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Clinical and Epidemiologic Characteristics of Bronchial Asthma and Chobla Morbidity during the Covid-19 Pandemic Period

Yuldasheva Gulnora Bakhtiyarovna
Associate Professor of the Second Department of Training, General Practitioners at the Andijan State Medical Institute

Annotation: Chronic obstructive pulmonary disease (COPD) and bronchial asthma remain among the most common respiratory diseases in the world, having a significant impact on the quality of life of patients and creating a significant burden on health care systems. According to current data, asthma affects about 8% of the population in the United States, and COPD is diagnosed in 6% of residents. The emergence of the COVID-19 pandemic has created unprecedented challenges for health care systems and significantly impacted the course of chronic respiratory diseases.

Keywords: bronchial asthma, COPD, COVID-19, epidemiology, morbidity, pandemic, respiratory diseases, clinical and epidemiologic analysis, morbidity dynamics, primary morbidity.

Introduction. The study of the relationship between COVID-19 and the course of chronic obstructive pulmonary disease is of particular relevance, as evidence is emerging about the possible impact of coronavirus infection on the development of new cases of obstructive airway disease. Studies show that patients with COPD and bronchial asthma represent a special risk group in the context of COVID-19, which requires a careful study of the peculiarities of the course of the disease and approaches to therapy. In this regard, it is extremely important to conduct a comprehensive analysis of the clinical and epidemiological characteristics of bronchial asthma and COPD morbidity during the COVID-19 pandemic, which will optimize diagnostic and therapeutic strategies, as well as improve the prognosis for this category of patients. The aim of this study is to investigate the course and morbidity of bronchial asthma and COPD in the COVID-19 pandemic and to assess the impact of coronavirus infection on the clinical course of these respiratory diseases.

The COVID-19 pandemic significantly changed approaches to the organization of medical care for patients with chronic respiratory diseases. Introduction of quarantine measures, restriction of accessibility of planned medical care and re-profiling of medical institutions created additional barriers in the diagnosis and treatment of COPD and bronchial asthma. According to international studies, during the pandemic there was a 20-40% decrease in the frequency of patients seeking medical care for exacerbations of chronic respiratory diseases, which may be associated with both fears of COVID-19 infection and limited availability of medical care.

The socioeconomic impact of the pandemic on patients with COPD and bronchial asthma deserves special attention. Job loss, reduced income, and limited access to medications may have significantly affected adherence to therapy and disease control. Studies show that during the pandemic, about 30% of patients with chronic respiratory disease experienced difficulties in obtaining needed medications.

Bronchial asthma (BA) and chronic obstructive pulmonary disease (COPD) belong to the leading bronchopulmonary pathology in the structure of the general incidence of chronic noncommunicable diseases (CKD) in the Russian Federation [1]. These diseases cause significant damage to the health of socially active groups of the population of various ages due to temporary or permanent disability [2]. According to the World Health Organization (WHO) and the Global Initiative for the Treatment and Prevention of Asthma (Global Initiative for Asthma — GINA), asthma most often affects the able-bodied part of the population [3]. Over the past 10 years, there has been a decrease in the mortality rate from AD due to the achievement of disease control through the selection of highly effective therapy

[4]. However, at the same time, the number of newly registered cases of asthma continues to grow steadily every year.

COPD is also a significant problem of modern pulmonology due to its high prevalence in the group of older people [5]. The cohort of patients with COPD, due to their age and often the presence of several concomitant diseases, occupies a leading position in terms of mortality (3rd place) and disability (5th place) in the world [6]. Exacerbations of COPD are adverse events and are considered as the main mechanism of COPD progression [7], and episodes of severe exacerbations are often associated with a high risk of death [8].

The main triggers of exacerbations and aggravation of the course of chronic lung diseases, including asthma and COPD, are viral respiratory infections [9]. A separate problem is the potential contribution of coronavirus infection to the change in the incidence of chronic lung diseases, especially asthma and COPD [10, 11]. The COVID-19 pandemic has changed the functioning of health systems around the world, including significantly affecting the system of accounting and registration of primary incidence of chronic lung diseases. At the moment, the question remains whether coronavirus infection can really affect the incidence of asthma and COPD.

As part of this study, it is planned to conduct a comprehensive analysis of medical documentation, results of laboratory and instrumental studies of patients with COPD and bronchial asthma for the period 2019-2023. Special attention will be paid to the comparative assessment of the frequency of exacerbations, the severity of the disease and the effectiveness of therapy before and during the COVID-19 pandemic. It is assumed that the results of the study will help identify the most vulnerable groups of patients and develop recommendations for optimizing medical care in the face of epidemiological challenges.

The scientific novelty of the study lies in an integrated approach to assessing the impact of the COVID-19 pandemic on the course of COPD and bronchial asthma, taking into account not only clinical, but also socio-economic factors. The practical significance of the work is determined by the possibility of using the results obtained to improve the organization of medical care for patients with chronic respiratory diseases in conditions of epidemiological threats.

The research methodology is based on the principles of evidence-based medicine and includes both a retrospective analysis of medical documentation and prospective observation of groups of patients with various phenotypes of COPD and bronchial asthma. It is planned to use modern statistical methods of data processing, taking into account multiple factors affecting the course of diseases.

As part of the ongoing study, special attention is paid to the study of postcovid syndrome in patients with COPD and bronchial asthma, since recent data indicate a possible aggravation of symptoms and accelerated disease progression after a coronavirus infection. According to international studies, up to 45% of patients with chronic respiratory diseases who have suffered from COVID-19 report a long-term persistence of respiratory symptoms and a decrease in lung function.

