



The State of the Autonomic Nervous System in Patients Suffering From Peptic Ulcer Autonomic Dystonia

Kadirov Behruzбек Saidovich

Annotatsion: Autonomic dystonia and Helicobacter pylori (HP) infection are significantly more likely to be detected in patients with gastric ulcer than in healthy people. Under the influence of dysfunction of the autonomic nervous system, factors contribute to the formation of ulcers, such as impaired regional blood flow, motility, acid formation, creating conditions for the persistence of Helicobacter pylori. A comprehensive assessment of the vegetative status allows you to adequately assess the symptoms of gastric ulcer and to correct treatment taking into account violations of the tone of the autonomic nervous system.

Keywords: peptic ulcer, autonomic nervous system, psychoemotional status, Spielberger test, personal anxiety, reactive anxiety, sympatheticotonia.

Relevance. Peptic ulcer of the stomach and duodenum is one of the urgent problems of modern gastroenterology.

Peptic ulcer is a polyetiological, genetically and pathogenetically heterogeneous disease. Under the influence of adverse factors (Helicobacter pylori infection, long-term nutritional error, psycho-emotional stress, bad habits), a genetic predisposition to the development of PU is realized. [5].

The formation of a peptic ulcer is due to the action of hydrochloric acid (the rule of K. Schwarz "No acid - no ulcer") on the mucous membrane of the stomach and duodenum, which allows us to consider antisecretory therapy as the basis for the treatment of exacerbations of peptic ulcer [4].

According to the combined data of the World Health Organization (WHO), from 38% to 42% of patients who apply for an appointment with somatic doctors belong to the group of psychosomatics. One of the main diseases of the gastrointestinal tract is peptic ulcer of the stomach and duodenum. Among the adult population is about 7-10%, and the duodenum is 4 times more likely [2].

Psychosomatic illness is a disease that has both psychological and physiological causes, having a certain symptom complex, forming a "vicious circle", in which somatic symptoms have a direct impact on a person's psycho-emotional health, which further aggravates his somatic condition. Therefore, it is necessary to carry out treatment not only traditionally, but also to correct the psychological state of the patient [1].

Because of the complexity of our social life, many emotions cannot be freely expressed through voluntary activity, but remain repressed and ultimately misdirected. Instead of being expressed through voluntary innervations, they affect vegetative functions such as digestion, respiration, and circulation [3].

In the modern world, the problem of the effect of stress on the organs of the gastrointestinal tract, especially on the gastric mucosa, is relevant, contributing to the occurrence of peptic ulcer.

At the moment, the role of stress as the main or auxiliary etiological factor of ulcerative lesions of the gastric mucosa has been proven. This means that under certain conditions, the stress response turns from a general link in the body's adaptation to various environmental factors into a pathogenic mechanism [6].

Purpose of the study. To study the state of the autonomic nervous system in patients with PU associated with HP and autonomic dystonia.

Materials and methods of research.

The state of the autonomic nervous system was assessed in 165 patients: 140 of them with gastric and duodenal ulcers and 26 healthy individuals were studied according to the scheme proposed by the Scientific and Methodological Center for Autonomic Pathology of Russia. The autonomic tone was assessed by 34 autonomic symptoms using a special questionnaire card. Each symptom in the table was evaluated using an expert method on a five-point system. One of the methods for determining vegetative reactivity is the method of pressure on the reflex zones - Danigny-Ashner's oculocardial reflex, which makes it possible to determine a different level of reactivity of the autonomic nervous system. Vegetative provision of activity was studied by ortho-clinostatic test. At rest and in a horizontal position, heart rate and blood pressure levels were determined.

The psycho-emotional status of patients was assessed on the basis of the results of psychological testing using the Spielberger test. This method provides information about (in conditional points) reactive and personal anxiety.

The Spielberger scale has 40 questions. From 1 to 20 of them reflect reactive anxiety "how he usually feels". There are 4 types of answers for each question: "not at all", "perhaps so", "true", "absolutely correct". For personal anxiety: "almost never", "sometimes", "often", "almost always". Answer 1 to "highly anxious" questions means no or mild anxiety, and answer 4 means high anxiety. The resulting numbers are summed up and we get the result.

Survey results.

Vegetative disorders detected in the examined patients with PU were divided into 2 groups depending on the severity of the clinical course (1st (70) - more pronounced, 2nd (70) - less pronounced), and analyzed quantitatively their representation in all groups. These data are presented in Table 1, which shows that, in general and quantitatively, in patients of the 1st group, these vegetative syndromes are much more pronounced with significant differences in all five studied parameters. Assessment of the significance of identified vegetative disorders in terms of design, suffering from a greater severity of pain syndrome (over five points), such syndromes as neurogenic hyperventilation, neurogenic tetany syndrome and skin vegetative disorders are significantly more common.

