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THE EFFECT OF BENZONAL ON INDICATORS OF ENDOGENOUS INTOXICATION IN CHILDREN WITH ACUTE PNEUMONIA AT AN EARLY AGE.

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Abstract:

Acute pneumonia in young children continues to be a pressing problem, due to the significant prevalence and frequency of this pathology. According to WHO, pneumonia accounts for 3-4% in developed countries, and 10-20% per year in developing countries. According to the Ministry of Health of the Republic of Uzbekistan, acute respiratory diseases and pneumonia account for 50-60% of all morbidity in children. Attention to the problem of pneumonia is also explained by the very high mortality rate. This group of diseases ranks first among the causes of mortality in children.

Keywords: Pneumonia, pulmonology, endogenous diseases

PURPOSE OF THE STUDY: The effect of benzonal on indicators of endogenous intoxication in children with acute pneumonia at an early age.

MATERIALS AND RESEARCH METHODS:
The work was carried out in the department of pediatric pulmonology of the T-clinic and the Central Research Laboratory of the Tashkent Medical Academy.
100 children with acute pneumonia aged 6 months and older were examined. up to 3 years of age, undergoing inpatient treatment in the pulmonology department in the period 2015-202019. and 30 practically healthy children of the same age. The distribution of sick children depending on gender was predominantly boys - 59%, while girls made up 41%. Children in the control group (practically healthy children) were distributed equally.

RESULTS AND ITS DISCUSSION:
As criteria for the severity of intoxication of the body, along with clinical indicators, we used laboratory indicators: the level of average molecular peptides (MMP), the sorption capacity of erythrocytes (SSE), the leukocyte index (LII) and the hematological index of intoxication (HPI). Interesting data were obtained by analyzing the results of laboratory tests. In practically healthy children of the second age group, higher values of MPS and SSE were revealed, while in patients with acute pneumonia - in the first age group. Thus, in sick children under one year of age, the level of MPS and the indicator of SSE increased statistically significantly by 114.2 and 79.3%, in children aged up to 2 years - by 84 and 68.7%, while in children over 2 years - by 75.9 and 64.4%, respectively. It can be seen that the values of the level of MPS in the blood plasma of children compared to the values of SSE have more pronounced changes. It should be said that SSE is a general indicator of endogenous intoxication, since all toxic endogenous compounds, regardless of their origin, can have a damaging effect on biomembranes, a classic example of which is the erythrocyte membrane. The development of acute pneumonia led to the development of a nonspecific response and an increase in LII and GPI indicators. Thus, in children of the first age group, compared with the indicators of healthy children of the first age group, this excess was 244 and 353.3%, in children of the second age group - 141.1 and 172.5%, in the third age group - I l3.5 and 8.7%. As can be seen from the data presented, the greatest increase in the studied indicators is typical for children in the first year of life.

Table 1
Indicators of endogenous intoxication in children with acute pneumonia
depending on age at the height of the disease.

Indicators	Age groups		
	1, n=31	п, п-43	111, п-26
SMP, legacy	o 183+0 003 0,392±0,01	o 212+0 006 0,390±0,00	0,203+0005 0,357±0,01
sse, %	30 69+0 32 55,04±1,11	з 136+0,84 52,91	31,71±0,44 52,14±1,37

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LII, rel. units	0 489±0 064 1,682±0,088	0,676±0,06 1,630±0,066	0,750±0,69 1,601±0,71
GPI, rel. units	O 411±0 068 1,863±0,121	o 648±0 061 1,766±0,083	o 750±0 069 1,565±0,069

Note: * - the differences between the indicators of practically healthy children and patients with pneumonia are significant (P<0.05).
The numerator represents the values of practically healthy children, the denominator – those with pneumonia.
Considering the large scatter in the LII and GPI indicators, which were largely dependent on the leukocyte formula, we analyzed their values depending on the clinical course, concomitant pathologies and type of feeding. Higher values of these indicators were typical for children who received artificial nutrition and the presence of concomitant diseases, such as allergic manifestations, which significantly affected the blood picture of those examined. Along with studying indicators of intoxication, we assessed the initial state of clinical manifestations of intoxication in all patients. Analysis of the results showed that the manifestations of intoxication symptoms and changes in laboratory parameters differed somewhat depending on age. The most pronounced manifestations of intoxication of the body as a whole were observed in sick children of the first age group. This is due to the fact that the immune system in children of the first year of life is imperfect, which was manifested by the rapid development of inflammatory phenomena and the rapid progressive course of the disease.
56% of the examined children had clear consciousness, lethargy was noted in 4% of patients. Impaired consciousness up to convulsive readiness (or convulsions) is detected in 40% of sick children. It should be said that children from age groups 2 and 3 arrived with a clear consciousness (77.4 and 80.8%, respectively). Convulsive readiness and convulsions were typical for children in the first year of life (61). 63% of sick children had a severe condition, an extremely severe condition was observed in 2396 patients, mostly in the first year of life. It should be said that these features of the clinical manifestations of endogenous intoxication coincided with the indicators of laboratory studies. The manifestations of intoxication symptoms were more pronounced in children with diseases that occur with frequent exacerbations, thymomegaly, reduced immunity and who had previously received artificial nutrition.

