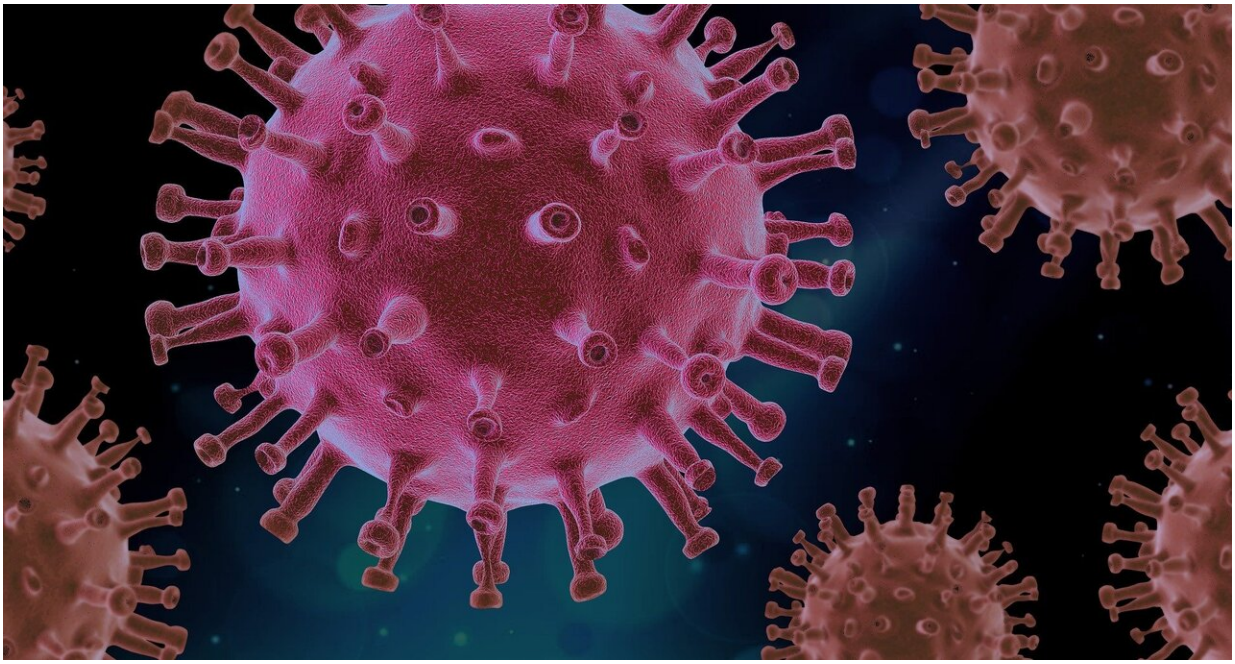
No evidence blanket 'do-not-resuscitate' orders for COVID-19 patients are necessary

May 22 2020



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It's inappropriate to consider blanket do-not-resuscitate orders for COVID-19 patients because adequate data is not yet available on U.S. survival rates for in-hospital resuscitation of COVID-19 patients and data from China may not relate to U.S. patients, according to a new article published today in *Circulation: Cardiovascular Quality and Outcomes*, an American Heart Association journal.

There is a presumption that COVID-19 patients have a low survival rate after resuscitation, based on a recent study from Wuhan, China, that found an overall survival of 2.9% in 136 COVID-19 patients who underwent cardiopulmonary resuscitation for in-hospital cardiac arrest. However, that prognosis should not be applied to the U.S., said Saket Girotra, M.D., S.M., assistant professor of medicine in the division of cardiovascular diseases at the University of Iowa Carver College of Medicine, on behalf of the American Heart Association's Get With The Guidelines-Resuscitation (GWTG-R) investigators.

In the study, "Survival After In-Hospital Cardiac Arrest In Critically Ill Patients: Implications For Covid-19 Outbreak?," investigators report data from the GWTG-R registry of in-hospital cardiac arrest patients. They examined data from 2014-2018 on patients similar to the COVID-19 population: 5,690 adult patients who underwent CPR for in-hospital cardiac arrest while being treated in an intensive care unit (ICU) for pneumonia or sepsis and were receiving mechanical ventilation at the time of cardiac arrest.

While researchers noted an overall survival rate of only 12.5% in the U.S. simulation, there were many variables that could affect survival and neurologic outcomes. The probability of survival without severe neurological disability ranged from less than 3% to more than 22%, across key patient subgroups. The probability of mild to no disability ranged from about 1% to 17% across key patient subgroups.

While survival rates were low in older and sicker patients in whom the initial heart rhythm was non-shockable, survival rates were much higher (more than 20%) in younger patients with an initial shockable rhythm who were not being treated with vasopressor medications prior to the cardiac arrest. Vasopressor medications are generally used to improve blood pressure and cardiac output in emergency situations such as septic shock or cardiac arrest.

"Such large variation in survival rates suggests that a blanket prescription of do-not-resuscitate orders in patients with COVID-19 may be unwarranted. Such a blanket policy also ignores the fact that early experience of the pandemic in the U.S. reveals that a about a quarter of COVID-19 patients are younger than 50 years of age and otherwise healthy. Cardiac arrest in such patients will likely have a different prognosis," the researchers said.

The article concludes that "... in a cohort of critically ill patients on mechanical ventilation, survival outcomes following in-hospital resuscitation were not uniformly poor. These data may help guide discussions between patients, providers and hospital leaders in discussing appropriate use of resuscitation for COVID-19 patients."

More information: Saket Girotra et al. Survival After In-Hospital Cardiac Arrest In Critically Ill Patients: Implications For Covid-19 Outbreak?, *Circulation: Cardiovascular Quality and Outcomes* (2020). DOI: 10.1161/CIRCOUTCOMES.120.006837

Provided by American Heart Association