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ANALYZING THE EFFECTS OF BIOLOGICALLY ACTIVE COMPOUNDS ASKOLIT, ASXAQ, AND ANTI-ULCER ON STOMACH AND INTESTINAL TRACT ULCERS

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Abstract
The article discusses about how effect ASKOLIT, ANTI-ULCER and ASXAQ for ulcerative colitis and peptic ulcer disease the distribution areas of the plants, as well as the unsurpassed role of leaves in promoting human health, the chemical composition and biological significance of vitamins ASKOLIT, ANTI-ULCER and ASXAQ, as well as several recommendations for the treatment of ulcerative colitis modern medicine. ASKOLIT, ANTI-ULCER and ASXAQ did not have any adverse toxic effects. traditional medicine based on the compound leaves plants, as well as data on the mechanism of action on the colon wall and their discussion.

Keywords: Ulcerative colitis, peptic ulcer disease askolit, asxaq, anti-ulcer biologically active substitute.

Introduction

Ulcerative Colitis (UC) and Peptic Ulcer Disease •(PUD) are two significant gastrointestinal disorders with distinct pathophysiologies but overlapping clinical symptoms such as abdominal pain, gastrointestinal bleeding, and compromised mucosal integrity. Modern pharmacological treatments, including corticosteroids, proton pump inhibitors, and antibiotics, are effective but often associated with side effects and high relapse rates.

Complementary and alternative medicine (CAM), especially the use of medicinal plants, has gained attention for its potential to modulate inflammation, protect mucosal surfaces, and support tissue regeneration. This article explores six traditional herbs with medicinal properties relevant to UC and PUD:Hypericum perforatum (St. John's Wort); Achillea millefolium (Yarrow); Plantago spp. (Plantain); Calendula officinalis (Calendula); Inula helenium (Elecampane; Matricaria chamomilla (Chamomile)

Ulcerative Colitis: Overview and Pathophysiology

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Ulcerative colitis is a chronic idiopathic inflammatory bowel disease that affects the colonic mucosa, primarily starting at the rectum and extending proximally. Its hallmark features include: Persistent mucosal inflammationUlceration and crypt abscesses Symptoms: Bloody diarrhea, abdominal cramping, fatigue, urgency The etiology is multifactorial, involving immune dysregulation, genetic predisposition, epithelial barrier dysfunction, and environmental triggers.

Peptic Ulcer Disease: Overview and Pathogenesis

Peptic ulcer disease encompasses gastric and duodenal ulcers and results from an imbalance between protective and aggressive factors in the gastrointestinal mucosa. Key contributing factors:

Helicobacter pylori infection

NSAID use Acid hypersecretion; Stress and smoking Clinical symptoms include epigastric pain, nausea, dyspepsia, and sometimes gastrointestinal bleeding.

ASKOLIT, ANTI-ULCER AND AS-XAQ extracting resources determined toxicity

Purpose of work: ASKOLIT, ANTI-ULCER and ASXAQextract It consists in determining acute toxicity in laboratory mice. The sample was taken by Askarov Ibrahimjon Rahmonovich, professor of the Chemistry Department of Andijan State University, and Kodirov Khabibullo, assistant professor of the Department of Internal Medicine at Andijan State Medical Institute. For inspection, Academy of sciences of the Republic of uzbekistan A.s. It was submitted to the Laboratory of

Pharmacology and Screening of Biologically Active Compounds of the Institute of Bioorganic Chemistry named after Sodikov.

ASKOLIT, ANTI-ULCER and ASXAQ- were isolated from some plants and presented for examination in yellow, green and reddish color, specific smell, dry state. ASKOLIT - inula helenium and calendula officinalis

ANTI-ULCER - Plantago major and Hypericum perforatum ASXAQ- Achillea millefolium and Bidens Tripartita Research method.

in the evaluation of the acute toxicity of the studied sample ASKOLIT, ANTI-ULCER and ASXAQ by intragastric administration, OECD (2002), Test No.420: Acute Oral Toxicity - Fixed Dose Procedure, OECD

Guidelines for the Testing of chemicals, section 4, OECD Publishing, Paris, https://doi.org/ 101787/9789264070943-en was carried out by administering to groups of animals of the same sex at fixed doses of 5, 50, 300, 2000 and 5000 mg/kg. Acute toxicity studies were carried out in ASKOLIT, ANTIULCER and ASXAQ extracts of some plants. purebred laboratory mice weighing 20‡2.0 g were selected.

