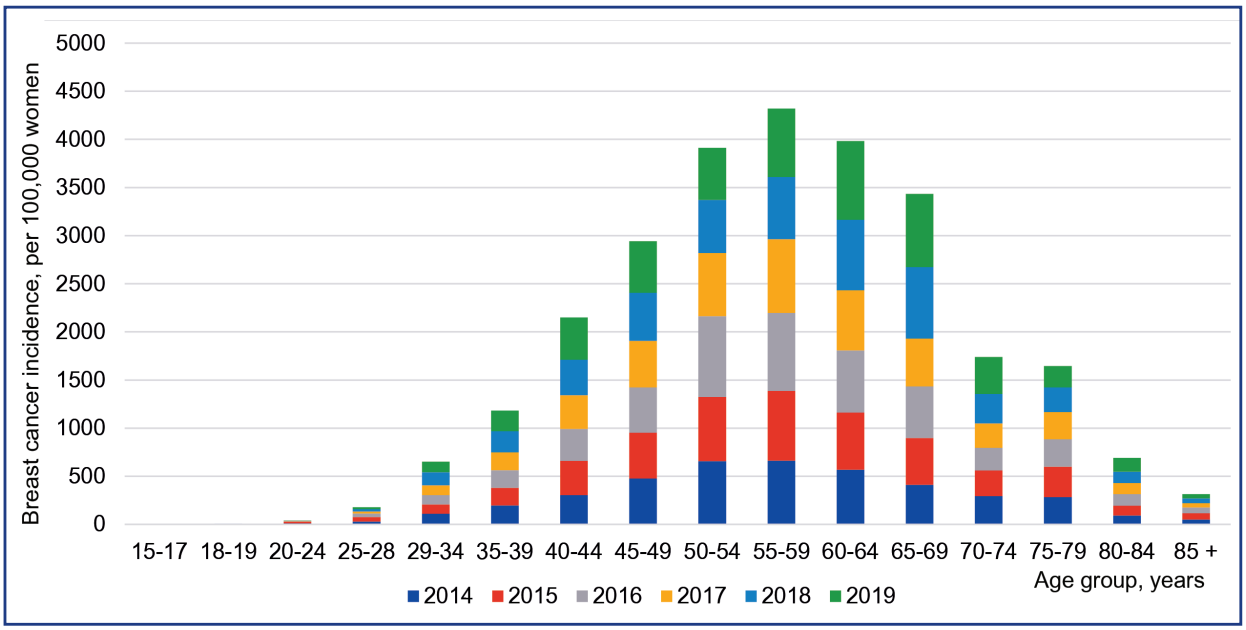

Figure 2 – Age-specific breast cancer incidence in the Republic of Kazakhstan, 2014-2019

The proportion of patients with HR+/HER2- breast cancer among newly diagnosed breast cancer cases

The gene expression of hormone receptors (estrogen/ progesterone), HER 2, and Ki-67 determined by immunohistochemistry (IHC) is shown in Table 1. The total number of tests made has increased from 293 in 2014 to 3,101 in 2019. IHC was introduced in routine practice in 2012; data entry into the Electron Registry for Cancer Patients (ERCP) was started in 2014. Therefore, some individual data is missing in the electronic database. For this project, we analyzed the available data for 1,000 patients.

Luminal A breast cancer is hormone-receptor-positive (estrogen-receptor and/or progesterone-receptor positive), *HER2* negative. Luminal A breast cancers are likely to benefit from hormone therapy and may also benefit from chemotherapy. Luminal B breast cancers are hormone-receptor-positive (estrogen-receptor and/or progesterone-receptor positive) and either *HER2* positive or *HER2* negative with high levels of Ki-67. Luminal B cancers commonly grow slightly faster than luminal A cancers, and their prognosis is slightly worse. The proportion of Luminal type A (*HR+/HER2-*) among newly diagnosed patients ranged from 17.9% to 30%.

Prescribed treatment (surgery, radiation therapy and systemic treatment, chemotherapy, endocrine therapy, endocrine therapy plus targeted therapy)

Although international guidelines support the administration of hormone therapies with or without targeted agents in postmenopausal women with hormone-receptor-positive, *HER2*-negative mBC, upfront use of chemotherapy remains common even in the absence of contradiction to targeted therapy (visceral crisis) (Table 2).

