University of Glasgow

FINEARTS-HF
FINerenone trial to investigate Efficacy and sAfety superioR to placebo in paTientS with Heart Failure

Kidney Failure Risk Equation, Clinical Outcomes, and Effect of Finerenone in HFmrEF/HFpEF: Insights from FINEARTS-HF

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Background / Hypothesis

- International guidelines recommend using externally validated risk equations, including the Kidney Failure Risk Equation (KFRE), to estimate the risk of kidney failure in patients with chronic kidney disease (CKD) stages G3-G5 (eGFR <60 ml/min/1.73m^2).[1-3]

- In heart failure (HF) with reduced ejection fraction, higher KFRE scores were associated with risk of cardiovascular (CV) events in PARADIGM-HF.[4]

- However, the prognostic relevance of the KFRE in patients with HF and mildly reduced or preserved ejection fraction (HFmrEF/HFpEF) is unknown.

- The hypothesis of this study is higher KFRE scores are associated with an increased risk of both kidney and CV outcomes in patients with HFmrEF/HFpEF and CKD.

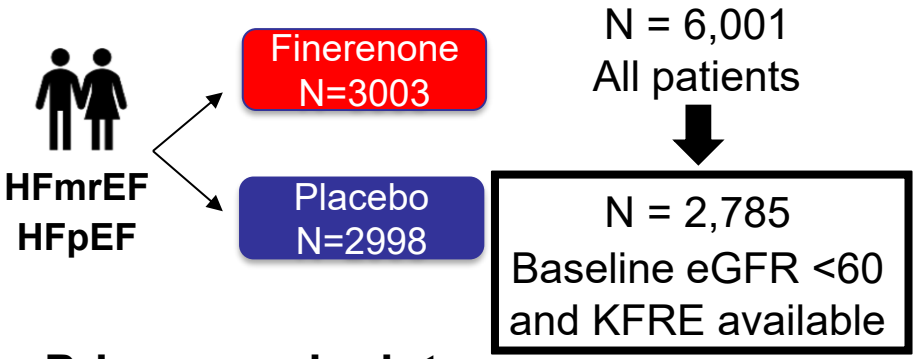
1. Kidney Int. 2024;105:S117-S314. 2. JAMA 2011;305:1553-1559. 3. Eur Heart J. 2026 (doi: 10.1093/eurheartj/ehag884) 4.Eur J Heart Fail. 2026 (doi: 10.1093/ejhf/xuag079)

Methods: KFRE in FINEARTS-HF

FINEARTS-HF

Key inclusion criteria

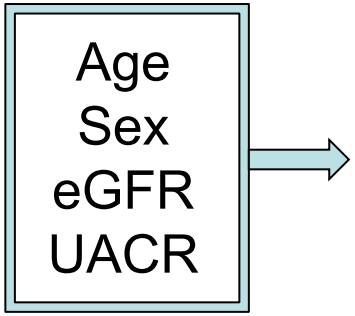
- LVEF ≥ 40% + structural heart disease
- NYHA functional class II-IV
- Elevated natriuretic peptides
- Diuretics in the 30 days prior to randomization



