

Modern Views on the Etiopathogenesis, Clinical Picture, Diagnosis and Treatment of Irritable Bowel Syndrome

Rasulova Saodat Khalimovna

Bukhara State Medical Institute, Assistant of the 2nd Department of Pediatrics

Annotation: Irritable bowel syndrome is a serious and underestimated problem in childhood. This the topic has not been sufficiently studied in pediatrics compared to adult practice, and pediatricians often make this diagnosis to young children without proper justification. The article analyzes modern views on the etiopathogenesis, clinical picture, diagnosis and treatment of irritable bowel syndrome in children. Particular attention is paid to a set of diagnostic criteria for making a diagnosis.

Keywords: irritant, functional bowel disorders, irritable bowel syndrome, children, biopsychosocial model.

Among children in the first year of life, the leading place in diseases of the digestive organs is occupied by functional disorders (90-95% according to various sources). Functional diseases (or disorders) are cases in which the examination does not reveal anatomical, morphological, metabolic or other abnormalities that could explain the child's symptoms. YES. According to the classic definition of Drossman (1994), functional gastrointestinal disorders are a variety of gastrointestinal symptoms without systemic or biochemical abnormalities. Some authors believe that this definition is somewhat outdated, since with the development of medical science, new research methods appear that make it possible to determine changes in organs and systems at a more subtle level. Recognizing this point of view, we would like to propose a focus on this definition, at least until genetic and molecular testing is firmly established in routine clinical practice. The causes of functional disorders are organ dysregulation caused by "extraorganic" (psycho-emotional, stress, endocrine, etc.) factors [3, 4].

Irritable bowel syndrome is a functional bowel disorder in which abdominal pain or discomfort is associated with defecation, changes in the frequency and nature of bowel movements, or other bowel symptoms [1]. Synonyms: spastic colitis, colon neurosis, spastic constipation,

The prevalence of IBS in adults ranges from 9 to 48% (an average of 20% of the general population) depending on geographical location, socio-economic conditions, dietary habits, etc. The incidence of IBS in children visiting a children's clinic is 0. 2% according to primary outpatient care and 22-45% among children admitted to hospital - according to specialized hospitals in Western Europe. According to other data, the prevalence of IBS among children and adolescents with diseases of the gastrointestinal tract ranges from 6 to 14% and 22-35%. 5% [2.8] respectively. Classification of affected intestinal syndrome (F.Weber, R.McCallum, 1992): IHD occurs with a predominance of diarrhea; a disease that occurs with a predominance of constipation; IBS is mainly caused by abdominal pain and flatulence [2].

The pathogenesis of irritable bowel syndrome is not completely clear, but, according to modern concepts, its main components include a violation of interaction in the brain-gut system: a violation of nervous regulation (cortical and subcortical in the centers). Limbic system,

hypothalamus, segmental level); violation of humoral regulation (hormones of the gastrointestinal tract, vasoactive intestinal peptides, motilin, cholecystokinin, biologically active substances - histamine, serotonin, endocrine pathology); disturbance of vascular reception and transformation of the peripheral afferent flow of impulses in the cerebral hemisphere; visceral hypersensitivity (hyperalgesia, allodynia) [3]. Irritable bowel syndrome – “from early childhood.” This thesis does not seem strange if you deeply study the characteristics of a child’s development from the moment of birth. In particular, stress in early life is thought to lead to the development of hypersensitivity or altered responses to pathological stimuli in later life [5,6]. The risk of developing the syndrome also increases with traumatic events early in life, such as neglect or the loss of a parent. There is no minimum level of stress or pain that can cause long-term health problems. Additionally, it is unclear what makes some children more susceptible to this disease and at what age children are more susceptible to side effects [8,9]. For example, children who, for various reasons, had a nasogastric tube inserted during the neonatal period, experience significantly more severe abdominal pain in adolescence than their siblings. The association of IBS in children with comorbid mental disorders has been well studied. An increase in the prevalence of IBS has been observed during adolescence. There are no gender differences in children, but among adolescents there is a predominance of women, which is similar to the epidemiology of anxiety and depressive symptoms and disorders. There is evidence that patients with IBS are more likely to be diagnosed with anxiety and depressive disorders in the future [7]. However, the precise relationship between psychological characteristics, psychological complaints and IBS remains unclear. On the one hand, there is evidence that anxiety and depressive disorders anticipate gastrointestinal complaints. Perhaps, in these individuals, psychological characteristics increase attention to complaints from the gastrointestinal tract and activate the pain mechanism. Psychological disorders and irritable bowel syndrome may share common risk factors or be distinct manifestations of a specific causative process [11]. It is known that environmental factors influence intestinal microbiocenosis. Children with acute bacterial gastroenteritis are more likely to develop IBS than control children. Similar findings were found in another study; female gender has also been noted as an additional predictor of inflammation [9, 10]. Adult patients are more likely to develop IBS due to bacterial, than with viral infections. Intestinal microflora there is microbiological differences between patients with irritable bowel syndrome and healthy people. The epidemiological, physiological and clinical data available in the literature show the important role of intestinal bacteria in the pathogenesis of the disease [13]. Some probiotic strains are known to reduce the risk of persistent symptoms of the syndrome (especially *Lactobacillus reuteri* and GG). Data on the use of probiotics in children with IBS are limited, but also suggest benefits. However, there is a need to use different probiotics for specific conditions, symptoms and patients. In the pathogenesis of irritable bowel syndrome, inflammation of the mucous membrane, impaired intestinal immunity, microbiocenosis and permeability of the intestinal mucosa play an important role [6, 7]. According to some data, the level of fecal calprotectin in children with IBS is significantly higher than in the control group.

