ICU
MANAGEMENT & PRACTICE

Survival of Mechanically Ventilated COVID-19 Patients

Approximately 14 to 17% of COVID-19 patients admitted to the hospital require transfer to the ICU. However, there is insufficient evidence regarding the long-term survival and predictive factors for mortality in patients with acute hypoxaemic respiratory failure due to COVID-19 and undergoing invasive mechanical ventilation.

A study was conducted to estimate the 180-day mortality of patients with COVID-19 who require invasive ventilation. The goal was to develop a predictive model for long-term mortality.

The study included 16 ICUs in Spain. Study participants were adults who received invasive mechanical ventilation for COVID-19. SARS-CoV-2 infection was detected in positive testing of a nasopharyngeal sample confirmed by rt-PCR. The primary outcome of the study was 180-day survival after hospital admission. Secondary outcomes included length of ICU and hospital stay and ICU and in-hospital mortality. Patients were followed up until 180 days after hospital admission.

Eight hundred sixty-eight patients were included in the study. 72% of the patients were male. The median number of days from onset of symptoms to hospital admission was 7 days. The median length of stay in the hospital before ICU admission was 3 days. The most common comorbidity was cardiovascular disease.

The severity at the time of ICU admission was 56 points as per SAPS2. 26% of the patients received noninvasive respiratory support prior to intubation.

Unadjusted 180-day survival was 59%. Predictive factors associated with 180-day mortality included old age, higher SAPS3, the need for norepinephrine, an increased neutrophil to lymphocyte ratio, failed attempt of noninvasive positive pressure ventilation, and the lack of use of selective digestive decontamination strategy during ICU stay.

Overall, study findings showed that the long-term survival of mechanically ventilated patients with severe COVID-19 was over 50% at 180 days. While this varied between centres, it is evident that the evolution and management of these patients can have an impact on long-term outcomes. Findings also suggest that a failed attempt of NPPV may be associated with worse outcomes. Hence, the clinical challenge is to identify patients who benefit from NPPV and those who may have worse outcomes. More research is needed to further evaluate the functional outcomes of this patient population.

Source: Annals of Intensive Care

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