Acute Myocardial Infarction Mortality in Argentina

Mortalidad en el infarto agudo de miocardio en la Argentina

"There are no facts, only interpretations."
Friedrich Nietzsche

The ARGEN IAM-ST registry carried out by the Argentine Society of Cardiology (SAC) and the Argentine Federation of Cardiology reported 8.8% in-hospital mortality.

ARGEN IAM-ST is the largest registry performed by our our Society so far (1,759 patients), with the highest perfusion rate compared to the last prospective registries on acute myocardial infarction (AMI) carried out by the SAC since 1987. It also reported the highest reperfusion rate (86% of AMI), which was mediated by angioplasty in 80% of those who received reperfusion strategy.

If this sample were representative of the reality in Argentina, we should congratulate ourselves, particularly because we would be improving quality of care for this entity (despite the enormous and excellent work researchers from this registry have performed, my view is that, unfortunately, it does not reflect the universe of AMI patients under reperfusion, in addition to those who are undiagnosed, or are lately-diagnosed, or not properly treated, or attended in inadequate places).

But let us focus on our registry, which is very well done and is what we now have.

Is it right that we have as final result 8.8% in-hospital mortality with patients treated in mid-to-high quality care centers, where 9 out of 10 cases received reperfusion therapy and two thirds of AMI patients underwent angioplasty? Although mortality rate has decreased by 20-25% compared to previous SAC registries, we still have the same rate as in the 2011 registry, 5 years ago.

Shouldn't we expect better results? Why did we not achieve improved outcomes? By interpreting the facts, there are several variables that would bring us closer to the truth.

1) **Population at greater risk.** If we compare our results with those from other countries, acknowledging countless confounders, Argentine population has a higher prevalence of risk factors (hypertension, dyslipidemia, smoking, overweight/obesity, and physical inactivity) than other Latin American countries. The population at risk for AMI has more comorbidities.
2) **Regional differences in health care expense expressed as percentage of GDP (Gross Domestic Product).** Both at public and private levels, data from 2014 find us below almost every other country in the American continent. Compared with the upper end (USA), we have four times less investment.
3) **Different human resources for health care.** The number of nurses per 10,000 inhabitants in Argentina is the lowest compared to other countries of the region, whereas the number of doctors per 10,000 inhabitants is the highest. Both in the case of doctors and nurses, we cannot assume outstanding training levels to treat this condition.
4) **Inadequate health care times.** According to our registry, the median time from the onset of pain to the first medical contact is 2.5 hours, and the total ischemic time is above 4 hours. We are in a situation in which we have to work on the population for their awareness of faster consultation. Negative foreign experiences do not condition success in our population. System delay times are our responsibility, with different actors involved but atomized (emergency transportation services, health care coverage –public or private health insurance plans, armed forces–, etc.), which make it difficult to optimize those times.
5) **Suboptimal reperfusion strategies.** In a country stretching 4,500 km from north to south and 1,500 km from east to west, the choice of a reperfusion strategy is not uniform, fair, or equitable: Lack of elements to diagnose (an electrocardiograph!), availability of thrombolytics (centers without streptokinase, and even less TNK, which is not marketed in Argentina), and the attitude after pharmacologic reperfusion (it deeply calls our attention the low rate of pharmaco-invasive indication 2%– or of rescue angioplasty 5%–).
6) **Lack of networks.** Considering the disparity of resources and distances, implementing health care networks is one of the solutions. Few experiences, as in the Network of Municipal Hospitals of the City of Buenos Aires (CABA), or in Rosario, or centered in El Cruce Hospital -with very good results-, should stimulate us to put them into practice in different regions of our country with the aim of optimizing AMI diagnosis and treatment.

7) **Clinical inertia.** As in many situations and specialties, we doctors –in a comfort zone– have clinical inertia to adopting new approaches or treatments. Of course this is not universal, but the phenomenon is not rare. Continuous medical training through courses, conferences and congresses, together with consensuses organized by a scientific society such as the SAC, help us counteract that inertia.
8) **Role of the State.** The State –the governmental authorities– and the scientific societies could and should work together to set up processes and take decisions at the national level. The State, because it is its duty, and the scientific societies, because we have the knowledge and expertise. We complement each other, and Health would be the largest recipient.

It is not only one variable. Not only does the type of thrombolytic or the door-to-balloon time make a difference, but also a group of variables –some interrelated, some autonomous– that, in Argentina, still generate a high morbidity and mortality rate in AMI patients.

The Argentine Society of Cardiology is committed and is working to improve this situation.

Dr. Miguel A. González
President of the Argentine Society of Cardiology