

## Decisions after irreversible cardiopulmonary arrest: Ends and opportunities<sup>☆</sup>



### Decisiones tras parada cardíaca irreversible: finales y oportunidades

Dear Editor,

After reading the article recently published in your journal and written by Dr. López-Messa, MD<sup>1</sup> on the optimal duration of cardiopulmonary resuscitation (CPR) after cardiopulmonary arrest (CPA) we agree with the author that somewhere between 20 and 40 minutes is an appropriate time based on the presence of reversible causes, rhythm at presentation, and available intra and out-of-hospital resources such as: ultrasound; extracorporeal life support; and coronary intervention with ongoing CPR, among others.

Nevertheless, we would like to emphasize and discuss an aspect we believe to be essential such as the possibility of donor asystole. In this regard, the European Resuscitation Council guidelines from 2015 establish that all European countries should intensify their efforts aimed at increasing the number of dead donors following cardiocirculatory criteria at both intra and out-of-hospital level.<sup>2</sup> On this point it is made very clear that it is necessary to start the maintenance maneuvers on prospective donors of organs and tissues and maintain such maneuvers as necessary before confirming with the family what the wishes of the deceased really are, and once the emergency team has considered the CPR maneuvers irreversible and the CPR measures unsuccessful, regardless of how long they have been going on.

In this regard, we consider mandatory for all healthcare providers to check the registry of anticipated wills, not only when it comes to invasive measures and CPR maneuvers, but also when it comes to the donor's wishes on organ and tissue donation. If there is no registry, both the principle of autonomy of the deceased expressed through his/her family, and the principle of well-being of the prospective recipients of the future organs/tissues should be observed.

We would also like to emphasize what we think is something really important, not only for the out-of-hospital donor asystole programs, but also to improve the survival of patients who suffer CPAs, which is the availability of mechanical thoracic compression machines. Although in the comparative studies<sup>3</sup> conducted so far their use does not translate into an improvement of the effectiveness of CPR measures, they do make sure that such measures are performed optimally and for a long period of time, allowing the transfer of patients and liberating the healthcare personnel so they can perform other procedures and maneuvers.

Lastly, we should say that the most recent data published on this type of donation classified as category II donation within the Maastricht classification—and more widely known as uncontrolled donation are becoming more and more favorable in our country.<sup>4,5</sup>

For all these reasons, we would like to emphasize that during the management of irreversible CPAs through CPR maneuvers considered unsuccessful, and regardless of how long they have been going on, both intra and out-of-hospital level, it is essential to systematically remember to always activate the reference hospital transplant coordination team in order to discuss the possibility of organ/tissue donation. Such a team would have to be totally independent from the resuscitation team, in order to avoid any conflicts of interest, which is what all guidelines recommend.

### References

1. López-Messa JB. What should be the appropriate duration for cardiopulmonary resuscitation. *Med Intensiva*. 2017;41:188–90 [article in English, Spanish].
2. Bossaert LL, Perkins GD, Askitopoulou H, Raffay VI, Greif R, Haywood KL, et al., ethics of resuscitation and end-of-life decisions section Collaborators. European Resuscitation Council Guidelines for Resuscitation 2015: Section 11. The Ethics of resuscitation and end-of-life-decisions. *Resuscitation*. 2015;95:302–11.
3. Rubertsson S, Lindgren E, Smekal D, Östlund O, Silfverstolpe J, Lichtveld RA, et al. Mechanical chest compressions and simultaneous defibrillation vs conventional cardiopulmonary resuscitation in out-of-hospital cardiac arrest: the LINC randomized trial. *JAMA*. 2014;311:53–61.
4. Martín-Villén L, Revuelto-Rey J, Aldabó-Pallas T, Correa-Chamorro E, Gallego-Corpa A, Ruiz del Portal-Ruiz Granados P, et al. Non-heart-beating donor program: results after 3 years of experience. *Transplant Proc*. 2015;47:2567–9.
5. Miranda-Utrera N, Medina-Polo J, Pamplona-Casamayor M, Passas-Martínez JB, Rodríguez-Antolín A, de la Rosa Kehrmann F, et al. Uncontrolled non-heartbeating donors (types I-II) with normothermic recirculation vs. heartbeating donors: Evaluation of functional results and survival. *Actas Urol Esp*. 2015;39:429–34 [article in English, Spanish].

Z. Ruiz de Azúa-López<sup>a,\*</sup>, L. Martín-Villén<sup>a</sup>, J.J. Egea-Guerrero<sup>a,b</sup>

<sup>a</sup> *Coordinación Intrahospitalaria de Trasplantes, Hospital Universitario Virgen del Rocío, Sevilla, Spain*

<sup>b</sup> *Coordinación Sectorial de Trasplantes Sevilla-Huelva, Spain*

\* Corresponding author.

E-mail address: [zaida@azud.es](mailto:zaida@azud.es) (Z. Ruiz de Azúa-López).

28 April 2017 4 May 2017

2173-5727/

© 2017 Elsevier España, S.L.U. and SEMICYUC. All rights reserved.

DOI of original article:

<http://dx.doi.org/10.1016/j.medine.2016.08.002>

<sup>☆</sup> Please cite this article as: Ruiz de Azúa-López Z, Martín-Villén L, Egea-Guerrero JJ. Decisiones tras parada cardíaca irreversible: finales y oportunidades. *Med Intensiva*. 2017;41:506.