In order to more clearly compare the degree of endogenous intoxication in patients and unify the results, we tried to group the main clinical manifestations of intoxication in the body in the form of a scale with a point rating. To assess the degree of endogenous intoxication, we have developed a unified scale for assessing clinical symptoms based on the scale.

According to this classification of clinical symptoms of endogenous intoxication, up to 8 points correspond to the 1st degree, up to 12 points for the 11th, up to 16 points for the 111th degree, and 17 or more points for the IV degree.

Distribution of children with acute pneumonia, taking into account the degree of intoxication. Mostly patients with a degree of endogenous intoxication predominated. In patients with acute pneumonia in the first, second and third age groups, the degree of endogenous intoxication was noted at 3.3; 7.9 and 6.9%, ll degree of endogenous intoxication was detected in 56.7; 65.8 and 65.5% of those examined, grade III – in 40; 26.3 and 27.6% of children, respectively, by age group. As can be seen from the data presented, the degree of endogenous intoxication in children under one year of age was detected 2.4 and 2.1 times less often than in the second and third age groups. In this group of children, the degree of endogenous intoxication was detected 1.4 times more often, which indicates a severe course of the acute inflammatory process in children of the first year of life. Considering that clinical and laboratory indicators of body intoxication were most pronounced in children of the first age group, accordingly, a higher degree of intoxication was found among them.

Consequently, acute pneumonia in children contributes to a pronounced manifestation of intoxication of the body. It is most pronounced in children of the first age group. The development of endogenous intoxication is significantly influenced by the presence of chronic recurrent infections, weakness of the children's body, concomitant pathologies and nutrition. 56% of the examined children had clear consciousness, lethargy was noted in 4% of patients. Impaired consciousness up to convulsive readiness (or convulsions) is detected in 40% of sick children. It should be said that children from age groups 2 and 3 arrived with a clear consciousness (77.4 and 80.8%, respectively). Convulsive readiness and convulsions were typical for children of the first year of life. 63% of sick children had a severe condition; an extremely severe condition was observed in 2396 patients, mostly in the first year of life. It should be said that these features of the clinical manifestations of endogenous intoxication coincided with the indicators of laboratory studies. The manifestations of intoxication symptoms were more pronounced in children with diseases that occur with frequent exacerbations, thymomegaly, reduced immunity and who had previously received

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artificial nutrition. In order to more clearly compare the degree of endogenous intoxication in patients and unify the results, we tried to group the main clinical manifestations of intoxication of the body in the form point scales. To assess the degree of endogenous intoxication, we have developed a unified scale for assessing clinical symptoms, based on the scale proposed by S.S. Arifov. According to this classification of clinical symptoms of endogenous intoxication, for the 1st degree there corresponds up to 8 points, for the 11th – up to 12, for the 111th – up to 16, for the IV degree – 17 or more points. Distribution of children with acute pneumonia with taking into account the degree of intoxication is presented in Table 3.9. Patients with P and 111th degree of endogenous intoxication predominated. In patients with acute pneumonia in the first, second and third age groups, the degree of endogenous intoxication was noted at 3.3; 7.9 and 6.9%, ll degree of endogenous intoxication was detected in 56.7; 65.8 and 65.5% of those examined, grade III – in 40; 26.3 and 27.6% of children, respectively, by age group. As can be seen from the data presented, the degree of endogenous intoxication in children under one year of age was detected 2.4 and 2.1 times less often than in the second and third age groups. In this group of children, the degree of endogenous intoxication was detected 1.4 times more often, which indicates a severe course of the acute inflammatory process in children of the first year of life. Considering that clinical and laboratory indicators of body intoxication were most pronounced in children of the first age group, accordingly, a higher degree of intoxication was found among them.

Table2

Distribution of children with pneumonia, taking into account the degree of intoxication upon admission to the clinic (%).

Indicators	**Age groups**		
	1, п=31	П, п=43	III, п=26
I	3,3±3,3		
II			65,5±9,6
III	40,0±8,9	26,3±6,8	27,6±8,9

Consequently, acute pneumonia in children contributes to a pronounced manifestation of intoxication of the body. It is most pronounced in children of the first age group. The development of endogenous intoxication is significantly influenced by the presence of chronic recurrent infections, weakness of the children's body, concomitant pathologies and nutrition.

CONCLUSIONS:

Thus, we can say that in young children the development of Acute pneumonia is characterized by pronounced manifestations of endogenous intoxication of the body. It is more often detected in children of the first age group and its degree of severity is significantly influenced by the immaturity of the immune system,low levels of the detoxifying liver system, and the nature of nutrition. and concomitant pathology. This dictates the need to correct the treatment of acute pneumonia in young children with manifestations of endogenous intoxication.Thus, the analysis of the data obtained clearly indicates the need to include the inducer benzonal in the complex of traditional therapy to eliminate the clinical manifestations of endogenous intoxication syndrome in acute pneumonia in young children. It should be noted that the positive therapeutic effect of benzonal in children with acute pneumonia on CIG indicators is due not only to the sedative effect on the sympathetic nervous system and a decrease in the syndrome of endogenous intoxication, but also to the positive effect of the drug on the synthesis and maturation of the surfactant system of the lungs, as a number of authors [43,44] showed that benzonal has a pronounced surfactant- stimulating effect. Moreover, the drug has an antihemolytic effect, protecting against the destruction of red blood cells - the main oxygen carriers [92]. This is especially important in case of endogenous intoxication, which develops as a result of hypoxia.

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