The data for first-line or second-line treatments, or both, based on hormone therapy are presented in Table 3. In Kazakhstan, the following GnRH analogs are used to treat breast cancer: goserelin, buserelin, leuprorelin, and fulvestrant. As shown in Table 3, more than 50% of patients with advanced breast cancer received fulvestrant as the first-line therapy. In routine practice, the combination of hormone therapy with CDK4/6 palbociclib started in 2019, so our analysis does not include this information.

Table 1 – Incidence, disease stage, Hormone Receptor and HER2 status, and treatment of new breast cancer cases, diagnosed in 2014-2019 in the RK (source: ERCP of the RK)

Year	Total breast cancer cases registered (Prevalence)	New breast cancer cases (Incidence)	Disease stage			Total new patients with IHC, n	IHC tumor status					Patients without IHC test	Treatment received	
			Stage I-II, n (%)	Stage III, n (%)	Stage IV (advanced/ metastatic), n (%)		Luminal A, n (%)	Luminal B (-), n (%)	Luminal B (+), n (%)	Triple negative, n (%)	Her positive, n (%)		Locally advanced breast cancer	mBC
2014	43456	2495	2087 (836)	306 (12.3)	102 (4.1)	293	72 (24.6)	119 (40.6)	34 (11.6)	44 (15.0)	24 (8.2)	2202 (88.3)	680 (1.6)	93 (0.2)
2015	43193	2677	2248 (84.0)	333 (12.4)	96 (3.6)	1534	428 (27.9)	531 (34.6)	218 (14.2)	208 (13.6)	149 (9.7)	1143 (42.7)	2119 (4.9)	168 (0.4)
2016	43535	2934	2555 (87.1)	281 (9.6)	98 (3.3)	1461	438 (30.0)	501 (34.3)	145 (9.9)	242 (16.6)	135 (9.2)	1473 (50.2)	2567 (5.9)	120 (0.3)
2017	43282	3230	2841 (88.0)	294 (9.1)	95 (2.9)	1164	259 (22.3)	492 (42.3)	143 (12.3)	156 (13.4)	114 (9.8)	2066 (64.0)	1700 (3.9)	90 (0.2)
2018	43434	3874	3502 (90.4)	266 (6.9)	106 (2.7)	1988	355 (17.9)	696 (35.0)	186 (9.4)	203 (10.2)	176 (8.9)	1886 (48.7)	1478 (3.4)	65 (0.1)
2019	44696	4698	4140 (88.1)	389 (8.3)	169 (3.6)	3101	879 (28.3)	1260 (40.6)	286 (9.2)	417 (13.4)	259 (8.4)	1597 (34.0)	1053 (2.4)	85 (0.2)

Notes: IHC – immunohistochemistry, mBC – metastatic breast cancer, RK – the Republic of Kazakhstan

Table 2 – Treatment of breast cancer in the RK in patients, newly diagnosed in 2014-2019 (source: ERCP of the RK)

Year	Number of patients with contraindications, n		Number of patients who refused treatment		Number of patients who did not complete treatment	Number of patients not treated for some reason	Number of patients who completed special treatment in the reporting year, n (%)	Treatment methods used, n (%)						Outpatient treatment only
	Total	incl. stage I-II	Total	incl. stage I-II				Surgery only	Radiation therapy only	Chemotherapy only	Combined therapy	Complex therapy	Chemotherapy+ Radiation therapy	
2014	38	11	37	21	690	156	2953 (100)	738 (25.0)	89 (3.0)	424 (14.4)	329 (11.1)	1232 (41.7)	141 (4.8)	103
2015	49	10	40	27	643	95	3270 (100)	851 (26.0)	160 (4.9)	423 (13.0)	470 (14.4)	1112 (34.0)	254 (7.8)	169
2016	38	16	43	38	869	287	3068 (100)	765 (24.9%)	26 (0.8%)	357 (11.6%)	332 (10.8%)	1539 (25.1%)	49 (1.6%)	10
2017	30	15	47	32	876	140	3100 (100)	751 (24.2%)	31 (1.0%)	422 (13.6%)	246 (7.9%)	1478 (47.7%)	35 (1.1%)	137
2018	35	22	55	49	1105	210	2974 (100)	823 (27.7%)	37 (1.2%)	452 (15.2%)	294 (9.9%)	1294 (43.5%)	40 (1.3%)	34
2019	27	15	42	35	1448	184	3077 (100)	825 (26.8%)	55 (1.8%)	413 (13.4%)	322 (10.4%)	1386 (45.1%)	27 (0.9%)	49

