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**TREATMENT AND PREVENTION OF BIOSENOSIS AND DYSBIOISIS IN
INFANTS.**

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Annotation: Biocenosis - the microecology of the gastrointestinal tract is an open biocenosis. Microbes enter the digestive tract like chyme, but special microorganisms can be fixed only on specific receptors on the intestinal wall.

Key words: birth, microbe, organism, immunological, inflammation, breast milk, baby, mother, nutrition.

The contact of the child with primary microorganisms begins in the birth canal. Lactobacilli and bifidobacteria form the basis of microbes in the reproductive tract, the rest is similar to intestinal microflora. Due to the fact that the immunological stability of babies is not yet fully developed, a large number of microbes entering the body poses a risk of developing various inflammatory processes. Later, permanent microflora is formed under the influence of the environment. Also, the period of starting to feed the child and its type are important for the formation of microflora. When breastfeeding begins, the symbiotic microflora, consisting mainly of bifidobacteria, begins to multiply in the intestine. With mother's milk, especially colostrum, the newborn receives bifidus-factor, which affects the development and growth of bifidoflora. This factor prevents the growth of pathogenic and conditionally pathogenic microorganisms. When the titer of bifidoflora in the intestine is high, physiological stability occurs between the organism and its microflora, that is, eubiosis. The following factors affect the formation of the baby's biocenosis:

Microflora of mother's reproductive tract.

Microflora of the external environment.

Type of feeding of the baby.

In children born on term, the formation of intestinal microflora is fully formed by the 5-6th day of the child's life. It has the following stages:

1 – stage. After the birth of the baby until the mother puts it on the breast, it is called the aseptic stage, because at this stage the intestinal cavity is sterile.

2 – stage. In the first 1-2 days of a child's life, the stage of entry of cocci and other microorganisms into the intestine is the period of transient dysbacteriosis [6].

3 – stage. It is the stage of transformation, in which bifidoflora is the main part of intestinal microbes.

The composition of the microflora in different parts of the stomach and intestines is different. For example, 1 ml of gastric fluid contains 10³ yeasts, streptococci, and lactobacilli. 1 ml of small intestinal fluid contains 10³ lactobacilli, streptococci, and Escherichia coli. Lactobacilli, streptococci, and Escherichia coli are present in the duodenal fluid, and there is no anaerobic flora. These include bifidoflora and bacteroids.



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More than 500 types of microbes can be detected in feces[8]. In the colon of a healthy child, there are 3 groups of microflora:

Basic (obligatory, autochthonous). 90-95% of the microflora of the large intestine is anaerobic microflora (bifidobacteria, bacteroids). It performs basic physiological functions.

Companion: normative strains of lactobacillus Escherichia coli. Performs digestive and protective functions.

Residue: aerobic saprophytic and conditionally pathogenic flora, make up 1% of the biocenosis.

Normal intestinal microflora performs various tasks, including:

Antagonistic function - this function of the intestinal microflora is carried out with the help of endotoxins released during their life, these endotoxins are called colicins. Colicins act on pathogenic microbes and prevent their growth.

Participation in the formation of immunity - it was found that there is an organic relationship between the amount of bifidobacteria in the child's feces and the amount of IgA in the blood serum. Also, the normal intestinal microflora is important in protective adaptation processes, such as the response of lymphocytes to antigens, phagocytosis of bacteria, changes in the amount of lysozyme.

Participation in the digestion of food consists in the breakdown of various organic substances, that is, participation in the enzymatic breakdown of proteins, fats and high molecular carbon water.

Synthetic activity - normal intestinal microflora synthesizes thiamin, riboflavin, nicotinic and pantothenic acids, vitamin K, ascorbic acid. Synthesis of vitamins mainly occurs in the large intestine.

Resorption activity - by creating an acidic environment in the intestine (bifidoflora produces lactic acid), it creates favorable conditions for the absorption of calcium, vitamin D and iron through the intestinal mucosa.

Reparative activity - intestinal microflora participates in the restoration and renewal of mucous membranes of the gastrointestinal tract.

Intestinal dysbacteriosis is detected in 53.2% of cases when the feces of babies with perinatal pathology (asphyxia, hemolytic disease of infants, birth injuries of the brain, etc.) are examined bacteriologically. In children with intestinal dysbacteriosis, intestinal dysfunction is observed, which is manifested by an increase in stool up to 6-7 times, abdominal rest, stool color becoming green, and the appearance of mucus. Disruption of intestinal microbiocenosis in children with perinatal pathology not related to infectious factors is mainly associated with conditionally pathogenic microflora. Dysbiosis (dysbacteriosis) is a bacteriological concept, which results from qualitative and quantitative disruption of the symbiotic microflora in the body. Dysbacteriosis is caused by the following: artificial and incorrect feeding of the child, changes in the microflora of the person caring for the child, infectious and non-infectious diseases of the baby, pathological late pregnancy and childbirth, long and chaotic treatment of the child with antibiotics. Dysbacteriosis makes the child susceptible to diseases. In the case of dysbacteriosis, it is



