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Correspondence

Cardiopulmonary resuscitation in COVID-19 patients – To do or not to?



The novel COVID-19 virus pandemic has raised concern about safety of clinicians during cardiopulmonary resuscitation [CPR]. Amongst various aerosol producing procedures performed on patients, CPR is a highly aerosol-generating procedure [1]. Worldwide clinicians are divided on consensus, whether health care workers [HCWs] should perform CPR on COVID-19 patients or not. At present literature is scarce on this topic. This disastrous pandemic has changed the risk-benefit balance for CPR. The argument for not attempting CPR on hospital patients with COVID-19 without ensuring personal protection is therefore justifiable, even though it may feel disagreeable.

According to University Hospitals Birmingham NHS Foundation Trust, COVID-19 patients in cardiac arrest outside the emergency department can be given defibrillator treatment if they have a “shockable” rhythm. But if this fails to restart the heart, further resuscitation is futile [2]. If a patient with suspected COVID-19 is in cardiac arrest they should be given cardiac compressions and be ventilated only if they are in the emergency department [2]. If at all CPR is performed, it should be done as safely as possible, that means all HCWs must don with full personal protective equipment [PPE] consisting of eye protection, N95 respirators, gloves, and gowns in airborne infection isolation rooms given higher risk of viral transmission [3]. It is reasonable to reduce number of providers involved in a resuscitation effort According to American Heart Association [AHA] interim guidance, for in hospital cardiac arrest in COVID-19 patients, doors should be closed during resuscitation when possible, to prevent airborne contamination of adjacent indoor space [4]. Intubated patients should be left on a mechanical ventilator with high efficiency particulate air [HEPA] filter to maintain a closed circuit and reduce aerosolization. Ventilatory mode should be changed to pressure-controlled mode with increase in fraction of inspired oxygen [FiO₂] to 1.0. Limit the pressure as needed to generate adequate chest rise (6 mL/kg ideal body weight for adults, 4–6 mL/kg for neonates) [4]. Trigger need to be switched off during resuscitation to prevent the ventilator from auto-triggering with chest compressions and possibly prevent hyperventilation and air trapping. Tracheal tube or ventilator circuit security should be ensured to prevent accidental extubation. For suspected or confirmed COVID-19 patients who are in a prone position without an advanced airway, attempt should be done to place the patient in supine position for continued resuscitation. However, if the advanced airway is in situ in prone position, avoid turning the patient to the supine position unless able to do so without risk of equipment disconnections and aerosolization [4]. But then, one can't ignore the shortage of PPE world is facing right now and

the inadequacy of PPE to prevent exposure to aerosols to HCWs studied in simulated patients in emergency department wearing PPE equipment [5]. Available literature is inadequate to direct clinicians towards keeping low or high threshold for performing CPR in COVID-19 patient in cardiac arrest. More data are needed to comment on whether CPR in COVID-19 patients is likely to benefit the patient or harming the health care provider more.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

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