Notes: RK – the Republic of Kazakhstan

Table 3 – Drugs used for hormone therapy of metastatic or recurrent breast cancer

Drug	2018	2019
Tamoxifen	4314	4672
Faslodex or Fulvestrant First line, n (%) Second line	662 320 (48.4) 342 (51.6)	785 426 (54.3) 359 (45.7)
Letrozole	5662	5901
Goserelin	2106	1292

Discussion:

Breast cancer incidence has increased by 46.9% over the six-years observation period, with an increase in the share of early forms and a decrease in locally advanced and advanced breast cancer cases. This could be primarily attributed to increased coverage of the mammographic screening program for breast cancer in Kazakhstan since 2009. Up to 30% of newly diagnosed cases were detected by screening in eligible women aged 40 to 70 years registered at local outpatient clinics. However, the uptake of socially deprived populations, for instance, urban inhabitants without formal registration, remains low.

In this study, breast cancer was most common in middle-aged and older women, which is similar to the results in other countries. In Kazakhstan, the highest incidence was registered at the age of 55-59; in the USA, according to SEER 21 2014-2018, the average age at the time of diagnosis of breast cancer is 62 years [24].

As recommended by the NCCN panel, ESMO, and national guidelines, IHC is used in the RK to assess biological markers (especially HR and HER2). IHC method has certain advantages over other methods in HER2 protein detection: it is convenient, inexpensive, and requires only conventional microscopy. However, the results may be influenced by exposure time, fixation protocol, and clone antibody type. It is also not easy to apply the score sheet for accurate conclusions. Therefore, the ESMO and NCCN guidelines on mBC recommend IGH as a screening method and fluorescent in situ hybridization (FISH) as a gold standard [12, 13]. FISH is more accurate but more expensive and requires well-trained staff to perform.

In this study, 17.9% to 30% of newly diagnosed patients had Luminal type A (*HR+/HER2-*) breast cancer. This is close to the data from previously published studies, where gene amplification and protein overexpression of *HER2* were found in approximately 15-20% of breast cancer cases [25, 26].

Accurate evaluation of *HER2* status is essential in managing patients eligible for *HER2*-targeted therapy. Several *HER2*-targeted therapeutic strategies are effective against *HER2*-positive tumor cells. *HER2*-targeted therapy typically provides better outcomes and improved prognosis with *HER2*-positive mBC compared to *HER2*-negative disease [27].

Several pharmacological agents, known as "endocrine therapy" (ET), are now available to treat breast cancer in routine practice in Kazakhstan. They include AI and gonadotropin-releasing hormone (GnRH) agonists that reduce estrogen biosynthesis – buserelin; the selective estrogen receptor modulator (SERM) - tamoxifen; and the selective estrogen receptor blocker (SERD) - fulvestrant. In Kazakhstan, ovariectomy and ovarian radiation have been historically used to achieve ovarian suppression. GnRH analogs have largely supplanted surgical and radiological approaches due to fewer side effects, less proportion of permanent amenorrhea, and the possibility of preserving fertility.

Since 2010, based on the results of the CONFIRM study, in which patients were treated with 500 mg of fulvestrant as second-line and had demonstrated progression-free survival of 6.5 months and OS of 26.4 months, the effective therapy with fulvestrant includes 500 mg as a loading dose on Days 1, 14, and 29 of the first month, then 500 mg as maintenance dosage monthly at Day 28±3 days [27, 28]. Fulvestrant has demonstrated better results in patients with non-visceral lesions and without previous ET therapy in neo- and/or adjuvant regimens. The efficacy of first-line fulvestrant compared to the aromatase inhibitor anastrozole has been demonstrated in the phase III FALCON trial [29]. A median progression-free survival of women with HER-positive mBC without previous ET was 16.6 months in the fulvestrant group vs. 13.8 months in those treated with anastrozole [30]. More recently, fulvestrant in combination with targeted therapy in the first and subsequent line settings has shown better outcomes than fulvestrant alone in phase III MONALESSA-3, MONARCH 3, and PALOMA-3 trials [15, 20, 21, 31].

