

Assessment of the quality of life in patients with exogenous allergic alveolitis

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Absrtact: To date, over 200 different allergens are isolated, prolonged inhalation of which leads to the development of immune inflammation in the lungs, known as hypersensitive pneumonitis or exogenous allergic alveolitis. The same group usually includes alveolitis caused by taking medications and dietary supplements, the method of delivery and the nature of the impact of which on the pulmonary structures can lead to the development of both allergic and cytotoxic reactions. At the same time, timely recognition and early diagnosis of EA of various genesis, the establishment of the nosological form of the disease are very important, since they allow not only to eliminate the impact, prevent the progression of the disease, but also to choose the most adequate, more effective treatment regimen, expand the use of pathogenetic methods of influencing various links of the inflammatory process. Among the IZL, the diagnosis of exogenous alveolitis (EA) seems to be one of the most difficult, which is recognized by almost all leading experts. According to these authors, diagnostic errors of the disease reach 70%, which makes it difficult to detect it in a timely manner, leads to early disability of patients due to progressive diffuse pneumosclerosis of the respiratory department.

Keywords: quality of life, functional abilities, general state of health, life satisfaction

INTRODUCTION

Functional disorders can play a certain role in creating a diagnostic complex and establishing the nosological form of EA. At the same time, the presence of a pronounced correlation between changes in FVD and the prognosis of EA of various genesis has not yet been shown. Currently, the bronchological method with the use of CBL and BAL for special histological and cytological studies is widely used in the study of disseminated lung diseases. At the same time, the use of this diagnostic material to assess the tissue and cellular reactions of the respiratory department during the verification of EA of various genesis is still not often used, is considered as an additional study and is mainly used to determine the signs of EAA. The

diagnostic and prognostic capabilities of the method remain not fully understood, although they are less traumatic and more accessible than a videotoroscopic lung biopsy.

The similarity of clinical manifestations of EAA “poultry breeder’s lung” with other respiratory diseases, certain difficulties of differential diagnosis, and to a greater extent, low awareness of doctors are the main sources of diagnostic errors. The effectiveness of therapeutic measures and prognosis for EAA are fully determined by timely, early diagnosis. Untimely, and in most cases, inadequate specialized care for patients contributes to the gradual progression of the pathological process. The transition of EAA to the stage of pulmonary fibrosis is accompanied by an increase in respiratory failure and other subjective and objective signs that do not differ from those of idiopathic fibrotic alveolitis, which significantly reduces the effectiveness of therapeutic measures and causes a serious prognosis of the disease.

In this regard, the study of the objective picture at industrial poultry enterprises seems relevant both from a scientific, medical, and economic point of view. Only knowledge of the true prevalence of EAA in poultry farmers, as well as optimization of diagnostics, preventive and therapeutic measures will reduce morbidity, disability and improve the prognosis in this category of patients.

The aim of the study: to assess the quality of life (QOL) in patients with exogenous allergic alveolitis (ARS) and to determine the relationship with various manifestations of the disease

MATERIALS AND METHODS

The study consistently included 32 patients with a morphologically verified diagnosis of ZAA who were on inpatient treatment at the Central Tuberculosis Research Institute. There were 24 women and 8 men among them. The duration of the disease from the moment of detection to verification is on average 257.1 ± 230.3 weeks. The majority of patients (20 people) had a chronic course of the disease, 6 - acute, 6 - subacute. All patients filled out validated Russian-language versions of the St. George Hospital Respiratory Questionnaire (St. George’s Respiratory Questionnaire, SGRQ) before starting therapy for the underlying disease. The gender and age of each patient, the duration of the disease in weeks from the moment of the appearance of the first symptoms/radiological changes, indicators of FVD and lung diffusion capacity were taken into account. All the data obtained during the study were entered into an electronic individual registration card developed in the MS Access database management system environment. Statistical data analysis was carried out in MS Excel, as well as in the Statistica software package, according to a pre-developed statistical analysis plan, using descriptive statistics tools, nonparametric comparison methods with a small volume of the analyzed sample (Kruskall-Wallis, Mann Whitney methods, etc.). When checking the key results in the

framework of the study, an analysis of the evidentiary strength of the hypothesis was necessarily carried out, the level of 0.8 was chosen as the boundary criterion for the strength of the hypothesis. Statistically significant differences were considered at $p < 0.05$.

