DISORDERS OF THE INTESTINAL MICROBIOTA IN INFANTS: HOW THE RISK OF DEVELOPING ALLERGIC REACTIONS

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Annotation. *Despite numerous works devoted to the formation of the intestinal biocenosis of newborns, differentiated approaches to assessing the severity and methods of correction have not been developed . Therapeutic tactics are constantly being improved, new drugs are being sought, corrective treatment is required to influence dysbiosis , which maintains recurrence and chronicity. atopic dermatitis.*

Prevention of dysbiosis in newborns and methods of its correction are one of the main tasks in pediatrics. For the same reason, in this work we studied the disturbance of intestinal microflora and its connection with allergic reactions.

Key words: *allergy, microflora, children, babies, microbe*

Relevance

microbiota consists of a variety of microorganisms, including bacteria, fungi, and viruses, as well as their genomic elements. There is growing evidence that human microbes, which reside in the respiratory tract, gastrointestinal tract, and skin, play important roles in healthy and sick children. There are three distinct microbe-host relationships: (a) pathogenic, when microbes cause harm to the host; (b) commensal , when microbes coexist with the host without benefit or harm; and (c) symbiotic, when microbes and host are mutually beneficial to each other.

The mucosal surfaces of our gastrointestinal tract are constantly exposed to trillions of bacteria that form symbiotic relationships and influence host health

and disease. There are numerous studies assessing host- microbiota interactions , including dynamic changes in commensal bacterial populations and metabolite secretion and absorption. Imbalances in these relationships, or dysbiosis, contribute to diseases such as inflammatory bowel disease, asthma, type 1 diabetes, cardiovascular disease, metabolic syndrome, obesity, and allergic diseases.

The infant microbiota begins during fetal development with exposure to the uterine microbiota and meconium (19,26,28). During intrauterine life, the fetal gut microbiota resembles the amniotic fluid microbiota , which is colonized by bacteria. This includes organisms belonging to *the Enterobacteriaceae* family and bacteria from *the Firmicutes* phylum (such as *Lactobacillus* , *Clostridium* and *Bacillus*).

Target research : In this regard, the aim of the work was to study the features of the formation of microbiota. intestines of newborns and its place in the development of allergic reactions

Materials research methods .

In order to study the incidence of allergic diseases in children, a retrospective analysis was conducted of the medical history of sick children with allergic diseases in the allergology department and the card of patients with allergic diseases in the emergency department of the regional multidisciplinary hospital for 2020, 2021, 2021.

In the hospital, 60 patients with allergic diathesis aged from 3 to 30 days were under observation ; there were 65 boys and 61 girls.

All children were divided into 2 groups:

I – group (main group) consists of patients with allergic diathesis

The second group (comparison group) included children in the adaptation period.

Quantitative and qualitative indicators of the intestinal microbiocenosis were determined by seeding feces on a number of differential diagnostic media using serial dilutions according to the generally accepted technique developed by R.V. Epstein-Litvak, F.A. Vilshanskaya as modified by M.A. Akhtamov and co-

authors. The content of immunoglobulin E in the blood serum was studied using ELISA using the test systems of NPO Biotekhnologiya.

R e s u l t s research and their discussion : Bacteriological stool cultures were performed in all children. In the comparison group, opportunistic flora was isolated significantly less frequently and did not exceed 8.0%) for individual nosological forms (**S.aureus** , **S.peumoniae**) . In the first group of children **,** S.aureus **was** isolated more often (17.9%), compared with S.pneumoniae (12.8%), Candida albicans (5.1%), C. pseudodiphtheriticum (5.1%). Also, the isolation of fungi of the genus Cadida was predominant (16.7%). At the same time, reliable differences in the frequency of isolation of various microflora between the two groups of children with mild exacerbation of AD were not obtained.

During the period of severe exacerbation of AD, opportunistic microflora was isolated from the nasopharynx in all children. The association of two types of microorganisms was observed in 74.1% of children in the first group and 25.8% in the second ($p<0.001$). The frequency of detection of S. aureus (75.0% and 38.7%, respectively, $p<0.02$) and S. pneumoniae (51.7% and 25.8%, respectively, $p<0.01$) was significantly higher in young children, and Candida fungi (25.0% and 45.2 %, respectively, $p<0.05$) - in schoolchildren. No reliable differences in the frequency of detection of C. pseudodiphtheriticum were found. Also, this pathology was accompanied by an increase in the content of eosinophils and a high level of IgE .

Thus, the conducted analysis showed that the frequency of detection of opportunistic intestinal microflora increases depending on the severity of exacerbation of AD in children.

Conclusions. Thus, the conducted analysis showed that the frequency of detection of opportunistic intestinal microflora increases depending on the severity of exacerbation of AD in children.

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