In the RK national guidelines for breast cancer of 2018, the indications for prescribing fulvestrant were expanded and now include its use in patients with widespread hormone-positive breast cancer, regardless of the previous hormone therapy.

Until recently, fulvestrant was mainly used in Kazakhstan to treat postmenopausal women with HR-positive *HER2*-negative mBC as a second- or third-line therapy. In recent years in Kazakhstan, fulvestrant has been increasingly used in the first-line treatment of advanced breast cancer patients.

Palbociclib is the first CDK4/6 inhibitor registered in Kazakhstan to treat HR-positive HER2 negative mBC in combination with hormone therapy. Palbociclib has been available in routine practice since 2019. Therefore, our analysis did not cover Palbociclib plus Letrozole or Palbociclib plus Fulvestrant treatment.

Conclusion: Breast cancer incidence growth and a decrease in the share of locally advanced and advanced breast cancer cases in the RK could be attributed to increased coverage with breast cancer mammographic screening of eligible women aged 40 to 70,

registered with local polyclinics. Further improvement of screening uptake is by targeting mostly socially deprived populations.

The proportion of Luminal type A (HR+/HER2-) breast cancer among new cases ranged from 17.9% to 30% and reached 879 cases in 2019. The share of patients eligible for combination hormone therapy with targeted agents is relatively high. IHC is a convenient and inexpensive method associated with certain limitations. It is also important to implement other diagnostic methods recommended by NCCN and ESMO ABC5 guidelines, for instance, FISH testing. Endocrine therapy with goserelin, buserelin, leuprorelin, and fulvestrant remains a standard first and second line for HR-positive breast cancer. Although international guidelines support the administration of hormone therapy with or without targeted therapy in postmenopausal women with hormone-receptor-positive, *HER2*-negative mBC, upfront use of chemotherapy remains common in the RK even in the absence of visceral crisis. The RK national guidelines for breast cancer have allowed combination therapy as first and second lines since 2018. The use of CDK4/6 inhibitor palbociclib in combination with hormone therapy has become routine since 2019.

The number of patients eligible for personalized hormone therapy in combination with CDK4/6 targeting agents is increasing due to better access to diagnostics. Such therapy provides better outcomes and improved prognosis in eligible patients.

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ТҰЖЫРЫМ

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2014-2019 жылдары Қазақстанда сүт безі обырымен ауыратын науқастардың аурушаңдық, молекулярлық диагностикасы мен емдеу динамикасы

Өзектілігі: *Globocan мәліметтері бойынша, Қазақстан Республикасында (ҚР) 2020 жылы сүт безі обырының 4390 жаңа жағдайы және осы аурудан 1654 өлім тіркелді. Сүт безі обырының молекулалық диагнозына жағдайды анықтау кіреді рецепторлар гормоны (HR), HER2 және Ki-67, бұл тиімді емдеу стратегиялары бар HR+ ісіктері бар пациенттерді диагностикалауға мүмкіндік береді.*

Әдістер: *2014 жылғы 1 қаңтардан бастап 2019 жылғы 31 желтоқсанға дейін онкологиялық науқастардың электрондық тіркелімінде сүт безі обыры диагнозымен тіркелген 18 жастан асқан әйел жынысты пациенттерде бастапқы сырқаттанушылық, молекулярлық диагностика және емдеу схемаларының деректерін ретроспективті талдау.*

