

Impaired Glucose Homeostasis and Acute Coronary Syndrome

To the Editor,

We read with interest the article by Monteiro et al¹ about the prognostic usefulness of the variation in blood glucose levels during hospitalization for acute coronary syndrome (ACS). The authors undertook a retrospective analysis of 1210 patients, dividing the sample into two groups (diabetics and nondiabetics). The logistic regression analysis indicated that a higher magnitude of glycemia variation was an independent predictive factor for the post-discharge variables in the non-diabetic patients.

Nevertheless, it is known that up to 50% of patients with type 2 diabetes mellitus fail to be diagnosed as they remain asymptomatic for years. The authors provide no information on the prevalence of occult diabetes or the incidence of diabetes in the subgroup of patients without known diabetes, in whom the prognostic implications of the magnitude of the variation in glycemia were more relevant. Nor is any reference made to other anomalies in glucose metabolism, such as “impaired fasting glucose” (IFG) and “impaired glucose tolerance” (IGT). Previous studies have shown that an oral glucose tolerance

test (OGTT) in patients with an acute infarction and without diagnosed diabetes results in 65% having abnormal glucose regulation (25%, undiagnosed diabetes; 40%, IFG), a higher proportion than among the healthy sex- and age-matched controls, in whom 65% had normal glucose regulation.^{2,3} The Euro Heart Survey registry found that 22% of patients admitted with ACS had undiagnosed diabetes after giving them an OGTT.⁴ These data indicate that the total number of ACS patients with diabetes could reach 45%. Thus, almost 20% of the nondiabetic patients in the study by Monteiro et al. could be reclassified as diabetics or having some alteration in glucose homeostasis (IFG or IGT). The prognostic implications of these alterations have also been established. The most convincing evidence of the relation between IGT and the risk for ischemic heart disease comes from the DECODE study, in which a joint analysis was made of data from 10 European prospective studies involving more than 22 000 subjects.⁵ The rates of all-cause mortality, cardiovascular disease (CVD) and ischemic heart disease were all greater in the patients diagnosed by OGTT than in those who did not fulfill this criterion. The association between plasma glucose levels after a 2h-OGTT and mortality was linear. However, this association was not seen with fasting plasma glycemia levels. Based on these studies, the European Society of Cardiology and the European Association for the Study of Diabetes recommend that persons with CVD undergo an OGTT, in order to be able to diagnose early stages of hyperglycemia and occult diabetes (Class I recommendation; level of evidence: B).⁶ We invite the authors of the study to analyze the glucose metabolism status of their study subjects with an OGTT, as well as to examine the association between the magnitude of the variation in glycemia and the response to the OGTT. Should an association be confirmed between the 2 parameters, the greater magnitude of variation in glycemia could not only identify those subjects at a greater risk of later events, it would also help to establish aggressive preventive measures in those persons who were unaware of their diabetic status. Persons with IGT could benefit from changes in lifestyle or pharmacological therapy to reduce or delay the course of their diabetes.⁷

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