

ANALYSIS OF MODIFYING RISK FACTORS FOR THE DEVELOPMENT OF RECURRENT COURSE IN OBSTRUCTIVE BRONCHITIS IN CHILDREN

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ABSTRACT

Respiratory diseases occupy a special place in the structure of general morbidity among children. In cases of repeated (2-3 times or more during the year) episodes of bronchitis with broncho-obstructive syndrome, recurrent obstructive bronchitis is formed. Recurrent obstructive bronchitis in children is one of the most pressing problems in pulmonology. We examined 80 children with broncho-obstructive syndrome, who were divided into 2 groups: Group I (main) consisted of 40 children with recurrent obstructive bronchitis, and Group II (control) - 40 children with newly diagnosed obstructive bronchitis. The results of the statistical analysis showed that the risk of developing relapses of obstructive bronchitis in group I of sick children (IP1) did not differ much in comparison with group II of patients (IP0) in the following factors: pathology of pregnancy (0.82 and 0.42), pathology in childbirth (0.72 and 0.48), chronic foci of infection in the mother (0.42 and 0.33), exacerbation of chronic diseases in the mother (0.53 and 0.33), gestosis in pregnant women (0.33 and 0.33), borderline maternal age (0.48 and 0.33), prematurity (0.11 and 0.08) these pathologies were found almost equally in the main and control groups. At the same time, the leading reliable modifying factors are hereditary burden of bronchopulmonary pathology, allergic diseases of the mother, bronchial asthma in the family, early mixed and artificial feeding, rickets, malnutrition, HIE, atopic dermatitis, "frequently ill children."

Key words: obstructive bronchitis, children, risk factors, epidemiological indicators, "frequently ill children".

Respiratory diseases occupy a special place in the structure of general morbidity among children. Frequently ill children with diseases of the respiratory tract deserve

special attention, since in 25-31% of children respiratory infections occur with the clinical picture of obstructive bronchitis, and in 30-50% of cases it takes a protracted, undulating or recurrent course [1,4].

Typically, exacerbation of obstructive bronchitis occurs against the background of ARVI. Frequent repeated acute respiratory viral infections or a severe single infection (whooping cough, mycoplasma, adenovirus infection) lead to pathological discrimination, hypercrinia, epithelial metaplasia, purulent endobronchitis and an inflammatory process, which contributes to the persistence of infectious factors and the maintenance of long-term catarrhal and obstructive syndrome in the lungs [1,3].

In cases of repeated (2-3 times or more during the year) episodes of bronchitis with broncho-obstructive syndrome, recurrent obstructive bronchitis is formed. Recurrent obstructive bronchitis in children is one of the most pressing problems in pulmonology [2,3]. This variant of recurrent bronchitis most often occurs in young children, i.e. in that period of life in which there are certain anatomical and physiological characteristics of the bronchial tree and increased reactivity of the bronchi to various environmental factors.

Most researchers have recognized the influence of premorbid background factors on the development of bronchial obstruction. These are toxicosis of pregnant women, complicated childbirth, hypoxia during childbirth, prematurity, a burdened allergic history, bronchial hyperreactivity, rickets, dystrophy, thymic hyperplasia, perinatal encephalopathy, early artificial feeding, and previous respiratory diseases at the age of 6-12 months [2,5].

Target. To study the influence of modifying factors and their pathogenetic role in the formation mechanisms of recurrent obstructive bronchitis in children.

MATERIALS AND METHODS

We examined 80 children with broncho-obstructive syndrome, who were divided into II groups: Group I (main) consisted of 40 children with recurrent obstructive bronchitis, and Group II (control) - 40 children with newly diagnosed obstructive bronchitis.

In accordance with the purpose of the study, a special program was developed to assess (clinical, anamnestic, statistical) the influence of modifying factors to determine the recurrence of obstructive bronchitis in children.

The study of epidemiological indicators of the risk of morbidity in the population (IP - the incidence rate, IR - the indicator of "chance" of the relative risk of morbidity and RR - the indicator of the relative risk of morbidity), in our case, modifying factors

in group II of patients, made it possible to obtain objective characteristics of the impact of the studied factors.