Нәтижелері: *Зерттеу кезеңінде (2014-2019 жылдар) жыл сайын тіркелетін сүт безі обырының жаңа жағдайларының саны екі есе өсті, бастапқы сырқаттанушылық 46,9%-ға ұлғайды. Сонымен қатар, динамикада сүт безі қатерлі ісігінің жергілікті таралған және дамыған түрлерінің үлесі төмендеді. Люминальды сүт безі обырының үлесі (HR+/HER2-) жаңа жағдайлардың арасында 17,9%-дан 30%-ға дейін өзгерді. Химиотерапия және эндокринді гозерелин, бусерелин, лейпрорелин және фулвестрант терапиясы HR+ сүт безінің қатерлі ісігі терапиясының бірінші және екінші желісінің стандарты болып табылады. Фулвестрантты қолдану көрсеткіштері кеңейгеннен бері, ол HR+ сүт безі обырының дамыған сатысындағы пациенттердің 50%-дан астамында бірінші кезектегі терапия ретінде қолданылады.*

Қорытынды: *Сүт безі обырымен алғашқы сырқаттанушылықтың өсуін және ҚР-да сүт безі обырының жергілікті-таралған және асқынған жағдайлары үлесінің төмендеуін 40-тан 70 жасқа дейінгі әйелдерді сүт безі обырына маммографиялық скринингпен қамтудың ұлғаюымен түсіндіруге болады. Халықаралық нұсқаулықтар HR+/HER2 – метастатикалық сүт безі обыры бар әйелдерге мақсатты терапиямен немесе онсыз гормондық терапияны тағайындауды ұсынғанымен, висцеральды дағдарыс болмаса да, химиотерапияны алдын-ала қолдану ҚР-да жиі кездеседі. Палбоциклиб CDK4/ 6 ингибиторларын гормондық терапиямен бірге қолдану 2019 жылдан бастап қол жетімді болды.*

Түйінді сөздер: *сүт безі обырының бастапқы ауруы, HR-оң HER2-теріс метастатикалық сүт безі обыры (HR+/HER2- мСБО), эндокриндік терапия, CDK 4/6, Palbociclib. .*

АННОТАЦИЯ

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Динамика заболеваемости, молекулярной диагностики и лечения пациентов с раком молочной железы в Казахстане в 2014-2019 гг.

Актуальность: *По данным Globocan, в Республике Казахстан (РК) в 2020 году было зарегистрировано 4390 новых случаях рака молочной железы (РМЖ) и 1654 смертей от данного заболевания. Молекулярная диагностика РМЖ включает определение статуса по гормон рецепторам (HR), HER2 и Ki-67, что позволяет диагностировать пациентов с гормон HR+ опухолями, для которых существуют эффективные стратегии лечения.*

Материалы и методы: *ретроспективный анализ данных первичной заболеваемости, молекулярной диагностики и схем лечения у пациенток женского пола старше 18 лет, зарегистрированных с диагнозом РМЖ в электронном регистре онкологических больных с 1 января 2014 по 31 декабря 2019 гг.*

Результаты: *За исследуемый период (2014-2019 гг.), количество ежегодно регистрируемых новых случаев РМЖ увеличилось вдвое, первичная заболеваемость увеличилась на 46,9%. При этом в динамике доля местно-распространенных и запущенных форм РМЖ снизилась. Пропорция РМЖ люминального типа А (HR+/HER2-) среди новых случаев варьировала от 17,9% до 30%. Химиотерапия и эндокринная терапия гозерелином, бусерелином, лейпрорелином и фулвестрантом являются стандартом первой и второй линии терапии HR+ РМЖ. С тех пор, как показания к применению фулвестранта были расширены, он применяется у более чем 50% пациентов с поздней стадией HR+ РМЖ в качестве терапии первой линии.*

Заключение: *Рост первичной заболеваемости РМЖ и снижение доли местно-распространенных и запущенных случаев РМЖ в РК можно объяснить увеличением охвата соответствующих критериям женщин в возрасте от 40 до 70 лет маммографическим скринингом на РМЖ. Хотя международные руководства рекомендуют назначение гормональной терапии с таргетной терапией или без нее женщинам с HR+/HER2- метастатическим РМЖ, предварительное использование химиотерапии остается обычным явлением в РК даже при отсутствии висцерального криза. Использование ингибитора CDK4/ 6 палбоциклиба в сочетании с гормональной терапией стало доступным с 2019 года.*

Ключевые слова: *первичная заболеваемость раком молочной железы (РМЖ), HR-положительный HER2-отрицательный метастатический рак молочной железы (HR+/HER2- мРМЖ), эндокринная терапия (ЭТ), CDK 4/6, Палбоциклиб.*

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