People with this pathology experience bacterial overgrowth syndrome. The cause of this condition is microbial interference from the large intestine to the small intestine. Bacterial overgrowth syndrome results in excessive gas production, changes in bowel movements and sensitivity of the intestinal mucosa, and activation of the intestinal immune system [10]. One of the reasons for the development of IBS may be food allergies. Studies in adult patients have shown that activation of mast cells located near the nerve endings of the intestinal wall alters visceral perception, which causes abdominal pain. In addition, the use of mast cell stabilizers (ketotifen) reduces visceral sensitivity and increases abdominal pain in adult patients with IBS [1, 5]. Visceral hypersensitivity or hyperalgesia plays a certain role in the occurrence of the syndrome. However, this statement about children has been proven only experimentally. IBS symptoms may be more related to abnormal enhancement of physiological stimuli than to true sensorineural hypersensitivity. Motility disorders were one of the first proposed mechanisms to

explain functional bowel disorders. However, no pathognomonic diseases have been identified in IBS [11]. Many movement disorders described in patients with IBS are less common in healthy people. Impaired motility usually leads to secondary changes in the internal environment of the intestine, changes in the composition of the microflora, disturbances in the processes of digestion and absorption of food. The latter inevitably increases the imbalance of the intestinal microflora, increases dysmetabolism (which causes pain), thereby closing a vicious circle. According to the Rome III criteria, the criteria for diagnosing IBS in children are:

I. Abdominal discomfort (an unpleasant sensation not described as pain) for at least 2 months or pain associated with two or more of the following 25 symptoms. % cases. time: relief after bowel movement; association with changes in litter frequency; the onset is associated with a change in the character of stool (est on the Bristol stool scale - types 1, 2, 5, 6, 7).

II. Signs of inflammation, anatomical, metabolic or neoplastic changes; may explain existing symptoms. Symptoms confirming the diagnosis of IBS and indicating its presence: violation of stool frequency: 4 or more times a day and 2 or less times a week; pathological form of stool: lumpy/hard or liquid/watery; pathological discharge of feces, excessive tension, tenesmus, imperative urges, a feeling of incomplete relaxation; excessive mucus production; swells and swells[12]. Features of clinical manifestations of affected intestinal syndrome: abdominal pain: variability, intensity of IBS, lack of constant localization, recurring nature, flatulence and combination with flatulence, decreased intensity after defecation and discharge of flatus; flatulence is not pronounced in the morning, intensifies during the day, mainly in the lower abdomen, uneven, due to dietary errors; alternation of diarrhea and constipation with the use of one of the symptoms, especially diarrhea - absence of polyolithia, Jewish stool 2-4 times only in the morning, after breakfast, against the background of a traumatic situation, imperative urges, incomplete sensations, emptying [13]. Additional diagnostic criteria for affected bowel syndrome include: ms.lob polymorphism: signs of various vegetative and neurological diseases, extraintestinal manifestations, functional disorders of other organs; a large number of visits to doctors of different specialties, a discrepancy between the waiting time and the duration of the disease, various complaints and satisfactory appearance and physical development of the patient; no development of symptoms; absence of clinical manifestations at night; reaction to a traumatic situation. The above diagnostic criteria are of great clinical importance and make it possible to at least suspect IBS in a child. The appearance of symptoms (“red flags”) in a patient that worries the doctor is organic (inflammatory, infectious, etc.), and not a functional nature of the disease. Knowledge of these symptoms is mandatory for any pediatrician [14, 15].

A comprehensive examination for suspected bowel syndrome includes the following methods: endoscopic: sigmoidoscopy, fibrosiodoscopy, fibrocolonoscopy of the abdominal organs, kidneys, oligohydramnios or ultrasound computed tomography; laboratory: general blood test, biochemical blood test, general urine test; stool examination: human microscopy, parasitological studies, occult blood, elastase, microbiological studies, carbohydrates, etc.; hydrogen test to exclude hypolactasia and fructose malabsorption (CEPL-logical signs, genetic test and exploratory biopsy of the duodenal mucosa) [3,4].

Non-drug treatment, it is necessary to reassure the child and his parents, explain the characteristics of the disease and the possible reasons for its formation. The set of measures to correct the symptoms of TSI in children without drug treatment was as follows: elimination of possible causes of intestinal symptoms; changing the patient’s lifestyle (daily routine, diet, physical activity, food preferences); normalization of the psycho-emotional state (elimination of stressful situations, limitation of school and extracurricular activities, various options for psychotherapeutic correction, creation of favorable conditions for defecation, etc.); diet correction; physical therapy, physical therapy, massage with a calming or stimulating effect (depending on the type of movement disorders); herbal medicine with sedative effect. The diet of a child with irritable bowel syndrome should be built taking into account the following requirements: a personalized diet in accordance with the child’s dietary stereotype; exclusion of

individually intolerable foods, carbonated drinks, legumes, citrus fruits, chocolate, vegetables rich in essential oils; Limit fiber and dairy from foods that cause flatulence.

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