MODERN MEDICINE AND PRACTICE
https://inovatus.es/index.php/ejmmp
EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE
Vol. 3 No. 11 (Nov - 2023) EJMMP ISSN: 2795-921X

THE ROLE OF INTESTINAL MICROFLORA IN THE OCCURRENCE AND TREATMENT OF IRRITABLE BOWEL SYNDROME

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Annotation: This article, which presents the results of analyses on the occurrence of intestinal lesion syndrome, epidemiology, diagnostic methods and therapeutic measures, mainly describes the results achieved in this pathology in recent years. The analysis mainly focuses on the fundamental and important aspects of the occurrence of this pathology for medical practice, as well as on the health of patients. At the same time, diagnostic methods are briefly described, allowing to identify the intestinal lesion syndrome in the early stages and to ensure a timely positive approach. The results of separate analyses devoted to the importance of intestinal microflora in irritable bowel syndrome and the effect of improving the microflora on the course of this pathology are presented. Thus, the intestinal lesion syndrome is one of the important pathologies for medical practice, it is noted that its occurrence is mainly caused by stress factors, dietary disorders and, most importantly, drugs that negatively affect the intestinal microflora, while the influence of genetic and other factors is manifested to a lesser extent. In the diagnosis, in addition to laboratory and instrumental methods, special attention is paid to the anamnesis, i.e. the mode of life and nutrition of sickles when identifying factors affecting the intestinal microflora. Treatment cpora activities include non-medicamentous and medicamentous methods. Inflammatory bowel disorders and colorectal cancer are not more common than in the general population, and the prognosis for the condition is good with prompt therapeutic measure implementation and ongoing monitoring of the improvement of the intestinal microbiota.

Key words: Intestinal antiseptic, IBS-like disorders, antispasmodics, intestinal microflora, probiotics.

Relevance. Irritable bowel syndrome (IBS) is one of the most common and best studied disorders among the group of functional gastrointestinal disorders, which up to 15% of the adult population suffers from IBS symptoms in developed countries. The World Gastroenterological Organization defines IBS as "a functional intestinal disease in which pain or discomfort in the abdomen is associated with the act of defecation and is characterized by a change in the usual nature of defecation and the consistency of feces." Pain in the bowel area is the main symptom of IBS and other symptoms may include constipation, diarrhea and bloating of the intestine. An unpleasant aspect of this disease is that it is often repeated and the quality of life of patients significantly worsens as a result of the symptoms of this pathology [1, 2, 3]. In recent years, much attention has been paid to research on the role of the intestinal microbiota in the development of human diseases. This is due to the fact that there is currently a growing body of evidence demonstrating the active participation of the intestinal microbiota in the functioning of the body, as well as in the development of many diseases. According to experts, subjective and objective difficulties in the diagnosis and differential diagnosis of IBS in children determine the underestimation of the actual prevalence of the disease. Diagnosis of the disease is carried out mainly by primary care practitioners: pediatricians and family

doctors, many of whom still do not have a clear understanding of the pathogenesis of IBS and do not have time to follow the latest advances in diagnosis and treatment [3-7]. Modern ideas about the pathogenesis of IBS and IBS-like disorders in various diseases of the gastrointestinal tract are presented, detailed diagnostic criteria for the main variants of IBS and IBS-like disorders, as well as post-infectious IBS are developed. The main pathophysiological mechanisms of the development of irritable bowel syndrome (IBS) are visceral hypersensitivity and increased motility of the gastrointestinal tract. IBS can cause constipation or diarrhea. Instead of excluding a differential diagnosis, an examination is least required to diagnose IBS. The diagnosis is based on the Rome-III criteria. Some of the main symptoms of irritable bowel syndrome (IBS) are caused by disorders of intestinal motility and microflora. The processes of myocyte contraction and how antispasmodics act are considered in detail. Modern methods of drug treatment of patients with IBS are aimed at eliminating motor disorders with the help of antispasmodics, in particular the selective myotropic antispasmodic pinaverium bromide (Dicetel), as well as at restoring intestinal microbiocinosis. The basis of treatment is proper counseling, diet, taking antispasmodics and antidepressants [8, 9, 10]. Recently, a lot of data has been collected confirming the role of changes in the composition of the intestinal microflora in the development of cardiovascular reactions (IBS) and IBS-like disorders. Several provisions that are currently being actively studied can confirm the relationship between IBS and disorders of intestinal biocenosis: evidence of the existence of post-infectious IBS (PI-IBS) from the point of view of epidemiology, clinical and experimental practice; detection of symptoms of prolonged inflammation in the intestinal mucosa and its connection with changes in the composition of the intestinal microflora in IBS; It is assumed that IBS may be associated with excessive bacterial growth in the small intestine (SIBO) or other changes in the intestinal microflora; a positive effect from the use of antibacterial drugs, pre- and probiotics in IBS [11, 12].

