Non-Invasive Ventilation in Non-COPD Subjects With Pneumonia: Benefits and Potential Complications

¿Ventilación no invasiva en pacientes con neumonía sin EPOC? Efectos beneficiosos y aspectos a tener en cuenta para evitar potenciales complicaciones

To the Editor,

Non-invasive mechanical ventilation (NIV) is a common treatment option, but its use in patients with severe acute pneumonia (SAP) admitted to an intensive care unit (ICU) is controversial.¹ Rapid detection of any signs of failure is essential after applying appropriate first-line NIV in carefully selected patients, since delay in performing endotracheal intubation (ETI) is a factor for increased mortality.²

We read with great interest the study of Rialp et al.³ on the use of NIV in patients with SAP but without chronic obstructive pulmonary disease (COPD). However, we believe that some key aspects need to be clarified, due to the practical implications associated with the interpretation and potential application of their findings in routine practice.

Firstly, the interpretation of PaCO₂ values in non-COPD patients is controversial. The authors report that PaCO₂ was higher in patients treated with first-line NIV than in those who received first-line invasive mechanical ventilation (MV). This bias is unclear, and in our opinion, it is difficult to conclude that none of the study patients included in this study had COPD purely on the basis of symptoms of dyspnea, chronic cough, and expectoration, since spirometric data are essential to establish a diagnosis of COPD. We believe then that other factors must be taken into account that might possibly explain the hypercapnia values in both groups.²

Useful key points to consider may be that these higher PaCO₂ values were due to variations in the time of starting NIV in the ICU, the types of devices and ventilatory modes used, the criteria used for performing ETI, bicarbonate levels, and associated comorbidities, among others. These variables were not fully reported in the study, and may clarify the high rate of failure of NIV compared to other studies.¹

Secondly, the speed of the decision to perform ETI is a key factor in therapeutic response. We consider a delay of 22 h before ETI to be very high, and this may have resulted in the higher mortality and response to invasive MV.

Thirdly, the authors consider that NIV failure was associated more with a situation of shock and worse response to NIV, but this topic is controversial and, as shown in a recent European survey, the use of NIV is not absolutely contraindicated and first-line ETI may confer a higher risk.⁴

Finally, we do not know if the authors found an improvement in NIV outcomes after 10 years of use, as reported in other series,² so

References


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we conclude that further studies are necessary to confirm the role of NIV in non-COPD patients with hypercapnia.

References


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