Assessment of Renal Involvement by Cystatin C: A Forgotten Biomarker. Response

Valoración de la afección renal mediante la cistatina C: un biomarcador olvidado. Respuesta

To the Editor,

We appreciate the interest shown in our study published in your journal and would like to make a few comments on the subject. As described by Domínguez-Rodriguez and Abreu-González, serum cystatin C (CC) is a biological marker both for determining renal function and for cardiovascular prognosis, with enormously promising medical implications. In recent studies, CC has provided an estimated glomerular filtration rate (GFR) almost as accurate as traditional formulae based on creatinine levels adjusted for age, sex, and race, independently of the patient’s muscle mass. An equation that includes CC in combination with serum creatinine levels, age, sex, and race provides even more exact estimates.

Given the widespread circulation of Revista Española de Cardiología, the primary goal of the article was to inform the reader as to the importance of evaluating renal involvement as an early detection method for individuals with a high risk of cardiovascular events and promote swift action, all from a clinical standpoint. Since CC is not commonly determined in clinical practice, it was not addressed in the review. We would thus like to thank these comments, which add to the information provided in the article.

However, despite the fact that CC could be a promising marker for renal function, for the stratification of the risk, specially in those patients with intermediate risk, there are certain limitations to the standardized use of CC as such a marker. To be specific:

- There is no standard reference value for measuring CC, and there is a great deal of intra-individual variability.

- CC concentrations increase with age, especially in patients older than 80 years. Thus, it is not clear whether increases in CC in these patients are related to different levels of renal function or other factors that are unrelated to GFR.

- Several different factors influence CC levels, such as hypothyroidism, some inflammation markers such as C-reactive protein, treatment with steroids, body fat, and diabetes.

- Few laboratories have the capability to measure CC, and the cost is still quite higher than for determining GFR using serum creatinine levels.

Therefore, until the technique has become standardized and more cost-effective methods of measurement have been developed, we should focus on ensuring that 100% of patients with cardiovascular diseases have their GFR and urinary albumin excretion determined using formulas derived from creatinine levels and the urine albumin/creatinine ratio, respectively.

This does not mean that CC is not a viable marker, but its role in the detection of cardiovascular risk and GFR determination has not been well established. It is probably simply a matter of time.

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Available online 3 May 2012

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