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DYSBACTERIOSIS IN CHILDREN

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Abstract:

This article presents dysbacteriosis in children. It deals with presentation of dysbacteriosis and its clinical studies.

Keywords: Dysbacteriosis, dysbiosis, SIBO, SIFO, symptoms and treatment

INTRODUCTION

Dysbacteriosis (dysbiosis) is a condition in which the balance of microorganisms in the digestive system: predominant pathogenic species with a shortage of bifidobacteria and lactobacilli. Causes of dysbiosis can be: poor diet, antibiotics, and diseases of various organs and systems of the body, stress. **Dysbiosis** (also called **dysbacteriosis**) is characterized as a disruption to the microbiota homeostasis caused by an imbalance in the microflora, changes in their functional composition and metabolic activities, or a shift in their local distribution. It is a term for a microbial imbalance or maladaptation on or inside the body, such as an impaired microbiota. For example, a part of the human microbiota, such as the skin flora, gut flora, or vaginal flora, can become deranged, with normally dominating species underrepresented and normally outcompeted or contained species increasing to fill the void. Dysbiosis is most commonly reported as a condition in the gastrointestinal tract, particularly during small intestinal bacterial overgrowth (SIBO) or small intestinal fungal overgrowth (SIFO).

In children under one year old symptoms of dysbiosis are often associated with artificial feeding, too early or incorrectly lure, infectious diseases, medication (especially antibiotics), as well as the ailments on the background of teething and allergic reactions to food.

Dysbacteriosis in children is a violation of the normal ratio of obligate and facultative microorganisms in the intestine in favor of the latter. According to various studies, a violation of the intestinal biocenosis is determined in 25-50% of healthy children in the first year of life. In children with somatic diseases, certain forms of intestinal dysbiosis are diagnosed in almost 100% of cases.

During the first week of life, a large number of opportunistic microorganisms settle in the child's intestines, which leads to the development of transient intestinal dysbiosis, which usually ends in the second week of the child's life (as lacto- and bifidobacteria displace other representatives of the intestinal microbiocenosis). Normal microflora prevents the colonization of the intestine by pathogenic microorganisms, participates in the production of certain vitamins, metabolism, the formation of immunity, stimulates intestinal motility and performs some other functions necessary for the normal functioning of the body. Under the influence of unfavorable factors, the normal intestinal flora in a child may not form, and transient dysbiosis becomes true.

CAUSES AND RISK FACTORS

Dysbacteriosis refers to polyetiological disorders, the development of which can be facilitated by both exogenous and endogenous causes.Risk factors for dysbiosis in newborns and infants include:

- the presence of infectious and inflammatory diseases of the urogenital tract in a pregnant woman;
- complicated course of pregnancy and / or childbirth;
- prematurity of the child;
- late attachment of the baby to the breast;
- inappropriate nutrition of the mother during breastfeeding;
- mastitis in a nursing mother;
- early transfer of the child to artificial feeding;
- improper child care.

In older children, the following factors contribute to the development of dysbiosis:

- diathesis;
- frequent acute respiratory viral infections;
- helminthic invasions;
- diseases of the gastrointestinal tract;
- unbalanced nutrition (with a predominance of carbohydrates and animal proteins in the diet);

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- long-term treatment with antibacterial drugs;
- allergies;
- anemia;
- changes in hormonal levels;
- the impact on the body of adverse environmental factors;
- stressful situations;
- surgical interventions;
- malignant neoplasms.

Intestinal dysbiosis has a different clinical picture, and the severity of symptoms does not always correspond to the degree of dysbiotic disorders. It happens that with significant violations of the composition of the microflora, clinical manifestations are absent, but they immediately appear with a decrease in immunity, a violation of the protective properties of the intestinal mucosa (after antibiotics, poisoning). And in the presence of diseases of the gastrointestinal tract, even small deviations of the microflora from the norm can be accompanied by significant clinical manifestations:

- ❖ violation of the processes of digestion, dyspepsia - loss of appetite, flatulence, belching, aerophagia, bad breath, bloating, rumbling, abdominal pain, changes in the frequency and nature of the stool (constipation, diarrhea and their alternation);
- ❖ secondary extraintestinal manifestations associated with metabolic disorders, immunity, hypovitaminosis: seizures, glossitis, stomatitis, dry mucous membranes, furunculosis, itching of the skin, mucous membranes, peeling, skin rashes, weakness, anxiety, irritability, sleep disturbance.

If the composition of the intestinal microflora is disturbed, the condition and behavior of the infant changes markedly. The baby has increased gas formation, the tummy swells, rumbling along the intestines and intestinal colic appear, the baby shows anxiety, cries, and twists its legs. His usual sleep and wakefulness patterns are disrupted. Similar attacks of intestinal colic can occur one and a half to two hours after feeding the baby. Sometimes there is regurgitation and even vomiting. If the dysbacteriosis in the baby is pronounced, a phenomenon such as malabsorption may occur. This can lead to malabsorption of nutrients in the intestines, and the baby develops diarrhea. The child's stool becomes frothy and has a sharp putrid odor. Then diarrhea in the crumbs can be replaced by persistent constipation. This is due to a significant decrease in the number of bifidobacteria in the baby's intestines, which are responsible for proper intestinal motility and are necessary for the child's normal stool.

