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Autonomic dystonia syndrome as one of the etiofactors in the development of peptic ulcer

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Abstract. *Vegetovascular dystonia (VSD) is a concept that includes a whole complex of disorders that are formed due to pathology in the human body. The disease is presented in the form of various symptoms that develop against the background of a malfunction of the autonomic nervous system. In this case, the balance between the sympathetic and parasympathetic parts of the nervous system is disrupted. A person may complain of headaches, dizziness, black spots before the eyes, heart rhythm disturbances, insomnia, anxiety, and mood swings. It is believed that with this diagnosis the patient has no organic disorders, and all manifestations are functional.*

Key words: *peptic ulcer, autonomic nervous system, psychosomatic diseases, syndrome of autonomic dystonia.*

Синдром вегетативной дистонии как один из этиофакторов в развитии язвенной болезни.

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Резюме. *Вегетососудистая дистония (ВСД) – понятие, включающее в себя целый комплекс нарушений, формирующихся вследствие патологии в организме человека. Заболевание представлено в виде различных симптомов, развивающихся на фоне нарушения функции вегетативной нервной системы. При этом нарушается баланс между симпатическим и парасимпатическим отделами нервной системы. Человек может жаловаться на головные боли, головокружение, черные точки перед глазами, нарушения сердечного ритма, бессонницу, беспокойство, перепады настроения. Считается, что при этом диагнозе у больного нет органических нарушений, а все проявления носят функциональный характер.*

Ключевые слова: *язвенная болезнь, вегетативная нервная система,*





психосоматические заболевания, синдром вегетативной дистонии.

Vegetativ distoniya sindromi oshqozon yarasi rivojlanishidagi etiofaktorlardan biri sifatida.

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Buxoro davlat tibbiyot institutining Fakultet va gospital terapiya kafedراسى assistenti

Annotatsiya. *Vegetovaskulyar distoni (VSD) - bu inson organizmidagi patologiya tufayli hosil bo'lgan buzilishlarning butun majmuasini o'z ichiga olgan tushuncha. Kasallik avtonom nerv tizimining noto'g'ri ishlashi fonida rivojlanadigan turli xil alomatlar ko'rinishida namoyon bo'ladi. In this case, the balance between the sympathetic and parasympathetic parts of the nervous system is disrupted. Odam bosh og'rig'i, bosh aylanishi, ko'z oldida qora dog'lar, yurak ritmining buzilishi, uyqusizlik, tashvish va kayfiyatning o'zgarishi haqida shikoyat qilishi mumkin. Ushbu tashxis bilan bemorda organik kasalliklar yo'qligi va barcha ko'rinishlar funktsional ekanligiga ishoniladi.*

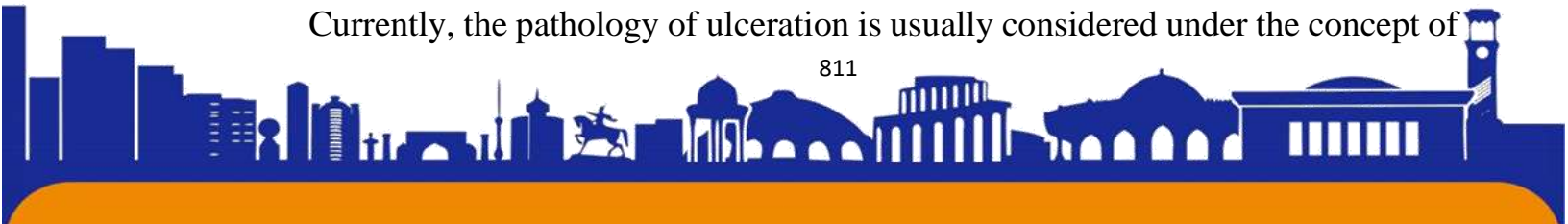
Kalit so'zlar. *yara kasalligi, vegetative asab tizimi, psixosomatik kasalliklar, vegetative distoniya sindromi.*

Gastric ulcer (GUD) and duodenal ulcer (DU) in many countries is also considered a social problem, affecting up to 10-15% of the adult population during their lifetime [15, 16].

