Response to Letter Regarding Article, "Is Worsening Renal Function an Ominous Prognostic Sign in Patients With Acute Heart Failure? The Role of Congestion and Its Interaction With Renal Function"

We thank the authors for their interest in our study. Its main message is that short-term increases in serum creatinine, such as those that can be detected in patients undergoing aggressive diuretic treatment for acutely decompensated heart failure, do not necessarily predict a poor prognosis because they may be secondary to hemodynamic mechanisms (renal hypoperfusion and arterial underfilling) related to aggressive diuretic treatment in the absence of a persistent kidney injury.[1]

Data in the literature are controversial with respect to the prognostic significance of short-term serum creatinine changes. When serum creatinine levels were not assessed prospectively in every patient,[2,3] selection bias may have favored the inclusion of patients with more advanced heart failure and persistent congestion. This seems to be accepted also by the authors of the present letter because they refer to studies in which changes in serum creatinine levels had no prognostic significance, except in patients with a complicated clinical course (cardiogenic shock or myocardial ischemia), or in which blood urea nitrogen, but not serum creatinine changes, were of prognostic significance.[4] The greater prognostic value of blood urea nitrogen changes, compared with serum creatinine, has been repeatedly shown[4] and, may be much more related to the role of blood urea nitrogen as a marker of nutritional status and neurohormonal activation, than of renal function.[5]

In conclusion, our recent study indicates that the significance of an increase in serum creatinine levels is critically dependent on the clinical conditions of the patients and, namely, his or her fluid status. A simple clinical assessment may be enough for an assessment of the fluid status. However, the methods outlined in the letter (bioimpedance vector analysis), as well as the use of new markers of renal function may improve assessment. The main message is that, when facing laboratory as well as other complex data, in our clinical practice, we must never forget to look at the patient first and then use our skills to properly interpret the results.

Disclosures

Dr Metra has served as a member of the executive committee of the Placebo-controlled Randomized Study of the Selective A1 Adenosine Receptor Antagonist Rolofylline for Patients Hospitalized with Acute Decompensated Heart Failure and Volume Overload to Assess Treatment Effect on Congestion and Renal Function (PROTECT) and relaxin for the treatment of patients with acute heart failure (RELAX-1 AHF) trials, sponsored by Merck and Corthera and Novartis, respectively. Dr Metra has received honoraria for attendance to advisory board meetings, research activities, and speeches from Bayer, Corthera, Merck, Novartis, and Servier. Drs Cotter and Davison are employees of Momentum Research, Inc. Momentum Research received research grants from Merck, Novartis, Celadon, Nile Therpaeutics, Bioheart, the National Institutes of Health, Sequel Pharma, Novacardia, Corthera, and Targegen. The other authors have no conflicts to report.

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