ISSN NO: 2770-2936
December 2025

Use Of The L-Montus Bronchodilator In Children With Bronchio-Obstructive Syndrome

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Relevance. Broncho-obstructive syndrome (BOS) is an inflammation of the bronchi, accompanied by severe swelling of the bronchi and the production of large amounts of mucus. This substance is difficult to expel, causing mucus to stagnate and create a favorable environment for bacteria. Bronchial obstruction is dangerous due to the development of respiratory failure and oxygen starvation, which is especially dangerous for small children.
Keywords:

Introduction. Broncho-obstructive syndrome (BOS) is a clinical symptom complex characterized by narrowing or occlusion of bronchi of various calibers due to the accumulation of bronchial secretions, thickening of the wall, spasm of smooth muscles, decreased mobility of the lung or compression by surrounding structures [2,4]. BOS is a common pathological condition in pediatrics, especially among children under 3 years of age. According to various statistics, BOS occurs in 5-45% of cases associated with acute respiratory diseases. In the presence of a compromised medical history, this figure rises to 35-55% [3]. The prognosis for BOS varies and depends directly on the etiology. In some cases, clinical manifestations resolve completely with adequate etiotropic treatment, while in others, chronicity, disability, or even death are observed [1,5].

The main causes of broncho-obstructive syndrome in children are infectious diseases and allergic reactions. Among acute respiratory viral infections, parainfluenza viruses (type III) and RSV infection are the most common causes. Other possible causes: congenital heart and bronchopulmonary defects, RDS, genetic diseases, immunodeficiency states, bronchopulmonary dysplasia, roundworms, hyperplasia of regional lymph nodes, neoplasms of the bronchi and adjacent tissues, side effects of medications[6].

In addition to the main causes of broncho-obstructive syndrome in children, contributing factors are identified that significantly increase the risk of developing the disease and worsen its course. In pediatrics, these include a genetic predisposition to atopic reactions, passive smoking, increased reactivity of the bronchial tree and its anatomical and physiological characteristics in infancy, hyperplasia of the thymus gland, vitamin D deficiency, formula feeding, and low body weight. All of them are capable of enhancing each other's influence on the child's body and aggravating the course of broncho-obstructive syndrome in children[7,8].

Pathogenetically, broncho-obstructive syndrome in children can be caused by an inflammatory reaction of the bronchial wall, spasm of smooth muscles, occlusion or compression of the bronchus. The above mechanisms can cause narrowing of the bronchial lumen, impaired mucociliary clearance, thickening of secretions, swelling of the mucous membrane, destruction of the epithelium in large bronchi, and its hyperplasia in small bronchi. As a result, deterioration of patency, pulmonary dysfunction, and respiratory failure develop [9,10].

Broncho-obstructive syndrome (BOS) is a clinical symptom complex that is characterized by narrowing or occlusion of bronchi of various calibers due to the accumulation of bronchial secretions, thickening of the wall, spasm of smooth muscles, decreased mobility of the lung or compression by surrounding structures[1].

In recent years, a number of studies have emerged demonstrating the beneficial effects of inhaled salbutamol therapy on airway obstruction. However, there are insufficient studies examining the effects of oral administration of the drug in young children. It is known that euphyllin is one of the most popular drugs used in the treatment of broncho-obstructive syndrome [13]. However, it requires a certain amount of caution when used, since it has a small therapeutic range, a long half-life and causes a number of side effects on the central nervous system, cardiovascular system and other organs. All of the above dictates the need to search for the most effective and convenient drugs for use in young children that relieve broncho-obstruction with the least side effects[12].

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Objective of the study: To study the use of the bronchodilator L-Montus and determine the role of leukotriene receptor antagonists in the treatment of broncho-obstructive syndrome. In most patients, BOS is clearly associated with respiratory infections, but allergic reactions may also be the cause. A thorough medical history and a complete examination of a child with BOS help determine the cause.

Materials and methods: The study included children over 3 years of age (the group of patients consisted of 10 children), with different forms and degrees of severity of broncho-obstructive syndrome. Patients in the main group received L-Montus (montelukast), while children in the comparison group received ketotifen. The patients' general condition and objective data were assessed, and clinical, laboratory, and instrumental examinations were performed.

Study results. L-Montus treatment resulted in improved clinical outcomes, including reduced shortness of breath, cough, and asthma attacks. No adverse effects, such as sedation or neurosis, were observed in both young and older children. These adverse reactions were observed when using the drug ketotifen in therapeutic doses.

Conclusions. BOS remains one of the most common syndromes in children, especially in early childhood. While not a distinct clinical entity, it can be a manifestation of many diseases of both the respiratory and other systems. Despite the variety of causes that lead to the development of BOS, this syndrome has clearly defined clinical signs in the form of expiratory dyspnea, noisy wheezing, paroxysmal spasmodic cough, dry "wheezing" wheezing in the lungs against the background of prolonged exhalation, etc. Correctly selected therapy that affects all links in the pathogenesis of biofeedback, taking into account the child's age, will be effective and safe for the patient.
Leukotriene receptor blockers, in particular L-Montus, alleviate the symptoms of broncho-obstructive syndrome and are a drug for adjuvant therapy of this condition, leading to significant improvement in patients suffering from broncho-obstructive syndrome in children aged 3–5 years. It has an anti-inflammatory effect complementary to that of glucocorticosteroids. It also has fewer side effects than ketotifen (ketotifen has a sedative effect and can cause juvenile ataxia, increased appetite, dry mouth, and gastralgia).

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ISSN NO: 2770-2936
December 2025

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