

with Núñez et al that, as a consequence of the limited number of patients included in the study and the large number of variables that we ultimately considered introducing in the multivariable model, the results presented could have affected the external validity of the study. Consequently, the statistical model used may partly be responsible for our not corroborating in our patient population either the benefits in terms of a reduction in new hospital admissions among the heart failure patients treated with rosuvastatin, observed in the post hoc analysis of the CORONA trial,² or the benefits in terms of survival, mainly with lipophilic statins (97% atorvastatin), observed in the real world.³ As occurred in the latter study,³ in our study, access to levels of the amino-terminal fraction of pro-brain natriuretic peptide was limited to only a small number of patients, which may have prevented us from examining whether those with higher values benefit less from statin therapy, as appears to occur with both hydrophilic⁴ and lipophilic⁵ statins.

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Heart Failure and Age

Insuficiencia cardíaca y edad

To the Editor,

We read with interest the article by Crespo-Leiro et al. on treatment adherence in outpatients with heart failure (HF). The article highlighted at least 2 important points: the high standard of prescribing in this area by cardiologists and, most notably, the good treatment adherence in the patients studied,¹ with figures much better than those reported in previous publications.²

Our comments and objections relate to the patients' age, a detail that was not mentioned in the discussion, even in the section on limitations. The mean age of the patients was 65 years, and no patients were older than 73 years. This was surprising and seriously calls into question the representativeness of the whole study.

The age at which HF presents is increasingly older. The incidence and prevalence of the syndrome double every decade from the age of 45 years.³ Over the last 40 years, the age at first episode has increased by some 15 years, and 70% of patients admitted for heart failure are older than 70 years.^{4,5}

Epidemiological data are in line with the literature on the subject, such as the successive NHANES reports and the PRICE study in Spain.⁴ In a study of close to 6000 patients carried out in Spanish emergency departments, the mean patient age was 79.4 years, and only 8.5% were younger than 65 years.⁵ The Rotterdam study reported a HF prevalence of 0.9% in 55 to 64-year-olds, and 17.4% in those older than 85 years; the incidence was 1.4/1000 in 55 to 59-year-olds and 47.4/1000 in those older than 90 years.⁶ The Swedish HF hospital registry is very significant, due to the number of patients included: it spanned 12 years and included 156 919 patients with a primary discharge diagnosis of HF (295 425 if secondary diagnoses are included); only 8% of the men and 5% of the women were younger than 65 years.⁷



An explanation is required. One, very weak, explanation is that the authors concentrated on outpatients; a more convincing explanation is that the study was carried out only by cardiologists in cardiology clinics, when in reality HF is managed by many other specialties (such as general practice, health care for the elderly, and general medicine). One registry, spanning an entire year of data from *Hospital Clínico San Carlos*, Madrid, showed that, of almost 1000 diagnoses of HF appearing in discharge reports that year, fewer than 200 were from the cardiology department. The mean age of those cardiology patients was 70.9 years, while patients from general medicine had a mean age of 80 years, and those from health care for the elderly, 88 years.⁸

Although some progress has been made, there is more ground to be covered by the official scientific societies that represent cardiology in Europe and in Spain. Complex and highly prevalent syndromes such as HF must be studied from a broader perspective and should not be limited to cardiologists in order to eliminate significant biases such as that found in the study prompting these comments.

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Heart Failure and Age. Response



Insuficiencia cardiaca y edad. Respuesta

To the Editor,

We thank Ribera Casado and Martín Sánchez for their thoughtful reflections on our article,¹ and take this opportunity to respond with some comments of our own.

Obtaining a representative sample is always a challenge. However, as we state in the limitations section of our article, we believe that our registry meets the protocol requirements and accurately reflects the patient profile and quality of care at Spanish centers in which cardiologists are responsible for the care of heart failure patients. As Ribera Casado and Martín Sánchez point out, this is clearly evident from the baseline patient characteristics presented in our study: the average age in our registry was lower than in the total population of heart disease patients in Spain, and our population also had a higher frequency of low ejection fraction.

Without contradicting this observation, we should nonetheless point out that Ribera Casado and Martín Sánchez's commentary misinterprets the age data in our registry. They state that no patients in our registry were aged above 73 years. However, this is the third quartile value, not the maximum age (the baseline age data show median and first and third quartiles). So in fact 25% of the patients in the registry were older than 73 years. The age profile of our sample (65 [56–73])¹ is similar to that of the full ESC Heart Failure Long-Term Registry (66 [61–79]).²

Moreover, our study focused on whether treatment guidelines were followed for patients with heart failure and low ejection fraction, because the treatments recommended for this group have been demonstrated to improve survival and quality of life. Achieving the recommended dose is difficult even when there is good adherence to treatment guidelines, as there was in our registry. It is therefore understandable if cardiologists dedicate attention to this type of patient during consultations, and this, as we have indicated, is also reflected in the profile of the patients in our study.

We agree with Ribera Casado and Martín Sánchez that many people with heart disease are treated by other specialists, and that these patients have a different profile from those treated by cardiologists; for example, patients treated by other specialists

tend to be older, and this population has a higher frequency of preserved ejection fraction and more comorbidity, among other differences. Although this question falls outside the scope of our study, we support the treatment of heart disease patients by a variety of professionals from different specialties and branches of the health sciences.

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