Category :**Respiratory: mechanical ventilation**

A57 - ***Prolongation of high flow nasal cannula therapy in covid-19, an observational cohort study***

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Introduction:

Optimal timing of invasive mechanical ventilation (MV) in severe acute respiratory distress syndrome (ARDS) due to coronavirus disease 2019 (CoViD-19) is unclear. The primary objective of this study was to explore the role of prolonged high flow nasal cannula (HFNC) oxygen therapy on mechanical ventilation and mortality in patients with ARDS caused by CoViD-19. Furthermore, predictors for the need for mechanical ventilation and mortality were investigated.

Methods:

A retrospective observational study was conducted at a mixed tertiary ICU in Brussels. Medical records were reviewed of all consecutive CoViD-19 patients presenting with acute hypoxic respiratory failure treated with HFNC oxygen therapy between March 6th, 2020, and January 1st, 2021. Delayed intubation or prolongation of HFNC therapy was defined as the number of days of HFNC from the point when a respiratory rate oxygen index (ROXi, defined as the ratio of SpO2/FiO2 to respiratory rate) < 3.85 was reported.

Results:

One hundred twenty patients received HFNC therapy, and fifty-four (45%) were successfully weaned. Thirty-six (66%) of them reached the HFNC prolongation criteria. Seventy-five patients underwent MV with 40% mortality. Higher Apache III and SAPS 2 scores were predictive factors for mortality, while prolonged HFNC treatment was not. Prolongation of HFNC therapy was a negative predictor for MV after adjustment for age, sex, and comorbidities.

Conclusion:

In the current cohort, prolongation of HFNC therapy and subsequently delayed intubation resulted in a lower rate of MV and was not associated with higher mortality. Apache III and SAPS2 at admission were early predictors for MV and mortality.