

The HFpEF-ABA Score, Incident Heart Failure, and Finerenone Across the Spectrum of Cardiovascular-Kidney-Metabolic Risk

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FINANCIAL DISCLOSURE

- JWO reports research grant support from the National Institutes of Health (5T32HL007604-39 and L30HL175757) and has served on advisory boards or had speaker engagements with Corcept Therapeutics
- The FIDELIO-DKD, FIGARO-DKD, and FINEARTS-HF trials were sponsored by Bayer AG

BACKGROUND

- Cardiovascular, kidney, and metabolic (CKM) conditions are strongly associated with incident HF
- However, strategies to identify persons at highest HF risk are lacking
- The HFpEF-ABA model was originally developed to enhance HFpEF diagnosis in individuals with unexplained dyspnea
- Whether the HFpEF-ABA model can also identify persons with CKM conditions at increased risk for incident HF is uncertain

HFpEF-ABA algorithm: $-7.788751 + 0.062564 (\text{age}) + 0.135149 (\text{body mass index}) + 2.040806 (\text{history of atrial fibrillation [0/1]})$

OBJECTIVE

In this participant-level analysis of global outcomes trials that evaluated finerenone in persons with CKM conditions, we:

1

Determined whether baseline HFpEF-ABA score was associated with incident cardiovascular events

2

Assessed whether baseline HFpEF-ABA score modified the effects of finerenone on incident cardiovascular events

STUDY POPULATION

PROSPERO
CRD42024570467



n=18,991



- Recruitment: 2015-2018
- Population: CKD and type 2 diabetes, with albuminuria
- Primary outcome: kidney failure, sustained eGFR decrease $\geq 40\%$, or renal death



- Recruitment: 2015-2018
- Population: CKD and type 2 diabetes, with albuminuria
- Primary outcome: CV death, non-fatal MI, non-fatal stroke, or HF hospitalization

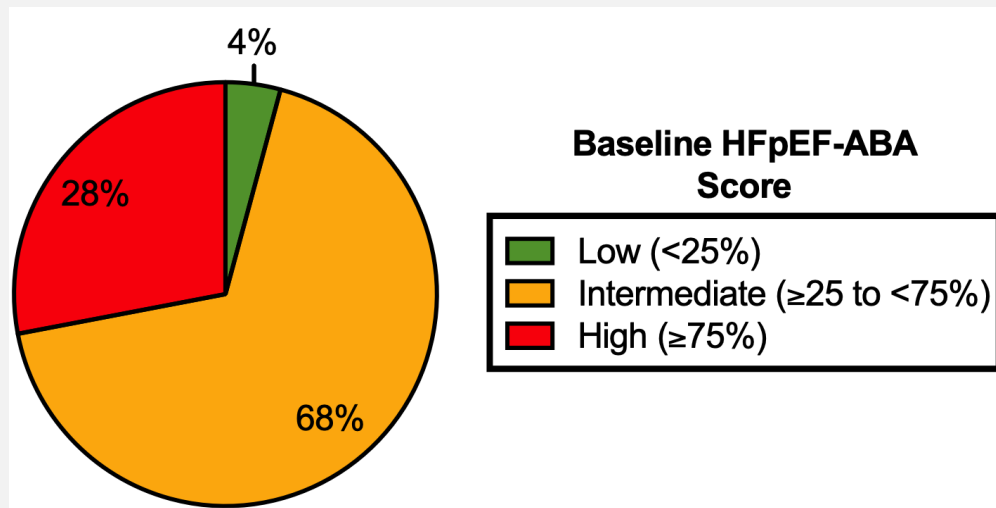


- Recruitment: 2020-2023
- Population: HFmrEF/HFpEF, with or without diabetes, with or without CKD
- Primary outcome: CV death and total HF events

This analysis focused on the 11,950 participants without established HF

DISTRIBUTION OF HFpEF-ABA SCORES, AT BASELINE

Distribution of Baseline HFpEF-ABA Score in Participants without HF



Higher Baseline HFpEF-ABA Score Associated With:



