Med Intensiva. 2020;44(4):207–209

ELSEVIER

medicina intensiva

http://www.medintensiva.org/en/

EDITORIAL

ARIAM, 25 years saving hearts☆

ARIAM, 25 años salvando corazones

C. Llanos Jorge[a,b,*], S. Ramos de la Rosa[a,b], M.Á. Rodríguez Esteban[b,c]

[a] *Servicio de Medicina Intensiva, Hospital Quirónsalud Tenerife, Santa Cruz de Tenerife, Spain*
[b] *Registro ARIAM, Spain*
[c] *Servicio de Medicina Intensiva, Hospital Universitario Central de Asturias, Oviedo, Spain*

In 2019 the ARIAM project (Analysis of delays in acute myocardial infarction) celebrated its 25th anniversary. Created in East Andalusia, Spain back in 1994 as a tool for the assessment and improvement of healthcare in patients with acute myocardial infarction, the registry has evolved and adapted to scientific evidence and clinical practice guidelines on the management of acute coronary syndrome (ACS). Since 2010, ARIAM is part of the Cardiological Intensive Care and CPR Working Group (GTCIC-RCP) of the Spanish Society of Intensive and Critical Care Medicine and Coronary Units (SEMICYUC). Back in May 2012 it gained public recognition as a Registry of Interest for the National Healthcare System by the Spanish Ministry of Health, Consumer Affairs, and Social Welfare.

Despite the diagnostic and therapeutic advances made over the last few decades, ischemic heart disease is still the leading cause of death in Spain.[1] Due to its high impact, it is essential to develop global strategies that, through a multidisciplinary and coordinated approach, improve the management of ACS. The intensivist plays an important role in all this for his capacity of leadership since he takes a global approach by conditioning and uniting the efforts from different specialists for the sake of the patient.[2]

On the other hand, to elaborate these strategies it is essential to obtain valid, true, representative, and detailed information that will allow healthcare providers and managers to design the most adequate interventions. As its strategic plan says, SEMICYUC[2] commits itself to developing registries that will allow the adequate assessment of such information for strategic planning purposes. In this context, the creation of the ARIAM registry shows us the big picture on the management of patients with ACS in Spain by providing valuable information at demographic, epidemiological, and healthcare level both of the process and the results. Through the analysis of this information the ARIAM registry sets 2 basic goals: improve quality in the management of ACS and generate knowledge.

The Council of Europe defines healthcare as the «degree to which the treatment dispensed increases the patient's chances of achieving the desired results and diminishes the chances of undesirable results, having regard to the current state of knowledge».[3] However, this may be an abstract concept difficult to quantify, which means that it is necessary to have tools available for monitoring and assessment purposes. To this end, the ARIAM project has developed 27 indices (of structure, process, and results) to assess the quality level of healthcare in the management of ACS, find weaknesses, implement actions for improvement, and conduct comparative analyses.[4] By reviewing quality indices

---

☆ Please cite this article as: Llanos Jorge C. ARIAM, 25 años salvando corazones. Med Intensiva.2020;44:207–209

* Corresponding author.
E-mail address: celinallj@gmail.com (C. Llanos Jorge).

in the critically ill patient[5] it is obvious that patients with ACS really matter to SEMICYUC because this Spanish society gives intensivists recommendations and tools to guide their actions. In this sense, «don't do» recommendations have been published[6] and their implementation is closely associated with the management of patients with ACS since they deal with issues like indication for amines, pulmonary artery catheter monitoring or indication for mechanical care.

The second goal of this registry—generate knowledge—is closely related to improving healthcare. It is the analysis of information that will allow us to generate hypotheses that will eventually lead to studies, interventions, and results that will need to be reassessed.

These 25 years of history of the ARIAM project, with over 23 000 patients included in the registry, have allowed us to conduct numerous studies that have produced articles, communications, doctoral theses, and dissertations. These studies have allowed us to assess and analyze the use of health resources in pre- and in-hospital areas,[4] and access to different treatments.[7,8] Similarly, they have facilitated the analysis of different therapeutic strategies and their results[9] in isolation and in association with demographic data[10] and coronary risk factors.

Another essential tool provided by the ARIAM registry are result reports through which participant researchers and citizens can have access to the global analysis of the information collected by connecting to SEMICYUC official website. By reading such reports we can see the evolution of clinical practice in the management of ACS through time. It should be mentioned that healthcare times have been reduced over the last few years within the quality standards published.[11] Also, the percentage of patients who receive coronary reperfusion has improved progressively. Since 2013 thrombolytic therapy has been gradually replaced by percutaneous coronary intervention as the treatment of choice for the management of ACS. Thrombolysis has had a leading role in the out-of-hospital setting and centers with no access to cardiac catheterization laboratories. Finally, we should mention here the increase seen over the last few years in the severity and complexity of patients admitted to the ICU with a diagnosis of ischemic heart disease as confirmed by the Killip classification, the TIMI system, and the Grace Score.[11]

These reports have established protocols for the management of ACS and educational campaigns aimed at the population have been designed to achieve shorter action times to reduce the ACS driven overall mortality by combining the 2 registry endpoints. Despite its longevity and undeniable value, the ARIAM registry faces new challenges in its 25th anniversary like an update of the registry format, recruitment of more centers and researchers or the promotion of scientific production while keeping its identity and goals intact. However, all challenges are a possibility for improvement *per se* so we remain confident that these challenges will be conquered successfully thanks to the versatility, altruism, and spirit of cooperation of all health professionals who manage critically ill patients.

