

THE INFLUENCE OF COMORBID ENDEMIC GOITER ON THE QUALITY OF LIFE OF PATIENTS WITH GASTROINTESTINAL PATHOLOGY

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SUMMARY

The impairment of adaptive mechanisms of functional systems of the body plays an important role in the occurrence of gastrointestinal diseases. This impairment is caused by unfavorable ecological and radiation conditions, external stress factors, food containing carcinogens, macro - and microelements deficiency. Technogenic environmental pollution contributes to decrease in the level of iodine in the body and more severe course of thyroid pathology. Diseases of the digestive and endocrine systems and their combination will occupy one of the leading places among the existing pathologies according to the forecasts of WHO experts in the XXI century. Adaptation of the body to various environmental influences is the most important factor in the quality of life. The relevance of the study was determined by the high incidence of psychological disadaptation, borderline personality disorders and, as a consequence, decrease in the quality of life in patients with gastrointestinal pathology and hypothyroidism. The article presents the results of comparative analysis of the quality of life indications of patients with gastric ulcer and / or gastroesophageal reflux disease in combination with hypothyroidism. The Russian-language analogue of the international questionnaire SF36 was used to analyze the indicators of patients' quality of life. The results of the study will allow to formulate the diagnosis exactly and organize adequate, comprehensive multidisciplinary treatment.

Key words: quality of life - gastric ulcer - gastroesophageal reflux disease - thyroid gland - questionnaire SF 36

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INTRODUCTION

There have been intense changes in the environment due to the sharp expansion of industrial production, increase in the amount of waste in recent decades. It leads to the ecological disbalance and disruption of the reserve capacity of organs and systems with the further formation of functional and organ pathology, reducing the duration and quality of life of the population. Cases of morbidity and mortality associated with insufficient environmental quality lead to a decrease in the employment of economically active population in the production of gross product (the damage in 2017 amounted to about 118 billion rubles) (About the state 2018).

Constant and multicomponent pollution of atmospheric air, drinking water, soil, residential areas leads to the additional morbidity and mortality of the population. Increased content of silicon, lithium, magnesium, iron, strontium, manganese, boron, aluminum, chloroform, ammonium, sulfates, nitrates and other compounds in drinking water can cause the development of diseases of the nervous, endocrine, immune, genitourinary, musculoskeletal systems, digestive organs, skin, blood system. A number of substances binds to hormone receptors in a body, causing hormone-like effect and disrupting the secretion of hormones of the endocrine glands, and also changes the mechanism of regulation of metabolic processes of reproductive function, adaptive reactions of the body. Thyroid pathology, diabetes mellitus, hermaphroditism, reproductive dysfunction and the development of hormone-dependent tumors are associa-

ted with the syndrome "endocrine disruption" (Yaglova 2012, Khalitova 2015). The deficiency of individual trace elements and the presence of endemic diseases are also revealed. "The ecological portrait" of a person includes "a complex of genetically determined properties and inheritable morphofunctional traits that characterize the specific adaptation of an individual to a specific set of basic environmental factors" (Aghajanyan 1992). WHO experts predict that in the XXI century diseases of the digestive and endocrine systems will occupy one of the leading places (<https://www.rosminzdrav.ru/ministry/61/22/stranitsa-979/statisticheskie-i-informatsionnye-materialy/statisticheskiy-sbornik-2016-god>). The incidence of thyroid disease, established for the first time in life among the adult population, was 392462 people in 2016, and the incidence of digestive diseases was 3084575 people in 2016 according to statistics of the Ministry of Health of Russia (About the state 2018). The medical and social significance of the pathology of the thyroid gland and gastrointestinal tract problem is determined by their high prevalence regardless of age, the annual increase in morbidity and the decrease in the quality of life (QOL).

The thyroid gland and the gastrointestinal tract share a common embryonic origin. Thyroid hormones have a direct impact on the structure and functional state of the gastrointestinal tract. The functional state of the thyroid gland is directly related to changes in the trophic mucosa of the stomach and duodenum. The pathology of the thyroid gland and stomach also have a genetic similarity: cytoplasmic antibodies were detected in the

blood of patients with thyroid dysfunction. These antibodies provide a cross-reaction of passive hemagglutination with both thyroid and stomach antibodies (Nikolaeva 2011).

The combination of thyroid and gastrointestinal pathology modifies both the somatic picture of diseases and nosogenic mental disorders, and contributes to multi-organ pathology. The presence of comorbid pathology increases the cost of diagnostic, treatment of the disease and changes the adherence to treatment and quality of life. At present, the problem of increase in the quality of life associated with health is a key one in the state policy of Russia.

The term "health-related quality of life" refers to the assessment of parameters associated and non-associated with diseases and allows to differentiate the impact of the disease on the mental, emotional state of the patient, his social status. The main methods of studying of QOL are standardized questionnaires that have been tested in clinical studies and clinical practice (Akhunov 2009). The concept of QOL research in medicine is recognized as a priority worldwide. The most widely used in medicine is the SF 36 questionnaire (SF 36 Health Status Survey). It is a general (non-specific) questionnaire for assessing QOL, widely spread in the United States and Europe, translated into Russian and allowed for use in Russia in the study of QOL of healthy population and patients with various chronic diseases (Ware et al. 1993).

