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REVIEWER'S REPORT

Manuscript No.: IJAR-57773

Title: Posterior Reversible Encephalopathy Syndrome (PRES) Associated with Cerebral Microbleeds in a Child with Severe Acute Asthma: A Case Report,

Recommendation:

Accept as it is .....

Accept after minor revision.....

Accept after major revision .....YES

Do not accept (*Reasons below*) .....

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

Reviewer's ID: JPR-094

Detailed Reviewer's Report

Reviewer's Report

 # Overall Evaluation

This manuscript presents a rare pediatric case of Posterior Reversible Encephalopathy Syndrome associated with severe acute asthma, refractory status epilepticus, and cerebral microbleeds. The topic is clinically interesting because neurological complications of severe asthma are uncommon, and the coexistence of PRES with diffuse cerebral microbleeds in a pediatric intensive care setting is rarely reported.

The manuscript has potential scientific value; however, several methodological, clinical, and reporting limitations reduce its current publication quality. Significant revision is required before consideration for publication.

 # Strengths

1. Rare and Clinically Important Case

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*** The association between severe acute asthma and PRES in a pediatric patient is uncommon.**
*** Presence of cerebral microbleeds and peduncular hematoma adds novelty and clinical interest.**

2. Educational Value

*** Highlights the importance of neurological monitoring in pediatric intensive care patients with severe asthma and refractory seizures.**
*** Raises awareness among intensivists, pediatricians, and neurologists regarding atypical neurological complications.**

3. Detailed Radiological Description

*** MRI findings are reasonably described.**
*** Identification of corpus callosum microbleeds contributes to neuroradiological relevance.**

4. Multidisciplinary Clinical Management

*** Demonstrates collaboration between intensive care, neurology, radiology, and infectious disease management.**

5. Relevant Literature Support

*** References include classical and authoritative PRES literature.**

 # Weaknesses

1. Missing Ethical and Consent Statements

Major concern.

*** No mention of:**

*** informed consent from guardians,**
*** ethical approval,**
*** patient confidentiality compliance.**

These are mandatory for case reports.

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2. Lack of Imaging Figures

*** MRI and CT images are absent.**
*** No radiological figure legends.**
*** Imaging evidence is crucial for a neuroradiological case report.**

3. Clinical Inconsistencies

Several findings require clarification:

*** GCS 15/15 despite recurrent seizures.**
*** Oxygen saturation discrepancy (99% vs 88%).**
*** Hemoglobin inconsistency:**

*** ABG Hb = 14.3 g/dL**
*** Laboratory Hb = 8.5 g/dL.**

4. Incomplete Hemodynamic Data

*** Blood pressure values are not provided despite hypertension being central to PRES pathophysiology.**
*** No documentation of hypertensive episodes.**

5. Limited Differential Diagnosis

The manuscript does not adequately discuss exclusion of:

*** encephalitis,**
*** CNS vasculitis,**
*** hypoxic ischemic injury,**
*** metabolic encephalopathy,**
*** septic encephalopathy.**

6. Insufficient Literature Comparison

*** The discussion lacks a systematic comparison with previously published pediatric asthma-associated PRES cases.**
*** Novelty claim is not fully substantiated.**

7. Weak Follow-up Information

*** No follow-up MRI findings.**

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*** No long-term neurological outcome assessment.**
*** "Reversible" nature of PRES is not radiologically confirmed.**

8. Infection-Related Issues

*** Presence of Serratia marcescens and Burkholderia cepacia bacteremia requires deeper discussion.**
*** Possible nosocomial infection or immunological predisposition is not explored.**

9. Language and Structural Issues

*** Some sections are repetitive.**
*** Discussion occasionally resembles textbook review rather than focused case interpretation.**
*** Minor grammatical editing is required.**

 # Key Scientific Points

Important Positive Points

*** Rare pediatric presentation of PRES associated with severe asthma.**
*** Hypercapnia and respiratory acidosis may represent triggering mechanisms.**
*** Cerebral microbleeds indicate severe endothelial injury and blood-brain barrier disruption.**
*** Status epilepticus correlated with radiological abnormalities.**

Important Missing Points

*** Blood pressure trends.**
*** MRI sequence details (SWI, GRE, DWI, ADC).**
*** Ventilator strategy and ICU course.**
*** Steroid dosage duration.**
*** Follow-up neuroimaging.**

 # Significance of the Study

Clinical Significance

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Moderate to High.