In the experiment, 5 mice were taken for each group, and their total number was 15.

All pharmacological studies were performed in healthy, sexed, quarantined mice for 10-14 days. The studied sample was injected once into the stomach of mice in each group in doses of 2000 and 5000 mg/kg using a special probe. The animals of the control group were given an equal amount of purified water. On the first day of the experiments in laboratory conditions, the general condition of the animals of the research and control groups was monitored every hour, possible tremors and death. During the next 2 weeks,

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in the vivarium conditions, the general condition, activity, hair cover, skin condition, breathing rate and depth, urine excretion, body weight change and other parameters of the animals were checked every day in all groups. All the research animals were kept on the same routine diet, water and food were not restricted. At the end of the experiment, the average lethal dose (LD50) and toxicity class of the tested substance were determined.

Research results obtained. On the first day of the experiment, the general condition of the animals was monitored every hour in laboratory conditions, and as indicators of their functional condition, the survival rate, general condition, possible tremors and death during the experiment were monitored.5 minutes after ASKOLIT, ANTI-ULCER and ASXAQ were administered to mice at a dose of 2000 mg/kg from certain plants, they observed flushing and increased breathing, and this process lasted fo

10-15 minutes. Animals gathered in one place after 30-40 minutes. Mice are normal after 3-4 hours recovered and observed for 14 days, no death was recorded and no consequences of acute poisoning were observed.

ASKOLIT, ANTI-ULCER and ASXAQ some plants in a dose of 5000 mg/kg were observed in mice after 3-5 minutes, the animals' breathing accelerated, they gathered in one place, and their eyes narrowed and narrowed. This process lasted for 40-60 minutes, and after 5-6 hours, the mice returned to their normal state, continued to drink food and water.

When the experimental mice were observed for 14 days, the effects of acute poisoning were not observed, and no animal deaths were recorded at the studied doses during the entire experiment (5/0).

There was no decrease in body weight of mice at doses of 2000 and 5000 mg/kg when animals in the experimental groups were compared with the control group. Based on the obtained results, we can conclude that ASKOLIT, ANTI-ULCER and ASXAQ were found to be higher than 5000 mg/kg when the average lethal dose (LD50) of certain plants was once injected into the stomach of mice. The obtained results are presented in tables 1.

Herbal Therapeutics: Mechanisms and Benefits3.1 Hypericum perforatum (St. John's Wort) Key Compounds: Hypericin, hyperforin, flavonoids Medicinal Actions:Anti-inflammatory: Suppresses pro-inflammatorycytokines (e.g., TNF-a, IL-6)

Antioxidant: Scavenges reactive oxygen species,protecting the intestinal epithelium

Table 1 Marphalogy and pathology of ASKOLIT, ANTI-ULCER and ASXAQ -certain plant extract after administration in mice at a dose of 2000 mg/kg, (m±m, n=5)

	Check	ASKOLIT	ANTI-ULCER	ASXAQ
Weight	23,4± 0,8	22,9 ± 0,4	22,6 ± 0,4	22,6 ± 0,4
Liver	1401,8 ± 31,5	1398,5 ± 29,6	1368,5 ± 27,6	1368,5 ± 28,6
Lungs	222,5 ± 11,3	222,1 ± 10,2	223,1 ± 10,2	223,1 ± 10,4
Heart	185,4 ± 7,2	182,3 ± 6,5	183,5± 6,8	183,4 ± 6,7
Kidney	204,0 ± 8,0	199,5 ± 7,4	197,5 ± 6,9	196,5 ± 6,9
Thymus	21,2 ± 0,5	21,3 ± 0,4	20,4 ± 0,4	19,4 ± 0,3
Lymph	11,7 ± 0,3	11,1 ± 0,4	11,8 ± 0,4	10,9 ± 0,3
Spleen	269,7 ± 8,4	266,6 ± 8,1	267,6 ± 8,0	265,6 ± 8,0

* R<0.05 vs. healthy haven

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Thus when the acute poisoning properties of ASKOLIT, ANTI-ULCER and ASXAQ were studied in mice this sample was found to belong to the Class VI – relatively non – toxic compounds, and when administered once in the stomach, the average death dose (LD50) was from - >5000 mg/kg. a study of acute toxicity showed that compounds according to the OECD classification belong to Class VI – a relatively non – toxic class of compounds, and found that (LD50) - above 5000 mg/kg.

