

## REVIEWER'S REPORT

**Manuscript No.:** IJAR-53792

**Date:** 11/09/2025

**Title:** "Optimizing Intraoperative Fluid Management: Evidence from a Three-Arm Trial of Crystalloids and Colloids in Abdominal Surgery"

### 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:** 11/09/2025

### Reviewer's Comment for Publication:

The study convincingly demonstrates that supplementing Ringer's lactate with balanced colloids (hetastarch or tetrastarch) can accelerate gastrointestinal recovery, promote earlier mobilization, and reduce ICU and hospital stays without increasing renal or cardiovascular risks in major abdominal surgery patients. These findings support the judicious use of colloids in perioperative fluid strategies to enhance recovery.

### Reviewer's Comment / Report

#### Strengths:

- Robust Study Design:** The use of a prospective, randomized, double-blind, controlled trial with three groups adds reliability to the findings.
- Balanced Baseline Characteristics:** The groups were comparable in demographics, comorbidities, and surgical procedures, reducing bias.
- Practical Outcomes:** The study evaluates patient-centered outcomes like gastrointestinal recovery time, ambulation, ICU and hospital stay, which are highly relevant in clinical practice.
- Safety Profile:** The study reports no significant increase in renal dysfunction or mortality with colloid use, aligning with current safety literature.
- Alignment with Prior Evidence:** The findings support existing research indicating benefits of colloids in enhancing postoperative recovery when judiciously used.

#### Weaknesses:

- Single-Center Study:** Limited generalizability; multi-center studies would strengthen the external validity.
- Sample Size and Follow-up Duration:** The modest sample size and short 30-day follow-up may not capture long-term complications or rare adverse events.
- Choice of Colloids:** Only synthetic starches (hetastarch and tetrastarch) were studied, limiting applicability to other colloids such as gelatin or albumin.
- Monitoring Protocol:** Reliance on CVP-guided fluid therapy rather than advanced flow-based techniques may affect the accuracy of volume assessment.
- Potential Bias in Blinding:** The ease of blinding personnel with different fluid types should be confirmed to prevent bias.

### Recommendations for Authors:

- Proofreading and Grammar:** Review the manuscript carefully for minor grammatical errors and typos. For example: On Page 1, the phrase "the Department of Anaesthesiology at a tertiary academic centre

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from Jan 2024<sup>51</sup> to June 2025" contains a typo; it should be "January 2024 to June 2025". Consistent use of terminology (e.g., "colloids" vs. "hydroxyethyl starches") should be maintained.

2. **Clarify Methodology:** Specify whether blinding was successful and how blinding was maintained to enhance methodological transparency.
3. **Expand Limitations:** Discuss other potential limitations, such as the impact of CVP-guided therapy versus flow-based monitoring.
4. **Data Presentation:** Include more detailed statistical data where possible (e.g., confidence intervals) to strengthen the analysis.
5. **Terminology Consistency:** Ensure abbreviations are defined on first use and used consistently throughout the paper.
6. **Figures and Tables:** Incorporate clear, well-labeled figures or flowcharts illustrating the study design, flow of participants, and key outcomes for better visual comprehension.