Category :**Respiratory: other**

A22 - ***High flow nasal oxygen in the intensive care setting during the covid-19 pandemic at mater dei hospital, malta***

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Introduction:

The aim of this study was to describe the use of high flow nasal oxygen (HFNO) in covid-19 Intensive Care Unit (ICU) patients locally, and establish their demographics and outcomes. Mater Dei Hospital is the only main acute general hospital on the island. It houses a 20-bedded adult ICU catering for a population of 500,000.

Methods:

We conducted a single-centre prospective observational cohort study at the ICU at Mater Dei Hospital in Malta between March 2020 and May 2021. Data collected included use of HFNO, Mechanical Ventilation (MV), duration of MV, length of stay, and 28-day survival.

Results:

240 COVID-19 ICU patients were included.108 (45%) received HFNO for a median of 3 days, the rest received MV for a median of 12 days. No major differences in demographics were noted (age: 66.5 vs 68 years, $p = 0.225$; 70% male, 30% female vs 79% male, 21% female, $p = 0.191$). Forty-two (38.2%) patients failed HFNO after a median of 2 days, needing MV for a median of 10 days ($p < 0.001$). Median length of stay was lower in HFNO patients (6 vs 13 days; $p < 0.001$). 28-day survival was highest in the HFNO-only group (94%), followed by the HFNO+MV group (61%), and finally the MV-only group (52%; $p < 0.0001$). This is not simply due to severity since Fio2 was higher for HFNO patients and PaO2 tended to be lower. Cox proportional hazards analysis showed that respiratory support was more significant than admission P/F ratios, PaO2s, or SOFA, with MV being linked to a hazards ratio of 8.4 ($p < 0.001$) when adjusted for the above criteria.

Conclusion:

HFNO offers considerable practical advantages over MV. Avoiding MV might be linked to a reduced incidence of ventilator-associated pneumonias, shorter ICU stay and lower mortality. It is also a safe tool to use and the risk of aerosolization should not deter from its use.

References:

Mellado-Artigos et al, Critical Care, 25:58, 2021