The purpose of the analysis. Analysis for the occurrence of intestinal lesion syndrome, therapeutic measures and the importance of intestinal microflora in this pathology.

Epidemiology and classification of irritable bowel syndrome. In the world, more than 20% of the adult population suffers from IBS and every two thirds of people suffering from this disease do not go to doctors due to the sensitive nature of complaints. The peak incidence occurs at a young working age and the average age of patients ranges from 24 to 41 years. It is worth noting that the ratio of women and men in this disease is 1:1-2:1 and among men of "problem" age, IBS is as common as among women.

Today there are four possible variants of IBS:

IBS with constipation, IBS with diarrhea, mixed form of IBS and unclassified form of IBS. This classification is based on the shape of the chair according to the Bristol scale, since a direct relationship between the passage time through the intestine and the consistency of the stool is revealed, i.e. the longer the passage time of the contents, the denser the chair.

The main causes of irritable bowel syndrome. Genetic predisposition and psychosocial factors, such as stressful situations, impaired ability to overcome stress and insufficient social support, play an important role in the development of this disease. Hypersensitivity of the intestine and disorders of its motility (contractions, movements) are caused by these factors. Currently, the causes of IBS include changes in the quantitative and qualitative composition of the intestinal microflora. Inflammation of the intestinal wall and disorders of its work may be the result of a number of immune reactions caused by opportunistic and pathogenic flora [13, 14]. Genetic predispositions in the pathogenesis of functional disorders mainly confirm the role of genetic factors in the development of the disease, while environmental factors do not decrease at all.

Genetics can determine a person's character, and the environment can shape it. Such traits include an inability to distinguish between physical pain and emotional experiences, difficulty expressing feelings in words, high levels of anxiety, and a tendency to transfer emotional stress into somatic symptoms.

Scientists have found a direct link between the onset of the disease and stressful circumstances in the patient's life. A traumatic situation can be acquired in childhood (for example, the loss of parents or sexual harassment), a few weeks or months before the onset of the disease (for example, divorce or bereavement), or in the form of ongoing social stress at the present time (for example, the illness of a loved one).

6-17% of all cases of the disease are postinfectious; in addition, symptoms of IBS appear in 7-33% of patients after acute intestinal infection. In most cases (65%), a post-infectious form of the disease develops after a shigella infection. In addition, in 8.7% of patients, the disease is associated with an infection caused by Campylobacter jejuni [15-18].

Methods of diagnosis of irritable bowel syndrome. For a correct diagnosis, it is necessary to obtain an anamnesis of life and disease. During the survey, the patient's living conditions, family composition, health status of relatives, features of professional activity, violations of the regime and nutrition, as well as the presence of bad habits are evaluated. Establishing a link between the onset of clinical symptoms and the influence of external factors, such as nervous stress, intestinal infections, the age of the patient, the duration of the disease before the first visit to the doctor, previous treatment and its effectiveness, is an important part of the history of the disease. During the physical examination of the patient, the detection of any abnormalities (hepatosplenomegaly, edema, fistulas, etc.) indicates against the diagnosis of IBS.

