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COMPARATIVE MORPHOFUNCTIONAL ASSESSMENT GASTROPROTECTIVE ACTIVITY OF POMEGRANATE SEED OIL IN"INDOMETHACIN"STOMACH ULCER IN RATS

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Abstract:

The aim of the study was to compare the effect of pomegranate seed oil on the morphofunctional state of the gastric mucosa in rats with experimental "indomethacin" ulcer.

Materials and methods: The ulcerative lesion was modeled by intragastric administration of indomethacin, the studied drugs were administered preemptively daily for seven days. The condition of the mucosa was assessed macro-and microscopically.

Results and conclusions: Pomegranate seed oil has a pronounced gastroprotective effect, which is manifested in a decrease in the number and depth of coolant erosions, a decrease in the Pauls index for banded erosions, and an increase in mucosal thickness.

Keywords: Pomegranate seed oil, indomethacin, gastric ulcer.

INTRODUCTION. In recent years, there has been a worldwide increase in gastroduodenal diseases, including gastritis, gastroduodenitis, lymphoma, and stomach cancer. Despite progress in the diagnosis and treatment of these pathologies, the problem remains urgent and requires organizational and medical measures. One of the reasons for the development of these diseases is the infection of Helicobacter pylori, which is widespread and infects up to 50% of the world's population. In light of the global increase in gastroduodenal diseases, their complexity and serious consequences, measures for early diagnosis, prognosis and treatment are needed.

On a global scale, special attention is paid to the study of gastroduodenal diseases in children, the definition of clinical and immunological aspects and the improvement of treatment methods. Identification of risk factors associated with the development of gastroduodenal pathology in children, identification of Helicobacter pylori, study of biological features and immunological parameters, as well as immunogenetic markers are priority research tasks. Early diagnosis of the risk of Helicobacter pylori infection and development of appropriate preventive measures are urgent problems.

Improving the health care system, including the diagnosis and reduction of complications of gastroduodenal diseases in children, is one of the tasks aimed at improving the quality of medical care and supporting a healthy lifestyle. The development strategy of the Republic of Uzbekistan provides for improving the quality of medical services and creating a healthy environment for the population. It is important to improve the quality of medical services provided, identify the clinical features of gastroduodenal diseases, develop markers for immunogenetic prediction and new approaches to their treatment.

THE AIM OF THE STUDY was to compare the effect of pomegranate seed oil on the morphofunctional state of the gastric mucosa in rats with experimental "indomethacin" ulcer.

MATERIALS AND METHODS OF RESEARCH: The selection of animals is carried out by dividing them into control and experimental groups. The experimental group includes subgroup A, where after experimental gastritis and ulcers, animals are not treated, but only monitored. Also in the experimental group there is a small subgroup where, after experimental gastritis and injury, animals are treated with pomegranate seed oil. After this subgroup, in case of experimental damage to the stomach of animals, pomegranate seed oil is added to the therapy.

Initially, rats are given indomethacin (12 mg/kg) intragastrically to cause stomach ulcers. 21 days after the appearance of the ulcer, they begin treatment with pomegranate seed oil. Slaughter of the control group is carried out before the onset of the disease, and in the experimental groups - on the 1st and 3rd day (acute period), the 7th and 14th day (subacute period), the 21st and 28th day (long period) after the introduction of indomethacin.

Experimental animals are kept in standard vivarium conditions. White mongrel rats aged 1 month, male, weighing from 100 to 150 grams, which are kept

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in standard vivarium conditions, are used for research.

RESULTS OF THE STUDY: Morphological studies have reflected the impressive results of the use of pomegranate seed oil in the treatment of gastric and duodenal ulcers. Prior to the start of the therapeutic course with the use of this oil, the images on the left revealed significant ulcerative lesions with pronounced edges and fibrinous plaque, indicating an active inflammatory process. After regular use of pomegranate seed oil, as the images on the right show, there was a reduction in the size of ulcers and a decrease in inflammatory changes, which indicates the beginning of healing and regeneration of the mucous membrane.

Prior to correction with pomegranate seed oil, the mucous membrane was visible with severe hyperemia and multiple erosions. After a course of treatment with pomegranate seed oil, hyperemia decreased, and erosions became less noticeable, which confirms the cytoprotective and regenerative effect of this natural product.

