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QUALITY OF LIFE ASSESSMENT IN PATIENTS WITH BREAST CANCER AND ITS COMPLICATIONS

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To evaluate the effectiveness of the use of quality of life questionnaires in diagnosing and predicting the course of breast cancer, we used questionnaire data using the official versions of the EORTC EQ-5D-5L, QLQ-C30115 questionnaires of patients with breast cancer and metastatic lesions of the lymph nodes, divided into two groups – the main one, 45 patients with metastatic breast cancer with lymph node involvement and the control group, 70 patients without lymph node lesions. When evaluating the results of assessing the patients themselves of their own health status on a visual analogue scale in the main group, the results were significantly higher (81.8±0.27 points and 64.5±0.36 points, respectively, in the control and main groups, p=0.001). The values of the domains “Role functioning” and “Physical functioning”, reflecting the ability to engage in daily duties, results also turned out to be much higher in the control group than in the main group (91.9±1.16 and 77.4±1.92, p= 0.001, 87.9±0.65 and 74.5±1.13, p=0.001, respectively). Thus, studies have shown a pronounced negative effect of lymph node metastases on the psycho-emotional and physical condition of the examined patients.

Keywords: cancer, diagnosis, lymph node involvement, EORTC questionnaire EQ-5D-5L, QLQ-C30

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ОЦІНКА ЯКОСТІ ЖИТТЯ У ПАЦІЄНТОК ІЗ РАКОМ МОЛОЧНОЇ ЗАЛОЗИ ТА ЙОГО УСКЛАДНЕННЯМИ

Для оцінки ефективності застосування опитувальників якості життя в діагностиці та прогнозуванні перебігу раку молочної залози були використані дані анкетування за допомогою офіційних версій опитувальників EORTC EQ-5D-5L, QLQ-C30115 пацієнток, хворих на рак молочної залози та метастатичними ураженнями лімфовузлів, поділених на дві групи. основну, 45 хворих на метастатичний рак молочної залози з ураженням лімфовузлів та контрольну, 70 пацієнток без уражень лімфатичних вузлів. При оцінці результатів з оцінки самих пацієнток власного стану здоров'я за візуально-аналоговою шкалою в основній групі результати виявились достовірно вищими (81,8±0,27 бала та 64,5±0,36 бала, відповідно в контрольній та основній групах, p=0,001). Значення доменів «Рольове функціонування» та «Фізичне функціонування», що відображають здатність займатися повсякденними обов'язками, результати також виявились набагато вищими в контрольній групі, ніж в основній групі (91,9±1,16 та 77,4±1,92, p=0,001; 87,9±0,65 і 74,5±1,13, p=0,001, відповідно). Таким чином, дослідження показали виражений негативний вплив ураження метастазами лімфатичних вузлів на психоемоційний та фізичний стан пацієнток, що обстежуються.

Ключові слова: рак, діагностика, ураження лімфовузлів, опитувальник EORTC EQ-5D-5L, QLQ-C30

Malignant tumours, against the background of a multiple increases in morbidity and almost all localizations, occupy the second place in the structure of mortality in most economically developed countries of the world. The last decades have been marked by significant changes that have undergone existing approaches to treating tumours, including radiation and drug [11]. At the same time, it is important to note the low selectivity of the action of radiation therapy and cytostatic drugs, which are characterized

by a combination of therapeutic and toxic effects, which currently leads to the search for ways to improve the effectiveness of treatment of neoplasms and at the same time prevent possible adverse reactions and chemoradiation complications [15]. Thus, according to world statistics, along with the steady increase in the incidence of breast cancer in the world, due to constant scientific research in this area, there is a tendency to identify the pathology itself and complications of the treatment at an early stage, which certainly allows timely determination of the stage of the disease, the degree of malignancy of the tumor, the degree of metastatic lesion of the lymph nodes, etc. [5, 10].

