Homocysteine and Coronary Artery Disease

To the Editor:

We read with great interest the article entitled «Total Concentrations of Plasma Homocysteine in Puerto Rican Patients With Ischemic Heart Disease» by Rodrigo et al.¹ published in the December issue of the REVISTA. Given the enormous pervasiveness of the subject, we would like to make some comments.

Firstly, in the Introduction, the authors comment that in Spain studies of ischemic heart disease have been focused more on the theory of the increase in cholesterol, and that there are no studies of homocysteine values in this population. There is a Spanish study² on this topic that reported that 26% of patients with heart disease proved to have hyperhomocysteinemia.

Secondly, the authors did not determine vitamin B₆, B₁₂, and folic acid values in cases in which deficits thereof could be a nutritional cause of hyperhomocysteinemia. It has been suggested that...
approximately 60% of hyperhomocysteinemia is due to inadequate levels of 1 or more of these vitamins in the blood. Similarly, they did not comment on the dietary habits and condition of the study population, and this is probably why there was no finding of an association between heart disease and homocysteine concentration as a side effect of long- and short-term dietary variations. Various retrospective and prospective studies have shown the possibility that a load test would improve the ability of a fasting homocysteine measurement to predict the risk of heart disease.

Thirdly, the results are expressed in an unclear manner. In Table 2, the distribution of homocysteine is grouped by age, sex, smoking habits, diabetes and arterial hypertension. The authors express homocysteine concentrations for the entire population, instead of arterial hypertension. The authors express homocysteine grouped by age, sex, smoking habits, diabetes and manner. In Table 2, the distribution of homocysteine is heart disease. This contradicts the conclusions of the study and hope to publish findings on a larger sample size that the authors present is limited our search to the R homocysteine studies performed in Spain, but we obtained at this time and will also be published in the published article. We would like to comment, nevertheless, that in the study by Fernandez-Miranda et al., there was a difference in homocysteine plasma values between patients with coronary disease and the control group (11.7 µM vs 8.4 µM; *P*<.001). It should have no ischemic cardiopathy. The results in these additional patients have in no way altered the values or trends discussed in our original article. We saw no correlation between homocysteine plasma values and the progressive categories and coronary angiography results. We are still recruiting patients for the study and hope to publish findings on a larger group of patients in the near future. Results for vitamin B6, B12, and folic acid levels are being obtained at this time and will also be published in the near future, as was the case in our recently published study on a colony of Rhesus monkeys (*Mucaca mulatta*). We regret that we did not identify the homocysteine studies performed in Spain, but we limited our search to the *REVISTA ESPANOLA DE CARDIOLOGÍA*, where we could not find a single published article. We would like to comment, nevertheless, that in the study by Fernandez-Miranda et al., there was a difference in homocysteine plasma values between patients with coronary disease and the control group (11.7 µM vs 8.4 µM; *P*<.001). It should

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Response

To the Editor:

We appreciate the interest of our colleagues in the Canary Islands in the article presented by our group in Puerto Rico regarding the contentious subject of homocysteine plasma levels and heart disease. The study we are performing at the Puerto Rico and Caribbean Cardiovascular Center is still in process and results in the article were the preliminary analyses of the patients on whom we had complete data. At the time of writing this reply, we have accumulated data on a total of 155 patients, of which 19 are controls and 136 are patients with a negative ischemic cardiopathy. The results in these additional patients have in no way altered the values or trends discussed in our original article. We saw no correlation between homocysteine plasma values and the progressive categories and coronary angiography results. We are still recruiting patients for the study and hope to publish findings on a larger group of patients in the near future. Results for vitamin B6, B12, and folic acid levels are being obtained at this time and will also be published in the near future, as was the case in our recently published study on a colony of Rhesus monkeys (*Mucaca mulatta*). We regret that we did not identify the homocysteine studies performed in Spain, but we limited our search to the *REVISTA ESPANOLA DE CARDIOLOGÍA*, where we could not find a single published article. We would like to comment, nevertheless, that in the study by Fernandez-Miranda et al., there was a difference in homocysteine plasma values between patients with coronary disease and the control group (11.7 µM vs 8.4 µM; *P*<.001). It should
be noted that the homocysteine plasma concentrations in the controls in the study are much lower than those reported in other studies around the world. It is of note that in studies in which homocysteine plasma concentrations and coronary angiography have been performed in control groups, no correlation has been found between hyperhomocysteinemia and ischemic heart disease. More notable still is that prospective studies have shown no such relationship. We understand that the problem of ischemic cardiopathy is multivariate and complex, and the relationship between factors is more important than a single isolated factor.

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