



premature children – by 2-3 times faster. Most often hemangiomas are localized in the head and neck areas, torso and external genitalia, which explains their cosmetic defect.

To analyze the effectiveness of local application of non-selective blocker of β_1 and β_2 -adrenoceptors (Timolol) in the treatment of local infantile superficial hemangiomas (LISH) in children of Chernivtsi region.

An analysis of the effectiveness of treatment of 67 sick children (54 girls and 13 boys) aged from one to 18 months with LISH who were treated at the Chernivtsi City Children's Clinical Hospital was carried out. In 32 children (47.8%), tumors were localized on head and neck, in 15 patients (22.4%) on hands and feet, in 9 (13.4%) on external genitalia, 17 patients (25.4%) had three or more hemangiomas. All children received local application of Timolol 5% in the form of compress and constant humectation of the formation. Treatment completed after a satisfactory clinical response and after the end of the proliferation phase.

Determination of treatment effectiveness was performed by reduce of tumor color intensity (fading), the level of elevation above the skin, size reduce until complete disappearance. Positive signs of treatment were observed during the first days of life and were recorded at the first follow-up visits (2 weeks from the start of treatment). Treatment was performed in the proliferative phase of tumor growth and continued until 12-18 months of age. There was a positive effect in 58 patients (86.6%). Two children (2.98%) had local allergic reaction with reversible effects (increased redness, volume). Due to the local action of the drug (low dose of absorption) control of cardiovascular activity and glycaemia was not performed.

The non-selective blocker of β_1 and β_2 -adrenoceptors (Timolol) is quite effective and, due to the low level of absorption when applied locally, is a safe drug in the local treatment of infantile hemangiomas in children.

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BIOMARKERS OF EXHALED AIR CONDENSATE IN CHILDREN IN THE COMORBID COURSE OF PNEUMONIA WITH BRONCHOBSTRUCTIVE SYNDROME

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An assessment of biomarkers of inflammatory activity was done to improve the diagnosis of acute infectious-inflammatory diseases of the respiratory system in schoolchildren.

A comprehensive examination of 172 school-age patients who were treated in the Department of Pulmoallergy of the Regional Children's Clinical Hospital in Chernivtsi was organized. Forty-three patients were diagnosed with community-acquired uncomplicated pneumonia (clinical group I, the average age of patients was 9.2 ± 0.80 years, including $65.8 \pm 6.28\%$ of boys, $65.1 \pm 7.35\%$ of rural residents); in 19 schoolchildren (clinical group II, the average age of patients was 7.5 ± 0.83 years, including $52.6 \pm 7.69\%$ of boys, $57.9 \pm 11.64\%$ of rural residents) community-acquired pneumonia was manifested against the background of bronchoobstructive syndrome (apparently caused by viral pathogens). Group III was formed by 110 peer-aged children with clinical signs of acute non-obstructive or obstructive uncomplicated bronchitis (average age of patients 8.5 ± 0.30 years, including $62.7 \pm 3.14\%$ of boys, $59.1 \pm 4.71\%$ of residents rural areas). The general characteristics of the created comparison groups indicated their comparability by gender, age, and place of residence (in all cases $p > 0.05$).

According to the results of the microbiological examination of sputum of patients from clinical groups of comparison, bacterial flora was found in 83.9% of children in group I; 72.7% of patients in group II and 52.6% of representatives of group III ($p < 0.05$ at I: III). Fungal flora was found in 1.4% of children of group III, and cases of fungal-bacterial association in 9.7% of patients in group I and 19.7% in group III. It worth mentioning, that according to the results of the microbiological examination of sputum, no pathogen was isolated in 6.4% of patients from group I; 27.3% in group II, and 26.3% in group III ($p < 0.05$ for I: II, III). According to the results of the virological examination of patients from the comparison groups with negative results of the bacteriological examination of sputum, the respiratory syncytial virus was found in all such patients



of group I (100%). In group II in 33.3% of children adenoviral and in 66.7% - respiratory syncytial infection was detected; in group III - in 25.0% of patients adenoviral, in 55.0% - respiratory syncytial infection, the combination of the two above - in 5.0% of cases, and no pathogen in 15.0% of studied cases.

