CARDIAC FUNCTIONAL AND STRUCTURAL REMODELING IN PATIENTS WITH AF contributes to development of HF as their most common major cardiovascular comorbidity. Circulating biomarkers may reflect these cardiac alterations in patients with AF.

METHODS

- ENAGE AF-TIMI 48 was a randomized trial of edoxaban vs warfarin in patients with AF.
- Nested biomarker study: 8,705 patients, with hsTnT, NT-proBNP, and GDF-15 at baseline and 12 months.
- Patients were classified by hx of HF, and those with hx HF and available EF data were divided into HFpEF (EF<40%), HFmrEF (40%-49%), and HFrEF (50%+).
- The primary outcome for this analysis was a composite of hospitalization for HF (HFpEF) or HF death.
- Relative risk (RR) was estimated using modified Poisson regression model with adjustments for age, sex, race, BMI, history of HTN, history of DM, eGFR, history of HF, prior MI, and pattern of AF (paroxysmal, persistent, or permanent).

RESULTS

- Of 8,765 patients, 5,207 had a history of HF, among whom 3,996 had known EF: 23% with HFrEF, 68% with HFmrEF, and 5% with HFpEF.
- Elevated baseline hsTnT, NT-proBNP, & GDF-15 were associated with higher risk of HF/HF death overall and in subgroups defined by HF hx & EF (Fig 1; each P<0.001).
- The associations of each biomarker (continuous) with HF/HF death were consistent regardless of an hx of HF or EF (P-interaction>0.10 for each).

CONCLUSION

- Analyzed in a categorical manner, patients who had an increase or had persistently elevated values in any of the 3 biomarkers over 12 months were at higher risk for future HFrEF death in the overall population (Fig 2; P<0.001 for each biomarker and category). Similar findings were observed regardless of HF hx or EF (Fig 3).
- Increases in hsTnT, NT-proBNP, and GDF-15 (log2 transformed) from baseline to 12 months were associated with higher risk of subsequent HF/HF death (1.7 to 2.1-fold increase per doubling of biomarker; Fig 4; each P<0.001).

LIMITATIONS

- 23% of patients with a hx HF did not have available EF data.
- This trial of anticoagulation in AF was conducted before widespread availability and use of SGLT2 inhibitors, sacubitril-valsratan, and other newer HF therapies.
- Because treating physicians could have measured these biomarkers locally and adjusted the subject’s medication in response to their values, such measurements could have influenced HF outcomes that we observed.

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