

Response to the Letter to the Editor Titled “A Possible Alternative in the Treatment of Obstructive Airway Disease in Paediatric Intensive Care Patients”

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Dear Editor,

We would like to sincerely thank the author(s) for referencing our study in their insightful letter to the editor, which we believe will make a valuable contribution to the literature. It is a great honor and motivation for all of our authors to receive interest in our work in such a short period of time.

Our study was conducted simultaneously across 6 pediatric intensive care units (PICUs) within İstanbul, Türkiye.¹ The data included in the study consisted of demographic findings, characteristics of PICU follow-up, initial vital signs, blood parameters, respiratory support methods used, medical treatments, and mortality outcomes. A 10-year review of extracorporeal membrane oxygenation (ECMO) use in PICUs reported that respiratory diseases were the most common reason for its application, with pneumonia and bronchiolitis being the leading causes in the pediatric age group.² While non-invasive ventilation (NIV), invasive mechanical ventilation (IMV), and ECMO are certainly options when high-flow nasal cannula (HFNC) is insufficient, the centers involved in our study did not require ECMO during the study period. We attributed this outcome to the impact of the pandemic on the incidence and severity of viral infections.^{3,4} Additionally, the high cost and complication risks associated with ECMO may have contributed to its limited use.

The combination of aerosolized hydrogen peroxide and sodium bicarbonate proposed by the author(s) is a novel treatment, particularly during the pandemic, with its aerosolized form being used in adult COVID-19 patients.⁵ Although primarily used in dental diseases in its oral form, initial results suggest that this alkaline hydrogen peroxide solution may optimize the treatment of severe hypoxic conditions caused by diseases such as severe bronchial asthma, lung infections/damage, and congenital lung diseases like cystic fibrosis when administered intrapulmonarily.^{6,7} While we have not encountered any pediatric-specific studies on this treatment in the literature, we believe that further supportive evidence, including a risk-benefit assessment, consideration of potential complications, and a cost analysis, is necessary before its use in pediatric respiratory disease cases can be endorsed.

Sincerely,

For all authors,

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Received: October 22, 2024

Accepted: October 24, 2024

Publication Date: January 2, 2025

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Availability of Data and Materials: The data that support the findings of this study are available on request from the corresponding author.

Peer-review: Externally peer-reviewed.

Cite this article as: Barlas UK. Response to the letter to the editor titled “A possible alternative in the treatment of obstructive airway disease in paediatric intensive care patients”. *Turk Arch Pediatr.* 2025;60(1):110-111.

Author Contributions: Concept – Ü.K.B.; Design – Ü.K.B.; Supervision – Ü.K.B.; Resources – Ü.K.B.; Materials – Ü.K.B.; Data Collection and/or Processing – Ü.K.B.; Analysis and/or Interpretation – Ü.K.B.; Literature Search – Ü.K.B.; Writing – Ü.K.B.; Critical Review – Ü.K.B.

Declaration of Interests: The author has no conflicts of interest to declare.

Funding: This study received no funding.

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