Some studies to assess the areas of regional metastasis in breast cancer emphasize the presence of a certain percentage of false negative results in diagnosis. At the present stage, the use of modern screening programs, postoperative pathomorphological examination of regional lymph nodes, high resolution of radiation methods have led to an increase in the frequency of breast cancer diagnosis in the early stages of the disease [8, 13].

The results and effectiveness of treatment and rehabilitation of patients with breast cancer to a certain extent depend on age and the presence of concomitant pathology, and many other exo- and endogenous factors associated with the characteristics of the patient's body. The presence of metastases in regional lymph nodes in breast cancer has a direct impact on the choice of tactics of postoperative treatment, which, as a diagnostic alternative, are an etiopathogenetically significant criterion for the prognosis of overall and relapse-free survival [9]. Factors that make it possible to assess the probability of metastatic spread of the tumor, as well as increasing the risk of metastatic lesion of regional lymph nodes, are the large size of the tumor, the degree of malignancy, lymph-vascular invasion, etc.

Currently, more and more attention is being paid to the need for patients themselves to assess their quality of life, which is the main criterion for assessing the severity of the course of the underlying pathology and the effectiveness of therapeutic and preventive measures [2, 3, 7]. At the same time, this parameter allows you to obtain additional and meaningful information about many aspects of the condition of patients at almost all stages of management of cancer patients.

The purpose of the study was to evaluate the effectiveness of the use of quality-of-life questionnaires in the diagnosis and prognosis of breast cancer

Materials and methods. The survey data of 115 patients with breast cancer and metastatic lymph node lesions treated at the Republican Oncological Hospital in Baku were used, divided into two groups – the main one, 45 patients with metastatic breast cancer with lymph node lesions and a control group, 70 patients without lymph node lesions.

To assess the physical and psycho-emotional state of the examined patients, burdened with severe somatic pathology, and in general the quality of life in our work, the following questionnaires widely used in medicine were used: EORTC EQ-5D-5L. To assess the condition of cancer patients, we used a questionnaire method using questionnaires adopted by the European Organization for Cancer Research and Treatment (European Organization for Research and Treatment of Cancer, EORTC).

The EQ-5D-5L questionnaire consists of two parts. The first part presents 5 sections describing the problems associated with the patient's activities in his environment, self-care skills, performing tasks related to daily life necessities, performing certain work related mainly to professional activity, determines the presence of discomfort or pain symptoms, as well as some deviations in the psycho-emotional state.

The second part of the questionnaire is represented by a 20-centimeter graduated ruler, on which the mark "0" means the worst, and when the mark "100" is reached, we can talk about the best state of health of the examined patients. The survey was also carried out using the official versions of the EORTC QLQ-C30/BR23 questionnaires (a questionnaire approved by the European Organization for Cancer Research and Treatment in 2005). The QLQ-C30 questionnaire, version 3.0, is common to all cancer patients and consists of 30 questions that characterize three scales: the scale of functioning, the scale of symptoms, and the general health status of the patient (quality of life, QL).

Statistical processing of the results of the study was carried out on a personal computer. The STATISTICA for Windows 7.0 system, which is an integrated data processing environment, was used to analyze the clinical data obtained during the study.

Comparison of the studied quantitative parameters (age, tumor localization, quality of life indicators of patients according to questionnaires in the study groups was carried out using the Wilcoxon-Mann-Whitney criteria. Descriptive statistics of quantitative features included an estimate of the arithmetic mean, the mean square deviation, the error of the mean value, minimum and maximum.

Statistical analysis of qualitative indicators (indicators of quality of life-based on the results of the questionnaire EQ-5D-5L) was carried out on the basis of data grouped into analytical tables of conjugacy, using the Pearson consent criterion χ^2 . In the mathematical processing of the survey results,

the counting manuals "EORTC QLQ-C30 Scoring Manual" for EORTC QLQ-C30/BR23 were used. The criterion of statistical reliability of the obtained conclusions was the generally accepted value of $p < 0.05$ in medicine.