RESULTS and DISCUSSION

The QOL scales of the SGRQ questionnaire were analyzed both for the general population as a whole and for subgroups with different disease course. All patients completed a validated respiratory questionnaire before starting therapy for the underlying disease. The gender and age of each patient, the duration of the disease in weeks from the moment of the appearance of the first symptoms/radiological changes, indicators of FVD and lung diffusion capacity were taken into account.

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process was chronicled. There were statistically significant differences in the duration of the disease between the subgroups, which indicates an adequate definition of patients in the study. At the same time, analyzing the data in Table 1, it can be concluded that the differences in the functional status of patients were most pronounced, oddly enough, between subgroups of subacute and chronic course of the disease, while the difference between acute and chronic EAA was often either poorly expressed or absent. In part, such results can be explained by a limited sample size, and in part by gender differences, since the population in the subgroup of acute alveolitis was predominantly male, while women predominated among patients with subacute and chronic course of the disease. Nevertheless, even in a limited sample, a tendency to a natural decrease in ventilation indicators was revealed as the process was chronicled.

During the analysis of the data by parametric methods, there were no statistically significant differences in the South between the subgroups of patients. The detected changes, however, indicate a steady progression of the negative impact of the disease on self-perception. Presumably, the reason for the lack of statistically significant differences when using parametric methods was a small sample size, so nonparametric evaluation methods were used in the form of the Mann test - According to the results of which, a statistically significant increase in the negative impact of the disease on the QOL of patients is seen both on the total scale (when comparing the acute course with the chronic one) and on the scale of symptoms (when switching from the subacute course to the chronic one).

Of particular interest was the search for correlations between QOL indicators and various manifestations of the disease. A correlation analysis was carried out between a number of indicators of the disease and the values of the scales of the SGRQ questionnaire. During the analysis, a number of contradictory results were obtained. On the one hand, it was quite natural and expected that the values of QL (on the scale of symptoms) were inversely correlated with the indicators of FVD, as well as the overall diffusion capacity of the lungs. On the other hand, we did not find any connection between QOL, duration of the disease and age.

Comparing the results of our study with the data of other authors, we encountered a number of problems. So, we could not find a single example of a study that set the same goal as we did to evaluate QOL in patients exclusively with EAA. Almost all the publications we found were devoted to the assessment of QOL in patients with interstitial diseases in general.

CONCLUSIONS

So, in the study of J.A.Chang et al. data similar to ours were obtained on the feedback of FVD and diffusion indicators with the values of the scales of various QL questionnaires, including SGRO, however, within the study the number of patients

with ZAA was extremely small, the group was mainly represented by patients with sarcoidosis. In another study, the authors evaluated QOL in patients with fibrosing alveolitis as a manifestation of systemic scleroderma. It should be noted that a tool other than SGRO was used for this, namely the SF-36 questionnaire. Nevertheless, the authors came to similar conclusions with our own: according to the SF-36 questionnaire, the deterioration of QL in patients in the study was associated with a decrease in FVC and DLCO SB indicators. Finally, in the most relevant of the studies we found, a group of authors evaluated QOL using the SGRQ questionnaire in patients with interstitial diseases with an outcome of fibrosis. The values of the subscales of the questionnaire in the framework of this study were comparable with the data we received. However, in this study, out of 31 patients, only four represented the EAA group with an outcome of fibrosis. Thus, it is difficult to draw direct parallels between the results of our work and the studies known to us. The results of the study indicate that the assessment of the quality of life (QOL) in patients with exogenous allergic alveolitis can be carried out using standardized and well-proven instruments in practice, such as the respiratory questionnaire (Respiratory Questionnaire, SGRQ). A statistically significant increase in the negative impact of the disease on the QOL of patients was revealed both on the total scale (when comparing the acute course of the disease with the chronic one) and on the scale of symptoms (when the disease passes from the subacute course to the chronic one) ($p < 0.05$). The correlation of the values of the scale of symptoms of the SGRQ questionnaire and indicators of FVD and lung diffusion capacity was revealed. There was no statistically significant relationship between the indicators of QOL, duration of illness and age.

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