Extracorporeal membrane oxygenation might aid in severe COVID-19

6 April 2020

(HealthDay)—Extracorporeal membrane oxygenation (ECMO) support might improve clinical outcomes in severe cases of coronavirus disease 2019 (COVID-19) that cannot be adequately managed with mechanical ventilation alone, according to research published online March 30 in the *ASAIO Journal*.

Xin Li, M.D., from Fudan University in Shanghai, and colleagues examined the role and outcome of ECMO in the management of COVID-19 in a case series including eight COVID-19 patients in Shanghai.

The researchers found that seven of the patients received venovenous (VV) ECMO support and one received venoarterial (VA) ECMO during cardiopulmonary resuscitation. Four patients died as of March 25, 2020. Three patients were successfully weaned off ECMO after 22, 40, and 47 days; these patients remain on mechanical ventilation. One of the patients is still on VV ECMO with mechanical ventilation. Before ECMO initiation, the partial pressure of arterial oxygen/fraction of inspired oxygen ratios was between 54 and 76; all were less than 100. Before ECMO, the duration of mechanical ventilation ranged from four to 21 days. All patients were on ECMO support for 18 to 47 days, apart for one emergent VA ECMO during cardiopulmonary resuscitation.

"Diffuse pulmonary edema and hyaline membrane formation are the main pathological features in COVID-19 patients. Hypoxia can progress rapidly, and optimal mechanical ventilation might not be enough to correct for patients in critical status," the authors write. "We recommend early establishment of ECMO when mechanical ventilation is insufficient to correct hypoxia in COVID-19 patients."

More information: Abstract/Full Text (subscription or payment may be required)