ICU
MANAGEMENT & PRACTICE

High-flow Nasal Oxygen vs. Invasive Mechanical Ventilation in COVID-19

COVID-19 has caused thousands of cases of acute respiratory failure with a high mortality rate. However, so far, the use of high-flow nasal oxygen (HFNO) has been limited even though it may be an appropriate initial therapy in COVID-19 patients with acute respiratory failure. The use of invasive mechanical ventilation remains the primary treatment strategy in this patient population.

Clinical evidence regarding the use of HFNO in COVID-19 patients remains limited, and it is still unclear whether HFNO decreases the need for invasive mechanical ventilation in these patients.

A new study assessed the effect of HFNO on ventilator-free days compared to the early initiation of invasive mechanical ventilation on adult COVID-19 patients. The goal was to determine the best approach to non-invasive oxygenation/ventilation strategies and the rational allocation of invasive mechanical ventilation.

The study included patients with COVID-19 acute respiratory failure in 36 Spanish and Andorran ICUs. The basis of comparison was HFNO (conservative group) and early invasive mechanical ventilation (early intubation group). The primary outcome was ventilator-free days at 28 days. Secondary outcomes included ICU length of stay and all-cause in-hospital mortality. 122 patients were included in the analysis. The main exposure was the use of HFNO as the main oxygenation strategy in the first 24 hours compared to the use of invasive mechanical ventilation in the first 24 hours.

Findings show that the use of HFNO was associated with an increase in ventilator-free days compared to early intubation. High-flow nasal oxygen was also associated with a reduction in ICU length of stay. No difference was observed in all-cause in-hospital mortality between the two groups.

The use of HFNO was associated with an increase in ventilator-free days compared to early intubation in COVID-19 patients with acute hypoxaemic failure

These results suggest that the use of HFNO in adult patients with COVID-19 patients with acute hypoxaemic failure resulted in an increase in ventilator-free days and reduction in length of stay in the ICU compared to early initiation of invasive mechanical ventilation.

Findings from this study are consistent with other studies showing the potential benefits of HFNO in COVID-19 associated acute respiratory failure. Nevertheless, there is a need for future studies to further corroborate these findings so that an optimised ventilation strategy could be determined for these patients.

Source: Critical Care

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