Before the intervention, deep ulcers prevailed, covering large areas of the mucosa, which is a sign of a severe course of the disease. Subsequent treatment with pomegranate seed oil led to a significant improvement in the condition of the mucous membrane: extensive defects regressed, tissue regeneration and the absence of hemorrhages were observed. This indicates the effectiveness of pomegranate seed oil as a powerful agent for stimulating mucosal healing and repair.

Thus, correction of the condition of the gastric and duodenal mucosa using pomegranate seed oil was highly effective. This confirms the potential of this oil as a promising tool for the treatment and prevention of gastroduodenal pathologies, promoting regeneration and protection of the mucous membrane from pathogenic effects.

CONCLUSION: The study demonstrates that the use of pomegranate seed oil significantly reduces inflammatory processes and stimulates rapid healing of ulcerative lesions. In an experiment on white rats with induced stomach ulcers treated with pomegranate seed oil, a reduction in the number of inflammatory cells and an increase in cells that promote tissue repair were observed. In the control group of rats with ulcers caused by acetate and indomethacin, the gastric mucosa showed edema, smoothness and hyperemia, with frequent cases of spot hemorrhages and erosions.

Pomegranate seed oil has shown high efficiency in treating and protecting the stomach from the damaging effects of chemical agents, helping to remove necrotic masses from ulcerative defects and accelerate the regeneration of the gastric mucosa and muscle membranes. This oil also helps maintain the structural integrity of the mucous membrane, preventing further development of destructive changes.

The study also found that pomegranate seed oil helps restore the morphofunctional state of the gastric mucosa, which indicates its potential in the prevention and treatment of gastritis and peptic ulcer disease in humans and animals. By the 21st day of the experiment, the treated rats showed a significant reduction in hemorrhages and erosions, as well as the progression of granulation tissue healing and scar tissue formation, which confirms the regenerative properties of pomegranate seed oil

LIST OF USED LITERATURE

1. Kim O. V., Shamsiev F. S., Gafarova F. M., Abduzhabarova Z. M., Shodieva M. S. Clinical features of the course of HIV infection in preschool children, depending on the route of infection, stage of the disease, severity of immunosuppression and replicative activity of the virus// Pediatrics. -2019. - No. 3. - pp. 92-94.
2. Pazilova S. A., Abduzhabborova Z. M., Shodieva M. S., Aripova D. S. Risk factors for the development of Helicobacter pylori positive and Helicobacter pylori negative gastroduodenal pathology in children // Pediatrics-2019. - No. 3. - pp. 99-103.
3. Pazilova S. A., Abduzhabborova Z. M., Shodiev N. S. prevalence of Helicobacter pylori and Helicobacter pylori negative gastroduodenal pathology in children// Pediatrics -2019. - No. 3. - pp. 207-210.
4. Shakhizirova I. D. Abdukhamidova S. R. Shodieva M. S. Optimization of therapeutic tactics in giardiasis in children// Pediatrics - 2019. - No. 3. - pp.. 104-106.
5. Shodieva M. S., Khaitova D. Sh. Sea sponge. Badyaga – perspektivy primeneniya kak lechevnoe sredstvo (obzor literatury) [Badyaga-prospects for use as a therapeutic agent (literature review)]. East European Science Journal -2019, no.4 (44), pp. 56-57.
6. Shodieva M. S., Komilova B. O. Immunogenetic aspects ofaHelicobacter pylori -associated gastroduodenal pathology in children / / Russian Journal of Gastroenterology and Hepatology. Coloproctology -2019. - No. 5. - Pp. 59-65.
7. Shodieva M. S. Immunogenetic aspects of Helicobacter pylori associated gastroduodenal pathology in children//Tibbietda yangi kun . - 2020.- №2/1.(30/1). - P. 151-153.
8. Комилова Б.О., Шодиева М.С.Phyziological and Psychological Characteristics of the Student Depending on the Color of Eye Iris//American

World Bulletin of Management and Law (WBML)
Available Online at: https://www.scholarexpress.net
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ISSN: 2749-3601

Journal of Medicine and Medical Sciences.- 2020. 10(2) -P. 121-123.

9. Shodiyeva M.S.Immunogenetic Aspects Helicobacter Pylori Associated Gastroduodenal Patthology in Children //The American Journal of medical sciences and pharmaceutical research .- 2020. August 20.- P. 58-63.