

Clinical And Anamnestic Characteristics Of Acute Obstructive Bronchitis In Children

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Annotation: In this article presents the materials of a prospective clinical and anamnestic analysis of children living in unfavorable and favorable areas of the studied region. A total of 50 children were examined, from 3 months to 5 years old. According to the results of the data obtained, acute obstructive bronchitis was most often found in children with aggravated anamneses, as well as in children often suffering from acute viral infections.

Key words: ecology, children, bronchitis, dyspnea, obstruction

Introduction. Broncho-obstructive syndrome (BOS) is a pressing problem in pediatrics, occupying one of the first places in the structure of respiratory diseases in children. Bronchial obstruction syndrome is quite common in children, especially in the first three years of life. Until now, there are no clear data on the prevalence of BOS in various bronchopulmonary pathologies in children. One of the most difficult of the problems solved in pediatric practice is the diagnosis of bronchial asthma based on the first episodes of bronchial obstruction, especially in young and preschool children. It is at these age periods are preserved the importance of the anatomical and physiological characteristics of the respiratory organs and the systems that regulate their function, there is a high incidence of respiratory infections with broncho-obstructive syndrome (BOS) [1,2,3].

Bronchitis is one of the most common respiratory diseases in children after acute respiratory viral infection. Obstructive forms of bronchitis are observed with a frequency of 40-45 cases per 1000 children in the first year of life. These data indicate the importance of the problem of bronchitis in young children, especially considering their consequences in the future, which include the development of recurrent forms of bronchitis and bronchial asthma. Inflammatory changes in the bronchi, occurring mainly with a viral infection, affect small-caliber bronchi. Edema, hypersecretion and bronchospasm cause a violation of bronchial patency and alveolar ventilation, resulting in respiratory failure, a significant distinguishing feature of obstructive bronchitis from other forms of bronchitis. This is, in fact, infectious, not allergic bronchitis. Relapses of obstructive bronchitis are always associated with persistent infections and acute respiratory viral infections and usually cease by the age of 3–4 years [5,6,7].

In the last decade, the proportion of obstructive bronchitis has increased in the structure of respiratory tract damage, which is associated with an increase in the number of frequently ill

children and the impact of unfavorable environmental factors. The frequency of bronchial obstruction that has developed against the background of infectious diseases of the lower respiratory tract in young children, according to various authors, ranges from 5 to 40%. In children with a burdened family history of allergies, BOS, as a rule, develops more often, in 30-40% of cases, the same trend is observed in children who often, more than 6 times a year, suffer from respiratory infections.

Thus, there is a need for early detection and identification of risk groups for the development of bronchial asthma after a BOS.

Purpose of the study:

- to study the characteristics of the course of acute obstructive bronchitis at children living for a long time in ecologically unfavorable areas.

Tasks:

1. To analyze the data of a retrospective observation of young children with acute and recurrent broncho-obstructive syndrome.
2. To identify the risk of development and the influence of risk factors in a child on the course of obstructive bronchitis.

Materials and methods of the study. Children were divided into 2 groups of children aged from 3 months to 5 years:

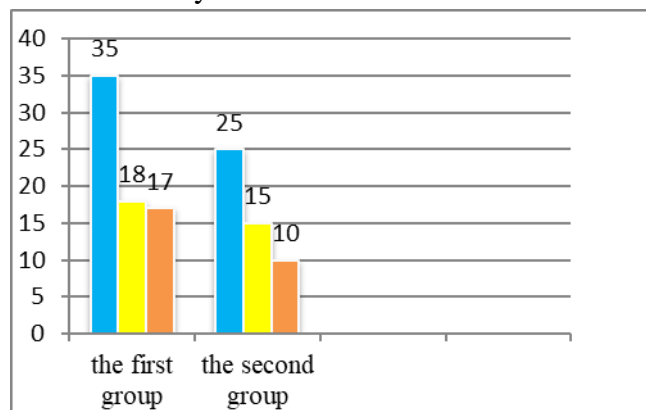


Fig. 1. Distribution of children by gender.

The first group - 35 patients, children with obstructive bronchitis.

The second group included 25 children with newly diagnosed recurrent bronchitis.

Children of both groups were examined at the regional multidisciplinary children's medical center in Termez in the pulmonology department and the department of pathology of infants from 2021 to 2023 years. The examinations included general clinical (examination of sick children by filling out the "Case History", study of outpatient cards, interviewing parents according to questionnaires) and laboratory, instrumental research methods. A study was conducted that included an analysis of allergic, genealogical, and social anamnesis based on medical documentation (child development history (form 112), medical record (form 026), clinical examination of children, laboratory tests (general blood test, urine test, chest X-ray and ECG if indicated). Statistical processing was performed using the program "Statistika 6" (Student's t-test). The criterion of statistical significance was considered to be the generally accepted value in medicine - $p < 0,05$.