The content of metabolites of nitrogen monoxide in the condensate of exhaled air indicated a more pronounced inflammatory reaction in the presence of viral and bacterial infection of the respiratory system in patients of clinical group II. For instance, the content of metabolites of nitrogen monoxide in the condensate of exhaled air in children of I and III clinical groups almost coincided and amounted to 35.4 ± 7.02 and 39.3 ± 3.63 $\mu\text{mol/l}$, respectively. And in the meantime, in patients from clinical group II this parameter was 1.5 times higher and averaged 52.3 ± 7.51 $\mu\text{mol/l}$ ($p > 0.05$). At the same time, markers of the proteolytic activity of condensate of exhaled air in children from clinical groups of comparison were characterized by the predominance in the cohort of patients with community-acquired pneumonia according to indices of lysis of small- and medium-molecular proteins. Thus, the proteolytic activity of azoalbumin lysis in children of group I was 1.72 ± 0.11 ml/h, group II - 1.34 ± 0.09 ml/h, group III - 1.32 ± 0.05 ml/h ($p < 0.05$ I: II, III), and by lysis of azocasein, respectively, 1.42 ± 0.14 ml/h, 1.19 ± 0.15 ml/h, 1.08 ± 0.06 ml/h 0.05 I: III).

Thus, we may conclude that bronchial obstruction syndrome accompanies the course of bacterial pneumonia in an average of 44.0% of cases of pneumonia, often is caused by viral infections (most often respiratory syncytial virus). Peculiarities of inflammatory markers in comorbid pneumonia with bronchoobstructive syndrome are the increase in the content of nitrogen monoxide metabolites and proteolytic activity in the condensate of exhaled air.

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PARTICULAR PARACLINICAL INDICES IN NEWBORN SEPSIS PATIENTS WHOSE PARENTS CONSTANTLY LIVED IN DIFFERENT ENVIRONMENTAL CONDITIONS

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Xenobiotics can have a variety of effects on the human body, and especially on the course of intrauterine development. Numerous researchers point out that it is the nature of the environment that can negatively affect the course of certain diseases in both children and adults. Neonatal sepsis is one of the most serious diseases in neonatology practice. And, in our opinion, the topic of the influence of adverse environmental factors on the features of sepsis in newborns depending on the ecological situation of their parents' habitats is unclarified.

The aim of research was to study some paraclinical indices in children with neonatal sepsis whose parents constantly lived in different environmental conditions.

A comprehensive survey of 260 newborns who suffered from neonatal sepsis in 2016-2018 was conducted. The groups have been formed based on the complex evaluation of the prolonged influence of the anthropogenic pollution of air, water and soil on the body of parents of newborns in the parts of the region. The ecological risk coefficient (ERC) has been proposed concerning the environmental situation in the regional centers. Thus, the first clinical group (the main group) included neonatal sepsis patients whose parents permanently lived in parts with an ERC of 2.0 or more and with unfavorable environmental characteristics of the regional center. The second group (comparison) was formed by newborns with sepsis, whose parents permanently lived in areas with a low risk of adverse effects of these environmental factors on their body ($\text{ERC} < 2.0$).

The content of interleukins-6, -8,-10, C-reactive protein, presepsin and procalcitonin in the blood serum of patients with neonatal sepsis showed the activity of the systemic inflammatory response of the body to an infectious agent. It should be noted that high serum levels of interleukin-10, which has an anti-inflammatory effect, was more often registered in patients of the I clinical group. Thus, the blood content of this interleukin 35.0 pg/ml occurred in the newborn of the main group in 23.7% of cases, and in children of the comparison group – in 18.1% of observations. Along with a clearer identification of high levels of anti-inflammatory interleukin-10 in patients of