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CLINICAL AND PARACLINICAL PECULIARITIES OF PNEUMONIA IN NEWBORNS
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The task: to determine the clinical and paraclinical features of pneumonia in newborns at the present stage.

Material and methods. The study was carried out by a comparative analysis of the clinical and paraclinical features of pneumonia in newborns who were with pneumonia in 2015-2017. (51 patients - the main group) and in 2005-2007 (23 children - control group). Clinical examination was carried out by routine methods. Among these paraclinical examinations, X-ray examination of chest organs, bacteriological study of mucus from the tracheobronchial tree (TLD) with the sensitivity of the microbial flora were analyzed. The results of the study were processed by non-parametric statistical methods.

Results. In the structure of pneumonia at the present stage, there has been a trend towards a reduction in the number of community-acquired pneumonia from $39.1 \pm 10.2\%$ to $21.6 \pm 5.8\%$, and an increase in the frequency of ventilating pneumonia $30.4 \pm 9.6\%$ to $45.1 \pm 7.0\%$. The specific gravity of congenital pneumonia did not change significantly ($30.4 \pm 9.6\%$ compared to $33.3 \pm 6.6\%$). The duration of auscultator changes from the respiratory system was 17.0 ± 1.7 and 17.3 ± 1.8 days in the main and control groups, respectively. The decreasing in the duration of mechanical ventilation was found to be 12.9 ± 2.4 days and 9.3 ± 1.1 days, the number of patients with prolonged course from $21.7 \pm 8.6\%$ to $11.8 \pm 4.5\%$, bed-days 31.2 ± 3.2 and 28.7 ± 3.3 . Changes in the microbial landscape of LDP have been established: in addition to the typical pathogens *Ps. Aeruginosa* and *St. aureus*, in 2007, *K. pneumonia* was isolated in 20% of patients (2015-2017 - 0%), whereas *A. calcoaceticus* was not detected in any cases (2015-2017 - 38.4 %).

Conclusions. Reliable differences in the microbial flora of LDP and trends in the clinical course of pneumonia over the past 10 years have been revealed.

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THE STUDY OF A COMPARATIVE ACTIVITY OF SORBENTS
THROUGH THE USE OF AN ADVANCED METHOD

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Enterosorption plays an important role in pharmacotherapy as one of the effective ways of detoxification, binding and excretion of toxins and metabolites from the body. Pharmaceutical products of this group have been known to the mankind since the ancient times, but the active development of this method of treatment has been observed since the middle of the last century, at that time medication based on the activated carbon was improved and universal sorbents of different chemical nature were searched for. Currently, a large number of different sorbents are used in medical practice: on the basis of the activated carbon, fumed silicon dioxide, ion-exchange materials and resins, as well as synthetic sorbents based on siloxane linkage.

The quantitative characteristic of the efficiency of sorbents is the adsorption capacity, that is, the ability of a sorbent to absorb the maximum amount of harmful substances in the gastrointestinal tract. The analysis of scientific literature has shown that there is no direct relationship between the adsorption activity of enterosorbents of different types *in vitro* and their therapeutic efficacy concerning *in vivo* studies. The most frequently, to determine the adsorption capacity, the solutions containing the adsorbent and the adsorption markers are shaken with the help of a laboratory shaker and then the adsorption coefficient for the tested substance is defined. Such an approach does not sufficiently simulate the environment of the body, therefore, the development of a method for determining the adsorption activity of enterosorbents is a currently important task.

The sorbents of a various nature have been chosen as the study subjects: "SORBEX®", with activated carbon that effectively adsorbs gases, alkaloids and toxins as the active ingredient, "White coal" is a medicinal product based on silicon dioxide and microcrystalline cellulose, which has a higher hydrophilicity and is recommended for treating the intoxications of a different genesis, as well as "Enterosgel", that is a hydrogel of methyl silicic acid, which is recommended for binding the toxins of an average molecular weight. As a marker of adsorption, vitamin B₁₂ (cyanocobalamin) was used as the substance simulating toxins with an average molecular weight.

The adsorption activity study was carried out by the spectrophotometry method on the Specord-210 device (Germany), by comparing the optical density of the initial solution of vitamin B₁₂ and the solution of vitamin B₁₂ after the interaction with the corresponding sorbent. The experiment was conducted using a "Blade" device, which is used in pharmaceutical studies. This approach allows to simulate physiological processes as much as possible. To conduct the study, a solvent imitating the stomach medium (pH = 2), a daily dose of the sorbent, and an aliquot of a medicinal product B₁₂ were added into the device bowl. Simultaneously solutions of the sorbents under study without vitamin B₁₂ were prepared (solution for comparison). The study was conducted at a constant temperature of 37 ° C and stirring. After 60 minutes, 10 ml of the solution was taken from the center of the vessel, and the optical density of the solution obtained in the range from 250 nm to 500 nm was measured three times against the comparison solution (A_n).

In the course of the work, the adsorption coefficients (K) of the studied sorbents were determined according to the absorption ratio: $K = A_0/A_n$; where A₀ is the optical density of the initial solution B₁₂; A_n is the optical density of the solution of vitamin B₁₂ after the interaction with the corresponding sorbent. As a result of the research it was found that the absorption coefficient of vitamin B₁₂ of the medicinal product "SORBEX®" is 1.35, the medicinal product "Enterosgel" is 3.23, the medicinal product "White coal" is 3.93.

Thus, during the performance of the work, an advanced method of studying the adsorption capacity of enterosorbents of a different nature was proposed, using a device similar to the one with "a blade". It was established that the enterosorbent on the basis of silicon dioxide and microcrystalline cellulose "White Coal" has the greatest adsorption capacity among the tested medicinal products.

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CHANGE OF NO LEVEL IN THE FOCUS OF THERMAL BURNER UNDER THE
INFLUENCE OF METHYLURACIL OIL
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Experiments on the modeling of burns were performed on rats divided into 3 groups: 1 - intact; 2 - animals with thermal burn, without treatment (control); 3 - animals with thermal burn, which were applied by methyluracil ointment. In animals of the 2nd and 3rd groups on the shaved area of the back of the thigh, a thermal burn was induced under anesthesia. The animals of the 3 groups were given a methyluracil ointment immediately after the thermal burn and during the entire experiment (28 days). On the 3rd, 7th, 14th, 21th, 28th day, the content of nitric oxide metabolites in the focus of burn was examined.

In the control group animals, the content of nitric oxide metabolites in the outbreak was increased throughout the entire observation period in comparison with intact animals. Therefore, on the 3rd day the content of metabolites of nitric oxide exceeded the norm by 2 times, on the 7th day - 2.9 times, on the 14th day - 1.9 times, on the 21st da. - 1.7 times, on the 28th day – 1.4 times. In animals of group 3, under the influence of methyluracil, the content of nitric oxide increased only during the first week of observation (3 days and 2.2 times, 7 days - 2.1 times). Decreasing in the indices to the norm occurred on the 14th day, remained within physiological parameters until the end of the observation. At the same time during the 7th-28th day the content of nitric oxide was