Analysis of modifying risk factors according to morbidity risk indicators in patients of groups I and II.

№	Factors	IP1 (I group)	IP0 (II group)	IR	RR
1.	Pathology of pregnancy	0,82	0,42	1,9	0,6
2.	Pathology during childbirth	0,72	0,48	1,5	0,8
3.	Chronic foci of infection in the mother	0,42	0,33	1,28	1,1
4.	Heredity aggravated by cardiovascular diseases	0,11	0,08	1,37	1,32
5.	Heredity aggravated by bronchopulmonary pathology	0,66	0,11	4,0	2,05
6.	Allergic diseases in parents	4,0	0,25	4,15	2,4
7.	Bronchial asthma in the family	0,42	0,14	4,35	2,74
8.	Exacerbations of chronic diseases in the mother	0,53	0,33	1,61	1,11
9.	Preeclampsia in pregnant women	0,33	0,21	1,44	1,12
10.	Borderline age of mother	0,48	0,33	1,47	1,06
11.	Anemia in pregnancy	12,33	5,66	2,17	5,28
12.	Prematurity	0,11	0,08	1,37	1,32
13.	Asphyxia of newborns	0,6	0,29	1,86	1,16
14.	Rickets	1,5	0,81	4,83	-8,04
15.	Eating disorder	0,72	0,53	2,05	-0,43
16.	HIE	0,25	0,08	3,08	2,51
17.	Atopic dermatitis	0,66	0,25	2,66	1,81
18.	"Children who are often ill"	3,0	0,66	4,5	-2,75
19.	Mixed or artificial feeding	3,44	0,81	4,2	5,65
20.	Intrauterine infections	0,21	0,11	1,9	1,69
21.	Anemia	0,25	0,15	1,63	1,44

RESULTS

The results of the statistical analysis showed that the risk of developing relapses of obstructive bronchitis in group I of sick children (IP1) did not differ much in

comparison with group II of patients (IP0) in the following factors: pathology of pregnancy (0.82 and 0.42), pathology in childbirth (0.72 and 0.48), chronic foci of infection in the mother (0.42 and 0.33), exacerbation of chronic diseases in the mother (0.53 and 0.33), gestosis in pregnant women (0.33 and 0.33), borderline maternal age (0.48 and 0.33), prematurity (0.11 and 0.08) these pathologies were found almost equally in the main and control groups. In these groups, the IR values were respectively 1.9; 1.5; 1.28; 1.61; 1.44; 1.47; 1.37 and RR 0.6; 0.8; 1.1; 1.11; 1.12; 1.06; 1.32.

The most significant risk factors for the development of relapses of obstructive bronchitis in children, at the same time, IP1 and IP0 differed significantly from each other in a number of indicators, which was manifested in the indicators of the odds ratio for the occurrence of the disease IR and the relative risk RR for the following factors: hereditary burden of bronchopulmonary pathology (IR 4.0 and RR 2.05), allergic diseases in parents (IR 4.15 and RR 2.4), bronchial asthma in the family (IR 4.35 and RR 2.74), early mixed and artificial feeding (IR 4.2 and RR 5.65), rickets (IR 4.83 and RR -8.04), malnutrition (IR 2.05 and RR -0.43), HIE (IR 3.08 and RR 2.51), atopic dermatitis (IR 2.66 and RR 1.81), “frequently ill children” (IR 4.5 and RR -2.75). The remaining studied factors cannot contribute to the recurrence of bronchial obstruction, since the obtained indicators (IR and RR) presented in the table are similar in the control and main groups.

CONCLUSIONS

The analysis allows us to conclude that there are risk factors for the development of relapses in obstructive bronchitis in children. At the same time, the leading reliable modifying factors are hereditary burden of bronchopulmonary pathology, allergic diseases of the mother, bronchial asthma in the family, early mixed and artificial feeding, rickets, malnutrition, HIE, atopic dermatitis, “frequently ill children”.

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