Even taking into account many years of study, the etiology of peptic ulcer of the stomach and duodenum still cannot be definitively clarified. One of the founders of the doctrine of peptic ulcer J. Cruvelier, describing the clinical picture, morphological changes and main complications of the ulcer, wrote in his teachings that the main cause and mechanisms of its development are covered in the darkness of deep uncertainty. We can say that this darkness has not been dispelled to this day [22].

To describe the processes accompanying the occurrence of stomach ulcers, in recent years a large number of different theories have been proposed, based on the recognition of any one pathogenetic link as a decisive factor, however, attempts to reduce the genesis of the disease to the action of any single moment have proven untenable [1, 14].

Currently, the pathology of ulceration is usually considered under the concept of





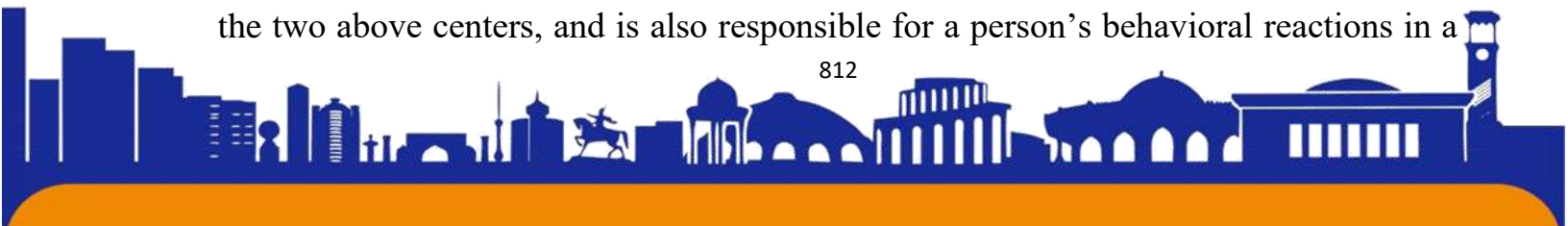
the ratio of aggressive factors and protective factors (Neck scales), under normal conditions, which balance each other. The formation of ulcers occurs in situations where the balance between the above factors is disturbed either due to increased acid-peptic aggression or due to a weakening of the protective barrier [2, 8]. When analyzing the literature of recent years, attention is drawn to a significant number of works highlighting the mechanism of formation of an ulcer using a psychosomatic approach [13, 17].

Without a doubt, we can emphasize the fact that gastric ulcer and especially duodenal ulcer are psychosomatic diseases, since there is scientific evidence that the etiology involves a vegetative factor in the formation of ulcers [3, 9].

It is noted that the highest incidence of peptic ulcer disease occurs in the nature of major social conflicts and upheavals. Recent years have been associated with increasing social tension in society, which in turn leads to an increase in the frequency and duration of psycho-emotional stress. The psychophysiological reactions that arise in such cases under unfavorable conditions (chronicity of stress, genetic predisposition) turn into corresponding psychosomatic diseases, in particular peptic ulcer disease. Apparently, this is the main reason for the increase in the incidence of peptic ulcer disease, as well as changes in its course in recent years [7, 17].

Psychosomatic medicine, which is one of the important branches of modern medicine, studies the interrelationships between the nature of human somatic disorders and his emotional life, the importance of the environment and individual mental factors in the etiology of diseases. At the same time, based on the fact that a person's living conditions in the past and present, as well as his emotional life, can have a significant impact on the functions of internal organs, but without attaching importance to psychogenic influences as the only and decisive factor in the etiology somatic diseases, psychosomatic medicine supports the concept of polyetiology of human diseases [2, 8].

