The Registries of Myocardial Infarction: An Opportunity for Improvement. The PREVESE II Study

Fernando Arós

Área de Cardiología y Críticos. Hospital Txagorritxu. Vitoria. España.

In recent decades there has been a decline in mortality due to cardiovascular disease, including the mortality due to ischemic heart disease. Diverse clinical trials have demonstrated the effectiveness of aspirin, beta-blockers, and angiotensin-converting enzyme inhibitors, as well as lipid-lowering agents, especially the statins, in patients who have suffered a myocardial infarction (MI), although there have been few clinical trials of the statins in the acute phase. Nevertheless, secondary prevention is based not only on pharmacological treatment; the habits of patients with infarction are also important. Consequently, smoking cessation, changes in eating habits, and the prescription of regular physical activity are also effective and unquestionably useful measures. In fact, they are listed (type I and IIa recommendations) in the guidelines for clinical action of the Spanish Society of Cardiology.[1]

The PREVESE II study[2] published in this number of REVISTA ESPAÑOLA DE CARDIOLOGÍA contributes interesting data on the situation of secondary prevention of MI in Spain and the degree to which the measures described above were applied in 1998. In addition, it compares results with a similar registry made 4 years by the same investigators. The authors emphasize that secondary prevention has improved, particularly with respect to the prescription of cardioprotective drugs at the time of hospital discharge. Thus, in the 1994-98 period the prescription of beta-blockers increased from 33.3% to 45.1%, angiotensin-converting enzyme inhibitors from 32.5% to 46.4%, and statins from 4.5% to 29.4%. In spite of this, comparison with similar studies shows that is still room for improvement, even in pharmacological treatment, as it is indicated in the discussion of the article.

Nevertheless, analysis of the study suggests several commentaries on the methodology of registries and the interpretation and application of their results.

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METHODOLOGY OF REGISTRIES AND DATABASES

The proliferation of MI registries in Spain reflects their usefulness. Spanish hospitals participate in regional registries like PRIMVAC,[3] national registries like RISCI,[4] and supranational registries.[5,6] Therefore, instead of emphasizing the advantages and possibilities that registries and databases offer, it seems more suitable to reflect on methodological aspects that can enhance or lessen the validity of results.[7]

In the first place, the extent to which a registry adequately represents the population analyzed should be considered. To this end, not only is the number of patients included important, but the selection of participating centers is fundamental, as well as avoiding possible biases in the inclusion of patients from each hospital. The randomized distribution of hospitals is the most advisable procedure and the consecutive inclusion of patients during a specific period of time reduces the selection of patients. In PREVESE II, 74 Spanish hospital centers that provide care for patients with MI participated, an important figure. The fundamental premise for participation was acceptance, in addition to having a coronary or intensive care unit. The collection of data on patients hospitalized in the coronary unit was retrospective and it was recommended that at least 25 patients per center be included.

Standardization of the definitions and, especially, the diagnostic criterion for the disease analyzed is another point that merits attention. In addition, external audits are useful to ensure the reliability of the data collected, which entails additional research expenses and delay in analyzing the results. In the registry under consideration, an independent company carried out quality control but no «audit» was made.

It is also advisable to analyze whether the variables selected are suitable for achieving the objectives of the study. In this sense, it is surprising that a study centering on secondary prevention did not contain data on the prescription at the time of release of recommendations as important as suitable diet, smoking cessation, and physical activity. On the other hand, the lack of cholesterol values for the first 24 h of the acute condition limits the value of information on hyperlipidemia

and its treatment in patients with MI. Another important point that could have been studied was the degree of compliance with treatment at a later late, for example after 6 months. This point, as recognized by the authors, could not be included in PREVESE II due to economic limitations.

INTERPRETATION OF RESULTS. AN OPPORTUNITY FOR IMPROVEMENT

The GRACE Registry (Global Registry of Acute Coronary Events) attempted, according to the initial publication, to improve the quality of care of patients with acute coronary syndrome by describing differences in the patient characteristics, treatments, and incidents that occurred in the hospital phase and during follow-up in the 14 countries that participated in the registry.[6] Nevertheless, experience suggests that this affirmation should be questioned.

The registries describe, or make it possible to describe, the prevailing reality and variations in time of that reality, but it is not enough to know the reality of a situation to be able to improve it.

In Spain, the RISCI registry[4] demonstrated that during the 1995-98 period the delay in administering fibrinolytics remained unchanged and much higher than recommended. In Europe, comparison of the EUROASPIRE I and II registries[5] showed that the control of cardiovascular risk factors hardly improved from 1995-96 to 1999-2000. Interviews with patients who had suffered MI obtained results that were a cause for concern. Six or more months after the acute episode, the percentage of poorly controlled hypertensive patients had passed from 54.2% to 49.6%. Major advances have been made in the control of hypercholesterolemia, but more than 50% of patients do not attain the therapeutic goal cited in guidelines (58.6% of the patients receiving statins) in a registry in which, as in PREVESE II, pharmacological treatment has improved appreciably.

Therefore, it seems evident that if we only use registries to mirror reality limit ourselves to criticizing this reality, the goal of improving quality will not be met in important areas of healthcare. It is necessary to implement measures designed to correct the deficiencies detected. The registries themselves make it possible to confirm the effectiveness of the changes introduced. From this point of view, the results of CCP (Cooperative Cardiovascular Project)[8] and GAP (Guidelines Applied in Practice) initiatives[9] developed in the U.S. are encouraging. Another question is whether the methodology used is applicable to our community. Nonetheless, the experience of the Spanish group ARIAM has been positive.[10]

FINAL CONSIDERATIONS

To summarize, the PREVESE II study helps to improve our knowledge of the situation of secondary MI prevention in Spain. More data on non-pharmacological aspects of prevention, as well as a longer follow-up, would provide a more complete perspective. In any case, the findings reported provide an excellent opportunity for improving the treatment of patients with MI, not only pharmacological treatment, but possibly also the lifestyle of patients who have recently suffered MI.

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