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Glycosylated hemoglobin in patients with coronary disease and without diabetes known as predictor of developing type 2 diabetes mellitus

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Objective: To analyze the value of glycosylated hemoglobin (HbA1c), determined at admission, as predictor of developing type 2 diabetes mellitus in non-diabetic patients, hospitalized for coronary disease.

Material & Methods: We collected 578 consecutive patients, admitted for (ACS) in our department, from May 2014 to September 2015. Their levels of HbA1c were requested at admission systematically. Finally, 199 patients (34%) were included with diagnosed coronary disease and without known diabetes. We collected clinical data, cardiovascular risk factors (CVRF), anthropometric and laboratory values (fasting glucose and HbA1c). Two months after hospital discharge, all patients were re-evaluated clinically and analytically undergoing an oral glucose tolerance test (OGTT). Patients were grouped into four categories according to the criteria of the American Diabetes Association (ADA): a) normal fasting glucose <110 mg/dL and OGTT <140 mg/dL, b) altered basal glucose (ABG): fasting glucose 110-126 mg/dL, c) glucose intolerance (GI): a 2-h OGTT 140-200 mg/dL, d) ABG + IG, e) DM: fasting glucose > 126 mg/dL and 2 hours OGTT > 200 mg/dL. We conducted a descriptive analysis of the data. We determine the odds ratio (OR) of having DM or any disorder of carbohydrate metabolism in relation to the values of HbA1c at admission.

Results: Mean age was 68.3 years. 69.2% were male and 30.8%, female. Mean body mass index (BMI): 28.4 kg/m². The prevalence of cardiovascular risk factors is: 74.6% hypertensive, 34.7% dyslipidemic, 32.9% active smokers. Prior history of heart disease: 26.5% acute myocardial infarction (AMI), 19.3% prior stable angina, 41.6% with no history of heart disease. Mean fasting blood glucose 104 mg / dL ± 24, and 6% on HbA1c. The evaluation at 2 months by fasting glucose and OGTT: Normal result 24.1%, 3.5% GBA, IG 33.7%, 11.1% GBA + IG, 27.6% DM. The OR of having any disorder of carbohydrate metabolism in terms of HbA1c levels was 6.65 (95% CI, 1.25-35) (p <0.029). The cutoff point that best discriminated Hb1Ac was Hb1Ac risk = 6.5%.

Conclusions: HbA1c level at admission is a good predictor of the risk of developing DM or other alterations in carbohydrate metabolism. This small measure would be useful for an early detection of DM, allowing to start a suitable dietary and pharmacological prevention.

Biography

Ana Maria Garcia Bellon has completed her PhD from Granada University and Post-doctoral studies from Malaga University School of Medicine. She currently works at the University Regional Hospital of Malaga, Spain.

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