



## INFLUENCE OF STRESS ON MORPHOFUNCTIONAL CHANGES IN THE RECTUM

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### ABSTRACT

*Stress plays a significant role in various aspects of human physiology, including the functioning of the digestive system. The rectum, an important part of this system, is affected by stress, which can lead to morphofunctional changes. This abstract discusses the effects of stress on the morphological and functional aspects of the rectum, including changes in its structure, peristalsis, secretion, and related factors. Both negative and compensatory adaptive responses to stress are considered, as well as possible ways to correct these changes in order to maintain intestinal health.*

**Introduction.** Energy drinks can lead to increased consumption: an initial high followed by a sharp drop, which can prompt the person to consider additional energy drink consumption. This process of "dependence" has complex effects. Some people enjoy the taste sensation. A dependence can form on the fact that a person feels more alert and vital due to self-hypnosis or advertising influence. In addition, a chemical dependence occurs due to the large amount of glucose. Research into the functional state of the body when exposed to toxicants and preventing their migration from waste into the environment, as well as the complete elimination or limitation of their impact on living organisms, are one of the most important areas in solving modern medical and toxicological problems.

There is currently no consensus on the preferred option for a preventive intestinal stoma in low anterior rectal resection for cancer. Researchers have different opinions, historically the initial recommendations were in favor of a colostomy, while more recent trends indicate a preference for an ileostomy. However, the presence of a preventive ileostomy is accompanied by various complications, which may require rehospitalization, the statistics of which, according to various sources, reaches 43.1%. Among the common complications are dehydration and electrolyte disturbances associated with high fluid losses through the stoma. Theoretical foundations. This article presents the results of a study aimed at modeling various types of surgical interventions on rats to assess their impact on gastrointestinal motility (GIT). The study was conducted on three groups of rats subjected to different types of surgeries: laparotomy, laparotomy with loop colostomy, and laparotomy with single-layer colon-colonic anastomosis. GIT motility was assessed using the gastrointestinal transit index (GTI), which was expressed as a percentage of the length of the stained section of the intestine to the total

length of the intestine. The results showed that surgical interventions have a depressing effect on GIT motility, with the greatest decrease in GTI observed in the colostomy group.

Studies conducted by various authors provide important data on the influence of various factors on the functional state of the gastrointestinal tract (GIT) in rats. The results indicate the need for further research in the field of the influence of various factors on the state of the GIT, which is important for developing strategies to prevent postoperative ileus, improve surgical treatment methods for patients with GIT diseases and increase the resistance of the gastric mucosa to stressors.

This statement emphasizes the importance of the lymphatic system and its connection with blood circulation in the animal body. The lymphatic bed plays a key role in ensuring immune function and drainage of fluid from tissues. The authors note that in modern veterinary medicine, understanding this system is an integral part of the practical work of doctors. Particular attention is paid to the lymph nodes of the posterior colon, such as rectal and caudal mesenteric. It is indicated that their morphometric parameters change depending on age periods. According to the results of studies conducted in postnatal ontogenesis, it is noted that the caudal mesenteric lymph nodes are characterized by the largest sizes.

It is claimed that mortality from chronic alcoholism and acute alcohol intoxication has been high in recent years, second only to mortality from cardiovascular diseases and cancer. However, despite the relative ease of identifying individuals with alcohol dependence, official diagnosis and statistical work can be difficult, which sometimes distorts the real picture. The authors note that the stereotypical nature of damage to internal organs in chronic alcohol intoxication emphasizes the need to distinguish between pathology caused by alcoholism and pathology caused by other diseases, but aggravated by alcohol exposure. This draws attention to the importance of correct diagnosis and classification of pathology associated with alcohol exposure in order to develop effective measures for its prevention and treatment.

