

JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY VOL. 68, NO. 22, 2016
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<http://dx.doi.org/10.1016/j.jacc.2016.09.931>

Prognostic Implications of Changes in N-Terminal Pro-B-Type Natriuretic Peptide in Patients With Heart Failure



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ABSTRACT

BACKGROUND Natriuretic peptides (NP) have prognostic value in heart failure (HF), although the clinical importance of changes in NP from baseline is unclear.

OBJECTIVES The authors assessed whether a reduction in N-terminal pro-B-type NP (NT-proBNP) was associated with a decrease in HF hospitalization and cardiovascular mortality (primary endpoint) in patients with HF and reduced ejection fraction, whether treatment with sacubitril/valsartan reduced NT-proBNP below specific partition values more than enalapril, and whether the relationship between changes in NT-proBNP and changes in the primary endpoint were

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METHODS In **PARADIGM-HF** (Prospective Comparison of ARNI [Angiotensin Receptor–Neprilysin Inhibitor] with ACEI [Angiotensin-Converting-Enzyme Inhibitor] to Determine Impact on Global Mortality and Morbidity in Heart Failure Trial), baseline NT-proBNP was measured in 2,080 patients; 1,292 had baseline values >1,000 pg/ml and were reassessed at 1 and 8 months. We related change in NT-proBNP to outcomes.

RESULTS One month after randomization, 24% of the baseline NT-proBNP levels >1,000 pg/ml had fallen to ≤1,000 pg/ml. Risk of the primary endpoint was 59% lower in patients with a fall in NT-proBNP to ≤1,000 pg/ml than in those without such a fall. In sacubitril/valsartan-treated patients, median NT-proBNP was significantly lower 1 month after randomization than in enalapril-treated patients, and it fell to ≤1,000 pg/ml in 31% versus 17% of patients treated with sacubitril/valsartan and enalapril, respectively. There was no significant interaction between treatment and the relationship between change in NT-proBNP and the subsequent risk of the primary endpoint.

CONCLUSIONS Patients who attained a significant reduction in NT-proBNP had a lower subsequent rate of cardiovascular death or HF hospitalization independent of the treatment group. Treatment with sacubitril/valsartan was nearly twice as likely as enalapril to reduce NT-proBNP to values ≤1,000 pg/ml. (Prospective Comparison of ARNI