



INTESTINAL FLORA AND HUMAN HEALTH

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ABSTRACT

The human intestinal tract is filled with a large number of microorganisms, including bacteria, viruses, molds, protozoa, and parasites. Intestinal bacteria are divided into long-term (permanent resident) and transit (foreign) bacteria according to the time of residence and growth in the intestinal tract. Passenger bacteria remain for a few days and are then expelled. Symbiotic bacteria in the intestinal tract can coexist peacefully with the host human body, symbiotically and mutually beneficially, forming what is called the "human super organism". The fermentation of good bacteria is beneficial for the human body. The destructive effects of bad bacteria make people sick. Intestinal bacteria for humans can be divided into good bacteria (beneficial bacteria, symbiotic bacteria), which make up 10-20%. Bad bacteria (bad bacteria, pathogenic bacteria) accounted for 20%, and neutral bacteria (opportunistic bacteria, conditional pathogens) accounted for 60 to 70%.

KEYWORDS

Intestinal flora, bacteria, microflora, parasite, immunity, metabolism, dominant, small intestine, organ, microbiome.

INTRODUCTION

The urgency of the problem. In recent years, the problems related to the intestinal microbiota have been increasing. This leads to various diseases and negative consequences among the population. Studying the intestinal flora and knowing which bacteria are harmful and beneficial to humans is one of the urgent problems of today.

The purpose of the research: The purpose of the research is to study the positive and negative aspects of the intestinal flora for the human body.

Research and inspection methods. The human intestinal tract is filled with a large number of microorganisms, including bacteria, viruses, molds, protozoa, and parasites. As for bacteria, there are more than 100 trillion of them, and there are hundreds of species weighing more than 1 kg. Bacterial metabolic byproducts also provide 10% of the body's heat energy. More than 70% of the immune cells in the human body are in the intestinal tract. The intestinal tract is the largest immune organ in the human body, and the intestinal bacteria can be considered an organ of the human body as a whole, and it is one of the ten essential organs (Note). Intestinal bacteria for humans can be divided into good bacteria (beneficial bacteria, symbiotic bacteria), which make up 10-20%. Bad bacteria (bad bacteria, pathogenic bacteria) accounted for 20%, and neutral bacteria (opportunistic bacteria, conditional pathogens) from 60 to 70%. Intermediate bacteria are generally neither good nor bad, but they wait for and approach an opportunity to become better or worse, depending on which one is dominant. Intestinal bacteria are divided into long-term (permanent resident) and transit (foreign) bacteria according to the time of residence and growth in the intestinal tract. Passenger bacteria remain for a few days and are then expelled. Symbiotic bacteria in the

intestinal tract can coexist peacefully with the host human body, symbiotically and mutually beneficially, forming what is called the "human super organism". The fermentation of good bacteria is beneficial for the human body. The destructive effects of bad bacteria make people sick. In health, commensal bacteria are immune resistant. When sick, pathogenic bacteria have an immune attack. The number of intestinal bacteria is highest in the large intestine, followed by the small intestine, and the least in the stomach. The microbiota-gut-brain axis (microbiota-gut-brain-axis) that makes up this gut flora regulates neurotransmission, endocrine, digestion, metabolism, and immunity, and is therefore associated with various physiologies and diseases throughout the body.

Good bacteria, bad bacteria and intermediate bacteria in the gut

Among the more mentioned intestinal bacteria, good bacteria are: (1) Lactobacillus (Lactobacillus): including Lactobacillus acidophilus (A bacteria), Lactobacillus casei (C bacteria, Kaizila), rhamnobacillus Lactobacillus sugar (LGG), Lactobacillus paracasei in Bacillus, Lactobacillus gasseri, Lactobacillus salivarius, Lactobacillus plantarum, Lactobacillus breve, Lactobacillus lordus, Lactobacillus sporogenes, Lactobacillus bulgaricus, Lactobacillus bulgaricus (Lactobacillus Michelacteracte (LB), BatroidC) (B.ST.), Batroid. (2) Bifidobacterium (Bifidobacterium): including Bifidobacterium bifidobacterium (B bacteria, Bifidobacterium), Bifidobacterium longum (Dragon root bacteria), Bifidobacterium breve, Bifidobacterium lactis (Rettella B bacteria), baby bifidobacterium, bifidobacterium, etc. (3) Saccharomyces boulardii. (4) Enterococcus lactic acid, Bacillus subtilis, etc. Bad bacteria are: Clostridium difficile (Clostridium difficile), Clostridium aerogenes (Clostridium welchii),