Laboratory (general and biochemical blood analysis, coprological examination) and instrumental (ultrasound of the abdominal cavity, EGDS, colonoscopy in persons older than 45-50 years) studies are mandatory components of the IBS diagnostic algorithm. It is advisable to include in the patient's examination plan a stool examination to detect toxins A and B of Clostridium difficile, shigella, salmonella, yersinia, dysentery amoeba and helminths, if diarrhea is the most common symptom.

The following diagnoses are subjected to a differential diagnosis of IBS. Reaction to food, eating a lot of food and changing eating habits. reactions to medication (laxatives, iron-containing drugs, antibiotics, bile acids). Intestinal infections, inflammatory bowel diseases, mental disorders, neuroendocrine tumors, endocrine diseases, gynecological diseases, functional problems in women and proctoanal pathology.

Also, in order to clarify the diagnosis of patients suffering from IBS, observation by a gastroenterologist and a psychiatrist is provided. Indications for consultation of the patient with a psychiatrist [19-22].

Measures for the treatment of irritable bowel syndrome. The goal of treating a patient with IBS is remission and restoration of social activity. Treatment in most cases is carried out on an outpatient basis, but sometimes hospitalization is required for examination and if there are problems with the selection of therapy.

For the treatment of IBS, it is necessary to change the diet and lifestyle, as well as take medications to correct lifestyle and diet. The specialist selects a diet for patients with IBS, but there are general principles that should be followed for any type of IBS: nutrition should be regular, you can not eat in a hurry or while working, you can not skip meals and take long breaks between meals. In case of constipation, it is recommended to increase the amount of liquid to 1.5–2 liters per day. It is very important to observe a physical activity regime. therapeutic treatment of irritable bowel syndrome. Treatment depends on the prevalence of certain symptoms and the type of MRC.

The doctor may prescribe antispasmodics to relieve pain, to eliminate diarrhea — loperamide, dioctahedral smectitis, non-absorbable antibiotic rifaximin and probiotics, and in case of constipation — laxatives or

enterokinetics. With concomitant stress and mental trauma, the doctor may prescribe antidepressants or neuroleptics, and with IBS — metabiotics to restore the intestinal microflora.

Non-drug treatment of people suffering from IBS primarily includes general training, such as patient training, which explains to the patient the nature of the disease and its prognosis; "stress relief", which focuses the patient's attention on normal research indicators. The patient must be sure that he does not have a serious organic disease that threatens life. The introduction of a "food diary" can help identify foods that worsen the patient's condition.

From the point of view of evidence-based medicine, there is evidence that drugs that normalize motor skills, affect visceral sensitivity or affect both mechanisms, and drugs that affect the emotional sphere are effective in treating patients with IBS. For this group of patients, drugs affecting inflammatory changes in the intestinal wall have not yet been used. Pain relief drugs: various groups of antispasmodics, including M-cholinergic receptor blockers, sodium and calcium channels, are used to relieve pain in IBS.

However, surgical treatment of IBS patients is not indicated [23-30].

The importance of improving the intestinal microflora in the treatment of irritable bowel syndrome. Thus, diarrhea with IBS is treated with drugs such as probiotics, rifaximin, smects and loperamide hydrochloride. Dioctahedral smectite is shown as an effective method of treating irritable bowel syndrome with diarrhea; however, the degree of evidence corresponds to category II, and the practical recommendations correspond to category *C. Probiotics containing B. Infantis, B. Animalis, L. Plantarum, B. breve, B. longum, L. Acidophilus, L. casei, L. bulgaricus and S. thermophilus* in various combinations that help alleviate the symptoms of the disease. They belong to the category of evidence II, and the practical recommendations correspond to B. General recommendations for the treatment of chronic constipation, including IBS with constipation, include increasing the amount of plant fiber in the patient's diet and increasing the amount of physical activity. However, from the point of view of evidence-based medicine, the number of studies examining the effectiveness of general interventions was insignificant and was mainly based on expert opinions based on individual clinical observations [30-34].