With the participation of three main structures of the brain, psychosomatic reactions are carried out: 1) the neocortex, which is mainly responsible for the processes of memory, judgment, speech and inhibitory reactions; 2) the hypothalamus - which is the source of emotions, which integrates and coordinates the activity of the autonomic and endocrine systems of the body; 3) the limbic system, which is also called the "visceral brain," which is involved in ensuring the interconnection and interaction of the two above centers, and is also responsible for a person's behavioral reactions in a





specific situation. The above-mentioned brain structures are very closely related to two endocrine systems: 1) the hypothalamus-pituitary gland - the adrenal cortex, which is responsible for the implementation of the reaction of psycho-emotional stress; 2) hypothalamus-sympatheticus - the medulla of the adrenal glands, which implements the body's protective reaction. One of the important roles of the "visceral brain" is that it is connected with the reticular formation, due to which it perceives impulses coming from various sense organs [19, 20]. Thus, it is advisable to consider psychosomatic relationships taking into account psychoendocrine and psychovegetative mechanisms, since they lead to the development of certain somatic diseases when their "connection" is disrupted [6, 12].

Higher nerve centers "control" the visceral functions of the body with the help of the autonomic and endocrine systems. Taking these data into account, we can say that certain formations of the brain, and not just its cortex, exert psychosomatic effects on internal organs, which lead to the development of psychosomatic disorders.

And peptic ulcer and peptic ulcer can be safely classified as a typical example of a psychosomatic disease, in which psycho-emotional and psychosocial factors play a significant role, contributing to the formation of a peptic ulcer in the stomach or duodenum [3,8].

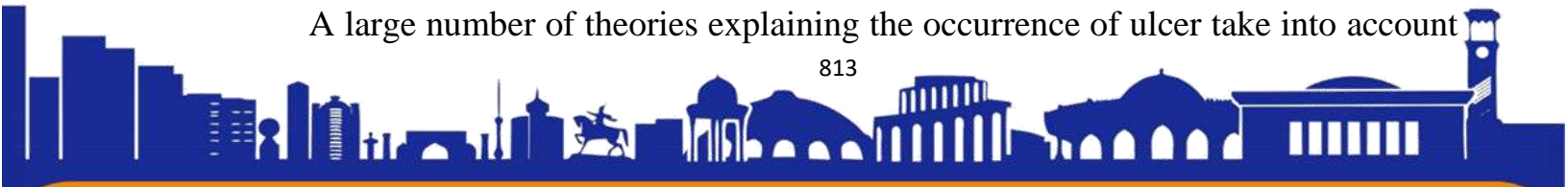
In addition, mental factors are only cofactors that acquire a significant role only when they are combined with genetic, constitutional, and environmental factors (meteorological, infectious - *Helicobacter pylori*), immune and local factors, which realize the development of the disease [18].

It should be noted that peptic ulcer disease is not a local lesion strictly localized in individual anatomical structures (stomach, duodenum), but a systemic disease in which the somatic is always mediated by a mental factor [10].

The appearance of psychosomatic diseases depends not only on the level of human intelligence, but also on the characteristics of the emotional state, disturbances of which are manifested by anxiety (personal, situational) and depression, the implementation of which is carried out using psychophysiological mechanisms with the participation of vegetative and somatic reactions [4].

To describe the development of peptic ulcer disease, many theories have been proposed and many factors involved in its manifestation have been indicated.