Primary endpoint

The composite of total (first and recurrent) HF events and CV death

KFRE calculation



Kidney failure risk calculation

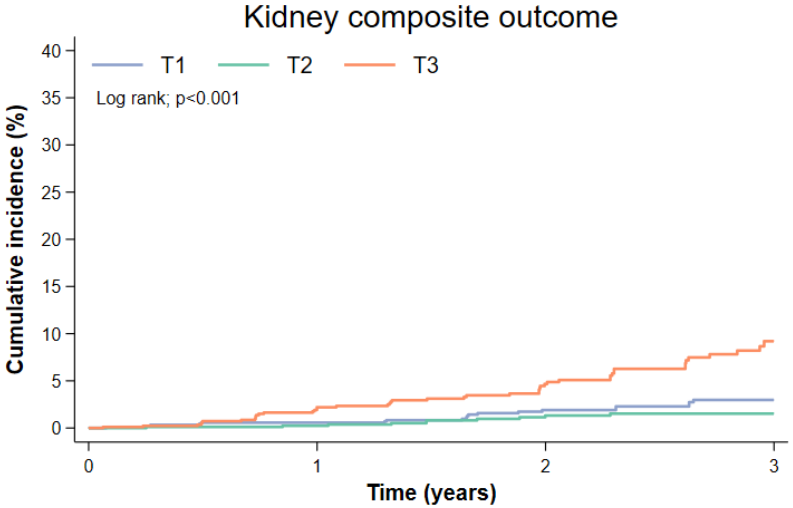
Outcomes of interest

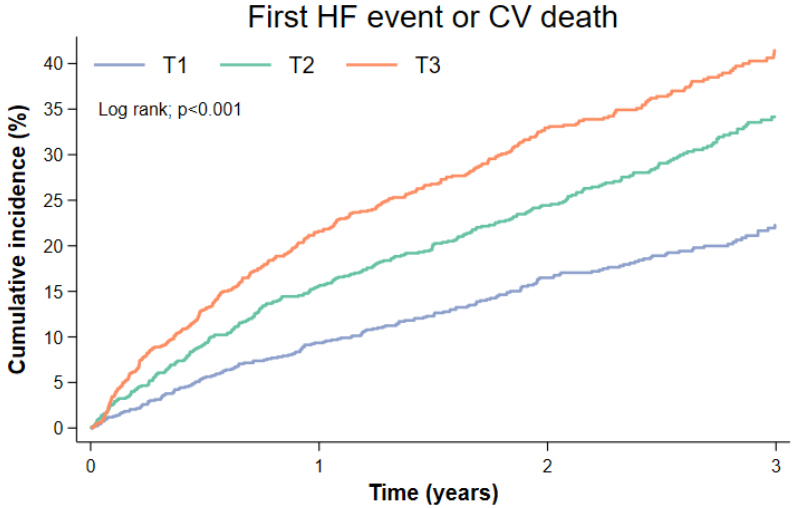
- Kidney composite outcome (the composite of sustained ≥50% decline in eGFR, sustained decline in eGFR to <15 ml/min/1.73 m^2, initiation of chronic dialysis, or renal transplant)
- Time-to-first HF event or CV death
- Total HF events and CV death

Baseline characteristics according to tertile of KFRE 5-year score

KFRE 5-year score Tertile (T)	T1: 0.24 [0.16-0.34] (n = 929)	T2: 0.86 [0.63-1.16] (n = 928)	T3: 4.25 [2.62-8.50] (n = 928)	P for trend
Age (years)	76	76	75	0.13
Sex, Male (%)	44	49	57	<0.001
eGFR (ml/min/1.73m^2)	54	46	36	<0.001
UACR (mg/g)	9	27	134	<0.001
NT-proBNP (pg/mL)	1,000	1,408	1,730	<0.001
NYHA Class III/IV (%)	31	35	38	0.020
Prior HF hospitalization (%)	58	60	68	<0.001
BMI (kg/m^2)	30	30	30	0.87
Diabetes mellitus (%)	33	43	60	<0.001
Hypertension (%)	90	91	93	0.005
ACE inhibitor/ARB/ARNI (%)	80	77	74	0.004
SGLT2 inhibitor (%)	11	15	20	<0.001
Loop diuretic (%)	86	89	93	<0.001

