EDITORIAL

Treatment of myocardial infarction with ST-segment elevation: a war between the sexes?

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According to data from the National Institute of Statistics (INE), cardiovascular disease as a group is the leading cause of death for the entire Spanish population[1], and within this group, ischemic heart disease accounts for 31% of the total. In the same report INE emphasizes that mortality in patients with myocardial infarction is higher among women than among men, regardless of age. But is there really sufficient evidence to consider sex an independent predictor of mortality in MI? To date, there have been some contradictory results that have only fuelled the debate while avoiding discussion on the limitations of descriptive epidemiological studies. Such studies are generally the first step in the investigation of a possible relationship between a disease and a certain factor; in this case, between heart disease and female sex. However, they are not enough to allow conclusions on causal association, since they cannot control other potentially confounding variables. Among these, older age, presence of more comorbidities[2,3] and a lower rate of access to reperfusion therapy for women[2,4,5] presenting with ST-segment elevation acute myocardial infarction (STEMI) when compared with men. Of these three factors, the first two, age and comorbidities, are intrinsic and not modifiable at the time of onset of ischemic heart disease symptoms in women, whose generally longer life spans also imply greater comorbidity than men. However, the third factor, reduced access to reperfusion therapy, deserves special attention since this is the current treatment of STEMI. Since its inception, it has been shown that the early administration of thrombolytic agents or primary angioplasty reduces myocardial damage, morbidity and mortality associated with STEMI[6]. A growing number of studies attribute increased mortality of women with STEMI to the fact that they show less access to reperfusion[4,5].

Therefore, the question is not why women with STEMI have higher mortality rates than men, but why they receive less reperfusion therapy. Answers can be sought from two perspectives.

From the professional clinical perspective, one must consider the diagnostic uncertainty generated by chest symptoms in a woman coupled with a lower prevalence of heart disease in early life with respect to men. Both facts may lead to delays in suspicion and, therefore, in performance of the diagnostic ECG, and the final result is delay in definitive revascularization treatment. In addition, the attending physician must ignore the popular idea, subliminally transmitted in advertising campaigns, that ischemic heart disease affects men, accentuated by multiple intervention studies conducted mainly in men, and that chest pain in women is unlikely to be of coronary origin. Finally, women with STEMI tend to be older and present comorbidities, so they are usually excluded from large interventional studies. Thus, in the absence of scientific evidence on the best treatment, the principle of primum non nocere often prevails to the point of offering no treatment to balance risk and benefit. However, none of this can justify failure to perform identical measures of diagnosis and treatment of these patients as with men. In this issue of EMERGENCIAS Carbajosa Dalmau et al.[7] report that, although women with STEMI were older and had higher rates of diabetes, the two sexes showed the same percentage of revascularization treatment and at the same time. A strong point of the study which must be emphasized is that it was conducted in the context of an emergency department (ED). To date, most studies have included only hospitalized patients in in-

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tensive care or coronary care units, so that patients not admitted to these units are under-represented. Similar studies performed in EDs have recently been published, showing identical treatment for men and women[8,9]. Like the current work by Carbajosa Dalmau et al., unfortunately, no follow up was performed to show that this equal opportunity for treatment results in lower mortality. However, as expected, there is evidence in this regard. Zimmermann et al.[10] show that women with STEMI undergoing primary angioplasty show identical satisfactory angiographic results as men, with no differences in 30-day mortality between the sexes.

Finally, from the point of view of the patient, some reflection on the delay between the onset of symptoms and ED arrival is required. Campaigns in favor of early help seeking have so far produced discouraging results. Such delay has been recorded on both sides of the Atlantic for more than a decade, and only a slight 10-minute improvement has occurred, and not always; obviously, this clinically is unsatisfactory[11-14]. Not surprisingly, delayed attention is consistently found in women and the elderly, more than any other group of patients. Many reasons for this gender difference have been put forward; women tend to be older when they present the first signs of STEMI, women more often report atypical symptoms, women do not see themselves as a population at risk and women tend to bear their aches and pains better than men. Whatever the reason, the most notable difference, if any, between men and women with STEMI may lie in the misperception of a life-threatening situation. Therefore, until the debate on increased mortality of women versus men with STEMI is adopted in sociological forums, the question remains open. A thorough study of the reasons underlying a delay in seeking help after the first symptoms is needed. Especially, once such reasons are revealed, we need an effective educational strategy to positively modify the behavior leading to such delays. This appears to be the only way to ensure a significant impact on mortality that would also settle the debate on the influence of gender in the prognosis of STEMI.

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