ORIGINAL ARTICLE

GENDER FEATURES OF DEPRESSIVE AND ANXIOUS MANIFESTATIONS OF THE LUNG CANCER PATIENTS

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ABSTRACT

The aim: To examine the features of depressive and anxiety phenomenology in lung cancer, taking into account the gender factor.

Materials and methods: 112 patients with a primary diagnosis of stage II and III lung cancer were clinically and psychologically examined using HDRS, HARS, BDI, C. Spilberger's Reactive and Personality Anxiety Scale.

Results: It was found that the core affective psychopathological symptoms of patients with lung cancer are manifestations of depression (96.3% of men, 96.8% of women ($p > 0.05$), 96.4% together) and anxiety (77.8% , 93.5% ($p<0.05$) and 82.1%) in combination with asthenic-neurotic (67.9%, 61.3% ($p > 0.05$) and 66.1%) and affective labile (54.3%, 61.3% ($p > 0.05$) and 56.2%) manifestations; additional symptoms are apathetic (25.9%, 9.7% ($p<0.05$) and 21.4%), obsessive (19.8%, 38.7% ($p<0.05$) and 25.0%) and dysphoric (23.5%, 6.5% ($p<0.05$) and 18.7%) manifestations. The severity of depressive and anxiety of women is higher than of men; the severity of depressive-anxiety manifestations corresponds to a moderate level: depression by HDRS - 11.6±1.7 points, 15.6±6.3 points ($p<0.05$) and 12.7±4.0 points; BDI depression – 15.7±6.3 points, 23.7±13.9 points ($p<0.05$) and 17.9±9.7 points; HARS anxiety - 9.3±2.8 points, 11.5±3.7 points ($p<0.05$) and 9.9±3.2 points, and reactive anxiety - 44.4±11.1 points, 47.9±15.5 points ($p<0.05$) and 45.4±12.5 points. The identified differences can be explained by different gender models of psychological response.

Conclusions: The core affective symptoms of patients with lung cancer are manifestations of depression and anxiety in combination with asthenic-neurotic and affective-labile manifestations; additional are apathetic, obsessive and dysphoric manifestations.

KEY WORDS: lung cancer, psychopathological reactions, depression, anxiety, gender features

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INTRODUCTION

Diagnosis of cancer is a severe psycho-emotional stress for the patient [1, 2]. 51% of patients with oncological pathology experience clinically significant psycho-emotional distress, more than half of them have a high level of depression and neuroticism [3]. In addition to adverse changes in the psycho-emotional sphere, the presence of oncological pathology leads to a significant deterioration in the quality of life and psychosocial functioning of patients [4].

The basis of psychopathological symptoms associated with oncological pathology are depressive and anxiety manifestations [5]. Depression is considered a predictor of progression and mortality in cancer patients [6]. The risk of mortality is 25% higher in the presence of certain depressive symptoms in cancer patients, and 39% higher in the presence of major depressive disorder [7]. This gives grounds to consider depression and cancer as a comorbid pathology.

Lung cancer is one of the most significant oncological pathology. It is characterized by a high prevalence, high mortality and low relative survival of patients, as well as low efficiency of modern treatments [8-10]. At the same time the features of psychopathological symptomatology at lung cancer remain insufficiently studied. The separate studies have shown the presence of morphological and functional changes in the brain of the patients with lung cancer, even in the absence of metastatic lesions of the brain substance; these changes are accompanied by severe depressive symptoms and anxiety, although the nature of these relationships is complex and studied insufficiently [11].

It should be noted that the normalization of the psycho-emotional state of patients with malignant tumors is important for the overall effectiveness of treatment, helping to reduce psycho-emotional stress [12]. Recently, an interdisciplinary field has been developing dynamically, combining psychological and psychiatric sciences and oncology – the psychologic oncology, which goals to develop methods of psychological care and rehabilitation for cancer patients based on the study of somatic-psychological relationships in malignant diseases [13-15]. This highlights the need for comprehensive research in the field of oncology with the involvement of modern psychological, psychiatric and oncological science [16].

THE AIM

The aim of this study was to examine the features of depressive and anxiety phenomenology in lung cancer, taking into account the gender factor.