Results of the study and their discussion. Less often, the pathological process in both groups was diagnosed at the border of the inner quadrants. Such localization of the tumor was recorded only in 1 (2.2 %) patients of the main group in the absence of a tumor in this area in all patients of the control group without exception. At the border of the outer quadrants, neoplasm in the control group was detected in 1 patient (1.4 %), and in the main in 2, that is, in 4.4 % of cases ($p > 0.05$).

The following clinical and morphological characteristics of the disease were studied in the patients included in the study: when studying the patterns of tumor localization in the left and right mammary glands, in most cases the tumor was localized in the upper inner quadrant, less often in the lower outer quadrant.

Table 1

Indices of patient survey using the EQ-5D-5L questionnaire

Questionnaire question	Control group (n=70)		Main group (n=45)		P
	abs.	%	abs	%	
Mobility					
I don't have any difficulty walking	43	61.4	16	35.6	$\chi^2=12.5$ $p=0.006^*$
I'm having a little difficulty walking	23	32.9	18	40.0	
I have moderate difficulty walking	4	5.7	8	17.8	
I have great difficulty walking	0	0	3	6.7	
I'm not able to walk	0	0	0	0	
Self-care					
I have no difficulty washing or dressing	67	95.7	28	62.2	$\chi^2=21.9$ $p<0.0001^*$
I have a little difficulty washing or dressing	3	4.3	13	28.9	
I have moderate difficulty washing or dressing	0	0	4	8.9	
I have great difficulty washing or dressing	0	0	0	0	
I am not able to wash or dress myself	0	0	0	0	
Habitual daily activities					
My usual daily activities are given to me without difficulty	45	64.3	16	35.6	$\chi^2=14.1$ $p=0.003^*$
My usual daily activities are a little difficult for me	21	30.0	18	40.0	
My usual daily activities are moderately difficult for me	4	5.7	7	15.6	
My usual daily activities are very difficult for me	0	0	4	8.9	
I am not able to do my usual daily activities	0	0	0	0	
Pain/discomfort					
I am not experiencing pain or discomfort	41	58.6	14	31.1	$\chi^2=17.6$ $p=0.0005^*$
I am experiencing a little pain or discomfort	25	35.7	16	35.6	
I am experiencing moderate pain or discomfort.	4	5.7	12	26.7	
I am experiencing severe pain or discomfort.	0	0	3	6.7	
I am experiencing extremely severe pain or discomfort	0	0	0	0	
Anxiety/Depression					
I don't feel anxious or depressed	37	52.9	12	26.7	$\chi^2=9.9$ $p=0.020^*$
I am experiencing a little anxiety or depression	20	28.6	19	42.2	
I am experiencing moderate anxiety or depression.	13	18.6	12	26.7	
I am experiencing severe anxiety or depression.	0	0	2	4.4	
I am experiencing extremely severe anxiety or depression	0	0	0	0	
Assessment on a visual-analog scale (points)	81.8±0.27		64.5±0.36		0.0001*

Note: p is the statistical significance of the difference between the groups, (χ^2 is the Pearson Consensus Criterion. U is the Mann-Whitney criterion).

Taking into account the fact that breast cancer patients rarely emphasized the difficulties associated with normal walking, the data of the Mobility scale according to the EQ-5D-5L questionnaire were not

evaluated by us and were of no practical interest in terms of developing diagnostic and prognostic criteria in our study.

According to the results of the survey and questionnaire, the patients of the main group had significantly more difficulties in self-care (moderate difficulties with washing or dressing), in engaging in habitual daily activities, relatively more often, compared with the control group, experienced moderate and severe pain or discomfort, also in the main group, patients were more likely to have a pronounced level of anxiety or depression, which is often accompanied by serious psychological trauma.

Significant statistical data were obtained by analyzing the indicators of some scales of questionnaires intended for use in the examination of cancer patients, in particular breast cancer patients. At the same time, these data were obtained when evaluating the results of the assessment of the patients themselves of their own health status on a visual-analogue scale.

