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ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии

საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

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GMN: Georgian Medical News is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

GMN: Медицинские новости Грузии - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНИТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

GMN: Georgian Medical News – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНИТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman** (**Кириллица**), для текста на грузинском языке следует использовать **AcadNusx.** Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - http://www.spinesurgery.ru/files/publish.pdf и http://www.nlm.nih.gov/bsd/uniform_requirements.html
В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректура авторам не высылается, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or compu-ter-printed on a single side of standard typing paper, with the left margin of **3** centimeters width, and **1.5** spacing between the lines, typeface - **Times New Roman** (**Cyrillic**), print size - **12** (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: http://www.nlm.nih.gov/bsd/uniform_requirements.html
http://www.icmje.org/urm_full.pdf
In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

Articles that Fail to Meet the Aforementioned Requirements are not Assigned to be Reviewed.

ავტორთა საყურადღებოდ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დავიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე,დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx.** შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შეღებვის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფჩხილებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

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EVALUATION OF THE EFFECT OF REBAMIPIDE ON THE PROGRESSION OF ULCERATIVE COLITIS IN RATS IN THE EXPERIMENT

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Abstract.

Rebamipide contributes to the improvement of blood supply of the GI mucosa, activates its barrier function, activates alkaline secretion of the stomach, increases proliferation and metabolism of epithelial cells of the GI tract, cleanses the mucosa from hydroxyl radicals and suppresses superoxides, produced by polymorphonuclear leukocytes and neutrophils in the presence of Helicobacter pylori, protects the GI mucosa from bacterial invasion and the damaging effects of non-steroidal anti-inflammatory drugs (NSAIDs) on the mucosa. Rebamipide, originally developed as a treatment for gastric ulcers, has attracted the attention of researchers as a potential drug for the treatment of UC due to its ability to stimulate mucus production, reduce oxidative stress, and decrease inflammation. Due to the presence of these properties, it is hypothesized that rebamipide may have a protective effect on the intestinal mucosa during prolonged inflammation, making it a promising candidate for inclusion in therapeutic strategies for ulcerative colitis. The results of this study suggest that rebamipide holds potential therapeutic benefits for the treatment of ulcerative colitis.

Key words. Rebamipide, colitis, rats.

Introduction.

Rebamipid is a drug - gastrocytoprotector, which increases the content of prostaglandin E2 (Pg E2) in the gastrointestinal (GI) mucosa and increases the content of prostaglandins Pg E2 and Pg I2 in the contents of gastric juice [1-3]. The drug has a cytoprotective effect on the mucosa of the GI tract under the damaging effects of ethanol, acids and alkalis, acetylsalicylic acid. It promotes the activation of enzymes that accelerate the biosynthesis of high molecular weight glycoproteins and increases the content of mucus on the surface of the GI mucosa walls [2-5]. Contributes to the improvement of blood supply of the GI mucosa, activates its barrier function, activates alkaline secretion of the stomach, increases proliferation and metabolism of epithelial cells of the GI tract, cleanses the mucosa from hydroxyl radicals and suppresses superoxides, produced by polymorphonuclear leukocytes and neutrophils in the presence of Helicobacter pylori, protects the GI mucosa from bacterial invasion and the damaging effects of non-steroidal anti-inflammatory drugs (NSAIDs) on the mucosa [3,4,6,7]. Rebamipide is widely used for the treatment of acute and chronic gastritis and peptic ulcer [1-10]. It is already known that rebamipide has anti-inflammatory properties, reducing the production of free radicals, inhibiting pro-inflammatory cytokine production, inhibiting migration and adhesion of inflammatory cells [1,5,6,9]. To date, indications for the use of rebamipide are limited to the treatment of peptic ulcer disease, chronic gastritis, prevention of mucosal lesions on the background of NSAIDs [1-10]. The study of pharmacological possibilities of using rebamipide in ulcerative colitis is an urgent problem.

Ulcerative colitis (UC) is a chronic inflammatory bowel disease that affects any part of the colon and is characterized by a progressive course with periods of exacerbation and remission [2,8,10]. This disease significantly reduces the quality of life of patients due to pain, diarrhea, and other dysfunctions of the digestive system [1-10]. According to recent data, the prevalence of UC in European countries varies from 2.4 to 294 cases per 100,000 population and tends to increase. Inflammation in UC usually begins in the rectum and may spread to a large part of the colon, leading to erosions and ulcers, disruption of mucosal integrity and, consequently, deterioration of the functional activity of the intestine [2-4]. Common morphological features of UC are thickening of the intestinal walls, reduction in the number of papillae, increased vascularization, and permeability of the mucosa [2-7].

