

Letters to the Editor

Out-of-hospital Cardiac Arrest. The Need for Comprehensive Information



Parada cardíaca extrahospitalaria. La necesidad de una información integral

To the Editor,

We read with interest the excellent article by Loma-Osorio et al.,¹ which describes the main clinical and prognostic characteristics of patients recovering from an out-of-hospital cardiac arrest. Among many other data, this article reports some encouraging outcomes for these patients. Nevertheless, we would like to point out certain caveats, which were largely acknowledged by the authors themselves as limitations of their study. Data are available from out-of-hospital emergency services, although these are not focussed on discharge after admission to intensive care units. They cover a range of aspects, essentially related to the phase of prehospital care. The main problem, however, is their wide variability.² In truth, the incidence of out-of-hospital cardiac arrest is unknown and therefore the survival rates on discharge of these patients may have numerous and substantial biases. Such biases are a complex phenomenon that affect all countries in our setting.³ Moreover, the most recent Spanish data vary in terms of methodology, making it impossible to draw firm conclusions.^{4,5} The results obtained cannot be reliably compared. As the authors point out, continuous prospective registries are required to provide an overview of what is actually happening in clinical practice. In Andalusia, the *Empresa Pública de Emergencias Sanitarias* keeps a registry of such characteristics. The results obtained at the first cut-off (January 2008 to December 2010⁶) will provide some relevant data for the debate. In general, it is difficult to estimate exactly when cardiac arrest occurs. In our experience, almost one-third of out-of-hospital cardiac arrests occur with no bystanders present, and the bystanders who are present are not healthcare professionals and therefore their reliability is relative. Action times of less than 8 min were achieved in a small percentage of patients. These times can only be achieved in areas with a high population density and extensive resources, and therefore extrapolation to the general population would be difficult. In effect, initial care administered by bystanders and defibrillation prior to the arrival of the out-of-hospital emergency service, 2 key elements in improving patient prognosis, are limited. Only 1 of every 5 patients had ventricular fibrillation as the initial arresting rhythm, and while 29% of patients arrived at hospital with a pulse, only 9% were discharged with satisfactory neurologic recovery. In-hospital mortality was close to 70%. These data are from an unselected population and are similar to those from registries of proven quality that have been running for more than 20 years and have provided valuable information on out-of-hospital cardiac arrest.⁷ Our results do not contradict those reported by Loma-Osorio et al.¹ After all, they are drawn from different populations studied using distinct methodology. The differences do, however, highlight the need to continue working on collecting information. Only when the series analyzed have cross-sectional information from the

moment of contact with the health system through to follow-up of the patient after discharge will reliable information become available on the realities, treatment, and outcomes of out-of-hospital cardiac arrest. For the survival chain to improve, an information chain is required. The effort required for this challenge should come from within a multidisciplinary framework.

Acknowledgments

The data presented in this letter are from the Andalusian Registry of Out-of-Hospital Cardiac Arrest. The registry was implemented using a research grant from the Healthcare Investigation Fund, Instituto Carlos III, and is kept running with public funding from the *Empresa Pública de Emergencias Sanitarias* of Andalusia.

Fernando Rosell-Ortiz,* José Javier García del Águila, and Luis Olavarría-Govantes

Empresa Pública de Emergencias Sanitarias de Andalucía, Spain

* Corresponding author:

E-mail address: frosell@al.epes.es (F. Rosell-Ortiz).

Available online 21 November 2013

REFERENCES

1. Loma-Osorio P, Aboal J, Sanz M, Caballero A, Montserrat Vila M, Lorente V, et al. Características clínicas, pronóstico vital y funcional de los pacientes supervivientes a una muerte súbita extrahospitalaria ingresados en cinco unidades de cuidados intensivos cardiológicos. *Rev Esp Cardiol*. 2013;66:623–8.
2. Ballesteros Peña S. Supervivencia extrahospitalaria tras una parada cardiorrespiratoria en España: una revisión de la literatura. *Emergencias*. 2013;25:137–42.
3. Gräsner JT, Herlitz J, Koster RW, Rosell-Ortiz F, Stamatakis L, Bossaert L. Quality management in resuscitation - towards a European cardiac arrest registry (EuReCa). *Resuscitation*. 2011;82:989–94.
4. López-Messa JB, Alonso-Fernández JI, Andrés De Llano JM, Garmendia-Leiza JR, Ardura-Fernández J, De Castro-Rodríguez F, et al. Características generales de la parada cardíaca extrahospitalaria registrada por un servicio de emergencias médicas. *Emergencias*. 2012;24:28–34.
5. Ballesteros-Peña S, Abecia-Inchaurregui C, Echevarría-Orella E. Factores asociados a la mortalidad extrahospitalaria de las paradas cardiorrespiratorias atendidas por unidades de soporte vital básico en el País Vasco. *Rev Esp Cardiol*. 2013;66:269–74.
6. Rosell-Ortiz F, Mellado-Vergel F, Fernández-Valle P, González-Lobato I, Martínez-Lara M, Ruiz-Montero MM, et al. Descripción y resultados iniciales del registro andaluz de parada cardíaca extrahospitalaria. *Emergencias*. 2013;25:345–52.
7. Adielsson A, Hollenberg J, Karlsson T, Lindqvist J, Lundin S, Silfverstolpe J, et al. Increase in survival and bystander CPR in out-of-hospital shockable arrhythmia: bystander CPR and female gender are predictors of improved outcome. Experiences from Sweden in an 18-year perspective. *Heart*. 2011;97:1391–6.

SEE RELATED ARTICLES:

<http://dx.doi.org/10.1016/j.rec.2013.03.011>

<http://dx.doi.org/10.1016/j.rec.2013.09.004>

<http://dx.doi.org/10.1016/j.rec.2013.08.008>