In the main group, the results were significantly higher (81.8 ± 0.27 points and 64.5 ± 0.36 points, respectively, in the control and main groups, $p=0.001$).

According to the data obtained after the questionnaire on functional scales, the values of the domains "Role functioning" and "Physical functioning", reflecting the ability to engage in daily duties and reflecting the physical condition of the patient, the results were also much higher in the control group than in the main group (91.9 ± 1.16 and 77.4 ± 1.92 , $p=0.001$; 87.9 ± 0.65 and 74.5 ± 1.13 , $p=0.001$, respectively).

Table 2

Data on the scales of the EORTC QLQ-C30 questionnaire in the control and main groups

EORTC QLQ-C30	Control group (n=70)	Main group (n=45)	P
	(баллы)	(баллы)	
General state of health	75.7 ± 0.92	59.3 ± 0.96	0.001*
Physical functioning	87.9 ± 0.65	74.5 ± 1.13	0.001*
Role-based functioning	91.9 ± 1.16	77.4 ± 1.92	0.001*
Emotional functioning	84.8 ± 0.59	74.6 ± 0.75	0.007*
Cognitive functioning	89.5 ± 1.23	83.3 ± 2.05	0.004*
Social functioning	92.9 ± 1.15	83.7 ± 2.57	0.002*
Fatigue	26.7 ± 1.29	44.2 ± 1.78	0.001*
Nausea/Vomiting	6.2 ± 1.03	5.9 ± 1.51	0.881
Pain	9.0 ± 1.43	25.9 ± 2.88	0.001*

Note: the difference in the index is statistically significant relative to the main group ($p < 0.05$) (according to the Mann-Whitney U-test)

A statistical comparative analysis of the survey data obtained by the symptomatic scales of the questionnaire used revealed that the highest rates were recorded for two profiles "Pain" and "Fatigue" in the main group of patients burdened with metastases to regional lymph nodes (25.9 ± 2.88 points and 44.2 ± 1.78 points, $p=0.001$; 9.0 ± 1.43 and 26.7 ± 1.29 , $p=0.001$, in the control and main groups, respectively).

In general, oncological pathology, in particular, breast cancer significantly reduces the level of general health and more often than other causal factors leads to disability and disability [14]. The best QOL indicators in the control group are associated with the absence of serious complications during breast cancer. represented in the main group by metastatic lesions of the lymphatic system. In patients with breast cancer in the control group, the quality of life on almost all scales and domains of the questionnaires used is higher than in patients burdened with a serious complication associated with background pathology.

Studies have shown a pronounced negative effect of lymph node metastasis lesions on the psychoemotional and physical condition of the examined patients [4]. As a result of the conducted research, we came to the conclusion that the absence of metastases causes a relatively higher level of quality of life, which is characterized by the absence of pronounced anxiety. According to the data obtained, in many cases, the absence of metastatic lymph nodes represented a higher level of satisfaction of the examined patients with their appearance and sexual activity. At the same time, it is important to note that psychological problems associated with a sense of loss of attractiveness often lead to depressive states [6], which are aggravated by the presence of emotional tension leading to psychosocial disorientation, which, in turn, affects both the further course of the disease and the results of basic therapy [3].

High results on the mental and emotional scales of the questionnaire provide patients without metastatic breast cancer with a better self-perception of the body image, which is closely related to self-

esteem, attractiveness, sexual function and social functioning [1]. In addition, the quality of life of patients in the control group was much higher than in the main group in terms of general health, role, and physical and emotional functioning [12].

Conclusion

The use of specialized questionnaires and assessment of the quality of life made it possible to conduct a deep comparative analysis of physical, psycho-emotional and social problems in breast cancer patients divided into two groups and can simultaneously be considered as one of the significant and informative methods for evaluating the effectiveness of therapeutic and preventive measures.

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