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important what kind of microflora the child receives from the surrounding people. Carriers of staphylococcal or other conditionally pathogenic microflora are especially dangerous for the child. The role of conditionally pathogenic microflora in microbiocenosis and their association are important in determining dysbacteriosis. Usually, the total number of anaerobes in the intestinal cavity (including bifido- and lactobacilli) exceeds the total number of aerobic microbes. Conditional - pathogenic microbes are not detected at all or only one type of them is detected in small quantities. In the 1st degree of dysbacteriosis, anaerobic flora prevails over aerobic flora. Bifidoflora and lactobacteria are also detected at 10⁸-10⁷ dilutions, conditionally pathogenic bacteria (not more than 2 types) are found at 10⁴-10² dilutions. In the 2nd degree of dysbacteriosis, the amount of anaerobic and aerobic microorganisms is equal to each other. At this stage of the disease, atypical forms of intestinal bacilli appear. In the 3rd degree of dysbacteriosis, the number of aerobes is greater than that of anaerobes. In some cases, bifido- and lactobacteria completely disappear, and the number of conditionally pathogenic microbes increases dramatically. Among them, especially pathogenic staphylococci, fungi, klebsiella, and clostridia are common.

The best food for a child with dysbiosis is breast milk. In cases where it is not possible to provide breast milk, mixtures containing pre- or probiotics are recommended (NAN with sour milk, biolact). Medical treatment of dysbiocenosis is carried out in 2 stages: 1 – microbial decontamination 2 – restoration of microflora. 1 – stage. Microbial decontamination is recommended in cases where conditionally pathogenic microflora has increased in feces. Treatment is determined based on the nature of the isolated flora. It is advisable to prescribe drugs that have a local effect and do not affect the obligate microflora. - bacteriophages: their range of action is narrow and affects certain microorganisms (anti-staphylococcal bacteriophage, coliproteus bacteriophage, klebsiella bacteriophage, pyobacteriophage, intestibacteriophage, pyococcus-blue pus bacillus bacteriophage) - nitrofurans (furazolidone 5-8 mg/kg) - enterol (1 capsule 1 time per day) of the microflora isolated from waste taking into account the sensitivity, antibiotics are prescribed (mainly aminoglycosides are prescribed, because they do not affect obligate microflora). Nitromidazoles are used when anaerobic microflora predominates, and antifungal drugs are used for candidiasis. The 1st stage of treatment lasts 5-7 days. In children with biocenosis disorder I level, treatment starts from the 2nd stage. 2 – stage. Restoration of intestinal microflora is achieved by prescribing probiotics (preparations that restore normal intestinal flora). Their effect is enhanced by prebiotics. Microorganisms used as biopreparations include *Lactobacillus acidophilus*, *L. plantarum*, *L. casei*, *L. bulgaricus*, *L. rhamnosus* GG, *Bifidobacterium bifidum*, etc. enters. The effect of probiotics is as follows: • Synthesis of antibacterial substances, organic acids, proteases in a concentration that stops the growth of intestinal flora • Competitive effect on adhesion receptors • Strengthening of the immune response (phagocytic activity) • Increasing the concentration of Ig A, T-killers, interferon • Stimulating the production of anti-

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inflammatory cytokines moderation • As a result of reducing the permeability of mucous membranes, increasing the production of mucin increased cytoprotection.

Probiotics are divided into the following groups: 1. Monoculture arresting preparations - bifidumbacterin, lactobacterin. 2. Complex drugs - bifiform, bifilong, atzelak, linex, etc. a) drugs immobilized on bacteria sorbent - bifidumbacterin-forte; b) lysozyme drug - biphiliz. Probiotics are given 1-2 times during meals. Prebiotics are preparations that provide functional nutrition of microflora (inulin, galacto- and fructose-oligosaccharides, lactulose). Effects of prebiotics:

- reduces rN in feces;
- reduces ammonia production;
- activates immunity;
- reduces the growth potential of clostridium, candida, listeria and other microbes;
- increases absorption of Ca from food by 40-60%;
- enhances the regeneration of colon epithelium.

Among prebiotics, dufalak (lactulose) has a good effect and is prescribed in the amount of 3 ml per day. In most cases, dysbacteriosis is accompanied by a secondary enzyme deficiency, so such patients are prescribed drugs such as creon, pancreatin in small doses together with probiotics. The duration of administration of drugs and enzymes that restore the intestinal microflora depends on the general condition of the child and the level of dysbacteriosis. It is usually continued for 3-4 weeks.

Diagnosing and treating dysbiosis in a pregnant woman, primarily dysbiosis of the vagina, weaning the child as early as possible, shortening the period of parenteral feeding as much as possible, and rational antibiotic therapy help prevent dysbiosis. It is also good to prescribe probiotics to the mother 3-4 weeks before delivery.

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