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COPD in the Elderly Features of the Course, Treatment, Diagnosis, Management of Patients Age-Related Aspect

Kenzhaev O.O. Musaev F.T., Ergashev A.A.

Abstract. This article highlights the work devoted to the specifics of the course, management of patients with chronic pulmonary disease.

Key words: COPD, withtarmic age, bronchopulmonary system.

The study of the clinical features of the course of COPD in elderly patients will improve the prognosis of the disease and the quality of life of patients, reduce disability and mortality from COPD. The purpose of the study is to study the features of the clinical course of COPD in elderly patients.

Chronicobstructive pulmonary diseases (COPD) occupy a significant place in the structure of diseases in the elderly and senile age and contribute to the diversity of senile polypathies, impaired quality of life and causes of mortality of the elderly. According to some reports, the symptoms of chronic bronchitis are observed in 40% of men and 20% of women of old age. In post-mortem examinations, almost a quarter of those who were autopsied at the age of 7 0 years and older, signs of obstructive emphysema are detected. Exacerbations of COPD are one of the most common reasons for seeking medical help. Rational management of an elderly patient with COPD has a number of features (pathophysiological, clinical, psychological, social), which requires a specific non-standard approach to decision-making. This explains the real difficulties that inevitably arise before the doctor who supervises patients in this category.

The main features of an elderly patient with COPD are the following: age-related morphofunctional changes in the bronchopulmonary system;

- the presence of concomitant (extrapulmonary) pathology and its frequent decompensation against the background of exacerbations of COPD
- typical course of exacerbations of COPD;
- frequent presence of respiratory failure;
- difficulties of examination
- violation of the quality of life and socio-mental maladaptation.

Age-related changes in the bronchopulmonary system

With age, the bronchopulmonary system undergoes a variety of morphological and functional changes, united by the term "senile lung". These changes become important in the development and further course of COPD, determine the features of the clinical course and diagnosis, and also affect the choice of methods of treatment of pulmonary pathology in the elderly. The main involutive changes in the lungs, which have the greatest clinical significance, are the following:

• violation of mucociliary clearance;
• an increase in the number of mucous membranes and a decrease in ciliated cells;
• reducing the number of elastic fibers;
• decreased surfactant activity;
• deterioration of bronchial patency;
• increased early airway closure and residual air volume
• reduction of the alveolar-capillary surface;
• a decrease in the physiological response to hypoxia;
• decreased activity of alveolar macrophages and neutrophils;

With age, the mass of elastic fibers in the lung tissue decreases as a result of their degeneration and destruction. The main mechanism of destruction of the elastic skeleton of the lung tissue is a violation of the protease-antiprotease balance, namely an increase in protease and a decrease in antiprotease activity. In addition, an important pathogenetic value in the process of destruction of elastic fibers has an increase in peroxidation and a decrease in antioxidant protection characteristic of the aging process as a whole. These

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disorders occur under the influence of various adverse effects accumulating with age (smoking, air pollutants, respiratory infections, etc.). A genetic predisposition in the form of a hereditary deficiency of antiproteases (a 1-antitrypsin) is also important. The destructive process of the elastic frame of the lung tissue is a morphological substrate of emphysema of the lungs, which after 60 years is much more common and represents one of the important clinical problems of late age. As a result of the loss of elastic lung thrust, bronchial patency worsens (more pronounced decline of the bronchi on exhalation), the early volume of closure of the respiratory tract increases (the collapse of the terminal bronchioles on exhalation, which normally provides a certain amount of residual air in the alveoli after exhalation). This in turn leads to an increase in the residual volume of air in the alveoli and hyperinflation of the lungs. So, with age, there is an increase in the residual volume of the lungs, more pronounced in men than in women (by 20 and 3 ml annually, respectively), and the value of the vital capacity of the lungs decreases with age by almost 29 ml annually.

Simultaneously with the destruction of the alveoli, the capillaries surrounding them are desolated, which reduces the alveolar-capillary surface and leads to a decrease in the diffusion capacity of the lungs with the development of arterial hypoxemia. The oxygen tension in the arterial blood (p_a0_2) decreases linearly with age.

Decreased surfactant activity (a surfactant containing phospholipids) as we age contributes to an increased propensity for microatelectases, which may be of important clinical importance in the development of bronchopulmonary infections.

The inhibition of immunity that occurs with age is realized at the level of the respiratory tract in the form of a predisposition to the development of bronchopulmonary infection, a delayed resolution of the inflammatory process. Especially characteristic of the elderly is the inhibition of the cellular link of immunity, in particular a decrease in the secretion of thymic hormones, inhibition of the reaction of lymphocytes to various mitogens, a decrease in the phagocytic activity of alveolar macrophages and neutrophils. The cause of immunodeficiency in the elderly and senile age is, apparently, not so much the age factor itself, as diseases characteristic of late age such as diabetes mellitus, lymphoproliferative and other tumors, a large amount of drug therapy for numerous chronic diseases, nutritional insufficiency, more frequent surgical interventions.

One of the features of the senile lung is increased microbial colonization of the respiratory tract, which is due to a decrease in mucociliary clearance and increased adhesion of microorganisms on the mucosa. At the same time, a more frequent and prolonged stay of the elderly in hospitals, their residence in boarding schools increases the risk of microbial colonization of the respiratory tract. In the elderly and senile age, the regulation of the mechanisms of pulmonary ventilation is disturbed, in particular, the response of the respiratory center and peripheral chemoreceptors to hypoxia decreases. As a result, hypoxia arising from various reasons may not always be accompanied by an adequate increase in the frequency and depth of ventilation. This fact should be taken into account in the clinical assessment of the condition of an elderly patient with acute pulmonary inflammation or exacerbation of COPD and the degree of respiratory failure.

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