IBS with constipation is treated with laxatives. However, most of the studies aimed at collecting these indicators were conducted more than ten years ago and can be classified as category II, despite a fairly high level of efficacy and safety of this group of drugs. According to the ACG, the level of practical recommendations belongs to category B, and ASCRS belongs to category C, which is probably due to the possibility of developing pain as a result of taking stimulant laxatives.

Drugs that work together. In the treatment of patients with IBS, not only drugs that affect the symptoms of the disease, such as abdominal pain, diarrhea or constipation, are used, but also drugs that, thanks to their mechanism of action, reduce abdominal pain and normalize the frequency and consistency of stool. Meteospasmil, which consists of two active substances alverine citrate and simetikon, is one of the examples of combined drugs that can be used to treat patients with IBS.

Probiotics are effective in the treatment and prevention of many diseases. A group of experts from Yale University has developed indications for the appointment of probiotics based on the analysis of the results of the studies conducted. It has been proven that probiotics containing microorganisms B. Infantis, B. Animalis, B. breve, B. longum, L. acidophilus, L. plantarum, L. casei, L. bulgaricus, S. Thermophilus are effective in the treatment of irritable bowel syndrome (IBS). Category I includes studies confirming the effectiveness of probiotic drugs, and category B includes practical recommendations. In general, a high-quality probiotic drug must meet a number of requirements: the number of bacterial cells in one capsule or tablet should be 109 at the time of sale; the drug should not contain any substances not indicated on the label; and the capsule or tablet shell should ensure the delivery of bacterial cells to the intestine.

In order to avoid violations of storage conditions during transportation, probiotics are usually produced in the country for consumption. Florasan D is developed and used in Russia for the treatment of patients with IBS, regardless of the stage of the disease. It meets all the requirements for probiotic drugs. The Russian Gastroenterological Association approved it [35-43].

To reduce the symptoms of pathology, it is necessary not only to follow a diet and adhere to a certain diet, but also to improve the drinking regime. A patient suffering from TERM should increase the consumption of pure still water. It is important to maintain emotional balance. To do this, patients acquire the skills to control their reactions and gain the skills of full relaxation. To reduce stress levels, it is important to follow a proper daily routine, get enough rest and avoid excessive physical exertion. Creative activities and other hobbies can help relieve emotional stress. Regular moderate exercise also helps to cope with irritable bowel syndrome. Do not start training very hard! They can make the situation worse. Despite this, regular walks and small runs to maintain an optimal heart rate will not do any harm. Swimming and yoga are also useful.

Classes also contribute to the development of a muscular corset that regulates intestinal peristalsis. Exactly so! It is better to contact a rehabilitologist or a physical fitness specialist to find out which exercises are right for you. The training program is developed taking into account the patient's health and physical fitness level. Physical activity also affects the diet of patients with irritable bowel syndrome. It is important that at least 1.5–2 hours pass between classes and meals.

For example, the metabiotic Actoflor-C helps restore the intestinal microflora, improve metabolism and increase the body's overall resistance to stress and infections.

The only person who can correctly diagnose the disease is a doctor. It is necessary to consult with a specialist to choose the therapy that will bring the best result [44-53].

Conclusions. Drugs that stimulate the development of beneficial intestinal microflora, called prebiotics, can have a beneficial effect on diabetes mellitus. However, only two blind placebo-controlled studies have shown that this is true. A complex of probiotics and prebiotics are called synbiotics [49].

Inflammatory bowel disorders and colorectal cancer are not more common than in the general population, and the prognosis for the condition is good with prompt therapeutic measure implementation and ongoing monitoring of the improvement of the intestinal microbiota.

In other situations, the patient's prognosis is not good; only 10% of patients can achieve long-term clinical remission, and 30% of patients experience a notable improvement in their overall health. Thus, despite receiving treatment, about 60% of patients still have stomach pain, excessive gas production, and unstable stools.

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