УДК 616-009, 616-01/09

Зорик О. Ю., Шангина М. В.

СТРЕССОВЫЕ ЗАБОЛЕВАНИЯ

Научный руководитель – к.филол.н., доцент Майорова О.А.
Башкирский государственный медицинский университет, Уфа

В статье изучено влияние стресса на здоровье человека и различные заболевания, которые могут быть связаны со стрессом. В ней рассматривается воздействие стресса на организм и механизмы возникновения связанных с ним заболеваний.

Ключевые слова: стресс, пищеварительная система, сердечно-сосудистая система, репродуктивная система.

Zorik O. Y., Shangina M. V.

STRESS-RELATED ILLNESSES

Scientific Advisor – Ph.D. in Philology, Associate Professor Mayorova O.A.
Bashkir State Medical University, Ufa

The article reviews the effects of stress on human health and various diseases that may be associated with stress. It examines the effects of stress on the body and the mechanisms of occurrence of related diseases.

Key words: stress, digestive system, cardiovascular system, reproductive system

Stress is one of the most common reasons for the development of diseases in the 21st century. It can arise from various factors: emotional, physical, informational, and others. Stress is the body's response to the action of strong irritants. This process has several stages: at an early stage, anxiety develops, characterized by a decrease in the body's resistance and the psychophysiological syndrome, but usually, individuals adapt quickly enough (due to an increase in the secretion of gamma-aminobutyric acid). If the impact of stressors persists, the condition progresses to the stage of exhaustion, leading to the formation of psychosomatic pathology. In extreme cases where stressors of extreme magnitude are present, stress can escalate into the most severe form – shock, characterized by a sharp disruption of the functions of multiple organ systems.

Stress affects all age and ethnic groups, but there are primary risk factors associated with its development: harmful habits (alcohol, smoking, lack of sleep), hard work, poor ecology. As a result of stress, immunity weakens, rendering individuals more susceptible to various diseases. Since immune cells regulate the condition of all body systems, the function of any organ is at risk of impairment. Common consequences of stress include diseases of the gastrointestinal tract, cardiovascular, and reproductive systems.

During the effects of irritants, impulses are transmitted to the brain cortex, leading to the activation of the hypothalamic-pituitary-adrenal and sympathetic-adrenal systems in the central nervous system in response. This results in a series of biochemical reactions culminating in the body's overall response to the stress factor.

The digestive system engages in metabolic processes through the digestion and absorption of nutrients and vitamins from food. All stages of digestion occur due to the action of hormones or other

biologically active substances. Stress factors disrupt hormonal balance, potentially leading to organ dysfunction. Changes in the digestive system commonly manifest through reduced secretion of gastric and intestinal juices, decreased peristalsis, reduced blood supply to the digestive organs. Typically, during stressful periods, the sense of hunger diminishes, causing individuals to inadequately nourish themselves, leading to organ malfunctions. One of the most prevalent consequences is the development of mucosal inflammation, gastritis, gastric ulcers, and duodenitis. Stress-related gastrointestinal pathologies are often observed in young individuals, posing a significant issue as organ functions across other systems may be compromised without adequate nutrition and nutrient absorption.

The cardiovascular system plays a vital role in maintaining blood circulation, with any dysfunction in the heart, arteries, or veins affecting the entire body. During stress, adrenaline release increases heart rate, consequently intensifying the workload on the myocardium and blood vessels, reducing baroreceptor sensitivity, and stretching heart valve flaps. Additionally, the nourishment of the heart muscle gets disrupted, potentially leading to endothelial inflammation. Acute and chronic stress situations elevate the risk of cardiac pathologies such as arrhythmia, tachycardia, atrial and ventricular fibrillation, and hypertension. Frequent exposure to stress factors contributes to 20% of cases of sudden cardiac death (SCD). Timely identification and elimination of stressors from the patient's life can prevent heart and vessel damage, restore homeostasis, and enhance their quality of life.

The reproductive system is highly susceptible to alterations due to hormonal disruptions. Women are primarily exposed to stress factors due to their weaker nervous system, leading to more significant impacts on their reproductive system. The most common result of this influence is the disruption of the menstrual cycle, dysmenorrhea, changes in the nourishment of mucous membranes, endometriosis, dysbacteriosis, and fungal infections. Hormonal changes can also decrease the number of follicles in a woman's ovaries, reducing her fertility. The balance between estrogen and progesterone is disrupted, causing severe dysfunctions in the female reproductive organs. In men, the influence of stressors also affects the reproductive system: spermatogenesis directly depends on the quantity and proportion of certain hormones. Stress disrupts the hormonal balance in the testes (the organ of spermatogenesis): testosterone levels decrease, while corticosteroid levels increase, impacting the quality and quantity of ejaculate.

In addition to physiological disturbances, the impact of adverse factors can trigger the formation of pathological formations. Cancer is a disease in which an entity comprising atypical cells of epithelial tissue, mucous membranes, or an organ's parenchyma develops. The formation of pathological cells occurs due to changes in the genetic material of the original cell. In a healthy body, the immune system regulates cytogenesis and eliminates defective cells. However, under stress

factors, the immune system weakens, allowing atypical cells not only to survive but also to proliferate rapidly. Cancer is a multifactorial disease, with stress often acting as a trigger for its development.

It should be noted that the body's response to stressors depends not only on the impact of the factor but also on how an individual perceives it. After all, immune system disruptions are caused not only by the trauma itself but also by the memories associated with it. The perception of external factors is significantly influenced by the state of the nervous system, partially determined by genetics and the individual's behavior. Numerous studies have shown that a positive mindset can enhance a patient's chances of recovery.

Therefore, stress indeed adversely impacts many systems of the human body, but its consequences can be managed by improving the condition of the nervous system.

REFERENCES

1. Батырова А.Н., Бердалина Г.С. Роль стресса и адаптации в развитии эрозивно-язвенных повреждений желудочно-кишечного тракта: Вестник КазНМУ, №1- 2014
2. Золотарёва Т. А., Насибуллин Б. А., Ярошенко Н. А., Змиевский А. В. Современные представления о механизмах стрессобусловленных изменениях активности сперматогенеза: „Світ медицини та біології”, 2011. № 4
3. Плосская М.В. Роль стресса в развитии раковой опухоли: Кубанский государственный медицинский университет, г. Краснодар, 2015.
4. Прояева Л.В. Влияние стресс-факторов на репродуктивную систему женского организма и содержание минеральных веществ в скелете: Вестник КГУ 2005. №4
5. Шкляев А. Е., Галиханова Ю. И., Толмачев Д. А. Влияние уровня депрессии и стресса на функциональное состояние желудочно-кишечного тракта // Известия высших учебных заведений. Поволжский регион. Медицинские науки. 2023. № 3. С. 104–112.
6. Эбзеева Е.Ю., Полякова О.А. Стресс и стресс-индуцированные расстройства. Медицинский совет. 2022;16(2):127–133.