

## Medication Adherence in Patients With Heart Failure and a Depressed Ejection Fraction Attending Cardiology Clinics

Sub-analysis of the ICCAR study (Epidemiological study of clinical and therapeutic management of Heart Failure in Cardiology offices of Spain). Backing from the Spanish Cardiology Society (SEC) and the Clinical and Outpatient Cardiology Section of the SEC. Non-conditional sponsorship by Laboratorios Almirall.

### To the Editor:

Treatment with angiotensin converting enzyme inhibitors (ACEI) or angiotensin II receptor antagonists (ARA-II), beta-blockers (BB), and anti-aldosterones (AA) improves the prognosis of patients with heart failure and depressed systolic function, based on what clinical practice guidelines recommend for patients in absence of contraindications.<sup>1,2</sup> The degree of adherence to these recommendations in Spain is unknown. The ICCAR study (Epidemiological study of clinical and therapeutic management of Heart Failure in Cardiology offices of Spain), with a multicentre and cross-sectional design, analyzed in October 2005 the drug treatment of 905 patients diagnosed with heart failure.<sup>1</sup> Two hundred twenty-seven cardiologists participated, and all Spanish Autonomous Communities were represented.

Each drug therapy was analyzed to be either indicated<sup>1</sup> or contraindicated/not tolerated, according to the investigator's criterion. With the AA's, it was considered a correct indication if the functional class was or had been NYHA III. Considering the ACEI and ARA-II combination

as a treatment unit, it was defined as "adequate" adherence if the 3 drug therapy (ACEI or ARA-II, BB, and AA) were received, "moderate" when they received 2, and "low" when they received 1 or none. Not using an indicated drug therapy but rather the contraindicated/not tolerated was considered "adequate" adherence.

We present the results from the sub-group of patients with heart failure and depressed left ventricular ejection fraction (n=561; 73.2% males; average age, 67.1 [11.2] years).

Patients who received each drug therapy were: ACEI or ARA-II, 86.8%; BB, 71.1%; and AA, 40.8%. Adherences were adequate, moderate, and low in 38.7%, 38.5%, and 22.8% respectively. There were no adherence differences among genders or functional classes at the time of consultation. However, the percentage of adequate adherence increase depended on the previous functional class worsening (55.3% in NYHA IV compared with 45% in NYHA III compared with 17.9% in NYHA II or no one in NYHA I;  $P<.0001$ ). During consultation, treatments increased as follows with these: ARA-II 16.4%; BB, 8.6%; and AA, 6.6%. ACEI decreased 12.1%, although the ACEI or ARA-II combination had no modifications, which indicates that the increase in ARA-II is due to an ACEI reduction, probably due to intolerance.

In the ICCAR study, the percentage of patients who received ACEI or ARA-II, BB, and AA was slightly higher than in other European and Spanish studies.<sup>3,4</sup>

The Mahler study<sup>5</sup> showed that adherence to drug therapy treatment reduced hospitalizations due to heart failure. Knowing the degree of adherence is important for establishing improvement strategies.

Our study, being different from others<sup>3</sup> which only collect the percentage of patients with each drug, analyzed if the non-utilized drug was contraindicated. This analysis seems more adequate, considering that patients with heart failure in daily clinical analysis have more comorbidities than participants in clinical trials,<sup>6</sup> which could contraindicate some drugs.

Adherence was greater in patients with a previous record of poorer functionality, and there was a low adherence of 22%. Both aspects are improvable. It is necessary to begin treatment in early stages of the disease and avoid that patients, in absence of contraindications, do not receive the indicated drugs.

A limitation of this study is that the selection of cardiologists was not randomized, but was an unplanned sampling based on convenience, a design employed frequently in similar studies. It was carried out at the end of 2005, and although it may not reflect the current situation well, it may serve as a reference to compare with future studies.

To conclude, observed fulfilment of drug therapy recommendations for patients with heart failure and depressed ejection fraction in cardiology offices of Spain is of similar magnitude to European studies with similar methodology. However, there is still a substantial margin for improvement.

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