SUBJECTS AND METHODS

The SF36 questionnaire was used to analyze the condition of patients with gastric ulcer and/or gastroesophageal reflux disease (GERD) in combination with hypothyroidism. Thirty-six items of the questionnaire are grouped into eight scales. The scales are grouped in two indicators: "physical health component", which includes physical functioning, role functioning (due to physical condition), pain intensity, general health, and "psychological health component", which combines mental health, role functioning (due to emotional state),

social functioning, and life activity. Indicators of each scale range from 0 to 100, where 100 – full health (Ware et al. 1994). The survey was conducted in 70 patients. Patients were divided into four groups: the first group-patients with peptic ulcer disease (20 persons), the second group-patients with peptic ulcer disease and hypothyroidism (20 persons), the third group-patients with GERD (15 persons), the fourth group-patients with GERD and hypothyroidism (15 persons).

RESULTS

The data obtained as a result of the study were statistically processed, studied and were reliable ($p \leq 0.05$). The results of the study are shown in figure 1.

The decrease in QOL was observed in all the studied patients in the analysis of SF 36. When comparing the quality of life of patients with peptic ulcer disease and patients with GERD, it turned out that the "physical component of health" in the examined patients of the first and third groups was almost the same and amounted to 51.36 and 47, respectively. Pain, irritability, fatigue, insomnia, neurotic disorders and various psycho-emotional disorders in such patients lead to difficulties in daily activities. Serotonin, adrenaline, dopamine and glutamic acid are more actively secreted under the influence of stress and emotional tension. This internal primary system, located in the epithelial layer of the esophagus, stomach, small and large intestine, plays a key role in the initiation of peristaltic and secretory reflexes and affects the functions of the gastrointestinal tract.

The "psychological component of health" in patients of the first and third groups was 41.22 and 37, respectively. The decrease in the "psychological component of health" is closely related to the inflammatory process in the gastrointestinal tract, which is accompanied by the release of cytokines, neuropeptides and eicosanoids that influence the function of the brain and other organs (Role of gastrointestinal 2011). The study revealed more significant decrease in the "physical and psychological components of health" of patients

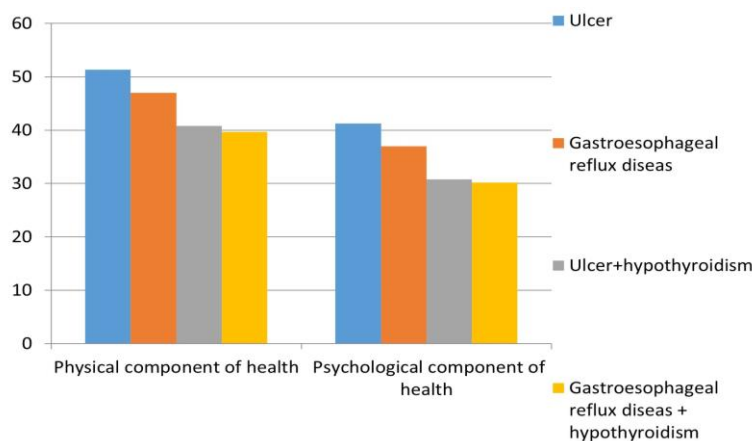


Figure 1. Comparison of quality of life indications of were patients with gastric ulcer, gastroesophageal reflux

with peptic ulcer disease and hypothyroidism and patients with GERD and hypothyroidism associated with the pathogenesis of hypothyroidism: protein, lipids metabolism disorder, the utilization of carbohydrates deceleration. The "physical health component" of the second and fourth groups was 40.80 and 39.70, accordingly, and the "psychological component" was 30.75 and 30.18, accordingly.

The "psychological component of health" in comorbid patients is various. Patients with combined pathology often show mental exhaustion, as a consequence psychoendocrine syndrome (decreased memory, attention and emotional lability). These patients were characterized by severe irritability and hypochondriac. The quality of life of people with a high degree of social and creative activity, as a rule, significantly decreases, their medical and social status changes. Patients with combined gastrointestinal pathology (peptic ulcer disease and / or GERD) and hypothyroidism require surveillance not only by a general practitioner, gastroenterologist, endocrinologist, cardiologist, but also by a psychotherapist and clinical psychologist due to severe somatogenic mental disorders.

CONCLUSION

The environmental pollution, lack of microelements and the presence of endemic diseases lead to increase in comorbid pathologies, that significantly reduces the quality of life of the population. Thus, the introduction of available psychometric techniques into gastroenterological practice, as well as the organization of psychological and therapeutic counseling of patients allow to accurately formulate the diagnosis and organize adequate, comprehensive multidisciplinary therapy.

Contribution of individual authors:

All authors contributed to writing of this paper equally.

Acknowledgements: None.

Conflict of interest: None to declare.

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