



EDITORIAL COMMENT

“Let’s not hurry, but let’s not waste time”: The importance of appropriate management of non-ST-elevation myocardial infarction[☆]



«Não tenhamos pressa, mas não percamos tempo». A importância do manejo adequado do paciente com enfarte do miocárdio sem supradesnívelamento de ST

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Under the umbrella diagnosis of non-ST-segment elevation acute coronary syndromes (NSTEMI), unstable angina and non-ST-segment elevation myocardial infarction are frequent clinical presentations of atherosclerotic coronary disease and cause significant cardiovascular morbidity and mortality.¹

In recent years there has been an overall trend toward a reduction in fatal events in acute coronary syndromes (ACS), although mortality remains high. This is in large part due to significant advances in pharmacologic and invasive management, with the introduction of new antithrombotic and antiplatelet drugs and the wider adoption of an early invasive strategy, in which coronary angiography is followed

by percutaneous coronary intervention (PCI) within hours of the onset of ACS symptoms.

Coronary angiography has long been the reference imaging method for assessment of the coronary tree, and plays a prominent role in this setting. After more than two decades of intense debate and various randomized studies and meta-analyses, the superiority of an invasive strategy (routine indication of coronary angiography with the planned intention of percutaneous or surgical myocardial revascularization, if indicated) is now well established in patients with ACS, in particular those with a diagnosis of non-ST-segment elevation myocardial infarction (NSTEMI). It has led to significant reductions in rates of death, infarction and recurrent ischemia, compared to a conservative strategy (clinical follow-up and functional tests for detection of residual myocardial ischemia).^{2,3}

Nowadays, the central debate regarding the management of patients with NSTEMI-ACS concerns the appropriate time to initiate an invasive strategy. According to the most recent international guidelines,^{4,5} three types of invasive strategy can be distinguished: (1) immediate or very early (in which coronary angiography is performed within two hours

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of admission); (2) early (within 24 hours of admission); and (3) delayed (within 72 hours of admission).

The potential benefits of very early coronary angiography and PCI (performed within a few hours of admission) stem from the prevention of ischemic adverse events, such as progression to ST-segment elevation infarction, left ventricular dysfunction, arrhythmia or death. Such events are caused by progressive occlusion of the culprit artery in NSTEMI-ACS or by persistent and extensive myocardial ischemia and may occur when coronary angiography is delayed. On the other hand, implementation of an invasive strategy after an initial period of plaque passivation with antithrombotic and antiplatelet drugs may result in lower rates of periprocedural complications, such as distal embolization of plaque necrotic content, flow disorders, stent thrombosis or postprocedural infarction. The choice of one or the other strategy involves risk stratification using risk scores and assessment of the patient's clinical status, taking into account hemodynamic and rhythmic stability and the persistence of symptoms.

Despite the robust scientific evidence supporting the widespread use of an invasive strategy in patients with NSTEMI-ACS, its wider adoption in the real world faces various practical limitations. It is often not performed at all, or beyond the recommended times. In addition, the lack of national registries means there is insufficient information concerning the situations in different countries.

In this edition of the *Journal*, Morgado et al.⁶ take an important step toward improving knowledge in this field of cardiology and understanding the importance of adopting national programs aimed at better care of patients with ACS. In their article, the authors analyze the incidence, use of an invasive strategy, and in-hospital mortality of NSTEMI among patients enrolled in the Portuguese Registry on Acute Coronary Syndromes (ProACS), conducted in 44 medical centers, which included almost 43 000 individuals.

Although ProACS is a voluntary registry, in which nine major centers account for most of the available data, this is excellent research that confirms the benefits of an invasive strategy outside the setting of controlled studies. Among the main findings of the study, we highlight the increasing adoption of an invasive strategy in Portugal (52% in 2002 vs. 84% in 2015), with a consequent increase in the availability of myocardial revascularization (29% in 2002 vs. 61% in 2015), mainly by PCI (53%). The main consequences seen over the years are progressive and significant reductions (over 50% in some cases) in mortality in both genders and in different age groups. As observed in most international reports, fewer revascularization procedures were indicated for older patients (≥ 75 years), which may reflect a more conservative approach with this population, who are generally more frail and at greater risk from invasive procedures, even though data from randomized studies show that they also benefit when the procedure is indicated and performed correctly.⁷

The reduction in time to invasive stratification in Portugal should also be noted. Whereas in 2002 48.8% of patients with NSTEMI underwent coronary angiography more than 72 hours after admission, in 2015 88.5% underwent this stratification procedure within 72 hours, almost half (48.1%) within 24 hours. Considering that 46% of the population analyzed had a high GRACE score, these numbers appear to

indicate that the timing of the procedure is being applied appropriately. As a probable consequence, a reduction of more than 40% in mean hospital length of stay (8.3 days in 2002 vs. 5.6 days in 2015) was also observed, which will certainly result in significant financial savings for the country. Once again we congratulate the authors and the Portuguese Society of Cardiology for their initiative in collecting and publishing the national results of treatment of the NSTEMI population, which are of considerable interest within contemporary cardiology. Some suggestions for future research using this valuable database include the use and impact of drug-eluting stents and the different access routes (radial vs. femoral) and medications used, particularly the antithrombotic regimens adopted.

In few cardiological settings is time as crucial as in the treatment of ACS; in the words of the great Portuguese writer José Saramago (1922-2010): "Let's not hurry, but let's not waste time."

Conflicts of interest

The authors have no conflicts of interest to declare.

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