

НАЦІОНАЛЬНА АКАДЕМІЯ МЕДИЧНИХ НАУК УКРАЇНИ
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Державна установа «ІНСТИТУТ ОХОРОНИ ЗДОРОВ'Я ДІТЕЙ ТА ПІДЛІТКІВ НАМН УКРАЇНИ»
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ТА ПІДЛІТКІВ НАМН УКРАЇНИ»

ПРОБЛЕМИ СЬОГОДЕННЯ В ПЕДІАТРІЇ

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PREDICTORS OF THE DEVELOPMENT OF ACUTE PNEUMONIA IN CHILDREN OF EARLY AGE

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The purpose: to determine the risk factors of acute pneumonia in children of early age.

Materials and methods of research. Under observation were 42 children with acute pneumonia (average age 1.3 ± 0.2 years). The data on the course were analyzed of the perinatal period, the sex of the child, the nature of feeding in the first year of life, and the history of the disease. The Vitamin D and antimicrobial peptides (lactoferrin, LL37) were determined in the blood serum by enzyme immunoassay using commercial OSTEIA 25-Hydroxy Vitamin D kits (ELISA Kit, Germany), Human Lactoferrin (Hyculbiotech, Netherlands) and LL37 (Human ELISA, Germany) respectively. Statistical data processing was performed using Statistic for Windows 13.0. The effect of factors on the development of the disease was assessed by calculating the risk ratio (RR-related risk) with the determination of 95% confidence intervals (95% CI). To assess the relationships between the indicators, the Spearman rank correlation method (r) was used.

Results of a research. By results of a research was determined that the main risk factors for the development of acute pneumonia in children of early age were hospitalization for a period of more than 3 days (RR 2.63, 95% CI 1.06 - 6.52), the late start of antibacterial therapy (RR 2.83, 95% CI 1.15 - 6.98), birth weight < 2500g (RR 1.84, 95% CI 1.16 - 2.93), artificial feeding in the first year of life (RR 1.64, 95% CI 1.07 - 2.5), a decrease in blood serum vitamin D (RR 2.84, 95% CI 1.16 - 3.93), lactoferrin (RR 3.98, 95% CI 2.35 - 6.75) and cathelicidin (RR 2.52, 95% CI 1.02 - 6.29). The correlation analysis revealed an interdependence between the indicated factors. The significant correlation was established between the vitamin D content in blood serum and the level of lactoferrin ($r = 0.44$, $p < 0.05$) and cathelicidin ($r = 0.47$, $p < 0.05$).

Conclusion. Thus, the analysis of the anamnestic data of life and disease, as well as indicators of the content of antimicrobial peptides in the blood serum of children of early age made it possible to identify the most significant predictors of the risk of developing acute pneumonia. The effect on modified factors will prevent the development of the disease and increase the effectiveness of therapeutic measures for this children.

THE ROLE OF VITAMIN D IN THE DEVELOPMENT OF ANEMIA OF INFLAMMATION IN YOUNG CHILDREN WITH ACUTE INFLAMMATORY BACTERIAL DISEASES OF THE RESPIRATORY SYSTEM

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In the last decade, the concept of the polymodal function of vitamin D in the children's body has expanded significantly. In particular, it became known about the effect of vitamin D on the synthesis of the antimicrobial peptide hepcidin, a marker of iron metabolism, which implements a protective function by reducing the bioavailability of iron, necessary for the growth of bacterial pathogens. We can assume an interconnection between vitamin D content in the blood serum and the risk of anemia of inflammation, the leading mechanism of which includes the induction of hepcidin by pro-inflammatory cytokines.