*** Useful for pediatric intensivists and neurologists.**
*** Encourages early neuroimaging in severe asthma with neurological deterioration.**

Scientific Significance

Moderate.

*** Adds to limited literature regarding atypical pediatric PRES.**
*** However, incomplete documentation limits impact.**

Publication Significance

Potentially publishable as a case report after major revision.

 # Specific Recommendations to Authors

Major Revisions Required

1. Add written informed consent statement.
2. Include ethical approval/declaration.
3. Provide MRI and CT images with legends.
4. Clarify clinical inconsistencies.
5. Include blood pressure values and hemodynamic trends.
6. Expand differential diagnosis discussion.
7. Add literature comparison table.
8. Include follow-up MRI and neurological outcome if available.
9. Improve English language editing.
10. Strengthen discussion regarding mechanisms linking asthma, hypercapnia, and PRES.

 # Final Recommendation to Editor

****Decision: Major Revision****

The manuscript describes a rare and potentially valuable pediatric case; however, substantial improvements in clinical documentation, ethical reporting, imaging presentation, and scientific discussion are necessary before the manuscript can be considered for publication.

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Major Revision Justification With Issues and Reasons (Line-by-Line Review)

Line No.	Issue Identified	Reason for Major Revision
7–11	Claim of "exceptionally rare clinical presentation" unsupported	Authors did not provide literature review or comparison table demonstrating rarity. Scientific claims require supporting evidence.
12–18	Abstract lacks important clinical details	No mention of blood pressure, MRI follow-up, duration of ICU stay, or final neurological outcome. Abstract appears incomplete.
19–21	Conclusion overstates clinical implication	Statement recommending neuroradiological follow-up is not supported by actual follow-up imaging data in the manuscript.
22–23	Keywords insufficiently optimized	Keywords are repetitive and lack indexing terms such as "PRES," "hypercapnia," or "ARDS-associated neurotoxicity."
25–29	Introduction is overly generic	Section resembles textbook summary rather than focused rationale for this specific case. Novelty not clearly established.
30–34	Etiological discussion incomplete	Important pediatric PRES triggers such as sepsis, autoimmune disorders, and endothelial dysfunction are insufficiently discussed.
32–34	Rare association claim lacks citation support	No references specifically documenting asthma-associated PRES or pediatric hemorrhagic PRES cases.
35–38	Study objective unclear	Authors should explicitly state why this case is unique compared with existing literature.
41–44	Past medical history incomplete	No details regarding asthma severity classification, maintenance medications, allergy status, immunization history, or pulmonary function assessment.
45–47	Timeline unclear	Admission dates and disease progression chronology are inadequately structured and difficult to follow.
49–54	Neurological deterioration poorly described	Onset and progression of seizures are insufficiently detailed.
55–58	Asthma management history incomplete	Authors mention poor follow-up but do not explain baseline asthma control or adherence.
60–61	Clinical inconsistency	GCS 15/15 conflicts with "recurrent seizures." Clarification needed regarding postictal state and neurological examination timing.

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Line No.	Issue Identified	Reason for Major Revision
62–64	Respiratory assessment incomplete	No PEFR, blood pressure, auscultation grading, or severity scoring for acute asthma provided.
65–66	Hemodynamic assessment inadequate	Blood pressure values are missing despite hypertension being central to PRES pathophysiology.
67–68	Treatment details insufficient	Dosage, duration, and frequency of therapies are incompletely reported.
71–72	Mechanical ventilation details absent	No ventilator settings, PEEP, mode, tidal volume, or sedation protocol described.
73–79	ABG interpretation incomplete	Severe hypercapnia discussed but metabolic compensation and lactate values are absent.
77–81	Hemoglobin inconsistency	ABG hemoglobin (14.3 g/dL) conflicts with laboratory hemoglobin (8.5 g/dL); explanation required.
79	Oxygen saturation discrepancy	Oxygen saturation reported as 88% despite high PaO_2 value; inconsistency requires clarification.
80–87	Laboratory workup incomplete	Coagulation profile, renal function, liver function, inflammatory markers, and toxicology screening absent.
88–90	Positive cultures inadequately discussed	Dual bacteremia with Serratia marcescens and Burkholderia cepacia is unusual and may suggest nosocomial infection or immunodeficiency.
91	Antibiotic selection insufficiently justified	Rationale for ceftriaxone and TMP-SMX combination therapy not explained according to sensitivity pattern.
92	Renal ultrasound relevance unclear	Minimal hydronephrosis is mentioned without explaining its clinical significance.
94–96	Neurological assessment incomplete	No CSF examination, autoimmune screening, or infectious encephalitis exclusion described.
96–97	EEG description limited	No interpretation regarding seizure localization, duration, or epileptic burden.
98–101	CT findings insufficiently detailed	No differential diagnosis discussed for cortical-subcortical hypodensities.
102–106	MRI description incomplete	MRI sequences (DWI, ADC, SWI, GRE) are not specified, limiting neuroradiological interpretation.
103–104	Microbleed mechanism speculative	Authors attribute microbleeds to ARDS without adequate supporting evidence.

