



## Letters to the Editor

**Non-Invasive Mechanical Ventilation in  
Pneumonia Patients Without Chronic  
Obstructive Pulmonary Disease\***

**Ventilación mecánica no invasiva en pacientes con neumonía  
que no presentan enfermedad pulmonar obstructiva crónica**

To the Editor,

We have read with interest the article recently published in your journal that assesses the role of non-invasive mechanical ventilation (NIV) in first-line ventilatory treatment in patients with pneumonia but without chronic obstructive pulmonary disease (COPD)<sup>1</sup> The authors conclude that this treatment modality is not associated with improved progress, compared with first-line invasive mechanical ventilation (IMV). However, they state that the only variable associated with NIV failure was the use of vasoactive drugs in the first 24 h after admission to the intensive care unit, a factor that is indicative of the severity of the pneumonia on initiating ventilation. These results are in line with those of other authors, who also showed a significantly higher rate of failure associated with the use of NIV in patients with pneumonia and respiratory failure.<sup>2</sup> Despite this, studies recently published in Spain report that the use of NIV in pneumonia patients has increased significantly in the last 10 years, both in COPD patients and non-COPD patients.<sup>3,4</sup>

The ERS/ATS guidelines on the use of NIV in acute respiratory failure (ARF) were published recently.<sup>5</sup> One of its sections addresses the use of NIV in *de novo* ARF. Most patients in this category have hypoxemic respiratory failure, generally defined as significant hypoxemia (partial pressure arterial oxygen/fraction inspired oxygen  $\leq 200$ ), tachypnea (breathing rate  $>30$ – $35$  bpm), and no COPD diagnosis (e.g., pneumonia or acute respiratory distress syndrome [ARDS]). The guidelines recognize that evidence in this setting is insufficient to recommend its routine use, in view of the specific risks associated with the use of NIV. However, taking into account that some studies have identified populations in whom the chances of success are higher, NIV can be attempted if the following conditions are met: hypoxemic respiratory failure, whether in community-acquired pneumonia or early ARDS, management by an experienced clinical team, meticulous patient selection (careful exclusion of contraindications, such as altered mental status, shock, or multiorgan failure), close monitoring in an intensive care unit, and early reevaluation after starting NIV, with a prompt switch to intubation if no improvement is observed. The objectives of NIV in

these circumstances are to improve oxygenation, facilitate ventilation, reduce the work of breathing and dyspnea, avoid intubation, and prevent the complications associated with the use of IMV.

The major risk of NIV in *de novo* ARF is delay in intubation when it is required. Factors that predict early NIV failure include the following: high severity score, advanced age, presence of pneumonia or ARDS as the cause of respiratory failure, and no improvement after 1 h of treatment. If NIV is used in these situations, it is important to select the patient carefully and to monitor their progress closely, and to apply IMV without delay in the absence of rapid improvement.<sup>5</sup>

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 Javier de Miguel-Díez,<sup>a,\*</sup> Ana López-de-Andrés,<sup>b</sup> Rodrigo Jiménez-García<sup>b</sup>
<sup>a</sup> Servicio de Neumología, Hospital General Universitario Gregorio Marañón, Facultad de Medicina, Universidad Complutense de Madrid (UCM), Instituto de Investigación Sanitaria Gregorio Marañón (IISGM), Madrid, Spain

<sup>b</sup> Departamento de Medicina Preventiva y Salud Pública, Facultad de Ciencias de la Salud, Universidad Rey Juan Carlos, Alcorcón, Madrid, Spain

\* Corresponding author.

 E-mail address: [javier.miguel@salud.madrid.org](mailto:javier.miguel@salud.madrid.org) (J. de Miguel-Díez).

1579-2129/

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\* Please cite this article as: de Miguel-Díez J, López-de-Andrés A, Jiménez-García R. Ventilación mecánica no invasiva en pacientes con neumonía que no presentan enfermedad pulmonar obstructiva crónica. Arch Bronconeumol. 2018;54:351.