Female sex & White race



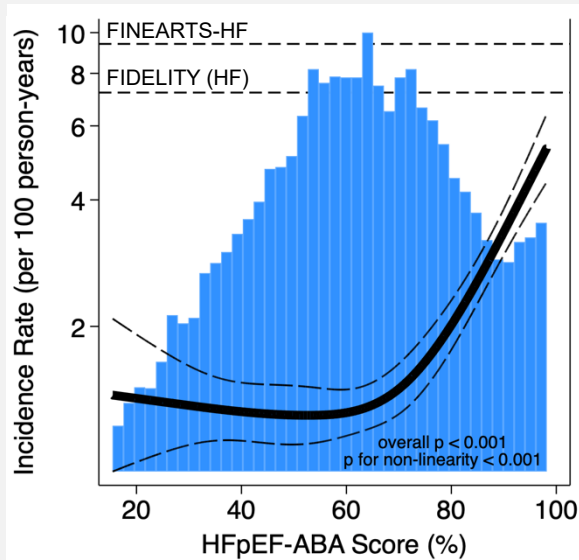
Blood pressure, diabetes duration, and prevalent atherosclerotic CVD



Asian race & eGFR

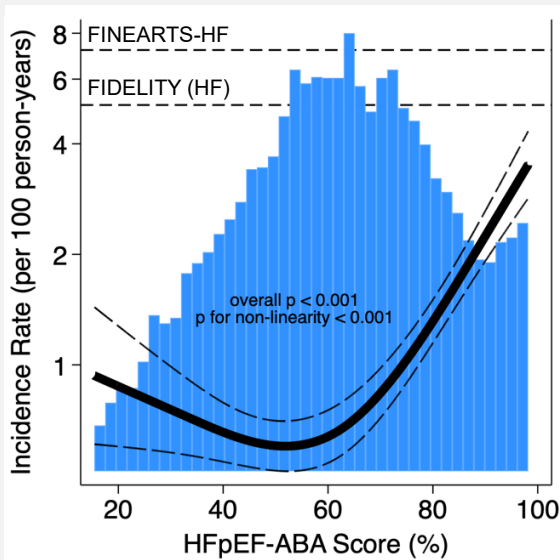
BASLINE HFpEF-ABA SCORE AND RISK OF CV EVENTS

CV Death or Incident HF Hospitalization



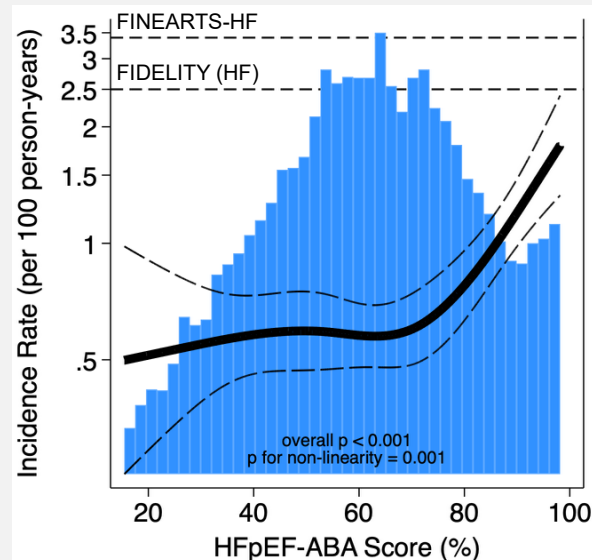
High vs. Low/Intermediate:
aHR, 2.18 (95% CI, 1.86-2.55)

Incident HF Hospitalization



High vs. Low/Intermediate:
aHR, 2.61 (95% CI, 2.13-3.19)

