

ECMO Benefit Not Clear in Critically Ill COVID-19 Patients

By Anne Harding

April 22, 2020

NEW YORK (Reuters Health) - Extracorporeal membrane oxygenation (ECMO) may not reduce mortality in critically ill patients with COVID-19, new research suggests.

"Our study presented early findings that had several limitations," Dr. Brandon Michael Henry of Cincinnati Children's Hospital Medical Center, in Ohio, told Reuters Health by email. "The key take-home message is until we have more data, we must be cautious in choosing which patients are the ideal candidates for ECMO support,"

ECMO reduced in-hospital mortality and time in intensive care during 2012's Middle East Respiratory Syndrome Coronavirus (MERS-CoV) outbreak, Dr. Henry and Dr. Giuseppe Lippi of the University of Verona in Italy write in the *Journal of Critical Care*.

Prompted by an earlier report of high mortality in COVID-19 patients who received ECMO (five of six patients died), the authors analyzed four studies including a total of 562 COVID-19 patients, 41.6% of whom developed acute respiratory distress syndrome (ARDS).

Seventeen of the ARDS patients received ECMO, and their mortality rate was 94.1%, compared to 70.9% for the ARDS patients given conventional therapy. However, the difference in mortality risk was not significantly different (odds ratio, 2.00; 95% confidence interval. 0.49 to 8.16).

Mortality was 65% in the largest study of MERS patients who received ECMO, the authors note.

"Further research is urgently needed. We encourage authors of future COVID-19 reports to provide more data specifically on the ECMO patients in order to aid in optimal patient selection in a limited resource setting," they conclude.

"COVID-19 is a unique pathogen whose pathophysiology we do not yet fully understand. It is possible that during some phases of the illness, the immunologic effects of ECMO could be potentially detrimental to patient outcome and must be balanced against the hemodynamic necessity to use ECMO, however, more data is needed," Dr. Henry said. "I suspect the key to successfully deploying ECMO in COVID-19 will be timing of initiation, careful patient selection, and institutional experience with ECMO therapy."

He added: "ECMO outcomes vary from center to center, with institutional experience likely impacting observed survival outcomes in early studies. As the pandemic progresses and physicians gain a better understanding of COVID-19, I expect to see increased ECMO survival rates and that ECMO will serve as a potentially life-saving rescue therapy in select patients with critical illness."

SOURCE: <https://bit.ly/3eBhpKO> *Journal of Critical Care*, online April 1, 2020.

Reuters Health Information © 2020

Cite this: ECMO Benefit Not Clear in Critically Ill COVID-19 Patients - *Medscape* - Apr 21, 2020.