After analyzing the quantitative scores of the severity of the syndrome of vegetative dystonia, as well as the scores of the phenomenon of anxiety in the psycho-emotional sphere according to the Spielberger test and the initial vegetative tone, which we studied in a comprehensive manner according to the unified Guillaume-Vein table. These data are presented in Table 2, which shows that the scoring of the syndrome of vegetative dystonia in the 1st group of patients is significantly higher both in the questionnaire and in the scheme compared to the control group. Similarly, the severity of both reactive and personal anxiety is significantly higher in the 1st group of patients with peptic ulcer. As for the vegetative tone, the results show that patients of the 1st group have a significantly more pronounced sympathicotonia compared to the control group. Comparison of these parameters in the group of patients, depending on the severity of the clinical course, showed that with a greater severity of the pain syndrome, the score of the autonomic dystonia syndrome was significantly higher according to the questionnaire, i.e., according to the subjective sensation of patients in the 1st group, as well as the level of personal anxiety and autonomic sympathicotonia. In other words, the identified psycho-vegetative disorders, characteristic of patients of the 1st group, turned out to be significant not only for the formation, but also in terms of the intensity of the pain syndrome. At the same time, attention is drawn to the fact that anxiety is characteristic of a person as a whole,

regardless of the situation, which may indicate a lower threshold of pain sensitivity and determine the psychological predisposition to the presence of pain and a vivid clinical manifestation of the disease.

Table 1 Clinical structure of VDS in patients with peptic ulcer depending on the severity of the clinical course

Indicators	Control group (n=26)	Patients with PU	
		I group (n=70)	II group (n=70)
Neurocirculatory violations	<u>12</u> 46,1%*	<u>42</u> 60,0%*	<u>67</u> 95,7%
neurogenic syndrome hyperventilation	<u>8</u> 30,7%*	<u>36</u> 51,4%*	<u>57</u> 81,4%*
Neurogenic tetany syndrome	<u>7</u> 26,9%*	<u>61</u> 87,1%*	<u>63</u> 90,0%*
Gastrointestinal disorders	<u>9</u> 34,6%*	<u>12</u> 17,1%*	<u>43</u> 61,4%
Cutaneous vegetative disorders	<u>11</u> 42,3%	<u>9</u> 12,8%*	<u>69</u> 98,5%*
Indicators	Control group (n=8)	Patients with PU	
		I group (n=43)	II group (n=27)
Neurocirculatory violations	<u>3</u> 37,5%*	<u>42</u> 60,5%*	<u>25</u> 92,6%
neurogenic syndrome hyperventilation	<u>3</u> 37,5%*	<u>22</u> 51,2%*	<u>22</u> 81,4%*
Neurogenic tetany syndrome	<u>2</u> 25%*	<u>37</u> 86,0%*	<u>24</u> 88,9%*
Gastrointestinal disorders	<u>3</u> 37,5%*	<u>7</u> 16,3%*	<u>16</u> 59,2%
Cutaneous vegetative disorders	<u>11</u> 42,3%	<u>6</u> 13,9%*	<u>26</u> 96,3%*

Note:* - significance of differences with the control group ($p < 0,05$)

Table 2 Psycho-vegetative risk factors in patients with peptic ulcer depending on the severity of the clinical course

Indicators	Control group (n=26)	Patients with PU	
		I group (n=70)	II group (n=70)
SVD - questionnaire	17,06**	48,81**	55,58
Scheme	16,5**	49,8**	54,72
Spielberger Test: Reactive Anxiety	18,7*	39,78*	42,66
personal anxiety	8,69*	50,93*	53,96
Vegetative tone (sympathicus).	14,69*	58,30*	61,7
Vegetative tone (parasympatheticus).	12,31*	41,70*	38,3
Indicators	Control group (n=8)	Patients with PU	
		I group (n=43)	II group (n=27)
SVD - questionnaire	17,06**	48,81**	55,58
Scheme	18,7*	39,78*	42,66
Spielberger Test: Reactive Anxiety	8,69*	50,93*	53,96

personal anxiety	14,69*	58,30*	61,7
Vegetative tone (sympathicus).	12,31*	41,70*	38,3

Note:* - significance of differences with the control group ($p < 0,05$)

Conclusions.

It has been established that in patients with peptic ulcer in the chronic course of the process, a dissociated syndrome of autonomic dystonia is observed with a high level of reactive and personal anxiety and a parasympathetic orientation of autonomic reactivity, which indicates the maladaptive nature of autonomic disorders.

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