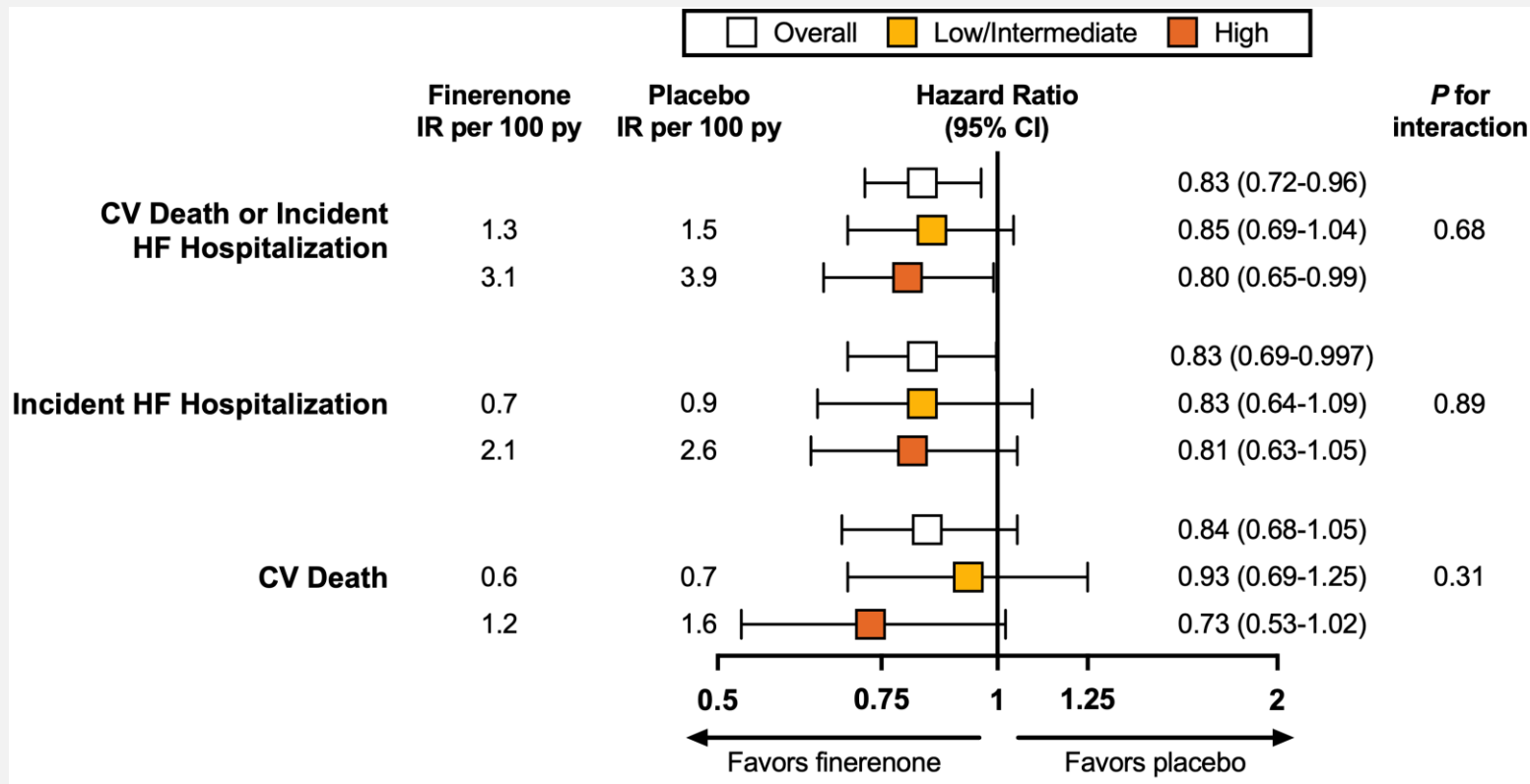
CV Death



High vs. Low/Intermediate:
aHR, 1.79 (95% CI, 1.41-2.26)

Figures show the incidence rate (and 95% CI) per 100 person-years of selected cardiovascular outcomes according to baseline HFpEF-ABA score among FIDELITY participants without HF at baseline, estimated through Poisson regression adjusted for sex, geographic region, smoking status, history of atherosclerotic cardiovascular disease, history of hypertension, HbA_{1c}, eGFR, and log-transformed UACR, and stratified by trial and randomized treatment.

TREATMENT EFFECTS OF FINERENONE, BY BASELINE HFPEF-ABA SCORE



Treatment effects of finerenone vs. placebo on selected cardiovascular outcomes estimated through Cox proportional hazards regression models, stratified by trial and geographic region.

DISCUSSION AND CONCLUSIONS

- In this FINE-HEART analysis, high HFpEF-ABA scores were common and identified increased risks of incident HF in persons with CKM conditions
- Finerenone consistently reduced incident HF irrespective of HFpEF-ABA score, but absolute benefits appeared greatest among participants with higher scores
- Key limitations include 1) the HFpEF-ABA model was developed and validated for use in symptomatic persons; and 2) uncertain generalizability to persons without CKD and type 2 diabetes

These findings suggest the HFpEF-ABA model may be a pragmatic and clinically relevant tool to guide risk-based HF prevention strategies in CKM populations