EDITORIAL

Quality of Medical Care for Acute Myocardial Infarction. First Step

MAXIMILIANO DE ABREU

In recent years, the quality of medical care has become an issue of growing importance in medical systems. In parallel with this growth, the results of several programs developed in different parts of the world have been published, aiming at achieving improved medical care for patients with myocardial infarction. (1-4) The foundation of these programs has been the development of improvement cycles in health care quality indicators (usually, the proportion of therapies used with evidence of benefit and substantial clinical impact, and their timing of application, were selected as indicators). A significant increase in the use of these therapies has been achieved through this process, which includes stages of diagnosis, planning, intervention and measurement of effect, with the resulting reduction of morbidity and mortality in patients, as well as healthcare costs.

In this issue of the Revista, Piombo et al. (5) publish the results of a prospective, multicenter study on the assessment of the quality of care for acute myocardial infarction, developed in 11 out of the 13 public acute care hospitals in the Autonomos City of Buenos Aires. The study provides valuable information in a particular context, since it is a report on how a myocardial infarction referral network works in the real world in the Argentine Republic, where information about planning and operation of this type of networks is almost inexistent.

While it is difficult to consider this study conclusive due to the small number of patients, the study was representative, since it included almost all the hospitals in the Autonomous City of Buenos Aires.

CONTEXTUALIZATION OF THE RESULTS

It is interesting to compare the results with previous information from Argentine studies. In this regard, an encouraging fact is the high rate of use of therapies with good level of evidence, as is the proportion of reperfused patients and the high use of statins, beta-blockers, ACE inhibitors and ARBs, clopidogrel, and aspirin at discharge. In all the cases, it exceeds the previous reports of multicenter studies in Argentina. Not so encouraging are the times required for reperfusion therapies, because they were long, mainly for primary angioplasty. While the times are far from those recommended by the clinical practice guidelines, they do not exceed those reported by other systems or networks that were not subjected to a program that included some improvement cycle. For example, a study on a referral network from the South conurbation district in the province of Buenos Aires showed longer times to reperfusion than those showed in this study, also in the absence of an active improvement program for those times. In this network, the median time from the contact with the first center to reperfusion was 145 minutes (84-250), 124 minutes (60-220) in patients who were reperfused in the center for initial consultation, and 231 minutes (152-630) in those who were referred to a center with cardiac catheterization laboratory for primary angioplasty. Another register of primary angioplasty carried out in the City of Buenos Aires (cited in the discussion of the article) showed a median door-to-balloon time of 200 minutes (142-290), similar to the one registered by Piombo et al. (7)

These correlated data suggest that excessive time to reperfusion is a constant in different scenarios of our country, Argentina, particularly in those including referral systems for primary angioplasty.

DIFFERENCES IN QUALITY INDICATORS

While it is surprising that there is a substantial difference between both types of indicators (very good pharmacological treatment goals at discharge, and very long time to reperfusion), these differences may be justified for reasons inherent to the system, which we will try to discuss. Regarding the pharmacological treatment indicators at discharge, the excellent outcomes in proportion to the use of statins, beta-blockers, aspirin, clopidogrel, and ACE inhibitors and ARBs reported by researchers (compared with previous reports and in the absence of improvement programs) may be due to a 'spontaneous' improvement of these indicators, in connection to the ongoing information provided by the medical literature supporting these treatments. Its implementation only requires an individual medical decision, or a decision of each unit, regardless of structural and logistic variables of the system. For example, successive surveys on myocardial infarction carried out by the Argentine Society of Cardiology have shown a 'spontaneous' improvement in pharmacological treatment indicators. (8) Recently, Silberstein et al. have reported data from the Argentine multicenter registry Epi-Cardio at the 2010 Argentine Congress of Cardiology, showing a temporal, progressive and substantial increase in the use of these treatments over the past four years in patients with acute coronary syndromes at discharge, in the absence of improvement programs, and with final use proportions similar to those reported in this

study. (9) On the other hand, it seems to be more difficult to reduce times to reperfusion in a health care network in the absence of improvement programs, because reducing these times requires structural and logistic changes and adjustments in health care systems or referral networks, and for that reason, it is less likely to 'spontaneously' improve in the future. McNamara et al. assessed the temporal evolution of times to reperfusion in patients with myocardial infarction in the United States, and the median door-to-balloon and door-to-needle times; they reported a variation lower than one minute/year in the 1999-2002 period. (10)

Barbagelata et al. reviewed the temporal trends toward delay in reperfusion in clinical trials published between 1993 and 2003, and verified the absence of substantial improvement in door-to-balloon and reperfusion times throughout that decade. (11)

In contrast to these findings, several publications report improvements in times to reperfusion in different networks for the treatment of myocardial infarction. In all cases, optimized times were the result of applying general or institutional programs aiming at shortening each stage of the reperfusion process. (12-15)

This summary of the existing evidence shows differences in the temporal evolution of the different quality indicators in myocardial infarction. In some cases, they improved spontaneously (unintended success); in other cases, success was not spontaneous (expected failure), and they only improved as a result of implementing measures or specific improvement programs (success sought). The outcomes of the study by Piombo et al. may be indicating, at the same time, the 'successes and failures' of a system of care for acute myocardial infarction, in which no specific programs to improve indicators have been implemented yet.

OPPORTUNITY TO IMPROVE

The outcomes of this study show a great opportunity to improve these indicators. And that opportunity should include the discussion about which is the best reperfusion strategy in each health 'subsystem'. (16) In the context of the study by Piombo et al., primary angioplasty –especially when its implementation requires the transfer of patients– does not seem to meet the necessary requirements to be the treatment of choice compared with thrombolytics, considering that the difference between the median door-to-needle and door-to-balloon times of transferred patients was close to 150 minutes. The situation may be different in individual institutions, since local data report excellent results with mechanical reperfusion compared with fibrinolytics. (17)

Unfortunately, in a health care system with no concrete policies aiming at optimizing treatment of myocardial infarction, the only stage we can reach within a quality improvement cycle is the diagnosis, and there we remain, in the first step. In this context, the study by Piombo et al. is an important tool to call the attention of health authorities and scientific societies, responsible for designing concrete quality of care strategies for acute myocardial infarction and, subsequently, the prognosis of patients.

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