In addition, rebamipide has an antioxidant effect, neutralizing free radicals that often accumulate in tissues during chronic inflammation and can exacerbate mucosal damage. Through this antioxidant effect, rebamipide helps reduce oxidative stress and promotes regeneration processes [8-10].

Another important characteristic of rebamipide is its ability to increase mucosal blood flow, which plays a critical role in maintaining mucosal health and mucosal repair in inflammatory bowel disease. By improving microcirculation, tissues receive more oxygen and nutrients, which speeds up their recovery [5, 9].

Rebamipide may also modulate the immune response by reducing the production of inflammatory cytokines such as TNF-α and IL-6, which are actively involved in the development and maintenance of inflammation in the gut [1-10]. The regulation of these cytokines may reduce the degree of inflammation and reduce the symptoms of ulcerative colitis [5-8].

In animal models such as rats, UC can be induced by a variety of methods, including chemical exposure, such as with dextran sodium sulfate (DSS) or 2,4,6-trinitrobenzene sulfonic acid (TNBS), which lead to the development of symptoms and morphologic changes characteristic of the disease. These models allow us to evaluate the efficacy of new therapeutic agents, study immune responses, and investigate molecular pathways of inflammation and tissue repair [1,5,8].

Modulation of the inflammatory response and mucosal defense may be one of the avenues of therapy for UC [1,6,9]. Rebamipide, originally developed as a treatment for gastric ulcers, has attracted the attention of researchers as a potential drug for the treatment of UC due to its ability to stimulate mucus production, reduce oxidative stress, and decrease inflammation. Due to the presence of these properties, it is hypothesized that rebamipide may have a protective effect on the intestinal mucosa during prolonged inflammation, making it a promising candidate for inclusion in therapeutic strategies for ulcerative colitis [1-10].

Few studies report the therapeutic value of rebamipide in the treatment of ulcerative colitis and proctitis. K. Makiyama et al. (2005), using a sample of 11 patients with mild to moderately active UC who continued conventional treatment of the disease, showed that enemas with rebamipide at a dosage of 150 mg twice daily improved the course of UC in 90.9% of patients. Moreover, complete clinical and endoscopic remission was achieved in 45.5% of UC patients. In another prospective non-comparative study by M. Miyata et al. (2005) including 11 patients with steroid-resistant and/or steroid-dependent UC, 81.8% of patients achieved remission with a 12-week course of treatment with rebamipide enemas. Thus, these clinical data suggest that rebamipide is promising in terms of its potential to repair intestinal damage. Rebamipide has the ability to inhibit neutrophil activity, induce regression of lipid peroxidation, and stimulate regeneration of epithelial cells of the GI mucosa, which makes it a potential agent for the treatment of UC when administered in the form of enemas. However, the detailed molecular mechanism of action of rebamipide against intestinal inflammation remains unclear.

The aim of the study was to experimentally evaluate the effect of rebamipide on the course of ulcerative colitis in adult rats.

Materials and Methods.

A series of experiments were conducted to study the effect of rebamipide on the course of ulcerative colitis in laboratory rats. The tests were conducted on a group of adult male Wistar rats with a total of 60 individuals. All studies were conducted according to the requirements of the decision of the Council of the Eurasian Economic Union in the Sphere of Circulation of Medicines from 03.11.2016 No 81. Animals were kept in vivarium conditions at a maintained temperature of 24-25°C, light regime -12/12.

The animals were divided into 4 groups: control group (n=10), group with induced colitis (n=10), group receiving rebamipide without colitis (n=20), and group with colitis treated with rebamipide (n=20).

Ulcerative colitis was induced in rats of the second and fourth groups by administration of 2% dextran sodium sulfate (DSS) solution in drinking water for 7 days. After induction of colitis, animals of group four were started to receive rebamipide at a dose of 10 mg/kg body weight daily through a tube, once a day for 14 days.

Treatment efficacy and the effect of rebamipide on the course of colitis were evaluated using clinical assessments, histologic analysis of colonic tissue, and biochemical markers of inflammation. Clinical assessments included body weight, degree of diarrhea, and presence of bleeding. Histologic specimens were taken after the end of the experimental period, stained with hematoxylin and eosin and evaluated for morphologic signs of inflammation.

Evaluation of Disease Activity Index (DAI): the disease activity index was used to assess the severity of ulcerative colitis in the rats. The index evaluated three parameters: body weight loss, stool consistency, and rectal bleeding. Body weight was measured daily, and the severity of diarrhea and rectal bleeding were visually assessed and scored on a scale ranging from 0 to 4. The scores of the three parameters were summed to calculate the disease activity index for each rat.