Cumulative incidence for clinical outcomes by tertile of KFRE

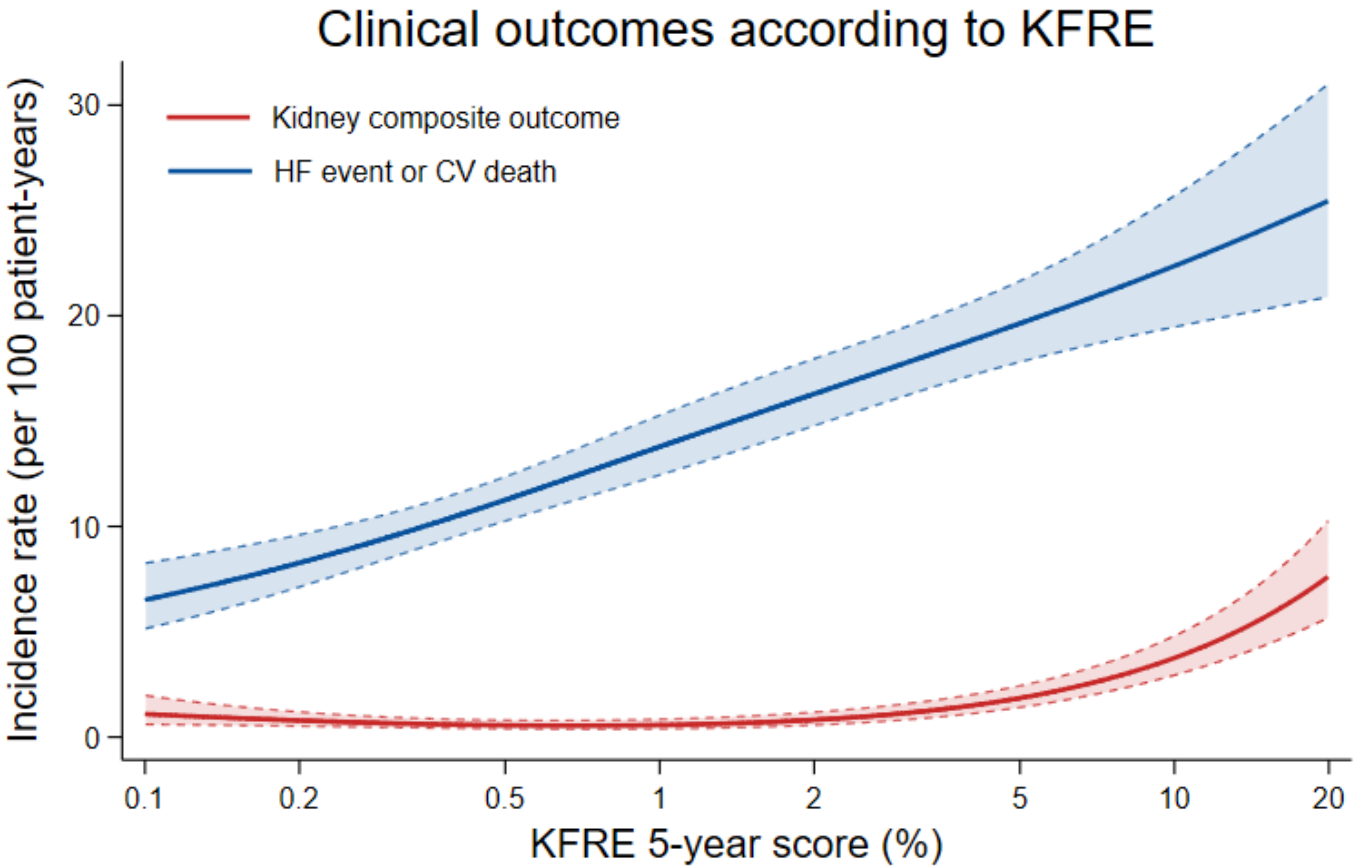




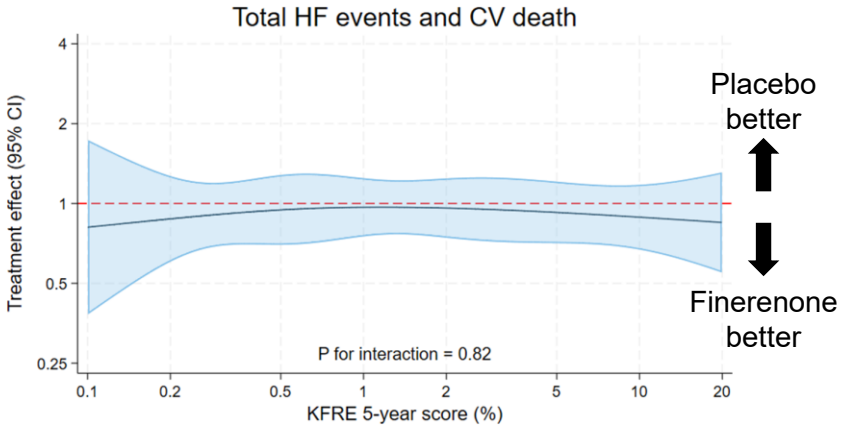
KFRE (5-year score)	Tertile 1: 0.24 [0.16-0.34] (N = 929)	Tertile 2: 0.86 [0.63-1.16] (N = 928)	Tertile 3: 4.25 [2.62-8.50] (N = 928)
Kidney composite outcome (sustained ≥50% decline in eGFR, sustained decline in eGFR to <15, initiation of chronic dialysis, or renal transplant)			
No. of events	19 (2%)	10 (1%)	47 (5%)
Event rate (95% CI)	0.9 (0.6-1.5)	0.5 (0.3-1.0)	2.7 (2.0-3.6)
HR (95% CI)*	Reference	0.56 (0.26-1.21)	2.68 (1.56-4.61)
First HF events or cardiovascular death			
No. of events	178 (19%)	271 (29%)	330 (36%)
Event rate (95% CI)	8.4 (7.2-9.7)	14.0 (12.5-15.8)	19.2 (17.2-21.3)
HR (95% CI)*	Reference	1.62 (1.34-1.95)	2.10 (1.74-2.52)

