EFFECT OF NON-STEROIDAL ANTI-INFLAMMATORY DRUGS ON THE MUCOUS MEMBRANE OF THE STOMACH IN EXPERIMENTAL CHRONIC ATROPHIC GASTRITIS

Toshmamatov Bakhtiyor Norbekovich[1]
Scientific adviser - Teshaev Shukhrat Zhumaevich[2]
Doctor of Medical Sciences, Professor of the Department of Clinical Anatomy (OHTA) and Forensic Science
[1] Samarkand Medical Institute
[2] Bukhara State Medical Institution

Relevance: The study of various aspects of the pathogenesis and morphogenesis of gastrointestinal tract disease in gastroenterology, constituting a significant part, is gradually growing into a separate, significant area of medical science. This task is marked by extreme versatility due to various causes that can lead to death in severe courses, insufficient knowledge, and the complexity of the necessary preventive and therapeutic measures concerning the coolant, which can be influenced - almost exclusively through the hemodynamic parameters of the stomach. NSAIDs - refers to a group of drugs that regulate metabolic processes. Medicinal lesions of the coolant are a variant of symptomatic ulceration of the upper gastrointestinal tract and account for 20–23% of all secondary ENP of the gastrointestinal tract. According to some authors, treatment with acetylsalicylic acid provokes gastrointestinal bleeding in 50% of cases, indomethacin - in 30%, diclofenac - in 26%, GCS - in 14 (A.A. Ponomarev et al., 2003). The number of consumed medicines, including ulcerogenic ones, has increased all over the world. This is especially true for the elderly, who often take medications without medical supervision. To date, drugs that cause the formation of gastroduodenal ulcers have been identified, and their number is constantly growing: NSAIDs (acetylsalicylic acid, indomethacin, phenylbutazone, ibuprofen) and their derivatives, anticoagulants, some antibiotics (clindamycin, tetracyclines. NSAIDs and their mechanism for this pathological process are practically not studied.

Purpose of the study

This research aims to study nonsteroidal anti-inflammatory drugs (NSAIDs) on the processes that occur in the gastric mucosa in experimental chronic atrophic gastritis and the patterns of morphofunctional rearrangements in the gastric mucosa.

Materials and methods

The experiments were carried out on 60 white outbred male rats with an initial weight of 170-220 g, under normal vivarium conditions, non-microbial male rats from 3-6 months. Depending on the experiment, the animals were divided into 3 groups: intact group(10 rats), control group(15 falsely-operated rats) who underwent gastric autopsy, and experimental group(35 rats), in which experimental gastritis was simulated. All manipulations were performed under ether anesthesia at a dose of 50 mg/kg. For general morphometric studies, we used pieces of the stomach from the pyloric and fundus sections of

the stomach (fundus of the stomach). Morphometric studies were carried out on oriented sections of the stomach, stained with hematoxylin-eosin, where the diameter of the organ, the thickness of the mucous membrane, the number of villi and crypts, and their length were measured. On a cross-section, the number of crypt cells was counted, followed by the calculation of their cellular damage.

Results and its discussion

In the morphological study of stomach sections 2 months after sodium salicylate administration while keeping animals at an alternative post (group "CAG 2"), signs characteristic of chronic atrophic gastritis was noted. So, there was a thinning of the gastric mucosa, a decrease in glands in size with an increase in the distance between them, the development of sclerotic changes; there was an infiltration of the gastric mucosa neutrophilic-leukocyte and macrophage elements. At the same time, the severity of infiltration increased compared with intact animals in the pyloric region by 15.2 times, in the fundus by 5.7 times. The ratio of cellular elements (neutrophils, lymphocytes, monocytes / macrophages, plasma cells) forming infiltrates in the pyloric section was 2.4: 1: 1.2: 0.4, in the fundic section - 2.7: 0.8: 0 , 9: 0. The study of sections of the pyloric section of the stomach made it possible to reveal the presence of foci of intestinal metaplasia with goblet cells in addition to the changes described above. The pathological changes found during the morphological study are similar to the changes observed in chronic atrophic gastritis in humans, which allows us to conclude that the model is correctly reproduced.

Conclusion

The acute period of gastritis is accompanied by disturbances in microcirculation parameters, which are expressed in stasis and dilatation of capillaries, venules, and the linear blood flow velocity also decreases. The above facts insist on the need to study further the factors that negatively affect the coolant flow in gastrointestinal tract diseases and develop optimal ways to prevent this pathology.

References

1. Agapova N.G. About medicinal gastroduodenal ulcers // Likuvannya Mystetstvo 2007. T. 2. No. 38
2. Berdalinova A.K., Umbetov T.Zh., Shevlyuk N.N., Zhurabekova G.A. Morphofunctional characteristics of the stomach under the influence of sodium tetraborate // Journal of Anatomy and Histology. 2018. T.7.No.4.P.27-32.
3. Gelfand B.R., Guryanov A.V., Martynov A.N. et al. Prevention of stress damage to the gastrointestinal tract in critically ill patients // Consilium medicum 2005. T. 7. No. 6. P. 464–67.
4. Zhurakovsky I.P., Sergeeva Y.S., Autenshlus A.I. Effect of riboxin on the gastric mucosa in experimental gastritis // Modern problems of science and education. 2016. No. 4; P.214-219.
5. Zhuraeva G.B. Activity of pathomorphological changes in intestinal lymphoid tissue under the influence of acute intestinal infections // Yakutsk Medical Journal 2015 №2 (50) p 63-67
6. Zhuraeva, GB, Saidov, AA, & Israilov, RI (2015). The dependence of morphological and morphometric changes in the mucous membrane in acute intestinal infection on the type of pathogen // Youth Innovative Bulletin, 4 (1), 193-195.

7. Karateev A.E. Treatment and drug prevention of NSAID gastropathy: basic provisions // Pharmateka, 2006. No. 6 (121). S. 37–45.
8. Safonova M.A. Hygienic assessment of the impact of technogenic environmental factors on the development of chronic gastroduodenitis in children (on the example of the Perm Territory): / Avtoref.dis.kan.nauk Perm, 2009; 24.
9. Khudoyberdiev D.K. The influence of environmental factors on the morphology of the stomach // Problems of Biology and Medicine. 2019, no. 3 (111). S. 295-297.
10. Andersson T, Cederberg C, Heggelund A. The pharmacokinetics of single and repeated once daily dose of 10, 20 and 40 mg omeprazole as enteric coated granules // Drug Invest 1991; 3: 45–52.
11. Siurala M., Voris K. Gastritis - In: Scientific Foundations of Gastroenterology, edited by W. Sircus and A. N. Smith, 357-369, London, William Heinemann Medical Books Ltd., 1999.