

# Resuscitation in COVID-19 pandemic. Authors' replay

Jacek Smereka<sup>1,2</sup>, Marek Dabrowski<sup>1,3</sup>, Lukasz Szarpak<sup>1,4</sup>

<sup>1</sup>Polish Society of Disaster Medicine, Warsaw, Poland

<sup>2</sup>Department of Emergency Medical Service, Wroclaw Medical University, Wroclaw, Poland

<sup>3</sup>Chair and Department of Medical Education, Poznan University of Medical Sciences, Poznan, Poland

<sup>4</sup>Bialystok Oncology Center, Bialystok, Poland

In response to the letter to the editor [1] referring to two of our articles [2, 3], we would like to present our perspective. First of all, we believe that every patient has the right to the best medical care according to the highest standards. Decisions on whether or not to undertake resuscitation procedures are always difficult and require critical clinical experience. During the time of the COVID-19 threat, especially in the early stages of the pandemic, where the course of the elderly was particularly severe and often fatal, forced us to assess the risk of an action for medical personnel.

Correct, good quality chest compression during cardiopulmonary resuscitation (CPR) operations in adults is extremely demanding in terms of workload and physical effort of the rescuer. The use of personal protective equipment according to many sources and our own professional experience will limit the possibility of performing high-quality CPR activities.

While thanking you for your comments, we also believe that the use of mechanical chest compression is important and may affect the survival of patients, especially in the case of long-term resuscitation. In a pandemic situation, it can be a particular convenience when conducting resuscitation activities.

With regard to remarks concerning the undertaking of long-term resuscitation activities in elderly people with non-shockable rhythms, we present the following remarks. The decision on resuscitation of elderly patients with initial non-shockable rhythms should, in our opinion, be left

to the CPR team. Considering the extremely low effectiveness of COVID-19 patients' resuscitation activities in the case of non-shockable rhythms in COVID-19 and confronting it with the scope and duration of the activities as well as the involvement of the medical personnel, such a decision should be made individually in each case. In our articles, we have shown the results of the treatment of patients with sudden cardiac arrest in COVID-19. The extremely low effectiveness of resuscitation in patients with non-shockable rhythms is remarkable. One of the basic tasks in both basic and advanced resuscitation activities is to provide safety for the rescuers — medical personnel according to European Resuscitation Council (ERC) and American Heart Association (AHA) guidelines. In the case of a pandemic, and especially in the case of an extremely high demand for rescue and intensive care activities with a huge shortage of qualified medical personnel, the decision on resuscitation should be left to individual therapeutic teams. When analyzing the risk for medical personnel, it is necessary to take into account the need to perform activities using full protection — personal protective equipment. Carrying out such intensive medical activities, including chest compressions for a period of several dozen minutes even when changing rescuers is extremely demanding [4]. It is also important to remember about the oxygen demand in rescuers during such extremely physically demanding operations. Carrying out such a long resuscitation in protective equipment, due to problems with a rescuer's ventilation, body tem-

**Address for correspondence:** Lukasz Szarpak, Assoc. Prof. PhD, MBA, Bialystok Oncology Center, ul. Ogrodowa 12, 12–027 Bialystok, Poland, tel: +48500186225, e-mail: lukasz.szarpak@gmail.com

Received: 8.09.2020

Accepted: 8.09.2020

perature and other factors influencing his physical performance should be taken into account.

Our aim was not to question, in the slightest the patient's right to the best medical care according to standards. However, in a situation of a serious epidemiological threat, during dramatic emergency department operations, even in the case of more than 1 patient at the same time with extreme shortages of medical personnel, it makes us think about the advisability of some actions concerning the expected benefits.

**Conflict of interest:** None declared

## References

1. Yilmaz E, Arsava EM, Topcuoglu MA. Resuscitation in COVID-19 patients: What do we know and what should we do? *Cardiol J.* 2020; 27(5): 656–657, doi: [10.5603/CJ.2020.0161](https://doi.org/10.5603/CJ.2020.0161).
2. Malysz M, Dabrowski M, Böttiger BW, et al. Resuscitation of the patient with suspected/confirmed COVID-19 when wearing personal protective equipment: A randomized multicenter crossover simulation trial. *Cardiol J.* 2020; 27(5): 497–506, doi: [10.5603/CJ.a2020.0068](https://doi.org/10.5603/CJ.a2020.0068), indexed in Pubmed: [32419128](https://pubmed.ncbi.nlm.nih.gov/32419128/).
3. Szarpak L, Ruetzler K, Dabrowski M, et al. Dilemmas in resuscitation of COVID-19 patients based on current evidence. *Cardiol J.* 2020; 27(3): 327–328, doi: [10.5603/CJ.a2020.0066](https://doi.org/10.5603/CJ.a2020.0066), indexed in Pubmed: [32419130](https://pubmed.ncbi.nlm.nih.gov/32419130/).
4. Martín Rodríguez F, Fernández Pérez C, Castro Villamor M, et al. Does level D personal protective equipment guard against hazardous biologic agents during cardiopulmonary resuscitation? *Emergencias.* 2018; 30(2): 119–122, indexed in Pubmed: [29547235](https://pubmed.ncbi.nlm.nih.gov/29547235/).