Finerenone Prevents New-Onset Albuminuria Among Patients With Heart Failure and Without CKD: Insights from the FINEARTS-HF Trial

Finnian R. Mc Causland,[1] Muthiah Vaduganathan,[1] Brian L. Claggett,[1] Ian J. Kulac,[1] Akshay S. Desai,[1] Pardeep S. Jhund,[2] Alasdair D. Henderson,[2] Katja Rohwedder,[3] Patrick Schloemer,[3] Andrea Scalise,[3] Carolyn SP Lam,[4] Martina M. McGrath,[1] John W. Ostrominski,[1] Michele Senni,[5] Sanjiv J. Shah,[6] Adriaan A. Voors,[7] Faiez Zannad,[8] Bertram Pitt,[9] John JV McMurray,[2] Scott D. Solomon[1]

[1]Brigham and Women's Hospital, Boston, USA; [2]University of Glasgow, Scotland, UK; [3]Bayer, Germany/US; [4]National Heart Centre Singapore & Duke-National University of Singapore, Singapore; [5]University of Milano-Bicocca ASST Papa Giovanni XXIII Hospital, Bergamo, Italy; [6]Northwestern University Feinberg School of Medicine, Chicago, Illinois, USA; [7]University of Groningen, Groningen, Netherlands; [8]University of Lorraine, Nancy, France; [9]University of Michigan, Ann Arbor, Michigan, USA

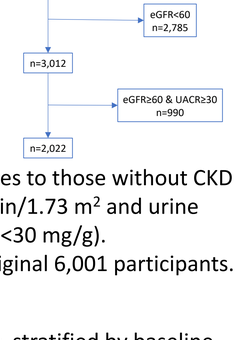
Background

- Finerenone is indicated for patients with heart failure and LVEF ≥40%, and to ***treat*** patients with chronic kidney disease, albuminuria, and type 2 diabetes to slow kidney function decline.[1,2]
- Finerenone reduces albuminuria, a potent risk factor for adverse cardiovascular and kidney outcomes.[1,2,3]
- Whether finerenone has a role in the ***prevention*** of new-onset albuminuria among patients with heart failure and without CKD is not clear.

Methods

Study Population

- FINEARTS-HF was a global, randomized, clinical trial testing finerenone vs. placebo among patients with heart failure with mildly reduced or preserved ejection fraction, with or without baseline CKD or diabetes.[4]



- We restricted the present analyses to those without CKD at baseline (i.e., eGFR ≥60 mL/min/1.73 m^2 and urine albumin/creatinine ratio [UACR] <30 mg/g).
- This left n=2,022 (34%) of the original 6,001 participants.

Analytic Approach

- We used Cox regression models, stratified by baseline LVEF (<60, ≥60%) and region, to assess the treatment effect on subsequent development of new-onset micro- (≥30 mg/g) or macroalbuminuria (≥300 mg/g).
- We explored for potential differential associations according to the presence or absence of baseline diabetes via the inclusion of interaction terms.

Results

Table 1. Characteristics according to randomized treatment

	Placebo n=1,004	Finerenone n=1,018
Age, years	68 ± 10	68 ± 10
Female, n(%)	411 (40.9%)	422 (41.5%)
Race, n(%)		
Asian	155 (15.4%)	161 (15.8%)
Black	12 (1.2 %)	13 (1.3 %)
Other	30 (3.0 %)	33 (3.2 %)
White	807 (80.4%)	811 (79.7%)
Geographic Region, n(%)		
Asia	152 (15.1%)	160 (15.7%)
Eastern Europe	547 (54.5%)	528 (51.9%)
Latin America	111 (11.1%)	107 (10.5%)
North America	52 (5.2 %)	60 (5.9 %)
Western Europe, Oceania and Others	142 (14.1%)	163 (16.0%)
Any prior hospitalization for heart failure, n(%)	574 (57.2%)	585 (57.5%)
Systolic blood pressure, mmHg	129 ± 14	128 ± 15
Body-mass index, kg/m2	30.1 ± 6.0	29.5 ± 5.8
Serum creatinine, mg/dL	0.9 ± 0.2	0.9 ± 0.2
eGFR, mL/min/1.73 m2	79 ± 12	78 ± 12
Urine albumin:creatinine ratio, mg/g	7 [4 , 14]	8 [4 , 14]
Serum potassium, mmol/L	4.3 ± 0.4	4.4 ± 0.4
Left ventricular ejection fraction, (%)	52 ± 8	52 ± 8
NT-proBNP, pg/mL	603 [299, 1277]	637 [306, 1279]
History of hypertension, n(%)	876 (87.3%)	857 (84.2%)
History of Diabetes, n(%)	362 (36.1%)	367 (36.1%)
History of stroke, n(%)	98 (9.8 %)	89 (8.7 %)
History of myocardial infarction, n(%)	273 (27.2%)	303 (29.8%)
Beta-blocker, n(%)	860 (85.7%)	865 (85.0%)
Angiotensin-converting enzyme inhibitor, n(%)	418 (41.6%)	421 (41.4%)
Angiotensin-receptor blocker, n(%)	329 (32.8%)	306 (30.1%)
Angiotensin receptor-neprilysin inhibitor, n(%)	93 (9.3 %)	88 (8.6 %)
Sodium-glucose cotransporter 2 inhibitor, n(%)	106 (10.6%)	96 (9.4 %)

Table 2. Treatment effect on new-onset albuminuria

	Placebo	Finerenone
Macroalbuminuria (≥300 mg/g)		
No. events/No. patients (%)	74/1004 (7.4%)	37/1018 (3.6%)
Rate/100 PY (95% CI)	3.0 (2.3, 3.7)	1.5 (1.0, 1.9)
Hazard Ratio (95%CI)	0.48 (0.32, 0.72)	
Micro- or macroalbuminuria (≥30 mg/g)		
No. events/No. patients (%)	477/1004 (47.5%)	367/1018 (36.1%)
Rate/100 PY (95% CI)	27.9 (25.1, 30.6)	18.7 (16.7, 20.7)
Hazard Ratio (95%CI)	0.69 (0.60, 0.79)	

Figure 1. Effect of finerenone versus placebo on new onset macroalbuminuria (≥300 mg/g)

Figure 2. Effect of finerenone versus placebo on new onset microalbuminuria (≥30 mg/g)

FINEARTS-HF
FINerenone trial to investigate Efficacy and safety superioR to placebo in paTients with Heart Failure

FINEARTS-HF was sponsored by Bayer AG

Summary

Summary of Findings

- Finerenone reduced the risk of new-onset microalbuminuria (≥30 mg/g) by 31% and reduced new-onset macroalbuminuria (≥300 mg/g) by 52%.
- These beneficial effects did not differ according to the presence or absence of baseline diabetes.

Strengths/Limitations

- Strengths include protocolized urine collections and follow-up in the setting of a randomized trial.
- Limitations include potential misclassification of baseline CKD status and caution regarding the generalizability of results beyond patients with similar characteristics to those enrolled in the FINEARTS-HF study.

Conclusions

- In the FINEARTS-HF trial, finerenone consistently reduced the risk of new-onset albuminuria among patients with HF and without CKD, irrespective of diabetes status.
- Pharmacologic therapies that lower the risk of worsening albuminuria could play a major role in future efforts to prevent development of CKD.

References

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