

## #ISICEM21: Awake Prone Positioning for COVID-19 Acute Hypoxaemic Respiratory Failure



Results from the awake prone positioning for COVID-19 acute hypoxaemic respiratory failure meta-trial were presented by Oriol Roca, Critical Care Specialist, Vall d'Hebron University Hospital, Barcelona, Spain, at the 40th ISICEM International Symposium on Intensive Care & Emergency Medicine in Brussels.

Awake prone positioning has been shown to improve oxygenation for patients with COVID-19 in some studies. However, whether it improves patient-centred outcomes remains unknown.

In a collaborative meta-trial of six randomised controlled open-label superiority trials, COVID-19 adult patients who required respiratory support with high-flow nasal cannula for acute hypoxaemic respiratory failure were assigned to prone positioning or standard care. Patients from six countries - Canada, France, Ireland, Mexico, U.S. and Spain - were included in the analysis. The primary outcome of the study was treatment failure, defined as the proportion of patients intubated or dying within 28 days of enrolment. Secondary outcomes included intubation mortality, use of non-invasive ventilation, length of hospital stay, time to high-flow nasal cannula weaning with treatment success, time to treatment failure, time to intubation, time to death, duration of invasive mechanical ventilation, mortality in invasively mechanically ventilated patients, and predefined safety outcomes and physiological response to awake prone positioning.

A total of 1126 patients were enrolled in the study. 567 patients were assigned to awake prone positioning, while 559 received standard care. 1121 patients were included in the intention-to-treat analysis. Treatment failure occurred in 40% of patients in the awake prone positioning group and in 46% of patients in the standard care group. Awake prone positioning reduced the incidence of treatment failure within 28 days of enrolment in these patients. Incidence of intubation at day 28 was lower in the awake prone positioning group compared to the standard care group. The overall 28-day mortality and the 28-day mortality in invasively mechanically ventilated patients were similar in both groups. The mean duration of invasive mechanical ventilation was also similar. Non-invasive ventilation was used in 17% of patients in the awake prone positioning group and in 20% of patients in the standard care group. Patients in the awake prone positioning group were more likely to be weaned from high-flow nasal cannula up to day 28 compared to the standard care group.  $SpO_2:FiO_2$ , respiratory rate and ROX index were significantly improved during the first awake prone positioning session. The incidence of adverse events was low in both groups.

Findings of this analysis suggest that awake prone positioning of COVID-19 patients with hypoxaemic respiratory failure reduces the incidence of treatment failure and the need for intubation. These results thus support routine awake prone positioning of COVID-19 patients who require support with high-flow nasal cannula.

Source: [The Lancet](#)

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