



## Reply

## Respuesta

Carla Paola Sánchez-Ríos,\*  
Oscar Gabriel Jiménez-Cabrera,<sup>‡</sup>  
Omar Barreto-Rodríguez,\*  
Norma Angélica Téllez-Navarrete\*

\*Instituto Nacional de Enfermedades Respiratorias Ismael Cosío Villegas, Mexico City; <sup>‡</sup>Instituto de Seguridad Social del Estado de México y Municipios, Mexico.

**How to cite:** Sánchez-Ríos CP, Jiménez-Cabrera OG, Barreto-Rodríguez O, Téllez-Navarrete NA. Reply. *Neumol Cir Torax*. 2022; 81 (1): 68.

Dear Dr. Esteban Vergara de la Rosa *et al*:  
I would like to comment on your letter to the editor as follows.

As national reference centers in Mexico for the care of patients with severe and critical COVID-19, at the Instituto Nacional de Enfermedades Respiratorias Ismael Cosío Villegas, Mexico City and at the Centro Médico del Instituto de Seguridad Social del Estado de México y Municipios (ISSEMyM) Toluca, State of Mexico, we were pioneers in the use of high-flow devices for the management of hypoxemic acute respiratory failure (ARF) in COVID-19 patients. It should be noted that although at the beginning there was a great lack of knowledge about the behavior of the virus transmissibility and the mechanism of the potential increase in the risk of nosocomial contagion by aerosol generation, as scientific evidence progressed we joined the unanimous recommendations regarding its use by the World Health Organization (WHO), the Pan American Health Organization (PAHO), the Italian Thoracic Society, the Respiratory Care Committee of the

Chinese Thoracic Society, the Intensive Care Society of Australia and New Zealand, and joint statements from the German Societies of Intensive Care, Anesthesia and Emergency Medicine, the European Society of Intensive Care Medicine and the Society of Critical Care Medicine.

When the recruitment of the patients in our study began, there was no scientific evidence fully in favor of the use of the high-flow nasal cannula (HFNC), nor the described profile of the COVID-19 subgroup of patients who would benefit the most. In both centers there was a need to expand the workforce due to the demand for critical patient care, which, added to the temporary lack of training of new staff with little or no experience in the use of high-flow devices, favored intrainstitutional advocacy for early orotracheal intubation in patients with acute respiratory distress syndrome (ARDS) by COVID-19, as an advantage over other oxygen therapy devices (other than HFNC) that do not provide positive pressure effect and respiratory comfort over invasive mechanical ventilation (IMV) was the decreased risk of hindering lung damage by tachypnea-induced lung injury itself.

In our cohort, obesity in young people became one of the main comorbidities known to the patient prior to admission, associated with deterioration and severity of SARS-CoV-2 infection and, although patients in our cohort did not benefit from this therapy, in both hospitals young people with ARDS avoided intubation with the use of HFNC and awake prone, the evidence of which over the months was compelling in favor of its use.

We believe that the need for rapid evaluations of upper airway patency is real, necessary, feasible and useful, so we support this recommendation in order to continue positioning HFNC as a contemplated therapeutic alternative for

this spectrum of patients COVID-19 and others, for as time goes by, we are sure that we will continue to face people with ARDS due to different causes who concomitantly present obesity and mechanical partial airway occlusion, whose management without IMV and with HFNC could improve their prognosis.

## BIBLIOGRAPHY

1. Agarwal A, Basmaji J, Muttalib F, Granton D, Chaudhuri D, Chetan D, *et al*. High-flow nasal cannula for acute hypoxemic respiratory failure in patients with COVID-19: systematic reviews of effectiveness and its risks of aerosolization, dispersion, and infection transmission. *Can J Anaesth*. 2020;67(9):1217-1248. Available in: <https://doi.org/10.1007/s12630-020-01740-2>
2. Li J, Fink JB, Ehrmann S. High-flow nasal cannula for COVID-19 patients: low risk of bio-aerosol dispersion. *Eur Respir J*. 2020;55(5):2000892. Available in: <https://doi.org/10.1183/13993003.00892-2020>
3. Honore PM, Barreto Gutierrez L, Kugener L, Redant S, Attou R, Gallerani A, *et al*. Compared to NIPPV, HFNC is more dangerous regarding aerosol dispersion and contamination of healthcare personnel: we are not sure. *Crit Care*. 2020;24(1):482. Available in: <https://doi.org/10.1186/s13054-020-03184-y>
4. Demoule A, Vieillard Baron A, Darmon M, Beurton A, Géri G, Voiriot G, *et al*. High-flow nasal cannula in critically ill patients with severe COVID-19. *Am J Respir Crit Care Med*. 2020;202(7):1039-1042. Available in: <https://doi.org/10.1164/rccm.202005-2007LE>
5. Gershengorn HB, Hu Y, Chen JT, Hsieh SJ, Dong J, Gong MN, *et al*. The impact of high-flow nasal cannula uses on patient mortality and the availability of mechanical ventilators in COVID-19. *Ann Am Thorac Soc*. 2021;18(4):623-631. Available in: <https://doi.org/10.1513/AnnalsATS.202007-803OC>

## Correspondence:

**Carla Paola Sánchez-Ríos, MD**

Instituto Nacional de Enfermedades Respiratorias Ismael Cosío Villegas, Mexico City, Mexico.

**E-mail:** pao1144tosto@gmail.com