ICU
MANAGEMENT & PRACTICE

Prone Positioning in Patients Receiving vvECMO for ARDS

Several studies have supported the efficacy of venovenous extracorporeal membrane oxygenation (vvECMO) to improve survival in severe acute respiratory distress syndrome (ARDS). ARDS is one of the primary causes of admission to the ICU. The use of an effective approach to support respiratory function in patients with severe respiratory failure is thus an important goal when managing these patients. This has become even more important with the current COVID-19 pandemic. Prone positioning has also been shown to improve outcomes in patients with moderate to severe ARDS. However, very few studies have evaluated the effect of prone positioning in ECMO patients.

In this systematic review and meta-analysis, investigators examine the effect of prone positioning on survival in ARDS patients who have received vvECMO. The goal was to compare 28-day survival in vvECMO patients with prone positioning to vvECMO patients without prone positioning (control group). The primary outcome was 28-day survival. Secondary outcomes included hospital survival, 60-day survival, 90-day survival, ICU survival, ventilator-free days to day 28, duration of mechanical ventilation and adverse events related to prone positioning in the ICU.

A total of thirteen studies were included in the analysis, and data of 1836 patients were evaluated. Findings from the review show that prone positioning resulted in a significant improvement in 28-day survival compared to the control group. This difference was observed in both COVID-19 and non-COVID-19 ECMO patients. Secondary endpoints (60-day survival, 90-day survival, ICU survival and hospital survival) also improved when prone positioning was applied to ECMO patients. The duration of mechanical ventilation increased when prone positioning was applied to ECMO patients, whereas the number of ventilator-free days to day 28 slightly decreased.

Overall, these findings show improvement in survival when prone positioning was used in patients with ARDS who received vvECMO. There is still a need to further evaluate this impact in more randomised controlled trials, but in the meantime, prone positioning may be considered in patients with severe ARDS.

Source: Intensive Care Medicine

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