MATERIALS AND METHODS

In accordance with the principles of biomedical ethics, we clinically and psychologically examined 112 patients (81 men and 31 women) with a primary diagnosis of stage

Table I. The structure of complaints of the psycho-emotional sphere of patients with lung cancer

Complaints	Men		Woman		Total		p
	abs.	%	abs.	%	abs.	%	
Low mood	78	96,3	30	96,8	108	96,4	0,694
Anxiety or fear	63	77,8	29	93,5	92	82,1	0.040
Mood irritable	44	54,3	19	61,3	63	56,2	0,327
Aggression	19	23,5	2	6,5	21	18,7	0.030
Fast fatigability	55	67,9	19	61,3	74	66,1	0.328
Apathy	21	25,9	3	9,7	24	21,4	0.047
Obsessive thoughts	16	19,8	12	38,7	28	25,0	0.036

Table II. Indicators of the examined patients, that were found according to psychodiagnostic methods

Indicators	Scale value, points			p
	Men M±m/Me (Q_{25}-Q_{75})	Woman M±m/Me (Q_{25}-Q_{75})	Total M±m/Me (Q_{25}-Q_{75})	
M. Hamilton's Depression Scale (HDRS)				
Total score	11,6±1,7 / 12,0 (10,0–13,0)	15,6±6,3 / 13,0 (10,0–22,0)	12,7±4,0 / 12,0 (10,0–13,0)	0,048
Adynamic depression	8,6±1,6 / 9,0 (8,0–10,0)	11,4±4,4 / 10,0 (8,0–16,0)	9,4±3,0 / 9,0 (8,0–10,0)	0,007
Agitation depression	3,9±1,7 / 4,0 (3,0–5,0)	6,7±4,1 / 6,0 (3,0–10,0)	4,6±2,9 / 4,0 (3,0–6,0)	0,004
Depression with fear	3,6±1,8 / 4,0 (3,0–5,0)	5,9±3,3 / 5,0 (3,0–9,0)	4,3±2,5 / 4,0 (3,0–5,0)	0,002
Undifferentiated depression	2,3±1,1 / 2,0 (2,0–3,0)	3,5±1,8 / 3,0 (2,0–5,0)	2,6±1,4 / 2,0 (2,0–3,0)	0,001
M. Hamilton's Anxiety Scale (HARS)				
Total score	9,3±2,8 / 9,0 (7,0–12,0)	11,5±3,7 / 11,0 (9,0–14,0)	9,9±3,2 / 10,0 (7,0–12,0)	0,007
Psychical anxiety	7,0±1,7 / 7,0 (6,0–8,0)	8,3±2,3 / 8,0 (6,0–10,0)	7,4±2,0 / 7,0 (6,0–8,0)	0,012
Somatic anxiety	2,3±2,0 / 2,0 (1,0–4,0)	3,1±2,3 / 3,0 (2,0–4,0)	2,5±2,1 / 2,0 (1,0–4,0)	0,107
A. Beck's Depression Invertory (BDI)				
Total score	15,7±6,3 / 16,0 (11,0–20,0)	23,7±13,9 / 20,0 (11,0–37,0)	17,9±9,7 / 17,0 (11,0–22,0)	0,022
Cognitive-affective subscale	9,8±3,8 / 10,0 (7,0–12,0)	15,4±9,4 / 12,0 (6,0–24,0)	11,3±6,4 / 10,0 (7,0–13,0)	0,044
Subscale of somatic depressive manifestations	5,9±3,6 / 6,0 (3,0–8,0)	8,3±5,1 / 9,0 (4,0–12,0)	6,6±4,2 / 6,5 (3,0–9,5)	0,023
C. Spilberger's Scale of Reactive and Personality Anxiety				
Reactive anxiety	44,4±11,1 / 48,0 (32,0–53,0)	47,9±15,5 / 51,0 (32,0–62,0)	45,4±12,5 / 48,5 (32,0–55,5)	0,044
Personality anxiety	37,8±9,6 / 34,0 (31,0–44,0)	37,8±7,6 / 35,0 (31,0–43,0)	37,8±9,0 / 34,0 (31,0–43,5)	0,727

II and III lung cancer, who were treated at the Vinnytsya Regional Clinical Oncology Center during 2017-2020. The examination was performed in the period from 7 to 14 days from the date of establishment and notification of the diagnosis. The mean age of patients was 62.6 ± 14.0 years, men - 62.4 ± 13.8 years, women 63.0 ± 14.9 years.

The survey program included a clinical interview organized using a semi-structured clinical interview, determining levels of depression and anxiety using M. Hamilton's Depression [17] and Anxiety Scale [18] (HDRS and HARS), A. Beck's Depression Invertory (BDI) [19], C. Spilberger's Scale of Reactive and Personality Anxiety in Y. Khanin modification [20].

Statistical analysis of differences between groups was carried out using non-parametric Mann-Whitney test and Fisher exact one-tailed test.

RESULTS

The structure of complaints of the psycho-emotional sphere of the examined patients is given in table I.

The main place among the subjective complaints of the psycho-emotional sphere of patients with lung cancer is low mood, which was found in almost all examined patients, feelings of anxiety or fear, which occurred in more than 80% of patients (statistically more significant of women than of men , $p<0.05$), as well as increased fatigue (over 65%, without significant gender differences). Irritability was detected in more than half of patients (of women significantly more often, $p<0,05$). Obsessive symptoms (mainly in the form of obsessive thoughts about death, illness, fate of relatives, treatment directly related to the disease, more often of women, $p<0.05$), apathy (more than 20% of those surveyed, more

often of men) and aggression (almost 20% of respondents, more often of men, p<0.05).