The article is a study aimed at assessing the cycle period of macro- and microthrombi in the left atrial appendage (LAA) depending on its anatomical shape based on autopsy data. The work used data obtained from a study of 85 human hearts, where LAA measurements were made in three projections, and the LAA shape was determined according to the classification of Wang et al. Pathohistological assessment was performed using hematoxylin and eosin.

This article presents the results of a study of the pelvic floor structures using magnetic resonance imaging (MRI). The authors found that in all subjects, the muscles originated from the lower branches of the pubic bones, which is a classic variant. MRI allowed detailed visualization of not only the structures of the muscle that lifts the anus, but also the urogenital cleft and the parts of the genitourinary system and the rectum passing through it. The article also discusses the works of A. Shafik, which did not present native data on the variants of the origin of the pubococcygeus muscle. The authors express doubts regarding the presented schemes of the origin of the levator ani muscle and suggest that they may be based on artefacts obtained as a result of dissection. Particular attention is paid to the relationship of the tendinous arch of the levator ani muscle with the obturator internus muscle. The authors discuss an interesting article by Muro devoted to this issue. In general, the article presents important data on the structure of the pelvic floor and its relationship with functional aspects. It emphasizes the importance of MRI for detailed study of anatomical structures and may be useful for specialists working in the field of urology, gynecology and proctology.

This study aims to investigate the effect of a mixture of broad-spectrum antimicrobial drugs (AMP) - amoxicillin, metronidazole and clarithromycin, on the process of nutrient absorption in an isolated small intestinal loop and on the resistance of the myocardium of an isolated heart to ischemia-reperfusion injury (IRI). The study was conducted on adult male Wistar rats under improved conditions of a conventional vivarium. During the experiment, the absorption of monosaccharides in the small intestine was studied on the isolated Thiry-Well loop model with the introduction of an AMP mixture into the cavity of an isolated small intestinal loop.

Also, the study on an isolated heart was conducted on a modernized Langendorff perfusion apparatus after oral administration of AMP. The results of the study showed that the AMP mixture significantly suppresses the absorption of glucose and fructose in an isolated loop of the small intestine, mainly due to the reduction of the active component mediated by the sodium-dependent glucose-transport T-protein SGLT1. In addition, rats that were administered the AMP mixture showed deterioration of the morphofunctional characteristics of the isolated heart, such as a decrease in systolic pressure in the left ventricle and an increase in the area of myocardial necrosis, indicating a decrease in resistance to ischemia-reperfusion injury. In conclusion, the study indicates the presence of rapid rearrangements in nutrient absorption in the intestine under the influence of the AMP mixture, mainly due to inhibition of active transport, and also indicates a deterioration in the morphofunctional parameters of the myocardium. Further studies of the mechanisms of changes in enterocytes and cardiomyocytes under uniform methodological conditions seem necessary for a deeper understanding of this problem.

#### References:

1. Гостищев В.К., Евсеев М.А. Гастродуоденальные кровотечения язвенной этиологии (патогенез, диагностика, лечение): Руководство для врачей. - М.: ГЭОТАР-Медиа, 2008. - 384 с.
2. Хомидчонова Ш. Х., Абдулхакимов А. Р. Морфофункциональные аспекты влияния стресса на ткани прямой кишки у крыс //yangi o'zbekiston, yangi tadqiqotlar jurnali. - 2023. - т. 1. - №. 1. - с. 156-157.
3. Ильясов А. С., Бабажанов Т. Ж. Сведение оботрицательного влияния энергетических напитков (Redbull) и об воздействии производственных токсикантов на структуру слизистой оболочки прямой кишки крыс (обзорная) //Academic research in educational sciences. - 2021. - Т. 2. - №. 12. - С. 1347-1355.
4. Ризаев Ж. А., Хазратов А. И., Иорданишвили А. К. Морфофункциональная характеристика слизистой оболочки жевательного аппарата при экспериментальном канцерогенезе //Российский стоматологический журнал. - 2021. - Т. 25. - №. 3. - С. 225-231.