A large number of theories explaining the occurrence of ulcer take into account



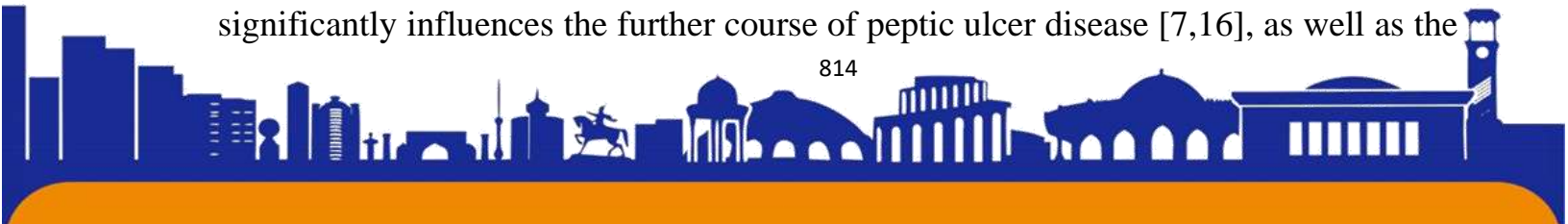


the role of two factors: hardwired and aggressive, that is, a change in the resistance of the gastric mucosa and the digestive influence of gastric juice. Today, the main attention is given in the most widespread theory as a violation of the function of the nervous system, the participation of which is emphasized in the occurrence of both of these moments.

G. Selye, who is a famous Canadian researcher, created the theory of the general adaptation syndrome, “a single nonspecific reaction of the body to damage or even to any kind of impact,” the significant points of which are: 1) a significant increase in the cortical layer of the adrenal glands; 2) acute involution of the thymic-lymphatic apparatus; 3) hemorrhagic ulcers of the stomach and duodenum. It has been established that during stress reactions, the appearance of acute ulcers in the stomach and duodenum is observed. This was proven by Selye back in 1936 in experiments with long-term immobilization of rats.

It is known that psychosomatic disorders arise as a result of subjectively unresolvable conflicts between a person and his environment, due to unrealized, suppressed negative emotions, constant feelings of anxiety, fear, despair or, quite the opposite, anger with elements of aggressive states [6, 15]. It should be noted that psycho-emotional stress does not automatically entail the occurrence of a somatic disease, but contributes to the transition from a “sleeping”, compensated state, latent insufficiency of the gastroduodenal system to peptic ulcer disease. In this process, an important role belongs to genetic factors that determine individual stress sensitivity. Acting as a “trigger”, the psycho-emotional factor creates persistent functional, metabolic, and then structural changes (ulcers) in the gastroduodenal area, reducing its tolerance to traumatic influences [4, 8, 13]. An important role in the implementation of the pathogenic influence of environmental factors on the state of internal organs is played by vegetative and neuroendocrine discharges that arise as a component of emotional reactions. The resulting emotional and affective disorders (excitability, suspiciousness, anxiety, depression) can contribute to chronic pain, sleep disturbances and the appearance of autonomic dysregulation with its permanent and paroxysmal manifestations [11].

Apparently, the degree of severity of psycho-vegetative abnormalities not only participates in the development of clinical manifestations of the disease, but also significantly influences the further course of peptic ulcer disease [7,16], as well as the





patient's attitude to treatment, accuracy and the duration of compliance with the doctor's recommendations and, thus, may be of decisive importance in the duration of the achieved remission.

A detailed study of the clinical picture of some pathogenetic mechanisms of the occurrence of vegetative-vascular disorders in patients with peptic ulcer disease was carried out by a number of researchers with the aim of developing pathogenetic necessary therapeutic measures [5, 18].

The various autonomic-vascular disorders identified were topographically considered as segmental (peripheral), suprasedgmental (cerebral) and generalized. Statistical processing of the obtained patient history data made it possible to establish the presence of a correlative dependence of autonomic-vascular disorders on the duration of the ulcerative process, therefore, to draw a conclusion about the primacy of gastric organopathology.

Autonomic-vascular disorders of the suprasedgmental level manifested themselves in the form of the following symptom complexes: visual vegetative-vascular dystonia of the hypo- and hypertonic type, venous dystonia, against the background of which paroxysmal conditions occurred, hypothalamic vegetative-vascular disorders with changes in visceral adaptation and crises of vagoinular, sympathoadrenal mixed orientation. Patients with vegetative-vascular dystonia often had cerebrovascular, cardiac and neurotic manifestations [19].

A stable type of change is observed mainly in patients with a long course of peptic ulcer disease, and paroxysmal (vagoinsular crises, sympathoadrenal) in patients with severe pain in the epigastric region, with physical or emotional stress, changes in atmospheric pressure [19].

