IMPROVING THE TREATMENT TACTICS FOR ACUTE BRONCHITIS ASSOCIATED WITH CARDITIS

Rustamova Vazira Ulugbekovna

1st year of clinical residency in DCF therapy,

cardiology, functional diagnostics, cardiac surgery.

Uzbekistan. Samarkand

Abstract. *Acute bronchitis is the most common disease among the population, occupying a significant place in the structure of morbidity. The true incidence of carditis is unknown due to the lack of uniform diagnostic criteria for the disease, even taking into account pathomorphological data and the extreme diversity of clinical symptoms, as well as the lack of clearly established studies. Objective: to evaluate the efficacy of nebulizer therapy with nebutamol and oral levocarnitine in acute bronchitis associated with carditis. Materials and methods. Fifty-five patients with acute bronchitis were examined. The patients were divided into 2 groups: Group I (27 patients) with acute bronchitis associated with carditis; Group II (28 patients) with acute bronchitis. Patients with acute bronchitis associated with carditis were divided into two subgroups: subgroup Ia, including 14 patients who received standard therapy, and subgroup Ib, including 14 patients who received inhaled salbutamol and levocarnitine in addition to standard therapy. Thus, the established efficacy of inhaled salbutamol and oral levocarnitine in acute bronchitis associated with carditis will improve treatment strategies and reduce the duration and incidence of complications.*

Keywords: *patients, acute bronchitis, carditis, treatment.*

Relevance. Respiratory diseases accompanied by broncho-obstructive syndrome are among the most common, and the significance of this pathology is steadily increasing, which is associated with an increase in the number of frequently ill patients and the impact of various premorbid and unfavorable environmental

factors [1,4,6]. At the current stage of scientific development, the concept of "broncho-obstructive syndrome" is a collective one and can accompany various nosological forms of respiratory pathology, including a symptomatic complex of specifically defined clinical manifestations of bronchial obstruction based on narrowing or occlusion of the airways. [7,9,11,12]. The identification of difficulty breathing and wheezing requires an in-depth examination and an individualized program to eliminate risk factors to prevent and progress the disease [2,5,14]. The course of broncho-obstructive syndrome often becomes protracted and recurrent, accompanied by various comorbidities, and the severity of the disease often depends on the degree of cardiovascular involvement [3,8,13]. Therefore, studying the course of broncho-obstructive syndrome in the presence of carditis is relevant to improve both diagnostic and therapeutic measures, which is the purpose of this study.

Carditis is an infectious and inflammatory disease caused by various agents and characterized by inflammatory infiltration of the myocardium with fibrosis, necrosis, or degeneration of myocytes [10,15]. The true incidence of carditis is unknown due to the lack of uniform diagnostic criteria for the disease, even taking into account pathological data and the extreme diversity of clinical symptoms of the disease, as well as the lack of clearly established studies.

The aim of the study was to evaluate the efficacy of nebulized nebutamol and oral levocarnitine therapy in acute bronchitis associated with carditis.

Materials and methods. We observed 55 patients with acute bronchitis. The patients were divided into two groups: Group I (27 patients) with acute bronchitis associated with carditis; Group II (28 patients) with acute bronchitis. Patients with acute bronchitis associated with carditis were divided into two subgroups: Subgroup Ia (14 patients) receiving standard therapy; and Subgroup Ib (14 patients) receiving nebutamol and levocarnitine inhalations in addition to standard therapy. Nebutamol is a selective beta-2-adrenergic receptor agonist and bronchodilator. Its onset of action is 4-5 minutes after inhalation, lasting 4-6 hours. It reduces bronchial gland secretion and prevents bronchial constriction. When inhaled, it has virtually no

resorptive effect. The inhalation solution was administered 3-4 times daily via a nebulizer. Levocarnitine is a B vitamin with anabolic, metabolic, antihypoxic, and antithyroid effects, stimulating regeneration, increasing appetite, and activating lipid metabolism. The drug was administered intravenously by slow drip. Before intravenous administration, the contents of the ampoule are dissolved in 100 ml of 0.9% sodium chloride solution. The course of treatment is 1 month. The effectiveness of the drug was assessed based on a study of the dynamics of the general condition of children, clinical manifestations, as well as laboratory and instrumental data.

Results: Pre-treatment study results showed that 70% of patients in Group 1 and 75% of patients in Group 2 experienced hyperthermia and signs of intoxication. Cough was observed in 95% and 90% of patients in Groups 1 and 2, respectively. Tachycardia was observed in 20% and 20% of patients. On the fourth day of treatment, 70% of patients in Group 1 and 80% of patients in Group 1b showed positive clinical dynamics: signs of intoxication decreased, body temperature dropped. Cough decreased and appetite increased in 56.6% of patients in Group 1a and 76.6% of patients in Group 1.

By the fifth to sixth day of treatment, cough, shortness of breath, and wheezing disappeared in 80% of patients in Group 1a and 93.3% of patients in Group 1b. On the 10th day of treatment, positive dynamics of hematological parameters were noted. During the treatment period, children in the study group demonstrated a more rapid regression of clinical symptoms of bronchitis. Respiratory rate returned to normal on average within 2-3 days of treatment, compared to 4-5 days in the control group. The severity of broncho-obstructive syndrome significantly decreased by the third day of observation ($p < 0.05$).

Oxygen saturation in patients in the study group increased to physiological values ($SpO_2 \geq 95\%$) by the end of the second day of treatment, compared to 4 days in the control group. In terms of cardiovascular health, patients in the study group demonstrated a more rapid recovery of hemodynamic parameters. Heart rate and ECG parameters tended to normalize by 5-7 days of treatment, while signs of

myocardial dysfunction persisted in the control group. Laboratory analysis revealed a significant reduction in inflammatory markers (leukocytosis, C-reactive protein levels) in the study group compared to the control group ($p < 0.05$). Moreover, the severity of myocardial metabolic disorders was less pronounced in patients receiving optimized therapy.

The average length of hospitalization in the study group was 7.2 ± 0.6 hospital days, which was significantly shorter than in the control group (9.1 ± 0.8 hospital days, $p < 0.05$). The incidence of complications and relapses of bronchitis during the observation period was also lower in patients receiving the optimized treatment strategy.

Conclusions. Thus, the established efficacy of inhaled nebutamol and oral levocarnitine in acute bronchitis associated with carditis will allow for improved treatment strategies and a reduction in the duration and incidence of complicated forms of the disease.

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