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Line No.	Issue Identified	Reason for Major Revision
105–106	Intracranial hypertension inadequately documented	No intracranial pressure measurements or ophthalmologic findings reported.
107–126	Treatment section lacks structure	Medication dosages and treatment duration inconsistently reported.
109–111	Anticonvulsant strategy unclear	Justification for phenobarbital and carbamazepine combination not provided.
118–126	Supportive therapies inadequately relevant	Smecta and multivitamins add little scientific value and reduce manuscript focus.
125	Nicardipine indication unclear	Hypertension values absent despite antihypertensive administration.
127–130	Outcome assessment incomplete	No long-term neurological, neuropsychological, or MRI follow-up presented.
133–142	Discussion overly descriptive	Section summarizes general PRES knowledge rather than critically analyzing the present case.
141–142	Epidemiological statement unsupported	Prevalence estimate lacks citation specificity for pediatric populations.
143–156	Mechanistic discussion speculative	Proposed mechanisms are hypothetical and not sufficiently supported by patient-specific data.
146–147	Hypercapnia explanation incomplete	No discussion regarding direct endothelial dysfunction or cerebral autoregulation studies.
151–152	Hypertensive surges unsupported	Blood pressure data are absent throughout the manuscript.
153–154	Sepsis mechanism insufficiently explored	No inflammatory markers or septic encephalopathy differential included.
155–156	Drug toxicity hypothesis weak	No evidence linking administered bronchodilator dose to PRES development presented.
157–160	Literature review incomplete	Discussion of cerebral microbleeds lacks comparison with previously published pediatric cases.
162–164	Anatomical description inconsistent	Basal ganglia involvement mentioned here but absent in MRI results section.
166–172	Seizure discussion limited	No explanation regarding refractory status epilepticus protocol or ICU sedation strategy.
173–180	Management discussion generic	Authors describe standard PRES management without highlighting unique therapeutic decisions in this case.
181–183	Prognosis section unsupported	Reversibility claimed without follow-up MRI confirmation.

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Line No.	Issue Identified	Reason for Major Revision
184–185	Outcome reporting insufficient	Functional neurological recovery and discharge condition not adequately described.
186–199	Conclusion overstated	Conclusions exceed the strength of evidence provided by a single incomplete case report.
193–195	Long-term follow-up recommended but absent	Authors emphasize follow-up despite not providing actual follow-up data.
197–199	Contribution claim exaggerated	Manuscript contribution to literature is potentially valuable but insufficiently substantiated.
Entire manuscript	Ethical approval absent	No statement regarding informed consent, ethics approval, or patient confidentiality compliance.
Entire manuscript	Imaging figures absent	A neuroradiological case report requires MRI/CT images with legends.
Entire manuscript	Language editing required	Several grammatical inconsistencies and repetitive phrasing reduce scientific quality.
Entire manuscript	CARE guideline compliance absent	Case report structure does not fully comply with CARE reporting standards.

Final Decision

Recommendation: Major Revision

The manuscript presents a rare and potentially valuable pediatric case of Posterior Reversible Encephalopathy Syndrome associated with severe acute asthma and cerebral microbleeds. However, major revisions are necessary due to incomplete clinical documentation, missing ethical declarations, insufficient imaging data, unsupported mechanistic interpretations, inconsistent laboratory findings, and inadequate literature comparison.