Data on the quantitative indicators of the severity of depression and anxiety of patients with lung cancer according to psychodiagnostics techniques are given in table II.

As can be seen from the table, the quantitative indicators of depression on the HDRS scale of patients with lung cancer on average correspond to the level of mild (closer to moderate) depression. Depression scores on the HDRS scale of the examined patients ranged from 7 points (no depression) to 29 points (severe depression). At the same time, the severity of depression of women was significantly higher than of men. This also applies to certain types of depression (dynamic, agitated, depressed with fear and undifferentiated), the indicators of which were significantly (p <0.01) higher of women.

Anxiety rates on the HARS scale of women were also significantly higher than of men; this also applies to the indicator of mental anxiety. Regarding the indicator of somatic anxiety, although its quantitative value of women was higher than of men, the differences of the indicators are not statistically significant (p> 0.05).

The rate of depression according to the BDI questionnaire in all patients corresponds to a moderate level (from 16 to 19 points). The rate of depression of women is statistically significant (p<0.05) higher than of men, and corresponds to the average level of depression (more than 20 points), and of men - moderate. Indicators of cognitive-affective sub-scale and sub-scale of somatic depressive manifestations of the BDI scale of women with lung cancer are also significantly (p<0.05) higher than of men.

Patients with lung cancer have high levels of reactive anxiety. Thus, the average score on the scale of reactive anxiety by C. Spilberger of the studied patients exceeded 45 points; of men it was slightly lower than 45 points, which corresponded to moderate, close to a high level of reactive anxiety, and of women - more than 45 points, which corresponded to a high level. Differences in reactive anxiety rates between men and women were statistically significant (p<0.05).

The indicator of personal anxiety of the studied patients corresponded to a moderate level; of men and women it was almost the same (p> 0.05).

DISCUSSION

The study revealed certain features of depressive and anxiety manifestations of patients with lung cancer, as well as certain differences in the manifestations of depression and anxiety of men and women.

The data found in our study on the significant incidence of lung cancer of patients with depressive and anxiety symptoms are consistent with the data of studies by other authors, which revealed comorbid cancers, depressive and anxiety disorders [21-23]. At the same time, our study obtained new data on the structure of subjective disorders of the psycho-emotional sphere, as well as quantified the severity of affective manifestations of patients with lung cancer. The predominance in the structure of psychopathological phenomena of signs of affective dysfunction, in particular, dysthymia and anxiety, as well as the phenomena of asthenia and affective lability. There were significant gender differences in the severity of depression and anxiety, in particular, women have higher levels of depression (including adynamic, agitated, undifferentiated depression and depression with fear) and anxiety (especially mental). This generally corresponds to the gender characteristics of the response to the disease, described by other authors [24], as well as the gender characteristics of psychological reactions in oncological pathology [25, 26]. The tendency to more pronounced depressive and anxious manifestations of women persists both in the self-assessment of the mental state of patients and the assessment of the state of the affective sphere by a specialist.

In our opinion, the identified gender differences are primarily due to the influence of gender-specific psychological models of response to severe psycho-emotional stress, detection of severe and life-threatening disease. Women are more emotional, sensitive, prone to dramatization of the situation, combined with greater openness of feelings, externalization of affective reactions, while the male gender-role pattern of behavior involves greater restraint, secrecy of emotions, prohibition of demonstration of feelings, especially those that may present weaknesses, as well as a greater tendency to rationalize compared to women [27-29]. These features are reflected in the manifestations of depression and anxiety, primarily reactive, current in nature, which reflect the affective responses to reports of severe illness with pessimistic treatment prospects. Regarding personal anxiety, which was almost the same of men and women, in the short time that has elapsed since the detection of lung cancer and before this examination, persistent personality changes and patho-characteristic traits did not have time to form, so it is natural that there are no significant differences in personal levels of anxiety between men and women.

CONCLUSIONS

The study of the peculiarities of depressive and anxiety manifestations of patients with lung cancer revealed pronounced disorders in their affective sphere. The core affective psychopathological symptoms of patients with lung cancer are manifestations of depression and anxiety in combination with asthenic-neurotic and affective-labile manifestations; additional symptoms are apathetic, obsessive and dysphoric manifestations. The level of depression and anxiety of patients with lung cancer on average corresponds to a moderate level, and in some patients it can range from mild to great severity of affective symptoms. Significant gender differences in higher levels of depression (including adynamic, agitated, undifferentiated depression, and fear depression) and anxiety (mostly mental) have been identified in the affective responses of lung cancer patients. The identified patterns should be taken into account in the development of treatment, rehabilitation and prevention measures for patients with lung cancer.

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The Authors declare no conflict of interest.

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