Clinical features consist of a variety of stage-by-stage damage to vegetative-vascular formations of both segmental and suprasedgmental levels, manifested by changes in skin color, sweating and dermographism, cardinal disorders, hypothalamic crises of mixed directions, changes in capillary blood flow and tone vessels according to data, indicators of temporal pressure and in the central artery of the retina, central adaptive vegetative-visceral mechanisms.

Increased interest in the study of neurohumoral regulation remains due to the fact that the literature data covering this issue are quite contradictory. Elimination of neurohumoral regulation disorders is a big challenge in clinical practice. In particular,





it is unclear whether in peptic ulcers the tone of the parasympathetic part of the autonomic nervous system always predominates [16, 17] or whether the tone of the sympathetic part may also predominate [14].

Thus, if the dominance of the tone of the parasympathetic nervous system is characteristic of a newly diagnosed and benign peptic ulcer, then the prevalence of the sympathetic nervous system is characteristic of a long-term and complicated disease.

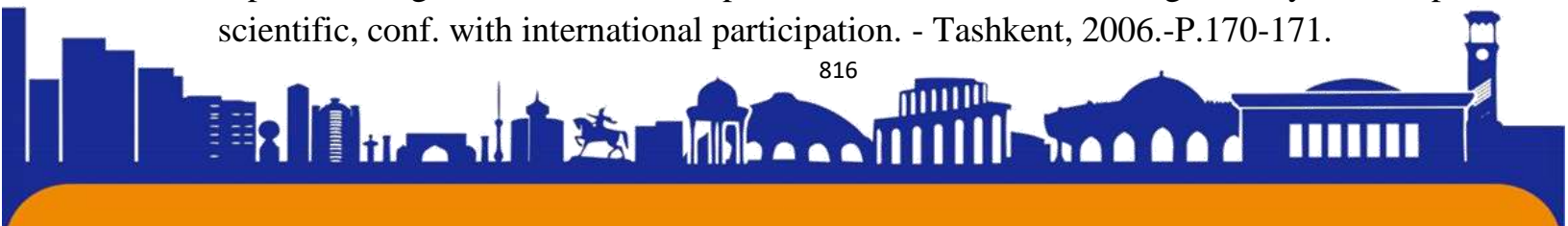
There is a correlation between the severity of the disease, activation of the sympathetic nervous system and the presence of anxiety, depression and psychopathic personality traits [3].

Thus, timely diagnosis and correction of psychovegetative disorders in patients with peptic ulcer disease will contribute to a more rapid achievement of full remission and improve the quality of life of patients.

There is no doubt that further study of polysomato-psychovegetative disorders in the occurrence and development of peptic ulcer disease will allow us to develop the correct individualized approach to the prevention and treatment of this disease.

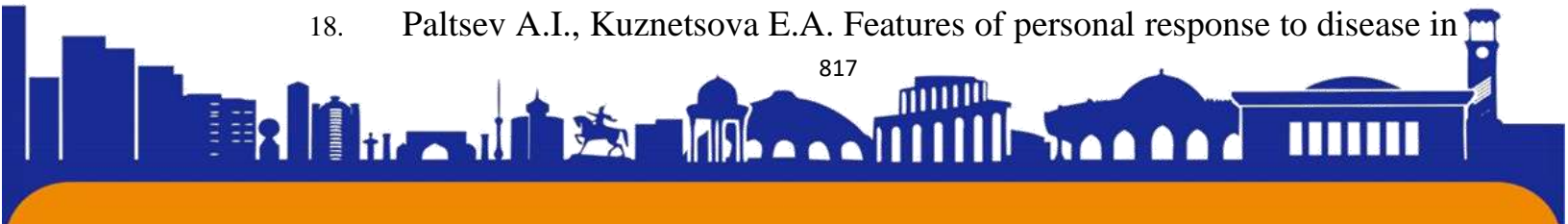
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