EDITORIAL

I Confess That I Have Lived

Pablo Neruda. 1904-1973

Confieso que he vivido

Pablo Neruda. 1904-1973

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After reading ReSCAR, (1) the interesting Registry on Acute Coronary Syndromes (ACS) carried out in centers of Argentina, a compendium of experiences gained in more than 40 years of treating and studying this clinical entity came to my mind.

Over these years, several randomized and observational studies have been conducted (the latter were pioneered by resident physicians through the CONAREC registries), with the aim of addressing the different types of ACS.

Despite the most specific diagnostic methods and advances in interventional and pharmacological therapies, my first thought is that every time I am dealing with a patient with ACS, I still have doubts about the optimal treatment.

ACSs are a group of clinical entities with a high prevalence in the population and include different clinical conditions that have precordial pain in common.

From my point of view, the greatest difficulty is not the diagnosis, but the categorization of each patient's individual risk, since it is a clinical entity of erratic course and difficult to evaluate, because of a complex pathophysiological substrate. The ReSCAR registry provides detailed information on the entire broad spectrum of ACS, as opposed to previous registries that only focused on a single clinical presentation (unstable angina [UA], non-ST-elevation myocardial infarction [NSTEMI] or ST-elevation myocardial infarction [STEMI]).

Ischemic heart disease is the leading cause of death in our country, and the factors that lead to it remain unchanged. In more than 20 years since the STRATEG-SIA registry, from 2001 to the present, the strong relationship between the lack of control of coronary risk factors and ACS (hypertension [HT] in more than 60% of patients, diabetes [DM] in more than 25%, dyslipidemia in more than 50%, current or past smoking in more than 40%) has been worryingly repeated. (2)

This evidence should prompt the State to implement healthcare programs aimed at modifying the concept of "lifestyle," which seems to represent an individual choice, on the basis of the concept of "way of life", a sociological category that systematically considers the economic, socio-political, and cultural conditions as the characteristic, stable and repeated forms of the daily life of individuals and communities. (3)

Plaque disruption on atherosclerotic lesions in the epicardial coronary arteries is the most frequent cause of acute coronary syndromes. However, there is a subgroup of individuals with clinical evidence of acute myocardial damage and coronary arteries without lesions greater than 50% on conventional coronary angiography.

A noteworthy finding in the registry is that 8.6% of patients were diagnosed with myocardial infarction with non-obstructive coronary arteries (MINOCA), which is closer to the literature data. In the CRUSADE study, 9% of patients with non-ST- elevation acute coronary syndrome showed no significant lesions in the angiography. (4)

A subsequent meta-analysis including 176 000 consecutive patients from 27 clinical trials, who presented with myocardial infarction according to the angiography, described a prevalence of MINOCA of 1-14%, an average of 6%. (5)

In national registries, the incidence of MINOCA was found to be between 1 and 2.8%; these differences can be attributed to the cut-off point considered for the percentage of coronary stenosis. (6, 7) The range is 1-4% when the definition is restricted to completely normal coronary arteries (0% stenosis), but it reaches 5-14% when a stenosis threshold of <50% is considered. (8)

For many years, and still today, there have been misconceptions about coronary artery disease.

The problem is often falsely believed to be restrict-

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[1] Sanatorio de la Trinidad Mitre

ed to the obstructive disease of the epicardial coronary vessels, but the coronary arterial system is much more complex than the anatomy visualized on the coronary angiography. The incorporation of the concept of the microvascular disease is essential to understand other mechanisms involved in the ischemia/necrosis process.

The paradigm should be based on ischemia rather than atherosclerotic plaque, as it allows for a more pathophysiological and dynamic thinking of the coronary insufficiency.

Regarding STEMI, we observed a common feature in all registries (CONAREC XVII, ARGEN-IAM and ReSCAR): the long time between the onset of symptoms and admission to the medical center, more than 300 minutes. (9,10)

With the aim of modifying this reality, in 2008 a document was published by all the Scientific Societies related to the infarction, and, at that time, it was recommended to implement permanent educational campaigns in the public media and at different educational levels on the recognition of chest pain and the importance of early consultation. (11)

Unfortunately, it has not had the expected impact to change this reality.

In-hospital mortality due to STEMI remains high, closer to that reported by the ARGEN-IAM registry of 8.7% than that observed by the ReSCAR registry of 7.6%. This is probably a result of the lower number of patients in the latter (2464 vs. 237), so the 95% CI of the estimate is higher.

Based on information from the ACS registries in our country, it is estimated that the number of non-ST-elevation ACS is approximately 60%, significantly higher than that of STEMI.

In STEMI, the advantage of systematic and early intervention has modified the natural history, whereas in non-ST-elevation acute coronary syndromes, the results are more controversial.

The ReSCAR registry shows a predominance of the invasive treatment (84%) and early treatment (61% of patients underwent coronary angiography within 24 hours of admission), similar to that observed in several national STEMI registries.

These findings emphasize the discrepancy between multiple guidelines from national and international scientific societies and current practice in centers with Cath lab. (12)

There is a subgroup of extremely severe patients (evolving ischemia with non-ST elevation, hemodynamic or electrical instability) who require catheterization as soon as possible and eventual urgent revascularization.

However, a vast majority of cases admitted to coronary units do not present such characteristics, which provides more time to select the strategy to be implemented. The longer the time between admission and catheterization, the greater the importance of antiplatelet pretreatment.

Whether and when an invasive strategy is indicated depends on a proper and thorough early risk stratification in a heterogeneous population.

In the registry of Dr. Rivero et al., the population studied is at the most intermediate risk (median GRACE score 127, mean left ventricular ejection fraction 56%, Killip and Kimball A 88%, with low risk of bleeding) and an important fact is that there are no patients older than 75 years, a population with a more torpid evolution. (13)

In these centers, the choice of the initial management strategy was obviously not made according to the risk categorization of the individual patient. The choice of the therapeutic strategy can be independently influenced by socioeconomic factors, demographics, and the characteristics of the medical center. (2,14)

The medical decision may also be driven by the intention to solve the problem quickly, the fear of malpractice, or the belief that it is the best treatment.

Regarding the Registry in-hospital evolution, ischemic complications are as expected for this population (reinfarction 2.84%, recurrent angina 2.43%, post-infarction angina 2% and intra-stent thrombosis 0.5%). A valuable data will be to consider the complications in the out-of-hospital follow-up.

However, these acute ischemic conditions do not end in the coronary unit; the possibility of events persists for several months, and inflammatory phenomena are involved in this period. The Buenos Aires 1 registry is a good example: in-hospital mortality was 2.7% and increased to 5.7% at 6-month follow-up, as did myocardial infarction (from 5.2% to 8.4% at follow-up). (15)

Finally, I would like to congratulate all the participants in the ReSCAR registry and thank them for their efforts to give us an insight into the reality of ACS.

During this complex time in medicine, I appreciate the voluntary and disinterested participation of physicians in providing us with this important document.

In Erich Fromm's words, "To know means to see reality naked and does not mean to possess the truth, but to penetrate beneath the surface and to strive critically and actively to get closer to the truth."

Conflicts of interest

None declared.

(See authors' conflict of interests forms on the web/Additional material).

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