Biochemical Analysis: after 14 days of treatment, the rats were sacrificed, and blood samples were collected for biochemical analysis. The levels of inflammatory markers such as interleukin-6 (IL-6) and tumor necrosis factor-alpha (TNF-alpha) were measured using enzyme-linked immunosorbent assay (ELISA) kits. Additionally, myeloperoxidase (MPO) activity, an indicator of neutrophil infiltration in the colon, was assessed.

Statistical processing of the data was performed using the t-criterion of Student's t-test. The criterion of statistical reliability of the obtained conclusions was considered to be the value of $p < 0.05$, which is generally accepted in medicine.

Results.

All rats receiving 2% dextran sodium sulfate (DSS) solution in drinking water for 7 days developed symptoms of ulcerative colitis in 100% of cases: diarrhea (on the 4th day), rectal bleeding, and decreased body weight. The damage index in group 2 and group 4 (before treatment with rebamipide) was 276.8 ± 25.4 mm2 and 287.5 ± 21.2 mm2, respectively.

Rebamipide administration to rats of the fourth group (10 mg/kg) decreased the frequency of diarrhea, the degree of rectal bleeding severity, and decreased the degree of body weight loss ($p<0,05$). Intestinal mucosal damage in this group was 174.5 ± 31.7 mm2.

We evaluated the body weight changes in rats before and after the induction of colitis. The results showed a significant decrease in body weight in the colitis group compared to the control group ($p<0.05$). However, rats treated with rebamipide exhibited less weight loss compared to the colitis group ($p<0.05$), indicating a potential protective effect of rebamipide on body weight loss.

To further assess the severity of colitis, we used the Disease Activity Index (DAI) scoring system, which includes parameters such as weight loss, stool consistency, and rectal bleeding. The DAI scores were significantly higher in the colitis group compared to the control group ($p<0.05$). However, rebamipide-treated rats showed a lower DAI score compared to the colitis group ($p<0.05$), suggesting an improvement in colitis symptoms with rebamipide treatment.

Histologic analysis confirmed less damage and inflammation of the intestinal wall in rats treated with rebamipide. A decrease in neutrophil and macrophage infiltration and preservation of the intestinal mucosa structure were recorded.

Biochemical assays also confirmed decreased levels of inflammatory markers such as tumor necrosis factor alpha (TNF-α) and interleukin-6 (IL-6), indicating an anti-inflammatory effect of rebamipide.

Conclusion.

The results of this study demonstrated that rebamipide significantly reduced the disease activity index in rats with ulcerative colitis compared to the control group. The histological examination revealed a significant decrease in the severity of inflammation, ulceration, and epithelial damage in the rebamipide group. Additionally, rebamipide administration resulted in a significant reduction in the levels of pro-inflammatory cytokines, including tumor necrosis factor-alpha (TNF-alpha) and interleukin-6 (IL-6).

These findings suggest that rebamipide has potential therapeutic benefits for the treatment of ulcerative colitis. Rebamipide exerts its anti-inflammatory effects by suppressing the production of pro-inflammatory cytokines, thereby reducing the inflammation and mucosal damage in the colon. This anti-inflammatory action of rebamipide makes it a promising candidate for the treatment of ulcerative colitis, especially in cases where conventional therapies have failed or have limitations.

The implications of these results for the treatment of ulcerative colitis in humans are significant. Rebamipide could potentially offer an alternative treatment option for patients with ulcerative colitis, particularly those who do not respond well to current available therapies.

Moreover, rebamipide may have a favorable safety profile and can be easily administered orally, which makes it a more patient-friendly choice compared to other treatments that may require invasive procedures or have systemic side effects.

However, further studies are required to validate these results and investigate the long-term effects and optimal dosage regimen of rebamipide in ulcerative colitis. Additionally, clinical trials involving human subjects are necessary to determine the efficacy and safety of rebamipide in the treatment of ulcerative colitis. Nevertheless, the findings from this experimental study provide a promising basis for future research and offer hope for improving the management of ulcerative colitis in humans.

In conclusion, the results of this study suggest that rebamipide holds potential therapeutic benefits for the treatment of ulcerative colitis. Rebamipide reduces inflammation, mucosal damage, and disease severity in an experimental model of ulcerative colitis in rats. These findings highlight the need for further research and clinical trials to evaluate the efficacy and safety of rebamipide in human subjects. Rebamipide may represent a promising addition to the current treatment options for ulcerative colitis, offering new possibilities for patients who do not respond well to conventional therapies or experience limitations in their use.

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