Acknowledgements

We wish to thank all the researchers who, every year, participate in this registry, all members in charge of coordinating the ARIAM registry, and the former and present Cardiological Intensive Care and CPR Working Groups for their efforts to create, maintain, and improve this registry. Thank you all because without your invaluable participation ARIAM 25th anniversary would have never seen the light of day.

References

1. Instituto Nacional de Estadística. Las 15 causas de muerte más frecuentes en España [Internet]. Available at: https://public.tableau.com/views/CAUSASDEMUERTE1/Dashboard1?:showVizHome=no&:embed=true#3 [accessed 10.09.19].
2. Olaechea Astigarraga PM, Bodí Saera M, Martín Delgado MC, Holanda Peña MS, García de Lorenzo y Mateos A, Gordo Vidal F. Documento sobre la situación del modelo español de medicina intensiva. Plan estratégico SEMICYUC 2018–2022. Med Intensiva [Internet]. 2019;43:47–51. Available at: https://linkinghub.elsevier.com/retrieve/pii/S0210569118301529
3. La calidad asistencial en la Unión Europea. Informe anual Sistema Nacional de Salud [Internet]. Observatorio del SNS. Ministerio de Sanidad Servicios Sociales e Igualdad; 2005. p. 4. Available at: https://www.mscbs.gob.es/organizacion/sns/informeAnualSNS/docs/2005/Cap3CalidadAsistencialEuropa.pdf
4. Felices-Abad F, Latour-Pérez J, Fuset-Cabanes MP, Ruano-Marco M, Cuñat-de la Hoz J, del Nogal-Sáez F. Indicadores de calidad en el síndrome coronario agudo para el análisis del proceso asistencial pre e intrahospitalario. Med Intensiva. 2010;34:397–417.
5. SEMICYUC. Indicadores de calidad en el enfermo crítico [Internet]; 2017. p. 219. Available at: http://www.semicyuc.org/files/INDICADORES_DE CALIDAD_2017.pdf [accessed 2.12.19].
6. González de Molina Ortiz FJ, Gordo Vidal F, Estella García A, Morrondo Valdeolmillos P, Fernández Ortega JF, Caballero López J, et al. Recomendaciones de «no hacer» en el tratamiento de los pacientes críticos de los grupos de trabajo de la Sociedad Española de Medicina Intensiva, Crítica y Unidades Coronarias (SEMICYUC). Med Intensiva [Internet]. 2018;42:425–43. Available at: https://linkinghub.elsevier.com/retrieve/pii/S0210569118301177
7. Baeza-Román A, Latour-Pérez J, de Miguel-Balsa E. Respuesta de los autores: Accesibilidad al sistema sanitario de los pacientes diabéticos con síndrome coronario agudo con elevación del segmento ST. Med Intensiva. 2016;40:523.
8. De Miguel-Balsa E, Baeza-Román A, Pino-Izquierdo K, Latour-Pérez J, Coves-Orts FJ, Alcoverro-Pedrola JM, et al. Predictores del uso de la estrategia invasiva precoz en mujeres con síndrome coronario agudo sin elevación de ST. Med Intensiva [Internet]. 2014;38:483–91. Available at: https://linkinghub.elsevier.com/retrieve/pii/S0210569112003725
9. Latour-Pérez J, Gómez-Tello V, de-Miguel-Balsa E, Llamas-Álvarez A, Carrillo-López A, Sánchez-Román JA, et al. Estrategia invasiva de rutina en el síndrome coronario

agudo sin elevación del segmento ST con disfunción renal. Resultados del registro ARIAM-SEMICYUC. Med Intensiva [Internet]. 2016;40:280–8. Available at: https://linkinghub.elsevier.com/retrieve/pii/S0210569115002168

10. Hernández-García J, Giménez-Ruiz JJ, Dueñas-Jurado JM. Evaluación de resultados tras la implantación de un protocolo de fibrinólisis extrahospitalaria en zonas rurales. Semer Med Fam [Internet]. 2016;42:440–8. Available at: https://linkinghub.elsevier.com/retrieve/pii/S1138359315003081
11. Rodríguez Esteban MA, Llanos Jorge C, Badallo Arévalo O, Riesco de Vega L, Fuset-Cabanes MP, Gómez López R. Informe ARIAM 2018 [Internet]; 2018. Available at: https://semicyuc.org/wp-content/uploads/2019/07/ARIAM_2018.pdf [accessed 10.12.19].