Every year there is a steady increase in the incidence of respiratory diseases both in the world and in Uzbekistan, BA and COPD are the leading respiratory diseases in the country [1, 12]. According to the authors of the domestic study, compared with 2015, the total incidence of respiratory diseases in Russia in 2019 increased by 5.4%, including due to an increase in the number of patients with COPD and BA [3].

According to the results of epidemiological studies, over the past 30-40 years, the prevalence of bronchial asthma has increased significantly in industrial countries and certain geographical regions [5].

It should be noted that over the past decade, approaches to the diagnosis and treatment of AD have significantly improved, which could also affect the level of reported morbidity [13]. At the same time, accurate diagnosis of AD is crucial for achieving good treatment results and for the effective use of health resources [6].

As noted earlier, with the onset of the COVID-19 pandemic, there was a clear decrease in actual morbidity rates, which could be due to an underestimation of cases of asthma in conditions of limited availability of medical care, as well as the temporary suspension of routine medical examination and follow-up programs by specialized specialists [12].

COPD is an equally widespread pathology of the respiratory system, which occupies a leading position among the causes of death and disability of the adult population in Russia and in the world [18, 19]. According to research data, the costs of compensation for health losses from COPD are 30-40 times higher than those for its prevention [8]. The Russian Federation is one of the countries with a high prevalence of COPD [1]. According to the results of domestic studies, there are about 2.4 million patients with COPD in Russia, however, according to epidemiological data, the number of people with this pathology should be 16 times more [2]. Such a quantitative discrepancy is explained by the use of different approaches to the diagnosis and management of patients with COPD and the lack of a clear accounting system for patients with early signs of the disease [23], which may partially explain the increase in morbidity, which we obtained when calculating morbidity rates in the period from 2014.

During the COVID-19 pandemic, the primary incidence of COPD decreased significantly. This may be primarily due to the fear of patients going to medical institutions due to the high risk of contracting coronavirus infection and the development of severe consequences [4]. It can also be assumed that due to the similarity of certain symptoms, cases of primary occurrence of COPD could be attributed to coronavirus disease [5], which negatively affects the system of accounting for the primary incidence of COPD.

Conclusion: Based on the data we have obtained, it can be noted that in the territory of the Russian Federation and Moscow in the period from 2010 to 2019, there was an increase in the primary incidence of bronchial asthma and chronic obstructive pulmonary disease. Over the past decade, approaches to the diagnosis and treatment of patients with these diseases have significantly improved, which has also had a positive impact on the level of statistical accounting of the incidence of respiratory diseases. However, during the COVID-19 pandemic, there was a clear trend towards a decrease in the primary incidence of bronchial asthma and chronic obstructive pulmonary disease relative to prognostic values. This may be due to both limited availability of primary and specialized medical care with the further possibility of follow-up or hospitalization in conditions of the need to comply with measures to prevent COVID-19 infection, and underestimation of morbidity due to the similarity of symptoms of this pathology and coronavirus infection. In order to more clearly trace the relationship between the possible influence of COVID-19 on the change in the dynamics of primary respiratory disease rates, it is necessary to continue further analysis of the indicators of primary incidence of bronchial asthma and chronic obstructive pulmonary disease in the period after 2023.

List of literature

1. Авдеев С.Н., Айсанов З.Р., Белевский А.С. Клинические рекомендации по диагностике и лечению хронической обструктивной болезни легких // Пульмонология. 2022. Т. 32(3). С. 295-355.
2. Белевский А.С., Визель А.А., Зырянов С.К. Бронхиальная астма в период пандемии COVID-19: особенности течения и лечения // Терапевтический архив. 2021. Т. 93(3). С. 239-246.
3. Васильева О.С., Гусаков А.А., Чучалин А.Г. Хроническая обструктивная болезнь легких и профессиональные факторы // Пульмонология. 2019. Т. 29(2). С. 219-225.
4. Демко И.В., Гордеева Н.В., Крапошина А.Ю. Особенности ведения пациентов с бронхиальной астмой в условиях пандемии COVID-19 // РМЖ. 2021. Т. 29(5). С. 31-35.
5. Зайцев А.А., Оковитый С.В. COVID-19 и болезни органов дыхания: от морфологических основ до терапевтических аспектов // Пульмонология. 2020. Т. 30(5). С. 525-537.
6. Княжеская Н.П., Баранова И.А. Бронхиальная астма и COVID-19: актуальные вопросы // Астма и аллергия. 2020. № 3. С. 12-16.

7. Ненашева Н.М. Бронхиальная астма и COVID-19: риски и возможности // Российский аллергологический журнал. 2020. Т. 17(2). С. 7-18.
8. Синопальников А.И., Фесенко О.В. COVID-19 и обострение ХОБЛ // Терапевтический архив. 2021. Т. 93(11). С. 1339-1346.
9. Фомина Д.С., Лисицына Е.М., Харитонова Е.И. Эпидемиологические особенности бронхиальной астмы в Москве в период пандемии COVID-19 // Пульмонология. 2021. Т. 31(4). С. 422-429.
10. Чучалин А.Г., Авдеев С.Н., Айсанов З.Р. Российское респираторное общество. Федеральные клинические рекомендации по диагностике и лечению хронической обструктивной болезни легких // Пульмонология. 2023. Т. 33(1). С. 7-45.
11. Bafadhel M., Peterson S., De Blas M.A. COVID-19 and COPD: a narrative review of the basic science and clinical outcomes // Respir Res. 2020. Vol. 21(1). P. 299.
12. Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention, 2023. Available from:
13. Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global Strategy for Prevention, Diagnosis and Management of COPD, 2023 Report. Available from: