The use of high-flow nasal oxygen in COPD patients

Pedro Silva Santos1
Antonio M Esquinas2
1Pulmonology Unit, Centro Hospitalar e Universitário de Coimbra – Hospitais da Universidade de Coimbra, Coimbra, Portugal; 2Intensive Care Unit, Hospital Morales Meseguer, Múrcia, Spain

Dear editor

High-flow nasal cannula (HFNC) oxygen therapy is an innovative and useful mode for the treatment of patients with respiratory failure.1–3 It delivers heated and humidified air providing higher and more expected gas flow rates and fraction inspired oxygen (FiO2) than traditional oxygen therapy.2

We read the article by Bräunlich et al1 carefully and congratulate the authors on their study about the use of nasal high-flow therapy in COPD patients. There are, however, some limitations to the study that need to be considered.

First, this study has a small number of patients, particularly in groups A and B, which in our opinion will affect the comparison of data with the group C that contains a greater variety of patients with more severe outcomes, including forced expiratory volume in 1 second and forced vital capacity. Second, as a study on mean airway pressure, it would be interesting to evaluate partial pressure of CO2 with higher flows.

Third, one of the aims of this study was to characterize changes in hypercapnia, so it is not correct to include nonhypercapnic patients. Fourth, it would be interesting to know the FiO2 that was given and whether the patients had domiciliary oxygen or noninvasive ventilation, as most of them are hypercapnic patients. Finally, regarding comfort and dyspnea scale, HFNC showed better results, which may increase its use when intolerant to noninvasive ventilation.

In short, HFNC is an interesting mode for the future treatment of COPD patients with respiratory failure, which may lead to larger and randomized trials to confirm this indication.

Disclosure

The authors report no conflicts of interest in this communication.

References

Dr Santos and Dr Esquinas were also interested to learn about the decrease in pCO₂ with higher flow rates. Unfortunately, we recognized that most of our stable patients did not tolerate higher flow rates for periods over 2 hours. This is clearly different to the situation of acute respiratory insufficiency, where the distress is great and the benefit is immediate.5

We agree with Dr Santos and Dr Esquinas in that NHF is a powerful and very interesting tool for ventilatory support and appreciate their thoughtful comments. The majority of studies selected patients with acute respiratory insufficiency. The aim of our study was to demonstrate changes and potential benefits in hypercapnic COPD patients, in whom the effects of NHF are not yet well characterized.

We hope to shed more light on the question of NHF and hypercapnia with an ongoing study evaluating the effects of NHF versus noninvasive ventilation in hypercapnic COPD patients (NCT02007772, “NHF vs noninvasive ventilation in stable hypercapnia COPD patients”, TIBICO trail).

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