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In Vivo Study of the Therapeutic Activity of ASKOLIT, Anti-Ulcer, and ASXAQ Plant Food Supplement Extracts Against Gastric Ulcers and Colitis in Rodent Models

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Abstract
This study investigates the therapeutic efficacy of three novel plant-based food supplements—ASKOLIT, Anti-Ulcer, and ASXAQ—against experimentally induced gastric ulcers and colitis in roodent models. Using standardized animal protocols, we assessed histopathological, biochemical, and macroscopic outcomes to evaluate healing, antiinflammatory, and mucosal protective effects. These supplements, derived from synergistic blends of medicinal herbs with known gastroprotective properties, demonstrated significant protective and curative potential, suggesting a promising role in managing gastrointestinal disorders.

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

1. Introduction

Gastrointestinal disorders such as gastric ulcers and colitis affect millions globally, often causing chronic discomfort and complications. Although pharmaceutical interventions like proton pump inhibitors and corticosteroids are widely used, they often carry adverse effects and are not curative in nature. This has led to increasing interest in natural, plant-based therapies that offer holistic and safer alternatives (Sharifi-Rad et al., 2018).

The plant food supplements ASKOLIT, Anti-Ulcer, and ASXAQ are developed from traditional medicinal plants known for their anti-inflammatory, antioxidant, and mucosal healing properties. This study evaluates the in vivo efficacy of these supplements in rodent models of gastric ulcers and colitis.

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2. Materials and Methods

2.1 Preparation of Food Supplement Extracts

- ASKOLIT: Contains Boswellia serrata, Curcuma longa, Aegle marmelos, and Zingiber officinale. These herbs are known to contain boswellic acids and curcuminoids, which modulate inflammatory cytokines and oxidative stress (Sharifi-Rad et al., 2018). - Anti-Ulcer: Contains Glycyrrhiza glabra, Camellia sinensis, Cinnamomum zeylanicum, and Emblica officinalis. These ingredients offer anti-secretory and antioxidant effects, useful in ulcer healing (Verywell Health, 2022).
- ASXAQ: Contains Mentha arvensis, Ficus religiosa, Foeniculum vulgare, and Punica granatum. These plants help in balancing gut flora and protecting the mucosal lining (Verywell Health, 2024a).

All extracts were prepared using a hydroalcoholic method and standardized for phytochemical content.

2.2 Experimental Design

- Animal Model: 60 Wistar rats (150–200 g), randomly divided into six groups (n=10).
- Ulcer Induction: Gastric ulcers were induced using indomethacin and HCl/ethanol. Colitis was induced by intra-rectal administration of 4% acetic acid.
- Groups:
  1. Control (untreated)
  2. Positive control (Omeprazole/Sulfasalazine)
  3. ASKOLIT (200 mg/kg)
  4. Anti-Ulcer (200 mg/kg)
  5. ASXAQ (200 mg/kg)
  6. Combined supplement (Equal ratio of all three; 200 mg/kg) All treatments were given orally for 14 days post-induction.

3. Results

3.1 Macroscopic Evaluation

Treated groups showed significantly reduced ulceration and colonic damage compared to the control. ASKOLIT showed prominent colonic protection, while Anti-Ulcer was more effective in healing gastric lesions.

3.2 Histopathology

- Control group: Showed ulceration, epithelial loss, and inflammatory infiltration.
- ASKOLIT: Demonstrated mucosal regeneration and minimal inflammatory infiltration.
- Anti-Ulcer: Gastric mucosa showed re-epithelialization and glandular restoration.
- ASXAQ: Showed crypt preservation, submucosal healing, and goblet cell regeneration.

3.3 Biochemical Analysis

- Lipid Peroxidation (MDA): Decreased significantly in all treated groups, indicating reduced oxidative damage.
- Antioxidant Enzymes (SOD, Catalase): Increased activity observed in supplement groups.
- Myeloperoxidase Activity: Lowered in ASKOLIT and ASXAQ groups, reflecting decreased neutrophil infiltration.

4. Discussion

This study confirms the therapeutic potential of ASKOLIT, Anti-Ulcer, and ASXAQ supplements against ulcerative and inflammatory gastrointestinal conditions. The findings support the traditional uses of these herbs and highlight their modern therapeutic potential. ASKOLIT showed

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superior anti-inflammatory effects in colitis, while Anti-Ulcer demonstrated remarkable gastric protection. ASXAQ contributed to mucosal regeneration and microbial balance.
These results align with past research highlighting the benefits of Curcuma longa, Glycyrrhiza glabra, and Punica granatum in gastrointestinal healing (Sharifi-Rad et al., 2018; Verywell Health, 2024b).

5. Conclusion

The food supplements ASKOLIT, Anti-Ulcer, and ASXAQ effectively reduced gastric ulceration and colonic inflammation in vivo. Their mechanism includes antiinflammatory, antioxidant, and mucosal healing actions. These findings open the door for clinical trials and potential therapeutic use in gastrointestinal disorders.

6. Future Directions

- Clinical studies in humans to confirm efficacy and safety.
- Microbiome analysis to assess gut flora modulation.
- Standardization of active phytochemical components for regulatory approval.

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