EHJP: Beta-blockers provide no benefit after myocardial infarction, either in the acute or chronic phase

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A prespecified landmark analysis of the REBOOT trial, published in The European Heart Journal Cardiovascular Pharmacotherapy, shows no clinical benefit of beta-blockers during the first year after infarction or beyond one year, in patients without reduced ejection fraction.

For more than four decades, beta-blockers have been a cornerstone of treatment after myocardial infarction. While early clinical trials demonstrated substantial benefits, those studies were conducted in an era before widespread reperfusion, modern antithrombotic therapy, and high-intensity lipid lowering. Recent contemporary randomized trials and meta-analyses have shown that, in patients who experience a myocardial infarction with preserved left ventricular ejection fraction, beta-blockers do not provide clinical benefit when initiated after the acute event.

However, a key unresolved question has remained: whether beta-blockers might still be beneficial in the large population of patients who are long-term survivors of myocardial infarction and who transition from the acute coronary syndrome phase to what is now termed chronic coronary syndrome.

To address this gap, investigators from the Centro Nacional de Investigaciones Cardiovasculares (CNIC) have conducted a prespecified landmark analysis of the REBOOT clinical trial, the largest randomized trial ever performed on beta-blocker use after myocardial infarction. REBOOT enrolled more than 8,500 patients in Spain and Italy and evaluated outcomes according to time since infarction, separating the first 12 months after the event (acute coronary syndrome phase) from the period beyond 12 months (chronic coronary syndrome phase).

The results, published in *European Heart Journal Cardiovascular Pharmacotherapy*, show that beta-blocker therapy was not associated with a reduction in death, recurrent myocardial infarction, or heart failure hospitalization in either phase. Importantly, no benefit was observed during the first year after infarction or during long-term follow-up beyond one year in patients without reduced ejection fraction.

“These findings provide definitive evidence that beta-blockers do not improve outcomes in patients with preserved left ventricular ejection fraction, regardless of whether they are in the acute or chronic phase after myocardial infarction,” says Dr. Borja Ibáñez, Scientific Director of the CNIC, cardiologist at Hospital Universitario Fundación Jiménez Díaz, group leader at CIBERCV, and the Principal Investigator of this study. “This has enormous clinical relevance, because millions of patients worldwide remain on beta-blockers for years after an infarction without clear evidence of benefit.”

Dr. Xavier Rosselló, first author of the study, CNIC researcher and cardiologist at Hospital Universitari Son Espases, explains: “By separating the acute and chronic phases, we were able to rigorously test whether timing mattered. The answer is clear: beta-blockers do not confer protection in either setting for patients with preserved ejection fraction.”

The study also highlights that patients in the chronic coronary syndrome phase receiving higher doses of beta-blockers tended to have worse outcomes, reinforcing the need to individualize therapy and reconsider long-term prescriptions initiated years earlier.

According to Dr. Valentín Fuster, General Director of the CNIC and co-investigator of the study, “this work completes the evidence generated by REBOOT and related trials. Together, these findings challenge long-standing dogma. Simplifying treatment when there is no proven benefit is just as important as introducing new therapies.”

Every year, millions of patients survive myocardial infarction and enter long-term follow-up. The results of this study suggest that many of them may be candidates for beta-blocker deprescription, provided there is no other clinical indication for their use.

- *Rossello X, Barrabés JA, Piepoli M, Dominguez-Rodriguez A, Sánchez PL, Anguita M,*

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