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Letter to the Editor

Coronavirus disease 2019 and ethical considerations for extracorporeal cardiopulmonary resuscitation

To the Editor,

In their recent letter to the Editor, Drs. Kandori and colleagues suggest against using extracorporeal cardiopulmonary resuscitation (E-CPR) in cardiac arrest patients with confirmed or suspected coronavirus disease 2019 (COVID-19).¹ They argue: (1) potential technical difficulties with E-CPR interventions during resuscitation (e.g. vessel cannulation) while wearing personal protective equipment (PPE); (2) communication problems associated with wearing N95 mask in a negative-pressure isolation room; (3) resuscitation team fears of contracting the disease and “*immeasurable physical and emotional fatigue*”; and (4) conservation of valuable disposables during the pandemic.

The Extracorporeal Life Support Organization suggests that E-CPR may be considered for selected COVID-19 patients with in-hospital cardiac arrest, according to resource availability.² Despite the relatively scarce and low-quality evidence for E-CPR-associated improvements in cardiac arrest outcomes, consensus recommendations for E-CPR use have recently been published.³ Proposed E-CPR decision criteria pertain to witnessed arrest, no-flow/low-flow time, preceding resuscitation quality, cardiac arrest etiology and reversibility of the underlying cause, age, comorbid conditions, neurological prognosis, low pH and high lactate, contraindication(s) to anticoagulation, and patient’s recorded preferences.³

The outcome of hypoxaemic cardiac arrest due to severe, COVID-19-associated acute respiratory distress syndrome is very poor and may justify early termination or even withholding of conventional resuscitation attempts.⁴ The major reason for this is the probable irreversibility of the hypoxaemia. However, and irrespective of COVID-19 status, other cardiac arrest causes such as thrombosis, drug-induced arrhythmias, electrolyte disturbances, pneumothorax, or accidental hypothermia may well be reversible and thereby justify even the use of E-CPR according to current recommendations.^{2,4}

Life-sustaining treatment decisions (including E-CPR technology) should be based on an individualized assessment of the patient according to the best available scientific evidence.⁵ Resuscitation provider safety, emotional/physical stress, and resource availability are important factors to consider.^{2,4} However, especially in healthcare systems that are not severely strained or overwhelmed amid a peaking COVID-19 infection wave, such factors should not be used to justify “blanket” E-CPR exclusion criteria^{4,5} as proposed by Kandori et al.¹

Depending on the criteria for and availability of testing, actually confirmed COVID-19 cases may well represent a small fraction (e.g. <10%) of the originally suspected cases. Consequently, the adoption of the suggestion of Kandori et al. could mean depriving the option of E-CPR from many non-COVID-19 “suitable candidates”.³ This would inevitably result not only in “disease-related” discrimination but also in “suspected disease-related” discrimination. However, any kind of such categorical discrimination(s) should be regarded as ethically unacceptable.^{4,5} A more appropriate mode of action might comprise case-wise weighing of the potential risks and benefits of E-CPR, improved resuscitation/E-CPR team training with PPE, and systematic provision of psychological support to team members.^{2,4}

Conflict of interest statement

No author has a conflict of interest to declare.

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