•Wound-healing: Enhances epithelial regeneration, useful in ulcer healing Applications: In UC, it helps reduce inflammation and supportsmucosal repair. In PUD, its anti-ulcerogenic effects may aid healing and reduce mucosal damage. Note: Hypericum may interact with many drugs by inducing cytochrome P450 enzymes; caution is advised.

3.2 Achillea millefolium (Yarrow) Key Compounds: Flavonoids (apigenin, luteolin), volatile oils, tannins Medicinal Actions: Anti-inflammatory: Inhibits prostaglandin synthesis

•Astringent: Promotes tissue contraction and reduces bleeding Antispasmodic: Relaxes intestinal smooth muscle• Antimicrobial: Mild activity against H. pylori Applications:In UC, it alleviates spasms, modulates inflammation, and supports mucosal integrity. In PUD, yarrow helps reduce gastric acidity andsunborts mucosal defense.

Plantago spp. (Plantain) - especially Plantago major and Plantago ovataKey Compounds: Mucilage, iridoid glycosides, polysaccharides Medicinal Actions: Demulcent: Coats and soothes irritated mucosa

Prebiotic: Supports beneficial gut flora Anti-inflammatory: Reduces leukocyte infiltration and cytokine activity Wound-healing: Promotes re-epithelialization Applications: In UC, mucilage from Plantago forms a barrier on inflamed tissue, reducing irritation and enhancing healing.

In PUD, it protects against acid and pepsin, reducing ulcer depth and severity.

Calendula officinalis (Calendula) Key Compounds: Triterpenoids, carotenoids, flavonoids, saponins Medicinal Actions: Anti-inflammatory: Inhibits COX-2 and cytokines Cytoprotective: Promotes angiogenesis and fibroblast activity Antioxidant: Neutralizes free radicals

Antimicrobial: Mild activity against bacteria, including H. pylori Applications: In UC, calendula enhances mucosal regeneration and reduces inflammation.In PUD, it supports ulcer healing and epithelial restoration.

Inula helenium (Elecampane) Key Compounds: Inulin, alantolactone, sesquiterpene lactones Medicinal Actions: •Antibacterial: Activity against H. pylori and other gut pathogens

Expectorant and mucosal tonic: Traditionally used for respiratory and gastric mucus membrane toningAnti-inflammatory: Reduces inflammatorymediator production Applications: In UC, elecampane may support immune modulation and reduce gut inflammation. In PUD, its antibacterial and mucosal protective effects are beneficial, particularly against H. pylori.

Matricaria chamomilla (Chamomile) Key Compounds: Apigenin, bisabolol, chamazulene Medicinal Actions: Anti-inflammatory: Inhibits COX and

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lipoxygenasepathwaysAntispasmodic: Relieves cramping and smoothmuscle tensionSedative: Calms the nervous system and gut-brainaxisGastroprotective: Reduces acid secretion andoxidative stress Applications:In UC, chamomile eases spasms, reducesmucosal inflammation, and improves emotional well-being.In PUD, it protects the gastric lining, reduces acidity, and may support healing.

Herbal Formulation and Synergy

When used together, these herbs can provide a synergistic effect in treating both UC and PUD: Chamomile + Yarrow + Plantago: Ideal for soothing mucosa, reducing inflammation, and controlling spasms in UC.

Calendula + Plantago + Inula: Combats H. pylori, promotes mucosal healing in peptic ulcers. Hypericum + Calendula: For epithelial repair in both UC and PUD. Formulations may be delivered as teas, tinctures, decoctions, capsules, or suppositories (especially for distal UC). Dosage must be individualized and overseen by a healthcare professional.

Safety and Precautions. Drug Interactions: Especially with Hypericum, which can induce liver enzymes Allergies: Chamomile may cause reactions in individuals sensitive to plants in the Asteracee family Standardization: Ensure extracts are from reputable sources with consistent active compound content Consultation Required: Especially for pregnant, breastfeeding women, or those on medications

Conclusion

Herbal medicine provides a valuable adjunctive approach to the management of ulcerative colitis and peptic ulcer disease. The herbs discussedHypericum perforatum, Achillea millefolium, Plantago spp., Calendula officinalis, Inula helenium, and Matricaria chamomilla-exhibit anti-inflammatory, mucosal-protective, antimicrobial, and healing properties that directly address the underlying pathologies of these diseases. With careful selection, appropriate formulation, and medical guidance, these herbs can support symptom relief, mucosal healing, and improved gastrointestinal health.

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