Variants of the course of dysbacteriosis in children can be:

- with a predominance of isolated opportunistic microbes: staphylococcal, proteic, candidal, associated;
- according to the stage of compensation for dysbacteriosis - latent, subcompensated and decompensated;
- according to the clinical form: subclinical, local and widespread.

So, staphylococcal dysbacteriosis in children under 3 months often proceeds as enterocolitis. The stool is liquid, may be mixed with blood, with a moderately pronounced intoxication syndrome, but at the same time with a protracted course. If an acute intestinal infection joins and antibiotics are prescribed, then there may be an unfavorable course.

Candidiasis dysbacteriosis (Candida, more often C. albicans) in titers above 104 CFU / g of feces is manifested by fermentative dyspepsia, intermittent pain in the intestines, and flatulence. These clinical symptoms can occur in children of all age groups.

Intestinal dysbacteriosis is directly related to allergies. In 77-100% of children with urticaria, atopic dermatitis, bronchial asthma, intestinal dysbacteriosis is detected. Most often, at the same time, a deficiency of lacto-bifidobacteria, excessive growth of Staphylococcus aureus and fungi of the genus Candida are determined. To these microorganisms, specific class E immunoglobulins are produced, hypersensitivity develops.

Staphylococcus aureus toxin has the properties of a "superantigen" that can simultaneously activate up to 10% of lymphocytes. And in a normal immune response, only a small fraction of specific lymphocytes are involved. This "superimmune" response to an excess of staph on the skin or in the airways can manifest itself as an allergy. The toxin disrupts the protective biofilm of the intestinal mucosa, increases the permeability of the intestinal wall for large protein molecules (foreign agents or allergens), which is accompanied by the development of food sensitization (hypersensitivity), and enhances the manifestations of food allergies. That is why there is an aphorism: "the skin is the mirror of the intestines."

METHODS

Prevention of dysbacteriosis in children:

- ✓ early attachment of the baby to the mother's breast (within half an hour after birth), gradual weaning of the baby from the breast, infrequent change of mixtures, proper introduction of complementary foods;

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- ✓ prophylactic administration of probiotics to pregnant women and newborns from risk groups;
- ✓ the use, if necessary, of antibacterial drugs that do not suppress colonization resistance (cephalosporins, macrolides);
- ✓ the use of antibiotic-resistant probiotics or prebiotics, fermented milk products or special dietary supplements containing lysozyme and bifidobacterin, against the background of antibiotic therapy in children. With a decrease in the amount of beneficial microflora in the intestine, pathogenic ones immediately begin to multiply in its place.

RESULTS

Treatment of dysbacteriosis in children.

Treatment of dysbacteriosis in a child must be carried out with the participation and under the supervision of a pediatrician, gastroenterologist, preferably an allergist-immunologist and dermatologist using new, reliably effective probiotics and prebiotics, until the normal composition of the intestinal microflora is fully restored.

Normoflorins - biocomplexes consisting of live probiotics - lactobacilli and bifidobacteria, are indispensable in the treatment of dysbacteriosis in children of any age (allowed for children from birth).

1. The effect of Normoflorins on the body:

- ❖ due to the creation of an acidic environment and a pronounced antimicrobial action, they suppress the development of putrefactive and gas-forming microflora, destroy pathogens of acute intestinal infection;
- ❖ actively participate in the processes of digestion and absorption of salts, iron, calcium, vitamin D;
- ❖ enhance intestinal motility;
- ❖ promote the breakdown of lactose;
- ❖ increase the level of their own normal microflora by 1-3 orders of magnitude;
- ❖ contribute to the cessation of all symptoms of dyspepsia and the restoration of stool;
- ❖ stimulate immunity, participate in the production of immunoglobulins, form non-specific protection and immunoresistance;
- ❖ have a positive effect on skin processes: the disappearance of itching, erythema, peeling; reduction of infiltration and lichenification of the skin in the lesions.

2. Indications for children:

- for prevention and in a comprehensive program for the treatment of gastrointestinal diseases accompanied by intestinal dysbacteriosis (constipation, diarrhea);
- in prenatal preparation of pregnant women and during breastfeeding;
- with artificial feeding of children under 1 year; allergic diseases and immunodeficiency states; inflammatory diseases of the oral cavity, ENT organs and upper respiratory tract; rickets; anemia;
- in a comprehensive program for the treatment of atopic dermatitis, childhood eczema, recurrent furunculosis, acne;
- during viral epidemics as a prophylactic and in acute intestinal infections as one of the main means

CONCLUSION

The intestinal microflora plays an important role in human life. If the balance is disturbed, dysbacteriosis may occur. This state brings many inconveniences. Not a single person has resistance to it: it appears even in children. Any parent wants to know what can cause this and how to determine the violation of the body.

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