Staphylococcus aureus, pathogenic Escherichia coli, Pseudomonas aeruginosa, Klebsiella, Salmonella, Shigella, Victoria difficile, St. Other neutral bacteria are: non-pathogenic Escherichia coli, faecal streptococcus, Bacteroides fragilis, anaerobic streptococci, yeast, mold (fungus), Koji bacteria, eubacteria (eubacteria) and others. Probiotics are defined as microorganisms (live bacteria) that, when added in appropriate amounts, are beneficial to the host's health. Most probiotics are lactic acid bacteria, which can break down carbohydrate metabolism to produce lactic acid, acetic acid, propionic acid, butyric acid, and short-chain fatty acids, which acidify the intestinal environment, inhibit the growth of harmful bacteria, and balance the flora. regulates and improves digestion. Improves intestinal peristalsis, increases immunity, prevents allergies, infections, increases synthesis of vitamins, enzymes and interferon. Common ones are lactobacilli, bifidobacteria, yeast and other cocci and bacilli. Prebiotics refer to substances that increase the growth of beneficial bacteria in the gut (bacteria), including oligosaccharides (oligosaccharides), dietary fiber (water-soluble, insoluble), and certain Chinese herbal medicines. Preparations containing probiotics and prebiotics are called synbiotics. After using various symbiotic lactic acid bacteria for cultivation, the extraction of the bacterial substance and its secretion product are called prebiotics (Biogenics), also known as lactic acid bacteria producing substance extract (ALBEX). Probiotics, prebiotics and substances containing prebiotics are called probiotics.

Intestinal flora and human diseases

According to previous studies, the ecological balance of the intestinal flora (dysbiosis) can be related to various diseases of the human body to some extent. Including: (1) Gastrointestinal tract: antibiotic-associated diarrhea (pseudomembranous colitis),

traveler's diarrhea, inflammatory bowel disease (ulcerative colitis, Crohn's disease), irritable bowel disorder, colonic polyps, diverticular cancer, syndrome, lactose intolerance, celiac disease, pylori infection. (2) Liver and gallbladder: nonalcoholic liver disease, hepatitis, alcoholic liver disease, liver cirrhosis, hepatic encephalopathy, and gallstones. (3) Metabolism: obesity, diabetes, metabolic syndrome, high cholesterol, aging. (4) Allergic immunity: autoimmune diseases, food, pollen allergy, rheumatoid arthritis, asthma. (5) Cardiovascular system: hypertension, coronary artery disease, atherosclerosis. (6) Skin: atopic dermatitis, eczema, acne. (7) Urogenital: Inflammation of the urogenital tract, bacterial or Candida albicans vaginitis, breast cancer. (8) Neuropsychiatric: Down syndrome, depression, anxiety, depression, dementia, autism, anorexia, memory loss, schizophrenia (schizophrenia), Parkinson's disease, multiple sclerosis.

Intestinal flora is closely related to various diseases in the human digestive tract or outside the digestive tract. Because the intestinal flora of each person is different and diverse, and although there are similarities between each person, it changes depending on age, external and internal environmental factors. In recent years, the so-called "personalized" medical model can be used to fight the intestinal flora in the same way. In the initial stage, the treatment of recurrence of pseudomembranous colitis or inflammatory bowel disease was improved by fecal bacterial transplantation (fecal bacterial transplantation), followed by oral treatment of fecal bacterial capsule (bulk tablet). The flora of healthy people can be used to change the intestinal flora of patients, thereby improving the condition of the disease. Using faecal bacteria from lean mice to feed obese mice can cause obese mice to lose weight. Recently, research and development and application of

psychobiotics bridging the fields of gastrointestinal and neuropsychological medicine has been on the rise, and we hope for better results in the future.

Note: The ten essential organs are respiratory, circulatory, digestive, urinary, endocrine, nervous, motor, skin, reproductive, and immune.

CONCLUSION

In conclusion, every person must observe personal hygiene first of all. Because the intestinal flora of each person is different and diverse, and although there are similarities between each person, it changes depending on age, external and internal environmental factors. In recent years, the so-called "personalized" medical model can be used to fight the intestinal flora in the same way. The gut microbiome is an ecosystem that is very sensitive to disturbances, so we need to strengthen its health by, for example, limiting the intake of drugs such as antibiotics, avoiding high sugar and fatty foods, especially processed products, and adding fiber to the diet. Input proper growth of the bacterial population is essential.

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