

TREATMENT OF FUNCTIONAL DYSPESIA IN PATIENTS WITH TYPE 2 DIABETES

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Abstract: This scientific article studies the clinical course, development mechanisms and treatment methods of functional dyspepsia in patients with type 2 diabetes. The results of the study showed that functional dyspepsia occurs in a significant proportion of diabetic patients and is one of the main factors that reduce their quality of life. In the development of this condition, slowing of gastric motility, dysfunction of the autonomic nervous system, impaired hormone secretion and changes in intestinal microflora play an important role. In the course of the study, a complex treatment approach - the use of prokinetic, probiotic and herbal extracts-based drugs along with antidiabetic therapy showed high effectiveness. As a result, dyspeptic symptoms in patients significantly decreased, glycemic control improved and the overall quality of life increased. Also, diet therapy, psychological support and the formation of a healthy lifestyle are recommended as important factors in the treatment of functional dyspepsia. The results of the article justify the need to include approaches aimed at correcting dyspepsia in the system of complex treatment of patients with diabetes mellitus in clinical practice.

Keywords: diabetes mellitus type 2, functional dyspepsia, gastroparesis, diabetic neuropathy, prokinetics, probiotics, phytotherapy, complex treatment, gastric motility, quality of life.

Introduction

According to the World Health Organization (WHO), more than 500 million people in the world suffer from various forms of diabetes mellitus, of which more than 90% are type 2 diabetes. This disease is mainly characterized by insulin resistance and relative insufficiency of insulin secretion. The severe consequences of diabetes mellitus are associated not only with increased glucose levels, but also with profound dysfunctions of the cardiovascular, nervous, renal, and gastrointestinal systems. Patients with type 2 diabetes mellitus experience many metabolic changes, which lead to complex pathological processes in various organs, especially the gastrointestinal tract. As a result of diabetic neuropathy and damage to the autonomic nervous system, the gastric emptying function slows down, peristalsis weakens, and this condition manifests itself clinically in the form of functional dyspepsia. Functional dyspepsia is a syndrome characterized by symptoms such as prolonged discomfort, epigastric pain, early satiety, flatulence, and nausea without signs of organic damage to the stomach. According to numerous clinical observations, dyspeptic complaints of varying degrees occur in 40–60% of patients with diabetes mellitus. Such symptoms not only reduce the patient's quality of life, but also reduce the effectiveness of antidiabetic drugs being taken. Also, these changes in the gastrointestinal tract change the dynamics of glucose absorption and disrupt glycemic control. Therefore, normalization of gastrointestinal function in diabetes mellitus is an integral part of the complex management of the disease. Several important factors are involved in the

pathogenesis of functional dyspepsia: slow gastric emptying (gastroparesis), increased visceral sensitivity, diabetic damage to the enteric nervous system, impaired secretion of hormones (ghrelin, motilin), and changes in psycho-emotional states. Together, these factors form dyspeptic symptoms and complicate treatment. Therefore, in modern medicine, not only a symptomatic approach is important in the treatment of functional dyspepsia, but also a pathogenetically based complex therapy. Currently, among the treatment methods used in such patients, prokinetics, probiotics, phytopreparations based on plant extracts, as well as psychotherapeutic and dietotherapeutic approaches, play an important role. Prokinetics improve gastric motility and accelerate the passage of food, while probiotics restore the intestinal microflora and reduce gas formation. At the same time, herbal remedies (e.g. ginger, artichoke, chamomile extract) have mild antispasmodic, anti-inflammatory, and sedative effects.

The scientific and methodological foundations of the study are aimed at studying the pathogenesis, clinical course and effectiveness of treatment of functional dyspepsia in patients with type 2 diabetes. This study was conducted in the form of clinical observation, analytical and controlled experiment. During the study, the clinical condition, laboratory and instrumental indicators of the patients were regularly monitored. Patients diagnosed with type 2 diabetes, who had diabetes for at least five years, and who had dyspeptic symptoms in the functioning of the gastrointestinal tract were involved in the study. Their average age was from 40 to 70 years, and the number of men and women was almost equal in gender. Only patients without organic diseases of the stomach and no structural changes were detected during endoscopic examination were included in the study. The patients participating in the study were divided into two groups: patients in the main group received a complex course of treatment aimed at reducing dyspepsia along with antidiabetic therapy. Patients in the control group received only antidiabetic drugs. In the course of complex treatment, prokinetic agents that improve gastric motility, probiotic preparations that restore intestinal microflora, and phytotherapeutic agents based on plant extracts were used. Patients were also recommended to create an individual diet, eat small but frequent meals, and limit spicy and fatty foods. During the study, the severity of dyspepsia symptoms, glycemic indicators, gastric emptying rate, subjective condition of patients, and quality of life were regularly assessed. Dyspepsia symptoms were determined using a subjective assessment scale, and the average glucose level was determined based on laboratory tests and compared during dynamic observation. The results of the study were processed based on statistical analysis, and the average indicators and their levels of change were determined. Methodologically, the study was based on modern clinical standards and served to determine the effectiveness of a comprehensive approach to the treatment of functional dyspepsia in patients with diabetes. Based on the results, practical recommendations that can be used in this case were developed.

Conclusion

Functional dyspepsia is common in patients with type 2 diabetes mellitus, which is closely related to the chronic course of the disease and autonomic disorders of the nervous system. The results of the study showed that diabetic neuropathy, slowing of gastric motility, hormonal imbalance, and microflora imbalance are the main factors in the development of functional dyspepsia. This condition has a direct negative impact on the quality of life of patients, appetite, and digestion. An integrated approach to treatment, not limited to glycemic control, but aimed at reducing dyspeptic symptoms, is important. It has been found that normalization of gastric motility with the help of prokinetics, restoration of intestinal microflora with probiotics, and

mild antispasmodic and anti-inflammatory effects can be achieved with herbal preparations. Such a combination treatment significantly reduces dyspeptic symptoms, helps maintain glucose levels within normal limits, and improves the overall health of patients. In conclusion, a comprehensive, systematic, and individual approach to the treatment of functional dyspepsia in patients with type 2 diabetes mellitus is most effective. The introduction of this methodology into practical medicine will improve the quality of life of diabetic patients, reduce gastrointestinal complications, and stabilize metabolic control.

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