




Remarks on autoresuscitation—Polish analysis of Lazarus syndrome

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To the Editor,

We read the article “Autoresuscitation after circulatory arrest: an updated systematic review” by David J. Zorko *et al.*, published in May 2023, with great interest.¹

We have a few comments for the authors, which in our opinion are important for the recipients and can combine views from two continents—Europe and America—and add some new data.

In 2021, we published an updated systematic review of all reported and published cases of autoresuscitation worldwide to the end of 2018.² We searched four electronic databases (PubMed, Clinical Key, Scopus, and Web of Science) and included reports in English, German, and Spanish. According to the PRISMA flow diagram, 55 reports were found relevant for the analysis and 66 individual cases were analyzed. The included reports came from 24 countries; our data are presented in the [Table](#).

We wanted to possess as much information about the patients as was reported, so we collected data on

demographics, diseases of the patients before cardiac arrest, origin of the causes (cardiac or noncardiac), place of cardiac arrest (out of hospital or in hospital), duration of cardiopulmonary resuscitation (CPR), cardiac rhythms during CPR before autoresuscitation (shockable or nonshockable), time from stopping CPR to autoresuscitation, mode of monitoring during this period, return of consciousness, neurological condition after return of spontaneous circulation, and time of survival. The majority of patients were male and in their sixties, and most cardiac arrests occurred outside the hospital. The most frequent causes of cardiac arrest were noncardiac and the rhythms were mainly nonshockable.

Additionally, we conducted a statistical analysis of well-documented cases, with a focus on survival of patients experiencing in- and out-of-hospital cardiac arrest and cardiac or noncardiac causes of cardiac arrest. In most cases, cardiac arrest was not of a cardiac origin. Also taking into account sex and presence of primary rhythms (shockable or nonshockable), we did not find significant differences. Survival time was longer in patients who regained consciousness after autoresuscitation compared with unconscious patients. The duration of CPR significantly correlated with the time of survival, indicating that the longer the CPR time, the longer the survival.

We are constantly investigating the problem of autoresuscitation and collecting current cases of the Lazarus phenomenon. To our knowledge, by the end of 2022, 77 cases (coming from 27 countries) of spontaneous recovery after death were reported, and ten of these occurred in children. The youngest patient was nine months old and the oldest was 97 yr old.

This article is accompanied by a reply. Please see Can J Anesth 2024; <https://doi.org/10.1007/s12630-023-02657-2>.

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Table Demographics and outcome data of autoresuscitation cases, collected by us to the end of 2018

Variable	Data <i>N</i> = 66
Sex (male/female/NG), <i>n</i>	36/25/5
Place of cardiac arrest (in hospital/out of hospital/NG), %	14%/55%/31%
Cause (cardiac/noncardiac/NG), %	27%/46%/27%
Rhythm (shockable/nonshockable/NG), %	14%/79%/7%
Return of consciousness (yes/no/NG), %	36%/47%/17%
Survival (yes/no/NG), %	15%/78%/6%
Age (yr), mean (SD)	63 (23)
Duration of the CPR (min), mean (SD)	28.4 (19.0)
Time to autoresuscitation (min), mean (SD)	7.6 (7.5)
Time of survival (days), mean (SD)	15.1 (28.8)

NG = not given; SD = standard deviation

Disclosures None.

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References

1. Zorko DJ, Shemie J, Hornby L, et al. Autoresuscitation after circulatory arrest: an updated systematic review. *Can J Anesth* 2023; 70: 699–712. <https://doi.org/10.1007/s12630-023-02411-8>
2. Grzeskowiak M, Gaczkowska AD, Bekata A, et al. People who survived their death. Advice for medical professionals based on the analysis of published cases worldwide. *Kardiol Pol* 2021; 79: 1375–77. <https://doi.org/10.33963/kp.a2021.0170>

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