Research results and their discussion. The study of the anamnesis of the antenatal period of development of children revealed that in the first group of children with OB, pathological course of pregnancy was observed significantly more often than in the second: anemia of pregnancy (42% in group 1 and 30.0% in group 2), weakness of labor (12,0% and 6,0%, respectively), chronic

fetoplacental insufficiency (14% and 8%), intrauterine hypoxia of the fetus (12% and 14%), low values of the weight -height indicator of newborns (in 10,0% of children in group 1 and 4% of children in group 2), intrauterine infections (13%), which indicates the peculiarities of the course of pregnancy and the health of newborns in ecologically unfavorable regions. Among first-degree relatives of patients in the first clinical group, chronic bronchitis, pneumonia, bronchial asthma, chronic sinusitis, maxillary sinusitis, tonsillitis, pharyngitis, and otitis were more common (35%) than in the second (46%). A family history of allergic diseases was found significantly less frequently in patients in the first group (16%) than in the second group (28%). A higher incidence of chronic respiratory diseases, ENT pathologies, and allergic pathologies among relatives of children in the 2nd group may be due to the influence of occupational hazards during work in manufacturing and agricultural work.

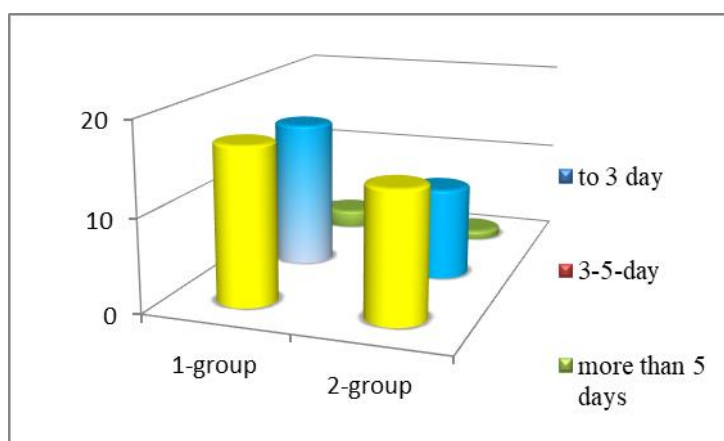


Fig. 2. Duration of obstruction in children with acute obstructive bronchitis.

According to the data of international consensus documents on the treatment and prevention of asthma (GINA, 2015), one of the signs that allows one to suspect asthma in children under 5 years of age is a trial prescription to patients with persistent multi-trigger wheezing and with a burdened heredity for asthma, low-dose inhaled glucocorticosteroids with subsequent assessment of symptoms after 2-3 months of therapy. The first episode of broncho-obstruction was observed at an earlier time in children living in districts 1-6 years – $1,6 \pm 0,3$ (in group 2 - $3,5 \pm 0,8$ years). Most children in both clinical groups sought help with signs of acute respiratory infection in the form of rhinitis (72%-group 1, 85%-group 2), pharyngitis (52% and 43%, respectively), laryngitis (6% and 8%, respectively), catarrhal otitis (5% and 11%). Febrile temperature in the acute period of the disease was significantly more often observed in patients of group 1 than in group 2. Temperature reaction persisted longer ($4,8 \pm 0,8$ days) in children from ecologically unfavorable zone than in children of group 2 ($3,1 \pm 0,3$ days). The leading symptom in clinical manifestation of ARI in children under our observation was expiratory dyspnea of varying severity, so children of group 1 more often than children of group 2 had severe and moderate BOS. Most children of both groups had dry, wheezing cough from the first days of the disease, turning into a wet cough with viscous sputum. A significantly longer cough period was noted in patients from ecologically unfavorable areas ($p < 0,05$).

Conclusion. Based on the obtained data, the results of the study, a characteristic feature of the clinical picture of acute obstructive bronchitis in children from ecologically unfavorable areas is earlier debut manifestations of the disease, a significantly longer period of fever, obstruction

and cough than in the group of children with acute obstructive bronchitis from an ecologically favorable area.

Thus, the results of the conducted study indicate the need to take into account the ecology of the place of permanent residence of children, which will allow an objective assessment of the prognosis of the severity of obstructive bronchitis. Children with obstructive bronchitis living in ecologically unfavorable areas, in family medical centers and polyclinics require longer rehabilitation and medical examinations aimed at increasing the adaptive and protective forces of the body.

By carrying out prevention of acute respiratory infections, changing the conditions of the child's microenvironment against the background of basic therapy, it is possible to achieve long-term remission of the disease, reduce the duration of cough and, thus, improve the quality of life of sick children.

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