

## REVIEWER'S REPORT

Manuscript No.: IJAR-55845

Title: Hepatoprotective Effect of Kalmegha (*Andrographis paniculata*): Insights from an Animal Experimental Study

### Recommendation:

- Accept as it is .....  
 ✓ Accept after minor revision.....  
 Accept after major revision .....  
 Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality		✓		
Clarity		✓		
Significance		✓		

Reviewer Name: Dr S. K. Nath

**Date:** 20.01.26

### *Detailed Reviewer's Report*

#### Strengths of the Study

- The study addresses a relevant and timely topic focusing on natural hepatoprotective agents, which has significant implications for traditional medicine and modern pharmacology.
- The experimental design includes clear control and treatment groups, with appropriate use of a well-established model of paracetamol-induced hepatotoxicity in rats.
- The methodology encompasses biochemical, histopathological, and gross pathological assessments, providing comprehensive evaluation of liver status.
- The biochemical parameters (ALT, AST, bilirubin) and histopathological outcomes support the study's aims.
- The study highlights traditional medicinal claims of Kalmegha with scientific validation, contributing to evidence-based herbal medicine.

#### Weaknesses of the Study

- The sample size per group (eight rats) may be limited for robust statistical analysis, reducing the power to detect subtle effects.
- The statistical analysis description lacks detail (e.g., specific tests used, p-value thresholds), which affects reproducibility and credibility.
- The dose selection (2 mL decoction/dilution) lacks rationale; clarification on how doses relate to human use or previous studies would improve understanding.
- No mention of ethical approval details such as the institution, approval number, or informed consent procedures for animals.
- There is limited discussion about the potential mechanisms of action, particularly related to andrographolide.
- The manuscript contains grammatical errors, awkward phrasings, and some typographical issues, impacting readability.
- The presentation of tables and figures could be improved with clearer labeling and inclusion of full statistical details.
- References are provided, but some lack completeness or consistent formatting, and actual citations in the text are minimally linked.

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### Reviewer Comments

- **Title and Abstract:** The title accurately reflects the content. The abstract summarizes the study well but could be clearer about the experimental methods and specific outcomes. Including the statistical significance explicitly would strengthen it.
- **Introduction and Objectives:** The introduction provides a relevant background, citing traditional uses and scientific evidence. The objectives are clear but could be more explicitly defined, for example, by explicitly stating the hypothesis tested.
- **Methodology and Statistical Analysis:** The methods section describes the experimental procedures comprehensively, including animal handling, treatment groups, and biochemical assessments. However, details on the statistical tests employed, p-values considered significant, and data analysis procedures are missing. Clarification is necessary to evaluate the validity of conclusions drawn.
- **Results and Discussion:** Results are presented with biochemical data and histopathology, showing improvements in treated groups. The discussion appropriately links findings to traditional claims and previous research. Nonetheless, explanations about the mechanisms, especially concerning andrographolide, would be beneficial. The discussion should also address limitations such as sample size and variability.
- **Conclusion and Implications:** The conclusions are consistent with the data, emphasizing the hepatoprotective potential of Kalmegha and its possible clinical relevance. However, the translational implications should be cautiously framed due to the preliminary nature of animal studies.
- **Ethical Clearance:** No explicit mention of ethical approval, approval authority, or protocol number is provided. This is necessary for research involving animals, ensuring compliance with ethical standards.
- **Language and Presentation:** The manuscript contains multiple grammatical errors and awkward sentences that impact clarity. A thorough language edit is recommended. Figures and tables should be clearly labeled, with complete legends and consistent formatting. References are generally appropriate but would benefit from uniform formatting and complete citation details.

### Additional Notes

A preliminary internet search with the paper's title and key phrases reveals no prior publication of this specific study. However, a thorough plagiarism check with dedicated software is recommended to confirm originality and rule out duplicity.