High-Flow Nasal Cannula Can Be Used Outside the ICU

To the Editor:

We read with great interest the article recently published in CHEST (July 2015) by Spoletini et al., an excellent narrative review about the mechanisms of action and clinical implications of using heated, humidified high-flow nasal cannula (HFNC) oxygenation systems in adults. In their article, the authors make the recommendation that HFNC use on regular wards should be discouraged, especially in patients with severe hypoxemia. However, we do not entirely agree with this comment.

HFNC has demonstrated a number of physiologic effects that make it an active treatment of patients with respiratory failure, both acute and chronic. Several studies have shown its usefulness not only in patients with acute hypoxemic respiratory failure or in the postextubation period but also in palliative care, in patients with acute heart failure, and in chronic airway diseases, and its indications are still rising. It is used in critical care areas, in the ED, and in wards, and it has been used at home in patients with COPD. We believe that HFNC is not the key point to take into account to choose where we have to care for a patient, but rather the severity of the clinical picture. We agree that severely ill patients should be treated in critical care units, but we believe less severely ill patients can be treated in lower care complexity areas and wards.

HFNC is a simple and easy technique to apply and is well tolerated by patients. It is an innovative and effective modality for the early treatment of adults with respiratory failure associated with diverse underlying diseases, and this facilitates its early use outside the ICU.

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CONFLICT OF INTEREST: None declared.

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References

Response

To the Editor:

We thank Drs Díaz-Lobato and Mayoralas Alises for their interest in our review in CHEST on the mechanisms and potential applications of heated and humidified high-flow nasal oxygen (HFNO) in adults and for asking us to better clarify our empirical recommendations on the use of HFNO on general wards. In our review, we recommended that “until the safety of HFNC [high-flow nasal cannula] can be established in various settings,…use on regular wards should be discouraged, especially in patients with severe hypoxemia who are prone to severe oxygen desaturations if disconnected.” This recommendation was based on our belief that in the absence of data demonstrating the safety of HFNO on general wards, we should recommend caution. To date, only case series and a few retrospective and prospective observational studies have examined the use of HFNO on general wards and have reported no major complications.

A study by Kang et al raises concerns about managing patients in a less intensively monitored setting. In this study, 275 of 616 patients treated with HFNO failed and required intubation. Patients with “delayed” intubation (after 48 h) had a lower eventual weaning rate and a higher mortality than those who failed earlier. The authors suggested that the time to intubation may have been inappropriately prolonged, leading to the worse outcome.
Thus, we still recommend that patients prone to severe oxygen desaturations should be watched closely in ICUs or intermediate care units, with a plan to escalate to noninvasive ventilation or intubation without undue delay if they deteriorate. However, we agree with Drs Diaz-Lobato and Mayoralas Alises that the device itself should not be the main determinant when deciding where to treat patients; rather, it should be the severity and stability of the patient’s condition. If patients are cooperative, have no more than moderate hypoxemia, and are otherwise stable, they could probably be managed safely on a general ward. However, in the absence of studies establishing the safety of managing such patients on a general ward, we recommend that physicians err on the side of caution and monitor sicker patients being treated with HFNO in a higher intensity unit until they are clinically stable.

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References


