

To: Noninvasive positive pressure ventilation after extubation: features and outcomes in clinical practice

Para: Ventilação não invasiva com pressão positiva pós-extubação: características e desfechos na prática clínica

To the editor,

We carefully read the article by Yamauchi et al.⁽¹⁾ on using noninvasive positive pressure ventilation (NIPPV) after extubation and congratulate the authors on their study. However, in the last few years, several studies with conflicting results have been published.⁽¹⁻⁶⁾

The authors presented the results from a retrospective observational study. Data were collected over a seven-month period to describe post-extubation NIPPV use in an intensive care unit (ICU) in clinical practice and to identify factors associated with NIPPV failure.⁽¹⁾ Their study included 174 patients who received NIPPV after extubation. The failure rate of NIPPV was high (34%). Another interesting result was that patients with inspiratory positive airway pressure (IPAP) $\geq 13.5\text{cmH}_2\text{O}$ on the last day of NIPPV support were three times more likely to experience NIPPV failure than patients who had lower IPAP. In this study, the authors concluded that the final NIPPV parameters, length of ICU stay and mortality rate were higher in the NIPPV failure group.

There were, however, some limitations to the study that should be considered.

First, because the study was performed at a single university hospital in Brazil, we propose to increase the number of study centers to make a future study more representative of ICUs in Brazil.

Second, we should consider that the composition of the study population may influence the results. For example, there is a low proportion of patients with chronic respiratory disease, including chronic obstructive pulmonary disease, and such patients usually benefit from NIPPV.⁽²⁾ In contrast, several studies have shown that the benefit from NIPPV in patients with acute hypoxemic respiratory failure is less clear.^(2,4) This finding may explain why, in a group of patients with multiple pathologies, especially in observational studies, there is a high failure rate of NIPPV, as well as why it is difficult to establish a cutoff value for NIPPV failure. Although the study by Rana et al.⁽³⁾

Conflicts of interest: None.

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did not find any association between IPAP levels and NIPPV outcomes, the results presented above represent new challenges for future studies that will investigate the parameters of IPAP and NIPPV to improve clinical practice and decrease ICU mortality.

Further prospective clinical trials are needed to consolidate these results.

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