Category :**Respiratory: ARDS**

A167 - *Veno-venous extracorporeal membrane oxygenation (ecmo) in non-intubated patients with covid-19 acute respiratory distress syndrome (ards): a non-inferiority study*

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Introduction:

Invasive ventilation initiation after a prolonged period of non-invasive ventilation (NIV) trial can be associated with poor outcome in coronavirus disease 2019 (COVID–19) ARDS patients. This study aimed to document our center's experience with COVID-19 ARDS patients treated with veno-venous ECMO (VV-ECMO) after a prolonged NIV trial period to avoid intubation. We speculated that VV-ECMO support is not associated with a worse outcome than invasive ventilation in these patients.

Methods:

We retrospectively reviewed 6 patients with COVID-19 ARDS who presented severe hypoxemia and pneumomediastinum after NIV (ECMO group). Twenty patients with COVID−19 and age less than 70 years old were treated in the first wave of the national outbreak and underwent NIV trials for more than 24 hours before intubation (Control group). The primary outcome was intensive care unit (ICU) survival and secondary ECMO or mechanical ventilation weaning at 28 days.

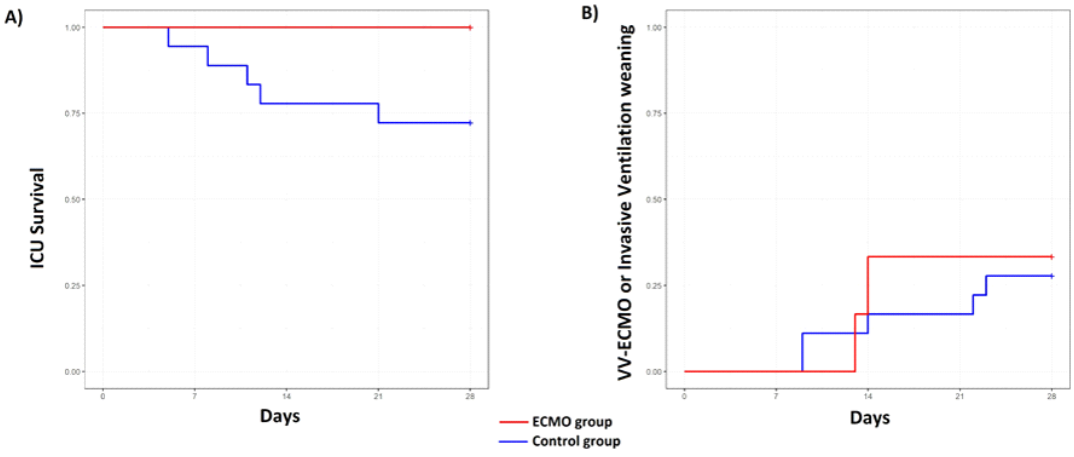
Results:

The age of the patients in the ECMO group was 59 years (IQR:46−65) and SAPS II score 47 (IQR:46−52), compared to 60 years (IQR: 51−66) (P=0.71) and 48 (IQR:45−54) (P=0.63) in the control group. NIV duration before ECMO or invasive ventilation initiation was 5 days (IQR: 2−8) and 3 days (IQR:1−5), respectively (P=0.13). Drainage multistage femoral cannula 25 F and internal jugular infusion cannula 21 F were placed percutaneously. After cannulation, the patients received light sedation that permitted communication, active physiotherapy and oral feeding. None of the patients in the ECMO group died within 28 days after ECMO initiation (Figure, Panel A) or received invasive ventilation. VV-ECMO was not associated with longer mechanical support than invasive ventilation (HR: 1.26 95%−CI: 0.24−6.55, P= 0.77) (Figure, Panel B).

Conclusion:

VV-ECMO can be a not inferior strategy to invasive ventilation for treating patients with COVID-19 ARDS and severe hypoxemia not responding to long trials of NIV.

Image :



VV-ECMO (ECMO group) and Invasive ventilation strategy (Control group) and probability of survival (A) and successful liberation from ECMO or mechanical ventilation (B) at 28 days.