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Letter to the Editor

Impact of COVID-19 pandemic on out-of-hospital cardiac arrest survival rate



We read with great interest an article by Ball et al.¹ Authors showed that in early during the pandemic, rates of sustained ROSC for OHCA and overall survival were lower in COVID-19 period. To verify the results obtained by Ball, a systematic review and meta-analysis were performed.

The detailed study procedure is presented in the Supplementary file. The analysis of the obtained results revealed many potential causes of increased OHCA patients' mortality in the COVID-19 era. First, as Chan and other authors bystanders point out, during the COVID-19 pandemic, they are much more afraid of undertaking cardiac resuscitation, which translates into a delay in the commencement of emergency procedures, thus reducing its effectiveness and increasing both pre-hospital and inpatient audacity [OR = 0.95; 95% CI: 0.79, 1.16; P = 0.64; I² = 94%].

Another potential reason for reducing the survival rate of patients during the COVID-19 pandemic is the longer travel time to the patient [MD = 1.11; 95% CI: 0.67, 1.55; P < 0.001; I² = 100%], which is related to each time need to disinfect an ambulance after transporting a patient with suspected COVID-19. Subsequently, this limits the number of ambulances available at a time, and to conduct resuscitation in protective suits, which, as many studies show, reduce the effectiveness of medical procedures, including chest compression.^{2–4}

Many studies show that in patients with COVID-19, microclots are often observed in both the central nervous system and the heart muscle. They can cause many areas of ischemia in the heart, thus increasing mortality. The above-described potential causes of increased insolvency because of OHCA in the era of COVID-19 pandemic translate into survival to hospital admission [OR = 0.56; 95% CI = 0.44, 0.71; P < 0.001; I² = 90%] and survival to hospital discharge [OR = 0.68; 95% CI: 0.62, 0.73; P < 0.001; I² = 0%]. A detailed list of the publications included in the above-pooled analyzes has been presented in the Supplementary File.

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Conflict of interest

None.

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Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:<https://doi.org/10.1016/j.resuscitation.2020.12.013>.

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