

Morphology of the lymphoid nodules of the stomach in white rats under the influence of mineral water

Guseynova S.T., Guseynov T.S.

Dagestan State Medical Academy, Makhachkala, Russia

Summary

Due to the fact that the effects of hydro mineralogical factors on the structure of the stomach wall under-researched, we aimed to study the characteristics of the reaction of lymphoid formations stomach when exposed to fresh sulphide and iodine-bromine baths. Study was conducted on 60 white rats of 15 animals in each group of rats with the contact.

We exposed by fresh, bromine and hydrogen sulfide baths of Dagestan. Used modern methods of research used in Anatomy, Histology, Lymphology. We found that the hydrological factors cause the macro-and microscopic changes in the structure of all the structures of the stomach wall (lymphoid nodules and epithelial cells, mucous membrane, gastric cancer, lymph capillaries, links hemomicrovasculature).

The depth of the lymphoid nodules from gastric epithelial cells depends on the part of the stomach. Closest to the epithelium of small lymphoid nodules located in the body portion and pylorus unlike rumen, bottom and cardia. In the distribution of the depth of localization of nodes has a different picture. Logical drive is high density of nodules and lymphocytes pylorus body portion, unlike other parts of the stomach. In different parts of the stomach is changing the depth of the nodules, the distance from their epithelial cells and elements of the microvasculature (arterioles, venules, capillaries and lymphatic vessels).

Density reticular network of fibers also depends on the parts of the stomach. In the analysis of drugs noted that changes in the structure and cellular composition of lymphoid nodules depend on local structural features of the different parts of the stomach (rumen, cardio, gastric fundus, bodies, and pylorus). Differences between the control and fresh baths unreliable, you can only talk about the tendency to increase the size of lymphoid nodules. On the contrary, the effect of iodine-bromine and hydrogen sulfide baths demonstrate significant results. When hydrogen sulfide baths length and width of the lymphoid nodules significantly increased. In the macro-and microscopic changes in the structure of lymphoid nodules observed cytological changes associated with a predominance of young forms lymphocytes (lymphoblasts),

increasing the number of dividing cells. Also increases the area of breeding centers.

In this respect it should be noted that mineral water by various ions cause changes not only in cells of lymphoid structures of the digestive system, but also in cells of gastric glands (parietal, main, mucosal, enteric endocrine) with subsequent secretion of Changes of body (gastrin, factor of Castle, mucins, enzymes, hormones, hydrochloric acid). Mineral baths enhance the function of breeding centers, cause not only an increase in their size, but also alter the composition of the entire nodule cytology. We have found the following picture of lymphoid nodules in the stomach when exposed balneotherapy baths:

- 1) receiving fresh bath does not cause significant long-term cytological changes in immune organs;
- 2) increase the iodine-bromine baths in the walls of the stomach of lymphoid nodules in the center of propagation;
- 3) balneotherapy bath cause an increase in the area of lymphoid tissue in the 20-30%, the redistribution of lymphoid cells in the direction of increasing the number of lymphoblasts;
- 4) increased cell density per unit area of cut;
- 5) changes the local cytological picture in the centers of breeding grounds mantle, the crown of the dome and lymphoid nodules of the gastrointestinal tract.

We have shown that these factors increase the balneologic function of lymphoid nodules, and in this respect our data consonant with the data VN Gorchakov and I. Savitskaya (1996), indicating that balneoprocedures potentiate compensatory and adaptive capacity of the blood and lymphatic channels, which manifests increased capillaries and blood vessels.

The literature epithelial lymphocyte index (in%) in the stomach in humans ranges from 5.2 to 5.9 [L.I. Aruin, O.L. Shatalova, 1981] in the small intestine between 10 to 30, which is associated with the fact that the small intestine digestion occurs absorption of nutrients into the venous and lymphatic channel and more massive microbe their antigenic properties in comparison with the stomach.

Our data on the number of local features of lymphoid nodules (more of them in the body of the stomach and pylorus) coincide with the descriptions of S.P. Stepanov (1990) studied the structure of gastric lymphoma in humans. At the same time, our findings differ from similar observations V.M. Koltonyuk and S.I. Boltrukevich (1968), of lymphoid aggregates in the walls of the stomach in dogs.

The presence of lymphocytes chains extending from the epithelial cells of the lymphoid nodules in the stomach and intestines, as well as the location of lymphocytes, macrophages and mast cells along the lymph vessels, arterioles and venules notes [V.M. Uspenskiy (1968), S.P. Stepanov (1990) and T.S. Guseynov (2001-2003)]. This is consistent with our observations in respect of the stomach in intact and in experimental white rats.

The growing interest in Lymphology, immunology and balneotherapy requires coverage of new aspects of the action of resort factors.

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