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## REVIEWER'S REPORT

Manuscript No.: IJAR- 50323 Date: 17/02/2025

**Title:** "Investigating the Comparison between MDCT Brain Plain and MRI Findings in Infants Presenting with Hydrocephalus: A Hospital-based Cross-Sectional 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:** 18/02/2025

**Reviewer's Comment for Publication.**
Strong methodological approach, relevant clinical insights, and well-organized statistical analysis. Needs improvements in sample size, follow-up data, radiation risk discussion, and accessibility analysis.

## *Reviewer's Comment / Report*

**Strengths of the Paper:**

1. **Clinical Relevance:** The study addresses an important medical concern: diagnosing hydrocephalus in infants using MDCT and MRI. It highlights comparative strengths of both imaging modalities, aiding in clinical decision-making.

2. **Well-Defined Methodology:** The study follows a cross-sectional comparative design, which is appropriate for assessing imaging differences. Ethical approval and informed consent were obtained, ensuring research integrity.

3. **Data-Driven Analysis:** The use of Chi-square tests for statistical significance strengthens the study's reliability. Data are presented systematically in tables, making it easy to interpret and compare results.

4. **Key Findings and Clinical Implications:** CT was better at detecting lateral ventricle involvement (94.9%). MRI was more successful in detecting 4th ventricle anomalies (30.8%) and spina bifida (5.1%). The study highlights that both modalities have complementary roles, reinforcing the need for a multidisciplinary approach.

**Areas for Improvement:**

1. **Small Sample Size:** Only 39 infants were included, which limits generalizability. Suggestion: Future studies should use larger cohorts and multicenter data to strengthen findings.

2. **Lack of Long-Term Follow-Up:** The study does not evaluate patient outcomes after imaging. Suggestion: Follow-up studies could assess how imaging influences treatment and prognosis.

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3. **Limited Discussion on Radiation Exposure:** While MDCT is known for higher radiation exposure, the study does not discuss its risks. Suggestion: A risk-benefit analysis of MDCT vs. MRI in infants would improve the paper.

4. **Absence of Cost and Accessibility Analysis:** MRI is often more expensive and less accessible than CT, which impacts clinical use. Suggestion: A discussion on cost-effectiveness and hospital resource availability would enhance the study's practicality.