8. Korotko GF Physiology of the digestive system. Krasnodar Publishing LLC BK <Group B>, 2009 p. 608

UDC: 61633.-089.168.1 + 611.423

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MORPHOLOGICAL CHANGES OF THE LYMFORUSH OF THE WALL OF THE SUBTLE INTESTINE AFTER DIFFERENT METHODS OF THE STOMACH

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Introduction: In the extensive literature on the evaluation of the effectiveness of surgical interventions (1,3,4,6), information about the functional state of the resected stomach (2, 5, 6) is insufficiently compared with other organs of the abdominal cavity. However, judging the nature of changes in the abdominal organs after various interventions requires the study of not only functional, but also morphological rearrangements, in particular of the lymphatic system of the gastrointestinal tract.

Objective: To assess changes in the abdominal organs after various interventions and morphological changes, in particular the lymphatic system of the gastrointestinal tract.

Material and methods: For this purpose, the effects of various methods of gastric resection on the morphology of the gastric lymphorus according to Billroth-1, Kuprianov-Zakharov, Billroth-N, modified by Hofmeister-Finsterer and Polia-Reyhya 10 dogs are included in the control group. Intraorganic lymphatic vessels of the intestine were detected after the operation by the method of injection of the mass of Gerot, followed by the preparation of enlightened drugs from different layers of the intestinal section. These studies were performed before and at different times after resection of the stomach.

Results and discussion: The study of drugs showed that after resection there is a further development of the process of restructuring all parts of the lymphatic bed. This is characterized by an increase in the diameter of capillaries and blood vessels, as well as their anastomoses. The presence of lateral outgrowths and extensions on the capillaries, as well as on the vessels that anastomose among themselves, indicates

not only the preservation of the function of the lymphatic system, but also the fact that it drained with some overload, stimulating the growth of new vessels in the form of lateral outgrowths and disclosing a large number of branches. At a later date, with all types of gastrectomy, the lymphatic system of the small intestine corresponds to the control group in terms of the nature of the structure and morphometric data. Lymphatic capillaries and vessels are less dilated than in earlier surgery. Simultaneously with the narrowing of the vessels, there is a decrease in the size of capillary lacunae, a decrease in both the number and size of lateral processes, intervascular anastomoses. All this leads to a decrease in vascular pattern. From a morphological point of view, the assessment of such lymph circulation can be carried out by identifying the timing and extent of restoration of intraorgan lymph architecture and the lymphora caliber of individual shells of the small intestine. In this regard, we obtained specific data on the restructuring of capillaries and blood vessels and the change in their caliber in the shells. For all types of surgery on the stomach for its resections, the reaction of the lymphatic capillaries and the small intestine vessels is almost the same type. The dynamics of changes in the lumen of the vessels has the same direction and consists in the increase of indicators during the first month of postoperative observation. In the future, the lumen of the lymphatic vessels of the intestine is reduced, but as a rule, does not reach the original values. During operations (resection of the stomach) of the inclusion of the 12-intestine (according to Billroth-I and Kuprianov-Zakharov), an increase in the lumen of the lymphatic vessels, especially the capillaries of the mucous and submucosal layer, was most clearly observed, which can be regarded as a compensatory type of reaction. It is aimed at intensifying the processes of absorption (I.Rusnyak et al., 1957) against the background of intestinal hormones that have not changed much in these conditions as compared with the experiments of the 12-duodenal switch (Hofmeister-Finsterer) of Polya-Reichel. Changes in the lumen of the lymphatic capillaries of the muscular and serous layers are not so pronounced and these changes occur almost in parallel. It should be noted that by the end of the observation (90-360 days) during the Billroth-I operation, the size of the lymphatic capillaries of the mucous and submucosal layers became equal to the original.

This indicates good adaptive vascular reactions in conditions of altered digestive status, which is not observed during gastric resections according to Kuprianov-Zakharov (capillaries in all layers remain 2-3 times wider than in control experiments). If during the operations with the inclusion of the duodenum, there is a different severity of changes in the lumen of the capillaries of different layers, then with resections with the duodenum off, the degree of capillary expansion in the intestinal wall is the same, and the reverse development of the process is delayed compared to the first type of operation. This circumstance, apparently, is associated with a large violation of the hormone-producing function of the duodenum. It is possible that when the duodenum is turned off from digestion, the hylus from the stomach quickly reaches the test site in the small intestine and causes a greater irritant

effect. In this regard, this is observed. The common lumen dilation reaction for all lympho-vessels is a whole order less in the lymphatic vessels during Billroth-1 operations of Kupryanov-Zakharov. If the size of the lumen of large lymphatic vessels during operations with the inclusion of 12 duodenal ulcer reaches the initial values by the end of observation, then when you turn off the duodenum from the digestive system it is! the lumen, despite the tendency to narrow, is still a little wide. Comparison of the corresponding graphs allows detecting to a large extent the repetition of curves reflecting the diameter of the lymphatic capillaries and vessels of the small intestine. However, all graphs show lower rates for capillaries and vessels of the muscular and serous membranes compared with the capillaries and vessels of the mucous membrane and the submucosa. This information once again makes it possible to emphasize the well-known fact that the mucous membrane and submucosa of the small intestine have a very pronounced abundant lymph porus, providing the complex function of the small intestine. These data suggest that these capillaries and vessels of the lining of the small intestine equally provide both lymphatic and drainage functions.

Summarizing the results of the experiments, we can note that after gastrectomy, the compensatory role of the lymphatic system is found from several positions. In the first days after resection, paresis of the stomach stump and the entire digestive trust occurs as a result of an operative injury and transection of the gastric nerves (vagus) when performing resection. There is a violation of blood circulation in the intestine with venous stasis and microcirculation disorder, which entails swelling of the intestinal wall, an increase in the intensity of lymphatic formation, and the intestinal lymphatic vessels expand and expand compensatory, providing drainage of interstitial fluid and intensively formed lymph. In the later periods after gastrectomy, part of the morphological transformations are preserved, which testifies to the compensatory-adaptive mechanisms of the lymphatic system

Conclusions: Resection of 2/3 of the stomach in the early stages, regardless of the method of its use, leads to a rearrangement of the digestive apparatus, a pathological shift in the morphological composition of the intestine. The most pronounced morphological changes were observed by us in the Memruig with resection of Billroth-P in its modifications, the least pronounced in the experiments with pumii on Hydrotroph-1 and its molifikatsiy. The latter indicates a more favorable course of the compensation process with Billroth I's stomach resection and its modifications.

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УДК 615.015.35

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ИССЛЕДОВАНИЕ ЦИТОТОКСИЧНОСТИ ПЕРСПЕКТИВНЫХ МОЛЕКУЛ ДЛЯ БОРНЕЙТРОНЗАХВАТНОЙ ТЕРАПИИ

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IN VITRO EVALUATION OF CYTOTOXICITY OF POTENTIAL AGENTS FOR BORON NEUTRON CAPTURE THERAPY

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Аннотация. В статье приводятся результаты оценки цитотоксичности борсодержащих веществ на культивируемые клетки глиобластомы человека. Также описаны минимальные токсические концентрации для данных образцов.

Annotation. The article deals the results of cytotoxicity activity of boron containing compounds on the human glioma cells. Described the minimal toxic concentrations for these agents.

Ключевые слова: борнейтронзахватная терапия, клеточная линия глиобластомы человека, цитотоксичность.

Key words: neutron capture therapy, culture of human glioblastoma, MTT-test