

Letter to the Editor: Extracorporeal membrane oxygenation (ECMO) for critically ill patients with coronavirus disease 2019 (COVID-19): A retrospective cohort study

To the Editor,

We have read the article "Extracorporeal membrane oxygenation (ECMO) for critically ill patients with coronavirus disease 2019 (COVID-19): A retrospective cohort study" by Li et al.¹ It was felicitous to go through this article, and we hereby applaud the author's efforts. We recognize the conclusion of the study that extracorporeal membrane oxygenation tends to minimize mortality in extremely ill COVID-19 patients compared to the conventional approach. But despite that, it would be a privilege to subjoin a few points to enhance the discovery of the study.

First, conducting a single-centered study raises concerns regarding its validity, which could be addressed if authors had considered a multicentred study, explaining different races, socioeconomic statuses, and lifestyles. Moreover, a retrospective approach tends to minimize the authenticity of the study results. For example, a multidimensional and prospective study conducted in the United States in 2021 collected data from 20 different hospitals, resulting in significant findings.² Second, their study included a limited number of patient-related variables, which could have drawn out various concerns in the study findings. By way of illustration, a study conducted in 2020 included several other patient characteristics, such as smoking and alcohol consumption, which had a significant impact on patient health.³ The author should also have added other basic laboratory tests that could have given a much better picture of patient health at the time of inclusion. A study conducted in 2020 included various laboratory studies, such as D-dimer, and determined the important impact on the patient's prognosis.⁴ The study should also have included hybrid ECMO strategies as hemodynamic support in addition to venous-arterial and venous ECMO. For instance, a study conducted in 2020 found that patients initially receiving venous support from ECMO can be treated with hybrid strategies if they develop complications such as myocarditis and thrombotic events.⁵

Finally, more studies should be carried out on critically ill COVID-19 patients based on different ages, ethnicity, and comorbidities as it has caused an increase in morbidity and mortality of the patients.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

Sebastian Velastegui¹ 

Ana Teran² 

Roomi Raja³ 

¹Pontificia Universidad Católica del Ecuador, Quito, Ecuador

²Universidad de las Américas-Ecuador, Quito, Ecuador

Email: acfteran@gmail.com

³Ziauddin University, Karachi, Pakistan

Correspondence

Andres S. Velastegui Zurita, Pontificia Universidad Católica del Ecuador, av Carrión y av 6 de diciembre, Quito, Ecuador.

Email: sebasvelas123@hotmail.com

ORCID

Sebastian Velastegui  <http://orcid.org/0000-0002-1310-2802>

Ana Teran  <https://orcid.org/0000-0001-8054-2456>

Roomi Raja  <https://orcid.org/0000-0001-9104-3644>

REFERENCES

- Li S, Xiong J, Du Z, et al. Extracorporeal membrane oxygenation (ECMO) for critically ill patients with coronavirus disease 2019 (COVID-19): a retrospective cohort study. *J Card Surg* 2021;36(10): 3554-3560. doi:10.1111/jocs.15833
- Jacobs JP, Stammers AH, Louis JS, et al. Multi-institutional analysis of 100 consecutive patients with COVID-19 and severe pulmonary compromise treated with extracorporeal membrane oxygenation: outcomes and trends over time. *ASAIO J.* 2021;67(5):496-502. doi:10.1097/MAT.0000000000001434
- Mustafa AK, Alexander PJ, Joshi DJ, et al. Extracorporeal membrane oxygenation for patients with COVID-19 in severe respiratory failure. *JAMA Surg.* 2020;155(10):990-992. doi:10.1001/jamasurg.2020.3950
- Haiduc AA, Alom S, Melamed N, Harky A. Role of extracorporeal membrane oxygenation in COVID-19: A systematic review. *J Card Surg* 2020;35(10):2679-2687. doi:10.1111/jocs.14879
- Sanford Z, Madathil RJ, Deatrick KB, et al. Extracorporeal membrane oxygenation for COVID-19. *Innovations* 2020;15(4):306-313. doi:10.1177/1556984520937821