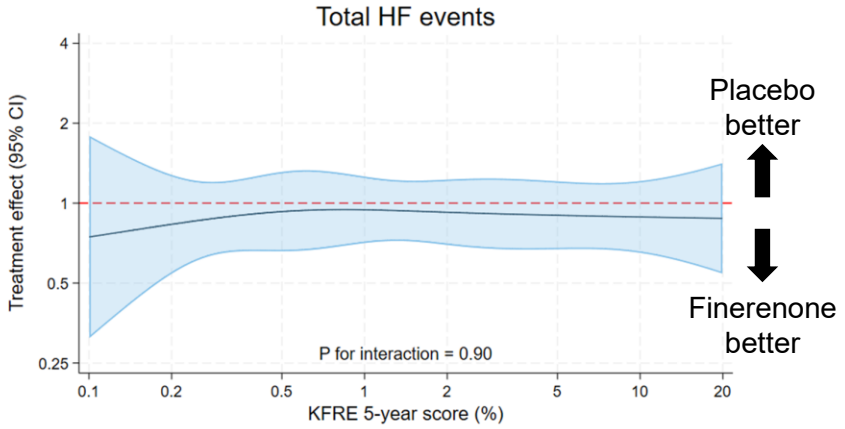
*Stratified by/adjusted for geographic region, baseline LVEF (<60%, ≥60%), and treatment assignment.

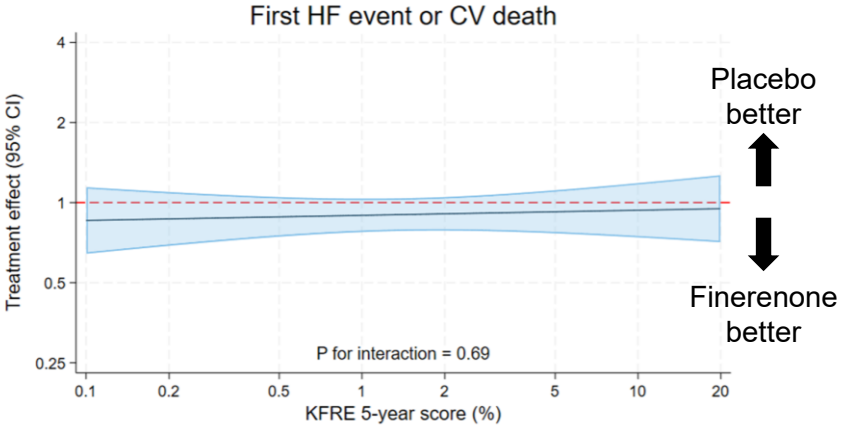
Association of the 5-year KFRE score with kidney and CV outcomes

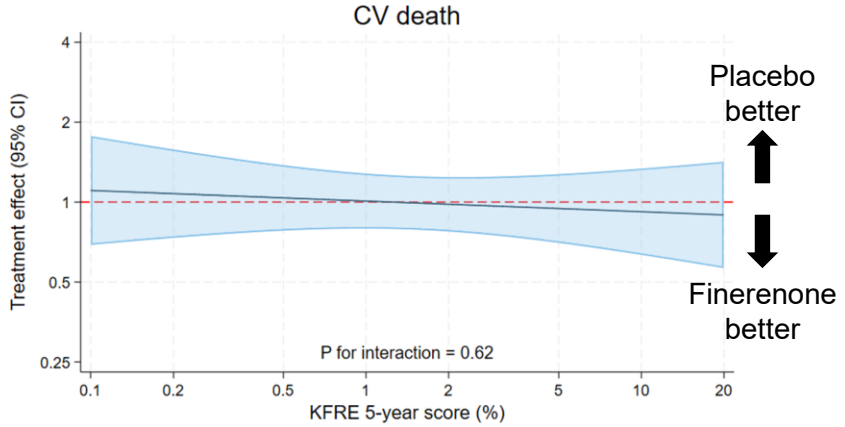


Effect of finerenone on clinical outcomes across KFRE 5-year score









KFRE 5-year score did not modify the effect of finerenone in this subgroup (patients with eGFR <60ml/min/1.73m^2).

KFRE as a prognostic marker in HFmrEF/HFpEF: Conclusions

- In patients with HFmrEF/HFpEF and CKD in FINEARTS-HF, higher KFRE scores were associated not only with a higher risk of kidney outcomes but also of CV outcomes.

- These findings suggest that the KFRE may provide clinically relevant prognostic information beyond the prediction of kidney failure in patients with HFmrEF/HFpEF.

- KFRE 5-year score did not modify the effect of finerenone in this subgroup (patients with eGFR <60ml/min/1.73m^2).